

SITE INFORMATION

Site Name Penguelan, Cwmystwyth (SN748808)
Area PSS4
Context No 5
Description Lead smelting hearth (bole)
Latitude (+ve N) 52.36
Longitude (+ve E) -3.75
Magnetic Var -6.10
Date Sampled 12/3/03

MAGNETIC MEASUREMENTS

Sample no.	NRM			Field	After partial demag			Pilot?	Comments
	D	I	Int		D	I	Int		
	deg.	deg.	mA m ⁻¹	mT	deg.	deg.	mA m ⁻¹	Y/N	
1	31.4	66.2	4.182	10	20.70	60.80	1.34	Y	
2	23.10	34.70	0.77	10	33.30	36.10	0.66		
3	271.90	31.40	1.35	10	278.20	39.10	1.13		
4	350.90	39.50	0.58	10	12.80	68.00	0.27		
5	357.70	64.20	2.12	10	358.50	57.10	1.72		
6	227.00	46.50	4.89	10	213.80	41.80	4.24	Y	
7	116.50	-13.10	2.90	10	131.10	-6.20	2.44		
8	278.70	53.80	11.09	10	276.50	49.80	8.86		
9	359.40	39.10	30.45	10	0.70	39.10	14.97	Y	
10	312.80	58.40	3.39	10	311.80	54.30	3.10		
11	43.40	30.30	7.57	10	52.60	22.60	5.07		
12	310.00	46.10	2.68	10	296.70	46.60	1.59		
13	346.00	3.50	8.22	10	352.30	-5.30	5.26	Y	
14	182.70	40.40	2.44	10	191.10	35.80	2.86		

STATISTICS FOR NRM

Sample no.	NRM				
	D	I	x	y	z
	degs.	degs.			
1	31.40	66.20	0.34445	0.21025	0.91496
2	23.10	34.70	0.75623	0.32256	0.56928
3	271.90	31.40	0.02830	-0.85308	0.52101
4	350.90	39.50	0.76191	-0.12204	0.63608
5	357.70	64.20	0.43488	-0.01747	0.90032
6	227.00	46.50	-0.46946	-0.50343	0.72537
7	116.50	-13.10	-0.43459	0.87164	-0.22665
8	278.70	53.80	0.08934	-0.58381	0.80696
9	359.40	39.10	0.77600	-0.00813	0.63068
10	312.80	58.40	0.35602	-0.38446	0.85173
11	43.40	30.30	0.62732	0.59323	0.50453
12	310.00	46.10	0.44571	-0.53118	0.72055
13	346.00	3.50	0.96849	-0.24147	0.06105
14	182.70	40.40	-0.76069	-0.03587	0.64812

Number = 14
Sum x = 3.92390
Sum y = -1.28326
Sum z = 8.26398
R = 9.23781
x bar = 0.42477
y bar = -0.13891
z bar = 0.89458

Mean Dec = -18.11
Mean Inc = 63.45
Alpha95 = 29.96

STATISTICS FOR PARTIAL DEMAGNETISATION

Sample no.	Demagnetisation				
	D	I	x	y	z
	<i>degs.</i>	<i>degs.</i>			
1	20.70	60.80	0.45637	0.17245	0.87292
2	33.30	36.10	0.67532	0.44360	0.58920
3					
4	12.80	68.00	0.36530	0.08299	0.92718
5	358.50	57.10	0.54299	-0.01422	0.83962
6					
7					
8					
9	0.70	39.10	0.77599	0.00948	0.63068
10	311.80	54.30	0.38895	-0.43502	0.81208
11					
12	296.70	46.60	0.30872	-0.61382	0.72657
13					
14					

Number = 7
Sum x = 3.51363
Sum y = -0.35453
Sum z = 5.39826
R = 6.45077
x bar = 0.54468
y bar = -0.05496
z bar = 0.83684

Mean Dec = -5.76
Mean Inc = 56.81
Alpha95 = 19.11

Alpha68 = 10.83

CORRECTIONS

Mean Dec = -5.76
Mean Inc = 56.81

Correction for magnetic variation

Mean Dec = -11.86
Mean Inc = 56.81

Correction to Meriden (CVP)

Uncorrected Dec = -11.86
Uncorrected Inc = 56.81
Latitude = 52.36
Longitude = -3.75

Kai = 52.61
Latitude of pole = 72.88
Beta1 = -33.70
Longitude of pole = 209.95
Geomag colat = 52.80
Corrected Inc = 56.63
Beta 2 = -31.57
Corrected Dec = -11.15

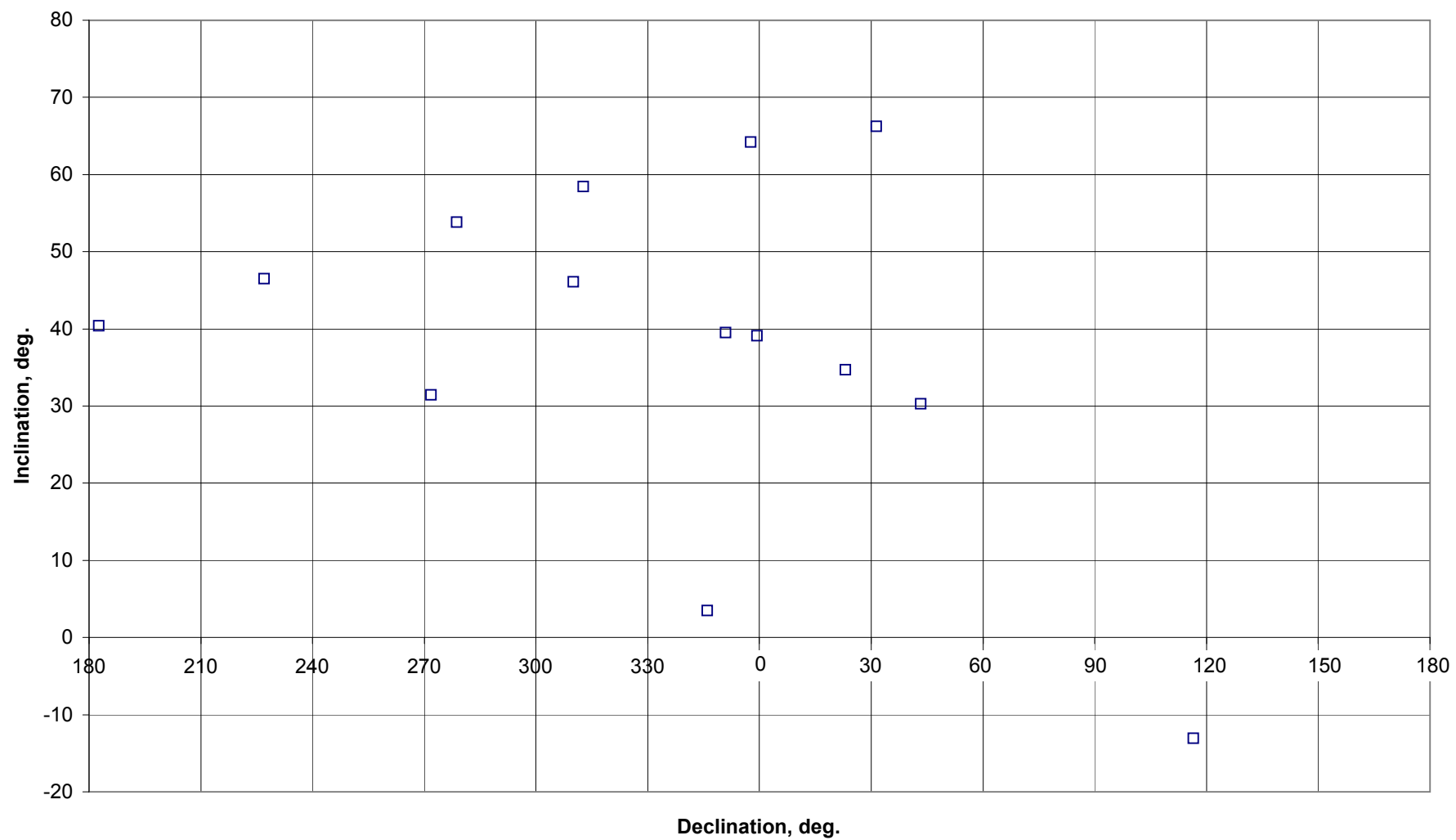
FINAL RESULT

Corrected Dec = -11.15
Corrected Inc = 56.63
Alpha95 = 19.11

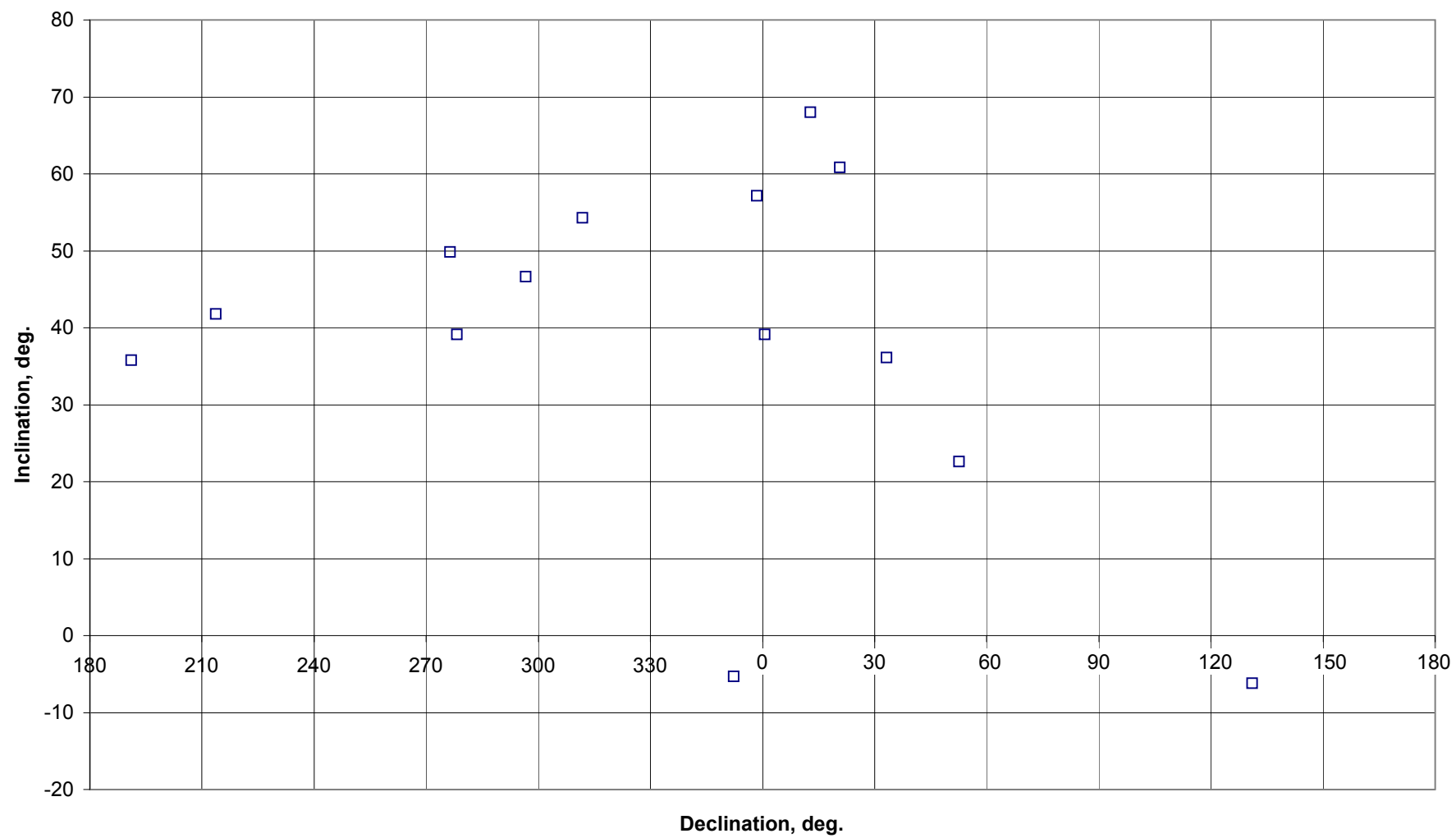
ERROR BARS

Alpha95		Alpha68	
$\delta Dec = \pm$	34.75	$\delta Dec = \pm$	19.68
$\delta Inc = \pm$	19.11	$\delta Inc = \pm$	10.83

INITIAL SAMPLE SCATTER



10mT DEMAGNETISED SAMPLE SCATTER



PILOT STEPPED A.F. DEMAGNETISATION MEASUREMENTS

Sample No. 1

Demag Step <i>mT</i>	NRM						
	Intensity <i>mA m⁻¹</i>	Normalised intensity	Co-ordinates			Dec.	Inc.
			X	Y	Z	<i>degs.</i>	<i>degs.</i>
0.0	4.19	1.00	1.45	1.04	3.79	35.80	64.80
2.5	4.09	0.97	1.67	0.97	3.60	30.20	61.80
5.0	3.09	0.74	1.24	0.93	2.68	36.90	59.90
7.5	2.11	0.50	0.93	0.50	1.83	28.20	60.10
10.0	1.34	0.32	0.61	0.23	1.17	20.70	60.80
15.0	0.80	0.19	0.57	-0.06	0.55	353.60	43.50
20.0	0.42	0.10	0.28	-0.19	0.26	326.60	37.60
30.0	0.24	0.06	0.13	-0.17	0.09	307.30	21.90
40.0	0.22	0.05	0.12	-0.17	0.03	305.80	7.90
60.0	0.24	0.06	0.12	-0.21	-0.04	299.20	-10.00
80.0	0.16	0.04	0.13	-0.09	0.05	323.60	16.20
100.0	0.18	0.04	0.13	-0.13	0.02	313.10	5.40

Sample No. 6

Demag Step <i>mT</i>	NRM						
	Intensity <i>mA m⁻¹</i>	Normalised intensity	Co-ordinates			Dec.	Inc.
			X	Y	Z	<i>degs.</i>	<i>degs.</i>
0.0	4.68	1.00	-2.39	-1.95	3.52	219.20	48.80
2.5	4.91	1.05	-2.40	-2.20	3.68	222.50	48.50
5.0	4.51	0.96	-2.23	-2.16	3.26	224.10	46.40
7.5	4.18	0.89	-2.33	-1.91	2.89	219.30	43.90
10.0	4.24	0.90	-2.62	-1.76	2.82	213.80	41.80
15.0	2.61	0.56	-1.73	-1.17	1.56	213.90	36.70
20.0	2.11	0.45	-1.71	-0.47	1.13	195.20	32.40
30.0	1.17	0.25	-1.01	-0.33	0.49	198.10	24.70
40.0	0.61	0.13	-0.48	0.05	0.38	174.60	38.10
60.0	0.37	0.08	-0.13	0.14	0.32	132.80	59.30
80.0	0.21	0.05	-0.18	-0.06	0.08	198.70	23.10
100.0	0.27	0.06	-0.03	0.15	0.22	103.20	56.10

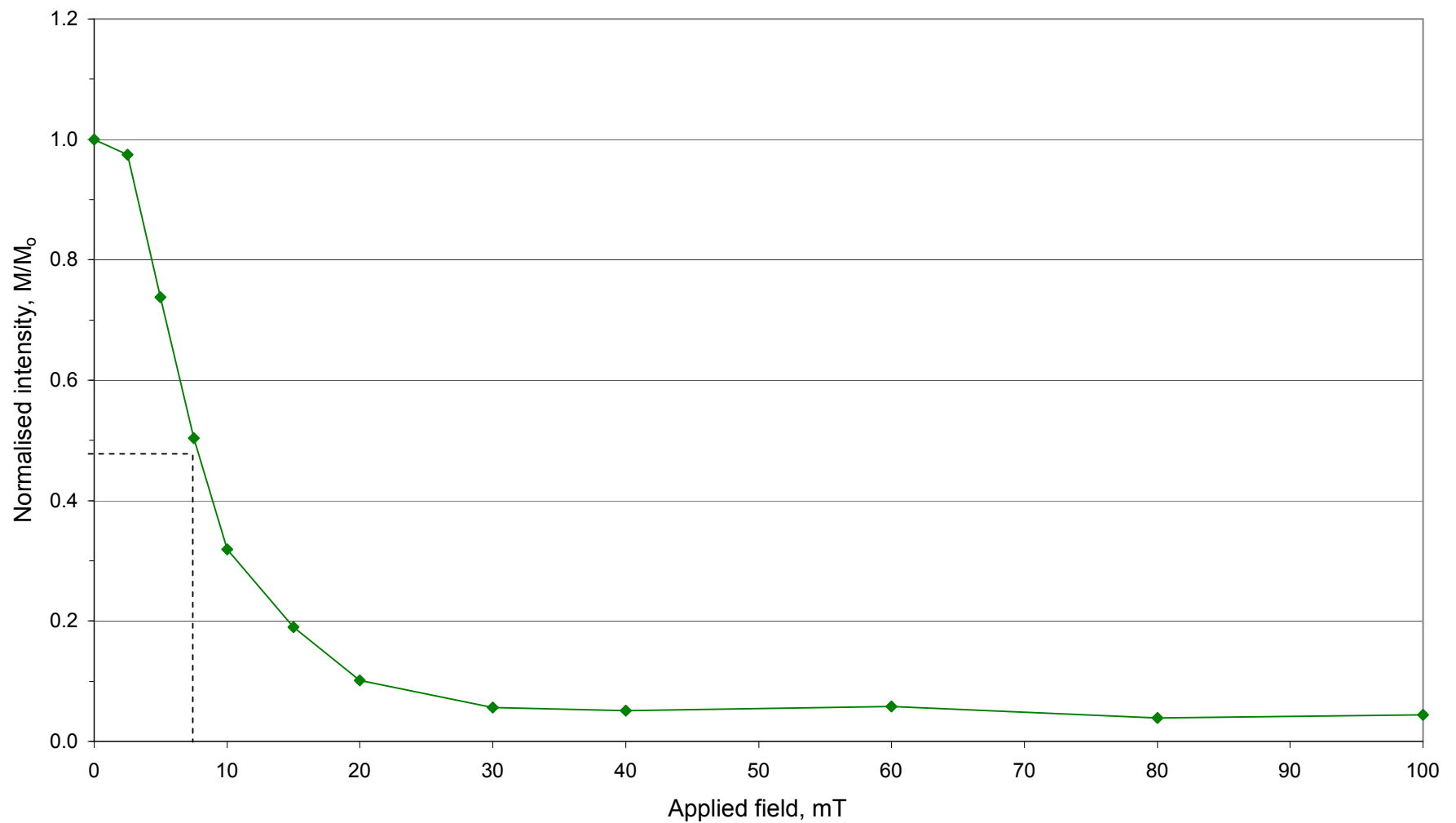
Sample No. 9

Demag Step <i>mT</i>	NRM						
	Intensity <i>mA m⁻¹</i>	Normalised intensity	Co-ordinates			Dec.	Inc.
			X	Y	Z	<i>degs.</i>	<i>degs.</i>
0.0	30.12	1.00	22.77	-0.62	19.70	358.40	40.90
2.5	30.34	1.01	22.79	-1.19	19.99	357.00	41.20
5.0	28.06	0.93	21.82	-1.00	17.61	357.40	38.90
7.5	22.48	0.75	17.63	-1.29	13.89	355.80	38.20
10.0	14.97	0.50	11.62	0.13	9.45	0.70	39.10
15.0	5.99	0.20	4.73	0.28	3.67	3.40	37.80
20.0	2.52	0.08	2.06	0.79	1.21	21.10	28.70
30.0	1.26	0.04	1.02	0.68	0.31	33.60	14.10
40.0	0.93	0.03	0.66	0.48	0.46	35.90	29.20
60.0	0.67	0.02	0.43	0.35	0.38	38.80	34.70
80.0	0.35	0.01	0.25	0.23	0.06	42.30	10.60
100.0	0.37	0.01	0.30	0.22	0.02	36.10	2.90

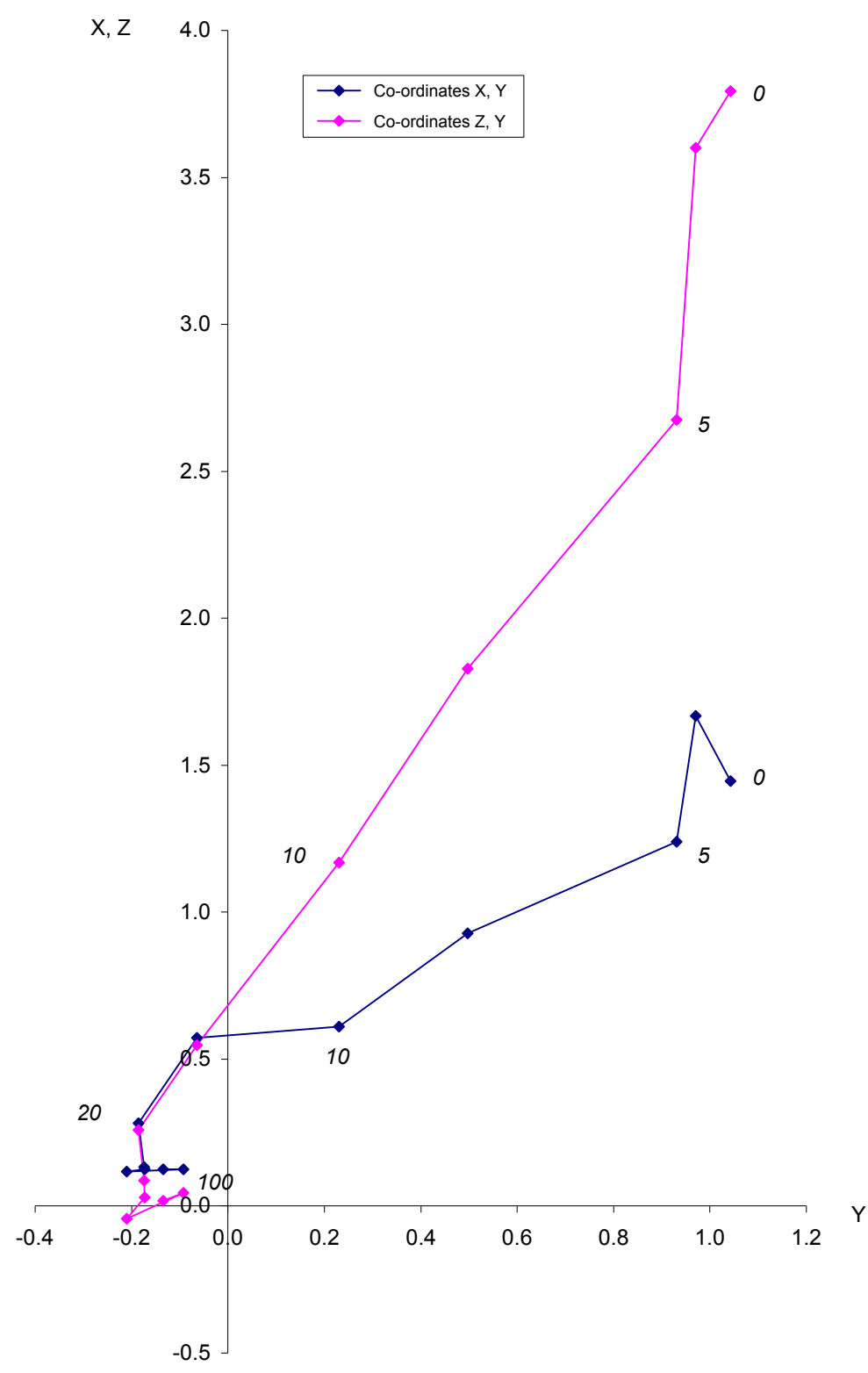
Sample No. 13

Demag Step <i>mT</i>	NRM						
	Intensity <i>mA m⁻¹</i>	Normalised intensity	Co-ordinates			Dec.	Inc.
			X	Y	Z	<i>degs.</i>	<i>degs.</i>
0.0	7.63	1.00	7.17	-1.84	1.85	345.60	14.00
2.5	7.69	1.01	7.30	-2.01	1.31	344.60	9.80
5.0	7.14	0.94	6.87	-1.94	0.11	344.20	0.90
7.5	5.96	0.78	5.81	-1.34	-0.05	347.10	-0.40
10.0	5.26	0.69	5.19	-0.70	-0.48	352.30	-5.30
15.0	4.06	0.53	3.98	0.61	-0.56	8.80	-7.90
20.0	2.47	0.32	2.41	0.19	0.47	4.60	11.10
30.0	1.21	0.16	1.05	-0.11	0.60	354.00	29.50
40.0	0.76	0.10	0.63	-0.13	0.42	348.30	33.00
60.0	0.44	0.06	0.26	-0.13	0.32	333.10	48.10
80.0	0.47	0.06	0.33	-0.14	0.31	336.70	40.40
100.0	0.49	0.06	0.37	-0.18	0.28	334.20	34.20

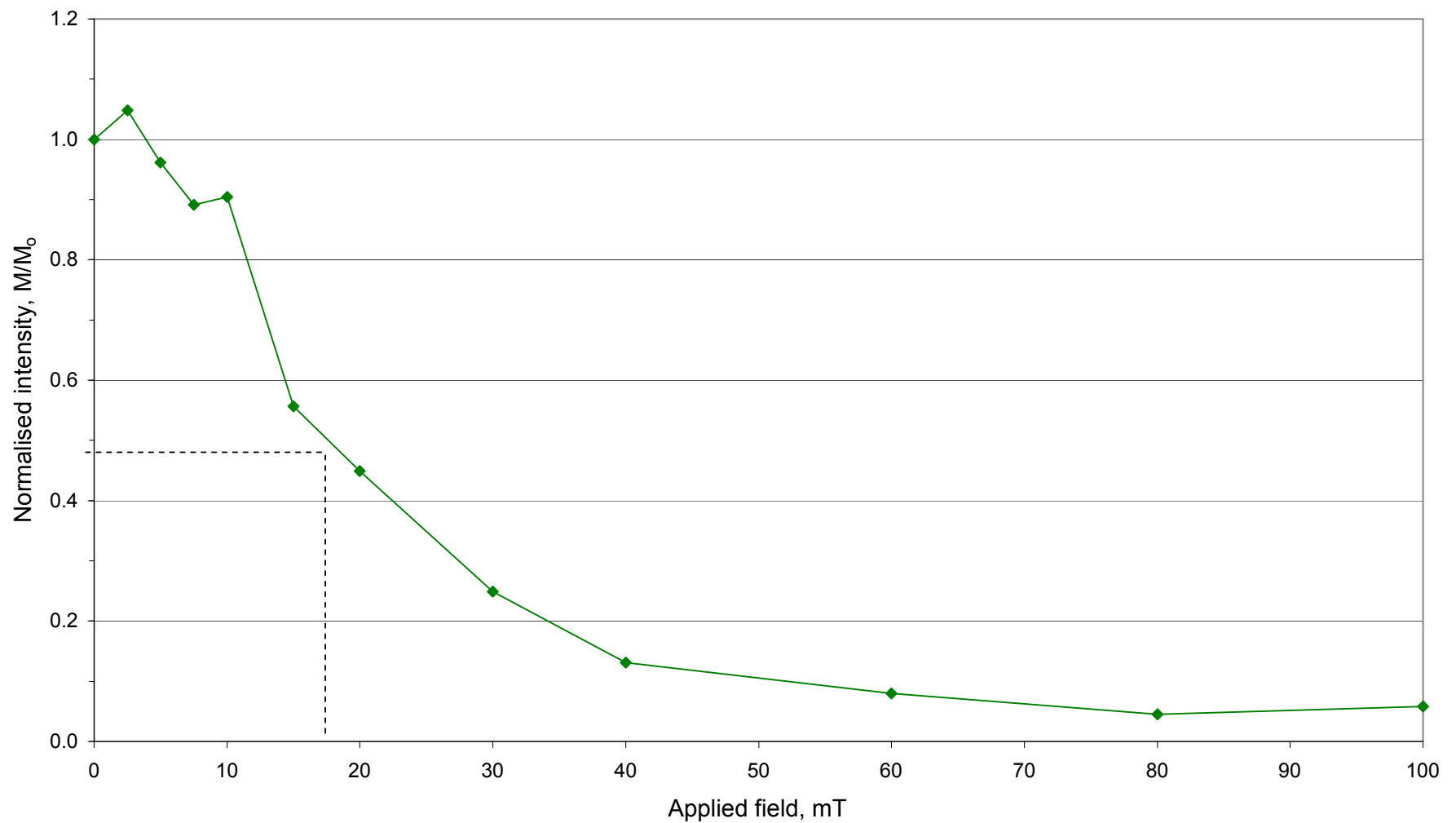
PENGUELAN PSS4 - SAMPLE POINT 1 DEMAGNETISATION: INTENSITY SPECTRUM



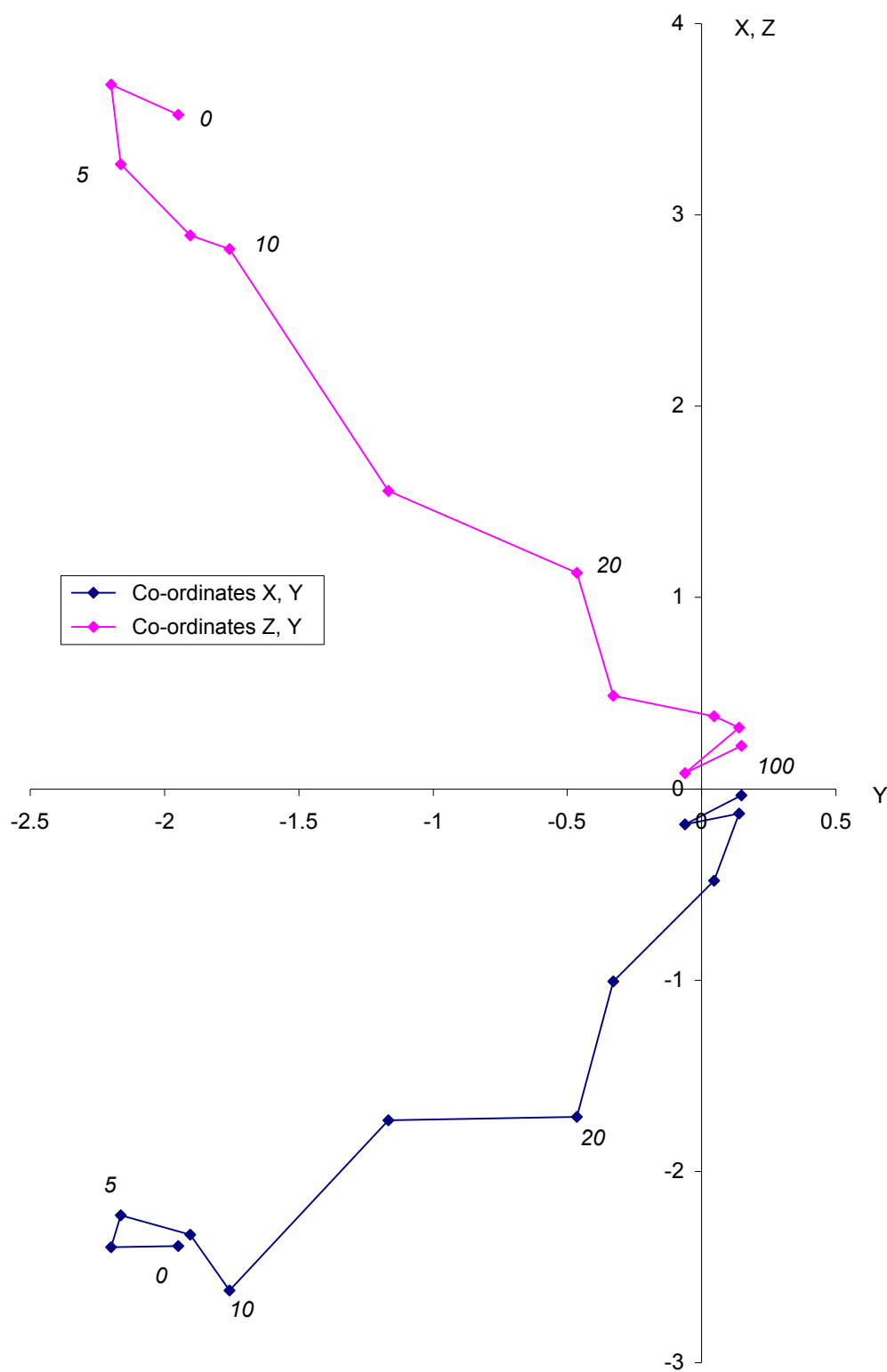
PENGUELAN PSS4 - SAMPLE POINT 1 - ZIJDERVELD PLOT



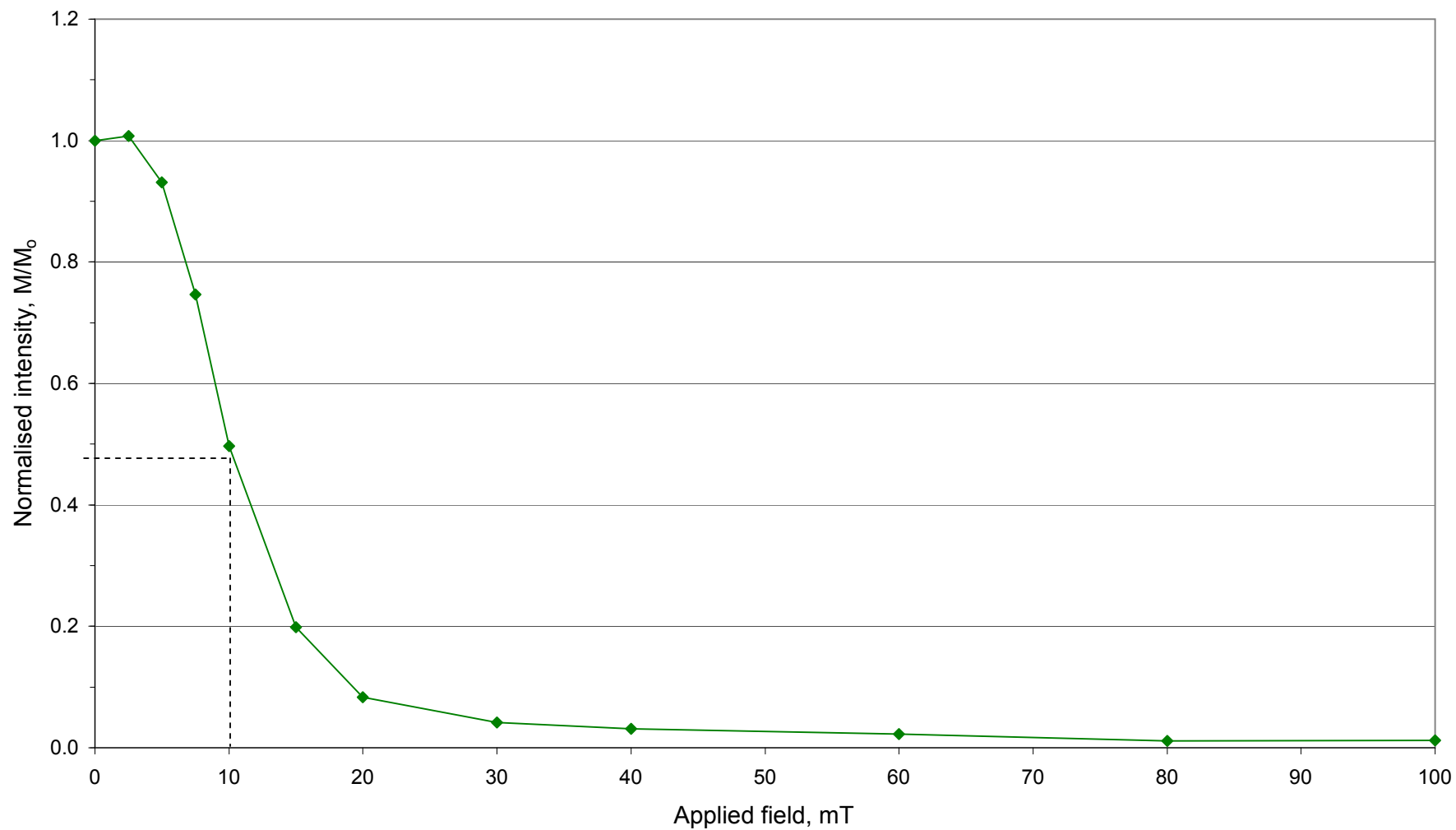
PENGUELAN PSS4 - SAMPLE POINT 6 DEMAGNETISATION: INTENSITY SPECTRUM



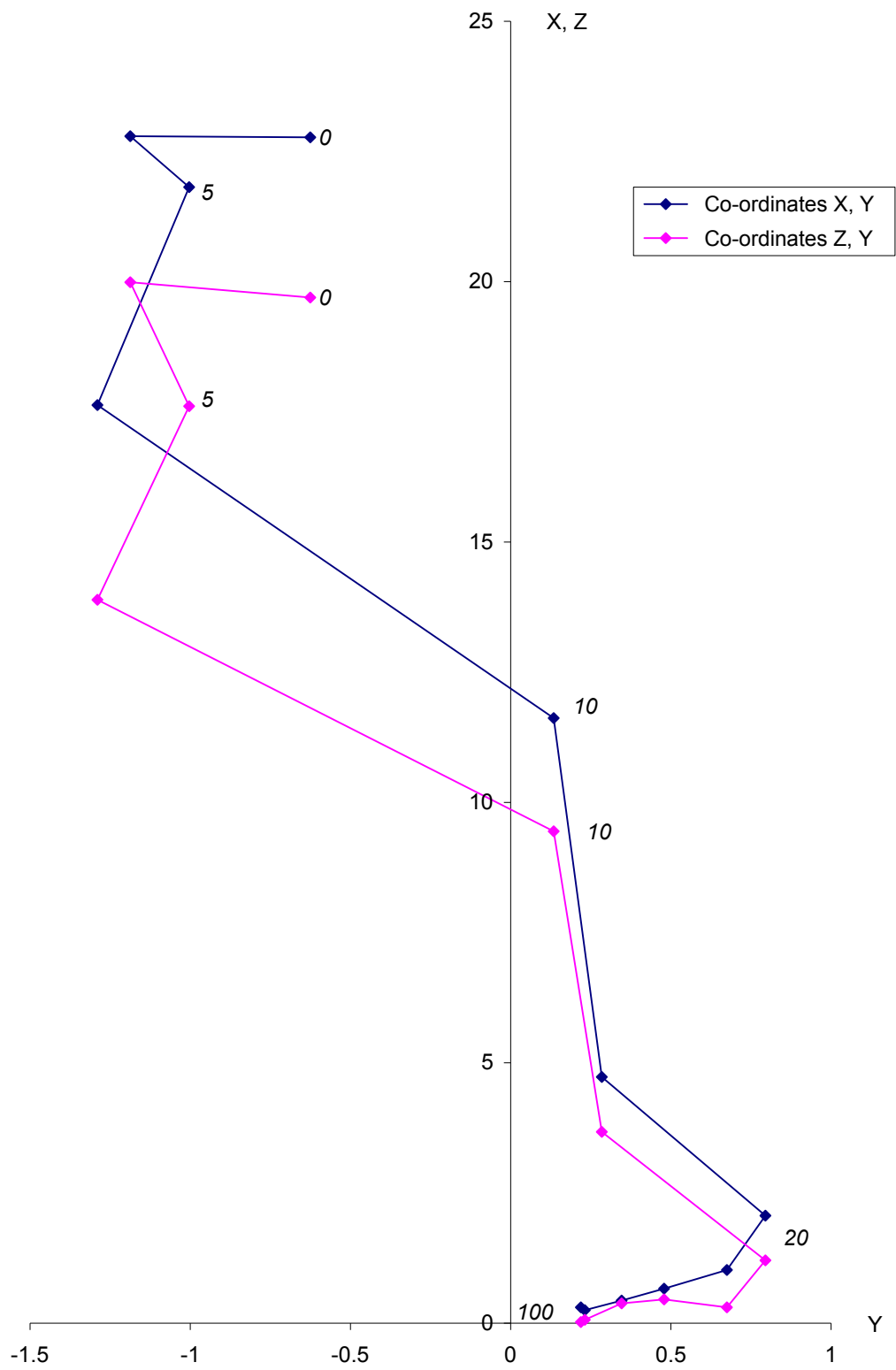
PENGUELAN PSS4 - SAMPLE POINT 6 - ZIJDERVELD PLOT



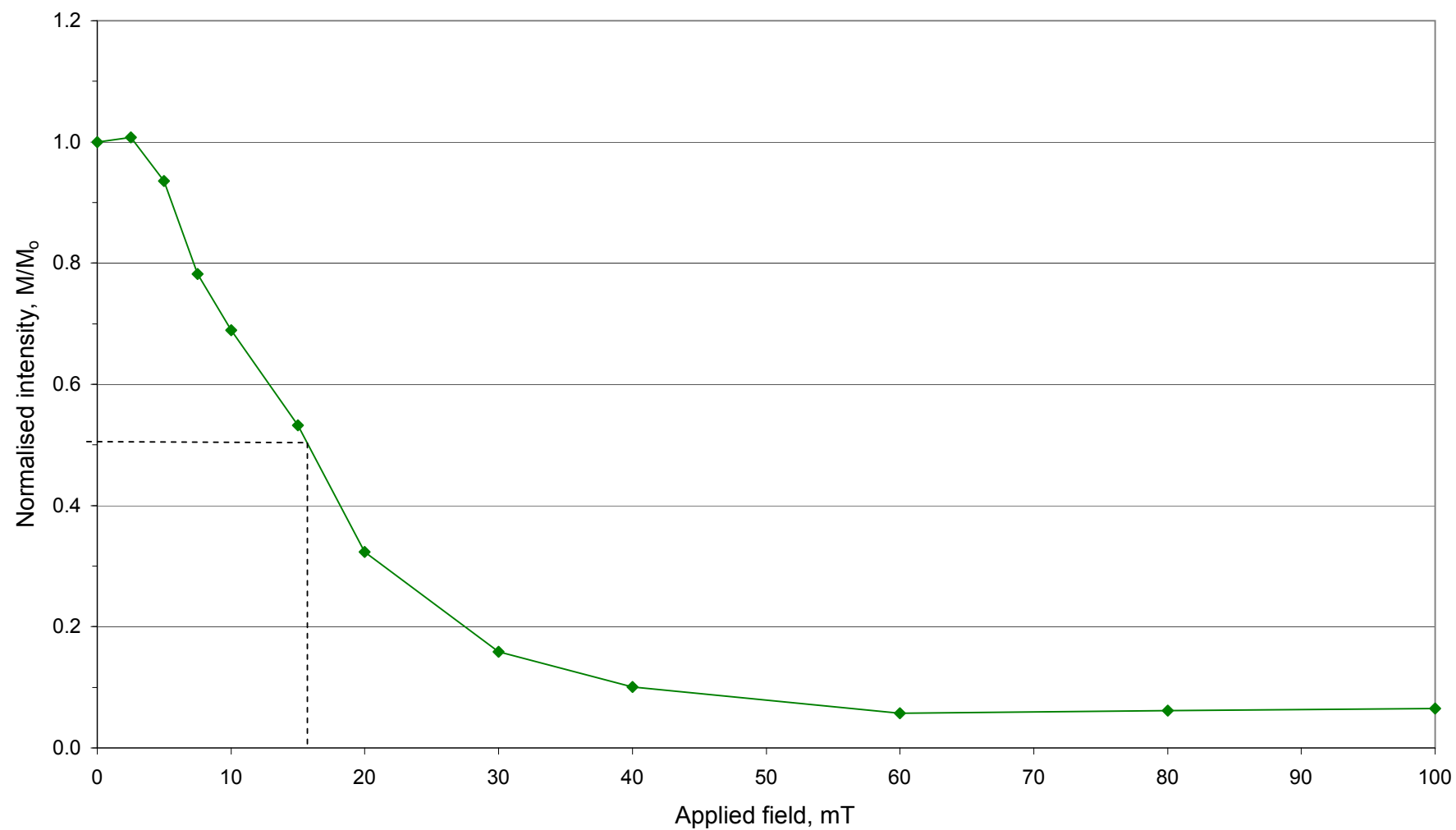
PENGUELAN PSS4 - SAMPLE POINT 9 DEMAGNETISATION: INTENSITY SPECTRUM



PENGUELAN PSS4 - SAMPLE POINT 9 - ZIJDERVELD PLOT



PENGUELAN PSS4 - SAMPLE POINT 13 DEMAGNETISATION: INTENSITY SPECTRUM



PENGUELAN PSS4 - SAMPLE POINT 13 - ZIJDERVELD PLOT

