

**TO DETERMINE MASS SUSCEPTIBILITY OF SLAG SAMPLES FROM
GRINTON SMELTINGS BALE SITE**

<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	62.0	4.06	81.2
High alumina cement	50.00	531	35.80	716
<u>Test samples</u>				
GS-A	68.92	10.7	0.70	10
GS-B	50.52	203.0	13.60	269
GS-C	47.99	3.2	0.21	4
GS-D	43.23	3.0	0.20	5
GS-E	37.20	14.3	0.94	25
GS-F	34.00	5.0	0.33	10
GS-G	32.99	2.6	0.17	5
GS-H	29.60	2.6	0.17	6
GS-I	29.18	2.2	0.14	5
GS-J	22.38	2.1	0.14	6
GS-K	19.17	21.0	1.38	72
GS-L	18.01	1.3	0.09	5
GS-M	8.58	30.6	2.00	234
Mean	)			50
Median	)			6
Standard Deviation +/-	)			91
Mean	) except			8
Median	) GS-B, GS-K			5
Standard Deviation +/-	) GS-M			6

Chart data

Total sus.	Meter	Total sus.	Meter
0	0		
4.06	62.0	4.06	62.0
		35.80	531

Slope & constant values as calculated by data trendline:

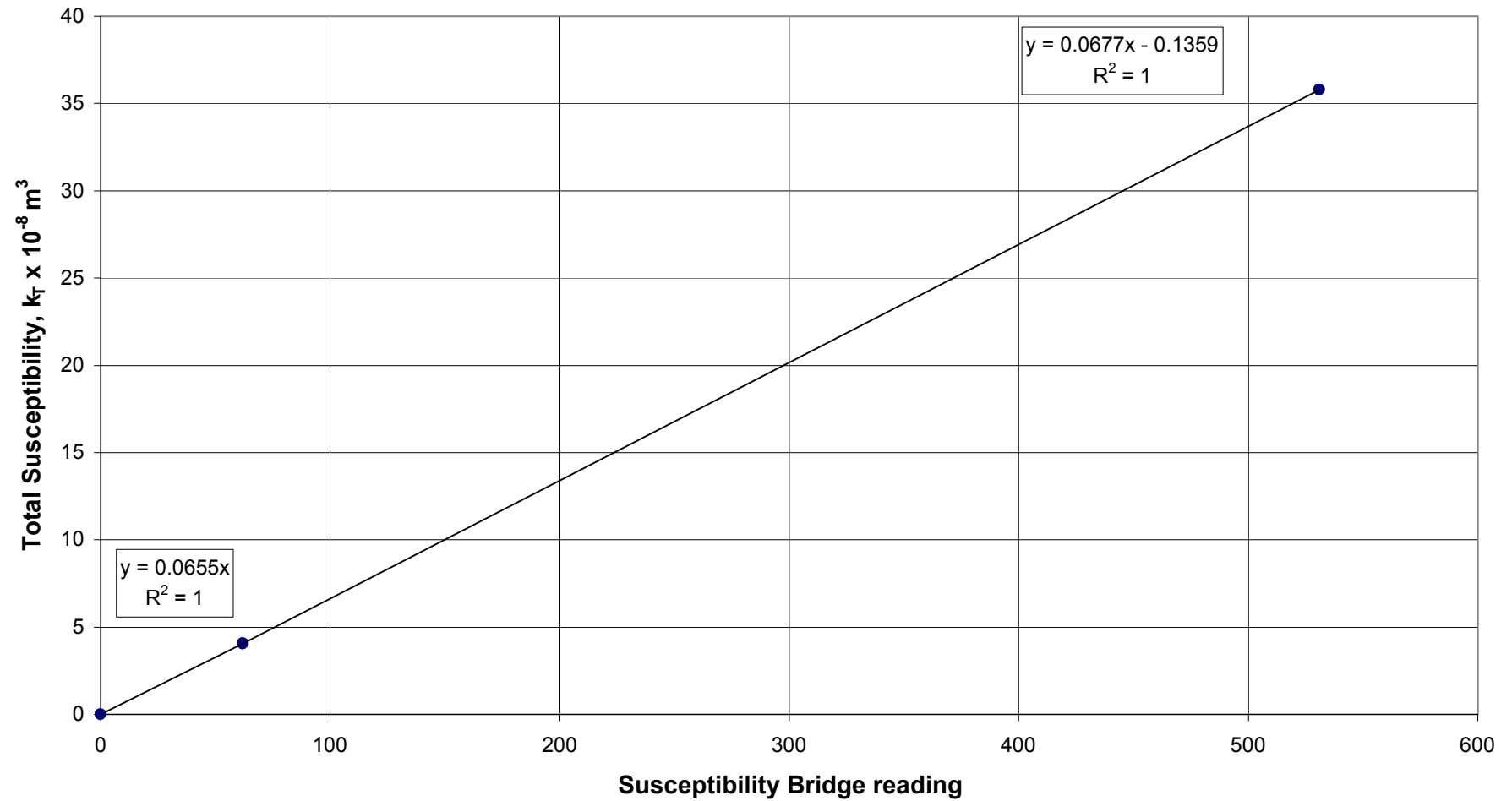
m	c	x	y
0.0655	0	62.0	4.0610
0.0677	-0.1359	62.0	4.0615
0.0677	-0.1359	531	35.8128

Slope & constant values as calculated by from raw data:

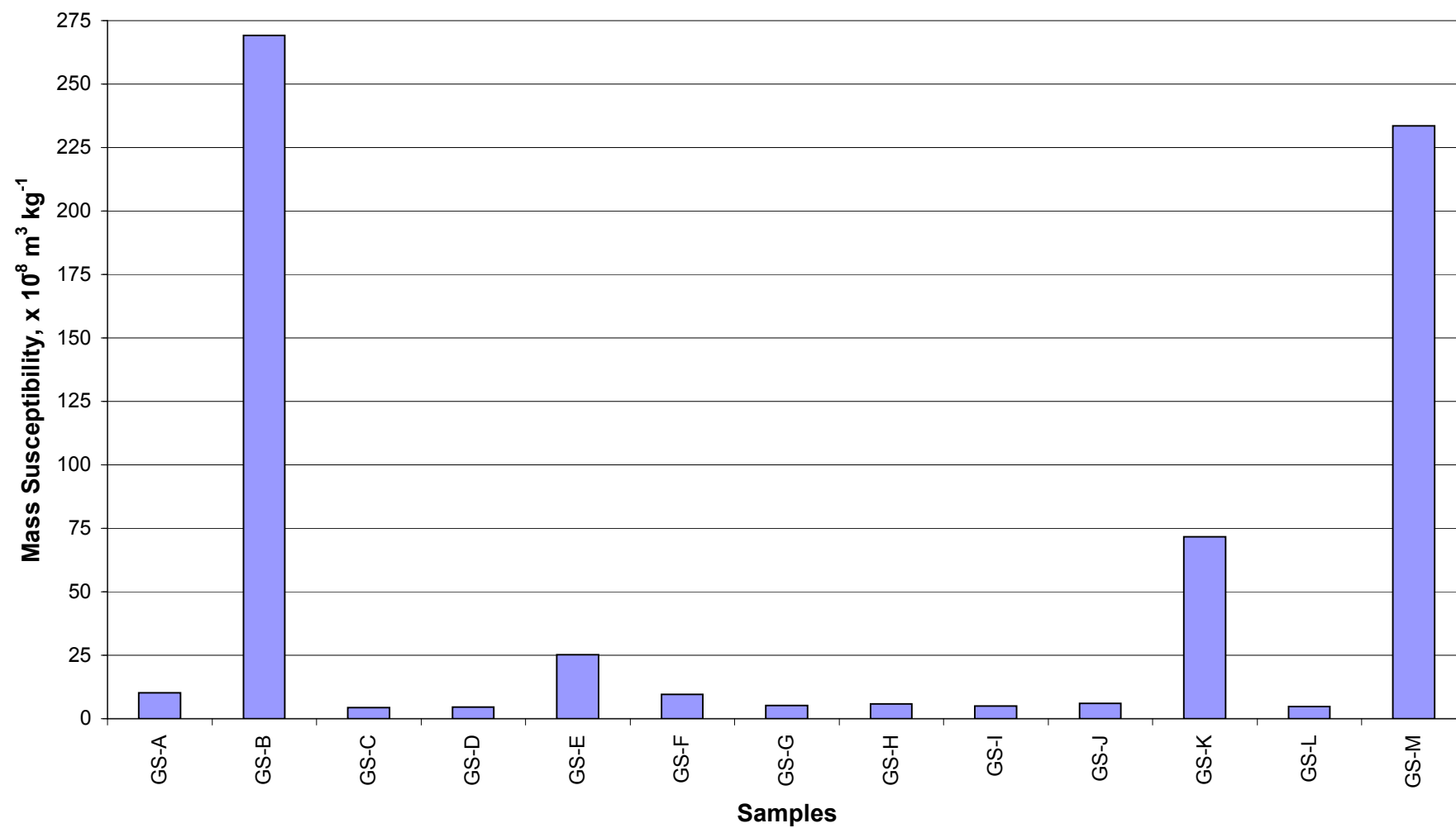
m	c	x	y
0.06548	0	62.0	4.06
0.06768	-0.13591	62.0	4.06
0.06768	-0.13591	531	35.80

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

GRINTON SMELTINGS BALE SITE SAMPLES SUSCEPTIBILITY CALIBRATION CURVE



GRINTON SMELTINGS BALE SITE SAMPLES MASS SUSCEPTIBILITY



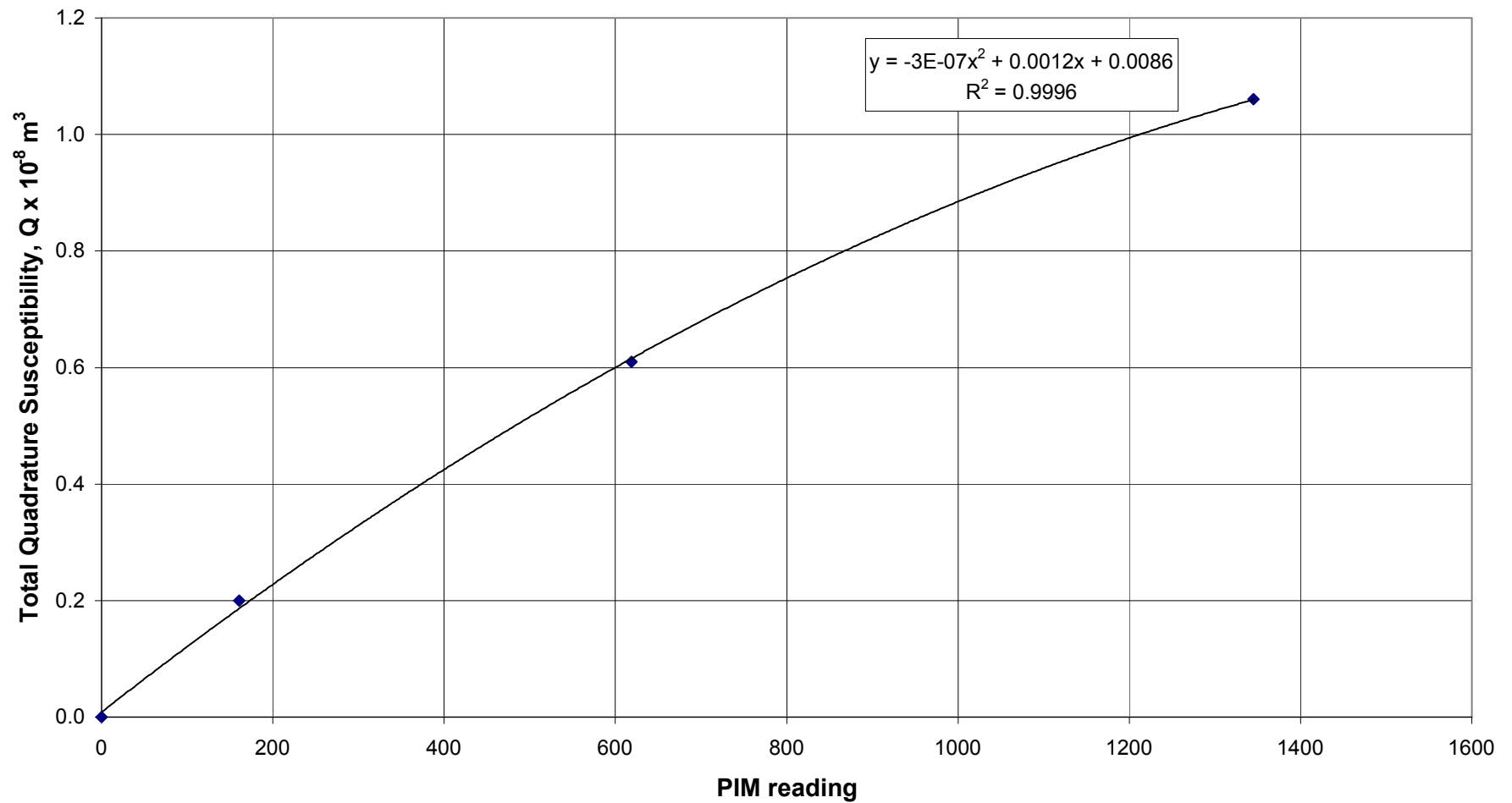
**TO DETERMINE MASS QUADRATURE SUSCEPTIBILITY AND MAGNETIC VISCOSITY
OF SLAG SAMPLES FROM GRINTON SMELTINGS BALE SITE**

<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	161	0.20	4	
BS87	50.00	619	0.61	12.2	
BS62	40.64	1345	1.06	26.1	
<u>Test samples</u>					
GS-A	68.92	2	0.01	0.2	1.6
GS-B	50.52	60	0.08	1.6	0.6
GS-C	47.99	2	0.01	0.2	5.2
GS-D	43.23	3	0.01	0.3	6.2
GS-E	37.20	6	0.02	0.4	1.7
GS-F	34.00	2	0.01	0.3	3.4
GS-G	32.99	2	0.01	0.3	6.5
GS-H	29.60	2	0.01	0.4	6.5
GS-I	29.18	3	0.01	0.4	8.5
GS-J	22.38	2	0.01	0.5	8.0
GS-K	19.17	5	0.01	0.8	1.1
GS-L	18.01	3	0.01	0.7	14.3
GS-M	8.58	14	0.03	3.0	1.3
Mean	)			0.7	5.0
Median	)			0.4	5.2
Standard Deviation +/-	)			0.8	4.0
Mean	) except			0.4	6.2
Median	) GS-B, GS-K			0.4	6.3
Standard Deviation +/-	) GS-M			0.1	3.7

Chart data

Total quad.	PIM
0	0
0.20	161
0.61	619
1.06	1345

GRINTON SMELTINGS BALE SITE SAMPLES QUADRATURE SUSCEPTIBILITY CALIBRATION CURVE



GRINTON SMELTINGS BALE SITE SAMPLES MASS QUADRATURE SUSCEPTIBILITY & MAGNETIC VISCOSITY

