TO DETERMINE MASS SUSCEPTIBILITY OF TANKERSLEY IRONSTONE AND PENONCILLA MINE (SPAIN) MAGNETITE 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	62.1	4.06	81.2
High alumina cement	50.00	539	35.80	716
Test samples				
TANK-A	43.54	39.2	2.56	59
TANK-B	26.55	18.6	1.22	46
TANK-C	20.83	15.5	1.01	49
TANK-D	5.27	4.1	0.27	51
PEN-A	2.29	1960	130.37	56932
PEN-B	2.08	1995	132.70	63800
PEN-C	1.53	1290	85.78	56067
PEN-D	1.26	1015	67.48	53556

Mean	) Tankersley	51
Median	) ironstone	50
Standard Deviation +/-	)	6
Mean	) Penoncilla	57589
Median	) magnetite	56500
Standard Deviation +/-	)	4381

Chart data

Total sus.	Meter	Total sus.	Meter
0	0		
4.06	62.1	4.06	62.1
		35.80	539

Slope & constant values as calculated by data trendline:

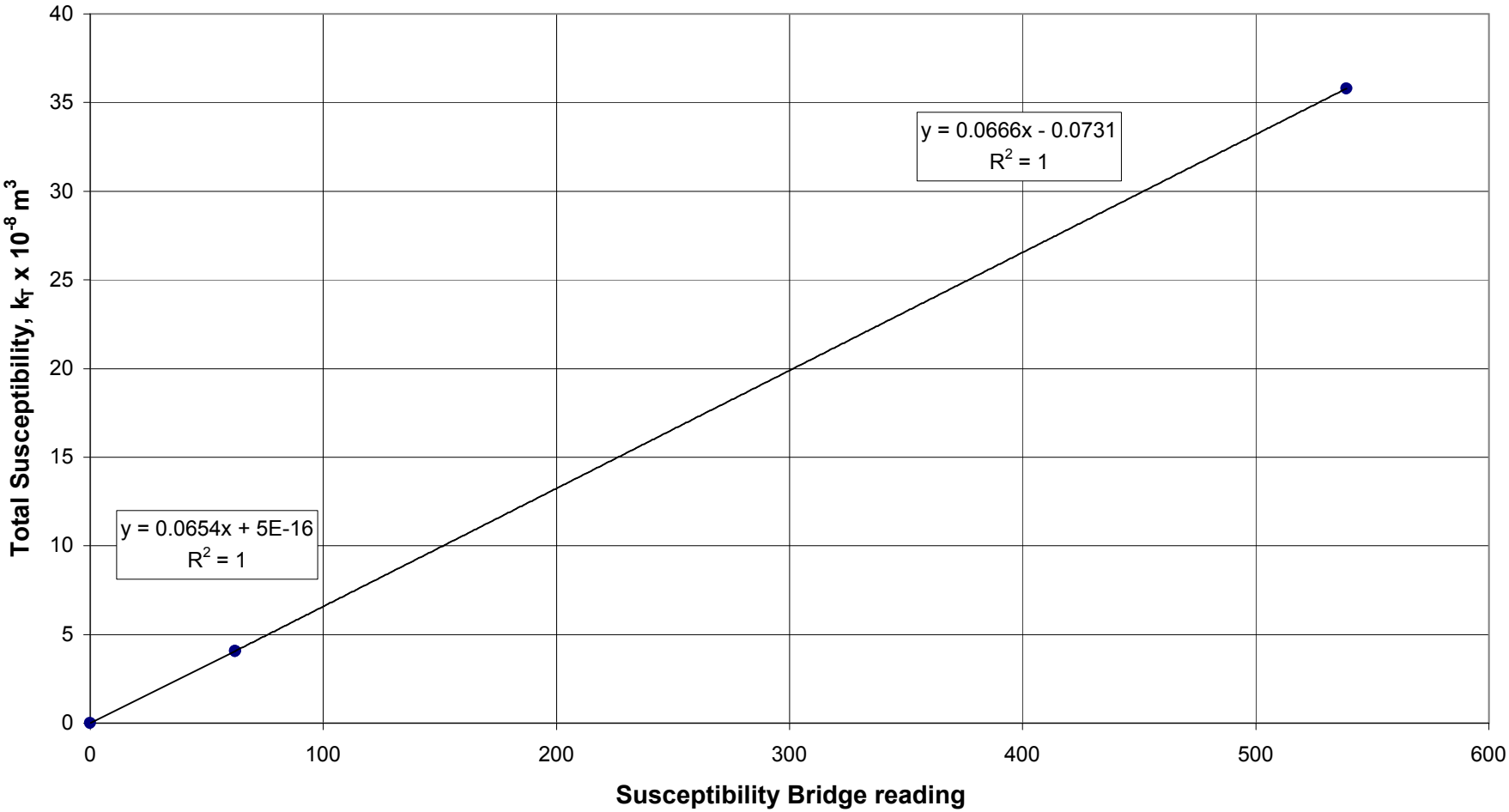
m	c	x	y
0.0654	0	62.1	4.0613
0.0666	-0.0731	62.1	4.0628
0.0666	-0.0731	539	35.8243

Slope & constant values as calculated from raw data:

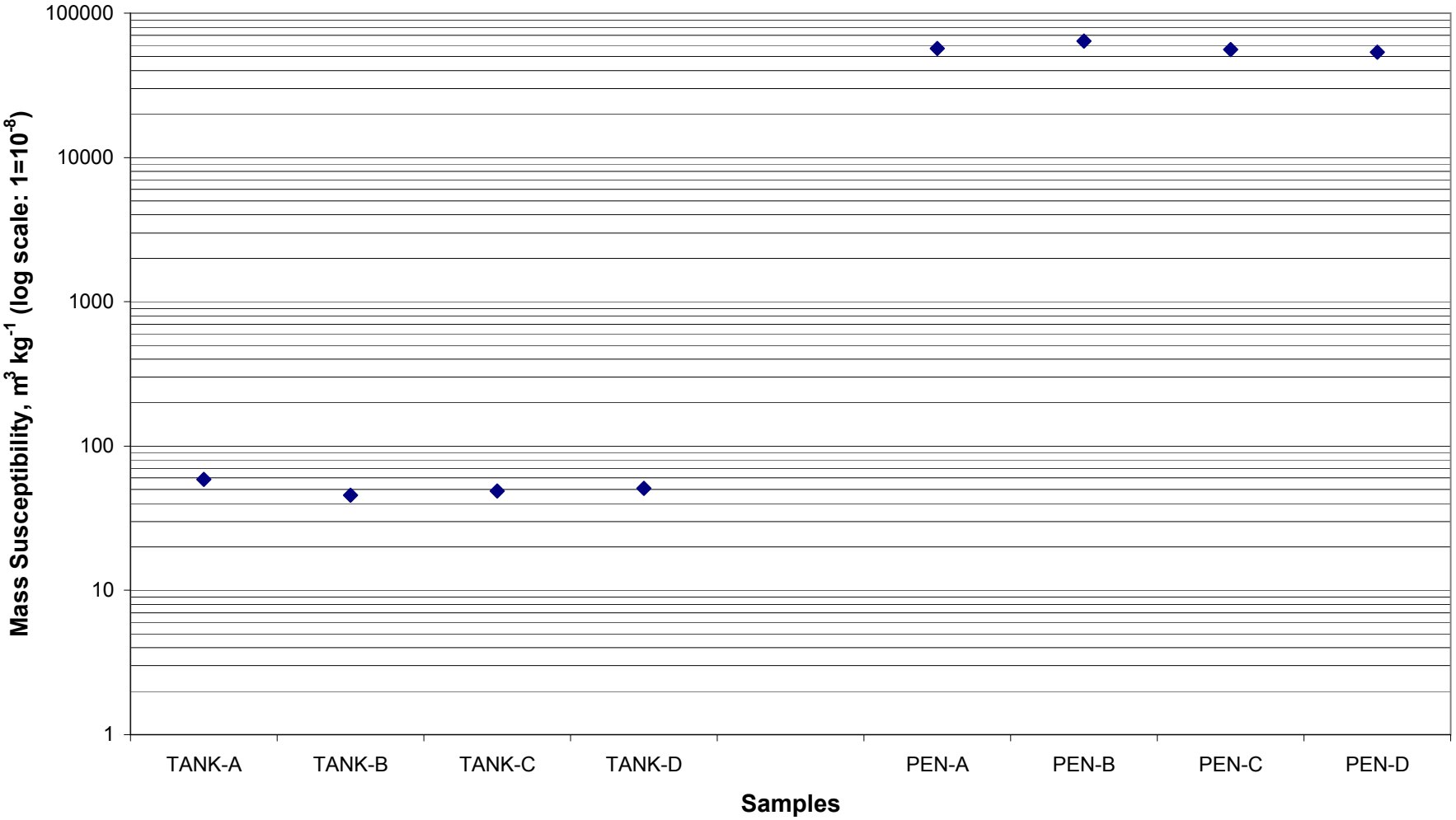
m	c	x	y
0.06538	0	62.1	4.06
0.06655	-0.07306	62.1	4.06
0.06655	-0.07306	539	35.80

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

TANKERSLEY-PENONCILLA SAMPLES SUSCEPTIBILITY CALIBRATION CURVE



TANKERSLEY-PENONCILLA SAMPLES MASS SUSCEPTIBILITY



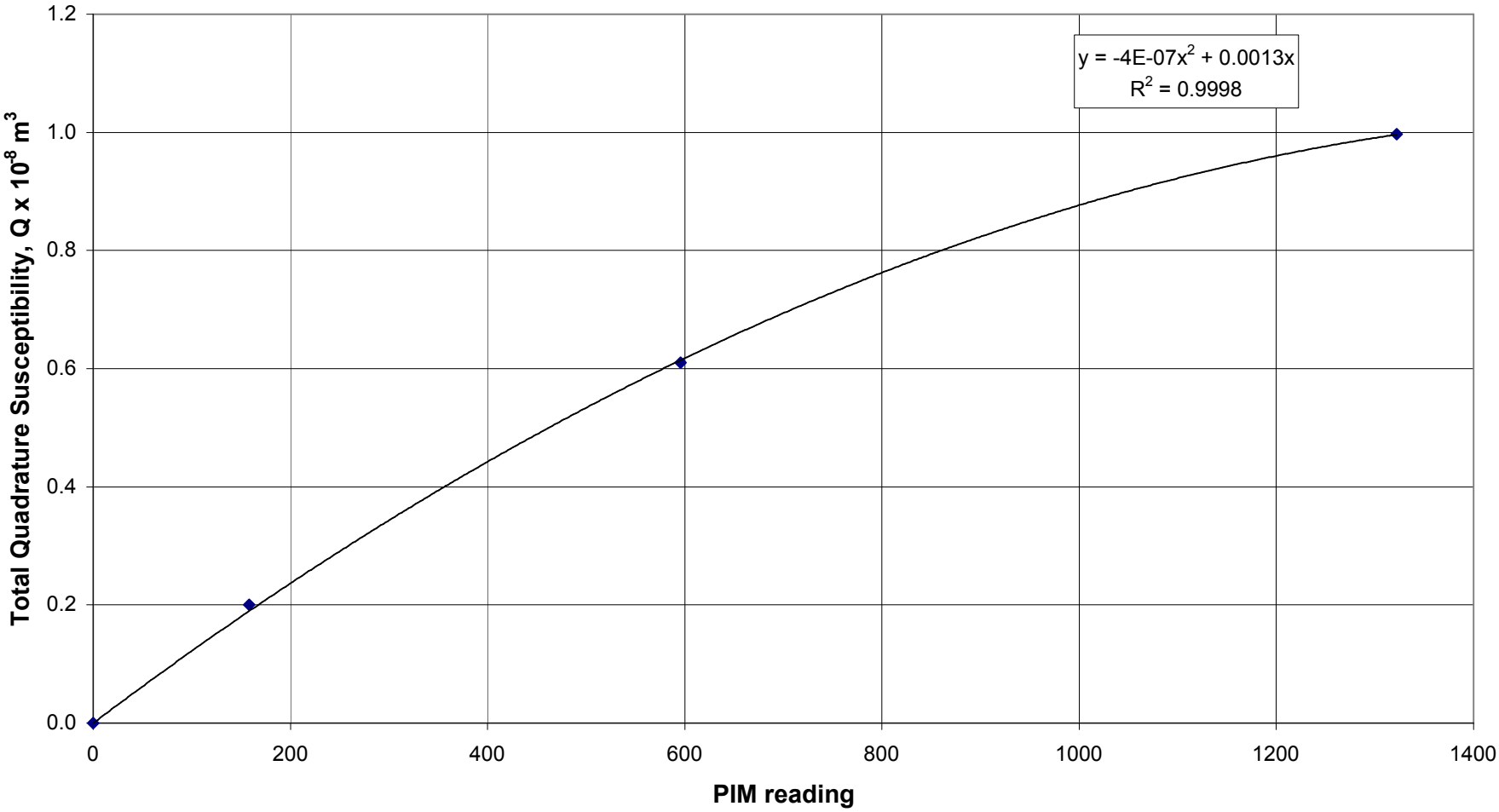
TO DETERMINE MASS QUADRATURE SUSCEPTIBILITY AND MAGNETIC VISCOSITY OF TANKERSLEY IRONSTONE AND PENONCILLA MINE (SPAIN) MAGNETITE SAMPLES

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	158	0.20	4.0	
BS87	50.00	596	0.61	12.2	
BS62	38.20	1322	1.00	26.1	
Test samples					
TANK-A	43.54	2	0.00	0.1	0.1
TANK-B	26.55	4	0.01	0.2	0.4
TANK-C	20.83	1	0.00	0.1	0.1
TANK-D	5.27	3	0.00	0.7	1.5
PEN-A	2.29	25	0.03	14	0.02
PEN-B	2.08	20	0.03	12	0.02
PEN-C	1.53	18	0.02	15	0.03
PEN-D	1.26	22	0.03	23	0.04
Mean) Tankersley				0.3	0.5
Median) ironstone				0.1	0.3
Standard Deviation +/-)				0.3	0.6
Mean) Penoncilla				16	0.03
Median) magnetite				15	0.03
Standard Deviation +/-)				4	0.01

Chart data

Total quad.	PIM
0	0
0.20	158
0.61	596
1.00	1322

TANKERSLEY-PENONCILLA SAMPLES QUADRATURE SUSCEPTIBILITY CALIBRATION CURVE



TANKERSLEY-PENONCILLA SAMPLES
MASS QUADRATURE SUSCEPTIBILITY & MAGNETIC VISCOSITY