TO DETERMINE MASS SUSCEPTIBILITY OF STINGAMIRES SM04 TRENCH 2
LINEAR SUSCEPTIBILITY SAMPLES

Calibration samples	Mass g	Bridge reading	Total susceptibility $k_T \times 10^{-8}$ m^3	Mass susceptibility $\chi \times 10^{-8}$ m^3 kg^{-1}
Manganese sulphate	50.00	61.9	4.06	81.2
High alumina cement	50.00	531	35.80	716
Test samples				
N-10cm XA	14.95	530	35.73	2390
N-10cm XB	12.69	455	30.66	2416
N-10cm YA	20.23	730	49.26	2435
N-10cm YB	21.53	714	48.18	2238
N-15cm	25.59	870	58.74	2295
N-20cm A	22.29	450	30.32	1360
N-20cm B	18.85	370	24.91	1321
N-25cm	44.25	417	28.09	635
N-30cm	46.60	410	27.61	593
N-35cm	53.01	445	29.98	566
N-40cm	53.17	530	35.73	672
NW-10cm	31.18	539	36.34	1166
NW-15cm A	19.80	426	28.70	1449
NW-15cm B	19.10	403	27.14	1421
NW-20cm A	22.67	642	43.31	1910
NW-20cm B	11.58	510	34.38	2969
NW-20cm C	9.84	412	27.75	2820
NW-25cm A	23.11	538	36.27	1570
NW-25cm B	19.91	534	36.00	1808
NW-30cm A	34.87	735	49.60	1423
NW-30cm B	33.33	577	38.91	1167
NW-35cm	36.22	506	34.11	942
NW-40cm	38.81	528	35.60	917
NW-45cm	35.56	476	32.08	902

Mean	)		1538
Median	) N line		1360
Standard Deviation +/-	)		828

Mean	)		1574
Median	) NW line		1423
Standard Deviation +/-	)		667

Chart data

Total sus.	Meter	Total sus.	Meter
0	0		
4.06	61.9	4.06	61.9
		35.80	531

Slope & constant values as calculated by data trendline:

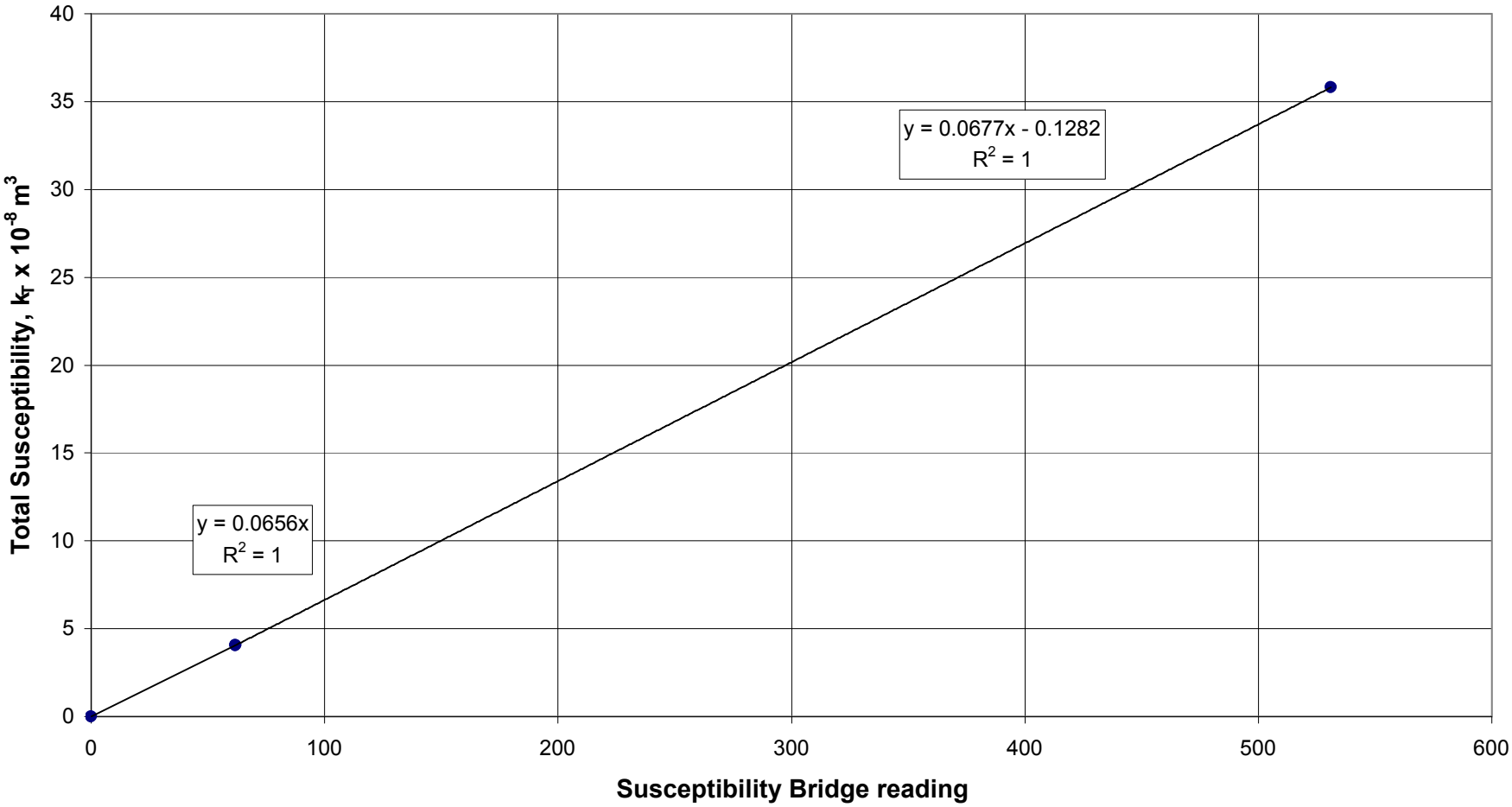
m	c	x	y
0.0656	0	61.9	4.0606
0.0677	-0.1282	61.9	4.0624
0.0677	-0.1282	531	35.8205

Slope & constant values as calculated from raw data:

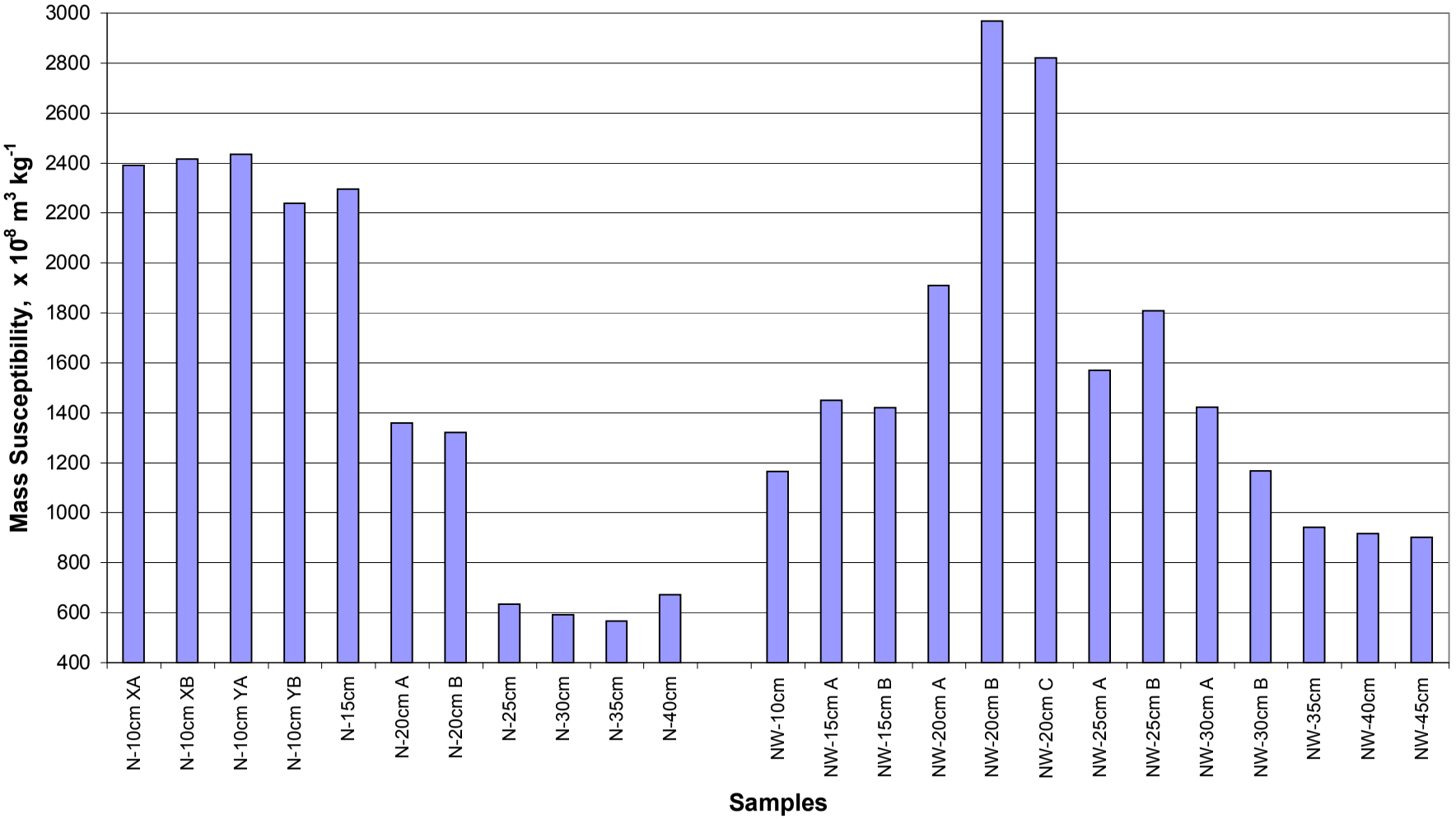
m	c	x	y
0.06559	0	61.9	4.06
0.06766	-0.128246	61.9	4.06
0.06766	-0.128246	531	35.80

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

SM04 TRENCH 2 LINEAR SAMPLES SUSCEPTIBILITY CALIBRATION CURVE



SM04 TRENCH 2 LINEAR SAMPLES MASS SUSCEPTIBILITY



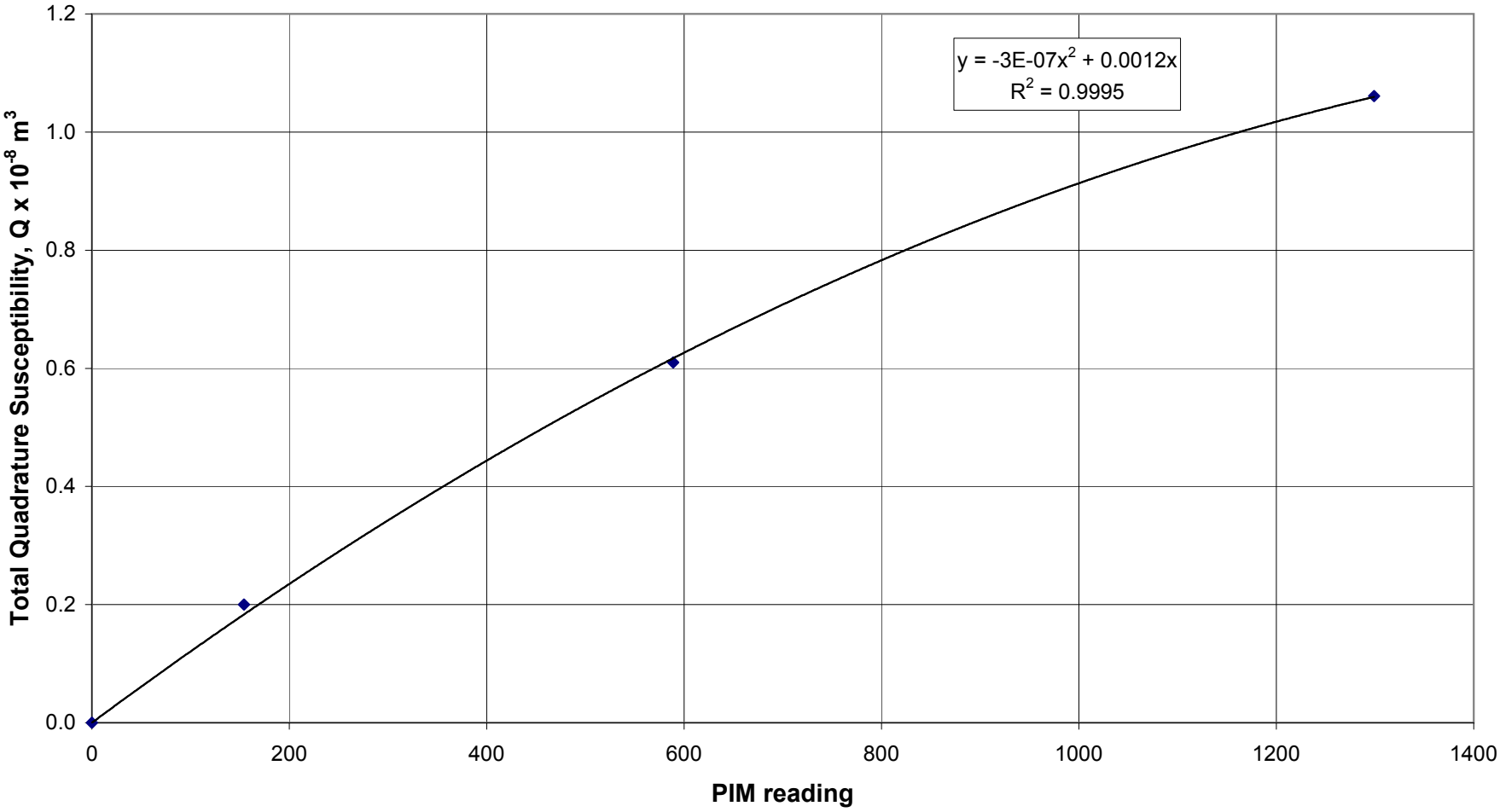
TO DETERMINE MASS QUADRATURE SUSCEPTIBILITY AND MAGNETIC VISCOSITY OF STINGAMIRES SM04 MISCELLANEOUS SAMPLES

Calibration samples	Mass g	PIM reading	Total quad. sus. Q x 10^{-8} m^3	Mass quad. sus. q x 10^{-8} m^3 kg^{-1}	Magnetic viscosity %
High alumina cement	50.00	154	0.20	4.0	
BS87	50.00	589	0.61	12.2	
BS62	40.64	1299	1.06	26.1	
Test samples					
N-10cm XA	14.95	1251	1.03	69	2.9
N-10cm XB	12.69	1048	0.93	73	3.0
N-10cm YA	20.23	1999	1.20	59	2.4
N-10cm YB	21.53	1946	1.20	56	2.5
N-15cm	25.59	1960	1.20	47	2.0
N-20cm A	22.29	1750	1.18	53	3.9
N-20cm B	18.85	1479	1.12	59	4.5
N-25cm	44.25	1155	0.99	22	3.5
N-30cm	46.60	820	0.78	17	2.8
N-35cm	53.01	778	0.75	14	2.5
N-40cm	53.17	1085	0.95	18	2.7
NW-10cm	31.18	1565	1.14	37	3.1
NW-15cm A	19.80	1280	1.04	53	3.6
NW-15cm B	19.10	1049	0.93	49	3.4
NW-20cm A	22.67	1673	1.17	52	2.7
NW-20cm B	11.58	1915	1.20	103	3.5
NW-20cm C	9.84	1628	1.16	118	4.2
NW-25cm A	23.11	1639	1.16	50	3.2
NW-25cm B	19.91	1813	1.19	60	3.3
NW-30cm A	34.87	1750	1.18	34	2.4
NW-30cm B	33.33	1473	1.12	34	2.9
NW-35cm	36.22	1445	1.11	31	3.2
NW-40cm	38.81	869	0.82	21	2.3
NW-45cm	35.56	710	0.70	20	2.2
Mean	)			44	3.0
Median	) N line			53	2.8
Standard Deviation +/-	)			22	0.7
Mean	)			51	3.1
Median	) NW line			49	3.2
Standard Deviation +/-	)			29	0.6

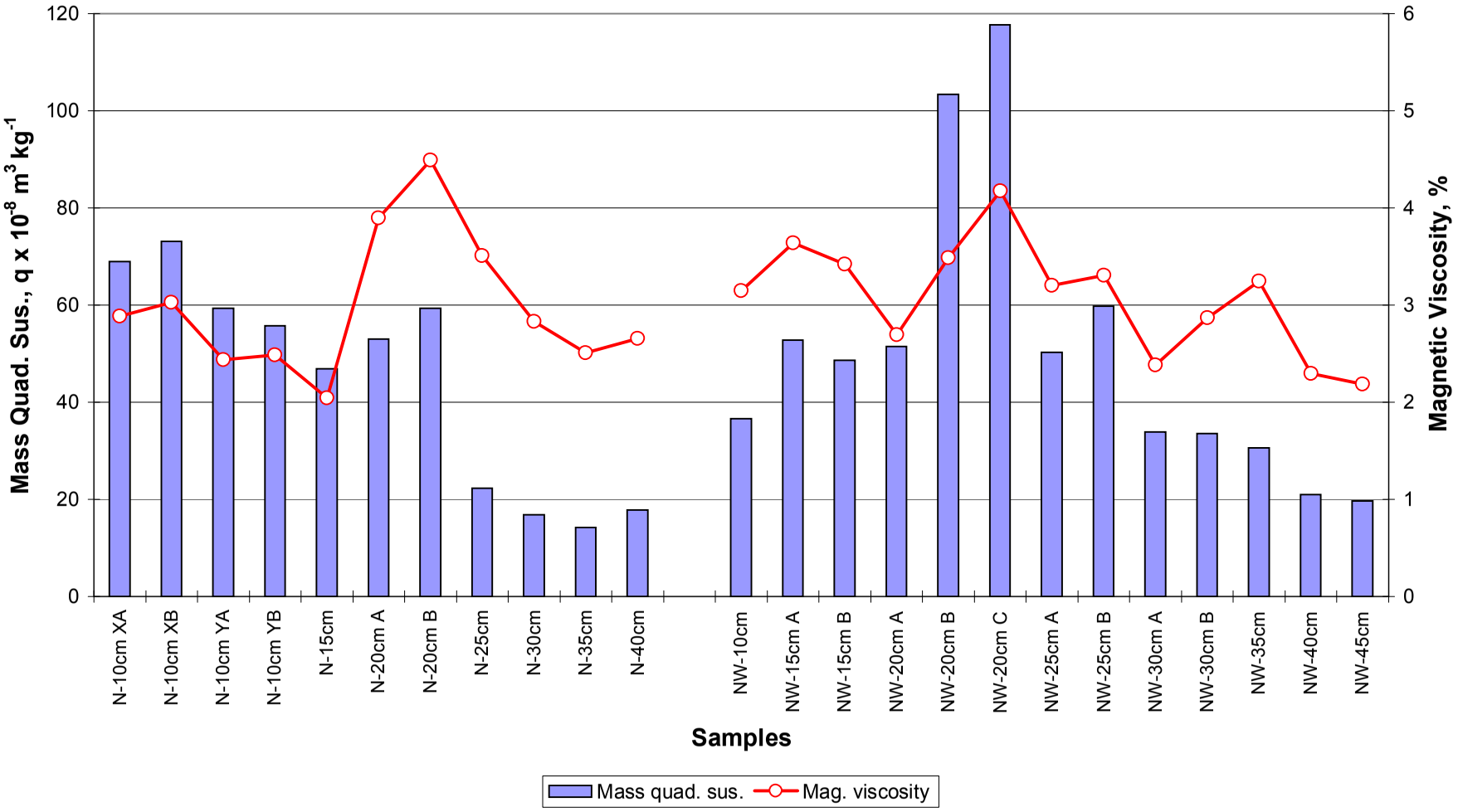
Chart data

Total quad.	PIM
0	0
0.20	154
0.61	589
1.06	1299

SM04 TRENCH 2 LINEAR SAMPLES QUADRATURE SUSCEPTIBILITY CALIBRATION CURVE



SM04 TRENCH 2 LINEAR SAMPLES MASS QUADRATURE SUSCEPTIBILITY & MAGNETIC VISCOSITY



As-measured results

	Mass g	Total susceptibility k_T x 10^{-8} m^3	Total quad. sus. Q x 10^{-8} m^3
N-10cm XA	14.95	35.73	1.03
N-10cm XB	12.69	30.66	0.93
N-10cm YA	20.23	49.26	1.20
N-10cm YB	21.53	48.18	1.20
N-15cm	25.59	58.74	1.20
N-20cm A	22.29	30.32	1.18
N-20cm B	18.85	24.91	1.12
N-25cm	44.25	28.09	0.99
N-30cm	46.60	27.61	0.78
N-35cm	53.01	29.98	0.75
N-40cm	53.17	35.73	0.95
NW-10cm	31.18	36.34	1.14
NW-15cm A	19.80	28.70	1.04
NW-15cm B	19.10	27.14	0.93
NW-20cm A	22.67	43.31	1.17
NW-20cm B	11.58	34.38	1.20
NW-20cm C	9.84	27.75	1.16
NW-25cm A	23.11	36.27	1.16
NW-25cm B	19.91	36.00	1.19
NW-30cm A	34.87	49.60	1.18
NW-30cm B	33.33	38.91	1.12
NW-35cm	36.22	34.11	1.11
NW-40cm	38.81	35.60	0.82
NW-45cm	35.56	32.08	0.70

Recalculated results

	Mass g	Total susceptibility k_T x 10^{-8} m^3	Mass susceptibility χ x 10^{-8} m^3 kg^{-1}	Total quad. sus. Q x 10^{-8} m^3	Mass quad. sus. q x 10^{-8} m^3 kg^{-1}	Magnetic viscosity %
N-10cm	69.40	163.84	2361	4.36	63	2.7
N-15cm	25.59	58.74	2295	1.20	47	2.0
N-20cm	41.14	55.23	1342	2.30	56	4.2
N-25cm	44.25	28.09	635	0.99	22	3.5
N-30cm	46.60	27.61	593	0.78	17	2.8
N-35cm	53.01	29.98	566	0.75	14	2.5
N-40cm	53.17	35.73	672	0.95	18	2.7
NW-10cm	31.18	36.34	1166	1.14	37	3.1
NW-15cm	38.90	55.83	1435	1.97	51	3.5
NW-20cm	44.09	105.44	2391	3.52	80	3.3
NW-25cm	43.02	72.28	1680	2.35	55	3.3
NW-30cm	68.20	88.52	1298	2.30	34	2.6
NW-35cm	36.22	34.11	942	1.11	31	3.2
NW-40cm	38.81	35.60	917	0.82	21	2.3
NW-45cm	35.56	32.08	902	0.70	20	2.2
		Mean N line	1209		34	2.9
		Mean NW line	1341		41	2.9

SMO4 TRENCH 2 SUSCEPTIBILITY VARIATION WITH DISTANCE