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CRA EXPLORATION PTY.LIMITED

EXPLORATION OF CETHANA E.L. 10/76

NORTH TASMANIA

1981- 1982

OPEN FILE

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Date: 10th February, 1983.

Submitted To: T.W.Dickson

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1. SUMMARY

A Dighem airborne E.M. survey was flown over Cethana EL 10/76. Follow-up ground surveying resulted in the dismissal of all anomalous responses except one. Further follow-up of this anomaly is recommended.

2. INTRODUCTION

Cethana E.L. 10/76 was surveyed by the Dighem II Multicoil electromagnetic system in February of 1981. Final data was delivered in July, 1981. This report covers the ground follow-up during the period August 1981 to December 1982.

3. CONCLUSIONS

Following the airborne E.M. survey it is concluded that:

1. The E.L. contains minimal potential for the existence of a massive volcanogenic base metal deposit within 50 to 80 metres of the surface, as indicated by E.M.,
2. Aeromagnetics provide no magnetic targets for future follow-up, and,
3. The E.L. has been sufficiently tested for economic mineralisation, except for the area immediately adjacent to the Round Mt. Mine.

4. RECOMMENDATIONS

It is recommended that:

1. The Round Mt. workings be fully investigated using Jennings (1979) conclusions on ore genesis and structural control to define a target zone(s) for massive lead mineralisation.
2. The above zone(s) be surveyed using a ground E.M. system, and
3. If the above surveys prove negative the E.L. is recommended for relinquishment.

5. DISCUSSION

Previous exploration within the E.L. is covered in Purvis 1977 and 1979.

In February 1981, a Dighem II Multicoil airborne electromagnetic survey was flown over the adjacent Sheffield E.L. 7/73. The Cethana E.L. was included in this survey. A contractor's report (Dvorak and Vergos, 1981) describes the survey specifications, E.M. system description and results. The Cethana portion of the survey data is reproduced here as plans TASH 1172 to 1175.

5.1 Geology

Regional geology and stream sediment geochemistry is shown on plan TASH 1171. Detailed prospect geology is described in Purvis (1977 and 1979) and Jennings (1979).

5.2 Dighem Results

The results of the Dighem airborne E.M. survey are shown in Plans TASH 1172 to 1175. Electromagnetic responses are discussed in the following section (section 5.3).

The aeromagnetic contour maps (Plans TASH 1173 and 1175) show that the whole of the E.L. is in an essentially quite ^{et} magnetic regime. Exceptions to this is the active area in the north-east corner attributable to a Tertiary basalt occurrence, and lithologically caused magnetic highs trending west-nor'-west/east-sou'-east. The latter anomalies are due to the "schist and schistose tuffs and agglomerates" (Porter's mapping - Plan TASH 1171).

Resistivities derived from the E.M. data show no fluctuations (at the frequencies used) except for the resistivity low which occurs to the north of the E.L. This is, once again, attributable to Tertiary basalts.

5.3 Dighem Ground Follow-up

A total of 24 E.M. responses were recorded over the E.L. Of these, 16 can be explained by cultural sources (mainly high voltage power-lines from the Cethana power station).

A further four anomalies are caused by surficial conductors (swamps, conductive overburden and basalts). The remaining four anomalies were followed up with ground magnetometry, V.L.F.-E.M., geochemistry and geology. Plan TASH 1176 shows the positions of follow-up traverses.

5.3.1. Anomaly 33xH

One reconnaissance line was completed over this weak E.M. anomaly. The anomaly occurs within sandstones, quartzites and argillates (minor) of the Ordovician Moina Sandstone along strike north-west of the Round Mt. silver-lead workings. The structural control on mineralisation at the workings extends to 33xH: major faulting having been mapped in the vicinity.

The V.L.F.-E.M. survey defined a residual cross-over at the 62.5mN position whilst the ground magnetic survey defined a small, near-surface-source magnetic anomaly centred on 0mN (see Plans TASH 1177 and 1178).

Soil geochemistry revealed no anomalous metal concentrations (See Appendix I).

The anomaly is interpreted as being fault-caused. No further work is recommended.

5.3.2. Anomaly 34N

Occurring adjacent to the Lorinna Road, E.M. anomaly 34N is a Dighem Grade 2 anomaly with a computed conductance of 5 Siemens and a depth of 60 metres. Inspection of the road indicated no obvious cultural sources. Although noise spikes on the ground magnetic profile (Plan TASH 1180) suggested the possibility of buried cables, none are reported by the various authorities.

A V.L.F.-E.M. profile along the road mapped a very weak cross-over at the 550mN station. (Plan TASH 1179).

The anomaly occurs within sandstones and quartzites of the Ordovician Moina Sandstone. A series of sericitic shale horizons 0.25 metres to 3 metres wide occur at and around the position of the anomaly.

Three soil geochemistry samples collected around the area of the response revealed no anomalous metal concentrations.

The anomaly is interpreted as being shear-zone or fault-caused. No further work is recommended.

5.3.3. Anomaly 36xH

Anomaly 36xH is a weak response located on the western end of the East Cethana Grid (Purvis, 1979). It occurs in assemblages of Cambrian lapilli tuffs, tuff shales, and sandy tuffs. Some geochemistry (soil and rock) has been done, however, these are highly dubious due to the thick cover of scree on the grid.

The area has also been covered by gradient array I.P. and ground magnetic surveys (Howland-Rose, 1977).

A V.L.F.- E.M. reconnaissance survey, completed to pinpoint the Dighem anomaly (Plans TASH 1181 to 1185), defined a linear zone with excellent cross-overs being mapped on all lines. These cross-overs are invariably associated with moderate to strong chargeabilities, moderate to high resistivities and weak to non-existent magnetic highs.

The zone is on strike with a black shale unit, but covered by Quaternary scree (Roland Conglomerate) and alluvium.

A Crone Pulse E.M. survey failed to detect any coherent anomalies. Data, however, was very noisy due to nearby high tension powerlines (see Appendix II)

The anomalous response has been interpreted as being due to the black shale unit alone.

If the shale did host significant (economic) mineralisation, one would have expected the P.E.M. survey to reflect it. No further work is recommended.

5.3.4. Anomaly 3900xH

Occurring in Claude Creek, this weak anomaly is attributable to the Round Mt. silver-lead workings, plotting half-way between the Round Hill and Round Hill extended silver-lead workings (Jennings, 1979). The workings occur within folded and faulted beds of the Ordovician Moina Sandstone. Mineralisation is structurally controlled.

Three lines of V.L.F.- E.M. and ground magnetics mapped out a moderate, non-magnetic conductive zone (Plans TASH 1186 to 1191).

Geochemistry in the area is, of course, affected by the original workings and is thus very difficult to interpret. Grab samples taken in and around the adits by various CRA Exploration geologists assayed up to 53.28 % Lead, 1.25% Zinc, 4475 ppm Copper, 647 ppm Silver and 1.58 ppm Gold. These all occurred within the Moina Sandstone. Rock chip samples of visibly unmineralised Moina Sandstone adjacent to the workings reflected their typically leached character. Samples (rock chip) from the Ordovician Gordon Limestone assayed very low in all of the above metals.

The possibility of a "blind" ore body within the Moina Sandstone is high. Structural interpretation of the area, followed by ground E.M. would be the most effective method of locating such a body.

5.4 General

The Dighem E.M. survey provided a blanket E.M. survey for the entire E.L. Generally speaking, the survey can be expected to have had a depth penetration of some 50 to 80 metres below surface. Due to the generally leached character of both the Moina Sandstone and the Roland Conglomerate, which cover one half of the E.L., we cannot expect to better this by geochemical methods.

The Cambrian volcanics to the north have been explored, to a satisfactory stage, by the Cethana East and Cethana West prospects. Negative results from this work is corroborated by the airborne E.M. survey.

Only the Round Mt. silver-lead field remains as an untested E.M./geochemical target.

6. REFERENCES

- Dvorak, Z. and Vergos, S. July 1981 "Dighem II Surveys in Sheffield Area, Tasmania for CRA Exploration Pty.Ltd." Dighem Ltd. Unpub. CRAE Report 11263.
- Howland-Rose, A.W. Aug. 1977 A Report on Gradient Array Electrical Induced Polarisation, Magnetometric Resistivity (MMR), and Total Magnetic Field Surveys over the East Cethana Grid, Near Devonport, Tasmania on behalf of CRA Exploration Pty.Ltd." Unpub. CRAE Report 9066
- Jennings, I.B. 1979 "Geological Atlas 1 Mile Series, Sheet 37 (8115S). Sheffield" Explan. Rep.Dep. Mines Tasmania.
- Purvis, J.G. Sept. 1977 "E.L.'s 7/73 and 10/76, Northern Tasmania - Exploration at Western Cethana, August 1976-1977" Unpub. CRAE Report 9041
- Purvis, J.G. 1979 "Exploration At E.Cethana EL 10/76 N.Tas. - Sept. 1977 to Sept. 1979" Unpub. CRAE Report 9717

7. KEYWORDS

Geophysics, Airborne E.M., Pulse E.M., magnetics, assays-geochem.

8. LOCATION

Burnie SK55-3 1:250 000 map sheet

9. LIST OF PLANS

TASh 1170	Cethana EL 10/76	Locality Plan	1:2 000 000
1171	" " "	Geology Plan	1:25 000
1172	" " "	Dighem II Survey - Electromagnetics	1:25 000
1173	" " "	Dighem II Survey Magnetics	1:25 000
1174	" " "	Dighem II Survey Resistivity	1:25 000
1175	" " "	Dighem II Survey Enhanced Magnetics	1:25 000
1176	" " "	Dighem II Survey Ground Follow-up	1:25 000
1177	" " "	Dighem Anomaly 33xH V.L.F. - E.M.	As shown
1178	" " "	Dighem Anomaly 33xH Ground Magnetics	As shown
1179	" " "	Dighem Anomaly 34N V.L.F. - E.M.	As shown
1180	" " "	Dighem Anomaly 34N Ground Magnetics	As shown
1181	" " "	Dighem Anomaly 36xH V.L.F. - E.M. Line 20 000mE	As shown
1182	" " "	Dighem Anomaly 36xH V.L.F. - E.M. Line 20200mE	As shown
1183	" " "	Dighem Anomaly 36xH V.L.F.-E.M. Line 20400mE	As shown
1184	" " "	Dighem Anomaly 36xH V.L.F. - E.M. Line 20600mE	As shown
1185	" " "	Dighem Anomaly 36xH V.L.F. - E.M. Line 20800mE	As shown

TASH 1186	Cethana EL 10/76	Dighem Anomaly 3900xH V.L.F.-E.M. Line 5400mE	As shown
1187	" "	" Dighem Anomaly 3900xH Ground Magnetics Line 5400mE	As shown
1188	" "	" Dighem Anomaly 3900xH V.L.F. - E.M. Line 5500mE	As shown
1189	" "	" Dighem Anomaly 3900xH Ground Magnetics Line 5500mE	As shown
1190	" "	" Dighem Anomaly 3900xH V.L.F. - E.M. Line 5600mE	As shown
1191	" "	" Dighem Anomaly 3900xH Ground Magnetics Line 5600mE	As shown
1192	" "	" 1982 Sample Location Plan 1:25 000	

10. LIST OF APPENDICES

- Appendix I Cethana E.L.10/76 Geochemical Sample Ledgers-1982.
- Appendix II East Cethana Grid P.E.M. Survey

APPENDIX I

CETHANA EL 10/76 GEOCHEMICAL SAMPLE LEDGERS - 1982

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LOGGER

Tenement name CETHANA EL 10/76

No. Sample numbers 988451-60

Collected by M. FLIS

Sheet no. 1 of 5

Area / Prospect DIGHEM AREA 34N, 33XH

Date 11-1-83

Map / Photo reference.....

Analysed by ANALABS - COOBE

DPO no. 30324

A 02143

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %								Grid ref	Geological Observations
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo	Mn	Au			
		o/c sample type ***																
		s sample type ****																
988451	S			Auger		.75m		7	58	28				35			Om	orange sandy soils, Moine s/s float
452	S			"		.5		7	2	14				20			50mS	off-white sandy " " "
453	S			"		.5		3	X	14				15			100mS	white sandy " " "
988454	S			"		.6m		7	360	39				20				fine orange brown Moine s/s float
455	S			"		.75		4	X	8				25				light grey, gravels " " "
456	S			"		.45		5	5	10				35				dk grey, " " "
457	S			"		.35		3	3	7				25				dk beige/grey gravels " " "
458	S			"		.25		4	X	6				20				med grey gravels " " "
459	S			"		.15		2	3	7				25				dk grey gravels " " "
460	S			"		.50		5	X	8				30				dk grey gravels " " "

* Sample type ss = stream sediment oc = outcrop f = float s = soil

C.R.A. EXPLORATION . GEOCHEMICAL SAMPLE LEDGER

Tenement name CETANA EL 10/76 No. Sample numbers 795544 - 548 Collected by GAU Sheet no. 3 of 5
 Area / Prospect ROUND MT LIMESTONE ADIT Date 01 - 08 - 81
 Map / Photo reference Analysed by ANALABS (LOOEE) DPO no. 3002B
 A 02143

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations
		ss *	fl	wi	al	co	ca		pH	Cu	Pb	Zn	Ag	F	Au	Ba	W	Sn		
		oc	o/c sample type ***																	
		f	s sample type ****																	
795544	o/c	rc						5	11	12	x			x	x	x	3	ROUND HILL MINE WATER TUNNEL ADIT Dk gy compact limestone 1m from end of adit. sl. crystalline N.V.M.		
795545	%c	rc						7	23	61	x			x	x	x	x	Dk gy compact limestone 15m from S end of adit		
795546	%c	rc						7	16	21	x			x	40	x	x	Dk gy compact limestone 30m (approx) from S end of adit.		
795547	%c	rc						6	52	96	x			x	30	x	x	Dk gy compact limestone 40m (approx) from S end of adit		
795548	f	qs						5	1.0%	1.25%	x							Limonite buildup ~ 4m from end of S end of adit - junction with Moira Quartzite.		

* Sample type fl = stream sediment oc = outcrop f = float s = soil

C.R.A. EXPLORATION GEOCHEMICAL SAMPLE LEDGER

Tenement name... CETHANA E.L 10/76 No. ... Sample numbers... 795625 - 795640 Collected by... GP Sheet no. 4 of 5

Area / Prospect... ROUND HILL Date... 6.2.81

Map / Photo reference... A 02143 Analysed by... ANALABS (COOEE) DPO no. 26490, 26492, 26493

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo	Mn / Ni	Au	Sn / W	Bi	Co		
		o/c sample type ***																		
		s sample type ****																		
795625	SS	✓	4m	✓				15	50	35	X	X	25	INS. SAMPLE	3/x	3	5	Float 100% R. Cong.		
795626	%c	gs.						275	23.25%	50	140	2.0		0.083	6/x	X	15	South side of adit mouth, gl vein and qtzite + qtz grit.		
795627	%c	gs.	1m					2350	53.28%	50	105	1.0		0.50	8/x	X	20	Vein gl. 10cm over 1m. Host qtz grit - R py		
795628	%c	gs.						50	4.05%	20	13.5	8.0		X	X/x	X	25	f. gr sulphides in f. gr. qtz grit 10-15% py.		
795629	%c	gs.	15cm					300	2.33%	8700	37.5	4.5		0.05	4/x	X	35	V. hard sl. impure qtzite 2% diss. sulphides. Some min ² on joint planes		
795630	%c	gs.	20cm					40	3.00%	1550	6.0	6.5		X	X/x	X	15	Qtzite bed ± diss. sp - py - gl - cassiterite? Slugs of gl in rock no sulphide staining. Seam 40cm wide		
795631	%c	gs.	35cm					150	5.05%	9300	11.0	16		X	10/x	8	35	Brecciate bed of qtzite ± matrix of carb-chlorite-sulph. -gl-sp-cp-py 5-10% sulph.		
795632	F	gs.						20	5.60%	895	2.0	15		X	X/x	X	35	Bl shale (strong +ve acid test) v. hard brittle ± 10% v. f. gr py.		
795633	F	gs.						5	2.15%	40	1.5	X		X	X/x	X	35	Bl. limestone crystalline ± 3% f. gr py.		
795634	F	gs.						3775	6.58%	120%	647	1.0		1.58	10/x	X	40	Boulder of quartzite ± 1cm seam of gl.		
795635	%c	gs.	20cm					60	8.00%	180	7.5	7.5		0.008	X/x	2	20	Bl hard shale ± 20-40% f. gr py.		
795636	%c	gs.						30	3.60%	25	2.5	6.0		X	3/x	X		Hard bl quartzite much f. gr py. strong sulphide staining		
795637	SS	0.3	10m	✓				15	5.00%	50	X	1.0	35	X	60/15	X	25	float R. Cong, qtzite, qtzose seeds + minor let. + AV-lava.		
795638	pc	0.3	10m	✓				20	2.65%	145	10	3	35	0.017	60/W	10	30	Same loc. Conc some coarse frags of haematite, black non-mag min + galena.		
795639	F	gs.						4475	24.14%	50	1225	2.5		X	X/x	X	15	Galena ore from old tramway.		
795640	SS	✓	2m	✓				40	1.90%	265	0.5	X	20	0.017	5/x	2	25	Cl drains E. Cethana prospect. Little material under transport.		

* Sample type ss = stream sediment oc = outcrop f = float s = soil pc panned concentrate

** Stream sed sample description fl = flow m³/sec wi = width m al = alluvial

APPENDIX II

EAST CETHANA GRID P.E.M. SURVEY

EAST CETHANA GRID P.E.M. SURVEYCETHANA E.L. 10/76 NORTH TASMANIA

Dipole-Dipole Configuration. Tx-Rx 100m Separation

Station Spacing : 50m Time Base : 10msec

Channel:	1	2	3	4	5	6	7	8
<u>Line 20000mE</u>								
3020mS	-24	0	-4	-4	-1	-4	-3	-2
3070mS	-11	-6	-1	-1	-4	-4	-3	-5
3120mS	-6	0	-1	-2	-2	-1	-1	-1
3170mS	-10	-3	-1	-1	-1	-1	0	0
3220mS	-5	-1	0	-1	0	-1	0	0
3270mS	-6	-2	-2	-1	-1	-1	0	0
3320mS	-2	-2	0	0	-1	0	0	0
3370mS	-5	0	-1	-1	-2	-2	-2	-1
3420mS	-7	-1	-1	-1	-2	-1	-1	-2
3470mS	-4	0	-1	-1	-2	-1	-1	-1
3520mS	-3	-3	0	0	0	0	0	0
<u>Line 20200mE</u>								
3140mS	-16	-23	-23	32	-61	-2	-34	-45
3190mS	-24	0	-4	-14	-6	-11	-6	-6
3240mS	-17	-12	-9	-8	-1	-2	-1	-6
3290mS	-2	5	-3	-3	-3	-4	-5	0
3340mS	-10	-2	-1	-4	0	-6	-1	0
3390mS	-6	1	0	-4	1	-1	-1	-3
3440mS	-9	0	0	0	0	-1	-1	-1
3490mS	-19	-2	2	-1	0	0	0	0
3450mS	-2	-2	-3	-1	0	0	0	0
3590mS	-3	-1	-3	1	0	0	0	-2

Line 20400mE

3200mS	-15	-15	-16	-26	-26	-40	-50	-70
3250mS	-12	-24	-5	-15	-5	-29	-23	-22
3300mS	-9	-4	-3	-5	-4	-1	0	0
3350mS	-4	-4	-3	-6	-3	-1	-2	-1
3400mS	-23	-2	-1	-1	-4	0	-2	-4
3450mS	-3	1	-1	-1	-3	-2	-1	0
3500mS	-10	0	-1	-1	-1	-3	-1	0
3550mS	-10	-3	-1	-4	-1	0	0	0
3600mS	-14	-2	-2	-2	-1	-1	-1	-1

Line 20600mE

3230mS	-9	1	-1	-6	-4	-4	-4	-4
3280mS	-9	2	-4	-1	-1	0	0	-3
3330mS	-5	-1	-1	-1	-2	-3	-2	-2
3380mS	-6	0	-2	-2	-2	-2	-1	-1
3430mS	-5	-1	-1	-1	-1	-1	-1	0
3480mS	-4	1	-1	-1	0	0	-1	-1
3530mS	-6	-2	-2	-2	-3	-1	-2	-1
3580mS	-6	-1	-4	-4	-2	-4	-4	0
3630mS	-5	0	0	0	0	0	0	0
3680mS	-5	-3	-1	-1	0	0	0	0
3730mS	-6	-1	-1	-3	-1	0	0	0
3780mS	-9	3	0	0	0	0	0	0

Line 20800mE

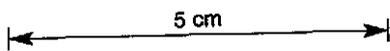
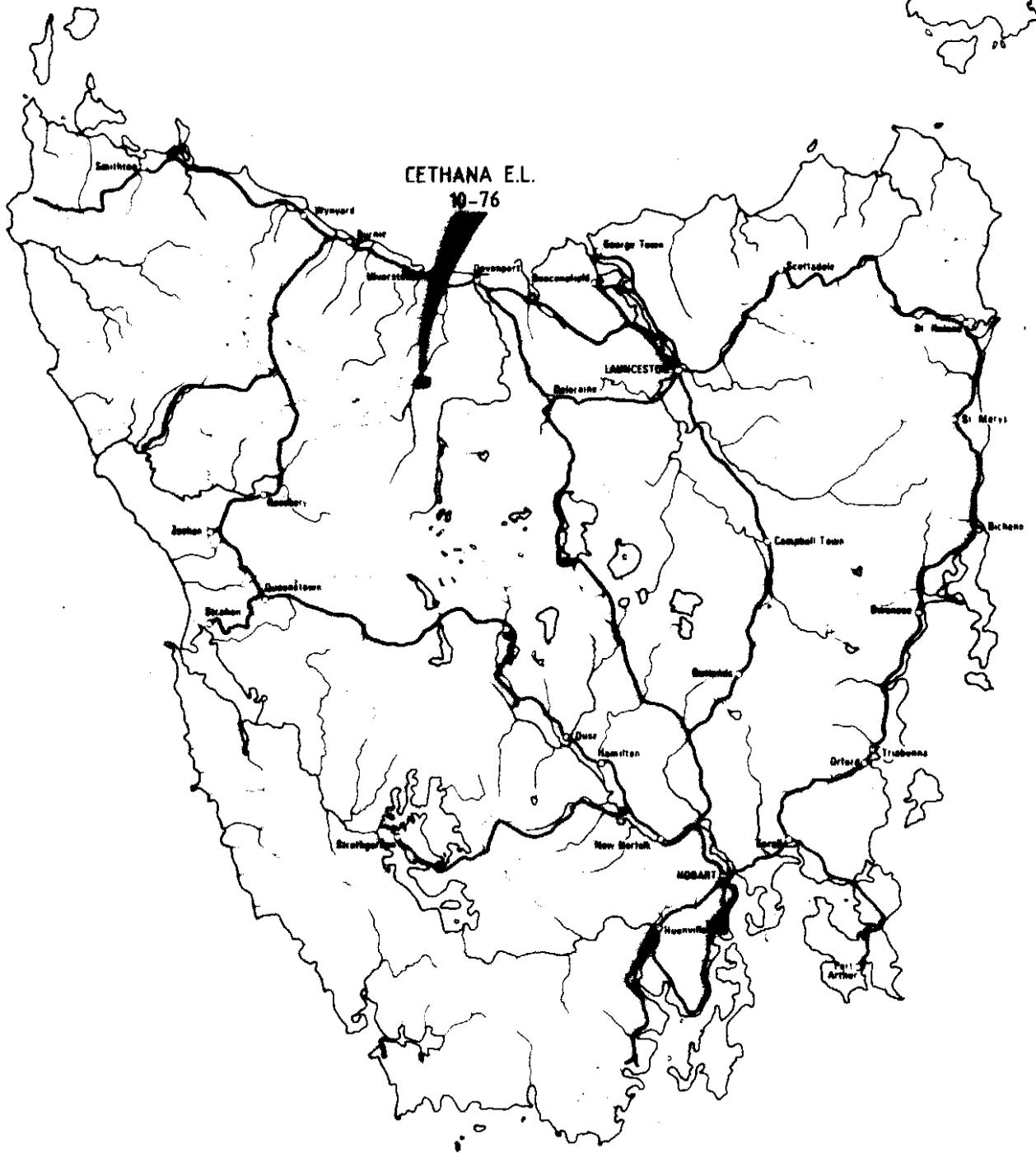
3300mS	-14	-4	-4	-5	-10	-10	-19	-20
3350mS	-6	-1	-1	-3	-3	-3	-1	-1
3400mS	-2	-1	0	0	-1	-1	0	0
3450mS	0	-2	-3	-4	0	0	0	0
3500mS	-9	-1	-1	-1	-1	0	0	0
3550mS	-14	2	-1	0	-2	-2	0	0
3600mS	-9	0	0	0	-3	0	0	0
3650mS	-4	-1	-1	-1	-1	-1	0	0

3700mS	-2	-1	0	-1	-1	0	0	0
3750mS	-5	-4	-1	-1	-4	0	-1	-1
3800mS	-11	-2	-2	-2	-1	-4	-4	-5

605021

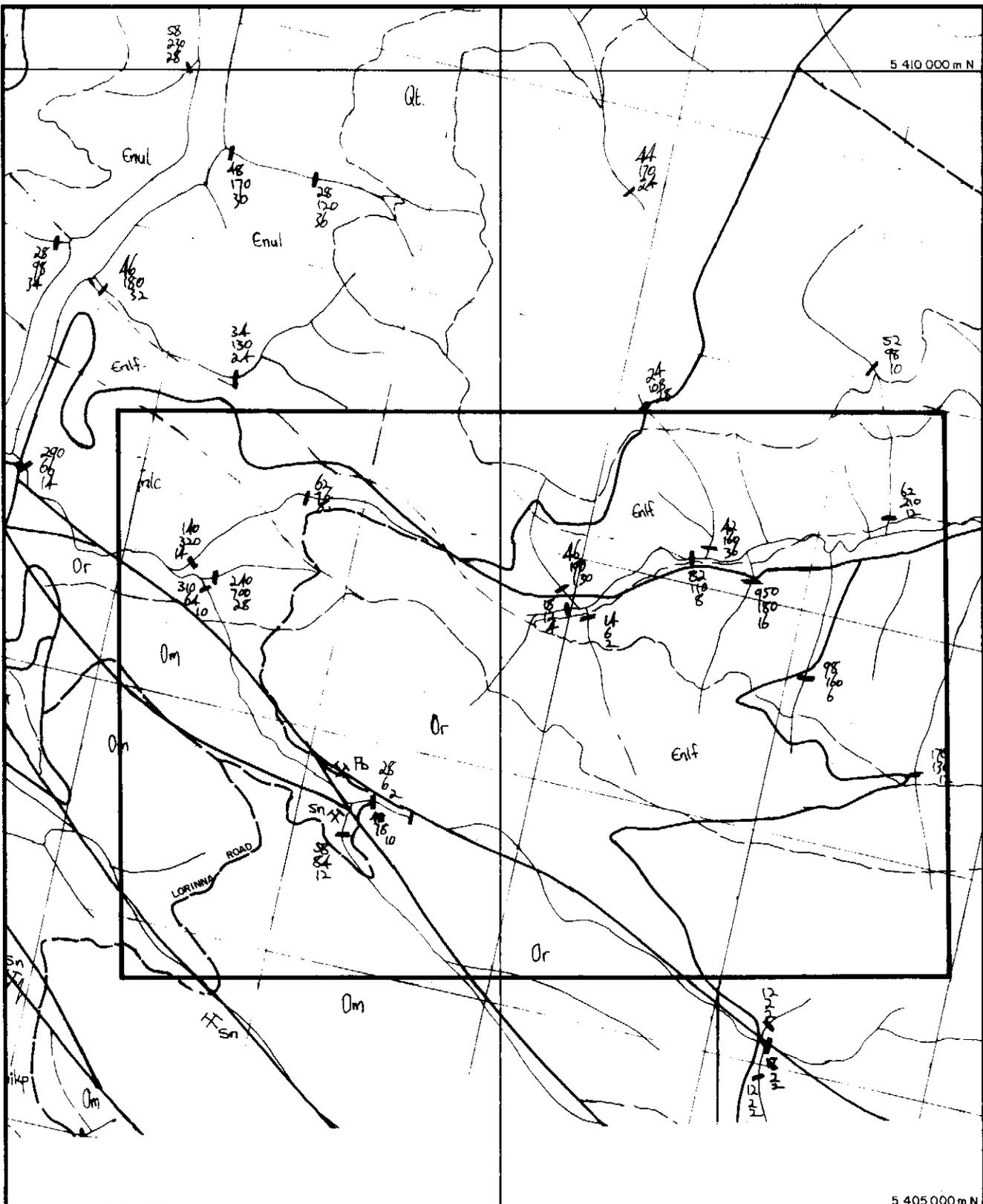
TASMANIA

Scale 1:2 000 000



CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10-76 LOCALITY PLAN	
REF	SK55
SCALE	1 : 2000 000
AUTHOR	M.F.
DATE	JAN. 1983
DRAWN	R.G.
REPORT NO.	11923
TASH NO.	1170

605022



LEGEND:

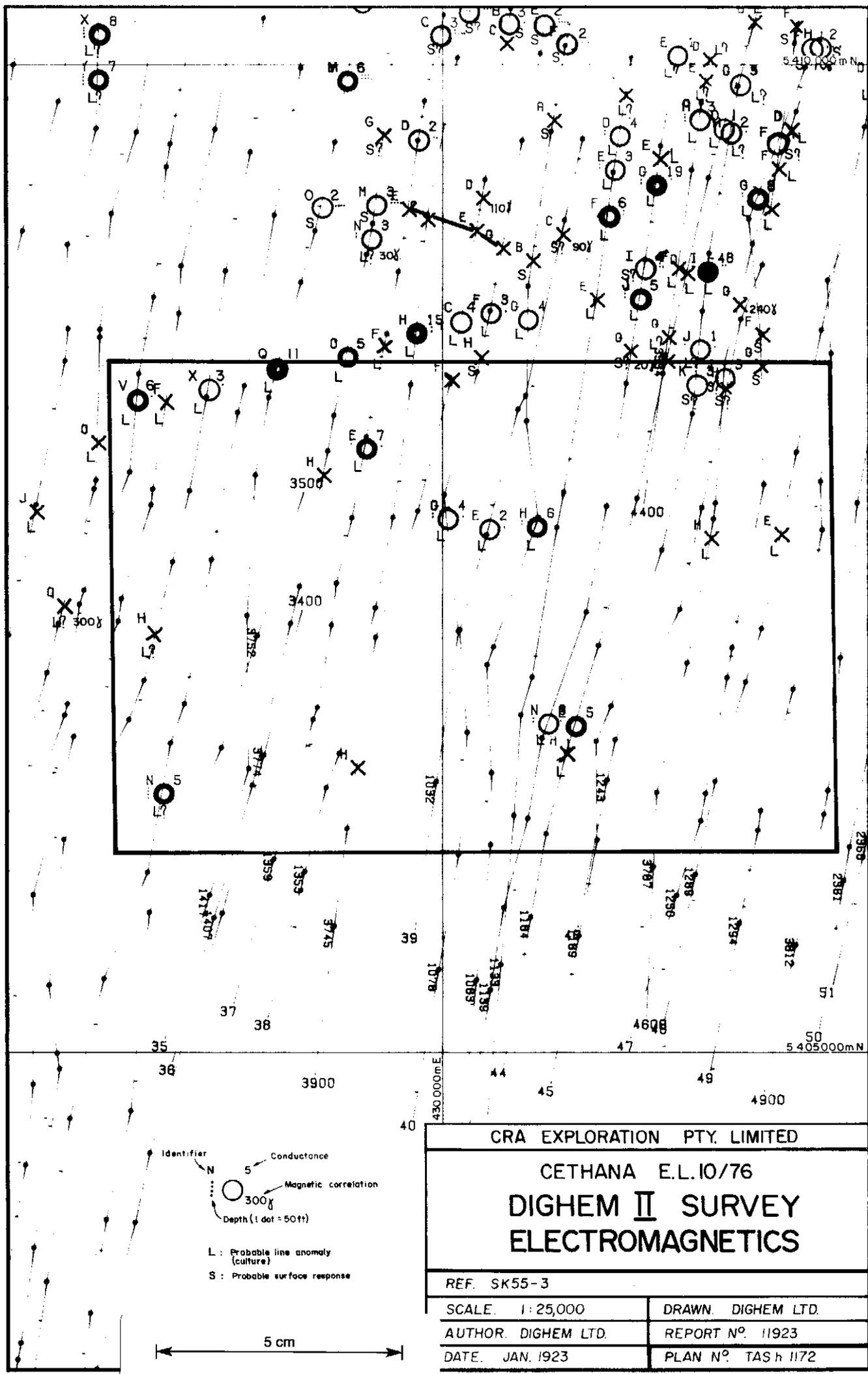
- Qt - Quaternary Talus
- Tb - Tertiary Basalt
- Om - Ordovician Moinda Sandstone
- Or - Ordovician Roland Conglomerate
- Enul - Cambrian Rhyolite lavas - unaltered
- Enlc - Altered to unaltered crystal tuffs and coarser tuffs
- Enlf - Schists and schistose tuffs and agglomerates
- Geochemical drainage sample location + results in p.p.m.
- Road, track
- Creek
- Geological boundary
- Fault
- Mine workings

5 cm

430 000 m E

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L.10/76	
GEOLOGY PLAN	
REF. SK 55-3	
SCALE. 1:25,000	DRAWN. T.M. PORTER
AUTHOR. T.M. PORTER	REPORT N ^o . 11923
DATE. JAN. 1983	PLAN N ^o . TASH 1171

605023

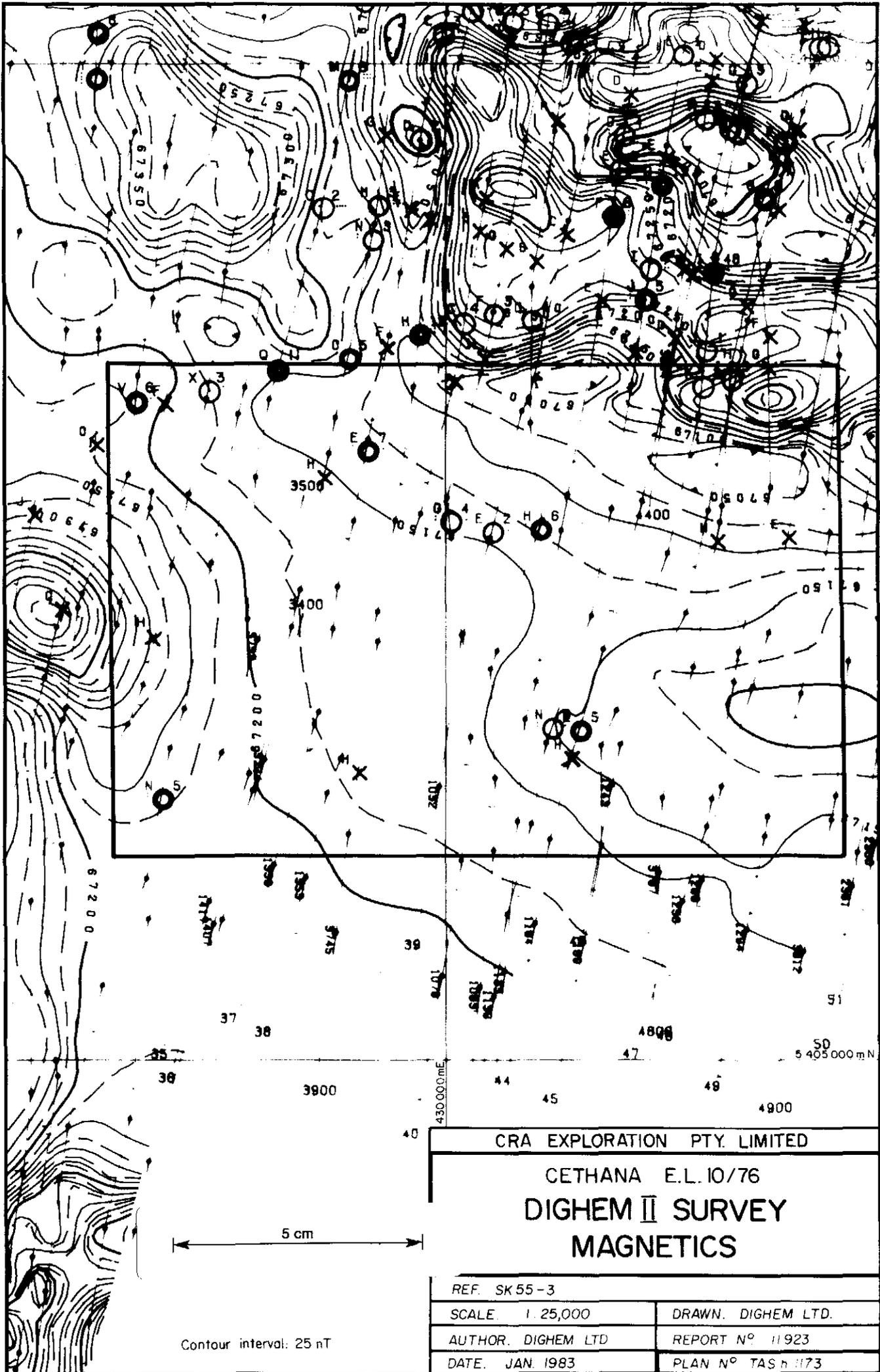


Identifier
 Conductance
 Magnetic correlation
 Depth (1 dot = 50ft)
 L: Probable line anomaly (culture)
 S: Probable surface response

5 cm

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L.10/76	
DIGHEM II SURVEY	
ELECTROMAGNETICS	
REF. SK55-3	
SCALE 1:25,000	DRAWN DIGHEM LTD.
AUTHOR. DIGHEM LTD.	REPORT N ^o . 11923
DATE. JAN. 1923	PLAN N ^o . TASH 1172

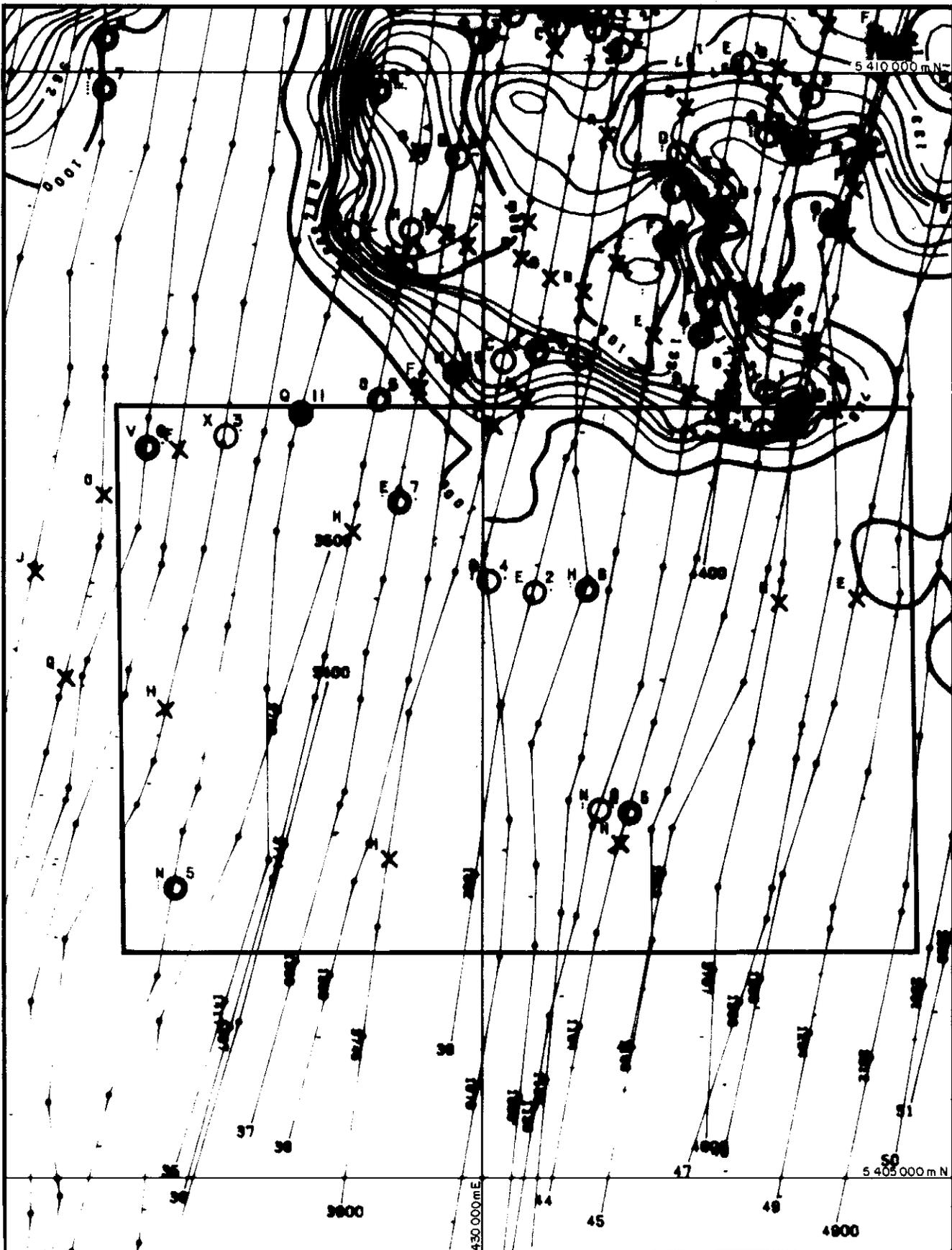
605024



Contour interval: 25 nT

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76	
DIGHEM II SURVEY	
MAGNETICS	
REF. SK 55-3	
SCALE 1:25,000	DRAWN. DIGHEM LTD.
AUTHOR. DIGHEM LTD	REPORT N° 11923
DATE. JAN. 1983	PLAN N° TAS n 1173

605025



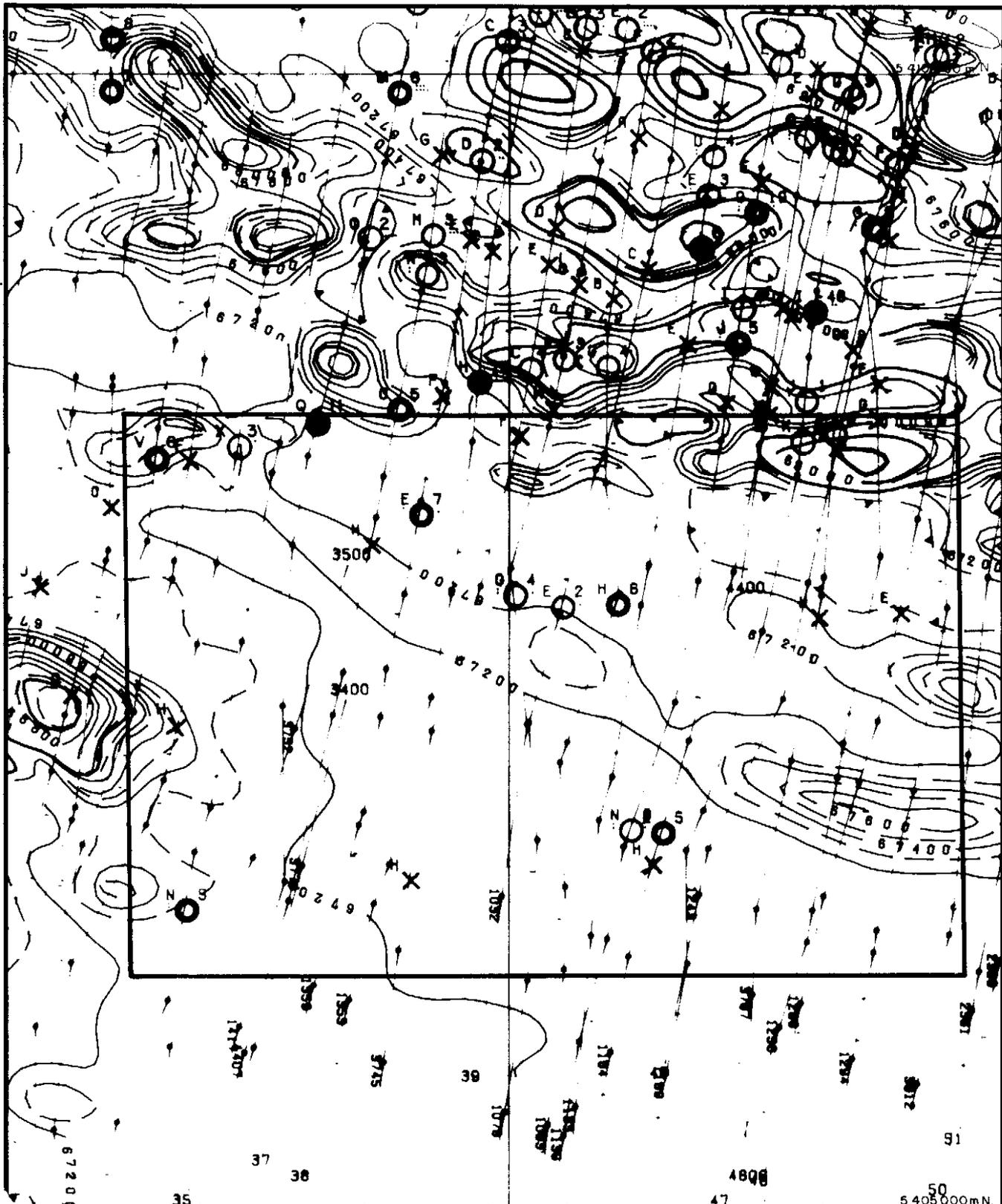
5 cm

Contour interval
per decade :
(Ohm-m)

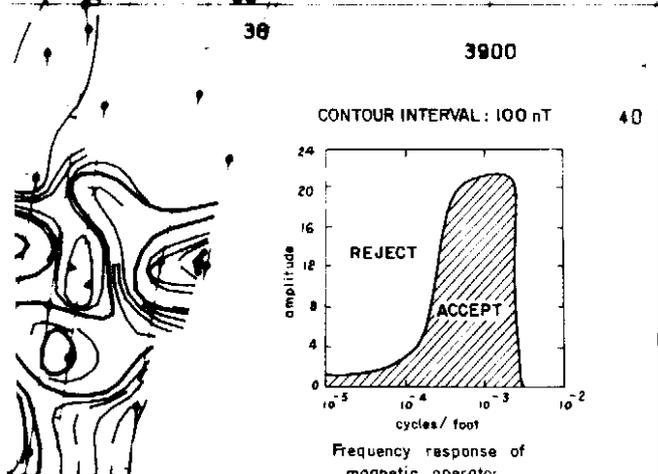
100
75
56
42
31
23
17
13
10

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L.10/76	
DIGHEM II SURVEY	
RESISTIVITY	
REF. SK55-3	
SCALE. 1:25,000	DRAWN. DIGHEM LTD.
AUTHOR. DIGHEM LTD.	REPORT N° 11923
DATE JAN. 1983	PLAN N° TASH 1174

605026



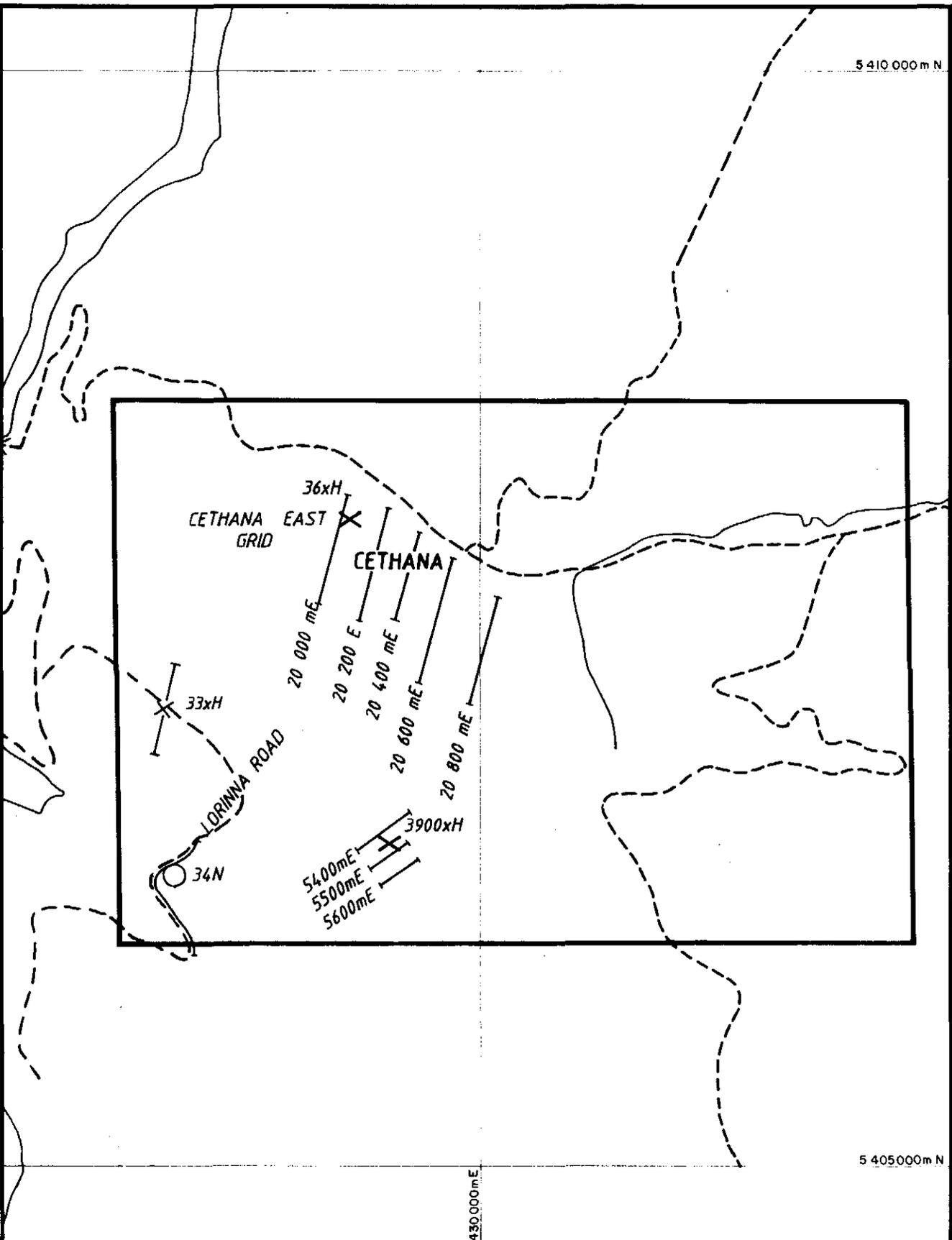
5 cm



CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76	
DIGHEM II SURVEY	
ENHANCED MAGNETICS	
REF. SK 55-3	
SCALE. 1:25,000	DRAWN. DIGHEM LTD.
AUTHOR. DIGHEM LTD	REPORT N° 11923
DATE. JAN 1983	PLAN N° TASH 1175

605027

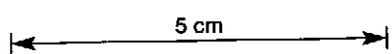
5 410 000 m N

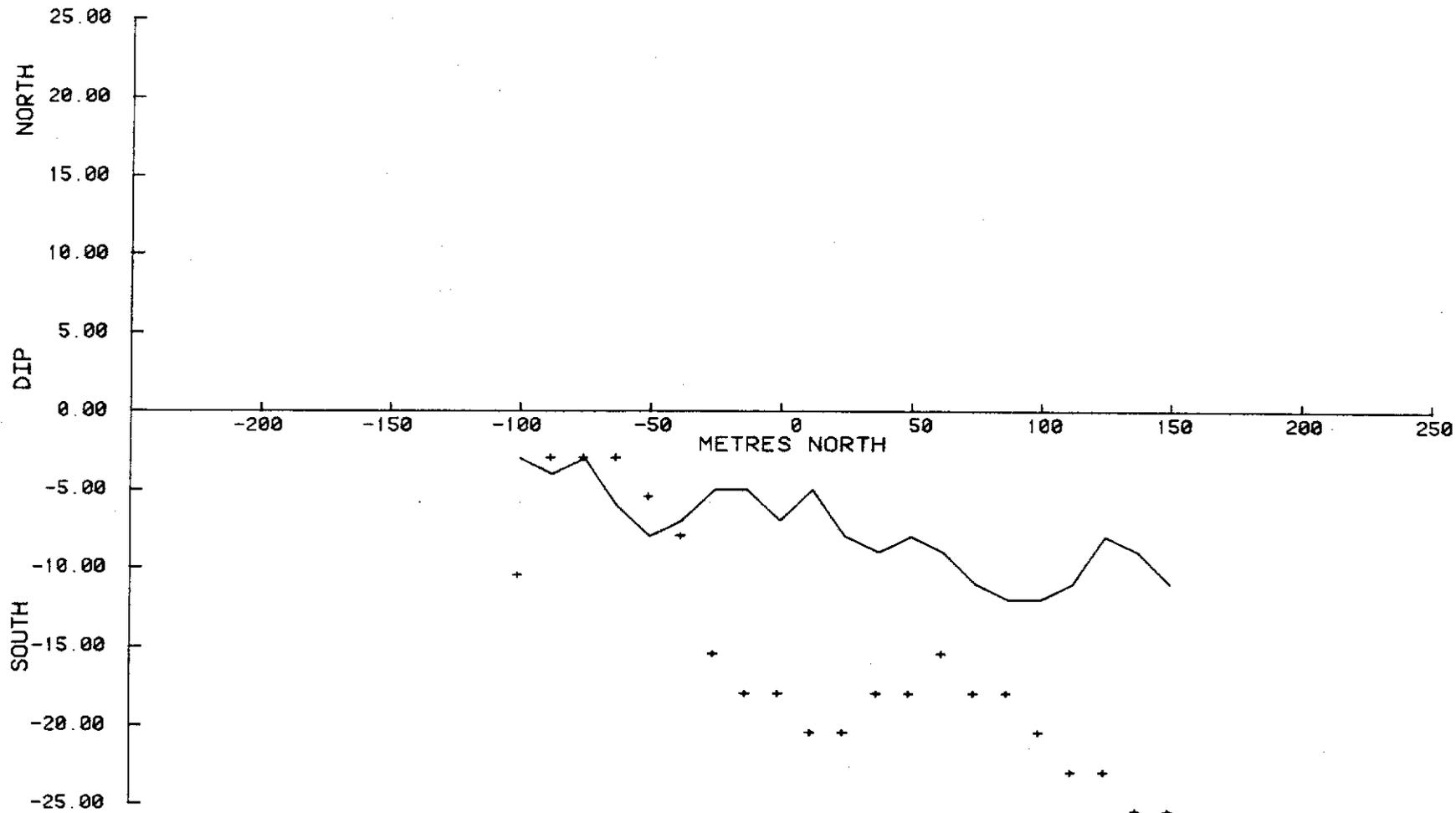


5 405 000 m N

430 000 m E

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76	
DIGHEM II SURVEY	
GROUND FOLLOW-UP	
REF. SK 55-3	
SCALE. 1: 25,000	DRAWN. R.T.
AUTHOR. M.F. FLIS	REPORT N°. 11923
DATE. JAN. 1983	PLAN N°. TASH 1176



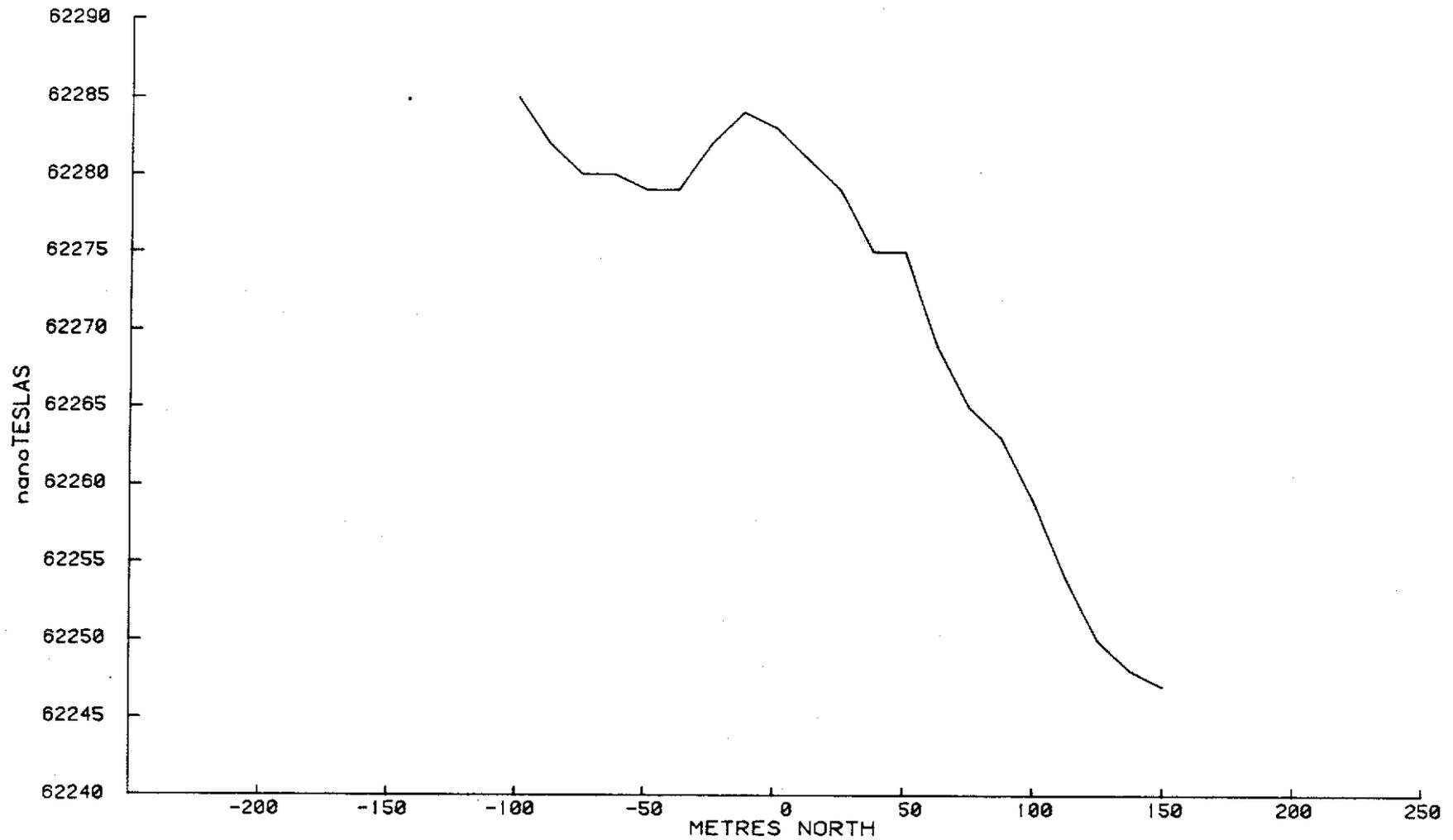


— DIP ANGLE (DEGREES)
 + + + MAXIMUM HORIZONTAL FIELD STRENGTH
 (100% RANGE WITH ARBITRARY GAIN)

TRANSMITTER: NORTH WEST CAPE- 22.3 kHz

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76 Dighem Anomaly 33xH VLF-EM	
Ref: SK 55-3	
Scale: As Shown	Drawn:
Author: M. F. Fli	Report No: 11923
Date: Jan 1983	Plan No: TASH 1177

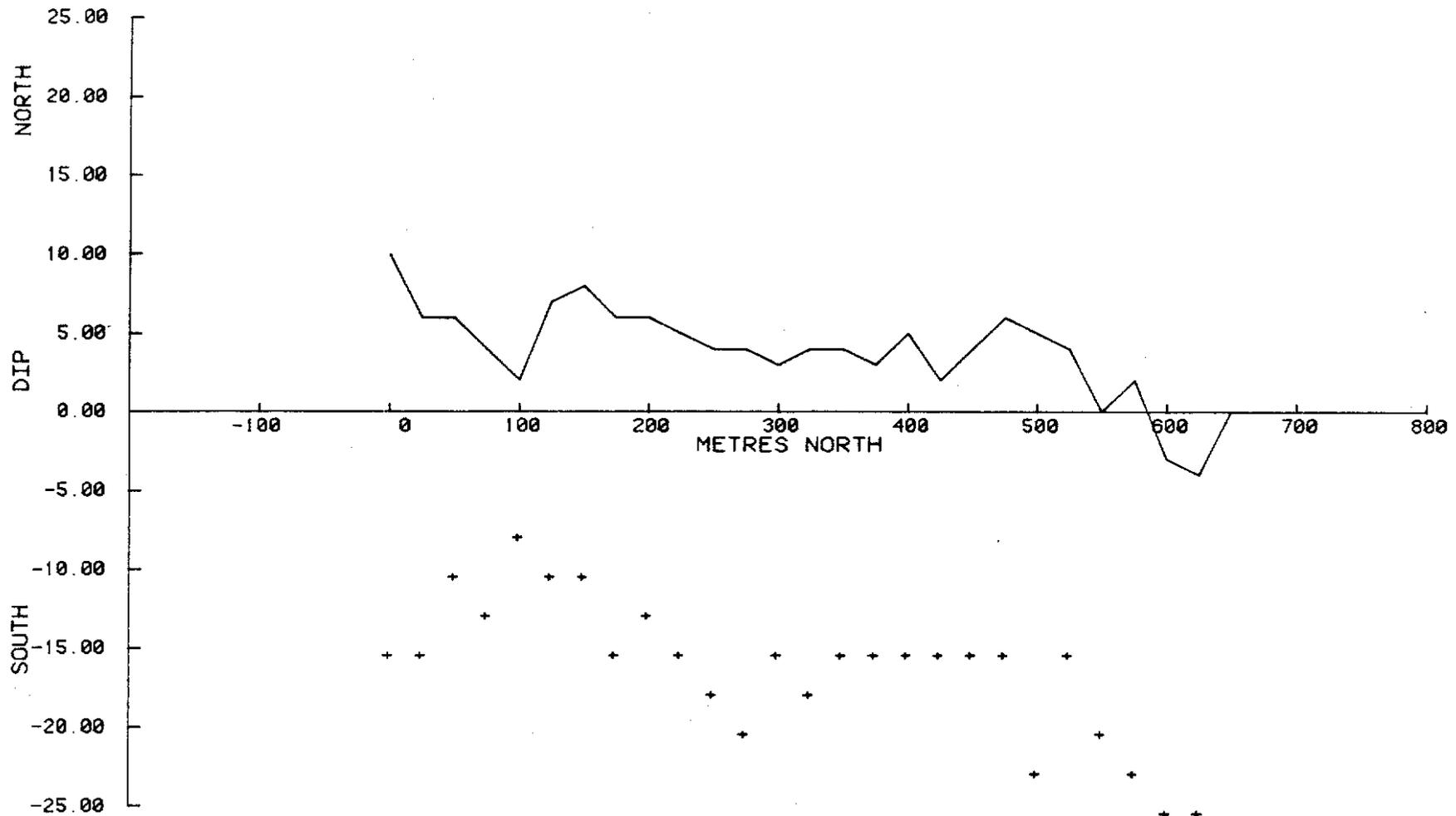
605028



G-856 MAGNETOMETER, 2m POLE-MOUNTED SENSOR

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76 Dighem Anomaly 33xH Ground Magnetice	
Ref. SK 55-3	
Scale: As Shown	Drawn
Author M.F. Flis	Report No. 11923
Date Jan 1983	Plan No. TASH 1178

605029

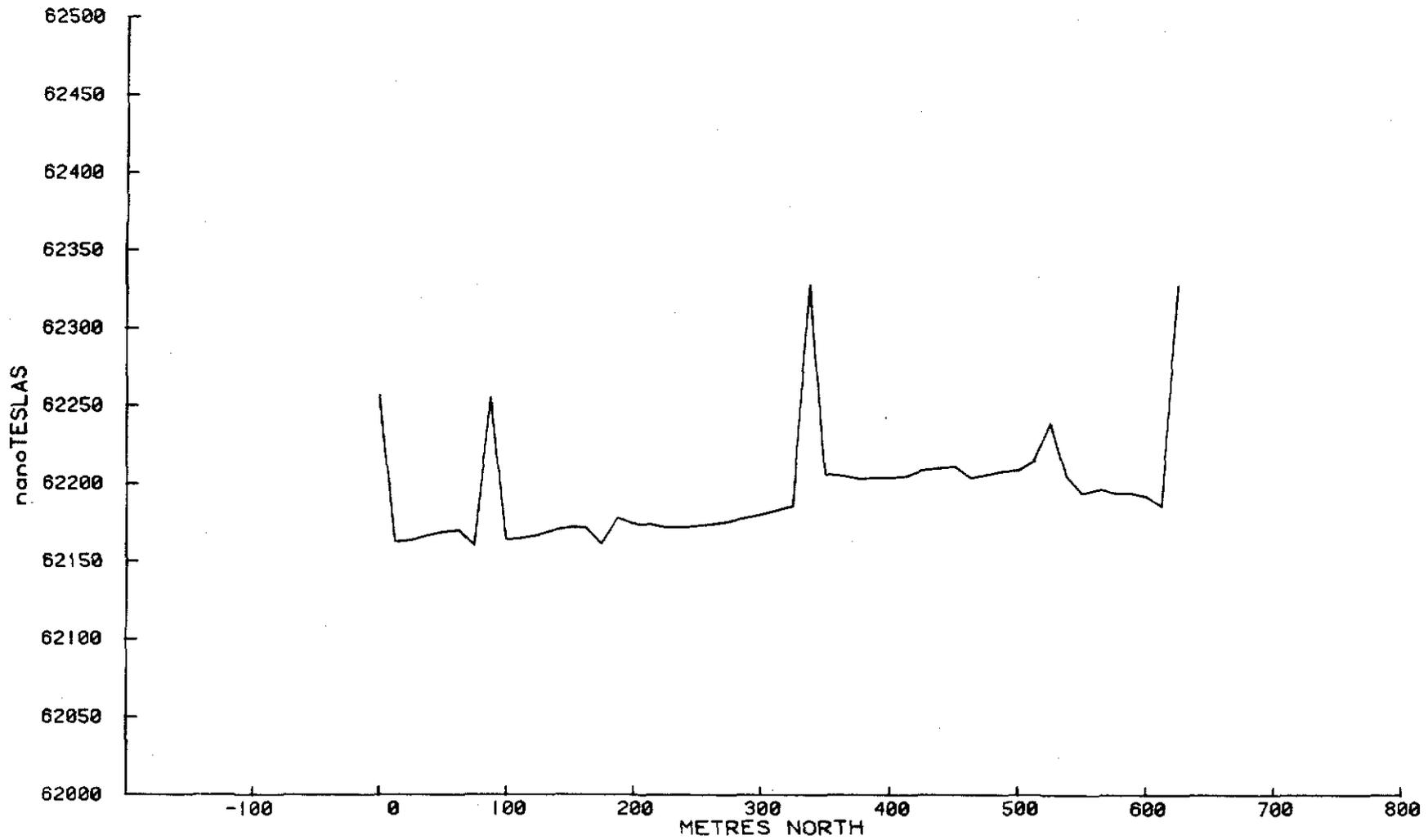


— DIP ANGLE (DEGREES)
 + + + MAXIMUM HORIZONTAL FIELD STRENGTH
 (100% RANGE WITH ARBITRARY GAIN)

TRANSMITTER: NORTH WEST CAPE-22.3 kHz

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76 Dighem Anomaly 34N VLF-EM	
Ref. SK 55-3	
Scale A ₁ Shown	Drawn
Author M. F. Fli ₁	Report No 11923
Date: Jan 1983	Plan No: TASH 1179

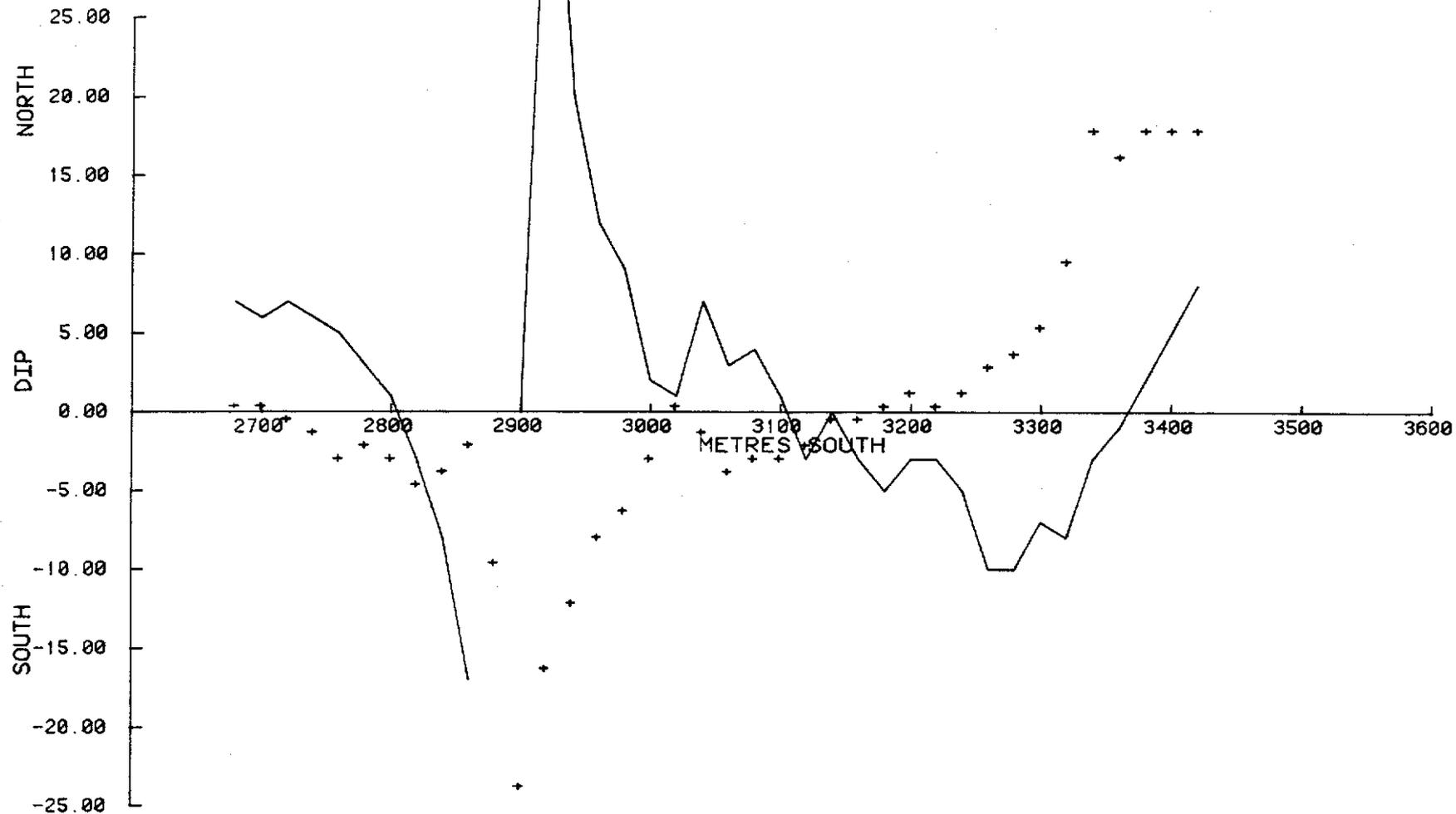
605030



G-858 MAGNETOMETER, 2m POLE-MOUNTED SENSOR

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76 Dighem Anomaly 34N Ground Magnetice	
Ref	SK 55-3
Scale	As Shown
Author	M.F. Ellis
Date	Jan 1983
Report N°	11923
Plan N°	TASH 1180

605031



— DIP ANGLE (DEGREES)
 + + + MAXIMUM HORIZONTAL FIELD STRENGTH
 (300% RANGE WITH ARBITRARY GAIN)

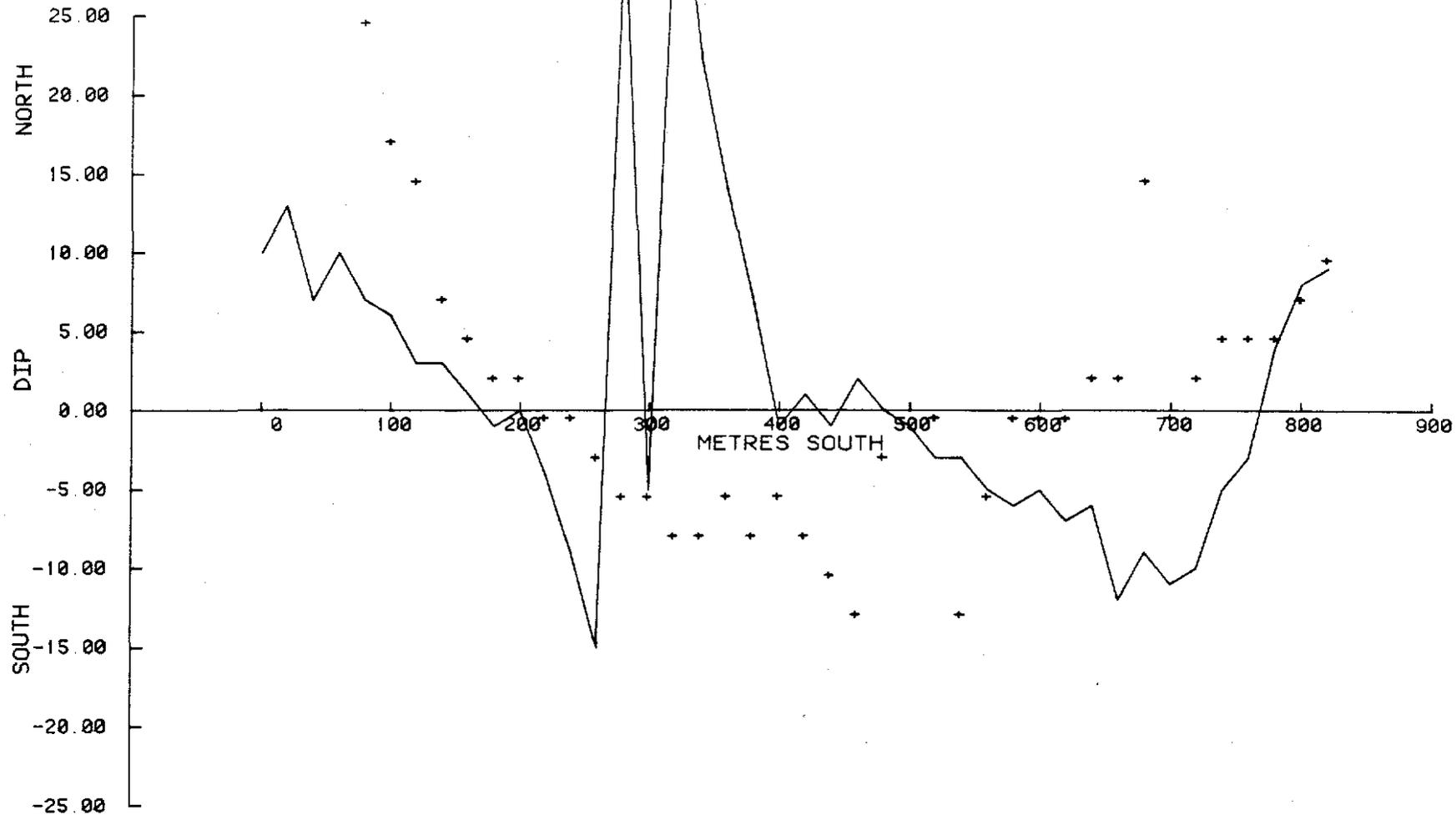
TRANSMITTER: NORTH WEST CAPE-22.3 kHz

CRA EXPLORATION PTY. LIMITED

CETHANA E.L. 10/76
 Dighem Anomaly 36xH
 VLF-EM Line 20000mE

Ref SK 55-3	
Scale A as Shown	Drawn
Author M. F. Fli	Report No. 11923
Date: Jan 1983	Plan No. TASH 1181

605032

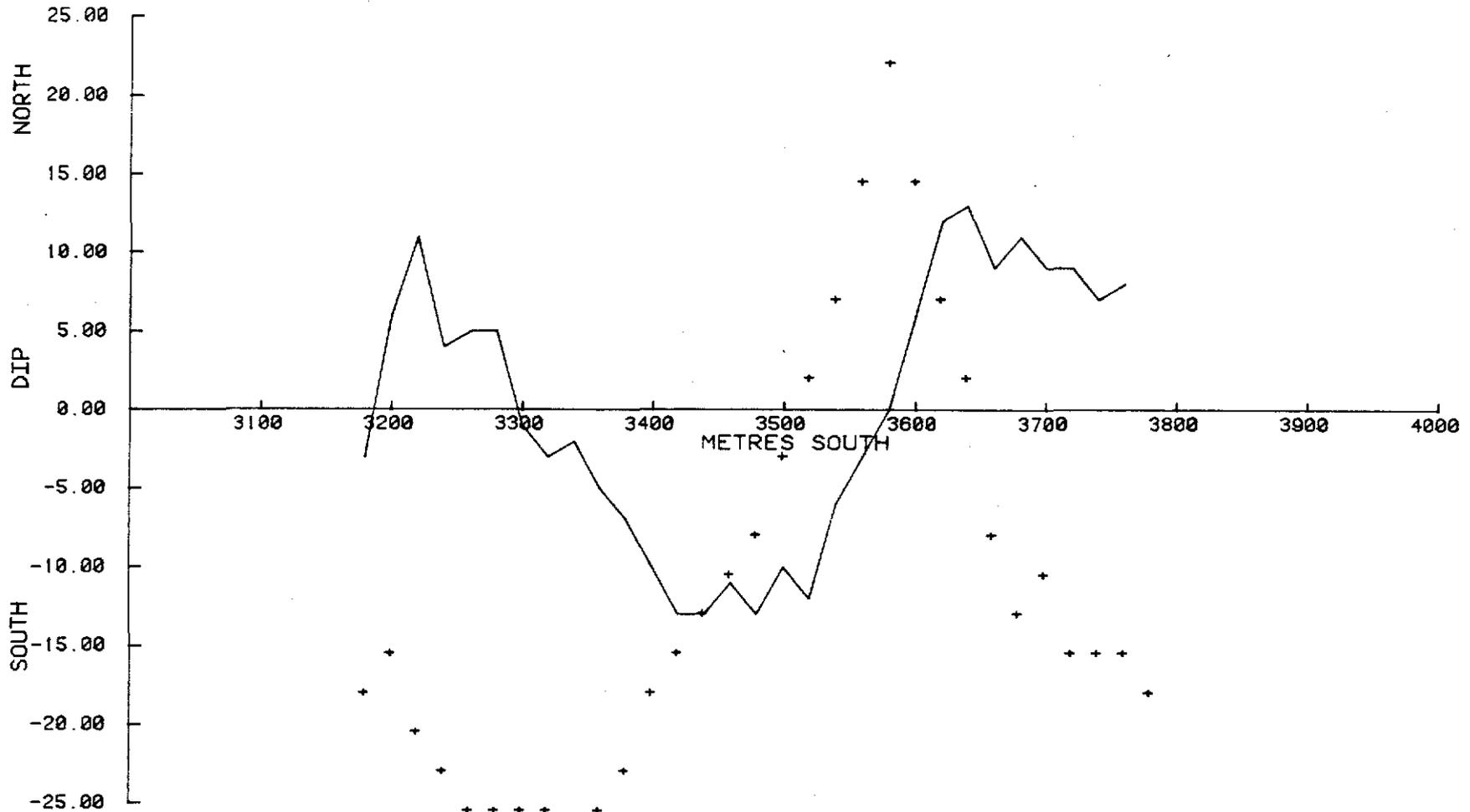


— DIP ANGLE (DEGREES)
 + + + MAXIMUM HORIZONTAL FIELD STRENGTH
 (100% RANGE WITH ARBITRARY GAIN)

TRANSMITTER: NORTH WEST CAPE-22.3 kHz

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76 Diphen Anomaly 36xH VLF-EM Line 20200mE	
Ref SK 55-3	
Scale As Shown	Drawn
Author M.F.Flie	Report No. 11923
Date Jan 1983	Plan No. TASH 1182

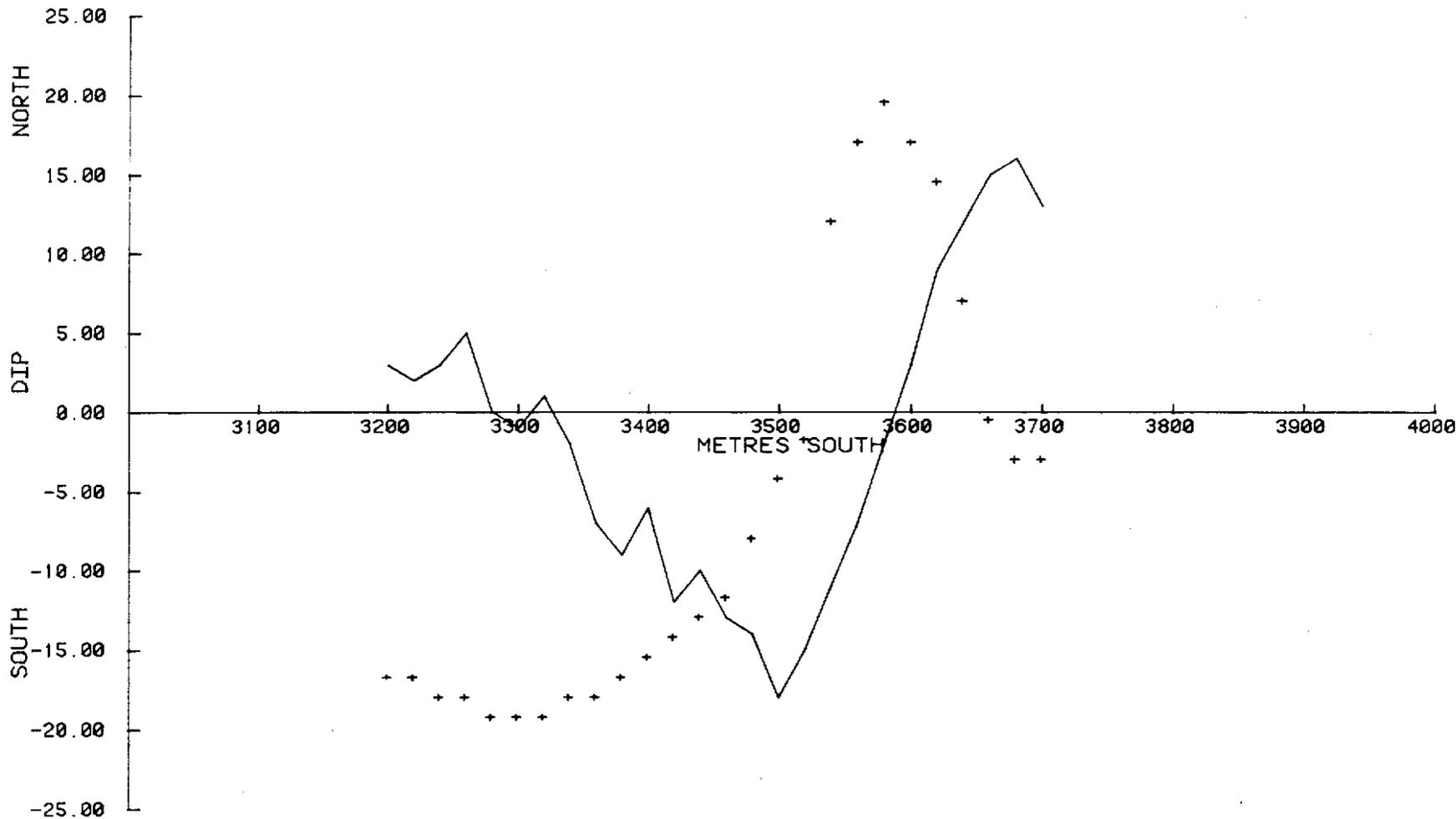
605033



— DIP ANGLE (DEGREES)
 + + + MAXIMUM HORIZONTAL FIELD STRENGTH
 (100% RANGE WITH ARBITRARY GAIN)
 TRANSMITTER: NORTH WEST CAPE-22.3 kHz

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76 Dighem Anomaly 36xH VLF-EM Line 20400mE	
Ref	SK 55-3
Scale As Shown	Drawn
Author M. F. Fli	Report No. 11923
Date Jan 1983	Plan No. TASH 1183

605034



— DIP ANGLE (DEGREES)
 + + + MAXIMUM HORIZONTAL FIELD STRENGTH
 (200% RANGE WITH ARBITRARY GAIN)

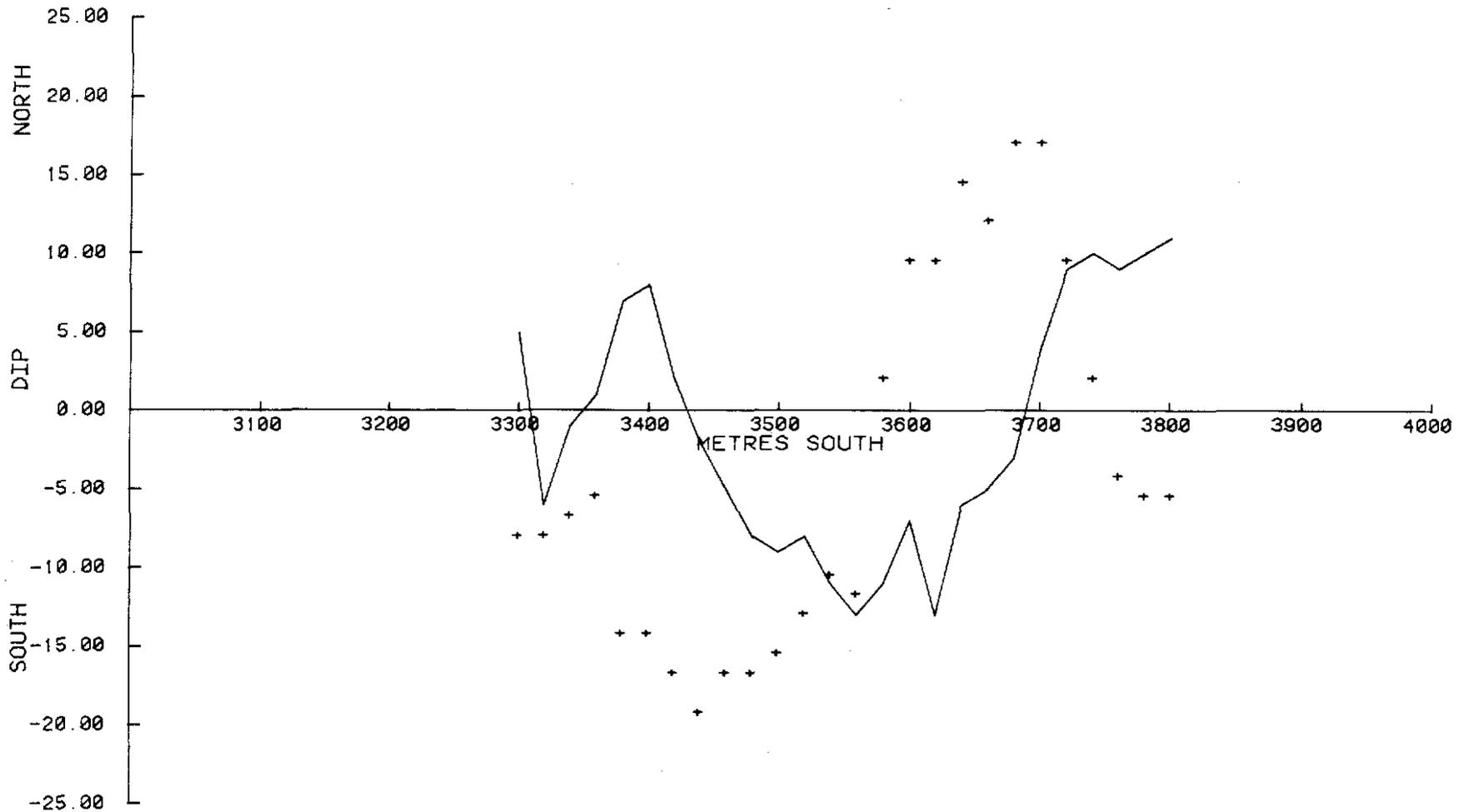
TRANSMITTER: NORTH WEST CAPE-22.3 kHz

CRA EXPLORATION PTY. LIMITED

CETHANA E.L. 10/76
 Dighem Anomaly 36xH
 VLF-EM Line 20600mE

Ref SK 55-3	Drawn
Scale As Shown	Author M.F. Flie
Date Jan 1983	Report No 11923
	Plan No. TASH 1184

602032

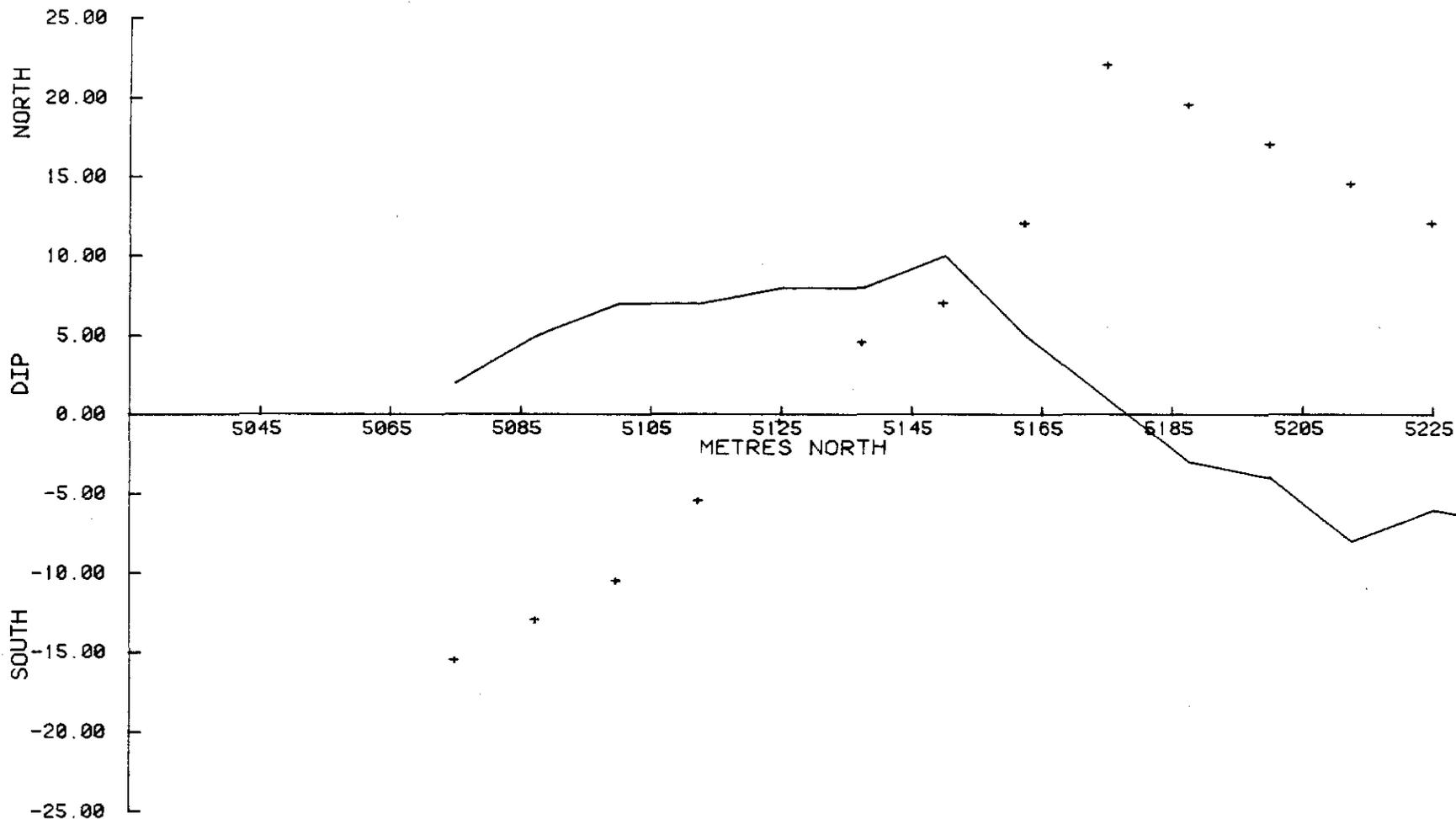


— DIP ANGLE (DEGREES)
 + + + MAXIMUM HORIZONTAL FIELD STRENGTH
 (200% RANGE WITH ARBITRARY GAIN)

TRANSMITTER: NORTH WEST CAPE-22.3 kHz

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76 Diphen Anomaly 36xH VLF-EM Line 20800mE	
Ref	SK 55-3
Scale	As Shown
Author	M.F. Fli
Date	Jan 1983
Drawn	
Report No	11923
Plan No	TASH 1185

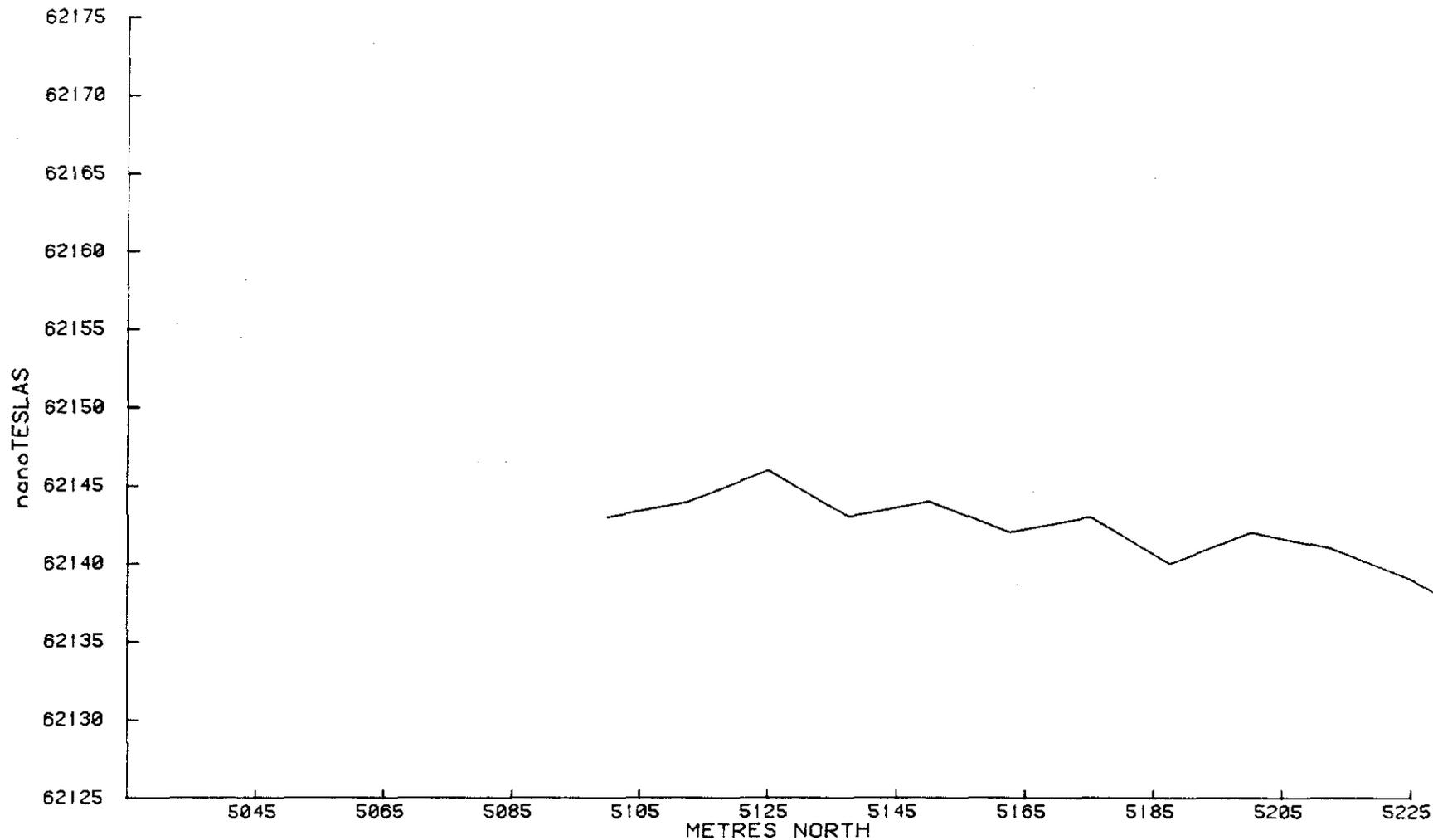
605036



— DIP ANGLE (DEGREES)
 + + + MAXIMUM HORIZONTAL FIELD STRENGTH
 (100% RANGE WITH ARBITRARY GAIN)
 TRANSMITTER: NORTH WEST CAPE-22.3 KHz

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76	
Dighem Anomaly 3900xH	
VLF-EM Line 5400mE	
Ref	SK 55-3
Scale	A _s Shown
Author	M.F.Flie
Date	Jan 1983
Drawn	
Report No.	11923
Plan No.	TASH 1186

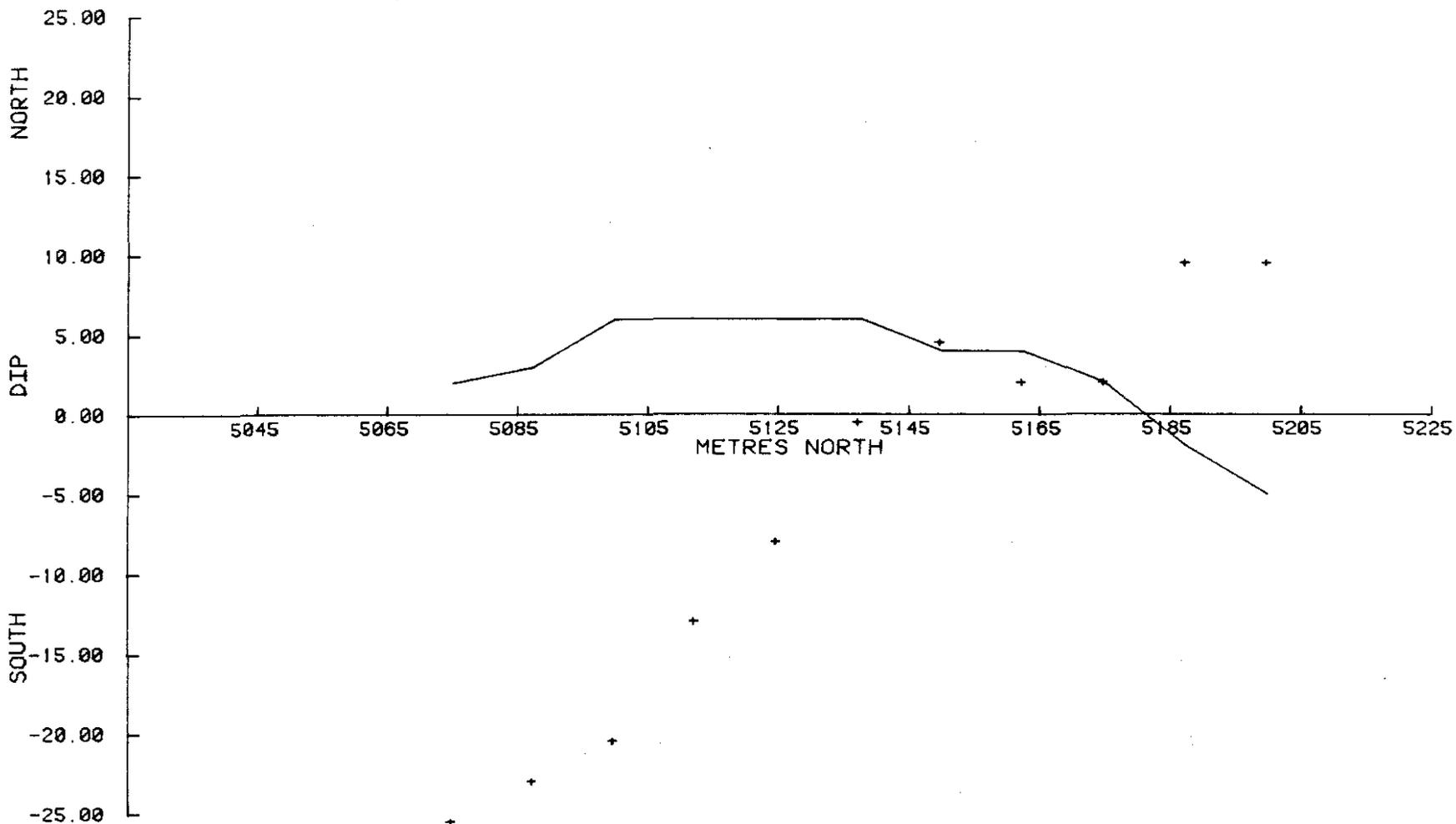
605037



G-856 MAGNETOMETER. 2m POLE-MOUNTED SENSOR

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76 Dighem Anomaly 3900xH Ground Magnetics Line 5400mE	
Ref SK 55-3	
Scale As Shown	Drawn
Author M.F. Fli	Report No 11923
Date Jan 1983	Plan No TASH 1187

603038

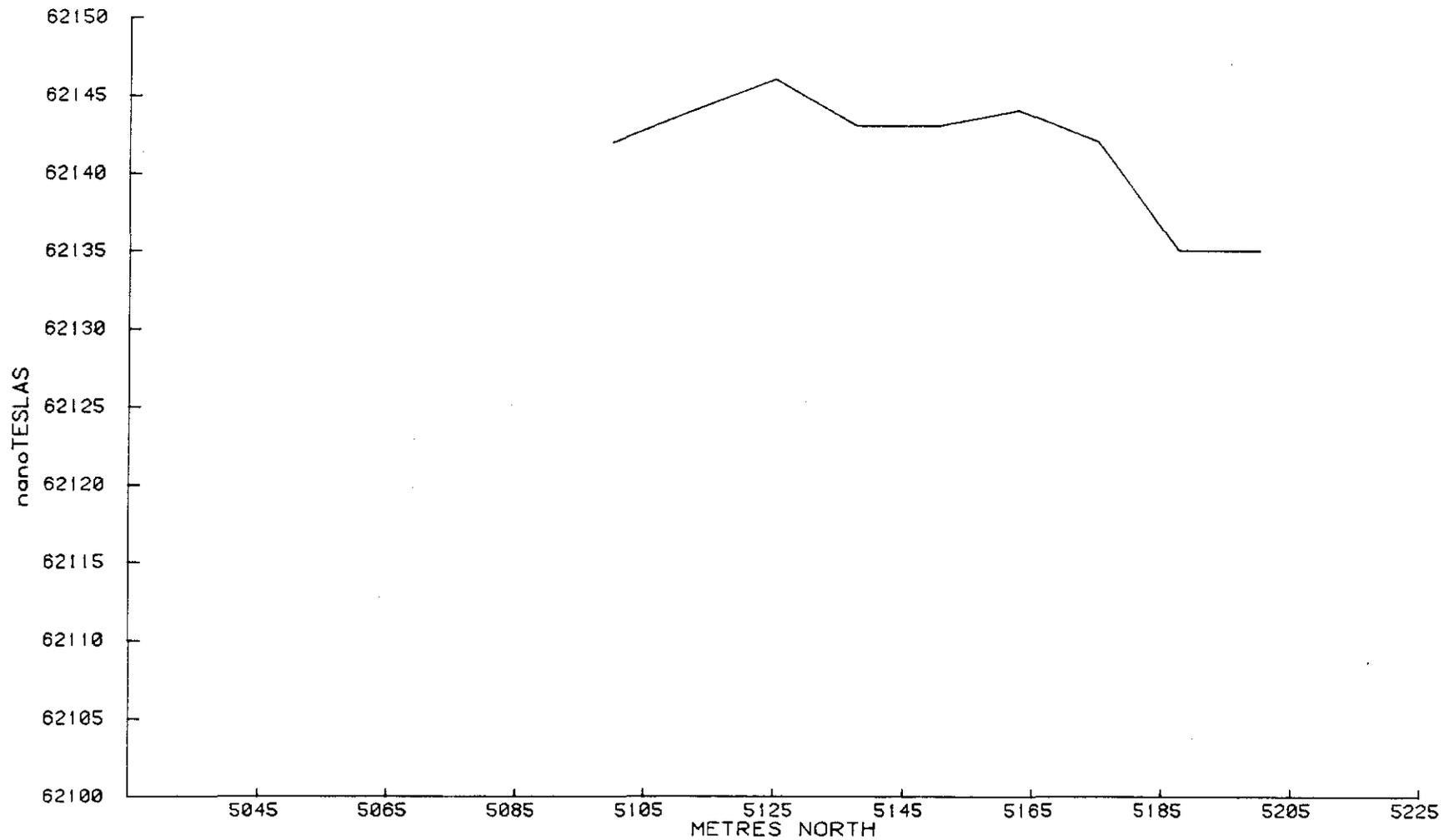


— DIP ANGLE (DEGREES)
 + + + MAXIMUM HORIZONTAL FIELD STRENGTH
 (100% RANGE WITH ARBITRARY GAIN)

TRANSMITTER: NORTH WEST CAPE-22.3 KHz

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76 Dighem Anomaly 3900xH VLF-EM Line 5500mE	
Ref SK 55-3	
Scale As Shown	Drawn
Author M.F. Flie	Report No 11923
Date Jan 1983	Plan No TASH 1188

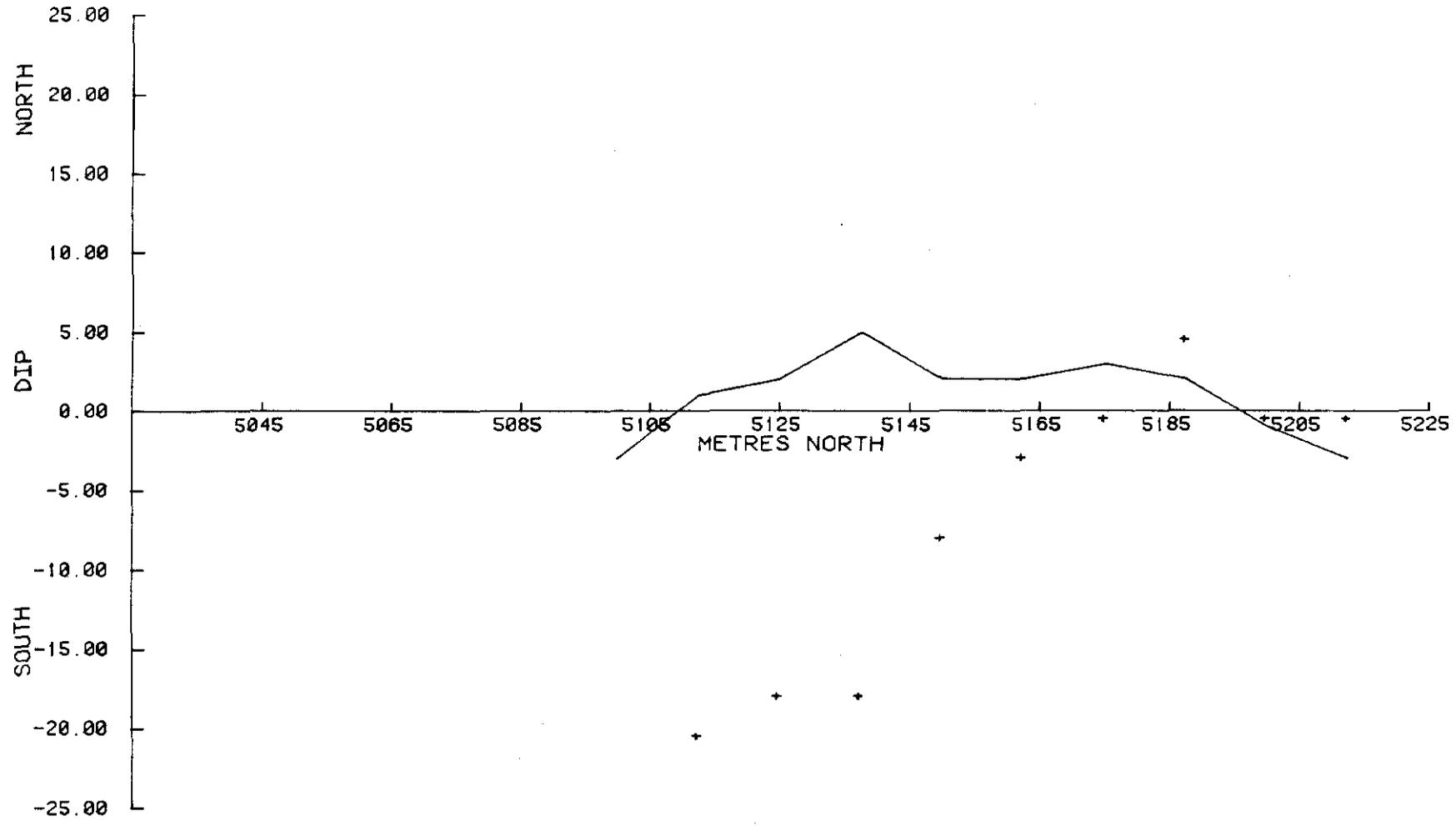
605039



G-856 MAGNETOMETER. 2m POLE-MOUNTED SENSOR

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76	
Dighem Anomaly 3900xH	
Ground Magnetic Line 5500mE	
Ref	SK 55-3
Scale	A as Shown
Author	M.F. Fli
Date	Jan 1983
Drawn	
Report No	11923
Plan No	TASH 1189

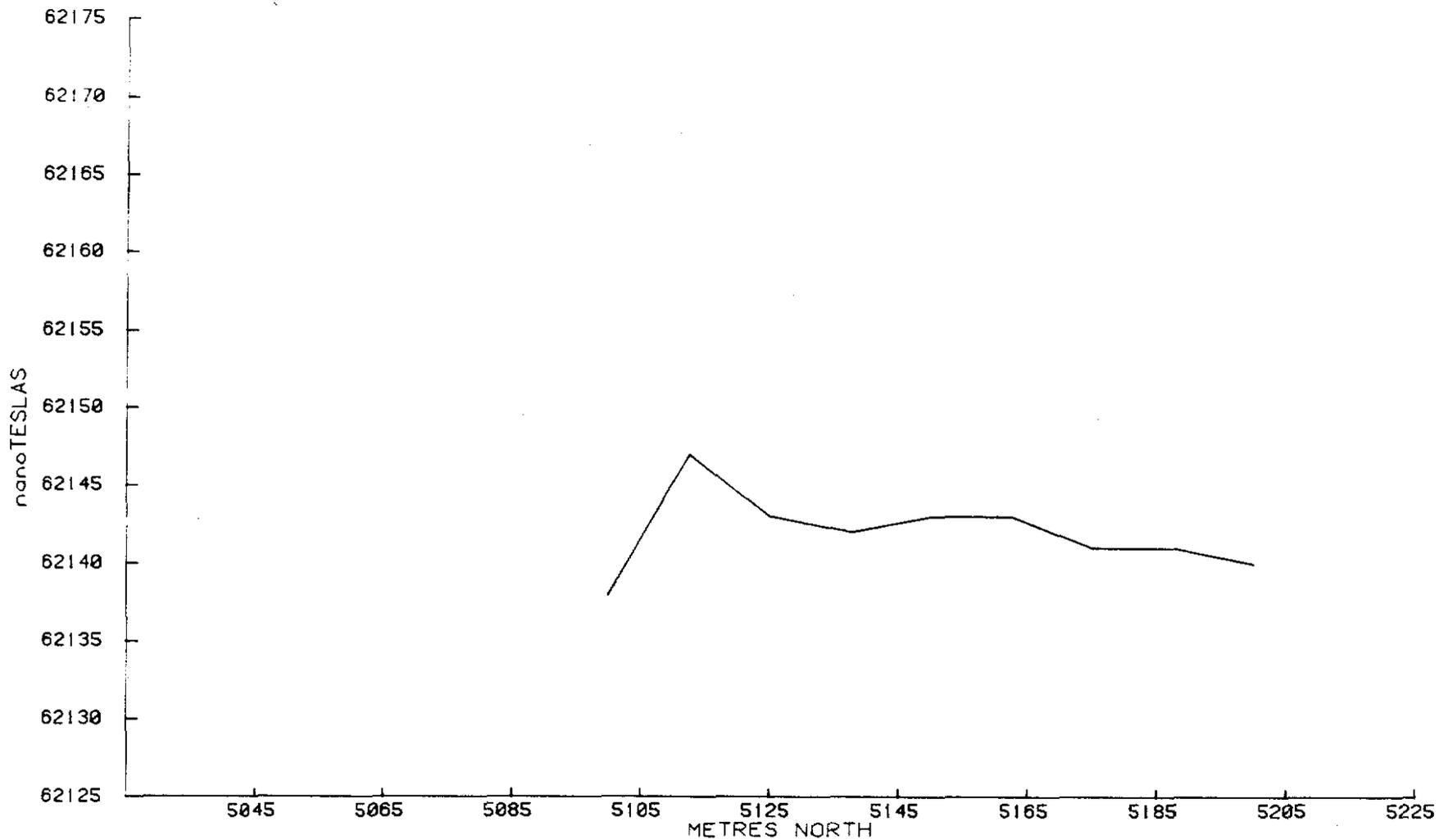
605040



— DIP ANGLE (DEGREES)
 + + + MAXIMUM HORIZONTAL FIELD STRENGTH
 (100% RANGE WITH ARBITRARY GAIN)
 TRANSMITTER: NORTH WEST CAPE-22.3 kHz

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76	
Dighem Anomaly 3900xH	
VLF-EM Line 5600mE	
Ref	SK 55-3
Scale	A as Shown
Author	M.F.Flie
Date	Jan 1983
Drawn	
Report No	11923
Plan No	TASH 1190

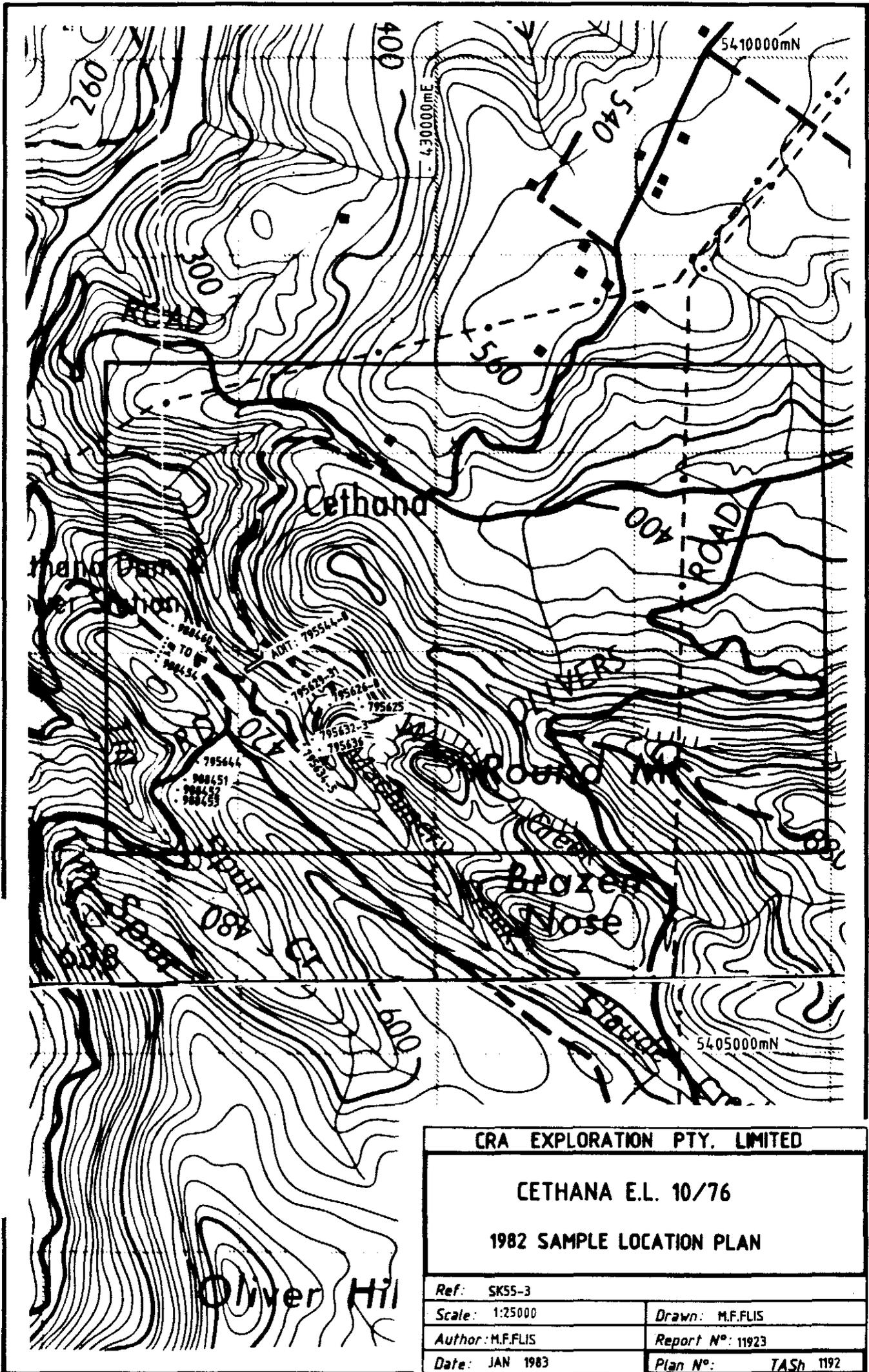
603041



G-856 MAGNETOMETER, 2m POLE-MOUNTED SENSOR

CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76 Dighem Anomaly 3900xH Ground Magnetics Line 5600mE	
Ref SK 55-3	
Scale As Shown	Drawn
Author M.F.Flis	Report No 11923
Date Jan 1983	Plan No TASH 1191

605042



CRA EXPLORATION PTY. LIMITED	
CETHANA E.L. 10/76	
1982 SAMPLE LOCATION PLAN	
Ref: SK55-3	Drawn: M.F.FLIS
Scale: 1:25000	Report N°: 11923
Author: M.F.FLIS	Plan N°: TASH 1192
Date: JAN 1983	