

**TO DETERMINE MASS SUSCEPTIBILITY OF HAGG END HE03 TRENCH 1 FEATURE 135+
ARCHAEO MAGNETIC DATING REMAINDER MATERIAL**

<u>Calibration samples</u>	Mass	Bridge reading	Total susceptibility	Mass susceptibility
	g		$K_T \times 10^{-8} \text{ m}^3$	$\chi \times 10^{-8} \text{ m}^3 \text{ kg}^{-1}$
Manganese sulphate	50.00	62.4	4.06	81.2
High alumina cement	50.00	533	35.80	716
<u>Test samples</u>				
135-1A	37.52	470	31.55	841
135-1B	29.45	140	9.29	316
135-1C	18.27	343	22.99	1258
135-2A	32.06	338	22.65	706
135-2B	8.94	126	8.35	934
135-3	36.01	738	49.63	1378
135-4A	12.95	732	49.22	3801
135-4B	13.28	716	48.14	3625
135-5A	11.27	726	48.82	4332
135-5B	10.43	684	45.98	4409
135-5C	10.14	623	41.87	4129
135-6	7.42	614	41.26	5561
135-7A	5.94	542	36.41	6129
135-7B	6.08	544	36.54	6010
135-7C	6.27	562	37.76	6022
135-7D	6.69	652	43.83	6551
135-7E	6.13	548	36.81	6005
135-7F	5.70	588	39.51	6931
135-7G	6.01	622	41.80	6956
135-8A	19.38	836	56.24	2902
135-8B	21.01	695	46.73	2224
135-8C	21.66	834	56.10	2590
135-8D	21.77	670	45.04	2069
135-9A	13.74	644	43.29	3150
135-9B	10.28	634	42.61	4145
135-10A	17.09	632	42.48	2485
135-10B	14.39	454	30.47	2118
135-10C	16.06	556	37.35	2326
135-11	3.17	118	7.81	2464
135-12A	18.25	390	26.16	1433
135-12B	17.48	444	29.80	1705
135-13	26.34	226	15.09	573
135-14A	41.08	676	45.44	1106
135-14B	34.88	612	41.13	1179
135-15	26.60	464	31.15	1171
135-16	27.57	744	50.03	1815
135-17A	14.39	994	66.89	4649
135-17B	10.77	778	52.32	4858
135-17C	11.11	756	50.84	4576
135-17D	10.82	1428	96.16	8888
135-18	42.82	680	45.71	1068
Mean	)			3302
Median	)			2590
Standard Deviation	+/-)			2180

Chart data

Total sus.	Meter	Total sus.	Meter
0	0		
4.06	62.4	4.06	62.4
		35.80	533

Slope & constant values as calculated by data trendline:

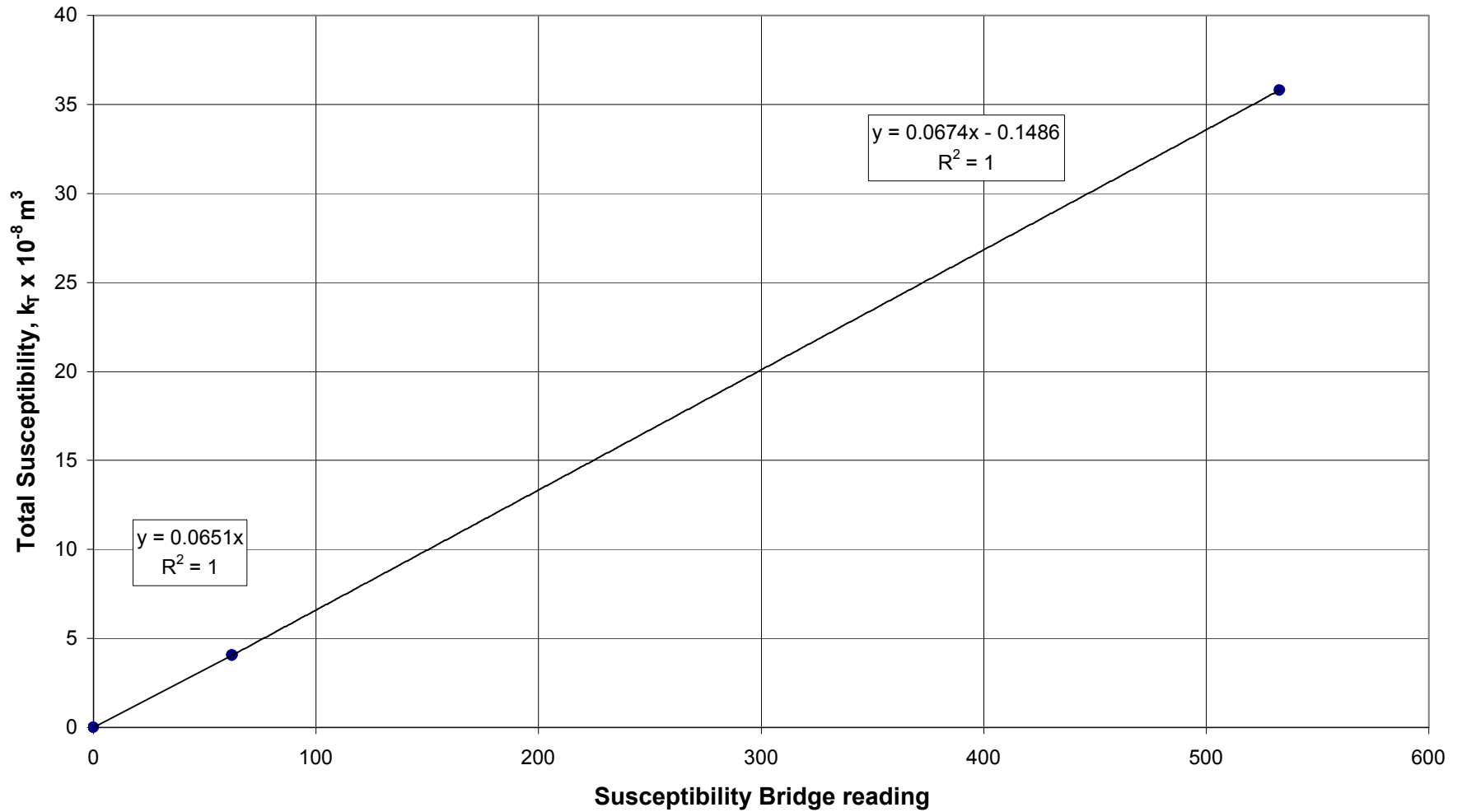
m	c	x	y
0.0651	0	62.4	4.0622
0.0674	-0.1486	62.4	4.0572
0.0674	-0.1486	533	35.7756

Slope & constant values as calculated from raw data:

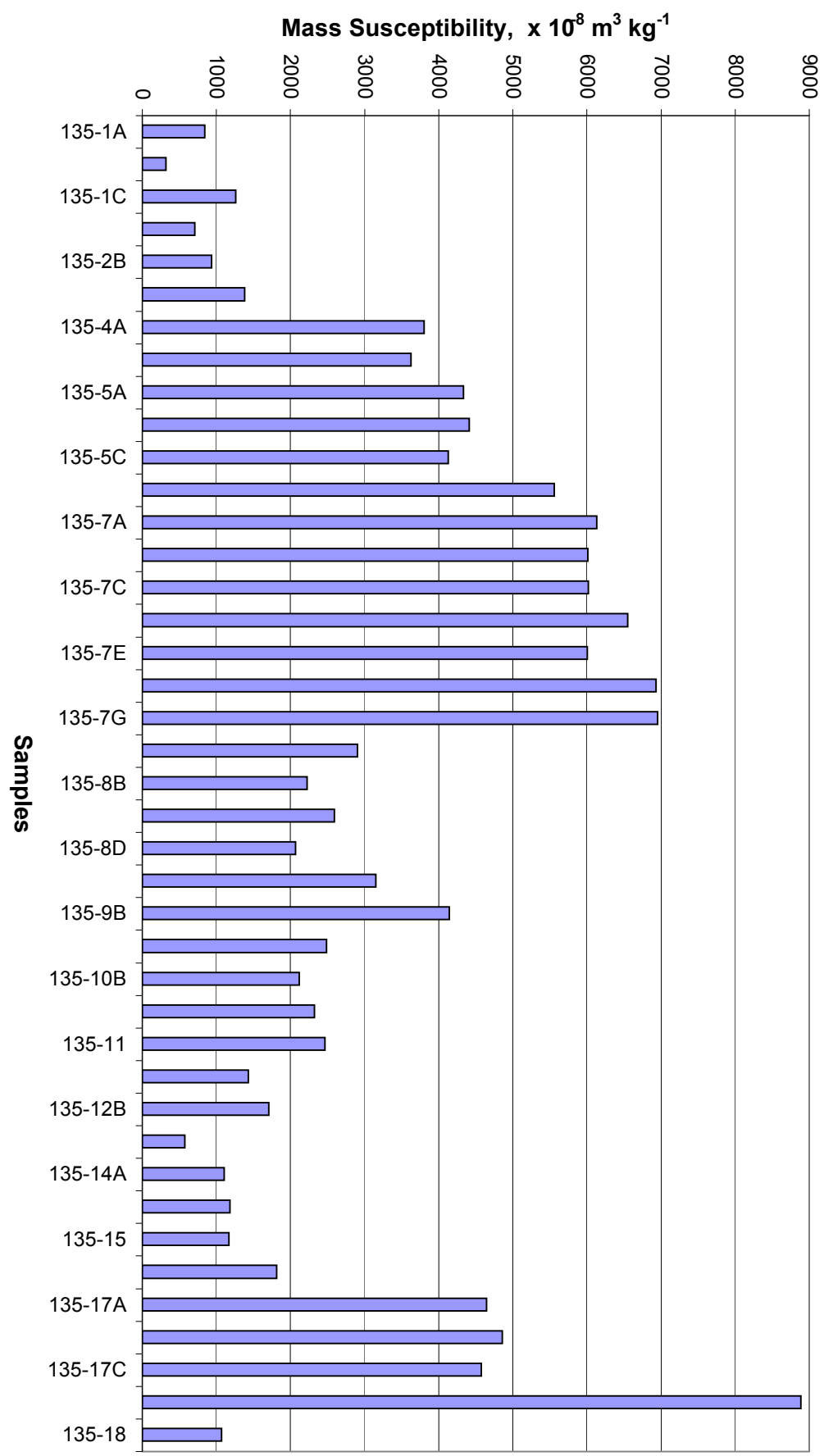
m	c	x	y
0.06506	0	62.4	4.06
0.06745	-0.148619	62.4	4.06
0.06745	-0.148619	533	35.80

Above slope & constant values used in formula to calculate total susceptibility from the corresponding meter reading.

HE03 TRENCH 1 FEATURE 135+ A.M.D. MATERIAL SUSCEPTIBILITY CALIBRATION CURVE



HE03 TRENCH 1 FEATURE 135+ A.M.D. MATERIAL MASS SUSCEPTIBILITY



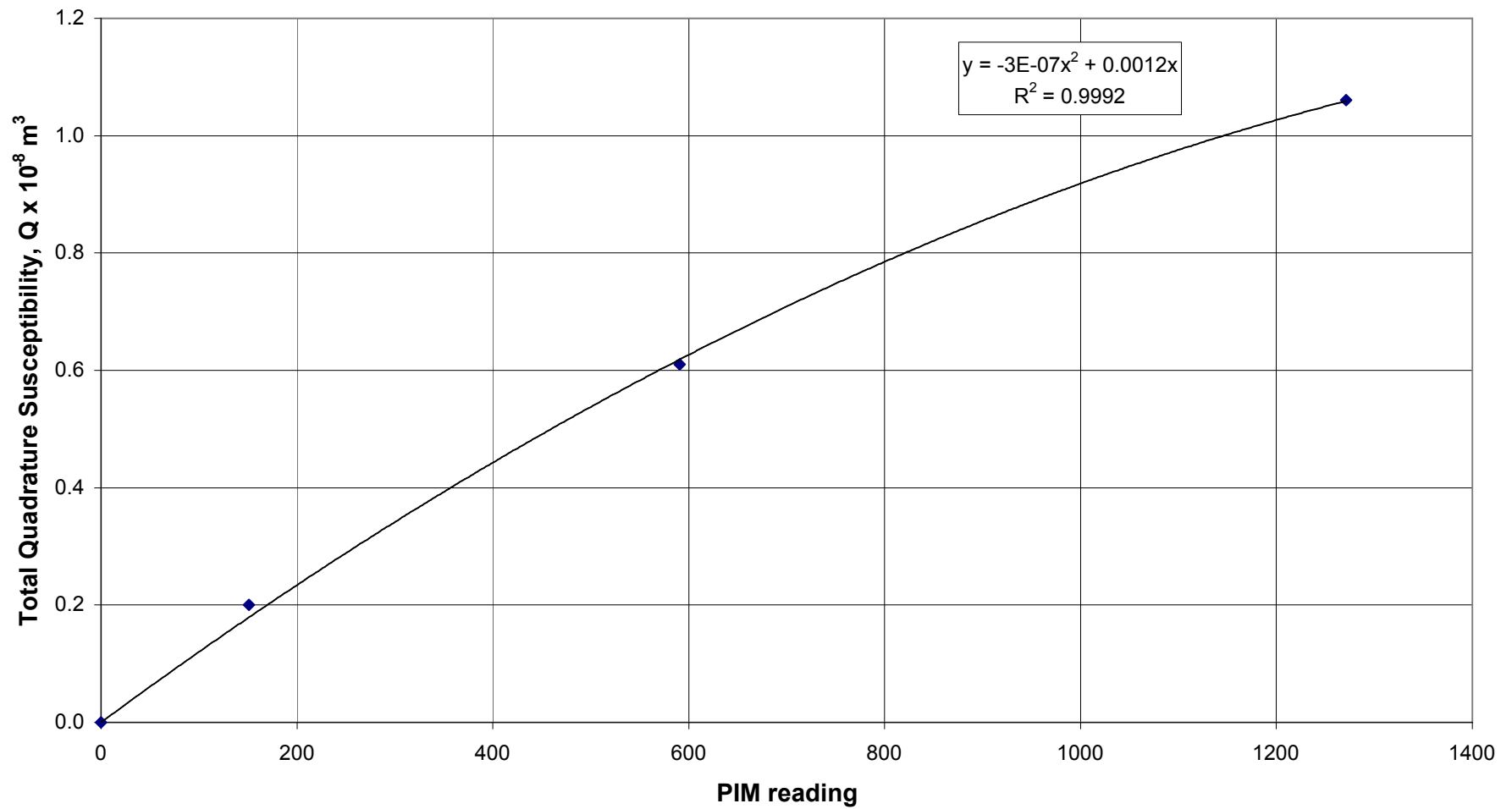
**TO DETERMINE MASS QUADRATURE SUSCEPTIBILITY AND MAGNETIC VISCOSITY OF
HAGG END HE03 TRENCH 1 FEATURE 135+ ARCHAEOMAGNETIC DATING REMAINDER MATERIAL**

<u>Calibration samples</u>	Mass g	PIM reading	Total quad. sus. $Q \times 10^{-8} \text{ m}^3$	Mass quad. sus. $q \times 10^{-8} \text{ m}^3 \text{ kg}^{-1}$	Magnetic viscosity %
High alumina cement	50.00	151	0.20	4.0	
BS87	50.00	591	0.61	12.2	
BS62	40.64	1271	1.06	26.1	
<u>Test samples</u>					
135-1A	37.52				
135-1B	29.45	169	0.19	7	2.1
135-1C	18.27	810	0.78	42	3.4
135-2A	32.06	732	0.72	22	3.2
135-2B	8.94	236	0.27	30	3.2
135-3	36.01	1602	1.15	32	2.3
135-4A	12.95	1558	1.14	88	2.3
135-4B	13.28	1408	1.09	82	2.3
135-5A	11.27	1850	1.19	106	2.4
135-5B	10.43	1799	1.19	114	2.6
135-5C	10.14	1660	1.17	115	2.8
135-6	7.42	1525	1.13	153	2.7
135-7A	5.94	1988	1.20	202	3.3
135-7B	6.08	1999	1.20	197	3.3
135-7C	6.27	1950	1.20	191	3.2
135-7D	6.69	1999	1.20	179	2.7
135-7E	6.13	1999	1.20	196	3.3
135-7F	5.70	1992	1.20	211	3.0
135-7G	6.01	1999	1.20	200	2.9
135-8A	19.38	1962	1.20	62	2.1
135-8B	21.01	1636	1.16	55	2.5
135-8C	21.66	1860	1.19	55	2.1
135-8D	21.77	1600	1.15	53	2.6
135-9A	13.74	1670	1.17	85	2.7
135-9B	10.28	1602	1.15	112	2.7
135-10A	17.09	1840	1.19	70	2.8
135-10B	14.39	1550	1.14	79	3.7
135-10C	16.06	1860	1.19	74	3.2
135-11	3.17	430	0.46	145	5.9
135-12A	18.25	1140	0.98	54	3.7
135-12B	17.48	1388	1.09	62	3.7
135-13	26.34	874	0.82	31	5.4
135-14A	41.08	1982	1.20	29	2.6
135-14B	34.88	1828	1.19	34	2.9
135-15	26.60	1304	1.05	40	3.4
135-16	27.57	1910	1.20	43	2.4
135-17A	14.39	1999	1.20	83	1.8
135-17B	10.77	1940	1.20	111	2.3
135-17C	11.11	1999	1.20	108	2.4
135-17D	10.82	1999	1.20	111	1.2
135-18	42.82	1854	1.19	28	2.6
Mean	)			92	2.9
Median	)			81	2.7
Standard Deviation	+/-)			59	0.8

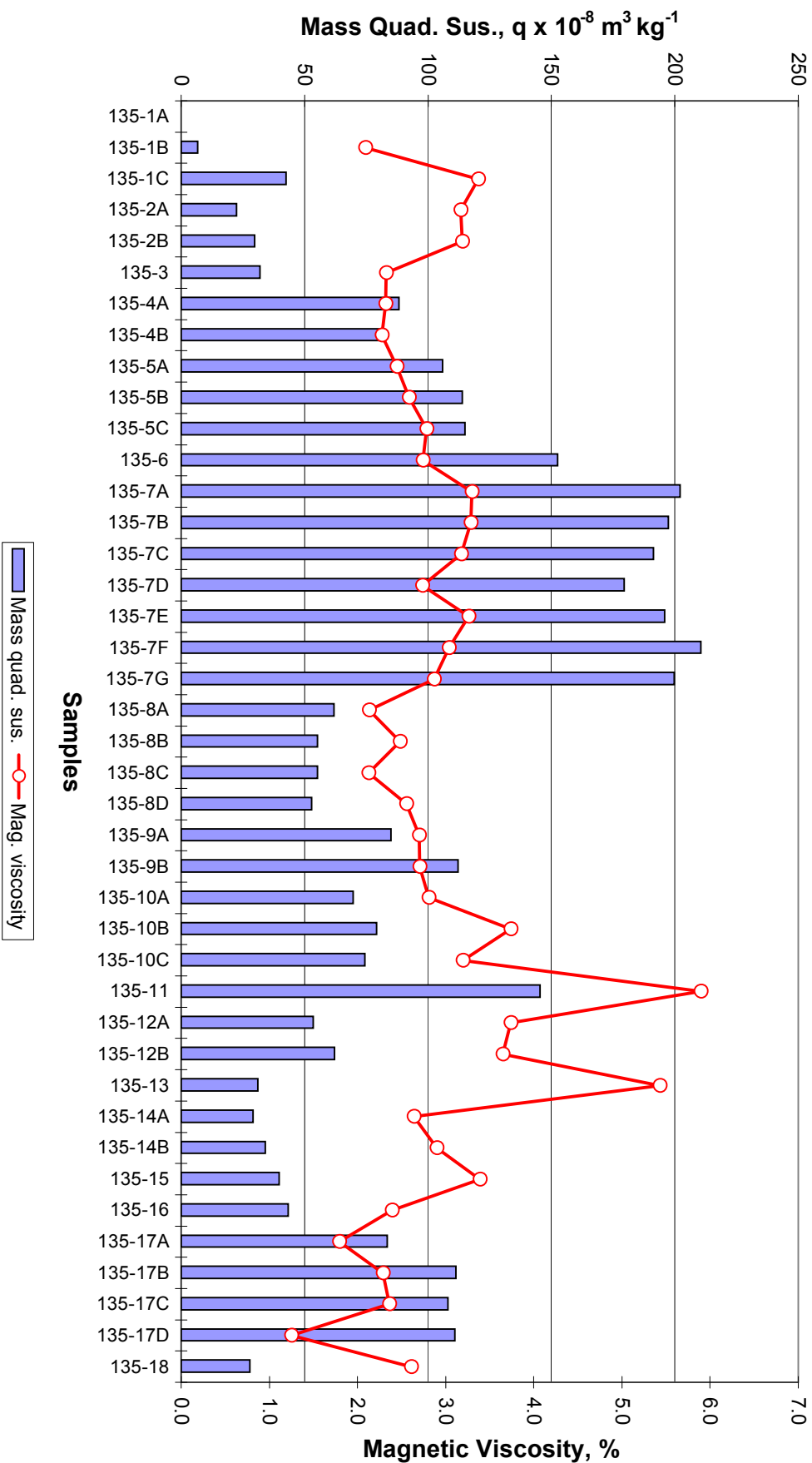
Chart data

Total quad.	PIM
0	0
0.20	151
0.61	591
1.06	1271

HE03 TRENCH 1 FEATURE 135+ A.M.D. MATERIAL QUADRATURE SUSCEPTIBILITY CALIBRATION CURVE



HE03 TRENCH 1 FEATURE 135+ A.M.D. MATERIAL MASS QUADRATURE SUSCEPTIBILITY & MAGNETIC VISCOSITY



As-measured results

	Mass g	Total susceptibility $k_T \times 10^{-8} \text{ m}^3$	Total quad. sus. $Q \times 10^{-8} \text{ m}^3$
135-1A	37.52	31.55	
135-1B	29.45	9.29	0.19
135-1C	18.27	22.99	0.78
135-2A	32.06	22.65	0.72
135-2B	8.94	8.35	0.27
135-3	36.01	49.63	1.15
135-4A	12.95	49.22	1.14
135-4B	13.28	48.14	1.09
135-5A	11.27	48.82	1.19
135-5B	10.43	45.98	1.19
135-5C	10.14	41.87	1.17
135-6	7.42	41.26	1.13
135-7A	5.94	36.41	1.20
135-7B	6.08	36.54	1.20
135-7C	6.27	37.76	1.20
135-7D	6.69	43.83	1.20
135-7E	6.13	36.81	1.20
135-7F	5.70	39.51	1.20
135-7G	6.01	41.80	1.20
135-8A	19.38	56.24	1.20
135-8B	21.01	46.73	1.16
135-8C	21.66	56.10	1.19
135-8D	21.77	45.04	1.15
135-9A	13.74	43.29	1.17
135-9B	10.28	42.61	1.15
135-10A	17.09	42.48	1.19
135-10B	14.39	30.47	1.14
135-10C	16.06	37.35	1.19
135-11	3.17	7.81	0.46
135-12A	18.25	26.16	0.98
135-12B	17.48	29.80	1.09
135-13	26.34	15.09	0.82
135-14A	41.08	45.44	1.20
135-14B	34.88	41.13	1.19
135-15	26.60	31.15	1.05
135-16	27.57	50.03	1.20
135-17A	14.39	66.89	1.20
135-17B	10.77	52.32	1.20
135-17C	11.11	50.84	1.20
135-17D	10.82	96.16	1.20
135-18	42.82	45.71	1.19

Recalculated results

	Mass g	Total susceptibility $k_T \times 10^{-8} \text{ m}^3$	Mass susceptibility $\chi \times 10^{-8} \text{ m}^3 \text{ kg}^{-1}$	Total quad. sus. $Q \times 10^{-8} \text{ m}^3$	Mass quad. sus. $q \times 10^{-8} \text{ m}^3 \text{ kg}^{-1}$	Magnetic viscosity %
135-1	85.24	63.83	749	0.97	20	3.0
135-2	41.00	31.00	756	0.98	24	3.2
135-3	36.01	49.63	1378	1.15	32	2.3
135-4	26.23	97.36	3712	2.24	85	2.3
135-5	31.84	136.67	4292	3.55	111	2.6
135-6	7.42	41.26	5561	1.13	153	2.7
135-7	42.82	272.65	6367	8.40	196	3.1
135-8	83.82	204.10	2435	4.71	56	2.3
135-9	24.02	85.90	3576	2.32	97	2.7
135-10	47.54	110.30	2320	3.53	74	3.2
135-11	3.17	7.81	2464	0.46	145	5.9
135-12	35.73	55.95	1566	2.07	58	3.7
135-13	26.34	15.09	573	0.82	31	5.4
135-14	75.96	86.57	1140	2.39	31	2.8
135-15	26.60	31.15	1171	1.05	40	3.4
135-16	27.57	50.03	1815	1.20	43	2.4
135-17	47.09	266.22	5653	4.80	102	1.8
135-18	42.82	45.71	1068	1.19	28	2.6
Mean	)		2589		74	3.1
Median	) All samples		2067		57	2.8
Standard Deviation	+/-)		1849		51	1.0
Mean	)		3203		86	2.7
Median	) Lining material		3576		85	2.7
Standard Deviation	+/-) (1-9)		2034		61	0.3
Mean	)		1974		61	3.5
Median	) Heat affected clay		1566		43	3.2
Standard Deviation	+/-) (10-18)		1509		40	1.4

HE03 TRENCH 1 FEATURE 135+ A.M.D. MATERIAL MASS SUSCEPTIBILITY

