

TO DETERMINE MASS SUSCEPTIBILITY OF HAGG END HE03 TRENCHES 2 & 3
SOIL SUSCEPTIBILITY SAMPLES

<u>Calibration samples</u>	Mass g	Bridge reading	Total susceptibility $K_T \times 10^{-8} \text{ m}^3$	Mass susceptibility $\chi \times 10^{-8} \text{ m}^3 \text{ kg}^{-1}$
Manganese sulphate	50.00	62.1	4.06	81.2
High alumina cement	50.00	537	35.80	716
<u>Test samples</u>				
T2-201-1	33.39	1053	70.29	2105
T2-201-2	38.91	1283	85.66	2201
T2-202-1	40.81	601	40.08	982
T2-202-2	38.72	628	41.88	1082
T3-301-1	39.09	774	51.64	1321
T3-301-2	40.24	492	32.79	815
T3-301-3	41.92	414	27.58	658
T3-302-1	41.33	1204	80.38	1945
T3-302-2	38.75	423	28.18	727
T3-302-3	39.14	327	21.76	556
T3-302-4	43.51	465	30.99	712
T3-304	56.16	114	7.53	134
T3-305	54.24	44	2.88	53
Mean	)			2153
Median	) T2-201			2153
Standard Deviation	+/-)			68
Mean	)			1032
Median	) T2-202			1032
Standard Deviation	+/-)			70
Mean	)			931
Median	) T3-301			815
Standard Deviation	+/-)			347
Mean	)			985
Median	) T3-302			720
Standard Deviation	+/-)			644
Mean	)			665
Median	) T3-302 excl 302-1			712
Standard Deviation	+/-)			95

Chart data

Total sus.	Meter	Total sus.	Meter
0	0		
4.06	62.1	4.06	62.1
		35.80	537

Slope & constant values as calculated by data trendline:

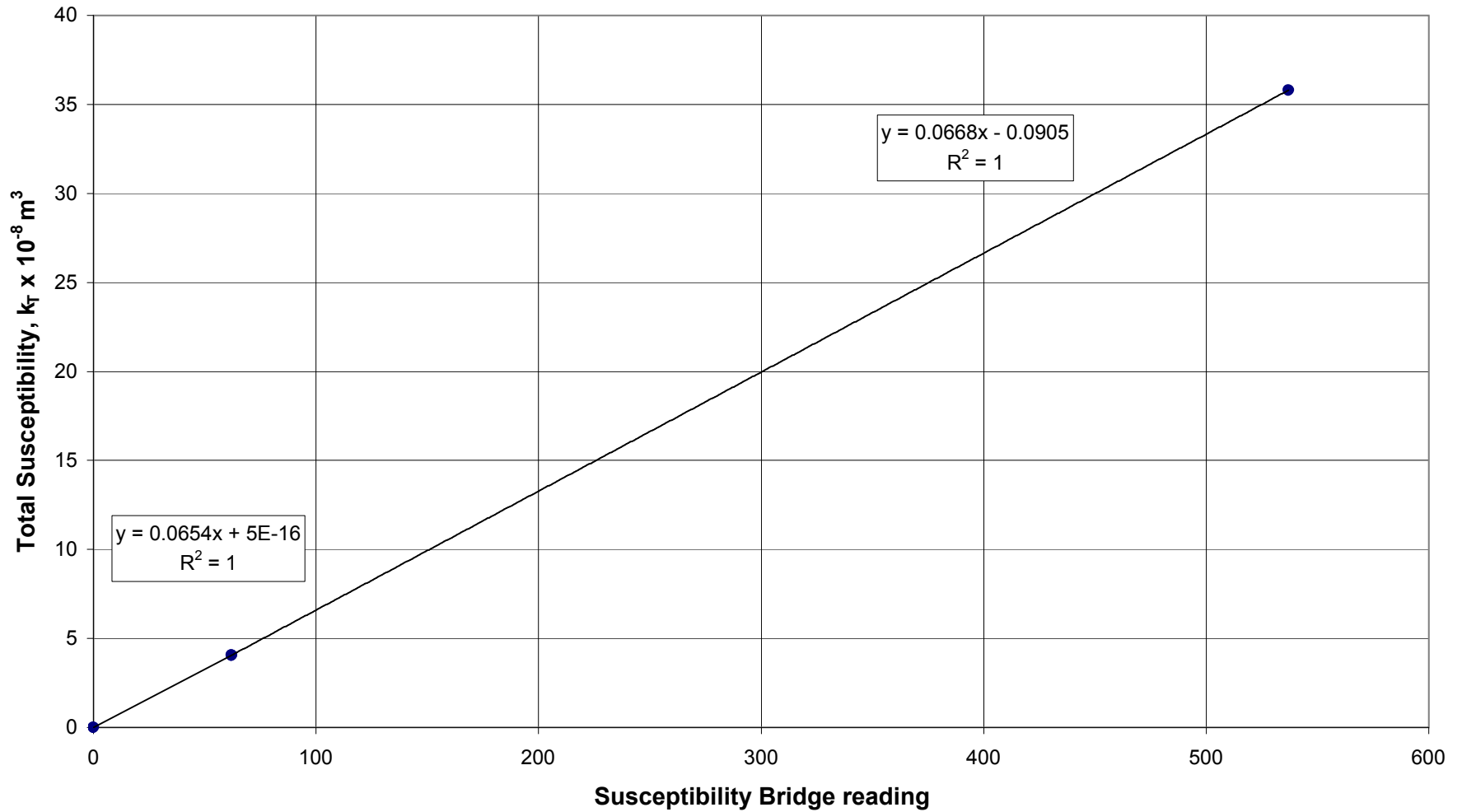
m	c	x	y
0.0654	0	62.1	4.0613
0.0668	-0.0905	62.1	4.0578
0.0668	-0.0905	537	35.7811

Slope & constant values as calculated from raw data:

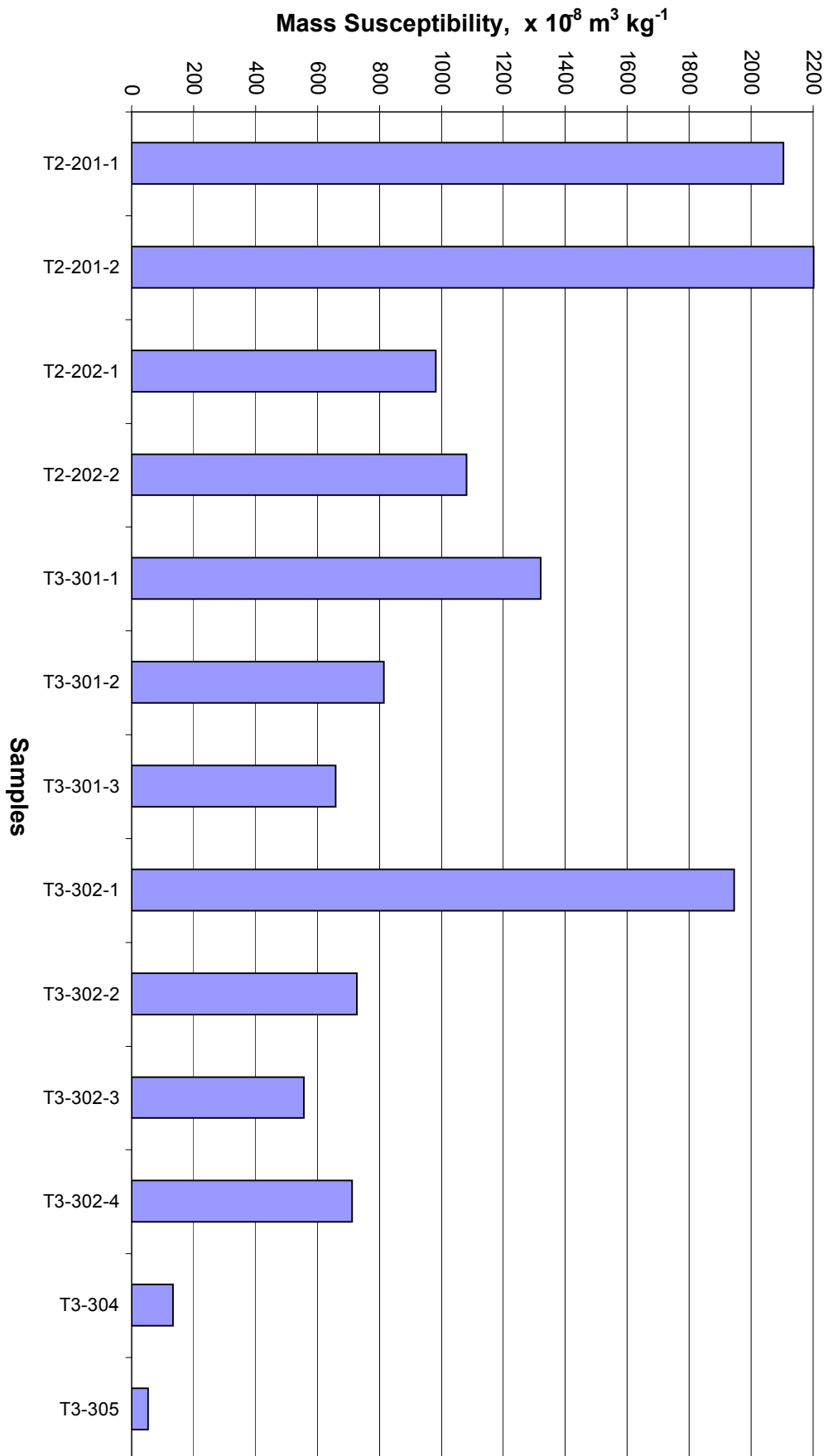
m	c	x	y
0.06538	0	62.1	4.06
0.06684	-0.09046	62.1	4.06
0.06684	-0.09046	537	35.80

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

HE03 TRENCHES 2 & 3 SOIL SAMPLES SUSCEPTIBILITY CALIBRATION CURVE



HE03 TRENCHES 2 & 3 SOIL SAMPLES MASS SUSCEPTIBILITY



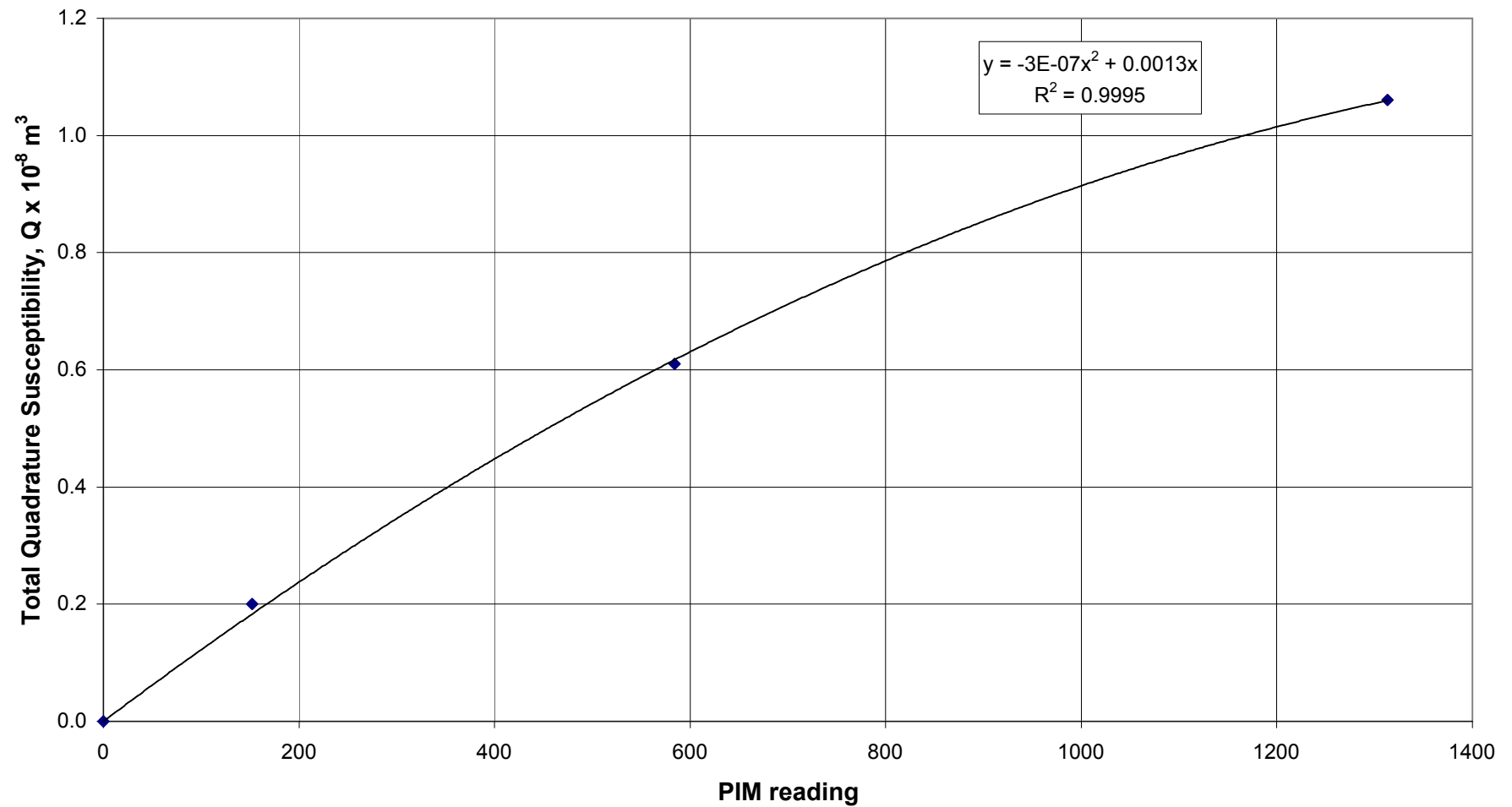
**TO DETERMINE MASS QUADRATURE SUSCEPTIBILITY AND MAGNETIC VISCOSITY
OF HAGG END HE03 TRENCHES 2 & 3 SOIL SUSCEPTIBILITY SAMPLES**

<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	152	0.20	4.0	
BS87	50.00	584	0.61	12.2	
BS62	40.64	1313	1.06	26.1	
<u>Test samples</u>					
T2-201-1	33.39	1895	1.39	42	2.0
T2-201-2	38.91	1901	1.39	36	1.6
T2-202-1	40.81	1242	1.15	28	2.9
T2-202-2	38.72	1250	1.16	30	2.8
T3-301-1	39.09	1056	1.04	27	2.0
T3-301-2	40.24	894	0.92	23	2.8
T3-301-3	41.92	782	0.83	20	3.0
T3-302-1	41.33	1886	1.38	34	1.7
T3-302-2	38.75	814	0.86	22	3.0
T3-302-3	39.14	675	0.74	19	3.4
T3-302-4	43.51	811	0.86	20	2.8
T3-304	56.16	202	0.25	4	3.3
T3-305	54.24	75	0.10	2	3.3
Mean	)			39	1.8
Median	) T2-201			39	1.8
Standard Deviation	+/-)			4	0.2
Mean	)			29	2.8
Median	) T2-202			29	2.8
Standard Deviation	+/-)			1	0.1
Mean	)			23	2.6
Median	) T3-301			23	2.8
Standard Deviation	+/-)			3	0.5
Mean	)			24	2.7
Median	) T3-302			21	2.9
Standard Deviation	+/-)			7	0.7
Mean	)			20	3.1
Median	) T3-302 excl 302-1			20	3.0
Standard Deviation	+/-)			2	0.3

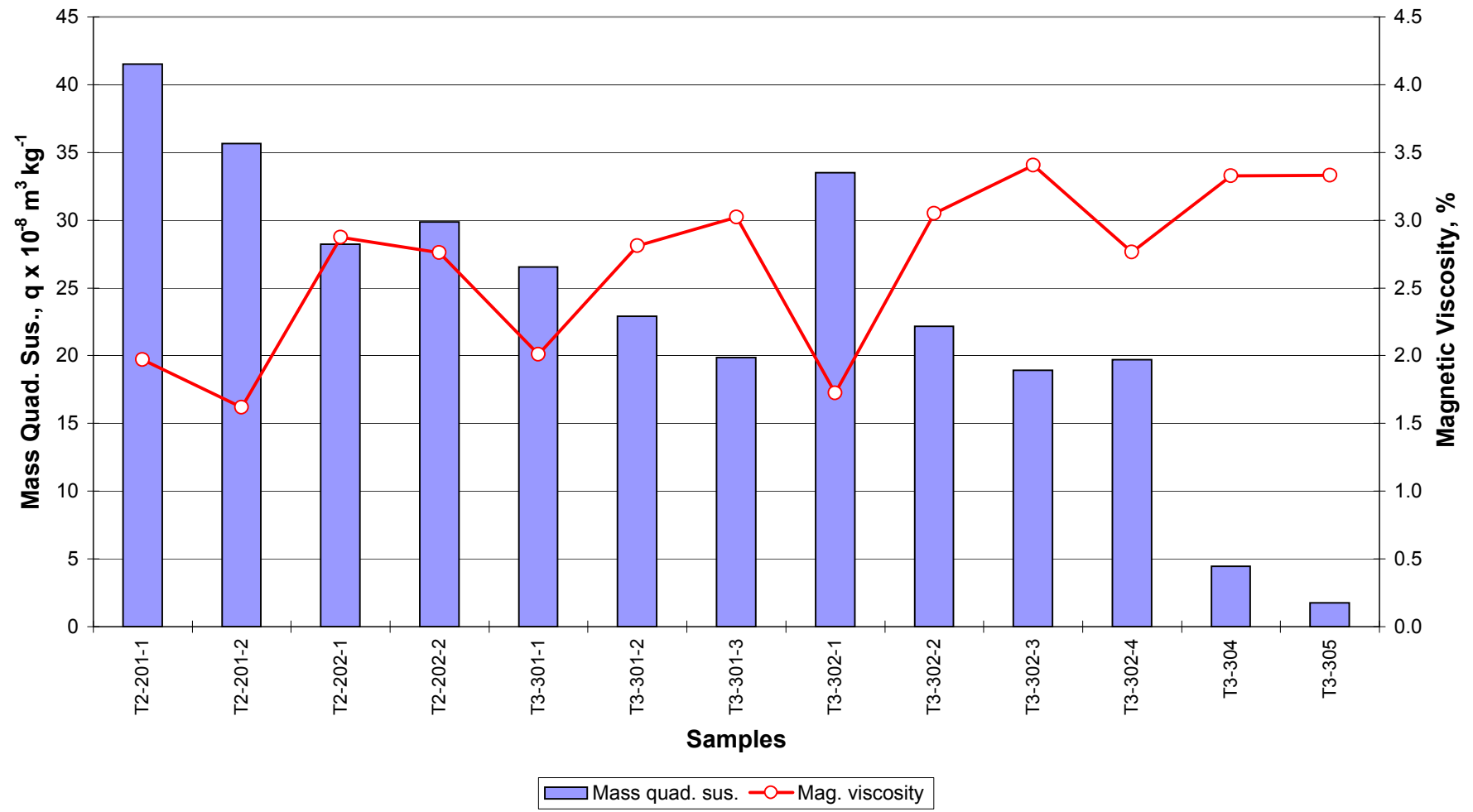
Chart data

Total quad.	PIM
0	0
0.20	152
0.61	584
1.06	1313

HE03 TRENCHES 2 & 3 SOIL SAMPLES QUADRATURE SUSCEPTIBILITY CALIBRATION CURVE



HE03 TRENCHES 2 & 3 SOIL SAMPLES MASS QUADRATURE SUSCEPTIBILITY & MAGNETIC VISCOSITY



Context	Depth, cm	Mag Sus
T2-201-1		2105
T2-201-2		2201
T2-202-1		982
T2-202-2		1082
T3-301-1		1321
T3-301-2		815
T3-301-3		658
T3-302-1		1945
T3-302-2		727
T3-302-3		556
T3-302-4		712
T3-304		134
T3-305		53