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Sediment-magnetic, Paleomagnetic, Geochemical, and Grain Size Data from Lacustrine

Sediment in a Core from Caledonia Marsh, Upper Klamath Lake, Oregon

by

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## INTRODUCTION

This report presents data and describes methods of sediment-magnetic, paleomagnetic, geochemical, and grain size measurements on lake sediments recovered in a 12.83 m core from Caledonia Marsh (Lat. 42° 18.82' N., Long. 121° 54.35' W.), at the western edge of Upper Klamath Lake, southern Oregon. The report is one in a series for similar studies of nearby lake basins conducted for the Global Change and Climate History Program of the U.S. Geological Survey (Adam and others, 1995; Rosenbaum, Reynolds, Fitzmaurice, and others, 1995; Dean, 1996; Best, Reynolds, Rosenbaum, Dean, and others, 1996; Best, Reynolds, Rosenbaum, Drexler, and Adam, 1996).

The age of the cored lake sediment is based on 17 radiocarbon ages and identification of tephra. The age of the sediments at the top of the core is close to present time and those at the bottom are estimated to be about 42,000 years. The core thus represents nearly all of the Holocene (the past 10,000 years, essentially marine oxygen isotope stage (OIS) 1), OIS 2 (back to about 25,000 years), and most of OIS 3. The core has value for its climate record as part of a group of distributed lacustrine climate records in western North America and for comparison to marine climate records inferred from sediments in the eastern Pacific Ocean.

The core, obtained manually using a Livingston piston corer at the edge of the lake, penetrated clayey silt below about 5 m. The upper 5 m of the core consists mostly of diatomaceous ooze. The uppermost 1 m was largely disturbed by construction of the berm along the lake-side margin of Caledonia Marsh.

In addition to the results reported here, paleoclimatic and paleolimnologic studies have been conducted on diatoms, pollen, and organic carbon. Depth plots of preliminary pollen identifications and organic carbon are given in Adam and others (1995). Several abstracts provide preliminary interpretations of the data presented in this report and from related studies (Rosenbaum and others, 1994; Bradbury and others, 1996; Rosenbaum, Reynolds, Bradbury, and others, 1995; Reynolds and others, 1996).

## METHODS

**Sampling** (Table 1): Samples used for paleomagnetic directions, magnetic susceptibility, and laboratory induced magnetizations were taken approximately every 4 cm. The majority of the core was soft, and a cube (3.2 cm<sup>3</sup> volume) 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. Each cube was assigned a sample number and a sample box number. After measurement, each sample was dried and weighed. Sediment displaced during sampling was placed into vials and assigned a unique sample 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): The natural remanent magnetization (NRM) of oriented samples was measured using a 90-Hz spinner magnetometer having a

sensitivity better than  $10^{-5}$  A/m. Samples were demagnetized in eight steps by alternating-field (AF) demagnetization with peak fields of 5, 10, 15, 20, 30, 40, 60 and 80 milliTeslas (mT). Declination and inclination of samples which showed stable paleomagnetic behavior after AF demagnetization were calculated from a best fit line of the demagnetization data as described by Kirschvink (1980).

**Anisotropy of Magnetic Susceptibility** (Table 3): The anisotropy of magnetic susceptibility was measured using an Agico KLY-3S Kappabridge to determine the magnetic fabric, or overall alignment of magnetic particles, of the lake sediment. Such magnetic fabric data provide information on the coherence of sediment layers and are useful for evaluating paleomagnetic directions. For example, the method can be used to recognize disrupted sediment layers caused by core disturbance.

**Magnetic Susceptibility** (Table 4): Magnetic susceptibility (MS) was measured using a susceptometer having a sensitivity better than about  $4 \times 10^{-7}$  m<sup>3</sup>/kg. Each sample was measured in a 0.1 mT induction at a low frequency of 600 Hz (MS<sub>lf</sub>) followed by a high frequency measurement of 6000 Hz (MS<sub>hf</sub>). For each sample, the MS value was determined as the mean of four measurements. Frequency dependent magnetic susceptibility was calculated as:

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

**Laboratory induced magnetization** (Table 4): After paleomagnetic analysis, anhysteretic remanent magnetization (ARM) and isothermal remanent magnetization (IRM) experiments were conducted on each sample. The induced magnetizations were measured with a high speed spinner magnetometer. The ARM was imparted in a decreasing alternating field from a peak induction of 100 mT and in a DC bias of 0.1 mT. IRMs were generated at room temperature using an impulse magnetizer. First, IRM was imparted in a 1.2 T induction (IRM<sub>1.2T</sub>). The samples were then magnetized in the opposite direction using an induction of 0.3 T (IRM<sub>0.3T</sub>). Hard isothermal remanent magnetization (HIRM) and the S-parameter were calculated as follows (King and Channel, 1991):

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

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

**Hysteresis Properties** (Table 5): Hysteresis loops were generated for a subset of the paleomagnetic samples using a vibrating sample magnetometer at the Institute for Rock Magnetism at the University of Minnesota. The maximum induction used was about 1.4 T. Ratios of magnetic hysteresis properties (saturation IRM to saturation; coercivity of remanence to coercivity) can be used to estimate the magnetic domain states of magnetite, providing clues to the origin of magnetite in the sample.

**Elemental Abundance** (Table 6): 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.

**Grain Size** (Tables 7 and 8): Quantitative measurements of grain size were made using a Malvern Mastersizer. Volume percent was measured over grain size intervals corresponding to the Wentworth scale.

## REFERENCES

- Adam, D.P., Bradbury, J.P., Dean, W.E., Gardner, J.V., and Sarna-Wojcicki, A.M., 1995, Report of the 1994 workshop on the correlation of marine and terrestrial records of climate change in the western United States: U.S. Geological Survey Open-file Report 95-34, 92 p.
- Best, P.J., Reynolds, R.L., Rosenbaum, J.G., Dean, W.E., Honey, J., Drexler, J., and Adam, D.P., 1996, Sediment magnetic and geochemical data from Quaternary lacustrine sediment in two cores from Tule Lake, Siskiyou County, California: U.S. Geological Survey Open-file Report 96-293, 50 p.
- Best, P.J., Reynolds, R.L., Rosenbaum, J.G., Drexler, J., and Adam, D.P., 1996, Sediment magnetic, paleomagnetic, and geochemical data from Quaternary lacustrine sediment in two cores from Grass Lake, Siskiyou County, California: U.S. Geological Survey Open-file Report 96-294, 44 p.
- Borradaile, G.J., and Henry, B., 1996, Tectonic applications of magnetic susceptibility and its anisotropy: *Earth-Science Reviews* 42, p. 49-93.
- Bradbury, J.P., Dean, W.E., Rosenbaum, J.G., and Reynolds, R.L., 1996, Abrupt warm and cold climate oscillations during isotope stage 3 at Klamath Lake, Oregon: Abstracts with Program, Geological Society of America 1996 Annual Meeting, p. A-232.
- Dean, W.E., 1996, Geochemistry of sediments from Tule Lake, California: U.S. Geological Survey Open-file Report 96-257, 36 p.
- Folk, Robert L., 1974, *Petrology of Sedimentary Rocks*, Hemphill Publishing Company, Austin, Texas.
- King, J.W., and Channel, J.E.T., 1991, Sedimentary magnetism, environmental magnetism, and magnetostratigraphy: *Reviews of Geophysics, Supplement*, p. 358-370.

- Kirschvink, J.L., 1980, The least-squares line and plane and the analysis of paleomagnetic data: *Geophysical Journal of the Royal Astronomical Society*, v. 62, p. 699-718.
- Reynolds, R.L., Rosenbaum, J.G., Bradbury, J.P., Best, P.J., Adam, D.P., and Drexler, J., 1996, Late Quaternary glacial history of southern Oregon interpreted from sediment magnetism of Upper Klamath Lake: Abstracts with Program, Geological Society of America 1996 Annual Meeting, p. A-504.
- Rosenbaum, J.G., Reynolds, R.L., Adam, D.P., Sarna-Wojcicki, A.M., Bradbury, J.P., and Kerwin, M.W., 1994, Middle and late Quaternary climate changes inferred from lacustrine sediments in southern Oregon: Comparison of magnetic, diatom, and pollen records: Abstracts with Program, Geological Society of America 1994 Annual Meeting, p. A-256.
- Rosenbaum, J.G., Reynolds, R.L., Fitzmaurice, P.L., Drexler, J., Whitney, G.C., and Adam, D.P., 1995, Sediment magnetic and paleomagnetic data from Buck Lake, Oregon: U.S. Geological Survey Open-file Report 95-673, 46 p.
- Rosenbaum, J.G., Reynolds, R.L., Bradbury, J.P., Best, P.J., Adam, D.P., and Drexler, J., 1995, Sediment magnetism and trace-element geochemistry from Upper Klamath Lake, southern Oregon: EOS, Transactions of the American Geophysical Union, v. 76, p. 163.

**TABLE 1. Sample Numbers and Depths.**

**Sample Number:** A unique sample number assigned regardless of sample type.

**Box Number:** A unique sample number assigned to samples put into plastic cubes for magnetic mineral studies. The volume of each cube is 3.2 cm<sup>3</sup>.

**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.

**Depth interval below top of drive (cm):** The depth range of the sample within the drive in meters.

**Depth interval below top of core(cm):** The depth range of the sample within the core in meters.

**Depth midpoint below top of core (cm):** The midpoint of the depth interval below top of core in meters.

**Dry Wt (g):** Weight of sample in box after drying at about 50°C.

Sample Number	Box Number	Drive no.	Depth interval below top of drive (cm)	Depth interval below top of core (cm)	Depth midpoint below top of core (cm)	Dry Wt. (g)
10164		1/A	1.0 - 4.0	1.0 - 4.0	2.50	
50002	2	1/A	2.0 - 3.5	2.0 - 3.5	2.75	2.45
10166		1/A	5.0 - 8.0	5.0 - 8.0	6.50	
50003	3	1/A	6.0 - 7.5	6.0 - 7.5	6.75	1.22
10170		1/A	8.0 - 12.0	8.0 - 12.0	10.00	
50005	5	1/A	10.0 - 11.5	10.0 - 11.5	10.75	1.87
10173		1/A	13.0 - 16.5	13.0 - 16.5	14.75	
10174		1/A	13.0 - 16.5	13.0 - 16.5	14.75	
50007	7	1/A	15.0 - 16.0	15.0 - 16.0	15.50	0.73
10178		1/A	18.0 - 22.0	18.0 - 22.0	20.00	
50009	9	1/A	19.5 - 21.0	19.5 - 21.0	20.25	0.43
50011	11	1/A	23.0 - 24.5	23.0 - 24.5	23.75	0.87
10183		1/A	22.0 - 26.0	22.0 - 26.0	24.00	
10184		1/A	22.0 - 26.0	22.0 - 26.0	24.00	
10186		1/A	26.0 - 30.0	26.0 - 30.0	28.00	
50013	13	1/A	28.0 - 29.5	28.0 - 29.5	28.75	1.02
50012	12	1/A	31.5 - 33.0	31.5 - 33.0	32.25	1.14
10182		1/A	30.0 - 34.5	30.0 - 34.5	32.25	
10180		1/A	34.5 - 39.0	34.5 - 39.0	36.75	
50010	10	1/A	35.5 - 39.0	35.5 - 39.0	37.25	1.13
50008	8	1/A	40.0 - 41.5	40.0 - 41.5	40.75	1.30
10175		1/A	39.0 - 43.0	39.0 - 43.0	41.00	
10176		1/A	39.0 - 43.0	39.0 - 43.0	41.00	
10172		1/A	43.0 - 46.0	43.0 - 46.0	44.50	
50006	6	1/A	44.0 - 45.5	44.0 - 45.5	44.75	1.19
50004	4	1/A	47.0 - 49.0	47.0 - 49.0	48.00	1.04
10168		1/A	46.0 - 50.0	46.0 - 50.0	48.00	
50001	1	1/A	51.0 - 53.0	51.0 - 53.0	52.00	1.16
10162		1/A	50.0 - 54.0	50.0 - 54.0	52.00	
10188		2/A	0.0 - 4.5	54.0 - 58.5	56.25	
50014	14	2/A	2.0 - 3.5	56.0 - 57.5	56.75	1.05
10191		2/A	4.5 - 8.5	58.5 - 62.5	60.50	
10192		2/A	4.5 - 8.5	58.5 - 62.5	60.50	
50016	16	2/A	6.0 - 7.5	60.0 - 61.5	60.75	1.16
50018	18	2/A	9.5 - 11.0	63.5 - 65.0	64.25	1.22
10195		2/A	8.5 - 12.0	62.5 - 66.0	64.25	
10196		2/A	8.5 - 12.0	62.5 - 66.0	64.25	
10200		2/A	12.0 - 16.0	66.0 - 70.0	68.00	
50020	20	2/A	13.5 - 15.0	67.5 - 69.0	68.25	0.95
50015	15	3/A	1.0 - 2.5	101.0 - 102.5	101.75	1.11
10190		3/A	0.0 - 4.0	100.0 - 104.0	102.00	
10194		3/A	4.0 - 8.5	104.0 - 108.5	106.25	
50017	17	3/A	6.0 - 7.5	106.0 - 107.5	106.75	1.09
10197		3/A	8.5 - 13.0	108.5 - 113.0	110.75	
10198		3/A	8.5 - 13.0	108.5 - 113.0	110.75	
50019	19	3/A	10.5 - 12.0	110.5 - 112.0	111.25	1.18
50021	21	3/A	14.5 - 16.0	114.5 - 116.0	115.25	1.09

Sample Number	Box Number	Drive no.	Depth interval below top of drive (cm)	Depth interval below top of core (cm)	Depth midpoint below top of core (cm)	Dry Wt. (g)
10201		3/A	14.0 - 18.0	114.0 - 118.0	116.00	
10202		3/A	14.0 - 18.0	114.0 - 118.0	116.00	
10206		3/A	18.0 - 20.5	118.0 - 120.5	119.25	
50023	23	3/A	19.0 - 20.5	119.0 - 120.5	119.75	1.18
50022	22	3/A	21.5 - 23.0	121.5 - 123.0	122.25	1.21
10204		3/A	20.5 - 25.0	120.5 - 125.0	122.75	
50025	25	4/A	3.5 - 5.0	128.5 - 130.0	129.25	1.09
10210		4/A	3.0 - 7.0	128.0 - 132.0	130.00	
10213		4/A	7.5 - 11.0	132.5 - 136.0	134.25	
50027	27	4/A	9.0 - 10.5	134.0 - 135.5	134.75	1.21
10214		4/A	9.0 - 12.5	134.0 - 137.5	135.75	
50029	29	4/A	13.5 - 15.0	138.5 - 140.0	139.25	1.08
10218		4/A	13.0 - 16.5	138.0 - 142.0	140.00	
10222		4/A	17.0 - 21.0	142.0 - 146.0	144.00	
50031	31	4/A	19.0 - 20.5	144.0 - 145.5	144.75	0.99
10220		4/A	23.0 - 26.5	148.0 - 152.0	150.00	
50030	30	4/A	24.0 - 27.5	149.0 - 152.5	150.75	0.96
50028	28	4/A	27.5 - 29.0	152.5 - 154.0	153.25	0.95
10215		4/A	26.5 - 30.0	151.5 - 155.0	153.25	
10216		4/A	26.5 - 30.0	152.0 - 155.0	153.50	
50026	26	4/A	31.0 - 32.5	156.0 - 157.5	156.75	0.98
10212		4/A	30.0 - 34.0	155.0 - 159.0	157.00	
50024	24	4/A	35.0 - 36.5	160.0 - 161.5	160.75	1.07
10208		4/A	34.0 - 38.0	159.0 - 163.0	161.00	
10226		5/A	0.0 - 6.0	164.0 - 170.0	167.00	
50033	33	5/A	3.0 - 4.5	167.0 - 168.5	167.75	0.99
50034	34	5/A	7.5 - 9.0	171.5 - 173.0	172.25	1.14
10228		5/A	6.0 - 10.5	170.0 - 175.0	172.50	
10230		5/A	10.5 - 15.0	175.0 - 179.0	177.00	
50035	35	5/A	12.5 - 14.0	176.5 - 178.0	177.25	0.97
10231		5/A	15.0 - 19.0	179.0 - 183.0	181.00	
10232		5/A	15.0 - 19.0	179.0 - 183.0	181.00	
50036	36	5/A	16.5 - 18.0	180.5 - 182.0	181.25	1.00
50037	37	5/A	20.5 - 22.0	184.5 - 186.0	185.25	0.99
10233		5/A	19.0 - 23.5	183.0 - 187.5	185.25	
10234		5/A	19.0 - 23.5	183.0 - 187.5	185.25	
10236		5/A	23.5 - 28.0	187.5 - 192.0	189.75	
50038	38	5/A	25.0 - 27.0	189.0 - 191.0	190.25	0.94
10238		5/A	28.0 - 32.0	192.0 - 196.0	194.00	
50039	39	5/A	29.5 - 31.0	193.5 - 195.0	194.25	0.98
10240		5/A	32.0 - 36.0	196.0 - 200.0	198.00	
50042	42	5/A	34.5 - 36.0	198.5 - 200.0	199.25	0.99
10247		5/A	36.0 - 41.0	200.0 - 205.0	202.50	
10248		5/A	36.0 - 41.0	200.0 - 205.0	202.50	
50044	44	5/A	39.0 - 40.5	203.0 - 204.5	203.75	0.70
10256		5/A	41.0 - 45.5	205.0 - 209.5	207.25	
50047	47	5/A	44.0 - 45.5	208.0 - 209.5	208.75	0.56



Sample Number	Box Number	Drive no.	Depth interval below top of drive (cm)	Depth interval below top of core (cm)	Depth midpoint below top of core (cm)	Dry Wt. (g)
10257		5/A	45.0 - 47.0	209.0 - 211.0	210.00	
10259		5/A	47.0 - 51.5	211.0 - 215.5	213.25	
50048	48	5/A	49.5 - 51.0	213.5 - 215.0	214.25	0.58
50046	46	5/A	55.0 - 56.5	219.0 - 220.5	219.75	0.64
10255		5/A	54.0 - 58.0	218.0 - 222.0	220.00	
50045	45	5/A	59.0 - 60.5	223.0 - 224.5	223.75	0.73
10250		5/A	58.0 - 62.0	222.0 - 226.0	224.00	
50043	43	5/A	63.5 - 65.0	227.5 - 229.0	228.25	0.56
10245		5/A	62.0 - 67.0	226.0 - 231.0	228.50	
10246		5/A	62.0 - 67.0	226.0 - 231.0	228.50	
50041	41	5/A	68.0 - 69.5	232.0 - 233.5	232.75	0.61
10242		5/A	67.0 - 71.0	231.0 - 235.0	233.00	
50040	40	5/A	72.0 - 73.5	236.0 - 237.5	236.75	0.90
10244		5/A	71.0 - 75.0	235.0 - 239.0	237.00	
50032	32	5/A	76.0 - 77.5	240.0 - 241.5	240.75	0.56
10224		5/A	75.0 - 79.0	239.0 - 243.0	241.00	
50052	52	6/A	2.5 - 4.0	250.5 - 252.0	251.25	0.54
10268		6/A	1.0 - 5.5	249.0 - 253.5	251.25	
10271		6/A	5.5 - 9.0	253.5 - 257.0	255.25	
10272		6/A	5.5 - 9.0	253.5 - 257.0	255.25	
50054	54	6/A	7.5 - 9.0	255.5 - 257.0	256.25	0.46
10278		6/A	9.0 - 14.5	257.0 - 262.5	259.75	
50056	56	6/A	12.0 - 13.5	260.0 - 261.5	260.75	0.38
10280		6/A	14.5 - 19.5	262.5 - 267.5	265.00	
50057	57	6/A	17.5 - 19.0	265.5 - 267.0	266.25	0.45
10286		6/A	19.5 - 24.0	267.5 - 272.0	269.75	
50059	59	6/A	21.5 - 23.0	269.5 - 271.0	270.25	0.44
50062	62	6/A	27.0 - 28.5	275.0 - 276.5	275.75	0.51
10289		6/A	26.0 - 29.5	274.0 - 277.5	275.75	
10290		6/A	26.0 - 29.5	274.0 - 277.5	275.75	
10294		6/A	29.5 - 34.0	278.0 - 282.0	280.00	
50064	64	6/A	31.5 - 33.0	279.5 - 281.0	280.25	0.55
10298		6/A	34.0 - 38.5	282.0 - 287.0	284.50	
50066	66	6/A	36.5 - 38.0	284.5 - 286.0	285.25	0.50
10302		6/A	38.5 - 42.5	287.0 - 291.0	289.00	
50068	68	6/A	40.5 - 42.0	288.5 - 290.0	289.25	0.55
50069	69	6/A	44.5 - 46.0	292.5 - 294.0	293.25	0.61
10304		6/A	42.5 - 47.5	291.0 - 296.0	293.50	
50067	67	6/A	48.5 - 50.0	296.5 - 298.0	297.25	0.51
10300		6/A	47.5 - 51.5	296.0 - 300.0	298.00	
50065	65	6/A	52.5 - 54.0	300.5 - 302.0	301.25	0.53
10295		6/A	51.5 - 55.0	299.5 - 303.0	301.25	
10296		6/A	51.5 - 55.0	300.0 - 303.0	301.50	
50063	63	6/A	58.5 - 60.0	306.5 - 308.0	307.25	0.40
10292		6/A	57.0 - 61.5	305.0 - 309.5	307.25	
50061	61	6/A	62.5 - 64.0	310.5 - 312.0	311.25	0.42
10288		6/A	61.5 - 66.0	309.5 - 314.0	311.75	

Sample Number	Box Number	Drive no.	Depth interval below top of drive (cm)	Depth interval below top of core (cm)	Depth midpoint below top of core (cm)	Dry Wt. (g)
50060	60	6/A	67.5 - 69.0	315.5 - 317.0	316.25	0.73
10284		6/A	66.0 - 70.5	314.0 - 318.5	316.25	
50058	58	6/A	71.5 - 73.0	319.5 - 321.0	320.25	0.40
10281		6/A	70.5 - 75.0	318.5 - 323.0	320.75	
10282		6/A	70.5 - 75.0	318.5 - 323.0	320.75	
10276		6/A	75.0 - 79.0	323.0 - 327.0	325.00	
50055	55	6/A	76.5 - 78.0	324.5 - 326.0	325.25	0.48
50053	53	6/A	82.0 - 83.5	330.0 - 331.5	330.75	0.72
10270		6/A	81.0 - 85.5	329.0 - 333.0	331.00	
50051	51	6/A	86.0 - 87.5	334.0 - 335.5	334.25	0.71
10266		6/A	85.0 - 89.5	333.0 - 337.5	335.25	
50050	50	6/A	90.5 - 92.0	338.5 - 340.0	339.25	0.67
10264		6/A	89.5 - 94.0	337.5 - 342.0	339.75	
50049	49	6/A	95.0 - 96.5	343.0 - 344.5	343.75	0.67
10262		6/A	94.0 - 98.0	342.0 - 346.0	344.00	
50088	88	7/A	4.0 - 5.5	352.0 - 353.5	352.75	0.67
10341		7/A	3.0 - 7.5	351.0 - 355.5	353.25	
10342		7/A	3.0 - 7.5	351.0 - 355.5	353.25	
50087	87	7/A	9.0 - 10.5	357.0 - 358.5	357.75	0.65
10340		7/A	7.5 - 12.0	355.5 - 360.0	357.75	
10338		7/A	12.0 - 17.0	360.0 - 365.0	362.50	
50086	86	7/A	14.0 - 15.5	362.0 - 363.5	362.75	0.74
50085	85	7/A	18.5 - 20.0	366.5 - 368.0	367.25	0.72
10335		7/A	17.0 - 22.0	365.0 - 370.0	367.50	
10336		7/A	17.0 - 22.0	365.0 - 370.0	367.50	
50084	84	7/A	23.0 - 24.5	371.0 - 372.5	371.75	0.83
10333		7/A	22.0 - 26.5	370.0 - 374.5	372.25	
10334		7/A	22.0 - 26.5	370.0 - 374.5	372.25	
50083	83	7/A	28.0 - 29.5	376.0 - 377.5	376.75	0.84
10332		7/A	26.5 - 31.5	374.5 - 379.5	377.00	
50082	82	7/A	33.5 - 35.0	381.5 - 383.0	382.25	0.73
10329		7/A	31.5 - 37.0	379.5 - 385.0	382.25	
10330		7/A	31.5 - 37.0	379.5 - 385.0	382.25	
50081	81	7/A	38.5 - 40.0	386.5 - 388.0	387.25	0.77
10327		7/A	37.0 - 41.5	385.0 - 389.5	387.25	
10328		7/A	37.0 - 41.5	385.0 - 389.5	387.25	
50080	80	7/A	43.0 - 44.5	391.0 - 392.5	391.75	0.88
10325		7/A	41.5 - 46.5	389.5 - 394.5	392.00	
10326		7/A	41.5 - 46.5	389.5 - 394.5	392.00	
50079	79	7/A	48.0 - 49.5	396.0 - 397.5	396.75	0.82
10324		7/A	46.5 - 51.0	394.5 - 399.0	396.75	
10322		7/A	51.0 - 56.0	399.0 - 404.0	401.50	
50078	78	7/A	53.0 - 54.5	401.0 - 402.5	401.75	0.75
50077	77	7/A	57.5 - 59.0	405.5 - 407.0	406.25	0.77
10319		7/A	56.0 - 61.0	404.0 - 409.0	406.50	
10320		7/A	56.0 - 61.0	404.0 - 409.0	406.50	
50076	76	7/A	62.5 - 64.0	410.5 - 412.0	411.25	0.83

Sample Number	Box Number	Drive no.	Depth interval below top of drive (cm)	Depth interval below top of core (cm)	Depth midpoint below top of core (cm)	Dry Wt. (g)
10317		7/A	61.0 - 66.0	409.0 - 414.0	411.50	
10318		7/A	61.0 - 66.0	409.0 - 414.0	411.50	
50075	75	7/A	67.5 - 69.0	415.5 - 417.0	416.25	0.84
10316		7/A	66.0 - 70.5	414.0 - 418.5	416.25	
50074	74	7/A	72.0 - 73.5	420.0 - 421.5	420.75	0.78
10314		7/A	70.5 - 75.0	418.5 - 423.0	420.75	
50073	73	7/A	76.5 - 78.0	424.5 - 426.0	425.25	0.89
10311		7/A	75.0 - 79.5	423.0 - 427.5	425.25	
10312		7/A	75.0 - 79.5	423.0 - 427.5	425.25	
10310		7/A	79.5 - 84.0	428.0 - 432.0	430.00	
50072	72	7/A	81.0 - 83.5	429.0 - 431.5	430.25	0.93
50071	71	7/A	85.0 - 86.5	433.0 - 434.5	433.75	0.84
10307		7/A	84.0 - 88.5	432.0 - 436.5	434.25	
10308		7/A	84.0 - 88.5	432.0 - 437.0	434.50	
50070	70	7/A	89.5 - 91.0	437.5 - 439.0	438.25	0.95
10306		7/A	88.5 - 93.0	437.0 - 441.0	439.00	
10382		8/A	2.0 - 7.0	449.0 - 454.0	451.50	
50108	108	8/A	4.0 - 5.5	451.0 - 452.5	451.75	0.86
10379		8/A	7.0 - 12.0	454.0 - 459.0	456.50	
10380		8/A	7.0 - 12.0	454.0 - 459.0	456.50	
50107	107	8/A	9.0 - 10.5	456.0 - 457.5	456.75	0.92
10378		8/A	12.0 - 17.0	459.0 - 464.0	461.50	
50106	106	8/A	14.0 - 15.5	461.0 - 462.5	461.75	0.91
10376		8/A	17.0 - 22.0	464.0 - 469.0	466.50	
50105	105	8/A	19.0 - 20.5	466.0 - 467.5	466.75	0.87
50104	104	8/A	23.5 - 25.0	470.5 - 472.0	471.25	0.82
10373		8/A	22.0 - 27.0	469.0 - 474.0	471.50	
10374		8/A	22.0 - 27.0	469.0 - 474.0	471.50	
10371		8/A	27.0 - 32.0	474.0 - 479.0	476.50	
10372		8/A	27.0 - 32.0	474.0 - 479.0	476.50	
50103	103	8/A	29.5 - 31.0	476.5 - 478.0	477.25	0.85
10370		8/A	32.0 - 37.0	479.0 - 484.0	481.50	
50102	102	8/A	34.0 - 35.5	481.0 - 482.5	481.75	0.91
10367		8/A	37.0 - 42.0	484.0 - 489.0	486.50	
10368		8/A	37.0 - 42.0	484.0 - 489.0	486.50	
50101	101	8/A	39.0 - 40.5	486.0 - 487.5	486.75	1.01
10365		8/A	42.0 - 46.5	489.0 - 493.5	491.25	
10366		8/A	42.0 - 46.5	489.0 - 494.0	491.50	
50100	100	8/A	44.0 - 45.5	491.0 - 492.5	491.75	1.13
10364		8/A	46.5 - 51.5	493.5 - 498.5	496.00	
50099	99	8/A	48.5 - 50.0	495.5 - 497.0	496.25	1.12
50098	98	8/A	53.0 - 54.5	500.0 - 501.5	500.75	1.21
10361		8/A	51.5 - 57.0	498.5 - 504.0	501.25	
10362		8/A	51.5 - 57.0	498.5 - 504.0	501.25	
50097	97	8/A	58.5 - 60.0	505.5 - 507.0	506.25	1.57
10359		8/A	57.0 - 61.5	504.0 - 508.5	506.25	
10360		8/A	57.0 - 61.5	504.0 - 508.5	506.25	

Sample Number	Box Number	Drive no.	Depth interval below top of drive (cm)	Depth interval below top of core (cm)	Depth midpoint below top of core (cm)	Dry Wt. (g)
50096	96	8/A	63.0 - 64.5	510.0 - 511.5	510.75	2.05
10356		8/A	61.5 - 66.5	508.5 - 513.5	511.00	
50095	95	8/A	67.0 - 68.5	514.0 - 515.5	514.75	2.19
10357		8/A	66.5 - 69.0	513.5 - 516.0	514.75	
10358		8/A	66.5 - 69.0	513.5 - 516.0	514.75	
50094	94	8/A	69.5 - 71.0	516.5 - 518.0	517.25	2.19
10353		8/A	69.0 - 72.0	516.0 - 519.0	517.50	
10354		8/A	69.0 - 72.0	516.0 - 519.0	517.50	
50093	93	8/A	73.0 - 74.5	520.0 - 521.5	520.75	2.35
10352		8/A	72.0 - 75.5	519.0 - 522.5	520.75	
50092	92	8/A	76.0 - 77.5	523.0 - 524.5	523.75	2.51
10349		8/A	75.5 - 79.0	522.5 - 526.0	524.25	
10350		8/A	75.5 - 79.0	522.5 - 526.0	524.25	
50091	91	8/A	80.5 - 82.0	527.5 - 529.0	528.25	2.35
10347		8/A	79.0 - 84.0	526.0 - 531.0	528.50	
10348		8/A	79.0 - 84.0	526.0 - 531.0	528.50	
50090	90	8/A	85.0 - 86.5	532.0 - 533.5	532.75	2.44
10345		8/A	84.0 - 90.0	531.0 - 537.0	534.00	
10346		8/A	84.0 - 90.0	531.0 - 537.0	534.00	
50089	89	8/A	91.5 - 93.0	538.5 - 540.0	539.25	2.54
10343		8/A	90.0 - 95.0	537.0 - 542.0	539.50	
10344		8/A	90.0 - 95.0	537.0 - 542.0	539.50	
10412		9/A	9.0 - 14.0	557.0 - 562.0	559.50	
50123	123	9/A	11.0 - 12.5	559.0 - 560.5	559.75	2.54
50122	122	9/A	15.5 - 17.0	563.5 - 565.0	564.25	2.46
10410		9/A	14.0 - 19.0	562.0 - 567.0	564.50	
10407		9/A	19.0 - 24.0	567.0 - 572.0	569.50	
10408		9/A	19.0 - 24.0	567.0 - 572.0	569.50	
50121	121	9/A	21.0 - 22.5	569.0 - 570.5	569.75	2.50
10406		9/A	24.0 - 29.0	572.0 - 577.0	574.50	
50120	120	9/A	26.0 - 27.5	574.0 - 575.5	574.75	2.49
10404		9/A	29.0 - 34.0	577.0 - 582.0	579.50	
50119	119	9/A	31.0 - 32.5	579.0 - 580.5	579.75	2.44
10402		9/A	34.0 - 39.0	582.0 - 587.0	584.50	
50118	118	9/A	36.0 - 37.5	584.0 - 585.5	584.75	2.41
10400		9/A	39.0 - 44.0	587.0 - 592.0	589.50	
50117	117	9/A	41.0 - 42.5	589.0 - 590.5	589.75	2.50
50116	116	9/A	45.5 - 47.0	593.5 - 595.0	594.25	2.37
10397		9/A	44.0 - 49.0	592.0 - 597.0	594.50	
10398		9/A	44.0 - 49.0	592.0 - 597.0	594.50	
50115	115	9/A	50.5 - 52.0	598.5 - 600.0	599.25	2.44
10395		9/A	49.0 - 54.0	597.0 - 602.0	599.50	
10396		9/A	49.0 - 54.0	597.0 - 602.0	599.50	
10394		9/A	54.0 - 59.0	602.0 - 607.0	604.50	
50114	114	9/A	56.0 - 57.5	604.0 - 605.5	604.75	2.45
10392		9/A	59.0 - 64.0	607.0 - 612.0	609.50	
50113	113	9/A	61.0 - 62.5	609.0 - 610.5	609.75	2.39

Sample Number	Box Number	Drive no.	Depth interval below top of drive (cm)	Depth interval below top of core (cm)	Depth midpoint below top of core (cm)	Dry Wt. (g)
50112	112	9/A	65.5 - 67.0	613.5 - 615.0	614.25	2.82
10389		9/A	64.0 - 69.0	612.0 - 617.0	614.50	
10390		9/A	64.0 - 69.0	612.0 - 617.0	614.50	
10387		9/A	69.0 - 74.0	617.0 - 622.0	619.50	
10388		9/A	69.0 - 74.0	617.0 - 622.0	619.50	
50111	111	9/A	71.0 - 72.5	619.0 - 620.5	619.75	2.36
10386		9/A	74.0 - 79.0	622.0 - 627.0	624.50	
50110	110	9/A	76.0 - 77.5	624.0 - 625.5	624.75	2.58
50109	109	9/A	80.5 - 82.0	628.5 - 630.0	629.25	2.75
10384		9/A	79.0 - 84.0	627.0 - 632.0	629.50	
50142	142	10/A	4.5 - 6.0	636.5 - 638.0	637.25	2.51
10449		10/A	2.5 - 8.0	634.5 - 640.0	637.25	
10450		10/A	2.5 - 8.0	635.0 - 640.0	637.50	
50141	141	10/A	9.5 - 11.0	641.5 - 643.0	642.25	2.69
10447		10/A	8.0 - 13.0	640.0 - 645.0	642.50	
10448		10/A	8.0 - 13.0	640.0 - 645.0	642.50	
10446		10/A	13.0 - 18.0	645.0 - 650.0	647.50	
50140	140	10/A	15.0 - 16.5	647.0 - 648.5	647.75	2.58
50139	139	10/A	19.5 - 21.0	651.5 - 653.0	652.25	2.57
10443		10/A	18.0 - 22.5	650.0 - 654.5	652.25	
10444		10/A	18.0 - 22.5	650.0 - 655.0	652.50	
50138	138	10/A	24.5 - 26.0	656.5 - 658.0	657.25	2.50
10441		10/A	22.5 - 28.0	654.5 - 660.0	657.25	
10442		10/A	22.5 - 28.0	655.0 - 660.0	657.50	
10440		10/A	28.0 - 33.0	660.0 - 665.0	662.50	
50137	137	10/A	30.0 - 31.5	662.0 - 663.5	662.75	3.05
10437		10/A	33.0 - 38.0	665.0 - 670.0	667.50	
10438		10/A	33.0 - 38.0	665.0 - 670.0	667.50	
50136	136	10/A	35.0 - 36.5	667.0 - 668.5	667.75	2.61
50135	135	10/A	39.5 - 41.0	671.5 - 673.0	672.25	2.57
10435		10/A	38.0 - 43.0	670.0 - 675.0	672.50	
10436		10/A	38.0 - 43.0	670.0 - 675.0	672.50	
10433		10/A	43.0 - 48.0	675.0 - 680.0	677.50	
10434		10/A	43.0 - 48.0	675.0 - 680.0	677.50	
50134	134	10/A	45.0 - 46.5	677.0 - 678.5	677.75	2.58
10432		10/A	48.0 - 53.0	680.0 - 685.0	682.50	
50133	133	10/A	50.0 - 51.5	682.0 - 683.5	682.75	2.43
50132	132	10/A	54.5 - 56.0	686.5 - 688.0	687.25	2.60
10429		10/A	53.0 - 58.0	685.0 - 690.0	687.50	
10430		10/A	53.0 - 58.0	685.0 - 690.0	687.50	
50131	131	10/A	59.5 - 61.0	691.5 - 693.0	692.25	2.55
10428		10/A	58.0 - 63.0	690.0 - 695.0	692.50	
10425		10/A	63.0 - 68.0	695.0 - 700.0	697.50	
10426		10/A	63.0 - 68.0	695.0 - 700.0	697.50	
50130	130	10/A	65.0 - 66.5	697.0 - 698.5	697.75	3.11
50129	129	10/A	69.5 - 71.0	701.5 - 703.0	702.25	2.66
10423		10/A	68.0 - 73.0	700.0 - 705.0	702.50	

Sample Number	Box Number	Drive no.	Depth interval below top of drive (cm)	Depth interval below top of core (cm)	Depth midpoint below top of core (cm)	Dry Wt. (g)
10424		10/A	68.0 - 73.0	700.0 - 705.0	702.50	
50128	128	10/A	74.5 - 76.0	706.5 - 708.0	707.25	2.57
10421		10/A	73.0 - 78.0	705.0 - 710.0	707.50	
10422		10/A	73.0 - 78.0	705.0 - 710.0	707.50	
50127	127	10/A	79.5 - 81.0	711.5 - 713.0	712.25	2.57
10419		10/A	78.0 - 83.0	710.0 - 715.0	712.50	
10420		10/A	78.0 - 83.0	710.0 - 715.0	712.50	
10417		10/A	83.0 - 88.0	715.0 - 720.0	717.50	
10418		10/A	83.0 - 88.0	715.0 - 720.0	717.50	
50126	126	10/A	85.0 - 86.5	717.0 - 718.5	717.75	2.60
50125	125	10/A	89.0 - 90.5	721.0 - 722.5	721.75	2.44
10416		10/A	88.0 - 93.0	720.0 - 725.0	722.50	
50124	124	10/A	94.0 - 95.5	726.0 - 727.5	726.75	2.48
10414		10/A	93.0 - 98.0	725.0 - 730.0	727.50	
50160	160	11/A	7.5 - 9.0	739.5 - 741.0	740.25	2.34
10485		11/A	6.0 - 11.0	738.0 - 743.0	740.50	
10486		11/A	6.0 - 11.0	738.0 - 743.0	740.50	
50159	159	11/A	12.5 - 14.0	744.5 - 746.0	745.25	2.49
10483		11/A	11.0 - 16.0	743.0 - 748.0	745.50	
10484		11/A	11.0 - 16.0	743.0 - 748.0	745.50	
10482		11/A	16.0 - 21.0	748.0 - 753.0	750.50	
50158	158	11/A	18.0 - 19.5	750.0 - 751.5	750.75	2.48
50157	157	11/A	22.5 - 24.0	754.5 - 756.0	755.25	2.35
10479		11/A	21.0 - 26.0	753.0 - 758.0	755.50	
10480		11/A	21.0 - 26.0	753.0 - 758.0	755.50	
50156	156	11/A	27.5 - 29.0	759.5 - 761.0	760.25	2.33
10477		11/A	26.0 - 31.0	758.0 - 763.0	760.50	
10478		11/A	26.0 - 31.0	758.0 - 763.0	760.50	
50155	155	11/A	32.5 - 34.0	764.5 - 766.0	765.25	2.25
10476		11/A	31.0 - 36.0	763.0 - 768.0	765.50	
50154	154	11/A	37.5 - 39.0	769.5 - 771.0	770.25	2.14
10474		11/A	36.0 - 41.0	768.0 - 773.0	770.50	
50153	153	11/A	42.5 - 44.0	774.5 - 776.0	775.25	2.02
10472		11/A	41.0 - 46.0	773.0 - 778.0	775.50	
50152	152	11/A	47.5 - 49.0	779.5 - 781.0	780.25	2.55
10469		11/A	46.0 - 51.0	778.0 - 783.0	780.50	
10470		11/A	46.0 - 51.0	778.0 - 783.0	780.50	
50151	151	11/A	52.5 - 54.0	784.5 - 786.0	785.25	2.41
10467		11/A	51.0 - 56.0	783.0 - 788.0	785.50	
10468		11/A	51.0 - 56.0	783.0 - 788.0	785.50	
10466		11/A	56.0 - 61.0	788.0 - 793.0	790.50	
50150	150	11/A	58.0 - 59.5	790.0 - 791.5	790.75	2.44
50149	149	11/A	62.5 - 64.0	794.5 - 796.0	795.25	2.69
10463		11/A	61.0 - 66.0	793.0 - 798.0	795.50	
10464		11/A	61.0 - 66.0	793.0 - 798.0	795.50	
50148	148	11/A	67.5 - 69.0	799.5 - 801.0	800.25	2.25
10461		11/A	66.0 - 71.0	798.0 - 803.0	800.50	

Sample Number	Box Number	Drive no.	Depth interval below top of drive (cm)	Depth interval below top of core (cm)	Depth midpoint below top of core (cm)	Dry Wt. (g)
10462		11/A	66.0 - 71.0	798.0 - 803.0	800.50	
50147	147	11/A	72.5 - 74.0	804.5 - 806.0	805.25	2.57
10459		11/A	71.0 - 76.0	803.0 - 808.0	805.50	
10460		11/A	71.0 - 76.0	803.0 - 808.0	805.50	
50146	146	11/A	77.5 - 79.0	809.5 - 811.0	810.25	2.62
10457		11/A	76.0 - 81.0	808.0 - 813.0	810.50	
10458		11/A	76.0 - 81.0	808.0 - 813.0	810.50	
50145	145	11/A	82.0 - 83.5	814.0 - 815.5	814.75	2.54
10456		11/A	81.0 - 85.5	813.0 - 817.5	815.25	
10455		11/A	81.0 - 85.5	813.0 - 817.5	815.25	
50144	144	11/A	87.0 - 88.5	819.0 - 820.5	819.75	2.04
10453		11/A	85.5 - 91.0	817.5 - 823.0	820.25	
10454		11/A	85.5 - 91.0	818.0 - 823.0	820.50	
50143	143	11/A	92.0 - 93.5	824.0 - 825.5	824.75	2.04
10452		11/A	91.0 - 96.0	823.0 - 828.0	825.50	
50176	176	12/A	4.5 - 6.0	836.5 - 838.0	837.25	2.19
10520		12/A	3.0 - 8.0	835.0 - 840.0	837.50	
50175	175	12/A	9.5 - 11.0	841.5 - 843.0	842.25	2.29
10518		12/A	8.0 - 13.0	840.0 - 845.0	842.50	
50174	174	12/A	14.5 - 16.0	846.5 - 848.0	847.25	2.39
10515		12/A	13.0 - 18.0	845.0 - 850.0	847.50	
10516		12/A	13.0 - 18.0	845.0 - 850.0	847.50	
50173	173	12/A	19.5 - 21.0	851.5 - 853.0	852.25	2.52
10513		12/A	18.0 - 23.0	850.0 - 855.0	852.50	
10514		12/A	18.0 - 23.0	850.0 - 855.0	852.50	
50172	172	12/A	24.5 - 26.0	856.5 - 858.0	857.25	2.34
10511		12/A	23.0 - 28.0	855.0 - 860.0	857.50	
10512		12/A	23.0 - 28.0	855.0 - 860.0	857.50	
50171	171	12/A	29.5 - 31.0	861.5 - 863.0	862.25	2.39
10509		12/A	28.0 - 33.0	860.0 - 865.0	862.50	
10510		12/A	28.0 - 33.0	860.0 - 865.0	862.50	
50170	170	12/A	34.5 - 36.0	866.5 - 868.0	867.25	2.33
10507		12/A	33.0 - 38.0	865.0 - 870.0	867.50	
10508		12/A	33.0 - 38.0	865.0 - 870.0	867.50	
50169	169	12/A	39.5 - 41.0	871.5 - 873.0	872.25	2.34
10505		12/A	38.0 - 43.5	870.0 - 875.5	872.75	
10506		12/A	38.0 - 43.5	870.0 - 875.5	872.75	
10504		12/A	43.5 - 48.0	875.5 - 880.0	877.75	
50168	168	12/A	45.5 - 47.0	877.5 - 879.0	878.25	2.42
50167	167	12/A	54.5 - 56.0	886.5 - 888.0	887.25	2.48
10501		12/A	53.0 - 58.0	885.0 - 890.0	887.50	
10502		12/A	53.0 - 58.0	885.0 - 890.0	887.50	
50166	166	12/A	59.5 - 61.0	891.5 - 893.0	892.25	2.45
10499		12/A	58.0 - 63.0	890.0 - 895.0	892.50	
10500		12/A	58.0 - 63.0	890.0 - 895.0	892.50	
50165	165	12/A	64.5 - 66.0	896.5 - 898.0	897.25	2.29
10498		12/A	63.0 - 68.0	895.0 - 900.0	897.50	

Sample Number	Box Number	Drive no.	Depth interval below top of drive (cm)	Depth interval below top of core (cm)	Depth midpoint below top of core (cm)	Dry Wt. (g)
10496		12/A	67.0 - 73.0	899.0 - 905.0	902.00	
50164	164	12/A	69.5 - 71.0	901.5 - 903.0	902.25	2.21
50163	163	12/A	74.5 - 76.0	906.5 - 908.0	907.25	2.14
10493		12/A	73.0 - 78.0	905.0 - 910.0	907.50	
10494		12/A	73.0 - 78.0	905.0 - 910.0	907.50	
50162	162	12/A	79.5 - 81.0	911.5 - 913.0	912.25	2.08
10491		12/A	78.0 - 83.0	910.0 - 915.0	912.50	
10492		12/A	78.0 - 83.0	910.0 - 915.0	912.50	
50161	161	12/A	84.5 - 86.0	916.5 - 918.0	917.25	2.08
10487		12/A	83.0 - 88.0	915.0 - 920.0	917.50	
10488		12/A	83.0 - 88.0	915.0 - 920.0	917.50	
50193	193	13/A	4.5 - 6.0	929.5 - 931.0	930.25	2.09
10554		13/A	3.0 - 8.0	928.0 - 933.0	930.50	
50192	192	13/A	9.5 - 11.0	934.5 - 936.0	935.25	2.12
10551		13/A	8.0 - 13.0	933.0 - 938.0	935.50	
10552		13/A	8.0 - 13.0	933.0 - 938.0	935.50	
50191	191	13/A	14.5 - 16.0	939.5 - 941.0	940.25	2.08
10549		13/A	13.0 - 18.0	938.0 - 943.0	940.50	
10550		13/A	13.0 - 18.0	938.0 - 943.0	940.50	
50190	190	13/A	19.5 - 21.0	944.5 - 946.0	945.25	2.16
10548		13/A	18.0 - 23.0	943.0 - 948.0	945.50	
50189	189	13/A	24.5 - 26.0	949.5 - 951.0	950.25	2.22
10546		13/A	23.0 - 28.0	948.0 - 953.0	950.50	
50188	188	13/A	29.5 - 31.0	954.5 - 956.0	955.25	2.12
10543		13/A	28.0 - 33.0	953.0 - 958.0	955.50	
10544		13/A	28.0 - 33.0	953.0 - 958.0	955.50	
50187	187	13/A	34.5 - 36.0	959.5 - 961.0	960.25	2.21
10541		13/A	33.0 - 38.0	958.0 - 963.0	960.50	
10542		13/A	33.0 - 38.0	958.0 - 963.0	960.50	
50186	186	13/A	39.5 - 41.0	964.5 - 966.0	965.25	2.24
10540		13/A	38.0 - 43.0	963.0 - 968.0	965.50	
50185	185	13/A	44.5 - 46.0	969.5 - 971.0	970.25	2.33
10537		13/A	43.0 - 48.0	968.0 - 973.0	970.50	
10538		13/A	43.0 - 48.0	968.0 - 973.0	970.50	
50184	184	13/A	49.5 - 51.0	974.5 - 976.0	975.25	2.40
10535		13/A	48.0 - 53.0	973.0 - 978.0	975.50	
10536		13/A	48.0 - 53.0	973.0 - 978.0	975.50	
50183	183	13/A	54.5 - 56.0	979.5 - 981.0	980.25	2.13
10533		13/A	53.0 - 58.0	978.0 - 983.0	980.50	
10534		13/A	53.0 - 58.0	978.0 - 983.0	980.50	
50182	182	13/A	59.5 - 61.0	984.5 - 986.0	985.25	2.09
10532		13/A	58.0 - 63.0	983.0 - 988.0	985.50	
50181	181	13/A	64.5 - 66.0	989.5 - 991.0	990.25	2.10
10529		13/A	63.0 - 68.0	988.0 - 993.0	990.50	
10530		13/A	63.0 - 68.0	988.0 - 993.0	990.50	
50180	180	13/A	69.5 - 71.0	994.5 - 996.0	995.25	2.22
10528		13/A	68.0 - 73.0	993.3 - 998.3	995.80	



Sample Number	Box Number	Drive no.	Depth interval below top of drive (cm)	Depth interval below top of core (cm)	Depth midpoint below top of core (cm)	Dry Wt. (g)
50179	179	13/A	74.5 - 76.0	999.5 - 1001.0	1000.25	2.29
10525		13/A	73.0 - 78.0	998.0 - 1003.0	1000.50	
10526		13/A	73.0 - 78.0	998.3 - 1003.0	1000.65	
50178	178	13/A	79.5 - 81.0	1004.5 - 1006.0	1005.25	2.29
10524		13/A	78.0 - 83.0	1003.0 - 1008.0	1005.50	
50177	177	13/A	84.5 - 86.0	1009.5 - 1011.0	1010.25	2.29
10521		13/A	83.0 - 88.0	1008.0 - 1013.0	1010.50	
10522		13/A	83.0 - 88.0	1008.0 - 1013.0	1010.50	
50206	206	14/A	7.5 - 9.0	1030.5 - 1032.0	1028.25	2.15
10579		14/A	6.0 - 11.0	1029.0 - 1034.0	1031.50	
10580		14/A	6.0 - 11.0	1029.0 - 1034.0	1031.50	
50205	205	14/A	12.0 - 13.5	1035.0 - 1036.5	1035.75	2.21
10578		14/A	11.0 - 16.0	1034.0 - 1039.0	1036.50	
50204	204	14/A	17.5 - 19.0	1040.5 - 1042.0	1041.25	2.14
10575		14/A	16.0 - 21.0	1039.0 - 1044.0	1041.50	
10576		14/A	16.0 - 21.0	1039.0 - 1044.0	1041.50	
50203	203	14/A	22.5 - 24.0	1045.5 - 1047.0	1046.25	2.15
10574		14/A	21.0 - 26.0	1044.0 - 1049.0	1046.50	
50202	202	14/A	27.0 - 28.5	1050.0 - 1051.5	1050.75	2.13
10572		14/A	26.0 - 31.0	1049.0 - 1054.0	1051.50	
50201	201	14/A	31.0 - 32.5	1054.0 - 1055.5	1054.75	2.18
10569		14/A	31.0 - 35.0	1054.0 - 1058.0	1056.00	
10570		14/A	31.0 - 35.0	1054.0 - 1058.0	1056.00	
50200	200	14/A	36.0 - 37.5	1059.0 - 1060.5	1059.75	2.14
10567		14/A	35.0 - 39.0	1058.0 - 1062.0	1060.00	
10568		14/A	35.0 - 39.0	1058.0 - 1062.0	1060.00	
50199	199	14/A	41.0 - 42.5	1064.0 - 1065.5	1064.75	2.16
10566		14/A	39.0 - 45.0	1062.0 - 1068.0	1065.00	
50198	198	14/A	46.0 - 47.5	1069.0 - 1070.5	1069.75	2.11
10564		14/A	45.0 - 50.0	1068.0 - 1073.0	1070.50	
50197	197	14/A	51.5 - 53.0	1074.5 - 1076.0	1075.25	2.12
10561		14/A	50.0 - 55.0	1073.0 - 1078.0	1075.50	
10562		14/A	50.0 - 55.0	1073.0 - 1078.0	1075.50	
50196	196	14/A	56.5 - 58.0	1079.5 - 1081.0	1080.25	2.05
10560		14/A	55.0 - 60.0	1078.0 - 1083.0	1080.50	
50195	195	14/A	61.5 - 63.0	1084.5 - 1086.0	1085.25	2.08
10558		14/A	60.0 - 65.0	1083.0 - 1088.0	1085.50	
50194	194	14/A	67.0 - 68.5	1090.0 - 1091.5	1090.75	2.19
10556		14/A	65.0 - 71.0	1088.0 - 1094.0	1091.00	
50217	217	15/A	8.5 - 10.0	1106.5 - 1108.0	1107.25	2.30
10602		15/A	7.0 - 12.0	1105.0 - 1110.0	1107.50	
50216	216	15/A	13.5 - 15.0	1111.5 - 1113.0	1112.25	2.15
10599		15/A	12.0 - 17.0	1110.0 - 1115.0	1112.50	
10600		15/A	12.0 - 17.0	1110.0 - 1115.0	1112.50	
50215	215	15/A	18.5 - 20.0	1116.5 - 1118.0	1117.25	2.03
10597		15/A	17.0 - 22.0	1115.0 - 1120.0	1117.50	
10598		15/A	17.0 - 22.0	1115.0 - 1120.0	1117.50	

Sample Number	Box Number	Drive no.	Depth interval below top of drive (cm)	Depth interval below top of core (cm)	Depth midpoint below top of core (cm)	Dry Wt. (g)
50214	214	15/A	23.5 - 25.0	1121.5 - 1123.0	1122.25	2.00
10595		15/A	22.0 - 27.0	1120.0 - 1125.0	1122.50	
10596		15/A	22.0 - 27.0	1120.0 - 1125.0	1122.50	
50213	213	15/A	28.5 - 30.0	1126.5 - 1128.0	1127.25	2.06
10594		15/A	27.0 - 32.0	1125.0 - 1130.0	1127.50	
50212	212	15/A	33.5 - 35.0	1131.5 - 1133.0	1132.25	2.08
10591		15/A	32.0 - 36.5	1130.0 - 1134.5	1132.25	
10592		15/A	32.0 - 36.5	1130.0 - 1135.0	1132.50	
50211	211	15/A	38.0 - 39.5	1136.0 - 1137.5	1136.75	2.05
10589		15/A	36.5 - 42.0	1134.5 - 1140.0	1137.25	
10590		15/A	36.5 - 42.0	1135.0 - 1140.0	1137.50	
50210	210	15/A	43.5 - 45.0	1141.5 - 1143.0	1142.25	2.13
10588		15/A	42.0 - 47.0	1140.0 - 1145.0	1142.50	
50209	209	15/A	48.5 - 50.0	1146.5 - 1148.0	1147.25	2.15
10586		15/A	47.0 - 52.0	1145.0 - 1150.0	1147.50	
50208	208	15/A	53.5 - 55.0	1151.5 - 1153.0	1152.25	2.37
10583		15/A	52.0 - 57.0	1150.0 - 1155.0	1152.50	
10584		15/A	52.0 - 57.0	1150.0 - 1155.0	1152.50	
50207	207	15/A	58.0 - 59.5	1156.0 - 1157.5	1156.75	2.60
10582		15/A	57.0 - 62.0	1155.0 - 1160.0	1157.50	
50230	230	16/A	6.5 - 8.0	1169.5 - 1171.0	1170.25	2.29
10628		16/A	5.0 - 10.0	1168.0 - 1173.0	1170.50	
10629		16/A	5.0 - 10.0	1168.0 - 1173.0	1170.50	
50229	229	16/A	11.5 - 13.0	1174.5 - 1176.0	1175.25	2.39
10627		16/A	10.0 - 15.0	1173.0 - 1178.0	1175.50	
50228	228	16/A	16.5 - 18.0	1179.5 - 1181.0	1180.25	2.63
10625		16/A	15.0 - 20.0	1178.0 - 1183.0	1180.50	
50227	227	16/A	21.5 - 23.0	1184.5 - 1186.0	1185.25	2.44
10623		16/A	20.0 - 25.0	1183.0 - 1188.0	1185.50	
50226	226	16/A	26.5 - 28.0	1189.5 - 1191.0	1190.25	2.33
10621		16/A	25.0 - 30.0	1188.0 - 1193.0	1190.50	
50225	225	16/A	31.5 - 33.0	1194.5 - 1196.0	1195.25	2.32
10619		16/A	30.0 - 35.0	1193.0 - 1198.0	1195.50	
50224	224	16/A	36.0 - 37.5	1199.0 - 1200.5	1199.75	2.46
10617		16/A	35.0 - 40.0	1198.0 - 1203.0	1200.50	
50223	223	16/A	41.5 - 43.0	1204.5 - 1206.0	1205.25	2.25
10615		16/A	40.0 - 45.0	1203.0 - 1208.0	1205.50	
50222	222	16/A	46.5 - 48.0	1209.5 - 1211.0	1210.25	2.26
10613		16/A	45.0 - 50.0	1208.0 - 1213.0	1210.50	
50221	221	16/A	51.5 - 53.0	1214.5 - 1216.0	1215.25	2.11
10611		16/A	50.0 - 55.0	1213.0 - 1218.0	1215.50	
50220	220	16/A	56.5 - 58.0	1219.5 - 1221.0	1220.25	2.10
10609		16/A	55.0 - 60.0	1218.0 - 1223.0	1220.50	
50219	219	16/A	61.5 - 63.0	1224.5 - 1226.0	1225.25	2.18
10607		16/A	60.0 - 65.0	1223.0 - 1228.0	1225.50	
50218	218	16/A	67.5 - 69.0	1230.5 - 1232.0	1231.25	2.30
10604		16/A	65.0 - 71.5	1228.0 - 1234.5	1231.25	

Sample Number	Box Number	Drive no.	Depth interval below top of drive (cm)	Depth interval below top of core (cm)	Depth midpoint below top of core (cm)	Dry Wt. (g)
50237	237	17/A	13.0 - 14.5	1257.0 - 1258.5	1257.75	2.11
10644		17/A	12.0 - 17.0	1256.0 - 1261.0	1258.50	
50236	236	17/A	18.0 - 19.5	1262.0 - 1263.5	1262.75	2.50
10642		17/A	17.0 - 22.0	1261.0 - 1266.0	1263.50	
50235	235	17/A	23.5 - 25.0	1267.5 - 1269.0	1268.25	2.46
10640		17/A	22.0 - 27.0	1266.0 - 1271.0	1268.50	
50234	234	17/A	28.5 - 30.0	1272.5 - 1274.0	1273.25	2.74
10638		17/A	27.0 - 32.0	1271.0 - 1276.0	1273.50	
50233	233	17/A	33.5 - 35.0	1277.5 - 1279.0	1278.25	2.96
10636		17/A	32.0 - 37.0	1276.0 - 1281.0	1278.50	
50232	232	17/A	38.5 - 40.0	1282.5 - 1284.0	1283.25	2.56
10634		17/A	37.0 - 42.0	1281.0 - 1286.0	1283.50	
50231	231	17/A	44.0 - 45.5	1288.0 - 1289.5	1288.75	3.34
10632		17/A	42.0 - 49.0	1286.0 - 1293.0	1289.50	

**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 cm<sup>3</sup>.

**Depth (cm):** Depth of sample in centimeters from top of core.

**Decl.:** Declination in degrees of the remanent magnetization, determined using a least squares fit, clockwise from geographic north.

**Incl.:** The inclination in degrees of the remanent magnetization, determined using a least squares fit, positive downward.

**NRM:** Natural Remanent Magnetization in Am<sup>2</sup>/kg of the sample prior to demagnetization.

**Error angle:** The maximum angular deviation (Kirschvink, 1980) for the demagnetization steps used in calculating the declination and inclination.

**Demag. Interval:** The highest and lowest demagnetization steps in milliTesla (mT) used in calculating the characteristic direction. For many calculations, the origin (org) was given unit weight in the linear fit.

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

Gaps in the data indicate samples with apparent unstable behavior for which no linear segments were identified.

Sample Box No. CM2-	Depth (cm)	Decl.	Incl.	NRM	Error angle	Demag. Interval	Number of points used in linear fit
Drive1a							
2	2.75	254.4	47.0	5.18E-02	8.5	5 - 20	3
3	6.75	324.9	60.5	2.16E-02	17.2	10 - 60	5
5	10.75	266.0	54.8	7.96E-02	15.4	5 - 60	6
7	15.5			2.26E-03			
9	20.25			2.35E-04			
11	23.75	289.1	58.2	4.25E-04	8.1	5 - 80	7
13	28.75			2.43E-04			
12	32.25	322.4	59.6	3.13E-04	16.9	10 - 80	6
10	37.25	286.1	60.5	4.58E-04	2.3	10 - 30	3
8	40.75	287.9	40.5	9.66E-05	14.0	5 - 80	7
6	44.75	283.5	50.6	4.36E-04	14.1	5 - 80	6
4	48	308.2	58.4	4.62E-04	14.6	10 - 80	6
1	52			2.07E-04			
Drive 2a							
14	56.75	219.5	59.7	2.93E-04	10.4	10 - 60	5
16	60.75			2.67E-04			
18	64.25	315.7	66.3	3.81E-04	13.0	5 - 40	5
20	68.25	301.2	29.8	2.56E-04	14.3	10 - 40	4
Drive 3a							
15	101.75	58.0	61.8	4.54E-04	20.1	10 - 60	5
17	106.75	21.5	29.0	4.46E-04	10.1	5 - 60	6
19	111.25	63.6	23.0	3.99E-04	17.5	5 - 80	7
21	115.25	49.9	44.5	4.61E-04	10.5	5 - 40	5
23	119.75	100.6	42.0	4.24E-04	8.0	5 - 30	4
22	122.25	80.1	27.5	2.80E-04	13.2	10 - 40	4
Drive 4a							
25	129.25	355.8	42.5	3.65E-04	11.9	5 - 40	5
27	134.75	268.3	73.6	5.26E-04	10.9	5 - 80	7
29	139.25			1.33E-04			
31	144.75	226.7	67.2	1.90E-04	27.0	5 - 60	6
30	150.75	270.2	61.1	1.74E-04	18.5	5 - 40	5
28	153.25	231.5	68.4	2.25E-04	9.4	5 - 60	6
26	156.75	258.1	69.9	3.48E-04	13.5	10 - 60	5
24	160.75	142.7	67.5	4.03E-04	16.6	10 - 80	6
Drive 5a							
33	167.75	315.4	61.0	2.75E-04	12.8	10 - 80	6
34	172.25	303.0	33.4	3.39E-04	14.5	5-80 w/o 40	6
35	177.25	314.0	52.7	2.10E-04	24.8	10-80 w/o 40	5
36	181.25	282.0	71.5	3.47E-04	16.7	5 - 60	6
37	185.25	164.0	65.1	2.39E-04	20.1	5 - 60	6
38	190.25	220.3	65.4	2.75E-04	17.9	5 - 80	7
39	194.25	225.1	59.0	3.80E-04	6.8	10 - 80	6
42	199.25	153.9	69.3	2.82E-04	17.7	5 - 30	4
44	203.75			1.22E-04			
47	208.75			7.82E-05			
48	214.25			5.93E-05			

Sample Box No. CM2-	Depth (cm)	Decl.	Incl.	NRM	Error angle	Demag. Interval	Number of points used in linear fit
46	219.75			1.15E-04			
45	223.75			1.35E-04			
43	228.25			1.33E-04			
41	232.75			2.44E-04			
40	236.75			1.26E-04			
32	240.75			4.37E-05			
Drive 6a							
52	251.25			8.10E-05			
54	256.25			1.21E-04			
56	260.75			1.11E-04			
57	266.25			1.06E-04			
59	270.25			1.08E-04			
62	275.75			4.62E-05			
64	280.25			1.29E-04			
66	285.25			1.48E-04			
68	289.25			2.07E-04			
69	293.25	163.0	60.0	2.49E-04	23.0	10 - 60	5
67	297.25			7.40E-05			
65	301.25			2.57E-04			
63	307.25			8.63E-05			
61	311.25			7.44E-05			
60	316.25			7.91E-04			
58	320.25			9.66E-05			
55	325.25			3.85E-05			
53	330.75			3.18E-04			
51	334.25			1.30E-04			
50	339.25			2.25E-04			
49	343.75			2.21E-04			
Drive 7a							
88	352.75			7.32E-05			
87	357.75			1.06E-04			
86	362.75	35.7	44.1	2.09E-04	26.0	5 - 80	7
85	367.25	309.3	65.3	1.98E-04	18.6	5 - 60	6
84	371.75			3.54E-04			
83	376.75	242.8	79.5	9.05E-04	22.5	5 - 60	6
82	382.25	27.2	49.4	2.72E-04	27.2	5 - 40	5
81	387.25	337.2	35.3	7.52E-04	17.6	5 - 40	5
80	391.75			1.23E-03			
79	396.75	332.8	41.9	1.30E-03	14.6	5 - 40	5
78	401.75	213.1	77.5	7.77E-04	40.2	5 - 60	6
77	406.25	81.5	81.7	1.26E-03	12.3	20 - 60	4
76	411.25			1.05E-03			
75	416.25			1.02E-03			
74	420.75	290.4	47.9	1.37E-03	13.2	5 - 20	3
73	425.25	299.9	78.6	1.57E-03	11.6	5 - 40	5
72	430.25	339.5	34.6	1.63E-03	7.7	5 - 60	6
71	433.75	329.8	57.5	1.65E-03	20.2	5 - 60	6

Sample Box No. CM2-	Depth (cm)	Decl.	Incl.	NRM	Error angle	Demag. Interval	Number of points used in linear fit
70	438.25	0.3	66.1	2.06E-03	15.7	5 - 80	7
Drive 8a							
108	451.75	38.9	62.9	1.58E-03	19.5	5 - org	8
107	456.75	353.4	57.1	1.99E-03	16.4	5 - org	8
106	461.75	318.5	59.0	1.59E-03	19.8	5 - 60	6
105	466.75	326.9	65.7	2.06E-03	10.5	5 - 40	5
104	471.25	35.1	46.1	1.61E-03	10.5	5 - 80	7
103	477.25	326.4	65.6	1.73E-03	16.0	5 - 80	7
102	481.75	7.3	60.9	1.97E-03	15.1	5 - 60	6
101	486.75	8.5	56.1	3.02E-03	9.1	5 - org	8
100	491.75	8.8	51.5	4.26E-03	5.2	5-60 and org	7
99	496.25	354.6	58.7	4.78E-03	10.6	5 - org	8
98	500.75	9.2	56.2	5.25E-03	9.1	10 - org	7
97	506.25	304.8	67.1	1.83E-02	12.7	5-60 and org	7
96	510.75	353.9	54.6	4.34E-02	3.7	5-40 and org	6
95	514.75	353.5	52.5	5.28E-02	4.0	5-40 and org	6
94	517.25	2.7	53.5	1.35E-01	1.4	5 - org	8
93	520.75	357.7	52.2	1.27E-01	2.3	5 - org	8
92	523.75	352.6	52.8	1.15E-01	2.1	5 - org	8
91	528.25	348.6	58.6	2.29E-01	1.7	5 - org	8
90	532.75	350.3	43.8	3.04E-01	0.8	5 - org	8
89	539.25	6.2	39.5	3.57E-01	1.6	5 - org	8
Drive 9a							
123	559.75	288.5	46.0	2.58E-01	1.7	5 - org	8
122	564.25	274.9	41.8	3.15E-01	1.7	5 - org	8
121	569.75	271.9	40.8	2.61E-01	1.5	5 - org	8
120	574.75	269.7	43.5	2.95E-01	1.3	5 - org	8
119	579.75	267.0	43.4	3.42E-01	1.6	5 - org	8
118	584.75	254.8	46.4	3.25E-01	2.5	5 - org	8
117	589.75	257.7	41.2	3.50E-01	1.6	5 - org	8
116	594.25	255.2	58.8	2.84E-01	1.8	5 - org	8
115	599.25	263.8	63.4	3.32E-01	2.0	5 - org	8
114	604.75	260.1	61.1	5.40E-01	2.0	5 - org	8
113	609.75	256.8	62.8	3.93E-01	1.8	5 - org	8
112	614.25	267.2	67.5	3.68E-01	2.0	5 - org	8
111	619.75	271.5	39.2	3.42E-01	1.6	5 - org	8
110	624.75	285.6	51.9	2.16E-01	2.0	5 - org	8
109	629.25	273.9	50.6	3.53E-01	1.2	5 - org	8
Drive 10a							
142	637.25	111.9	47.4	4.69E-01	0.9	5 - org	8
141	642.25	121.1	47.7	4.87E-01	1.1	5 - org	8
140	647.75	124.2	49.8	4.88E-01	1.4	5 - org	8
139	652.25	126.7	55.4	5.13E-01	0.9	5 - org	8
138	657.25	116.4	55.2	4.80E-01	1.0	5 - org	8
137	662.75	111.3	52.6	2.67E-01	2.2	5 - org	8
136	667.75	111.1	52.6	3.78E-01	1.6	5 - org	8
135	672.25	106.9	52.6	4.16E-01	1.1	5 - org	8

Sample Box No. CM2-	Depth (cm)	Decl.	Incl.	NRM	Error angle	Demag. Interval	Number of points used in linear fit
134	677.75	98.9	52.3	4.46E-01	2.0	5 - org	8
133	682.75	100.2	46.3	2.94E-01	1.0	5 - org	8
132	687.25	107.9	50.2	2.76E-01	2.0	5 - org	8
131	692.25	96.6	52.3	3.00E-01	1.8	5 - org	8
130	697.75	76.1	55.5	6.69E-01	2.4	5 - org	8
129	702.25	80.7	53.4	4.92E-01	1.9	5 - org	8
128	707.25	80.9	56.1	4.07E-01	1.9	5 - org	8
127	712.25	79.4	56.8	3.95E-01	2.4	5 - org	8
126	717.75	87.6	59.2	3.11E-01	2.3	5 - org	8
125	721.75	82.6	55.1	2.54E-01	2.2	5 - org	8
124	726.75	81.3	57.4	2.96E-01	2.4	5 - org	8
Drive 11a							
160	740.25	39.2	53.9	1.67E-01	2.4	5 - org	8
159	745.25	57.6	58.8	2.79E-01	1.5	5 - org	8
158	750.75	49.0	60.3	3.00E-01	2.0	5 - org	8
157	755.25	49.4	59.7	2.67E-01	1.6	5 - org	8
156	760.25	31.9	59.7	2.93E-01	2.4	5 - org	8
155	765.25	41.9	59.3	2.13E-01	2.0	5 - org	8
154	770.25	25.4	62.1	1.73E-01	1.9	5 - org	8
153	775.25	8.8	71.8	1.66E-01	2.0	5 - org	8
152	780.25	33.2	63.0	2.78E-01	1.8	5 - org	8
151	785.25	47.3	58.6	4.18E-01	2.4	5 - org	8
150	790.75	33.1	51.1	4.34E-01	1.6	5 - org	8
149	795.25	36.9	48.0	3.71E-01	1.6	5 - org	8
148	800.25	41.3	44.4	2.04E-01	2.0	5 - org	8
147	805.25	10.6	61.3	1.32E-01	2.0	5 - org	8
146	810.25	38.5	65.6	2.84E-01	1.8	5 - org	8
145	814.75	39.0	60.4	2.50E-01	1.7	5 - org	8
144	819.75	29.8	58.7	1.60E-01	2.2	5 - org	8
143	824.75	29.8	61.6	1.48E-01	2.5	5 - org	8
Drive 12a							
176	837.25	61.5	57.9	9.75E-02	1.6	5 - org	8
175	842.25	50.1	57.0	1.13E-01	2.1	5 - org	8
174	847.25	57.0	49.1	1.58E-01	1.7	5 - org	8
173	852.25	43.1	51.9	3.84E-02	4.7	5 - org	8
172	857.25	49.3	64.5	3.07E-01	1.8	5 - org	8
171	862.25	44.8	62.3	3.00E-01	1.4	5 - org	8
170	867.25	45.4	62.6	3.27E-01	1.2	5 - org	8
169	872.25	34.0	49.7	1.96E-01	2.7	5 - org	8
168	878.25	42.3	57.3	1.72E-01	2.0	5 - org	8
167	887.25	60.2	55.8	4.41E-01	2.1	5 - org	8
166	892.25	24.6	57.7	2.76E-01	1.5	5 - org	8
165	897.25	19.9	64.0	1.97E-01	2.1	5 - org	8
164	902.25	16.9	59.0	9.87E-02	2.0	5 - org	8
163	907.25	18.8	59.8	1.25E-01	2.0	5 - org	8
162	912.25	17.1	59.5	9.66E-02	1.2	5 - org	8
161	917.25	17.8	64.0	5.19E-02	2.2	5 - org	8



Sample Box No. CM2-	Depth (cm)	Decl.	Incl.	NRM	Error angle	Demag. Interval	Number of points used in linear fit
Drive 13a							
193	930.25	46.3	46.2	9.86E-02	2.0	5 - org	8
192	935.25	53.4	51.7	1.19E-01	1.9	5 - org	8
191	940.25	54.0	50.3	1.42E-01	2.3	5 - org	8
190	945.25	66.2	51.4	1.11E-01	2.2	5 - org	8
189	950.25	67.1	57.4	1.21E-01	1.6	5 - org	8
188	955.25	57.3	61.8	1.24E-01	2.1	5 - org	8
187	960.25	56.2	61.4	1.26E-01	2.6	5 - org	8
186	965.25	52.2	63.4	3.90E-02	3.3	5 - org	8
185	970.25	50.7	61.3	4.04E-02	6.1	5 - org	8
184	975.25	46.1	60.5	6.19E-02	5.8	5 - org	8
183	980.25	45.4	61.0	6.86E-02	4.7	5 - org	8
182	985.25	40.8	56.3	1.31E-01	1.5	5 - org	8
181	990.25	47.2	58.8	1.15E-01	2.2	5 - org	8
180	995.25	38.6	56.5	8.84E-02	1.5	5 - org	8
179	1000.25	43.5	54.9	5.35E-02	2.1	5 - org	8
178	1005.25	41.9	53.4	3.38E-02	2.9	5 - org	8
177	1010.25	55.2	55.3	4.96E-02	1.7	5 - org	8
Drive 14a							
206	1028.25	320.6	60.1	1.38E-01	2.0	5 - org	8
205	1035.75	333.4	58.0	1.51E-01	2.0	5 - org	8
204	1041.25	340.0	54.9	9.92E-02	1.7	5 - org	8
203	1046.25	333.7	73.6	1.17E-01	2.5	5 - org	8
202	1050.75	337.9	71.3	9.09E-02	2.9	5 - org	8
201	1054.75	342.3	79.4	1.05E-01	2.1	5 - org	8
200	1059.75	341.0	71.7	1.20E-01	1.7	5 - org	8
199	1064.75	337.5	70.1	1.00E-01	2.4	5 - org	8
198	1069.75	332.7	66.7	7.01E-02	2.6	5 - org	8
197	1075.25	333.2	61.0	4.28E-02	3.3	5 - org	8
196	1080.25	311.3	63.5	3.01E-02	3.4	5 - org	8
195	1085.25	321.8	49.0	3.91E-02	3.6	5 - org	8
194	1090.75	297.2	59.1	3.02E-02	3.2	5 - org	8
Drive 15a							
217	1107.25	281.9	70.8	2.43E-02	4.3	5 - org	8
216	1112.25	259.3	63.1	2.50E-02	3.1	5 - org	8
215	1117.25	251.7	63.1	2.36E-02	5.2	5 - org	8
214	1122.25	272.4	61.1	3.72E-02	5.1	10 - org	7
213	1127.25	253.7	60.4	6.63E-02	3.6	5 - org	8
212	1132.25	254.6	62.1	5.63E-02	2.4	5 - org	8
211	1136.75	221.1	70.4	4.68E-02	3.4	5 - org	8
210	1142.25	244.7	70.0	4.55E-02	3.4	5 - org	8
209	1147.25	258.7	73.5	4.87E-02	3.9	5 - org	8
208	1152.25	250.3	73.1	4.58E-02	3.3	5 - org	8
207	1156.75	268.7	66.5	3.37E-02	4.4	5 - org	8
Drive 16a							
230	1170.25	23.2	62.5	4.21E-02	2.3	5 - org	8
229	1175.25	35.9	85.8	1.14E-02	5.1	5 - 60	6

Sample Box No. CM2-	Depth (cm)	Decl.	Incl.	NRM	Error angle	Demag. Interval	Number of points used in linear fit
228	1180.25	256.9	53.3	2.62E-02	4.0	5 - org	8
227	1185.25	238.9	58.4	7.22E-02	2.6	5 - org	8
226	1190.25	233.4	63.9	7.95E-02	2.8	5 - org	8
225	1195.25	245.6	59.5	7.66E-02	2.6	5 - org	8
224	1199.75	241.5	67.5	6.65E-02	2.8	5 - org	8
223	1205.25	214.1	53.6	7.59E-02	2.6	5 - org	8
222	1210.25	216.0	61.1	5.91E-02	3.1	5 - org	8
221	1215.25	219.6	53.7	5.74E-02	1.8	5 - org	8
220	1220.25	219.9	45.7	5.82E-02	2.0	5 - org	8
219	1225.25	212.0	50.4	6.80E-02	1.8	5 - org	8
218	1231.25	221.1	59.3	4.44E-02	2.8	5 - org	8
Drive 17a							
237	1257.75	235.6	51.4	1.36E-02	9.5	5-40 and org	6
236	1262.75	262.0	48.8	3.68E-02	4.1	5 - org	8
235	1268.25	255.8	55.0	4.46E-02	2.2	5 - org	8
234	1273.25	250.1	57.4	3.29E-02	8.1	10-60 and org	6
233	1278.25	279.9	54.0	2.59E-02	5.1	5-40 and org	6
232	1283.25	240.0	55.5	3.70E-02	9.3	10-80 w/o 40	5
231	1288.75	268.9	62.1	6.65E-02	5.4	5 - org	8

**TABLE 3: Magnetic Susceptibility Anisotropy Data**

**Box Number:** A unique number assigned to samples placed in boxes. Each box has a volume of 3.2 cm<sup>3</sup>.

**Depth (cm):** Depth of sample in centimeters from top of core.

**MS:** SI volume magnetic susceptibility (dimensionless).

The following parameters are calculated using the variables K1, K2, and K3 which are, respectively, the values for the major, intermediate, and minor axes of an ellipsoid (Borradaile and Henry, 1996).

**L:** The magnetic lineation defined as  $K1/K2$ .

**F:** The magnetic foliation defined as  $K2/K3$ .

**P:** Fabric intensity by a measure of eccentricity of the magnitude ellipsoid defined as  $K1/K3$ .

**T:** Shape of the magnitude ellipsoid defined as  $(\ln F - \ln L)/(\ln F + \ln L)$ .

**Dec(K1):** Declination in degrees of K1.

**Inc(K1):** Inclination in degrees of K1.

**Dec(K3):** Declination in degrees of K3.

**Inc(K3):** Declination in degrees of K3.

Box Number	Depth (cm)	MS	L	F	P	T	Dec(K1)	Inc(K1)	Dec(K3)	Inc(K3)
108	451.75	7.48E-05	1.016	1.053	1.071	0.523	267.1	8.1	112.4	81.1
107	456.75	1.01E-04	1.021	1.074	1.097	0.543	212.2	3.7	340	84.1
106	461.75	1.00E-04	1.004	1.072	1.076	0.904	134.4	6.2	0.6	81.1
105	466.75	9.33E-05	1.015	1.062	1.078	0.602	94.5	0.1	185.2	78
104	471.25	7.83E-05	1.017	1.05	1.069	0.48	176.2	4.6	68.9	75
103	477.25	1.01E-04	1.017	1.03	1.047	0.271	291.9	7.7	67.8	79.4
102	481.75	1.49E-04	1.021	1.021	1.043	0.007	124.6	0.7	300.4	89.3
101	486.75	2.01E-04	1.004	1.027	1.031	0.748	251.8	0.6	157.3	82.9
100	491.75	2.27E-04	1.005	1.03	1.035	0.703	249.6	14	49.1	75.1
99	496.25	2.98E-04	1.012	1.027	1.039	0.395	257.9	1.5	12.5	86.5
98	500.75	4.64E-04	1.003	1.03	1.034	0.817	210.1	12	78.1	72.3
97	506.25	7.95E-04	1.007	1.032	1.039	0.65	277.6	8.7	59.2	78.9
96	510.75	1.30E-03	1.002	1.029	1.031	0.868	287.4	6	98.1	83.9
95	514.75	1.42E-03	1.011	1.028	1.039	0.455	91.9	0.7	357.7	80.4
94	517.25	1.84E-03	1.007	1.007	1.015	0	275.8	9.9	63.3	78.3
93	520.75	1.87E-03	1.006	1.008	1.014	0.138	282.5	2.9	149.6	85.7
92	523.75	1.73E-03	1.023	1.021	1.045	-0.041	272.4	6.6	83.6	83.3
91	528.25	2.13E-03	1.011	1.009	1.02	-0.126	90	7	204	73
90	532.75	2.42E-03	1.011	1.004	1.015	-0.515	263.9	3.9	3.7	68.4
89	539.25	2.88E-03	1.003	1.004	1.006	0.141	14.9	0.4	106.9	79.3
123	559.75	2.76E-03	1.012	1.007	1.019	-0.274	270	5	164	73
122	564.25	2.65E-03	1.012	1.006	1.018	-0.38	271.1	1.6	14.9	83.1
121	569.75	2.59E-03	1.014	1.003	1.017	-0.598	94.1	5.3	343.8	75
120	574.75	2.66E-03	1.013	1.005	1.018	-0.4	273.4	1.6	179.3	69
119	579.75	2.77E-03	1.014	1.011	1.025	-0.11	91.4	1	349.6	85.1
118	584.75	2.77E-03	1.015	1.005	1.021	-0.495	273.2	2.5	36.8	85.5
117	589.75	2.89E-03	1.013	1.008	1.02	-0.241	270.3	0.1	2.6	86.5
116	594.25	2.34E-03	1.013	1.006	1.019	-0.328	271.3	4.2	37.4	82.9
115	599.25	2.35E-03	1.013	1.006	1.019	-0.38	271.2	5.2	10.1	59.5
114	604.75	2.78E-03	1.002	1.019	1.021	0.833	97.4	3.3	328.5	84.7
113	609.75	2.37E-03	1.014	1.005	1.018	-0.499	267.6	8.9	88.9	81.1
112	614.25	3.44E-03	1.008	1.012	1.019	0.214	261	4.2	6.3	74.7
111	619.75	2.64E-03	1.014	1.004	1.018	-0.578	94.3	6.1	350.4	65.9
110	624.75	3.32E-03	1.008	1.013	1.021	0.21	264.8	9.3	32.7	75.1
109	629.25	3.39E-03	1.011	1.009	1.021	-0.093	273.3	8.2	35.7	74.9
142	637.25	2.96E-03	1.011	1.008	1.019	-0.183	273	4	178.8	47.1
141	642.25	3.50E-03	1.012	1.003	1.015	-0.578	297.5	0.4	205.9	75.3
140	647.75	3.13E-03	1.011	1.003	1.014	-0.559	268.7	1	178.1	32.4
139	652.25	3.08E-03	1.01	1.002	1.012	-0.626	274.8	7.9	6.1	9.4
138	657.25	3.17E-03	1.014	1.001	1.016	-0.844	271.5	1.4	3.5	55
137	662.75	3.63E-03	1.014	1.002	1.016	-0.703	275.7	6.7	184.5	10.7
136	667.75	3.03E-03	1.016	1.006	1.021	-0.478	95.6	0.6	186.9	66.1
135	672.25	3.18E-03	1.017	1.004	1.021	-0.615	93.8	3.7	201.1	77.7
134	677.75	3.14E-03	1.016	1.003	1.019	-0.717	93.1	2	253.2	87.9
133	682.75	2.95E-03	1.015	1.012	1.027	-0.124	274.1	3.8	163	79.7
132	687.25	3.13E-03	1.016	1.012	1.028	-0.125	272.6	3.7	167.7	75.7
131	692.25	3.02E-03	1.014	1.009	1.023	-0.203	272.9	13.1	151.6	65.8
130	697.75	3.57E-03	1.014	1.004	1.019	-0.531	92.1	1.5	2.1	2.1
129	702.25	3.34E-03	1.014	1.004	1.018	-0.578	268.9	2.1	173.9	67.5
128	707.25	3.02E-03	1.016	1.008	1.023	-0.348	270.6	6.9	140.2	79.5

Box Number	Depth (cm)	MS	L	F	P	T	Dec(K1)	Inc(K1)	Dec(K3)	Inc(K3)
127	712.25	2.82E-03	1.012	1.01	1.023	-0.088	269.1	6.5	161.4	69.4
126	717.75	2.90E-03	1.011	1.011	1.022	0.02	269.4	3.1	153.9	82.8
125	721.75	2.71E-03	1.015	1.01	1.025	-0.214	270	10.4	129	76.7
124	726.75	2.64E-03	1.013	1.01	1.023	-0.14	261.6	6.4	23.7	78.2
160	740.25	2.40E-03	1.012	1.014	1.026	0.089	268.7	2.7	172.7	65.9
159	745.25	2.76E-03	1.013	1.007	1.019	-0.313	269.8	7.5	163.3	65.2
158	750.75	2.88E-03	1.014	1.006	1.02	-0.376	271.2	7.6	81	82.3
157	755.25	2.88E-03	1.013	1.014	1.028	0.034	91.3	1	191.6	84.5
156	760.25	2.74E-03	1.014	1.011	1.025	-0.087	271.6	11	34	70.1
155	765.25	2.37E-03	1.013	1.01	1.024	-0.149	273.3	3.3	167.6	77.8
154	770.25	1.97E-03	1.011	1.01	1.021	-0.08	266.8	5.6	23.9	77.7
153	775.25	1.78E-03	1.013	1.008	1.021	-0.24	87.3	2.2	185.7	75.5
152	780.25	2.43E-03	1.016	1.008	1.024	-0.312	265.1	1.6	168.4	76.4
151	785.25	2.90E-03	1.014	1.007	1.02	-0.337	271.5	6.7	169.2	61.1
150	790.75	3.03E-03	1.016	1.004	1.02	-0.592	273.5	6.7	174.2	53.9
149	795.25	3.46E-03	1.015	1.006	1.021	-0.383	267.3	1.6	171.1	75.7
148	800.25	2.86E-03	1.011	1.018	1.03	0.239	272.5	5.5	166.6	70.5
147	805.25	2.13E-03	1.01	1.021	1.031	0.352	267.3	6.2	159.6	70.2
146	810.25	2.88E-03	1.01	1.021	1.031	0.364	257.8	6.2	133.8	78.9
145	814.75	2.77E-03	1.015	1.017	1.032	0.065	266.1	4.5	146.4	81
144	819.75	1.78E-03	1.014	1.016	1.03	0.076	268.8	0.6	174.9	80.9
143	824.75	1.96E-03	1.011	1.014	1.025	0.128	84.3	0.5	176.8	78.9
176	837.25	1.60E-03	1.004	1.026	1.03	0.7	276.8	12.6	127	75.5
175	842.25	1.69E-03	1.007	1.023	1.03	0.536	85.6	1.8	339.8	83.6
174	847.25	1.94E-03	1.011	1.007	1.018	-0.204	263.1	2.2	357.4	62.6
173	852.25	1.58E-03	1.004	1.034	1.038	0.794	173.8	0.1	83.1	79.5
172	857.25	2.36E-03	1.016	1.002	1.017	-0.821	271.6	14.3	161.2	53.9
171	862.25	2.32E-03	1.013	1.004	1.017	-0.541	274.7	6.8	80	83
170	867.25	2.13E-03	1.016	1.008	1.024	-0.342	270	5.7	33.4	79.7
169	872.25	1.99E-03	1.015	1.008	1.023	-0.318	264.5	5.3	33	81.5
168	878.25	2.15E-03	1.011	1.017	1.028	0.219	273.2	7.1	162.2	70.9
167	887.25	2.55E-03	1.009	1.022	1.031	0.423	271.8	15.4	103.8	74.3
166	892.25	2.30E-03	1.017	1.016	1.033	-0.056	273.7	14.3	108.5	75.3
165	897.25	2.10E-03	1.011	1.017	1.027	0.22	266	1.5	168.9	77.9
164	902.25	1.24E-03	1.013	1.021	1.035	0.245	269.2	4.8	101	85.1
163	907.25	1.63E-03	1.012	1.021	1.033	0.273	265.4	3.7	21.4	81.6
162	912.25	1.35E-03	1.012	1.02	1.032	0.234	268	7.3	41.9	79.5
161	917.25	9.00E-04	1.015	1.025	1.04	0.253	261.8	1.4	8.6	85.2
193	930.25	1.55E-03	1.014	1.032	1.046	0.407	284	2.9	184.1	73.6
192	935.25	1.28E-03	1.014	1.001	1.014	-0.899	90.7	3	182.7	33.3
191	940.25	1.65E-03	1.013	1.004	1.017	-0.562	89.3	1.8	194.4	83.1
190	945.25	1.58E-03	1.01	1.014	1.024	0.173	267.2	6.3	78.7	83.7
189	950.25	1.75E-03	1.011	1.004	1.015	-0.434	92.3	2.8	282.6	87.2
188	955.25	1.81E-03	1.012	1.004	1.016	-0.507	269.2	2.2	158.5	83.7
187	960.25	1.76E-03	1.012	1.011	1.022	-0.039	267.4	10.5	58.8	78
186	965.25	8.87E-04	1.011	1.027	1.039	0.404	83.3	4.8	211.1	82.3
185	970.25	1.13E-03	1.005	1.029	1.034	0.718	352.5	6.7	184.1	83.2
184	975.25	1.61E-03	1.015	1.02	1.035	0.166	285.4	1.5	65.3	88.1
183	980.25	1.41E-03	1.017	1.014	1.031	-0.109	282.2	13	87	76.6
182	985.25	1.58E-03	1.012	1.008	1.02	-0.174	269.5	5.1	155.5	77.6

Box Number	Depth (cm)	MS	L	F	P	T	Dec(K1)	Inc(K1)	Dec(K3)	Inc(K3)
181	990.25	1.36E-03	1.006	1.021	1.027	0.528	273.1	2.5	174.7	73.2
180	995.25	1.19E-03	1.008	1.027	1.035	0.546	259.8	3.5	154.3	77.3
179	1000.25	1.02E-03	1.007	1.044	1.051	0.716	279.5	6.7	130.3	82.2
178	1005.25	9.63E-04	1.006	1.032	1.038	0.679	333	5.1	90.4	79.1
177	1010.25	1.27E-03	1.011	1.03	1.041	0.44	264	8.6	144.4	73.1
206	1028.25	1.74E-03	1.015	1.007	1.022	-0.365	274.4	2	179.5	68
205	1035.75	2.01E-03	1.01	1.009	1.018	-0.053	177.5	1.7	73.6	82.9
204	1041.25	1.72E-03	1.013	1.011	1.024	-0.111	276.6	4.2	128.1	85
203	1046.25	1.99E-03	1.013	1.01	1.023	-0.154	272.9	3	31.8	83.9
202	1050.75	1.89E-03	1.011	1.005	1.016	-0.365	94	8	332	75
201	1054.75	1.98E-03	1.012	1.009	1.021	-0.162	272	10.9	144.5	72.4
200	1059.75	1.98E-03	1.012	1.006	1.019	-0.324	267.8	1.3	172.2	76.4
199	1064.75	1.78E-03	1.015	1.007	1.023	-0.355	271.6	7.9	112.4	81.5
198	1069.75	1.53E-03	1.013	1.016	1.029	0.108	89.6	4.4	189.5	66.2
197	1075.25	1.15E-03	1.014	1.023	1.037	0.246	90	4	190	66
196	1080.25	9.27E-04	1.006	1.044	1.051	0.751	347	9.3	187.4	80.1
195	1085.25	1.51E-03	1.006	1.03	1.036	0.638	353.1	13.5	154.9	75.8
194	1090.75	1.55E-03	1.011	1.013	1.023	0.085	270.6	5.8	55.3	82.9
217	1107.25	1.16E-03	1.01	1.006	1.017	-0.212	202	50.9	0.1	37
216	1112.25	1.12E-03	1.005	1.039	1.044	0.772	265.3	1.1	153.2	87.1
215	1117.25	1.06E-03	1.007	1.03	1.037	0.628	259.2	19.8	42.6	65.9
214	1122.25	1.13E-03	1.008	1.022	1.03	0.446	279	13.6	58.2	72.2
213	1127.25	1.48E-03	1.013	1.01	1.023	-0.128	90.2	3.4	253.8	86.4
212	1132.25	1.13E-03	1.01	1.017	1.028	0.243	264.1	1.7	6	81.9
211	1136.75	1.12E-03	1.01	1.031	1.042	0.496	267.3	8.2	127.6	79.3
210	1142.25	1.24E-03	1.014	1.044	1.058	0.518	94.2	0.2	186.9	86.7
209	1147.25	1.30E-03	1.009	1.033	1.042	0.55	268.5	1.5	162.2	84.7
208	1152.25	1.30E-03	1.011	1.039	1.05	0.568	96.6	1.9	213.9	85.9
207	1156.75	1.28E-03	1.011	1.031	1.042	0.479	100.4	8.7	270.1	81.2
230	1170.25	1.82E-03	1.005	1.022	1.026	0.642	262	9.6	134.3	74.6
229	1175.25	1.24E-03	1.011	1.035	1.046	0.504	285.1	0.1	194.3	80.3
228	1180.25	1.25E-03	1.012	1.043	1.056	0.55	92.2	4.3	338.9	79.2
227	1185.25	1.32E-03	1.007	1.028	1.036	0.581	107.1	6.8	275.5	83.1
226	1190.25	1.10E-03	1.004	1.04	1.045	0.796	288.2	4.7	162.1	82.1
225	1195.25	1.30E-03	1.015	1.055	1.07	0.571	84.1	8.5	232.5	80
224	1199.75	2.24E-03	1.014	1.061	1.076	0.616	123	7	337.1	81.5
223	1205.25	1.88E-03	1.006	1.093	1.1	0.874	100.4	0.2	8.9	81
222	1210.25	1.21E-03	1.006	1.039	1.045	0.729	266.9	2.7	149.2	84.2
221	1215.25	9.34E-04	1.008	1.042	1.05	0.668	89.1	0.3	182.4	84.7
220	1220.25	9.43E-04	1.008	1.05	1.058	0.718	278.2	3.3	175.8	74.9
219	1225.25	9.16E-04	1.012	1.046	1.058	0.579	279.5	5.7	168	74.9
218	1231.25	8.78E-04	1.005	1.051	1.057	0.811	282.3	0.2	190.9	81.7
237	1257.75	9.68E-04	1.014	1.03	1.045	0.373	1.2	12.8	161.3	76.4
236	1262.75	1.26E-03	1.003	1.063	1.066	0.911	46.5	12.5	248.7	76.5
235	1268.25	1.14E-03	1.01	1.044	1.055	0.627	279.9	6.8	64.6	81.7
234	1273.25	1.36E-03	1.014	1.039	1.054	0.456	190.2	11	37.6	77.7
233	1278.25	1.59E-03	1.019	1.022	1.041	0.086	209.5	7.2	27.2	82.8
232	1283.25	1.85E-03	1.008	1.068	1.076	0.787	239.4	1.8	338.4	78.5
231	1288.75	4.69E-03	1.002	1.036	1.038	0.891	212.9	6.1	44.4	83.8

**TABLE 4. 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 cm<sup>3</sup>.

**Depth (cm):** Depth of sample in centimeters from top of core.

**MSLF:** Low-frequency magnetic susceptibility in m<sup>3</sup>/kg.

**FDMS:** Frequency-dependent magnetic susceptibility in percent. FDMS is calculated as:

$$(MS_{lf}-MS_{hf})/MS_{lf}$$

lf, low frequency; hf, high frequency

**ARM:** Anhysteretic remanent magnetization in Am<sup>2</sup>/kg.

**IRM 1.2:** Isothermal remanent magnetization from a 1.2 Tesla induction at room temperature. Expressed in Am<sup>2</sup>/kg.

**IRM -.3:** Isothermal remanent magnetization from a -0.3 Tesla induction at room temperature. Expressed in Am<sup>2</sup>/kg.

**HIRM:** Hard isothermal remanent magnetization: HIRM is calculated as:

$$[IRM(1.2T)+IRM(-0.3T)]/2 \text{ and expressed in Am}^2/\text{kg.}$$

**S:** (S Ratio) calculated as:

$$IRM_{0.3T}/IRM_{1.2T}.$$

Sample Box no. CM2-	Depth (cm)	MSLF	FDMS	ARM	IRM 1.2	IRM -.3	HIRM	S
2	2.75	9.61E-06	9	2.84E-03	6.77E-02	-6.49E-02	1.39E-03	0.96
3	6.75	4.08E-06	6	1.80E-03	4.20E-02	-4.03E-02	8.47E-04	0.96
5	10.75	7.09E-06	7	2.79E-03	6.49E-02	-6.26E-02	1.15E-03	0.96
7	15.50	5.00E-07	5	1.44E-04	4.24E-03	-3.58E-03	3.32E-04	0.84
9	20.25	-5.08E-08	-37	2.63E-05	7.39E-04	-6.42E-04	4.83E-05	0.87
11	23.75	-1.29E-08	99	1.59E-05	4.70E-04	-4.07E-04	3.14E-05	0.87
13	28.75	7.22E-09	-75	1.04E-05	3.89E-04	-3.46E-04	2.17E-05	0.89
12	32.25	-1.90E-08	95	5.70E-06	1.55E-04	-1.38E-04	8.69E-06	0.89
10	37.25	-1.76E-08	74	5.74E-06	1.63E-04	-1.37E-04	1.28E-05	0.84
8	40.75	-1.47E-08	105	4.84E-06	1.78E-04	-1.53E-04	1.26E-05	0.86
6	44.75	-1.56E-08	49	4.42E-06	1.90E-04	-1.68E-04	1.12E-05	0.88
4	48.00	-2.59E-08	67	4.96E-06	1.56E-04	-1.37E-04	9.35E-06	0.88
1	52.00	-1.88E-08	99	3.25E-06	1.37E-04	-1.23E-04	7.07E-06	0.90
14	56.75	-2.08E-08	44	3.63E-06	1.40E-04	-1.25E-04	7.73E-06	0.89
16	60.75	-1.44E-08	64	7.32E-06	1.98E-04	-1.72E-04	1.32E-05	0.87
18	64.25	-8.11E-09	102	7.42E-06	1.97E-04	-1.75E-04	1.11E-05	0.89
20	68.25	-1.63E-08	51	4.73E-06	1.57E-04	-1.33E-04	1.18E-05	0.85
15	101.75	-8.39E-09	131	5.06E-06	1.61E-04	-1.42E-04	9.93E-06	0.88
17	106.75	-6.28E-09	90	5.93E-06	1.58E-04	-1.41E-04	8.91E-06	0.89
19	111.25	-9.05E-09	-44	6.80E-06	1.78E-04	-1.50E-04	1.43E-05	0.84
21	115.25	-1.25E-08	117	6.26E-06	1.70E-04	-1.47E-04	1.12E-05	0.87
23	119.75	-1.05E-08	123	4.99E-06	1.46E-04	-1.27E-04	9.11E-06	0.87
22	122.25	-1.27E-08	63	5.22E-06	1.46E-04	-1.29E-04	8.21E-06	0.89
25	129.25	-6.47E-09	75	8.49E-06	2.16E-04	-1.99E-04	8.65E-06	0.92
27	134.75	-1.73E-08	47	5.69E-06	1.76E-04	-1.51E-04	1.29E-05	0.85
29	139.25	-1.47E-08	65	4.65E-06	1.47E-04	-1.28E-04	9.71E-06	0.87
31	144.75	-2.88E-08	85	5.02E-06	1.64E-04	-1.34E-04	1.50E-05	0.82
30	150.75	-2.39E-08	46	4.74E-06	1.59E-04	-1.35E-04	1.18E-05	0.85
28	153.25	-2.73E-08	40	4.90E-06	1.68E-04	-1.46E-04	1.09E-05	0.87
26	156.75	-2.00E-08	34	5.74E-06	1.95E-04	-1.65E-04	1.50E-05	0.85
24	160.75	-4.46E-08	68	6.56E-06	1.83E-04	-1.56E-04	1.37E-05	0.85
33	167.75	-2.77E-08	45	5.83E-06	1.62E-04	-1.42E-04	1.03E-05	0.87
34	172.25	-1.63E-08	62	7.52E-06	1.89E-04	-1.82E-04	3.17E-06	0.97
35	177.25	-1.27E-08	74	6.93E-06	1.98E-04	-1.71E-04	1.37E-05	0.86
36	181.25	-2.16E-08	69	7.39E-06	2.17E-04	-1.77E-04	1.99E-05	0.82
37	185.25	-2.18E-08	53	6.36E-06	1.92E-04	-1.67E-04	1.24E-05	0.87
38	190.25	-2.14E-08	41	6.09E-06	1.76E-04	-1.49E-04	1.35E-05	0.85
39	194.25	-1.58E-08	65	7.83E-06	2.13E-04	-1.80E-04	1.67E-05	0.84
42	199.25	-2.01E-08	60	6.38E-06	1.95E-04	-1.73E-04	1.08E-05	0.89
44	203.75	-3.60E-08	5	2.98E-06	1.09E-04	-1.01E-04	4.38E-06	0.92
47	208.75	-6.33E-08	17	7.00E-07	7.57E-05	-6.91E-05	3.28E-06	0.91
48	214.25	-6.35E-08	40	2.77E-06	1.14E-04	-1.05E-04	4.23E-06	0.93
46	219.75	-6.36E-08	34	3.85E-06	1.41E-04	-1.25E-04	7.95E-06	0.89
45	223.75	-4.64E-08	26	4.19E-06	1.53E-04	-1.29E-04	1.21E-05	0.84
43	228.25	-7.30E-08	30	2.51E-06	1.27E-04	-1.12E-04	7.47E-06	0.88
41	232.75	-6.67E-08	28	2.57E-06	1.15E-04	-1.14E-04	4.68E-07	0.99
40	236.75	-3.29E-08	35	5.63E-06	1.92E-04	-1.73E-04	9.28E-06	0.90



Sample Box no. CM2-	Depth (cm)	MSLF	FDMS	ARM	IRM 1.2	IRM -.3	HIRM	S
32	240.75	-7.53E-08	2	2.69E-06	1.23E-04	-1.12E-04	5.36E-06	0.91
52	251.25	-6.58E-08	36	3.08E-06	1.26E-04	-1.17E-04	4.45E-06	0.93
54	256.25	-8.20E-08	-1	4.77E-06	1.76E-04	-1.58E-04	8.74E-06	0.90
56	260.75	-9.93E-08	33	4.80E-06	2.26E-04	-2.10E-04	7.99E-06	0.93
57	266.25	-7.10E-08	30	8.32E-06	3.14E-04	-2.77E-04	1.81E-05	0.88
59	270.25	-7.41E-08	35	8.77E-06	3.21E-04	-2.75E-04	2.30E-05	0.86
62	275.75	-6.17E-08	43	1.01E-05	3.20E-04	-2.77E-04	2.17E-05	0.86
64	280.25	-5.21E-08	43	1.22E-05	3.90E-04	-3.39E-04	2.52E-05	0.87
66	285.25	-3.97E-08	34	1.40E-05	4.28E-04	-3.60E-04	3.40E-05	0.84
68	289.25	-3.29E-08	96	2.64E-05	8.29E-04	-7.24E-04	5.24E-05	0.87
69	293.25	6.90E-09	-151	2.16E-05	6.39E-04	-5.27E-04	5.60E-05	0.82
67	297.25	-2.16E-08	66	2.31E-05	7.50E-04	-5.53E-04	9.87E-05	0.74
65	301.25	7.92E-08	-8	5.41E-05	1.73E-03	-1.31E-03	2.07E-04	0.76
63	307.25	-9.65E-08	34	4.11E-06	2.28E-04	-2.01E-04	1.34E-05	0.88
61	311.25	-9.91E-08	23	5.15E-06	1.85E-04	-1.77E-04	4.08E-06	0.96
60	316.25	1.29E-07	16	1.10E-04	2.09E-03	-1.91E-03	8.82E-05	0.92
58	320.25	-1.00E-07	24	3.73E-06	2.13E-04	-1.87E-04	1.27E-05	0.88
55	325.25	-4.31E-08	59	1.41E-05	4.55E-04	-3.88E-04	3.36E-05	0.85
53	330.75	3.77E-08	-29	3.83E-05	6.62E-04	-5.97E-04	3.26E-05	0.90
51	334.25	-2.28E-08	72	1.29E-05	3.34E-04	-2.89E-04	2.23E-05	0.87
50	339.25	-1.60E-08	57	1.46E-05	4.21E-04	-3.59E-04	3.12E-05	0.85
49	343.75	-4.30E-09	307	1.85E-05	6.37E-04	-4.67E-04	8.54E-05	0.73
88	352.75	-3.57E-09	320	1.87E-05	4.81E-04	-4.50E-04	1.55E-05	0.94
87	357.75	-9.30E-09	210	2.19E-05	5.77E-04	-5.10E-04	3.33E-05	0.88
86	362.75	1.07E-08	-120	2.62E-05	6.82E-04	-5.73E-04	5.44E-05	0.84
85	367.25	1.80E-08	-49	2.95E-05	7.35E-04	-5.63E-04	8.57E-05	0.77
84	371.75	8.66E-08	-14	5.91E-05	1.50E-03	-1.22E-03	1.39E-04	0.81
83	376.75	2.49E-07	-1	1.31E-04	3.79E-03	-3.04E-03	3.76E-04	0.80
82	382.25	5.96E-08	-21	5.10E-05	1.51E-03	-1.19E-03	1.61E-04	0.79
81	387.25	1.58E-07	1	1.07E-04	2.89E-03	-2.30E-03	2.94E-04	0.80
80	391.75	3.24E-07	4	1.76E-04	4.82E-03	-3.82E-03	5.02E-04	0.79
79	396.75	2.34E-07	1	1.52E-04	4.26E-03	-3.33E-03	4.68E-04	0.78
78	401.75	2.44E-07	1	1.68E-04	4.25E-03	-3.31E-03	4.67E-04	0.78
77	406.25	2.68E-07	2	1.56E-04	4.37E-03	-3.42E-03	4.75E-04	0.78
76	411.25	2.70E-07	2	1.79E-04	4.74E-03	-3.77E-03	4.81E-04	0.80
75	416.25	3.08E-07	0	1.88E-04	5.20E-03	-4.25E-03	4.76E-04	0.82
74	420.75	3.02E-07	1	1.97E-04	5.51E-03	-4.41E-03	5.49E-04	0.80
73	425.25	3.21E-07	-1	1.97E-04	6.47E-03	-5.16E-03	6.55E-04	0.80
72	430.25	3.16E-07	0	1.97E-04	6.20E-03	-4.94E-03	6.30E-04	0.80
71	433.75	3.41E-07	1	1.97E-04	6.63E-03	-5.24E-03	6.92E-04	0.79
70	438.25	3.04E-07	1	1.80E-04	5.73E-03	-4.55E-03	5.91E-04	0.79
108	451.75	3.32E-07	2	1.62E-04	5.74E-03	-4.31E-03	7.14E-04	0.75
107	456.75	4.05E-07	5	1.85E-04	6.47E-03	-4.95E-03	7.61E-04	0.76
106	461.75	4.11E-07	5	1.93E-04	6.65E-03	-5.11E-03	7.69E-04	0.77
105	466.75	4.05E-07	7	2.31E-04	6.81E-03	-5.27E-03	7.71E-04	0.77
104	471.25	3.76E-07	3	1.74E-04	6.46E-03	-4.97E-03	7.45E-04	0.77
103	477.25	4.56E-07	5	2.42E-04	7.31E-03	-5.70E-03	8.04E-04	0.78

Sample Box no. CM2-	Depth (cm)	MSLF	FDMS	ARM	IRM 1.2	IRM -.3	HIRM	S
102	481.75	6.00E-07	5	2.88E-04	8.87E-03	-7.26E-03	8.05E-04	0.82
101	486.75	7.18E-07	4	2.82E-04	1.05E-02	-8.37E-03	1.09E-03	0.79
100	491.75	7.18E-07	5	2.32E-04	9.91E-03	-7.45E-03	1.23E-03	0.75
99	496.25	9.48E-07	4	3.92E-04	1.28E-02	-1.08E-02	1.02E-03	0.84
98	500.75	1.34E-06	4	4.93E-04	1.79E-02	-1.57E-02	1.10E-03	0.88
97	506.25	1.74E-06	3	7.29E-04	2.35E-02	-2.11E-02	1.22E-03	0.90
96	510.75	2.16E-06	3	9.76E-04	3.02E-02	-2.76E-02	1.34E-03	0.91
95	514.75	2.20E-06	3	1.03E-03	3.06E-02	-2.81E-02	1.24E-03	0.92
94	517.25	2.87E-06	4	-3.73E-06	4.33E-02	-4.03E-02	1.50E-03	0.93
93	520.75	2.64E-06	3	1.46E-03	4.11E-02	-3.79E-02	1.61E-03	0.92
92	523.75	2.30E-06	3	9.70E-04	3.57E-02	-3.28E-02	1.47E-03	0.92
91	528.25	3.02E-06	3	1.90E-03	4.68E-02	-4.45E-02	1.15E-03	0.95
90	532.75	3.29E-06	4	2.44E-03	5.22E-02	-4.93E-02	1.46E-03	0.94
89	539.25	3.76E-06	4	2.68E-03	6.39E-05	-6.07E-05	1.61E-06	0.95
123	559.75	3.63E-06	5	2.72E-03	6.25E-02	-6.02E-02	1.18E-03	0.96
122	564.25	3.60E-06	4	2.70E-03	6.15E-02	-5.94E-02	1.02E-03	0.97
121	569.75	3.44E-06	4	2.60E-03	5.45E-02	-5.28E-02	8.61E-04	0.97
120	574.75	3.56E-06	4	2.69E-03	6.01E-02	-5.76E-02	1.25E-03	0.96
119	579.75	3.78E-06	4	2.87E-03	6.38E-02	-6.12E-02	1.29E-03	0.96
118	584.75	3.84E-06	4	2.94E-03	6.61E-02	-6.34E-02	1.37E-03	0.96
117	589.75	3.84E-06	4	2.93E-03	6.75E-02	-6.46E-02	1.46E-03	0.96
116	594.25	3.28E-06	4	2.21E-03	5.35E-02	-5.10E-02	1.24E-03	0.95
115	599.25	3.17E-06	4	2.28E-03	5.34E-02	-5.08E-02	1.29E-03	0.95
114	604.75	3.76E-06	4	2.95E-03	6.66E-02	-6.40E-02	1.31E-03	0.96
113	609.75	3.30E-06	4	2.39E-03	5.68E-02	-5.43E-02	1.24E-03	0.96
112	614.25	3.89E-06	3	2.15E-03	6.41E-02	-6.02E-02	1.95E-03	0.94
111	619.75	3.71E-06	4	2.82E-03	6.27E-02	-6.00E-02	1.33E-03	0.96
110	624.75	4.12E-06	4	2.17E-03	6.55E-02	-6.21E-02	1.73E-03	0.95
109	629.25	3.98E-06	3	2.67E-03	6.65E-02	-6.38E-02	1.38E-03	0.96
142	637.25	3.93E-06	5	3.20E-03	6.61E-02	-6.37E-02	1.20E-03	0.96
141	642.25	4.31E-06	5	3.31E-03	7.27E-02	-6.98E-02	1.47E-03	0.96
140	647.75	4.00E-06	5	3.20E-03	6.68E-02	-6.37E-02	1.57E-03	0.95
139	652.25	3.99E-06	5	3.18E-03	6.65E-02	-6.38E-02	1.34E-03	0.96
138	657.25	4.20E-06	6	3.63E-03	7.18E-02	-6.92E-02	1.28E-03	0.96
137	662.75	3.92E-06	5	3.04E-03	6.65E-02	-6.37E-02	1.38E-03	0.96
136	667.75	3.84E-06	5	3.28E-03	6.35E-02	-6.10E-02	1.25E-03	0.96
135	672.25	4.07E-06	5	3.48E-03	6.90E-02	-6.66E-02	1.20E-03	0.97
134	677.75	4.02E-06	5	3.50E-03	6.87E-02	-6.66E-02	1.07E-03	0.97
133	682.75	4.09E-06	5	3.27E-03	6.92E-02	-6.66E-02	1.26E-03	0.96
132	687.25	4.00E-06	5	3.08E-03	6.67E-02	-6.42E-02	1.27E-03	0.96
131	692.25	3.92E-06	5	3.11E-03	6.68E-02	-6.40E-02	1.37E-03	0.96
130	697.75	3.81E-06	5	3.10E-03	7.41E-02	-7.12E-02	1.45E-03	0.96
129	702.25	4.17E-06	5	3.55E-03	7.14E-02	-6.87E-02	1.33E-03	0.96
128	707.25	3.93E-06	6	3.36E-03	6.78E-02	-6.52E-02	1.33E-03	0.96
127	712.25	3.64E-06	5	3.04E-03	6.32E-02	-6.06E-02	1.27E-03	0.96
126	717.75	3.65E-06	3	2.99E-03	6.16E-02	-5.91E-02	1.23E-03	0.96
125	721.75	3.64E-06	3	3.07E-03	6.10E-02	-5.86E-02	1.21E-03	0.96

Sample Box no. CM2-	Depth (cm)	MSLF	FDMS	ARM	IRM 1.2	IRM -.3	HIRM	S
124	726.75	3.50E-06	3	2.77E-03	5.92E-02	-5.67E-02	1.23E-03	0.96
160	740.25	3.36E-06	4	2.62E-03	5.55E-02	-5.32E-02	1.15E-03	0.96
159	745.25	3.60E-06	5	2.87E-03	6.04E-02	-5.77E-02	1.34E-03	0.96
158	750.75	3.80E-06	4	3.07E-03	6.56E-02	-6.31E-02	1.23E-03	0.96
157	755.25	3.98E-06	4	3.22E-03	6.97E-02	-6.69E-02	1.40E-03	0.96
156	760.25	3.83E-06	4	3.23E-03	6.78E-02	-6.53E-02	1.22E-03	0.96
155	765.25	3.44E-06	4	2.71E-03	5.88E-02	-5.62E-02	1.31E-03	0.96
154	770.25	3.00E-06	3	2.25E-03	5.16E-02	-4.93E-02	1.17E-03	0.95
153	775.25	2.88E-06	3	2.21E-03	4.89E-02	-4.67E-02	1.14E-03	0.95
152	780.25	3.11E-06	4	2.72E-03	5.18E-02	-4.92E-02	1.32E-03	0.95
151	785.25	3.94E-06	5	3.52E-03	6.65E-02	-6.41E-02	1.25E-03	0.96
150	790.75	4.03E-06	5	3.71E-03	6.98E-02	-6.71E-02	1.37E-03	0.96
149	795.25	4.09E-06	4	3.20E-03	7.02E-02	-6.69E-02	1.65E-03	0.95
148	800.25	4.06E-06	4	3.15E-03	6.52E-02	-6.14E-02	1.87E-03	0.94
147	805.25	2.57E-06	3	1.73E-03	3.91E-02	-3.70E-02	1.08E-03	0.95
146	810.25	3.60E-06	4	3.12E-03	5.74E-02	-5.51E-02	1.16E-03	0.96
145	814.75	3.53E-06	4	3.29E-03	5.61E-02	-5.39E-02	1.10E-03	0.96
144	819.75	2.81E-06	3	2.52E-03	4.64E-02	-4.41E-02	1.19E-03	0.95
143	824.75	3.11E-06	4	2.75E-03	4.90E-02	-4.68E-02	1.06E-03	0.96
176	837.25	2.39E-06	3	1.47E-03	3.63E-02	-3.41E-02	1.12E-03	0.94
175	842.25	2.36E-06	3	1.26E-03	3.66E-02	-3.42E-02	1.24E-03	0.93
174	847.25	2.62E-06	3	1.56E-03	4.26E-02	-4.02E-02	1.21E-03	0.94
173	852.25	1.92E-06	4	5.82E-04	2.08E-02	-1.82E-02	1.31E-03	0.87
172	857.25	3.33E-06	5	3.08E-03	5.56E-02	-5.37E-02	9.38E-04	0.97
171	862.25	3.19E-06	5	3.09E-03	5.30E-02	-5.05E-02	1.26E-03	0.95
170	867.25	3.00E-06	5	3.10E-03	4.88E-02	-4.68E-02	9.65E-04	0.96
169	872.25	2.80E-06	5	2.60E-03	4.27E-02	-4.14E-02	6.53E-04	0.97
168	878.25	2.92E-06	6	2.37E-03	4.57E-02	-4.42E-02	7.84E-04	0.97
167	887.25	3.38E-06	4	3.04E-03	5.67E-02	-5.48E-02	9.67E-04	0.97
166	892.25	3.07E-06	5	2.78E-03	5.18E-02	-4.99E-02	9.81E-04	0.96
165	897.25	3.04E-06	5	2.71E-03	4.88E-02	-4.69E-02	9.61E-04	0.96
164	902.25	1.86E-06	4	1.30E-03	2.85E-02	-2.65E-02	1.00E-03	0.93
163	907.25	2.50E-06	5	2.01E-03	3.90E-02	-3.66E-02	1.19E-03	0.94
162	912.25	2.11E-06	4	1.43E-03	3.28E-02	-3.05E-02	1.18E-03	0.93
161	917.25	1.41E-06	2	7.05E-04	2.13E-02	-1.90E-02	1.12E-03	0.90
193	930.25	2.48E-06	3	1.95E-03	3.84E-02	-3.67E-02	8.49E-04	0.96
192	935.25	2.02E-06	3	1.55E-03	3.42E-02	-3.20E-02	1.13E-03	0.93
191	940.25	2.70E-06	4	2.23E-03	4.21E-02	-4.04E-02	8.12E-04	0.96
190	945.25	2.47E-06	3	1.78E-03	3.81E-02	-3.56E-02	1.24E-03	0.93
189	950.25	2.65E-06	3	1.99E-03	4.13E-02	-3.95E-02	9.30E-04	0.96
188	955.25	2.92E-06	4	2.33E-03	4.48E-02	-4.23E-02	1.22E-03	0.95
187	960.25	2.69E-06	4	1.78E-03	3.77E-02	-3.62E-02	7.69E-04	0.96
186	965.25	1.30E-06	2	5.35E-04	1.84E-02	-1.57E-02	1.39E-03	0.85
185	970.25	1.54E-06	2	5.93E-04	2.10E-02	-1.87E-02	1.15E-03	0.89
184	975.25	2.04E-06	2	8.04E-04	3.02E-02	-2.79E-02	1.16E-03	0.92
183	980.25	2.08E-06	2	1.05E-03	3.28E-02	-3.11E-02	8.60E-04	0.95
182	985.25	2.52E-06	3	1.96E-03	3.99E-02	-3.79E-02	1.02E-03	0.95

Sample Box no. CM2-	Depth (cm)	MSLF	FDMS	ARM	IRM 1.2	IRM -.3	HIRM	S
181	990.25	2.23E-06	4	1.67E-03	3.49E-02	-3.29E-02	9.75E-04	0.94
180	995.25	1.79E-06	3	1.26E-03	2.72E-02	-2.48E-02	1.18E-03	0.91
179	1000.25	1.44E-06	3	8.11E-04	2.10E-02	-1.88E-02	1.09E-03	0.90
178	1005.25	1.35E-06	3	4.71E-04	1.89E-02	-1.63E-02	1.29E-03	0.86
177	1010.25	1.77E-06	2	9.13E-04	2.58E-02	-2.35E-02	1.16E-03	0.91
206	1028.25	2.68E-06	4	2.11E-03	4.41E-02	-4.18E-02	1.12E-03	0.95
205	1035.75	3.09E-06	4	2.20E-03	4.95E-02	-4.87E-02	3.85E-04	0.98
204	1041.25	2.72E-06	4	2.07E-03	4.48E-02	-4.21E-02	1.34E-03	0.94
203	1046.25	3.09E-06	4	2.41E-03	4.99E-02	-4.75E-02	1.21E-03	0.95
202	1050.75	2.98E-06	4	2.23E-03	4.82E-02	-4.57E-02	1.24E-03	0.95
201	1054.75	3.05E-06	3	2.33E-03	4.92E-02	-4.73E-02	9.63E-04	0.96
200	1059.75	3.09E-06	4	2.60E-03	5.00E-02	-4.75E-02	1.26E-03	0.95
199	1064.75	2.79E-06	4	2.27E-03	4.40E-02	-4.23E-02	8.69E-04	0.96
198	1069.75	2.45E-06	4	2.01E-03	3.80E-02	-3.61E-02	9.48E-04	0.95
197	1075.25	1.79E-06	3	1.30E-03	2.84E-02	-2.61E-02	1.15E-03	0.92
196	1080.25	1.47E-06	3	6.40E-04	2.32E-02	-2.03E-02	1.42E-03	0.88
195	1085.25	2.36E-06	3	1.35E-03	4.00E-02	-3.71E-02	1.45E-03	0.93
194	1090.75	1.91E-06	2	1.19E-03	3.10E-02	-2.82E-02	1.44E-03	0.91
217	1107.25	1.62E-06	3	7.20E-04	2.39E-02	-2.10E-02	1.47E-03	0.88
216	1112.25	1.69E-06	3	8.27E-04	2.37E-02	-2.08E-02	1.46E-03	0.88
215	1117.25	1.69E-06	3	7.91E-04	2.33E-02	-2.06E-02	1.35E-03	0.88
214	1122.25	1.90E-06	6	9.49E-04	2.68E-02	-2.42E-02	1.28E-03	0.90
213	1127.25	2.37E-06	4	1.81E-03	3.89E-02	-3.67E-02	1.10E-03	0.94
212	1132.25	1.78E-06	2	1.16E-03	2.88E-02	-2.63E-02	1.26E-03	0.91
211	1136.75	1.78E-06	3	1.20E-03	2.88E-02	-2.63E-02	1.27E-03	0.91
210	1142.25	1.91E-06	3	1.27E-03	3.08E-02	-2.80E-02	1.40E-03	0.91
209	1147.25	1.97E-06	3	1.38E-03	3.23E-02	-2.93E-02	1.53E-03	0.91
208	1152.25	1.77E-06	3	1.07E-03	2.75E-02	-2.44E-02	1.51E-03	0.89
207	1156.75	1.57E-06	3	8.59E-04	2.33E-02	-1.99E-02	1.70E-03	0.85
230	1170.25	2.69E-06	4	2.19E-03	4.36E-02	-4.12E-02	1.20E-03	0.94
229	1175.25	1.69E-06	4	7.91E-04	2.35E-02	-2.11E-02	1.21E-03	0.90
228	1180.25	1.53E-06	4	5.54E-04	1.73E-02	-1.52E-02	1.03E-03	0.88
227	1185.25	1.76E-06	18	9.15E-04	2.19E-02	-2.03E-02	8.11E-04	0.93
226	1190.25	1.57E-06	-13	8.56E-04	2.03E-02	-1.88E-02	7.59E-04	0.93
225	1195.25	1.83E-06	4	8.71E-04	2.18E-02	-2.04E-02	7.16E-04	0.93
224	1199.75	2.87E-06	5	8.14E-04	2.25E-02	-2.10E-02	7.22E-04	0.94
223	1205.25	2.68E-06	5	9.62E-04	2.53E-02	-2.37E-02	8.26E-04	0.93
222	1210.25	1.73E-06	3	9.75E-04	2.48E-02	-2.28E-02	1.03E-03	0.92
221	1215.25	1.47E-06	2	7.57E-04	2.16E-02	-1.97E-02	9.49E-04	0.91
220	1220.25	1.51E-06	2	8.57E-04	2.30E-02	-2.16E-02	6.96E-04	0.94
219	1225.25	1.41E-06	3	8.57E-04	2.16E-02	-2.01E-02	7.17E-04	0.93
218	1231.25	1.25E-06	3	5.85E-04	1.68E-02	-1.57E-02	5.59E-04	0.93
237	1257.75	1.45E-06	3	6.75E-04	1.87E-02	-1.70E-02	8.54E-04	0.91
236	1262.75	1.52E-06	3	6.14E-04	1.88E-02	-1.60E-02	1.40E-03	0.85
235	1268.25	1.40E-06	3	5.74E-04	1.73E-02	-1.52E-02	1.04E-03	0.88
234	1273.25	1.43E-06	3	5.45E-04	1.51E-02	-1.31E-02	9.93E-04	0.87
233	1278.25	1.52E-06	4	5.03E-04	1.37E-02	-1.17E-02	9.90E-04	0.86

Sample Box no. CM2-	Depth (cm)	MSLF	FDMS	ARM	IRM 1.2	IRM -.3	HIRM	S
232	1283.25	2.05E-06	3	6.36E-04	1.81E-02	-1.58E-02	1.15E-03	0.87
231	1288.75	3.82E-06	5	7.10E-04	2.28E-02	-2.04E-02	1.23E-03	0.89

**TABLE 5. Hysteresis Parameters**

**Sample Box No.:** A unique number assigned to paleomagnetic samples that are placed in plastic boxes of volume 3.2 cm<sup>3</sup>.

**Depth (cm):** Depth from top of core in centimeters.

**Paramagnetic MS:** Paramagnetic magnetic susceptibility determined from the slope of the hysteresis curve above an induction of 0.9T.

**Msat:** Saturation magnetization determined after removal of the paramagnetic component.

**Mrs:** Saturation remanent magnetization.

**Hc:** Coercivity determined after removal of the paramagnetic component.

**Hcr:** Coercivity of remanence.

Sample Box No.	Depth	Paramagnetic MS	Msat	Mrs	Hc	Hcr	Mrs/Msat	Hcr/Hc
108	451.75	1.36E-05	6.72	1.55	17.80	67.17	0.23	3.77
104	471.25	8.05E-06	7.34	1.70	16.65	62.64	0.23	3.76
100	491.75	1.48E-05	19.63	3.59	12.64	47.68	0.18	3.77
98	500.75	2.38E-05	44.69	7.16	11.28	37.23	0.16	3.30
96	510.75	5.26E-05	126.56	20.09	11.23	32.07	0.16	2.86
92	523.75	6.09E-05	171.25	29.03	10.83	31.95	0.17	2.95
89	539.25	7.03E-05	270.00	51.56	12.95	31.01	0.19	2.39
114	604.75	6.64E-05	258.13	50.31	13.44	31.86	0.19	2.37
178	1005.25	8.01E-05	83.44	13.03	10.90	37.21	0.16	3.41
205	1032.75	6.72E-05	180.63	34.69	12.62	30.71	0.19	2.43
196	1077.25	5.93E-05	81.25	14.66	11.85	34.22	0.18	2.89
195	1082.25	5.62E-05	142.50	26.34	12.63	34.36	0.18	2.72
217	1107.25	7.07E-05	104.06	17.66	10.65	34.04	0.17	3.20

**TABLE 6. Elemental Abundance from X-ray Fluorescence**

**Sample No.:** A unique sample number assigned to sediment samples placed in vials.

**Paired sample box no.:** Sample box number (magnetic sample) which corresponds in depth to sample number of samples in vials used for chemical analysis.

**Depth (cm):** Depth of sample in centimeters from top of core.

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

Ti: Titanium-Wt %

V: Vanadium-ppm

Cr: Chromium-ppm

Mn: Manganese-ppm

Fe: Iron- Wt%

Ni: Nickel-ppm

Cu: Copper-ppm

Zn: Zinc-ppm

Rb: Rubidium-ppm

Sr: Strontium-ppm

Y: Yttrium-ppm

Zr: Zirconium-ppm

Nb: Niobium-ppm

Mo: Molybdenum-ppm



Sample No.	Paired Sample Box No.	Depth (cm)	Ti wt%	V ppm	Cr ppm	Mn ppm	Fe wt%	Ni ppm	Cu ppm	Zn ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Nb ppm	Mo ppm
CM10183	11	24.0	0.10	26	29	133	1.22	19	18	16	12	78	4	24	12	9
CM10183	11	24.0	0.09	52	18	121	1.18	18	17	37	13	64	4	31	5	2
CM10176	8	41.0	0.09	52	20	84	1.02	18	21	25	8	58	5	24	12	9
CM10191	16	60.5	0.08	99	15	80	1.16	16	15	26	10	59	8	22	3	5
CM10197	19	110.8	0.10	47	40	86	1.31	25	13	31	10	61	5	24	4	2
CM10197	19	110.8	0.09	66	32	72	1.22	15	14	27	9	51	7	25	4	2
CM10214	27	135.8	0.08	33	26	79	0.91	21	32	27	11	53	5	14	11	7
CM10214	27	135.8	0.08	20	29	84	0.89	22	31	29	10	59	7	20	3	2
CM10212	26	157.0	0.09	49	25	89	1.06	22	31	30	11	80	6	23	11	8
CM10232	36	181.0	0.09	69	20	130	1.09	19	26	34	9	101	9	17	12	9
CM10232	36	181.0	0.09	64	40	125	1.06	19	22	15	9	98	10	25	11	9
CM10248	44	202.5	0.08	492	35	367	1.54	37	27	33	9	265	11	45	6	5
CM10248	44	202.5	0.08	492	30	338	1.48	26	28	30	7	251	13	36	4	6
CM10246	43	228.5	0.07	116	10	312	2.01	27	23	27	7	189	11	18	6	7
CM10272	54	255.3	0.06	130	25	474	1.16	19	28	36	7	190	8	14	5	6
CM10289	62	275.8	0.11	97	29	208	1.66	30	47	38	12	86	5	27	4	3
CM10289	62	257.8	0.11	108	21	226	1.68	34	46	44	12	90	7	32	5	6
CM10300	67	298.0	0.08	106	16	207	1.09	19	32	39	16	121	2	27	22	18
CM10300	67	298.0	0.08	105	34	232	1.07	19	29	32	15	116	6	33	20	18
CM10284	60	316.3	0.14	47	19	400	1.61	18	27	40	19	256	7	51	6	4
CM10284	60	316.3	0.14	40	16	361	1.56	16	25	31	16	230	5	41	21	17
CM10264	50	339.8	0.12	58	27	133	2.02	23	28	20	10	56	8	32	4	3
CM10264	50	339.8	0.11	58	43	119	1.97	28	27	17	11	54	5	30	4	3
CM10340	87	357.8	0.15	71	42	111	2.17	24	29	18	16	81	8	16	12	9
CM10340	87	357.8	0.15	41	58	125	2.13	31	29	21	13	78	9	40	6	2
CM10336	85	367.5	0.22	21	47	160	2.97	28	44	43	16	109	10	61	8	3
CM10332	83	377.0	0.31	2	92	246	4.19	36	45	51	20	266	13	83	8	1
CM10330	82	382.3	0.25	82	77	200	2.92	39	40	48	16	148	2	2	0	43
CM10330	82	382.3	0.24	47	75	177	2.79	31	40	43	18	165	14	68	8	3
CM10330	82	382.3	0.23	65	67	215	2.76	37	42	43	16	159	9	61	5	2
CM10326	80	392.0	0.28	81	71	297	3.36	42	40	50	22	258	12	73	7	2
CM10326	80	392.0	0.29	55	53	315	3.37	43	42	47	20	259	10	70	7	2
CM10318	76	411.5	0.31	32	76	291	3.37	50	64	63	23	297	12	84	11	3
CM10310	72	430.0	0.38	82	84	386	4.14	50	76	75	21	318	12	108	24	17
CM10380	107	456.5	0.43	130	75	371	4.63	55	78	80	29	319	6	105	22	18
CM10374	104	471.5	0.40	18	78	315	3.83	38	82	61	28	307	17	111	10	4
CM10368	101	486.5	0.42	131	66	278	3.77	42	81	65	28	370	27	138	8	3
CM10368	101	486.5	0.42	131	66	278	3.77	42	81	65	31	317	19	123	8	3
CM10362	98	501.3	0.47	176	75	323	4.09	46	77	76	38	421	26	157	11	4
CM10362	98	501.3	0.47	176	75	323	4.09	46	77	76	24	372	24	141	8	2
CM10356	96	511.0	0.49	87	82	350	4.29	44	87	79	32	399	23	150	10	3
CM10356	96	511.0	0.50	137	94	407	4.32	58	83	77	31	400	28	145	8	3
CM10354	94	517.5	0.51	95	53	417	4.22	55	76	83	35	409	35	177	9	5
CM10350	92	524.3	0.53	22	81	409	4.34	42	84	83	33	409	25	159	24	15
CM10344	89	539.5	0.49	136	34	451	4.26	50	77	78	33	348	26	152	22	11
CM10406	120	574.5	0.50	133	49	430	4.35	46	76	76	35	402	30	150	22	15
CM10406	120	574.5	0.50	133	49	430	4.35	46	76	76	37	370	27	159	8	3

Sample No.	Paired Sample Box No.	Depth (cm)	Ti wt%	V ppm	Cr ppm	Mn ppm	Fe wt%	Ni ppm	Cu ppm	Zn ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Nb ppm	Mo ppm
CM10397	116	594.5	0.53	91	66	467	4.64	51	90	90	34	399	29	162	26	15
CM10390	112	614.5	0.53	166	80	470	4.74	47	86	82	34	406	29	156	24	15
CM10450	142	637.5	0.52	123	49	446	4.67	51	83	76	34	356	27	156	9	2
CM10450	142	637.5	0.51	120	46	452	4.71	68	81	78	32	353	24	155	9	3
CM10444	139	652.5	0.52	124	61	511	5.26	49	76	76	36	360	25	156	9	3
CM10440	137	662.5	0.56	104	71	799	5.98	54	69	76	35	370	28	163	8	3
CM10440	137	662.5	0.56	104	71	799	5.98	54	69	76	44	426	32	179	13	3
CM10436	135	672.5	0.54	156	59	677	5.07	37	86	78	34	333	31	154	10	2
CM10436	135	672.5	0.54	156	59	677	5.07	37	86	78	33	358	35	174	13	4
CM10436	135	672.5	0.55	126	33	686	5.20	32	79	79	37	320	30	154	8	3
CM10432	133	682.5	0.53	185	57	953	5.29	48	78	78	30	315	26	156	9	4
CM10432	133	682.5	0.51	108	60	949	5.27	51	84	75	34	314	24	155	8	5
CM10426	130	697.5	0.52	125	29	492	4.59	56	83	81	40	399	29	184	13	3
CM10426	130	697.5	0.49	93	58	427	4.36	36	72	73	36	376	28	174	11	4
CM10426	130	697.5	0.47	85	69	458	4.35	37	76	77	34	355	30	162	18	10
CM10420	127	712.5	0.51	129	48	783	4.82	55	81	72	33	336	24	153	9	3
CM10486	160	740.5	0.52	156	60	1100	5.13	46	75	76	38	353	32	160	8	3
CM10480	157	755.5	0.55	65	49	1300	5.36	54	81	84	37	387	33	184	11	4
CM10472	153	775.5	0.51	132	65	456	4.96	51	73	78	31	331	31	155	11	3
CM10468	151	785.5	0.52	106	56	384	4.75	56	81	86	33	324	28	156	10	3
CM10464	149	795.5	0.51	142	75	500	4.64	52	72	85	35	367	23	148	10	4
CM10464	149	795.5	0.51	174	52	477	4.67	53	74	81	29	364	19	146	20	14
CM10460	147	805.5	0.58	137	98	434	5.67	55	72	83	33	315	30	161	11	3
CM10454	144	820.5	0.52	159	84	477	4.82	49	68	81	37	308	24	151	9	3
CM10514	173	852.5	0.51	143	62	431	4.48	42	57	80	46	362	26	171	11	3
CM10512	172	857.5	0.53	156	64	642	5.03	51	70	81	39	276	23	153	10	4
CM10512	172	857.5	0.53	114	43	610	5.02	55	73	78	40	270	29	155	9	4
CM10508	170	867.5	0.54	160	55	391	5.16	30	66	90	47	208	27	167	10	4
CM10502	167	887.5	0.59	94	77	668	5.55	42	79	92						
CM10496	164	902.0	0.54	89	61	513	4.81	57	66	91	38	289	26	148	9	2
CM10488	161	917.5	0.49	159	68	446	4.34	40	60	76	33	329	23	135	11	2
CM10488	161	917.5	0.49	159	68	446	4.34	40	60	76	32	344	17	147	28	18
CM10550	191	940.5	0.49	151	64	725	4.61	50	57	77	38	287	25	146	10	2
CM10550	191	940.5	0.49	151	64	725	4.61	50	57	77	42	309	32	166	12	4
CM10544	188	955.5	0.52	143	44	722	4.86	43	63	79	32	286	29	149	10	4
CM10544	188	955.5	0.51	115	64	703	4.90	50	63	84	37	295	25	149	9	5
CM10538	185	970.5	0.47	188	72	367	4.19	25	72	69	34	401	19	133	11	2
CM10532	182	985.5	0.50	142	72	569	4.64	45	66	81	36	314	25	136	10	2
CM10524	178	1005.5	0.52	154	84	507	5.38	39	72	74	30	368	20	134	9	3
CM10524	178	1005.5	0.51	158	81	563	5.39	45	70	70	30	370	24	140	8	2
CM10578	205	1036.5	0.54	150	52	761	5.13	51	74	82	39	291	29	151	11	3
CM10570	201	1056.0	0.55	172	47	782	5.17	41	74	91	19	336	30	144	11	11
CM10570	201	1056.0	0.52	162	52	691	5.01	37	68	84	34	286	30	148	8	2
CM10562	197	1075.5	0.58	152	76	584	5.35	58	74	93	38	351	34	164	13	4
CM10598	215	1117.5	0.52	39	105	547	4.96	51	84	83	37	396	25	146	23	16
CM10594	213	1127.5	0.55	202	74	482	4.99	38	70	93	39	321	24	157	25	16
CM10590	211	1137.5	0.51	130	76	495	4.76	39	63	80	36	303	25	151	9	2

Sample No.	Paired Sample Box No.	Depth (cm)	Ti wt%	V ppm	Cr ppm	Mn ppm	Fe wt%	Ni ppm	Cu ppm	Zn ppm	Rb ppm	Sr ppm	Y ppm	Zr ppm	Nb ppm	Mo ppm
CM10582	207	1157.5	0.50	37	87	586	5.62	36	83	76	36	404	17	160	28	18
CM10629	230	1170.5	0.56	127	78	477	5.26	37	79	94	35	346	28	164	26	15
CM10625	228	1180.5	0.45	130	58	558	5.09	41	82	64	38	365	13	139	7	3
CM10625	228	1180.5	0.43	115	54	550	5.13	47	79	69	36	353	18	142	9	4
CM10619	225	1195.5	0.37	2	10	322	3.92	4	41	67	44	291	20	135	8	3
CM10617	224	1200.5	0.39	115	52	430	3.83	29	59	74	38	299	21	127	10	2
CM10613	222	1210.5	0.44	91	73	494	4.38	40	69	75	35	305	22	142	10	2
CM10607	219	1225.5	0.36	52	43	405	3.85	28	57	80	45	299	25	136	10	3

**TABLE 7: Calculated Grain Size Parameters**

**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.

**Depth (cm):** Depth of sample in centimeters from top of core.

**% sand:** Volume percent of sample greater than 63 microns.

**% silt:** Volume percent of sample between 3.9 microns and 63 microns.

**% clay:** Volume percent of sample less than 3.9 microns.

**CL/SI ratio:** Ratio of % clay to % silt.

**PHI mean:** Mean grain size in phi units as calculated using the method of moments (see Folk, 1974).

**PHI sort:** Standard deviation in phi units of the mean grain size calculated using the method of moments (see Folk, 1974).

**Skewness:** A measurement of the degree of asymmetry calculated using the method of moments (see Folk, 1974).

**Kurtosis:** A measurement of the departure from normality of the grain size distribution calculated using the method of moments (see Folk, 1974).

Sample Box No.	Depth (cm)	% sand	% silt	% clay	CL/Sl ratio	PHI mean	PHI sort	Skewness	Kurtosis
97	506.25	9.23	69.47	21.30	0.31	6.47	2.29	0.97	3.69
95	514.75	10.13	70.59	19.29	0.27	6.36	2.25	1.00	3.90
93	520.75	8.24	66.78	24.97	0.37	6.73	2.28	0.73	3.40
91	528.25	1.42	67.60	30.98	0.46	7.30	2.09	0.86	3.46
89	539.25	1.48	61.83	36.69	0.59	7.59	2.09	0.69	3.27
123	559.75	1.42	56.28	42.29	0.75	7.81	2.27	0.55	2.75
120	574.75	0.76	63.15	36.08	0.57	7.60	2.15	0.78	3.15
118	584.75	0.87	62.39	36.74	0.59	7.64	2.13	0.76	3.18
116	594.25	1.80	59.85	38.36	0.64	7.66	2.22	0.64	2.99
114	604.75	0.46	57.29	42.25	0.74	7.93	2.11	0.69	3.00
112	614.25	6.87	57.44	35.69	0.62	7.36	2.44	0.47	2.84
110	624.75	13.72	62.01	24.27	0.39	6.49	2.45	0.71	3.16
142	637.25	1.07	54.49	44.45	0.82	7.93	2.09	0.56	3.09
140	647.75	4.37	54.21	41.43	0.76	7.68	2.34	0.37	2.92
138	657.25	1.98	51.89	46.14	0.89	7.97	2.23	0.41	2.93
136	667.75	1.05	58.35	40.60	0.70	7.72	2.10	0.61	3.11
134	677.75	0.47	56.51	43.02	0.76	7.92	2.03	0.67	3.19
132	687.25	2.94	57.60	39.46	0.69	7.64	2.34	0.52	2.86
130	697.75	0.46	51.71	47.84	0.93	8.10	2.05	0.54	3.02
128	707.25	0.52	56.18	43.31	0.77	7.93	2.14	0.62	2.95
126	717.75	2.28	61.41	36.31	0.59	7.51	2.21	0.65	3.05
124	726.75	1.34	61.96	36.71	0.59	7.59	2.18	0.71	3.10
159	745.25	1.86	59.75	38.39	0.64	7.59	2.18	0.60	3.02
157	755.25	2.01	62.71	35.28	0.56	7.50	2.13	0.70	3.23
155	765.25	2.64	63.69	33.68	0.53	7.42	2.17	0.68	3.31
153	775.25	2.60	62.06	35.34	0.57	7.53	2.15	0.64	3.36
151	785.25	3.96	54.86	41.19	0.75	7.70	2.22	0.36	3.21
149	795.25	8.44	50.33	41.23	0.82	7.45	2.48	0.24	2.68
147	805.25	6.26	53.42	40.32	0.75	7.59	2.29	0.26	3.14
145	814.75	6.85	54.03	39.12	0.72	7.49	2.26	0.24	3.15
143	824.75	6.45	64.68	28.87	0.45	7.05	2.22	0.67	3.34
175	842.25	8.60	70.07	21.33	0.30	6.56	2.22	0.90	3.75
173	852.25	13.90	61.47	24.63	0.40	6.57	2.42	0.52	3.19
171	862.25	2.98	60.53	36.49	0.60	7.51	2.12	0.53	3.39
169	872.25	5.83	62.05	32.12	0.52	7.25	2.26	0.45	3.39
167	887.25	2.96	63.07	33.98	0.54	7.41	2.10	0.60	3.49
165	897.25	1.47	62.97	35.57	0.56	7.55	2.01	0.73	3.53
163	907.25	3.15	71.45	25.41	0.36	6.99	2.09	0.87	3.89
161	917.25	2.25	73.45	24.31	0.33	6.92	2.03	1.02	3.92
192	935.25	2.30	65.73	31.98	0.49	7.37	2.06	0.75	3.55
190	945.25	5.99	67.15	26.86	0.40	6.97	2.27	0.69	3.47
188	955.25	4.18	63.07	32.75	0.52	7.34	2.21	0.58	3.36
186	965.25	3.55	74.14	22.32	0.30	6.82	2.06	1.03	4.07
184	975.25	14.82	66.88	18.31	0.27	6.26	2.32	0.75	3.74
182	985.25	2.74	68.02	29.24	0.43	7.26	2.11	0.77	3.71
180	995.25	4.61	67.63	27.76	0.41	7.05	2.20	0.74	3.48
178	1005.3	9.56	73.14	17.31	0.24	6.27	2.19	1.11	4.28
206	1028.3	0.48	64.53	34.99	0.54	7.60	2.03	0.86	3.44

Sample Box No.	Depth (cm)	% sand	% silt	% clay	CL/Sl ratio	PHI mean	PHI sort	Skewness	Kurtosis
204	1041.3	1.23	62.34	36.43	0.58	7.63	2.16	0.75	3.16
202	1050.8	0.75	71.00	28.26	0.40	7.26	2.03	1.01	3.78
200	1059.8	0.69	65.47	33.84	0.52	7.54	2.09	0.85	3.33
198	1069.8	1.15	66.35	32.50	0.49	7.42	2.10	0.85	3.44
196	1080.3	2.05	72.27	25.68	0.36	7.04	2.08	1.00	3.83
194	1090.8	3.62	67.21	29.17	0.43	7.17	2.19	0.75	3.48
216	1112.3	6.35	74.26	19.39	0.26	6.49	2.12	1.09	4.13
214	1122.3	5.03	73.77	21.19	0.29	6.64	2.15	1.07	3.96
212	1132.3	2.49	74.62	22.90	0.31	6.89	2.03	1.07	4.12
210	1142.3	3.32	72.60	24.08	0.33	6.89	2.09	0.97	3.83
208	1152.3	9.12	70.48	20.40	0.29	6.40	2.26	1.00	3.81
230	1170.3	2.73	64.71	32.56	0.50	7.40	2.20	0.69	3.40
228	1180.3	13.17	74.18	12.65	0.17	5.78	2.11	1.42	5.34
226	1190.3	2.78	67.70	29.53	0.44	7.21	2.17	0.81	3.50
224	1199.8	8.58	70.24	21.18	0.30	6.59	2.24	0.78	3.86
222	1210.3	3.38	75.14	21.48	0.29	6.73	2.08	1.12	4.12
220	1220.3	1.04	69.30	29.67	0.43	7.32	2.03	0.94	3.69
218	1231.3	4.62	63.80	31.58	0.49	7.23	2.23	0.60	3.31
236	1262.8	23.87	60.48	15.66	0.26	5.71	2.45	0.85	3.70
234	1273.3	41.26	46.40	12.34	0.27	4.94	2.62	0.98	3.75
232	1283.3	41.56	47.25	11.20	0.24	4.86	2.53	1.11	4.21

## **TABLE 8: Grain Size Data**

**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.

**Volume Percent in Grain Size Interval:** Each value corresponds to the percent of the sample in volume that has a grain size falling within that range. The intervals are based on the Wentworth scale.

Vertical lines divide sand from silt at 63 microns and silt from clay at 3.9 microns.

Volume Percent in Grain Size Interval (Wentworth Scale)

Box No.	Depth (cm)	595-500	500-420	420-354	354-297	297-250	250-210	210-177	177-149	149-125	125-105	105-88	88-74	74-63	63-53	53-44	44-37	37-31.2	31.2-26.3	26.3-22.1	22.1-18.6
89	539.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.19	0.26	0.38	0.54	0.86	1.36	1.76	2.28	2.89	3.56	4.08
91	528.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.25	0.40	0.63	1.09	1.82	2.43	3.17	3.96	4.77	5.30
93	520.75	0.00	0.00	0.00	0.05	0.18	0.32	0.36	0.43	0.58	0.85	1.31	1.86	2.31	3.09	3.94	4.10	4.30	4.46	4.58	4.56
95	514.75	0.00	0.00	0.00	0.11	0.21	0.28	0.30	0.38	0.61	1.03	1.69	2.45	3.06	4.08	5.15	5.29	5.47	5.45	5.44	5.22
97	506.25	0.00	0.00	0.00	0.04	0.13	0.23	0.25	0.33	0.54	0.93	1.56	2.31	2.92	3.95	5.07	5.26	5.48	5.45	5.42	5.17
110	624.75	0.00	0.00	0.00	0.01	0.26	0.58	0.84	1.15	1.47	1.79	2.20	2.60	2.83	3.49	4.24	4.35	4.47	4.57	4.66	4.53
112	614.25	0.00	0.00	0.00	0.00	0.02	0.18	0.36	0.52	0.70	0.90	1.18	1.44	1.59	1.96	2.40	2.50	2.73	3.04	3.42	3.70
114	604.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.15	0.26	0.26	0.48	0.86	1.22	1.69	2.24	2.87	3.42
116	594.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.18	0.30	0.51	0.73	1.12	1.65	2.00	2.45	2.94	3.49	3.91
118	584.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.14	0.25	0.41	0.74	1.26	1.73	2.31	2.99	3.72	4.30
120	574.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.27	0.45	0.63	0.83	1.42	1.92	2.54	3.23	3.97	4.51
123	559.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.25	0.41	0.63	1.04	1.64	2.07	2.56	3.06	3.55	3.83
124	726.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.22	0.42	0.66	1.09	1.71	2.13	2.64	3.19	3.77	4.18
126	717.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.24	0.39	0.63	0.90	1.39	2.03	2.42	2.88	3.33	3.80	4.08
128	707.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.16	0.35	0.66	0.66	1.14	1.52	1.97	2.45	2.97	3.38
130	697.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.32	0.55	0.91	1.17	1.49	1.83	2.22	2.56	
132	687.25	0.00	0.00	0.00	0.00	0.06	0.12	0.15	0.15	0.18	0.25	0.42	0.67	0.94	1.42	2.04	2.39	2.78	3.17	3.54	3.73
134	677.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.16	0.27	0.27	0.50	0.88	1.22	1.64	2.12	2.67	3.15
136	667.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.16	0.33	0.54	0.93	0.93	1.49	1.91	2.39	2.88	3.36	3.67
138	657.25	0.00	0.00	0.00	0.00	0.06	0.12	0.15	0.16	0.18	0.21	0.27	0.36	0.47	0.73	1.12	1.43	1.82	2.27	2.74	3.08
140	647.75	0.00	0.00	0.00	0.02	0.10	0.19	0.21	0.24	0.32	0.47	0.70	0.96	1.15	1.49	1.87	1.98	2.19	2.45	2.79	3.07
142	637.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.20	0.33	0.48	0.75	1.12	1.38	1.72	2.10	2.55	2.93
143	824.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.50	0.90	1.32	1.71	1.94	2.39	2.84	2.88	3.08	3.40	3.83	4.16
145	814.75	0.00	0.00	0.00	0.00	0.02	0.17	0.37	0.54	0.74	0.95	1.20	1.40	1.45	1.66	1.85	1.76	1.81	1.95	2.21	2.49
147	805.25	0.00	0.00	0.00	0.00	0.03	0.27	0.41	0.56	0.72	0.87	1.03	1.16	1.21	1.41	1.62	1.61	1.72	1.92	2.23	2.55
149	795.25	0.00	0.00	0.00	0.01	0.12	0.23	0.28	0.39	0.63	1.00	1.52	2.01	2.26	2.69	3.00	2.72	2.52	2.36	2.28	2.32
151	785.25	0.00	0.00	0.00	0.08	0.13	0.18	0.22	0.25	0.32	0.44	0.61	0.80	0.93	1.19	1.48	1.58	1.78	2.06	2.44	2.82
153	775.25	0.00	0.00	0.00	0.00	0.06	0.12	0.15	0.17	0.21	0.28	0.40	0.54	0.67	0.96	1.39	1.71	2.18	2.75	3.41	3.97
155	765.25	0.00	0.00	0.00	0.00	0.06	0.12	0.13	0.14	0.17	0.24	0.38	0.59	0.81	1.22	1.79	2.15	2.63	3.18	3.79	4.28
157	755.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.22	0.35	0.55	0.77	1.17	1.73	2.10	2.57	3.09	3.67	4.11
159	745.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.19	0.31	0.51	0.76	1.21	1.85	2.27	2.77	3.27	3.75	4.03
161	917.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.18	0.35	0.64	1.03	1.74	2.77	3.48	4.29	5.07	5.80	6.11
163	907.25	0.00	0.00	0.00	0.03	0.14	0.25	0.27	0.25	0.23	0.24	0.34	0.55	0.86	1.45	2.32	2.98	3.74	4.50	5.24	5.67
165	897.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.20	0.26	0.38	0.52	0.82	1.28	1.64	2.11	2.66	3.30	3.85
167	887.25	0.00	0.00	0.00	0.00	0.07	0.14	0.18	0.19	0.23	0.30	0.43	0.61	0.80	1.17	1.68	2.00	2.43	2.92	3.47	3.91
169	872.25	0.00	0.00	0.00	0.07	0.23	0.44	0.59	0.68	0.74	0.81	0.60	0.75	0.93	1.32	1.85	2.14	2.52	2.95	3.44	3.84
171	862.25	0.00	0.00	0.00	0.00	0.07	0.14	0.18	0.20	0.24	0.31	0.43	0.61	0.78	1.13	1.61	1.89	2.27	2.71	3.21	3.62
173	852.25	0.00	0.00	0.00	0.33	0.62	0.91	1.05	1.19	1.41	1.65	2.00	2.30	2.44	2.90	3.38	3.33	3.44	3.63	3.87	3.99
175	842.25	0.00	0.00	0.00	0.00	0.02	0.18	0.34	0.49	0.71	1.03	1.48	1.98	2.37	3.13	4.04	4.33	4.72	5.09	5.30	5.31
178	1005.25	0.00	0.00	0.00	0.06	0.18	0.29	0.34	0.43	0.64	0.99	1.55	2.24	2.84	3.93	5.19	5.57	5.98	6.05	6.09	5.84
180	995.25	0.00	0.00	0.00	0.00	0.08	0.18	0.22	0.24	0.30	0.43	0.69	1.05	1.42	2.06	2.85	3.21	3.61	4.01	4.41	4.63
182	985.25	0.00	0.00	0.00	0.02	0.11	0.21	0.24	0.23	0.22	0.23	0.31	0.47	0.68	1.10	1.71	2.17	2.75	3.39	4.10	4.67
184	975.25	0.00	0.00	0.00	0.28	0.62	0.96	1.21	1.47	1.72	1.91	2.11	2.25	2.29	2.76	3.44	3.75	4.21	4.68	5.12	5.30
186	965.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.40	0.61	0.97	1.38	2.12	3.13	3.72	4.39	5.02	5.61	5.85
188	955.25	0.00	0.00	0.00	0.01	0.15	0.24	0.30	0.35	0.40	0.46	0.59	0.76	0.93	1.31	1.82	2.14	2.57	3.07	3.65	4.11
190	945.25	0.00	0.00	0.00	0.05	0.18	0.39	0.52	0.66	0.57	0.57	0.75	1.01	1.30	1.86	2.63	3.07	3.60	4.16	4.72	5.01
192	935.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.35	0.43	0.58	0.76	1.12	1.66	2.04	2.54	3.12	3.77	4.29
194	1090.75	0.00	0.00	0.00	0.01	0.09	0.16	0.21	0.24	0.28	0.35	0.51	0.75	1.03	1.56	2.30	2.77	3.33	3.90	4.47	4.82
196	1080.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.17	0.31	0.58	0.94	1.60	2.54	3.20	3.94	4.65	5.32	5.67
198	1069.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.17	0.33	0.56	1.00	1.67	2.22	2.86	3.55	4.27	4.76
200	1059.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.24	0.41	0.77	0.77	1.33	1.82	2.44	3.14	3.93	4.55
202	1050.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.24	0.50	0.97	0.97	1.73	2.39	3.16	3.98	4.82	5.39
204	1041.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.22	0.35	0.54	0.89	1.42	1.83	2.35	2.94	3.61	4.16
206	1028.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.16	0.31	0.61	0.61	1.11	1.58	2.16	2.83	3.59	4.23
208	1152.25	0.00	0.00	0.00	0.09	0.18	0.26	0.26	0.29	0.46	0.82	1.46	2.28	3.03	4.25	5.57	5.78	5.92	5.70	5.46	5.04
210	1142.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.28	0.56	0.98	1.45	2.25	3.27	3.80	4.36	4.87	5.32	5.47
212	1132.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.25	0.39	0.67	1.03	1.71	2.70	3.39	4.18	4.97	5.73	6.10
214	1122.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11	0.27	0.44	0.82	1.40	2.00	3.01	4.26	4.80	5.33	5.72	5.99	5.80
216	1112.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.40	0.62	1.10	1.74	2.37	3.43	4.69	5.15	5.60	5.92	5.97	5.79
218																					



Volume Percent in Grain Size Interval (Wentworth Scale)

18.6- 15.6	15.6- 13.1	13.1- 11	11- 9.3	9.3- 7.8	7.8- 6.6	6.6- 5.5	5.5- 4.6	4.6- 3.9	3.9- 3.3	3.3- 2.8	2.8- 2.3	2.3- 1.95	1.95- 1.64	1.64- 1.38	1.38- 1.16	1.16- 0.98	.98- 0.82	.82- 0.69	.69- 0.58	.58- 0.49	<.49
4.62	4.95	5.16	5.06	5.35	5.06	5.39	5.05	4.40	4.16	3.80	4.15	3.13	2.90	2.53	2.18	1.79	1.63	1.35	1.26	1.20	6.62
5.77	5.79	5.63	5.24	5.23	4.68	4.76	4.31	3.67	3.43	3.13	3.44	2.61	2.44	2.14	1.84	1.52	1.38	1.15	1.08	1.04	5.79
4.65	4.59	4.56	4.32	4.42	4.04	4.18	3.79	3.21	2.95	2.63	2.80	2.07	1.89	1.63	1.38	1.14	1.03	0.85	0.80	0.79	5.03
5.10	4.79	4.51	4.05	3.93	3.42	3.38	2.94	2.39	2.13	1.85	1.95	1.43	1.33	1.17	1.03	0.88	0.82	0.71	0.69	0.70	4.60
5.00	4.65	4.33	3.87	3.77	3.31	3.32	2.95	2.47	2.27	2.03	2.18	1.64	1.53	1.34	1.17	0.98	0.91	0.78	0.76	0.76	4.97
4.44	4.18	3.93	3.56	3.52	3.17	3.27	3.01	2.61	2.48	2.29	2.55	1.95	1.84	1.63	1.42	1.19	1.10	0.93	0.88	0.87	5.15
4.00	4.17	4.31	4.22	4.44	4.18	4.46	4.21	3.71	3.58	3.33	3.72	2.85	2.69	2.36	2.04	1.70	1.55	1.30	1.24	1.23	8.10
4.02	4.47	4.88	5.02	5.39	5.16	5.59	5.31	4.66	4.43	4.07	4.48	3.40	3.18	2.80	2.44	2.05	1.91	1.66	1.59	1.57	8.66
4.37	4.66	4.84	4.74	5.01	4.73	5.05	4.74	4.15	3.96	3.66	4.05	3.09	2.90	2.55	2.21	1.85	1.70	1.46	1.40	1.39	8.14
4.69	5.23	5.38	5.19	5.39	5.00	5.24	4.84	4.16	3.92	3.58	3.93	2.98	2.78	2.44	2.11	1.76	1.62	1.39	1.34	1.34	7.55
5.04	5.30	5.38	5.12	5.28	4.86	5.07	4.67	4.02	3.79	3.47	3.82	2.90	2.72	2.39	2.08	1.74	1.61	1.38	1.33	1.31	7.56
4.11	4.20	4.27	4.15	4.41	4.22	4.62	4.49	4.07	4.02	3.83	4.37	3.40	3.23	2.87	2.50	2.10	1.96	1.71	1.66	1.66	8.98
4.63	4.87	5.02	4.88	5.11	4.79	5.08	4.74	4.13	3.92	3.60	3.97	3.00	2.80	2.44	2.10	1.74	1.59	1.35	1.29	1.29	7.64
4.40	4.55	4.67	4.59	4.87	4.62	4.97	4.70	4.13	3.94	3.64	4.01	3.03	2.82	2.45	2.10	1.73	1.58	1.33	1.26	1.24	7.19
3.84	4.17	4.51	4.58	4.99	4.66	5.35	5.17	4.62	4.49	4.20	4.69	3.60	3.38	2.96	2.55	2.11	1.93	1.64	1.57	1.55	8.66
3.01	3.44	3.94	4.27	4.97	4.98	5.64	5.60	5.12	5.04	4.77	5.39	4.16	3.94	3.47	3.00	2.48	2.23	1.84	1.68	1.58	8.25
3.97	4.07	4.20	4.15	4.45	4.30	4.72	4.57	4.11	3.99	3.73	4.15	3.17	2.96	2.59	2.23	1.85	1.69	1.43	1.37	1.35	8.95
3.71	4.16	4.62	4.85	5.33	5.23	5.79	5.62	5.04	4.88	4.53	5.02	3.79	3.50	3.01	2.54	2.05	1.83	1.50	1.40	1.36	7.63
4.00	4.17	4.38	4.42	4.83	4.74	5.29	5.19	4.71	4.62	4.34	4.83	3.65	3.36	2.87	2.41	1.93	1.71	1.38	1.27	1.22	7.01
3.46	3.69	3.94	4.02	4.45	4.43	5.02	5.03	4.67	4.67	4.48	5.10	3.94	3.70	3.22	2.74	2.24	2.01	1.66	1.56	1.53	9.29
3.43	3.71	3.99	4.08	4.50	4.43	4.95	4.86	4.42	4.35	4.11	4.61	3.53	3.30	2.85	2.42	1.96	1.74	1.41	1.32	1.30	8.53
3.40	3.80	4.22	4.45	4.97	4.95	5.58	5.53	5.04	4.96	4.67	5.22	3.96	3.65	3.12	2.61	2.10	1.87	1.52	1.42	1.39	7.97
4.56	4.79	4.96	4.85	5.05	4.68	4.89	4.49	3.84	3.57	3.20	3.41	2.50	2.25	1.89	1.56	1.24	1.09	0.88	0.82	0.82	5.63
2.93	3.38	3.88	4.19	4.82	4.91	5.59	5.56	5.06	4.93	4.57	4.98	3.69	3.32	2.76	2.24	1.75	1.48	1.14	1.02	0.97	6.28
3.01	3.45	3.93	4.22	4.82	4.89	5.55	5.50	5.00	4.87	4.52	4.94	3.66	3.31	2.76	2.26	1.78	1.54	1.22	1.12	1.09	7.25
2.48	2.65	2.93	3.15	3.68	3.85	4.55	4.71	4.46	4.51	4.33	4.89	3.72	3.43	2.91	2.41	1.92	1.88	1.33	1.23	1.20	7.67
3.32	3.75	4.21	4.41	4.94	4.93	5.54	5.46	4.96	4.85	4.52	4.98	3.73	3.39	2.85	2.34	1.85	1.60	1.26	1.16	1.14	7.52
4.58	4.99	5.27	5.19	5.51	5.18	5.49	5.10	4.40	4.13	3.74	4.04	3.00	2.74	2.33	1.96	1.59	1.43	1.18	1.12	1.12	6.97
4.84	5.11	5.26	5.13	5.35	4.96	5.17	4.76	4.08	3.82	3.47	3.77	2.82	2.60	2.23	1.89	1.55	1.40	1.17	1.11	1.10	6.74
4.62	4.94	5.13	5.01	5.27	4.95	5.24	4.88	4.23	4.00	3.66	4.01	3.01	2.78	2.40	2.03	1.66	1.50	1.24	1.18	1.16	6.65
4.33	4.42	4.50	4.40	4.68	4.47	4.87	4.70	4.22	4.11	3.87	4.33	3.32	3.10	2.70	2.30	1.88	1.70	1.41	1.32	1.28	7.08
6.21	6.06	5.82	5.27	5.10	4.42	4.36	3.81	3.14	2.86	2.55	2.73	2.03	1.87	1.62	1.38	1.14	1.04	0.88	0.84	0.84	4.54
6.00	5.89	5.78	5.35	5.32	4.73	4.76	4.22	3.51	3.18	2.79	2.92	2.11	1.88	1.59	1.33	1.08	0.98	0.83	0.80	0.81	5.12
4.48	4.94	5.27	5.27	5.68	5.44	5.86	5.54	4.83	4.56	4.12	4.41	3.22	2.88	2.40	1.96	1.55	1.36	1.09	1.02	1.00	5.99
4.44	4.78	5.06	5.08	5.45	5.21	5.60	5.28	4.60	4.33	3.91	4.19	3.05	2.74	2.29	1.88	1.49	1.31	1.05	0.97	0.95	5.83
4.33	4.66	4.98	5.01	5.37	5.08	5.37	4.95	4.24	3.93	3.52	3.77	2.78	2.52	2.13	1.77	1.41	1.23	0.98	0.90	0.92	6.25
4.12	4.48	4.78	4.82	5.23	5.06	5.54	5.33	4.74	4.55	4.18	4.54	3.35	3.01	2.50	2.04	1.60	1.38	1.10	1.02	1.00	6.24
4.21	4.29	4.35	4.19	4.36	4.04	4.24	3.91	3.34	3.09	2.75	2.89	2.09	1.87	1.56	1.30	1.05	0.94	0.78	0.74	0.74	4.83
5.37	5.19	4.96	4.50	4.39	3.84	3.81	3.34	2.74	2.47	2.17	2.29	1.68	1.54	1.33	1.14	0.95	0.88	0.76	0.75	0.75	4.60
5.63	5.16	4.69	4.06	3.81	3.22	3.11	2.66	2.15	1.91	1.66	1.74	1.27	1.16	1.01	0.88	0.75	0.72	0.64	0.65	0.67	4.26
4.89	5.01	5.11	4.94	5.13	4.73	4.90	4.43	3.71	3.37	2.96	3.10	2.26	2.04	1.74	1.48	1.23	1.12	0.95	0.92	0.91	5.67
5.30	5.63	5.80	5.67	5.88	5.39	5.51	4.91	4.05	3.63	3.15	3.28	2.37	2.13	1.82	1.54	1.27	1.16	0.98	0.95	0.95	6.03
5.46	5.31	5.06	4.53	4.35	3.73	3.62	3.09	2.48	2.18	1.87	1.93	1.39	1.25	1.08	0.93	0.78	0.74	0.65	0.65	0.66	4.21
5.97	5.88	5.73	5.28	5.20	4.57	4.53	3.94	3.20	2.83	2.43	2.50	1.78	1.58	1.34	1.13	0.94	0.87	0.77	0.77	0.79	4.61
4.65	4.96	5.16	5.09	5.36	5.00	5.25	4.83	4.13	3.84	3.46	3.72	2.76	2.52	2.15	1.81	1.48	1.33	1.10	1.04	1.04	6.52
5.23	5.26	5.24	4.93	4.97	4.47	4.54	4.08	3.40	3.10	2.74	2.91	2.14	1.95	1.68	1.44	1.20	1.10	0.94	0.91	0.93	5.81
4.89	5.22	5.44	5.39	5.70	5.34	5.63	5.18	4.40	4.07	3.61	3.82	2.77	2.48	2.08	1.73	1.40	1.26	1.05	1.01	1.01	5.71
5.17	5.22	5.28	5.07	5.22	4.80	4.97	4.52	3.82	3.50	3.09	3.25	2.36	2.13	1.81	1.54	1.27	1.17	1.01	0.98	0.98	6.09
5.96	5.85	5.75	5.34	5.33	4.74	4.76	4.19	3.44	3.08	2.68	2.80	2.04	1.86	1.61	1.38	1.15	1.06	0.90	0.87	0.87	5.41
5.26	5.42	5.47	5.26	5.44	5.02	5.24	4.81	4.11	3.82	3.42	3.66	2.69	2.45	2.10	1.77	1.45	1.32	1.11	1.06	1.06	6.60
5.21	5.60	5.77	5.55	5.73	5.26	5.41	4.88	4.09	3.74	3.32	3.53	2.62	2.42	2.13	1.89	1.63	1.57	1.41	1.36	1.32	6.91
5.96	6.12	6.09	5.76	5.82	5.21	5.24	4.60	3.76	3.36	2.93	3.07	2.25	2.05	1.77	1.52	1.27	1.18	1.03	1.00	1.01	5.82
4.75	5.13	5.34	5.18	5.42	5.03	5.27	4.86	4.17	3.91	3.56	3.89	2.94	2.74	2.39	2.06	1.71	1.56	1.32	1.25	1.24	7.85
4.93	5.42	5.72	5.62	5.91	5.50	5.72	5.21	4.39	4.05	3.63	3.91	2.92	2.70	2.35	2.01	1.66	1.51	1.26	1.19	1.16	6.66
4.75	4.35	4.05	3.67	3.65	3.29	3.38	3.05	2.56	2.34	2.07	2.18	1.60	1.46	1.26	1.08	0.90	0.82	0.70	0.67	0.68	4.66
5.60	5.54	5.46	5.09	5.10	4.56	4.58	4.03	3.29	2.94	2.55	2.67	1.95	1.78	1.54	1.32	1.09	1.00	0.85	0.81	0.81	4.79
6.27	6.21	6.04	5.52	5.39	4.68	4.59	3.96	3.19	2.83	2.44	2.53	1.83	1.65	1.41	1.20	0.99	0.92	0.80	0.79	0.81	4.71
5.73	5.44	5.14	4.61	4.45	3.85	3.77	3.25	2.64	2.36	2.06	2.19	1.62	1.50	1.32	1.15	0.97	0.91	0.80	0.78	0.79	4.74
5.69	5.35	4.99	4.44	4.27	3.69	3.62	3.13	2.54	2.27	1.98	2.08	1.52	1.38	1.2							