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MT. BISCHOFF TIN PROSPECT
EXPLORATION LICENCE 13/79
AND AUTHORITY TO PROSPECT 5/80
TASMANIA

STAGE 3 A PROGRAMME AND BUDGET

REPORT NO. 514

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G.M. Motteram/A. Jannink
17th December, 1980.

02102

CONTENTS

LIST OF DRAWINGS

Title	Scale	Drawing No.
Stage 3A Summary	-	80-449
Mt. Bischoff Mine Area - showing proposed Stage 3A drill holes (Back Pocket)	1:2000	80-450
Interpreted Geological Section 820E	1:2000	-
Interpreted Geological Section 840E	1:2000	-
Interpreted Geological Section 860E	1:2000	-
Interpreted Geological Section 880E	1:2000	-
Interpreted Geological Section 900E	1:2000	-
Interpreted Geological Section 920E	1:2000	-
Interpreted Geological Section 940E	1:2000	-
Interpreted Geological Section 960E	1:2000	-
" " " 970E	1:2000	-
Interpreted Geological Section 980E	1:2000	-
" " " 990E	1:2000	-
Interpreted Geological Section 1000E	1:2000	-
Interpreted Geological Section 1020E (x2)	1:2000	-
Interpreted Geological Section 1040E (x2)	1:2000	-
Interpreted Geological Section 1060E (x2)	1:2000	-
Interpreted Geological Section 1080E (x2)	1:2000	-
Interpreted Geological Section 1100E (x2)	1:2000	-
Interpreted Geological Section 1120E (x2)	1:2000	-
Interpreted Geological Section 1140E (x2)	1:2000	-
Interpreted Geological Section 1160E (x2)	1:2000	-
Interpreted Geological Section 1180E (x2)	1:2000	-
Interpreted Geological Section 1200E (x2)	1:2000	-

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Title	Scale	Drawing No.
Interpreted Geological Section 1220E (x2)	1:2000	-
Interpreted Geological Section 1240E (x2)	1:2000	-
Interpreted Geological Section 1260E (x2)	1:2000	-
Interpreted Geological Section 1280E	1:2000	-
Interpreted Geological Section 1300E	1:2000	-
Interpreted Geological Section 1320E	1:2000	-
Interpreted Geological Section 1340E	1:2000	-
Interpreted Geological Section 1360E	1:2000	-
Interpreted Geological Section 1380E	1:2000	-
Interpreted Geological Section 1400E	1:2000	-
Interpreted Geological Section 1420E	1:2000	-
Interpreted Geological Section 1440E	1:2000	-
Interpreted Geological Section 1460E	1:2000	-
Interpreted Geological Section 1700N	1:2000	-
Interpreted Geological Section 1800N	1:2000	-
Interpreted Geological Section 1900N	1:2000	-
Interpreted Geological Section 2000N	1:2000	-
Interpreted Queen Dyke Section BB -40	1:2000	80-445
Interpreted Queen Dyke Section BB +120	1:2000	80-446
Interpreted Queen Dyke Section BB +200	1:2000	80-447
Interpreted Queen Dyke Section BB +280	1:2000	80-448
Proposed Ground Geophysics Coverage (Back Pocket)	1:6000	80-433

1. INTRODUCTION:

The previous Stage 2B Programme at Mt. Bischoff was designed to firm up the Dolomite Sulphide Lode (DSL) and Porphyry reserves outlined prior to Stage 2B. In addition, extensive bench scale metallurgical testwork was performed on both conventional processing and cassiterite pre-flotation approaches.

The drilling grid now intersects the DSL on an approximate 40 x 40 metre grid and Porphyry on an approximate 80 x 80 metre grid. Alterations to estimated geological ore reserves (at 0.3% Sn cut off) as a result of the Stage 2B Programme were as follows:

	Stage 2A	Stage 2B
DSL	924,000 tonnes at 1.07% Sn	1,299,000 tonnes at 1.06% Sn
PORPHYRY	2,648,000 tonnes at 0.56% Sn	2,433,000 tonnes at 0.54% Sn

The current Porphyry reserve estimate includes approximately 600,000 tonnes of inferred ore, classed as such, in part, because of the wider drill spacing.

Metallurgical testwork during Stage 2B confirmed prior indications that tin grain size in Mt. Bischoff ores is relatively fine and that clean sulphur elimination will be a problem. Cassiterite pre-flotation was more successful in upgrading Porphyry ore, although concentrate grades were not particularly encouraging.

Regional exploration carried out during Stage 2B resulted in firm indications of additional dolomite ore to the South West of the current reserves. Ground magnetics also indicated a possible dolomite target under basalt in the Housego/Fooks Lode area.

It is proposed that further evaluation of the Mt. Bischoff deposits be aimed at assessment of development feasibility via three additional stages, namely:

Stage 3A: 9 months to 30th June, 1981

Stage 3B: 6 months to 31st December, 1981

Stage 4 : 6 months to 30th June, 1982

The Stage 3A objective will be to establish the basis upon which development could occur through:

- Additional drilling on the porphyry reserves.
- Exploration and drilling to determine immediate potential for additional higher grade reserves.
- Process flowsheet and design criteria development.
- Initiation of Mine Planning and Project Engineering.

The Stage 3B Programme will take project assessment to a point where realistic estimates are available for alternate development options and an initial optimisation study completed. Requirements foreseen include:

- Further drilling to either prove up porphyry ore reserves, or to delineate any additional dolomite reserves inferred from the

Stage 3B Programme. (cont'd)

- Possibly run a bulk plant test, or pilot plant operation to confirm flowsheets.
- Use of an Engineering Contractor to obtain estimates for alternate development options.

The Stage 4 Programme will develop a feasibility study on the optimal development route in preparation for Project Authorisation. Requirements foreseen include:

- Use of an Engineering Contractor to obtain formal plant and infrastructure design, plus costing.
- Formalise mine planning and costing.
- Approach to concentrate market outlets.
- Investigation of financing possibilities.

Specific objectives for the Stage 3A Programme will be:

(a) Drilling to firm up the porphyry reserve on a 40 x 80 metre grid basis.

(b) Drilling to complete boundary identification and infill of DSL sections.

(c) Use of core obtained from the initial stages of (a) and (b) to provide sample for metallurgical investigations aimed at establishment of plant design criteria.

(d) Continued geophysical work on regional dolomite targets, followed by drilling of the South West Dolomite and limited drilling of the Housego/Fooks Lode area.

(e) Wide spaced drilling of the Queen Dyke.

(f) Completion of re-logging of "old" core from the mine area.

(g) Limited close spaced drilling to gather data on orebody variability, followed by initial Mine Planning studies.

(h) Initiation of Project Engineering work.

Should initial drilling on regional dolomite targets (i.e. section (d) above) indicate high potential for significant additions of plus 1% Sn ore to reserves, agreement may be sought to divert lower priority porphyry drilling to such areas.

2. PROPOSED PROGRAMME:

2.1) Diamond Drilling

A total of 46 holes, plus extensions to two previously drilled holes, are proposed for the Stage 3A Programme, for 5600 metres.

A large part of this drilling would define the White Face/Stanhope porphyry reserves on a 40 x 80 metre grid basis.

Three holes are designed purely to test dolomite horizon extensions within the currently envisaged pit area. During the porphyry drilling, a further 365 metres of dolomite will be intersected, and two holes will be extended to test the South West "Buried Dolomite".

Three intersections of the Queen Dyke are expected in holes targetted to test the Stanhope and White Face dykes. In addition, the Queen Dyke will be drilled on four sections, approximately 80 metres apart.

Eleven holes within the current mine area will be used to provide metallurgical sample and detailed logging correlations from close spaced drilling. Four of these holes will be matched with the grid drilling requirements above, and six will be specific metallurgical holes.

Four holes into the South West "Buried Dolomite" area are allowed for, along with two short holes in the Housego Grid (Fooks Lode) area. Positioning of these holes will be dependent upon geophysical results.

The details of proposed drill holes are as follows:

A. Primary Drilling

Collar Co-ordinates N	E	RL m	Azimuth (grid)	Dip	Depth m	Target	Target Intercepts (m)
1760	840	607	180°	-60°	170	White Face Porphyry	110-130
						Buried Dolomite	130-150
1690	880	612	-	Vertical	150	White Face Prophyry	50-80
						Buried Dolomite	115-130
1770	880	619	-	Vertical	100	White Face Porphyry	55-80
1940	880	648	180°	-70°	230	White Face Porphyry	120-150
MBD24	920			Extend	50	White Face Porphyry	110-130
1755	920	622	-	Vertical	110	White Face Porphyry	75-95
1756	940	623	-	Vertical	40	Dolomite	0-35

A. Primary Drilling (cont'd)

Collar Co-ordinates N	E	RL m	Azimuth (grid)	Dip	Depth m	Target	Target Intercepts (m)
1810	940	627	180°	-66°	100	Dolomite White Face Porphyry	0-40 80-95
1844	940	633	-	Vertical	40	Dolomite	0-30
1877	1000	631	-	Vertical	110	Dolomite White Face Porphyry	0-40 70-90
1810	1040	630	180°	-50°	120	Dolomite White Face Porphyry Dolomite	0-30 30-50 50-110
1810	1040	630	-	Vertical	90	Dolomite White Face Porphyry Dolomite	0-30 30-50 50-80
1890	1040	640	-	Vertical	95	Dolomite White Face Porphyry	0-60 60-80
1965	1040	642	180°	-80°	150	Dolomite White Face Porphyry	0-35 110-135
1885	1080	626	-	Vertical	80	Dolomite White Face Porphyry Dolomite	0-20 20-50 50-65
1970	1080	645	180°	-80°	120	Dolomite White Face Porphyry	0-40 85-105
1860	1140	627	360°	-60°	50	Dolomite	0-45
1950	1140	647	-	Vertical	65	White Face Porphyry	20-50
2050	1140	681	180°	-72°	160	White Face Porphyry	120-145
2075	1180	682	180°	-60°	146	White Face Porphyry	110-130
2100	1220	681	180°	-47°	135	White Face Porphyry	105-125
2100	1220	681	180°	-80°	175	White Face Porphyry	135-165
1850	1260	651	360°	-65°	80	Dolomite	40-60
2030	1260	687	180°	-58°	85	Stanhope Porphyry White Face Porphyry	5-10 55-70
2050	1300	688	180°	-83°	110	Stanhope Porphyry White Face Porphyry	0-25 75-95

A. Primary Drilling (cont'd)

Collar Co-ordinates N	E	RL m	Azimuth (grid)	Dip	Depth m	Target	Target Intercepts (m)
2110	1340	688	180°	-77°	145	Stanhope Porphyry	40-55
						White Face Porphyry	110-130
2050	1380	695	180°	-66°	40	Stanhope Porphyry	15-30
2135	1380	692	180°	-67°	90	Stanhope Porphyry	65-80
2185	1380	700	180°	-72°	200	Queen Porphyry	75-90
						Queen Porphyry	120-130
						White Face Porphyry	165-180
MBD40	1420			Extend	30	Stanhope Porphyry	120-135
2060	1460	704	180°	-69°	65	Stanhope Porphyry	35-50
2130	1460	708	180°	-72°	130	Queen Porphyry	30-45
						Stanhope Porphyry	100-115

30 holes and 2 extensions for 3460 metres.

B. Other Drilling

Metallurgical Sample and Close Spaced Drilling:

Collar Co-ordinates N	E	RL m	Azimuth (grid)	Dip	Depth m	Target Group See 2.2(i) Metallurgy	Target Intercepts (m)
1960	970	647	360°	-50°	50	A	20-30
1934	980	644	360°	-50°	60	A	40-50
1946	980	645	360°	-50°	55	A	35-50
1960	990	644	360°	-50°	45	A	20-35
*1877	1000	631	-	Vertical	50	B	20-40
*1810	1040	630	-	Vertical	90	D	30-50
1880	1080	626	-	Vertical	80	A/B D C	0-10 10-60 60-65
*1885	1080	626	-	Vertical	80	A/B D C	0-20 20-55 55-65
*2030	1260	687	180°	-58°	80	E	55-70
2035	1260	687	180°	-58°	80	E	60-75

*Denotes hole also listed under Primary Drilling.

Hence, 6 additional holes for 370 metres.

Queen Dyke Drilling:

Collar Co-ordinates N	E	RL m	Azimuth (grid)	Dip	Depth m	Target	Target Intercepts (m)
2181	1358	695	45°	-76°	130	Queen Porphyry	105-110
2313	1261	708	-	Vertical	130	Queen Porphyry	95-105
2337	1177	717	45°	-79°	170	Queen Porphyry	140-150
2359	1087	735	45°	-60°	190	Queen Porphyry	155-165

4 holes for 620 metres.

South West "Buried Dolomite":

4 holes for 1000 metres.

Housego Grid (Fooks Lode):

2 holes for 150 metres.

2.2) Metallurgy

(i) Sampling

Metallurgical samples will be taken of fresh HQ core and be made into five groups representing progressions of the currently envisaged mining operation. The groups will be:

A. High Talc, DSL ore near surface.

B. Mixture High Talc - Clean Carbonate DSL ore above Porphyry.

C. Clean Carbonate - DSL ore below Porphyry.

D. In Pit Porphyry ore.

E. Underground Porphyry ore.

Each group will comprise of approximately 100kg of half core for the following uses:

- 50kg for a Bulk Circuit test.
- 25kg used for variability tests and ore upgrading tests.
- 25kg kept as reserve.

In addition, two bulk composites will be made up from general intercepts obtained in DSL and Porphyry for use in Grindability testing.

Residual material from SC 1, SC 2 and PC 2 in Stage 2B will be used for initial tests on grind size and reagent requirements.

(ii) Testwork

Bond Grindability Tests: Standard Bond tests will be performed for Rod Mill and Ball Mill grindability on the two composites mentioned above. Sufficient sulphide concentrate will also be generated from each to determine grindability work indexes for sulphide regrind.

Preconcentration Tests: Initial heavy media simulations will be conducted on composite samples by crushing to between 12mm and 0.5mm, followed by heavy liquid testing.

Bench Scale Work: A set of sulphide flotation tests will be performed using stage grinding to product sizes between 150 and 275 mesh. Commercial levels of reagent addition, including activator, will be made with size analyses of products. Limited cassiterite flotation work will define optimal reagents and cleaning requirements. This work will be finalised before starting on the bulk tests.

Bulk Circuit Testing: 50kg samples of each ore composite will be ground to a size outlined in the bench scale work above, followed by:

- Bulk sulphide flotation - Retain concentrate for regrind.

- Sulphide Tail, Hydrosize - To 3 products, plus slime.
- Coarse Hydrosizer Products, Table - To Concentrate, middling and tail.
- Table Concentrates, Clean on Table and Magnet - To final coarse concentrate and cleaner tail.
- Original Sulphide Concentrate, Regrind - To flotation.
- Table Middlings and Cleaner Tails, Regrind - To separate flotation.
- Sulphide Re-Flotation Tails, Hydrosize - To coarse and slime product.
- Hydrosizer coarse fraction, Table.
- Hydrosizer slime and primary slime, Combine and Cyclone - To U/F and O/F.
- Cyclone U/F, Tin Flotation - To Concentrate and Tail.

Mass flows will be determined in each section along with Sn and S contents to provide circuit design parameters.

(iii) Staff and Consultants

Allowance is made for continuation of Mr. L. Bollen as Consultant Tin Metallurgist to the Project.

Provision is also made for a Project Metallurgist to be appointed from 1st January, 1981. The Project Metallurgist will be expected to be involved in testwork, the majority of which will take place at the Mines Department in Launceston.

2.3) Old Core

In the Stage 2B Programme, 3669.5 metres of old core were relogged in 30 holes. There remains a further 5051 metres in another 30 holes that has not been re-boxed or re-logged. In order to assist in obtaining a stratigraphic column for the Mt. Bischoff sequence of rocks, and to assist in structural interpretation, all this remaining core will be re-logged. The hole numbers are as follows:

B8, B11
B15, B16
B18, B19
B28 to B31
B34 to B38
B46
B48 to B60
AAB8

Assaying and check assaying, either by splitting or grinding systems, will be carried out where necessary.

All the Mines Department core from their drilling at Fooks Lode will be logged to conform to the present logging system at Mt. Bischoff. Emphasis will be placed on the dolomitic sections, which will be sampled by core grinding. A total of 1675.2 metres in 9 holes has been drilled.

2.4) Gridding and Geophysics

Exploration will continue to search for Mt. Bischoff-type mineralisation.

In the "Buried Dolomite" zone to the South West of the main dolomite horizon, two significant intersections were made in the Stage 2B Programme (MBD41: 7.8 metres at 0.69% Sn; and MBD45: 0.45 metres at 6.38% Sn). Summary core logging of old hole B37 discovered a short (1.8 metres) dolomite intersection. This hole lies about 300 metres South West of MBD41. Prior to doing further diamond drilling in this area, the mine grid area will be extended as far as line 580E (from line 900E) with lines spaced 40 metres apart. Ground magnetics and an E.M. Survey will be run over these lines. Also, all core in the vicinity of the "Buried Dolomite" (old and new holes) will be sampled using a core grinder. The siting of 3 or 4 diamond drill holes (each to approximately 250 metres) will follow the geophysical work.

On the Housego Grid, more detailed ground magnetic work will be done as per Marcus Flis's geophysical recommendations. Fill-in lines, 40 metres apart, will be gridded between 9880E and 1100E, and covered by ground magnetics. An E.M. Survey will be carried out on alternate lines, i.e. 80 metres apart.

Hand auger samples will be taken around the basalt edge where each line crosses the contact.

Diamond drilling of targets will be based on the results of the geophysical work and Fooks Lode core logging. A provision of 150 metres has been made in the budget.

Whilst the E.M. crew is on site, 3 lines will be run over the basalt-covered magnetic anomaly on H. Brooks' grid.

Preliminary ground magnetics will be run, on lines 40 metres apart, over the Stanhope Extended area between 1480E and 1860E. This area covers the airborne magnetic bulge to the North East of the main anomaly over the mine area.

2.5) Mine Planning

The metallurgical drilling proposals include infill drilling to 10 metre spacings between current section holes and along section 980E. This close spaced drilling will be used to assess:

- Variability of mineralisation and grade.
- Variability of contacts for dilution calculations.

Mining Reserves:

Formal calculations will be made of mining ore reserves as ore-body sections are updated.

Mine Development:

Preliminary mine plans will be drawn for an open-pit development showing progress of the mine.

Similar planning will be made for potential underground reserves.

2.6) Project Engineering

Infrastructure:

Initial concepts for power supply, water supply, housing arrangements, etc., will be outlined with initial estimates of unit costs.

Engineering Services:

Similarly, basic costs will be established for mine and plant services.

Plant Design:

A conceptual layout for proposed plant will be made and preliminary costings made for various capacities.

3. BUDGET:

The accompanying sheet sets out the budget estimates for the Stage 3A Programme, which terminates on 30th June, 1981.

The budget for the Stage 3A Programme, being $831,000, includes $38,500 of capital expenditure relating to:

- Provision of more substantial accommodation on site ($32,500).
- Extensions to the core shed ($6,000).

Provisional Budgets have also been estimated through to Project Authorisation at the end of Stage 4, as set out below. The estimates for Stages 3B and 4 allow for a limited amount of additional drilling to prove up further ore reserves and alterations that may occur in the light of Stage 3A results.

Stage 3A (Firm)	$831,000
Stage 3B (Provisional)	559,000
Stage 4 (Provisional)	376,000
Total	$1,766,000

In order to establish an organised programme and objective for evaluation and development of Mt. Bischoff, it is requested that the Provisional Budget to Stage 4 of $1.766 million be noted as a budget estimate to Project Authorisation with a firm budget for Stage 3A proposed at $831,000.

MT. BISCHOFF PROJECT

STAGE 3 A ESTIMATE OF EXPENDITURE

	OCTOBER $	NOVEMBER $	DECEMBER $	JANUARY $	FEBRUARY $	MARCH $	APRIL $	MAY $	JUNE $	TOTAL $
Technical Services	14,000	19,400	19,200	25,900	25,200	26,500	29,000	32,300	30,000	221,500
Travel & Accommodation	700	700	700	700	700	700	700	700	700	6,300
Labour	800	1,500	1,850	1,500	1,550	1,900	1,550	1,900	1,550	14,100
Camp & Messing	500	1,300	1,200	1,400	1,400	1,400	1,300	1,300	1,300	11,100
Vehicles	100	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	8,100
Equipment Rental	-	350	550	550	450	550	450	550	450	3,900
Consumables & General Expenses	3,700	8,400	1,700	13,800	1,700	12,400	1,700	1,900	1,700	47,000
Tenement Expenses	-	-	500	-	-	-	-	-	500	1,000
Track Cutting	-	2,000	2,000	-	-	-	-	-	-	4,000
Geophysical Surveys	-	-	4,000	-	-	-	-	-	-	4,000
Diamond Drilling	-	35,000	34,000	66,000	41,000	44,300	44,300	44,300	41,000	349,900
Site Preparation	-	2,000	2,000	4,000	-	-	-	-	-	8,000
Assays	-	1,400	1,400	2,800	2,800	3,000	3,000	3,000	2,800	20,200
Metallurgical	-	4,800	4,400	8,600	14,900	16,200	11,000	16,200	17,300	93,400
Capital Items	-	-	32,500	6,000	-	-	-	-	-	38,500
TOTAL	19,800	77,850	107,000	132,250	90,700	107,950	94,000	103,150	98,300	831,000

MT. BISCHOFF PROJECT

PROVISIONAL EXPENDITURE ESTIMATE TO PROJECT AUTHORISATION

Stage 3A

Firm budget proposed		$831,000

Stage 3B

Budget outline:		
Technical Services	$127,000	
Travel & Accommodation	7,500	
Site Expenses	42,500	
Drilling & Assay	120,000	
Metallurgical) Design & Plant) Trials	45,000	
Engineering	100,000	
	442,000	
Contingency @ 15%	66,000	
	508,000	
Escalation @ 10%	51,000	
Total	$559,000	559,000

Stage 4

Budget Outline:		
Technical Services	128,000	
Travel & Accommodation	15,000	
Site Expenses	6,000	
Engineering	115,000	
General (incl. Printing, etc)	20,000	
	284,000	
Contingency @ 15%	43,000	
	327,000	
Escalation @ 15%	49,000	
Total	$376,000	376,000
OVERALL TOTAL		$1,766,000

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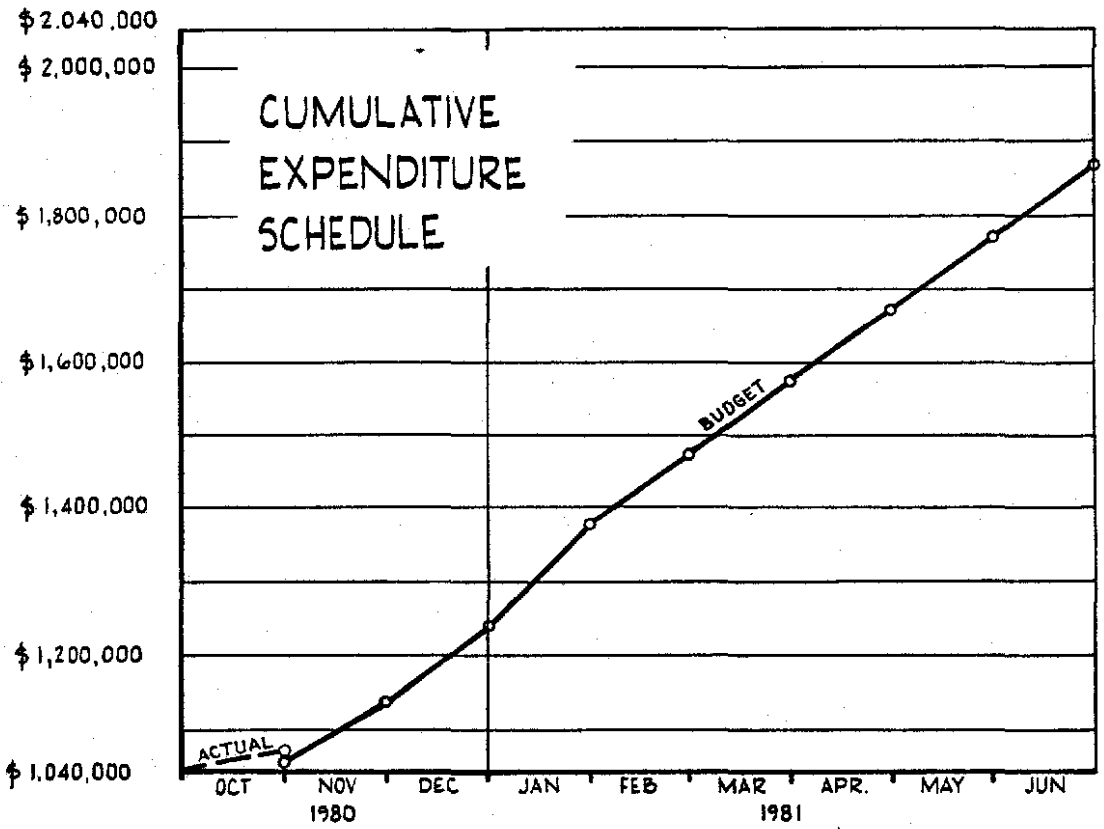

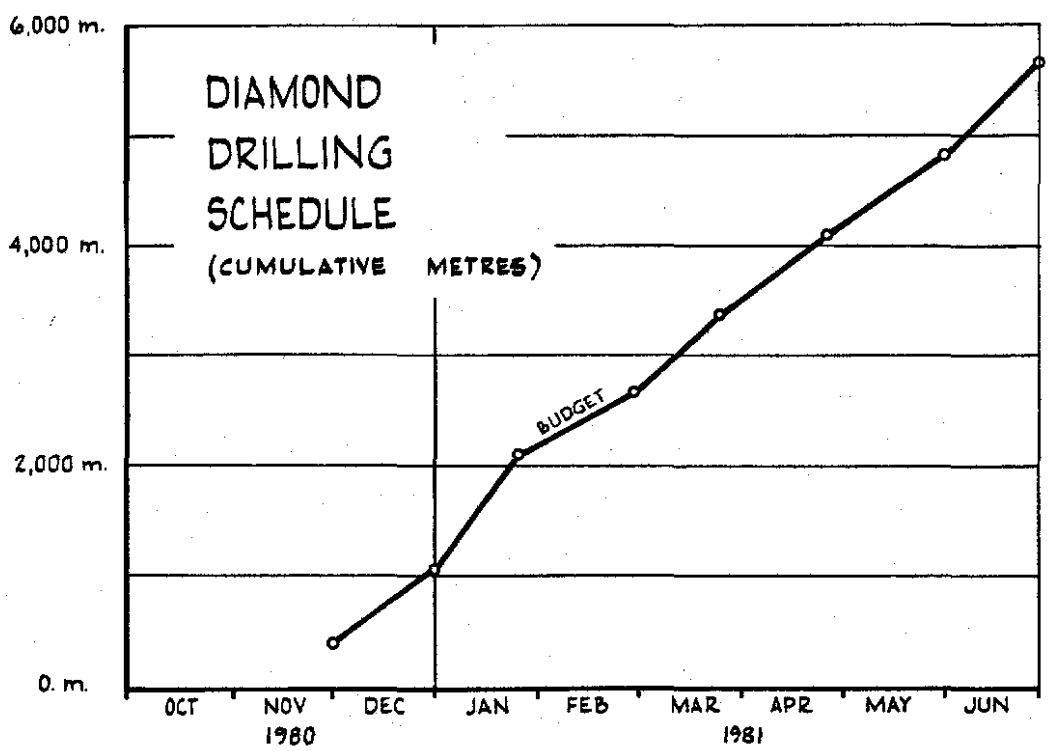

MT. BISCHOFF

STAGE 3A SUMMARY
as at 31·10·80

Rev.

Drg N° 80-449

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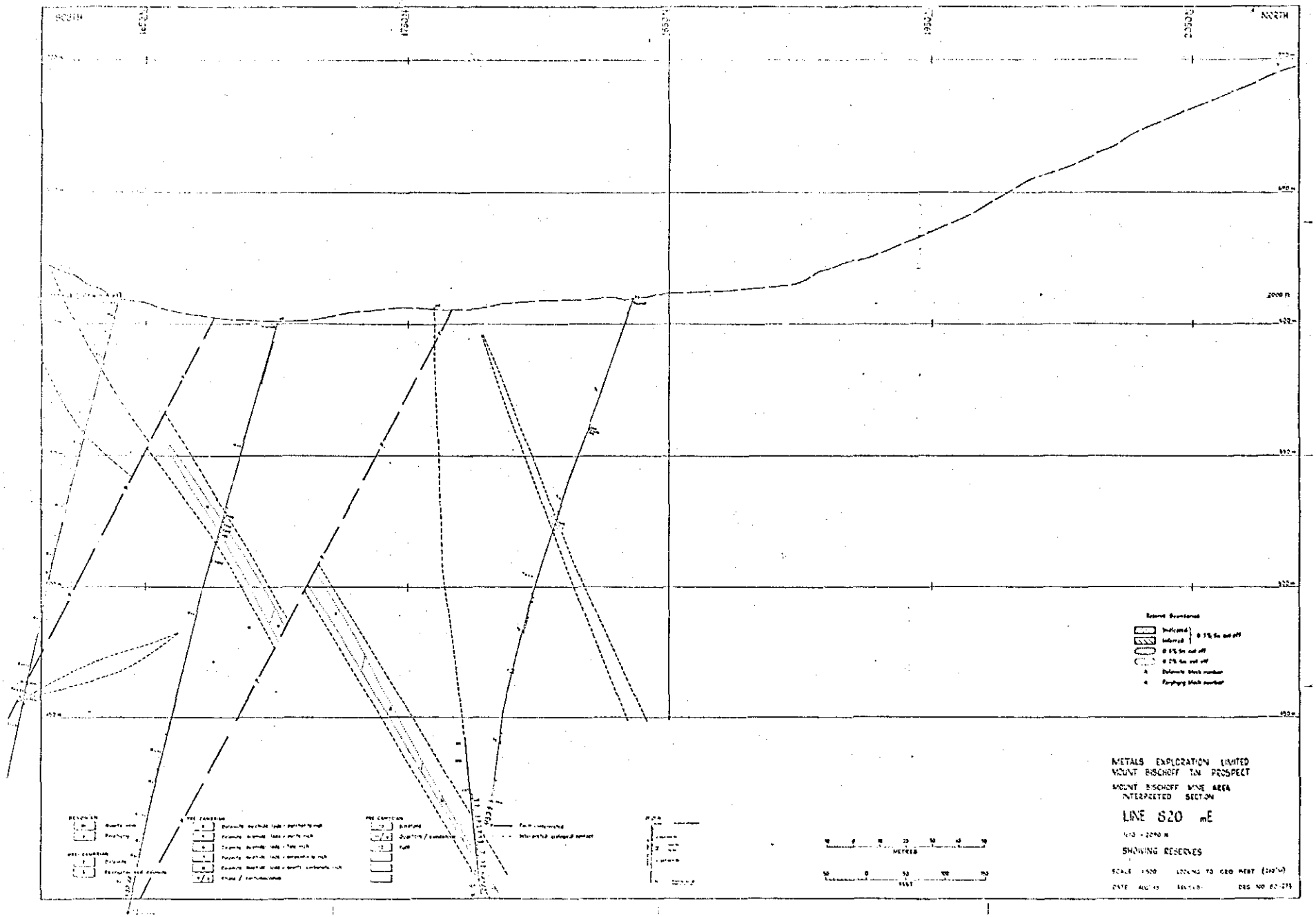


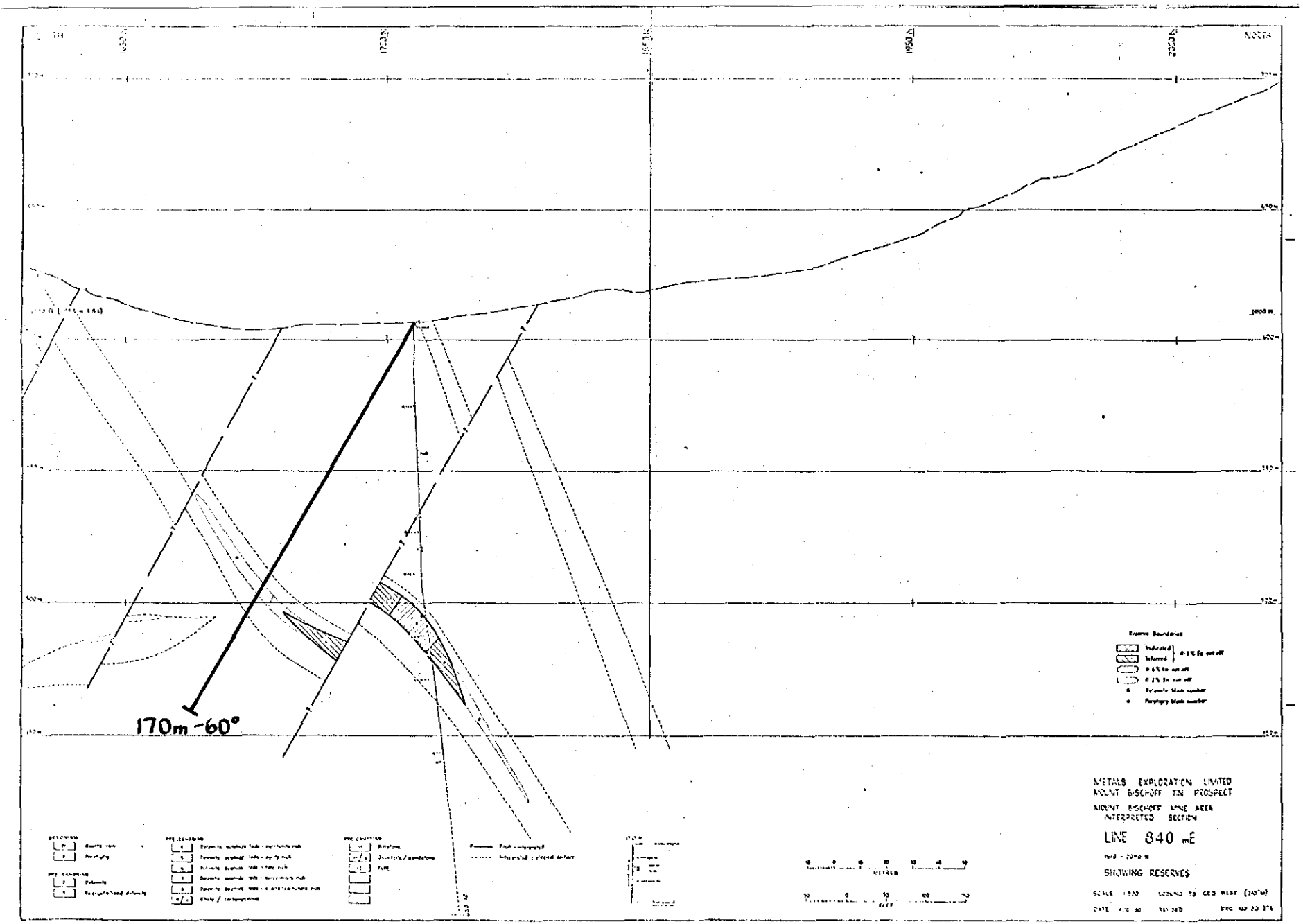
PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

5 cm

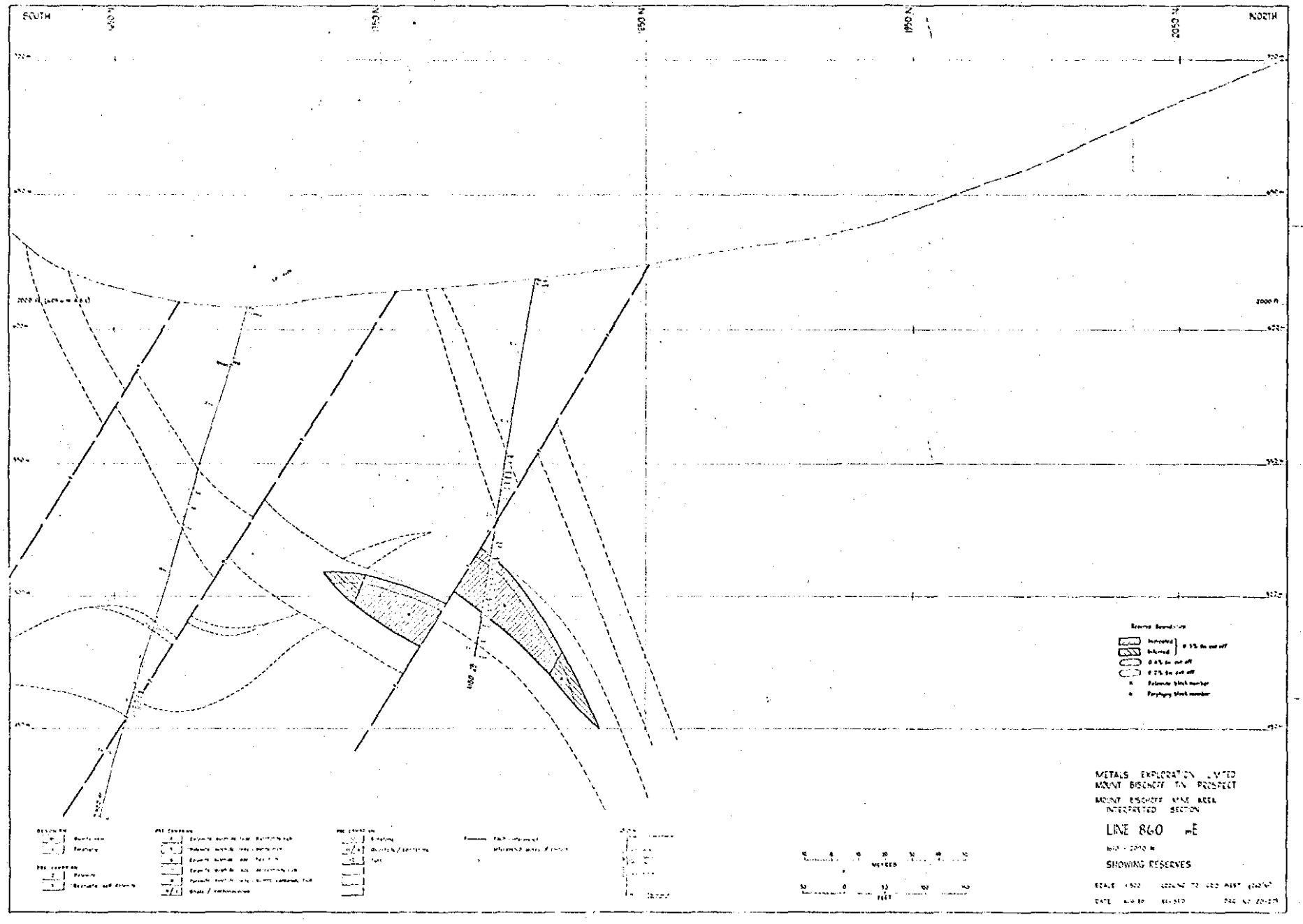
S 20 E



PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

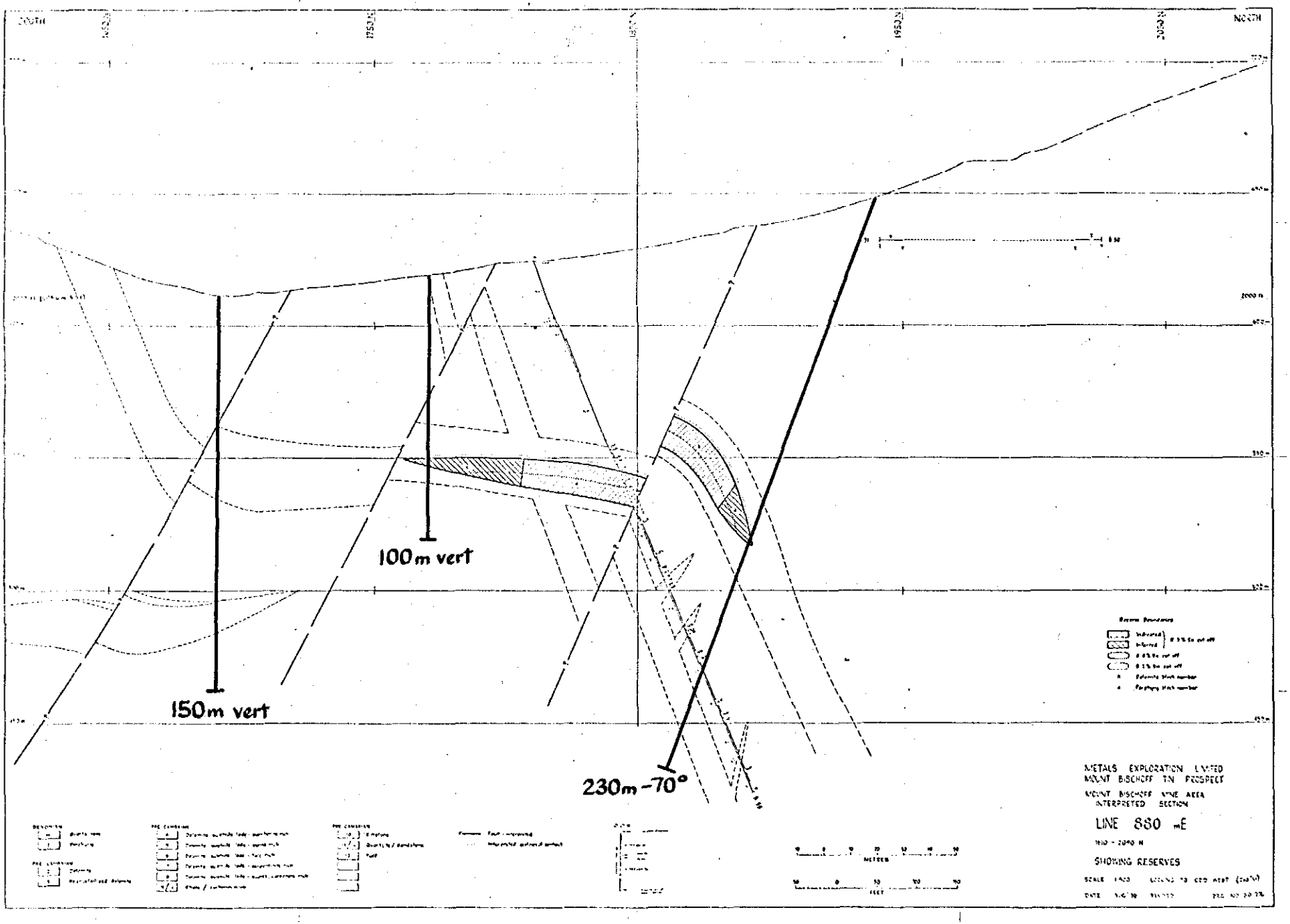


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

D.

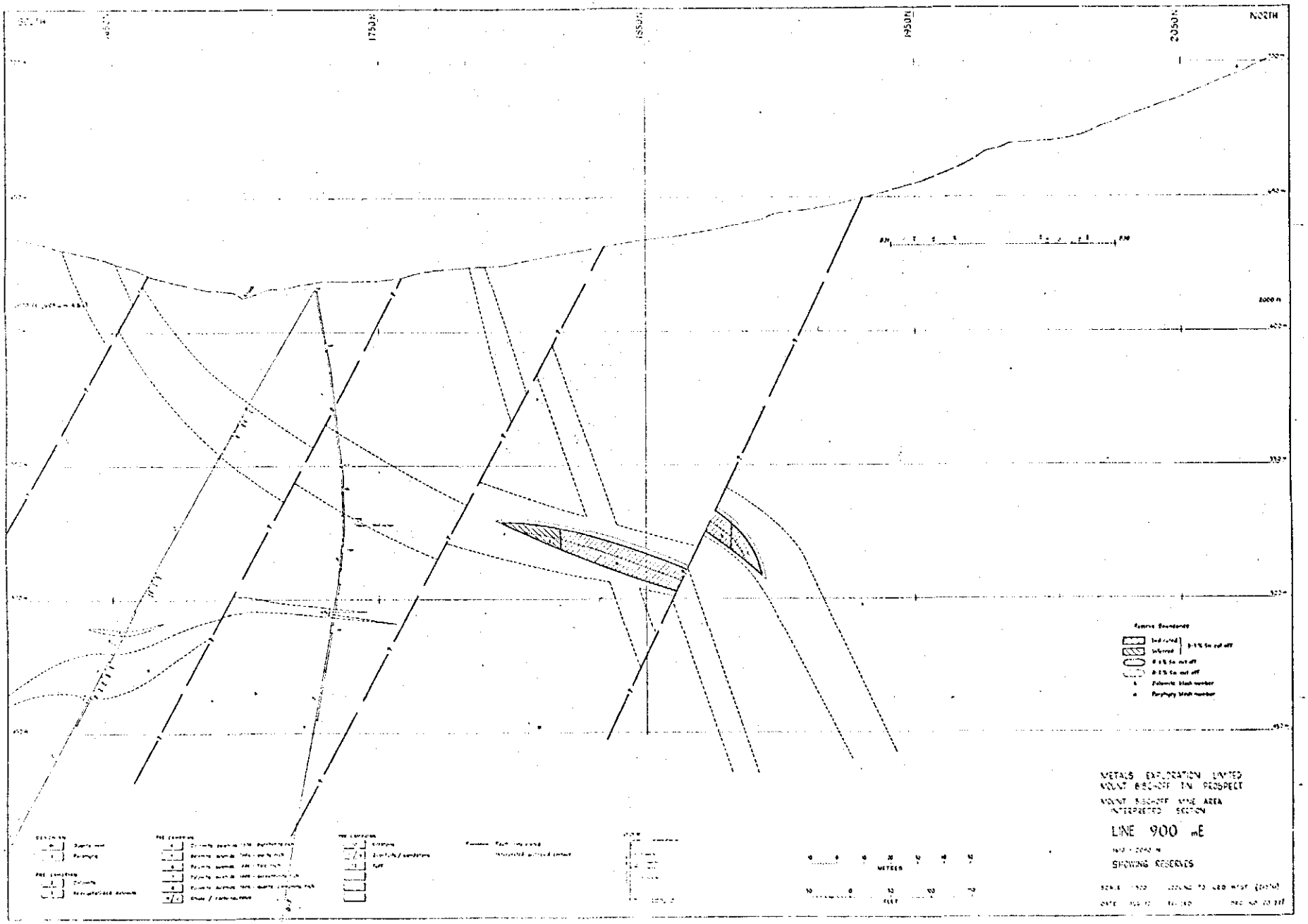


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

5 cm



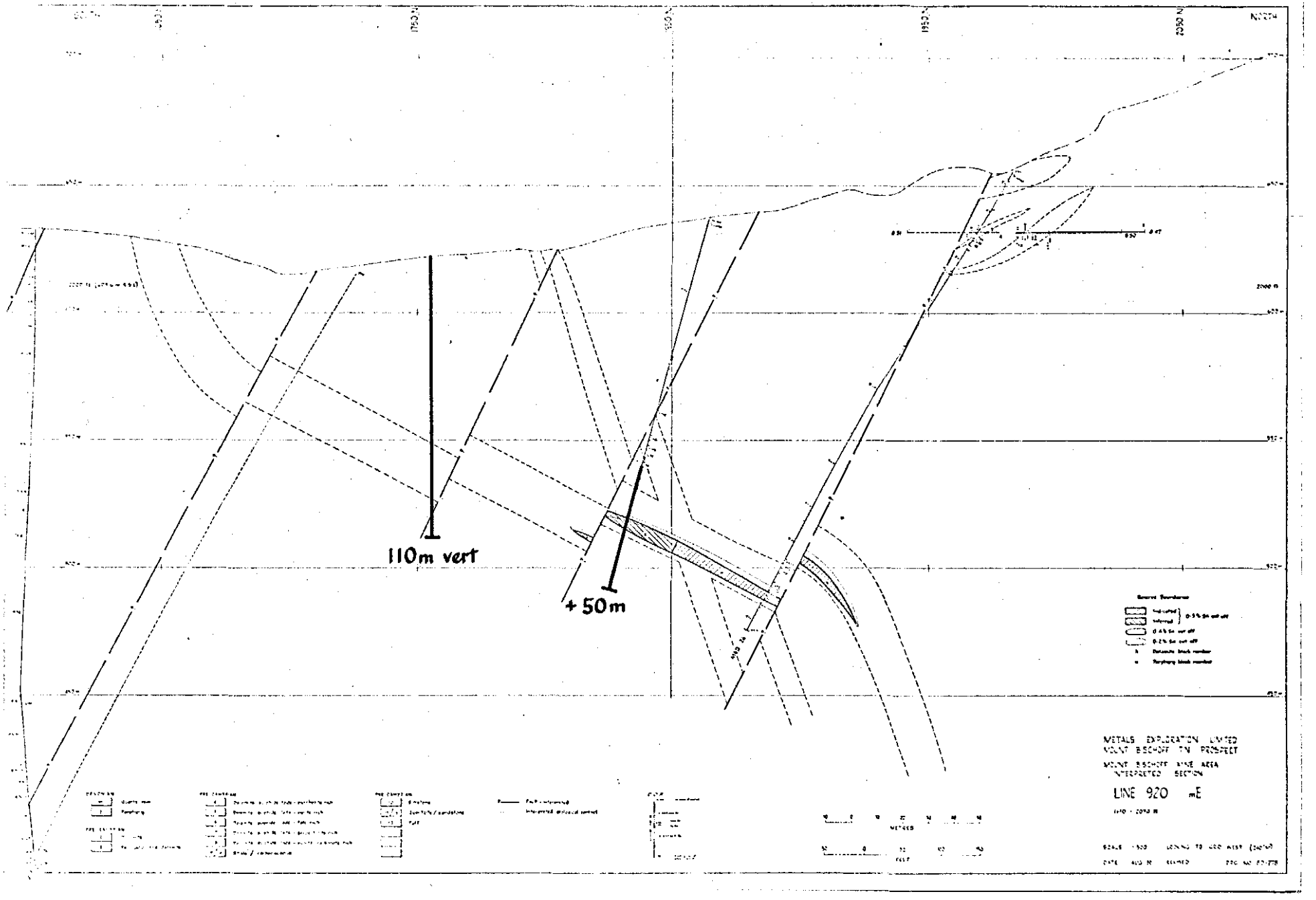
PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

E

092160

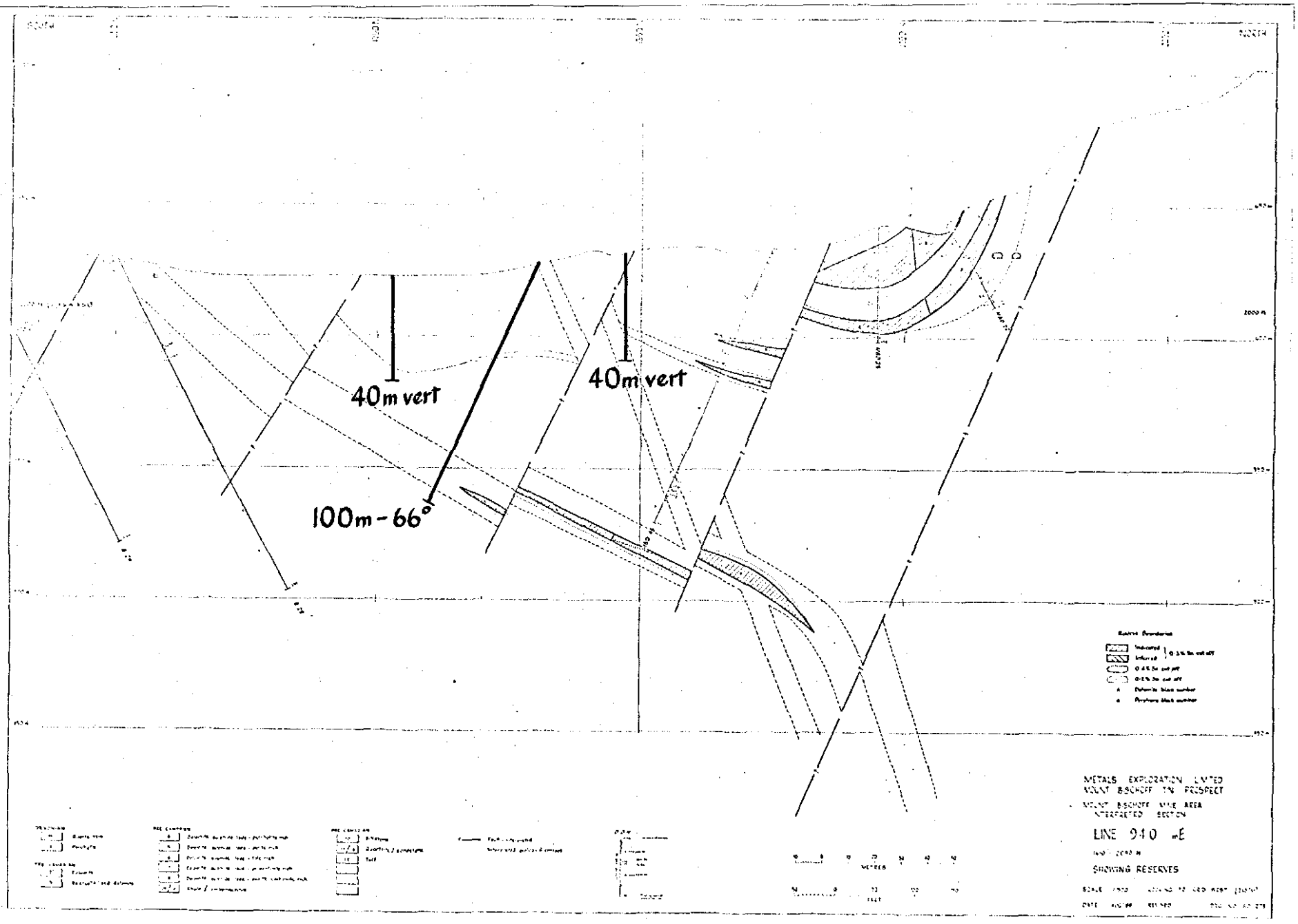


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

G

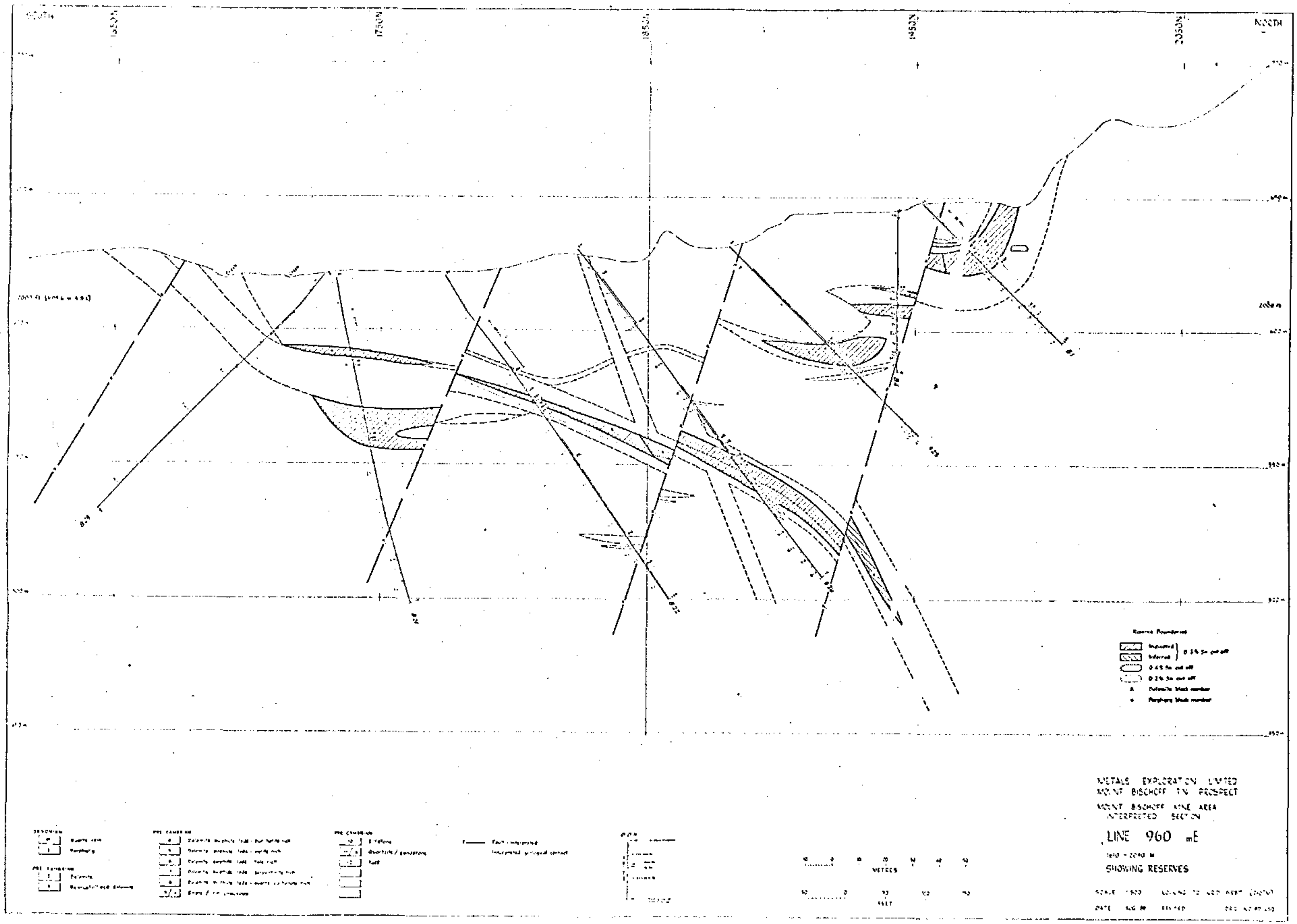


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

H

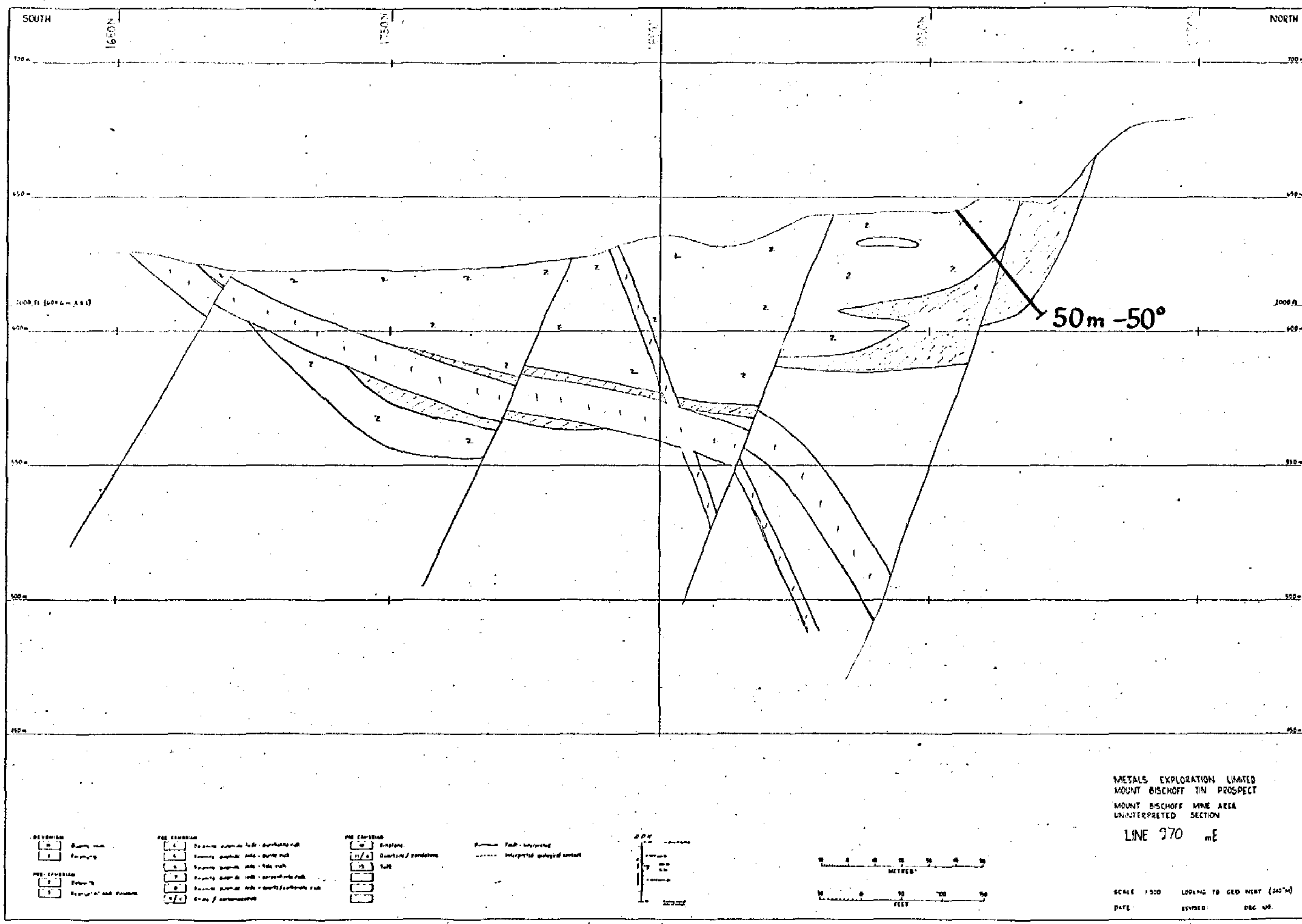


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

021023

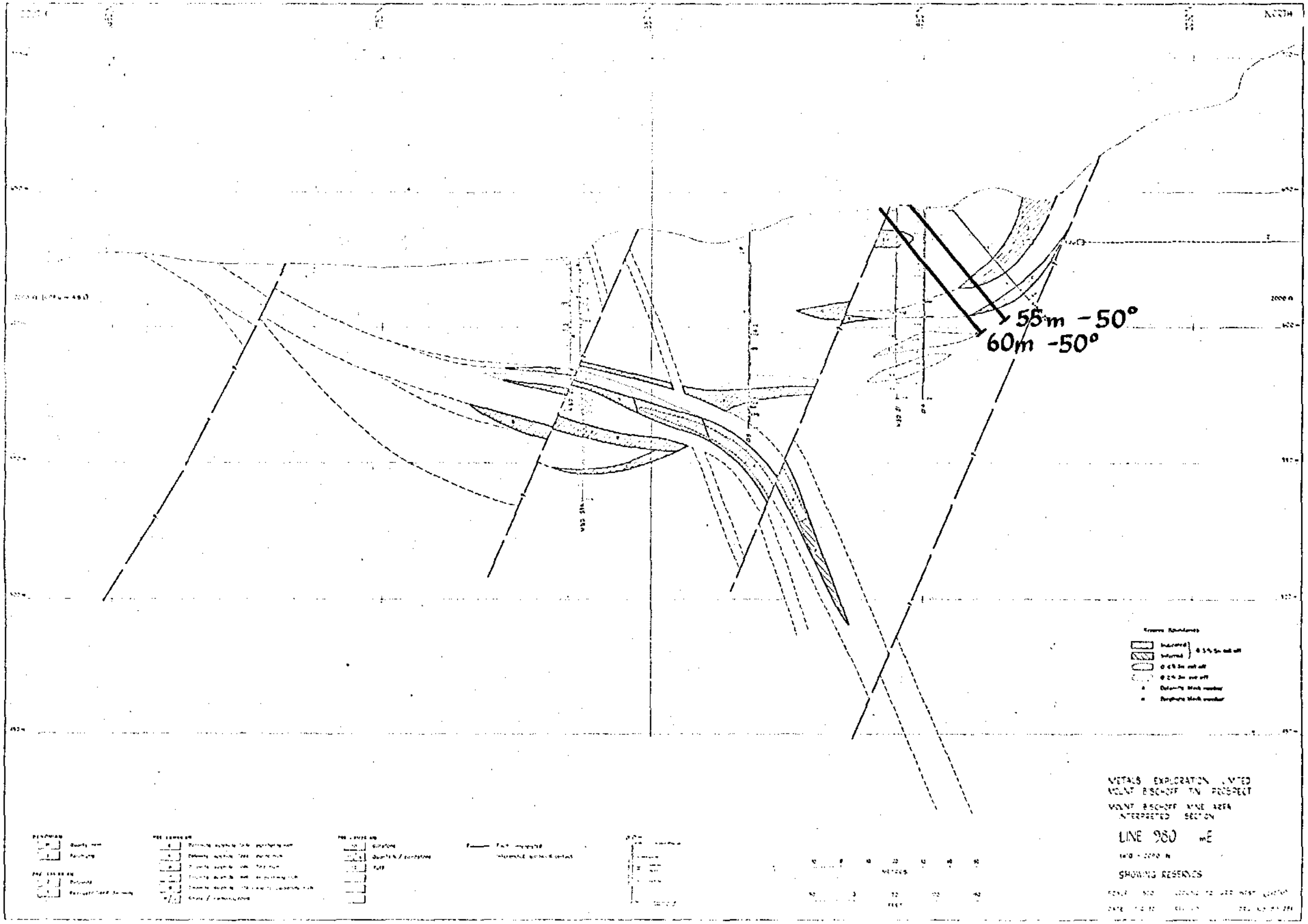


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

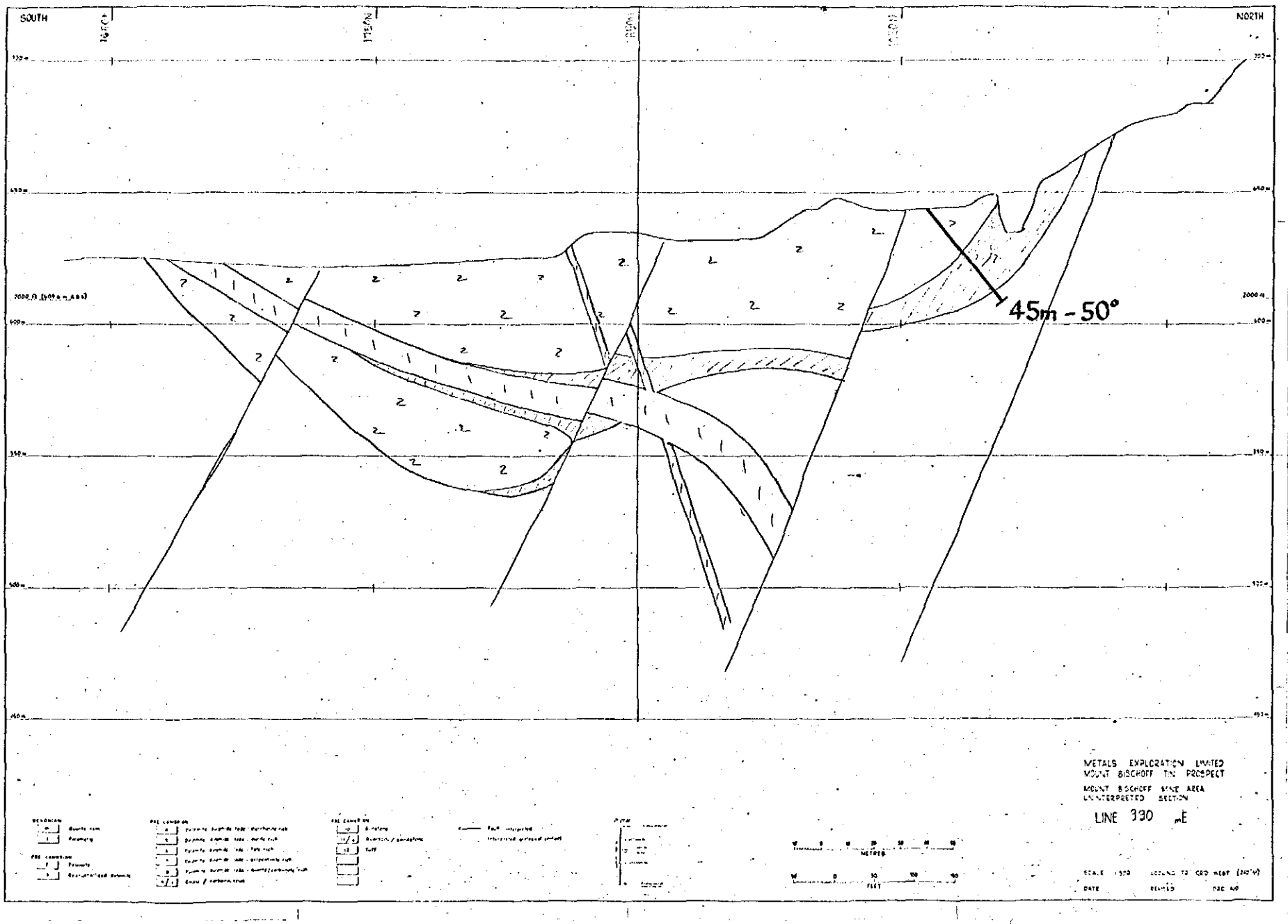
021026



PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

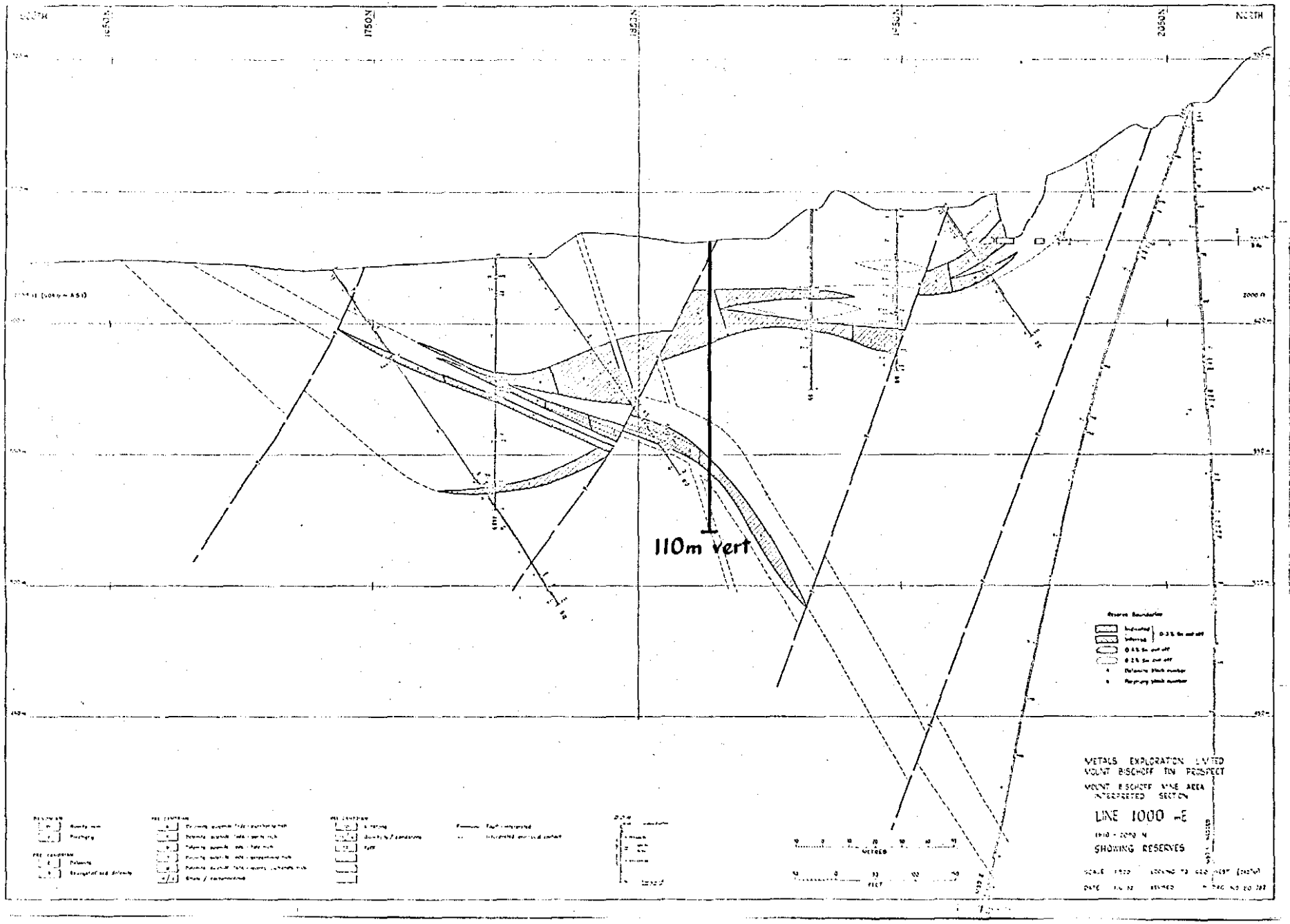
5 cm



PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

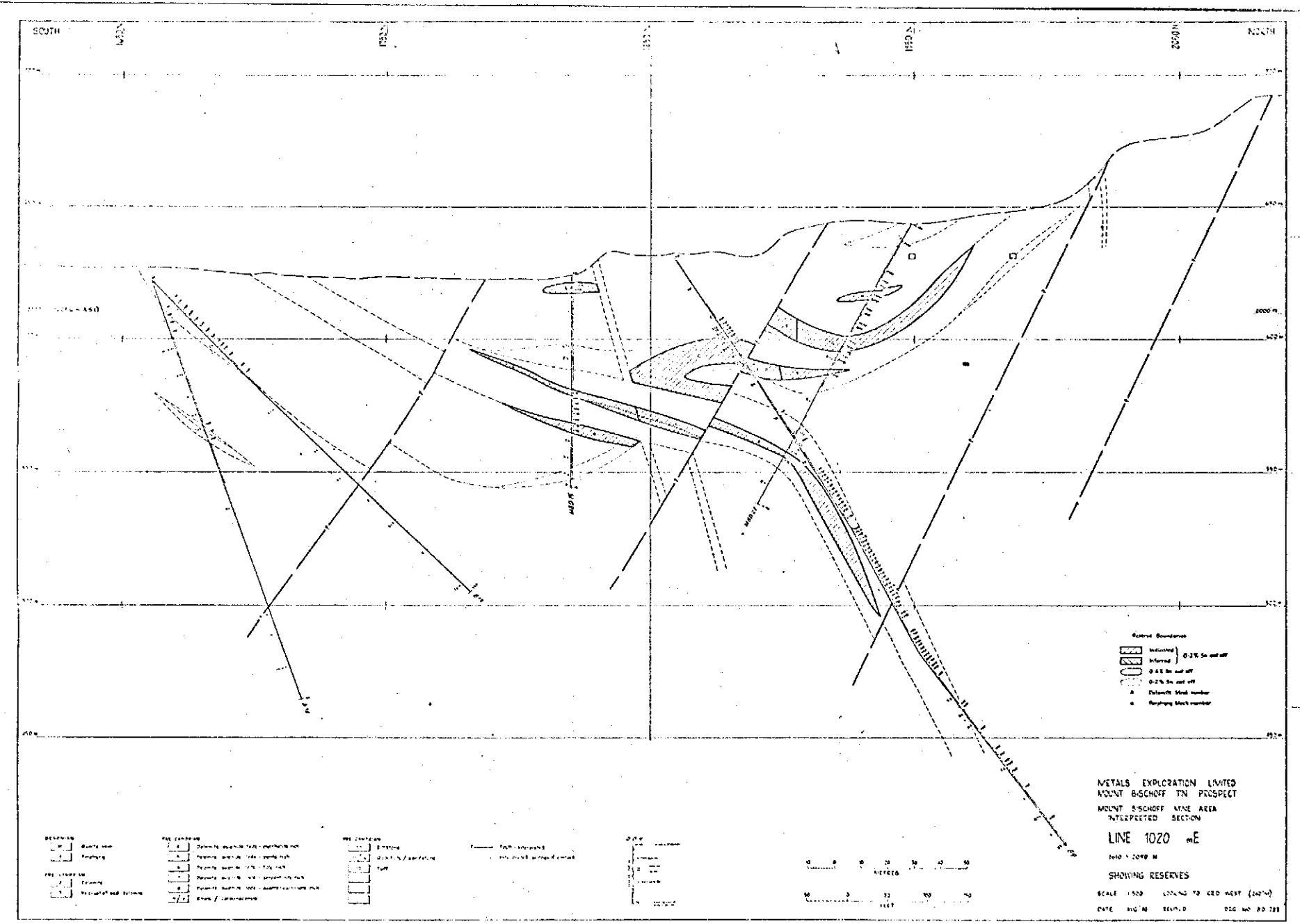


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

5 cm

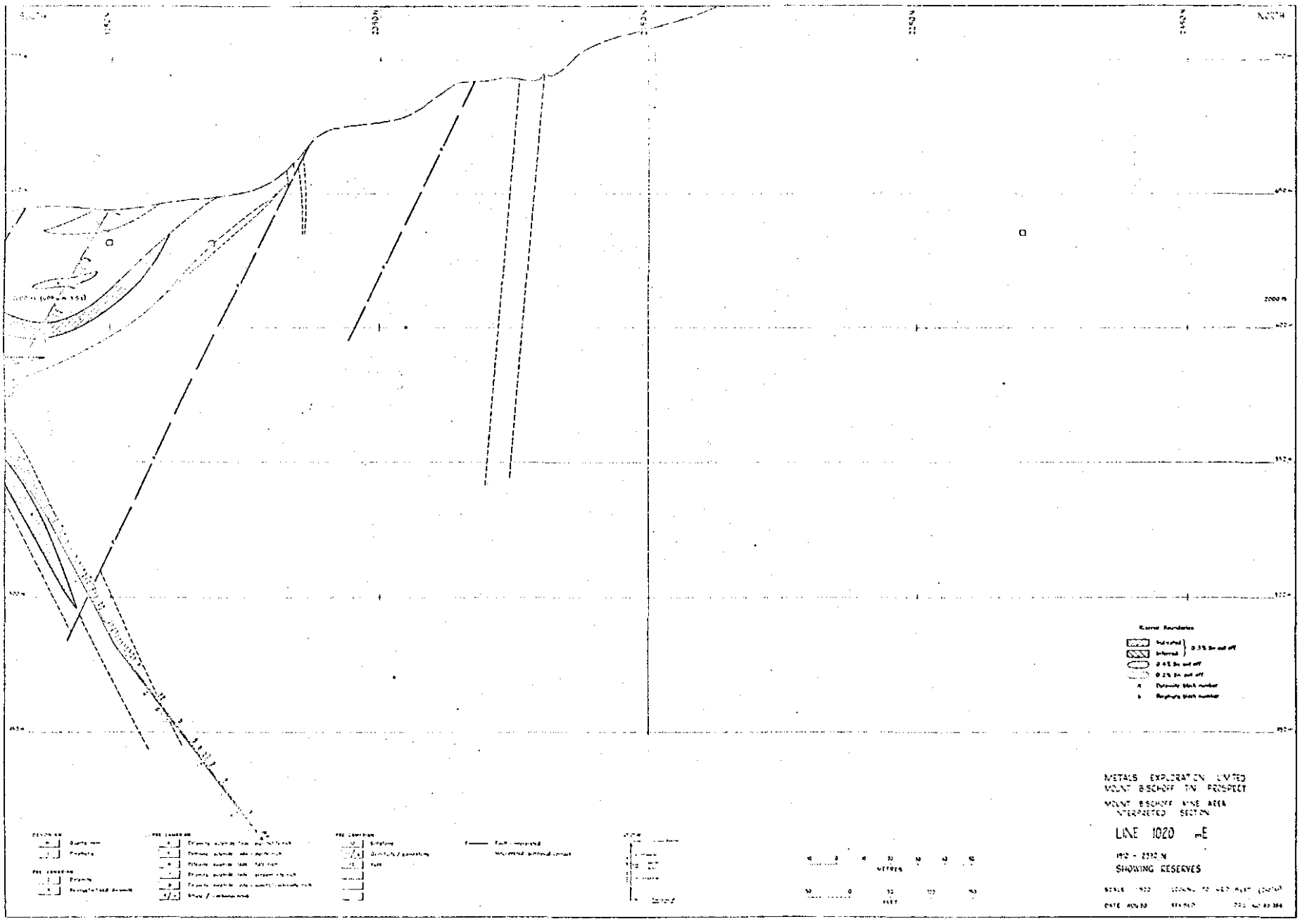


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

5 cm

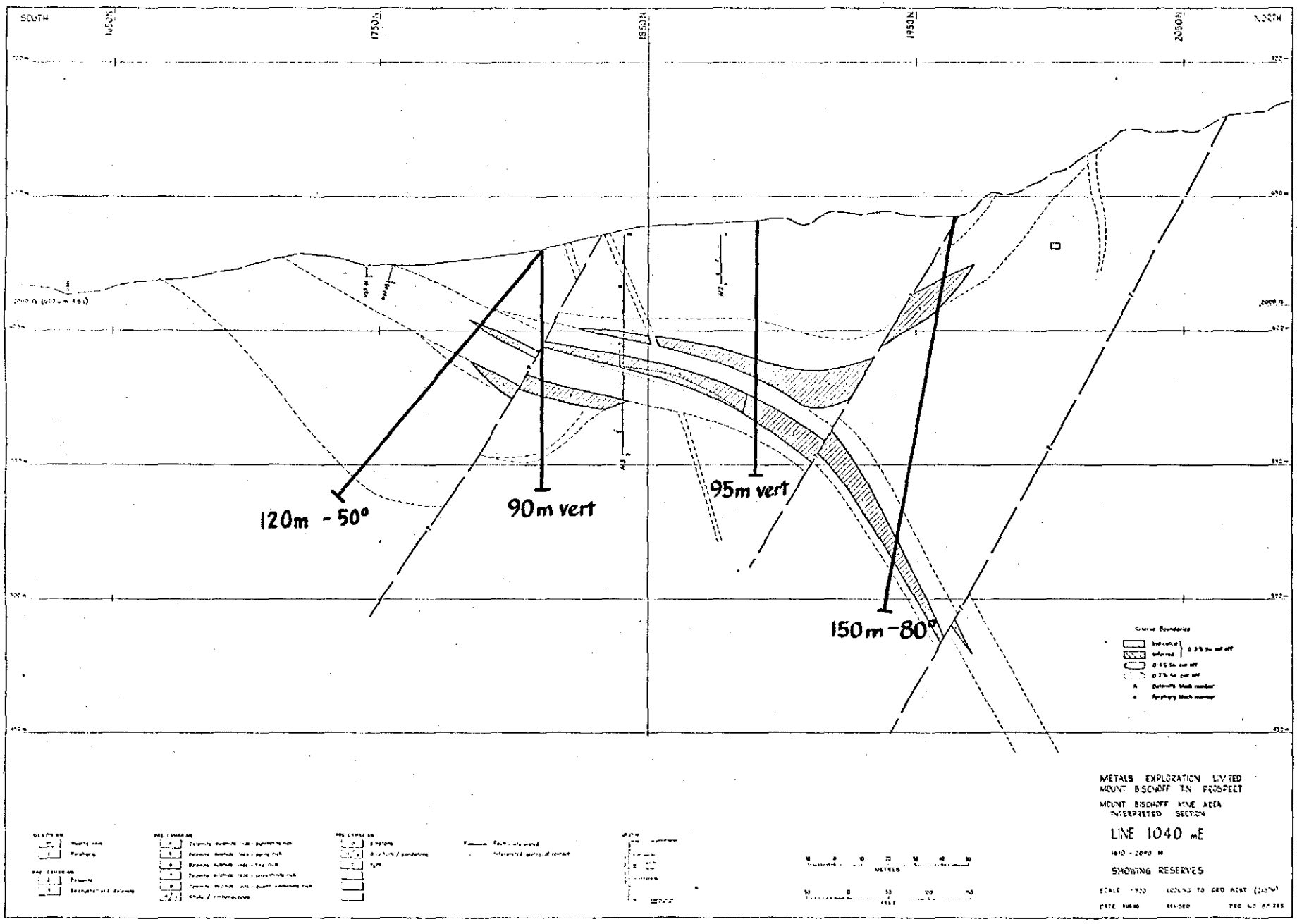


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

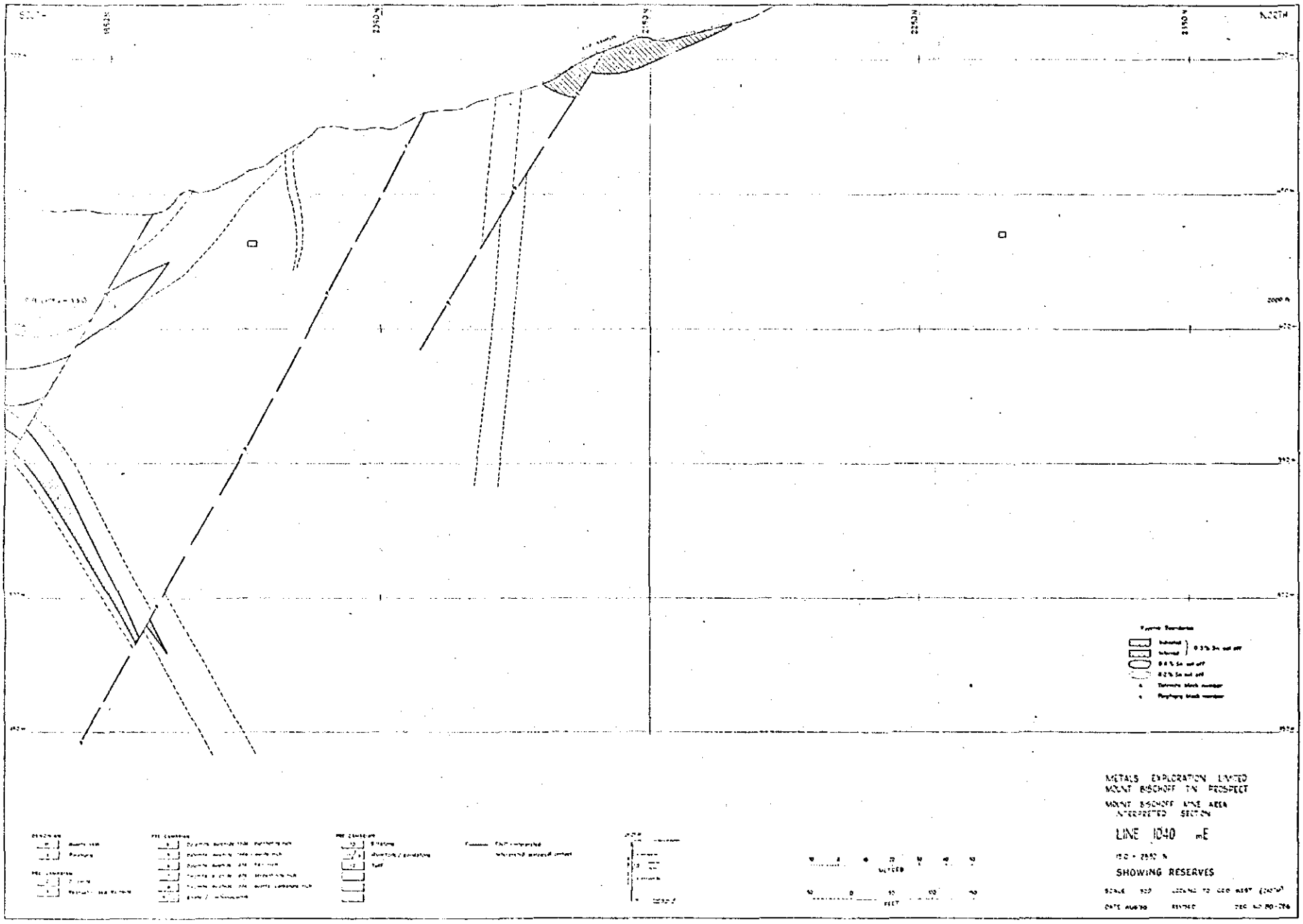
5 cm



PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

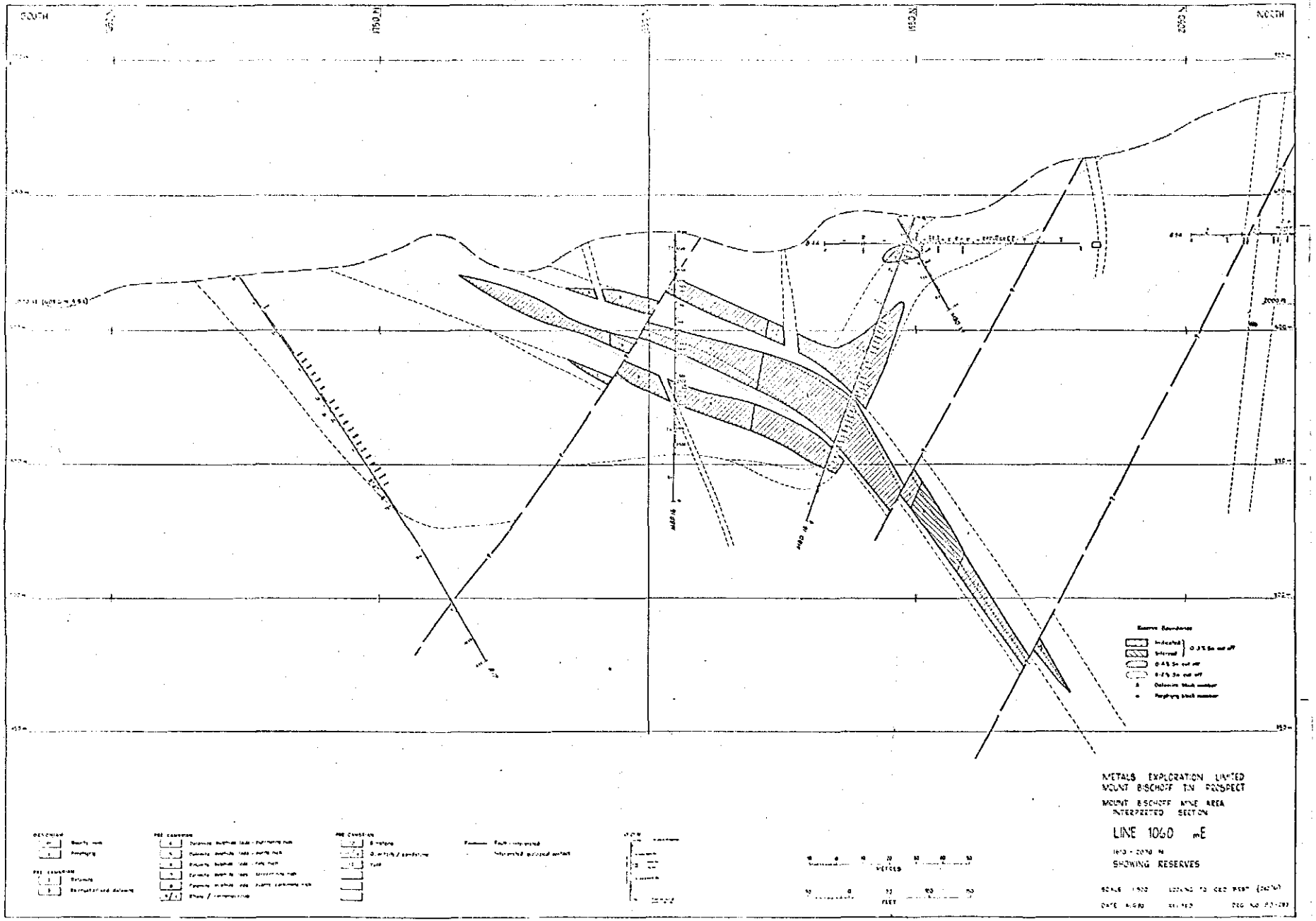


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

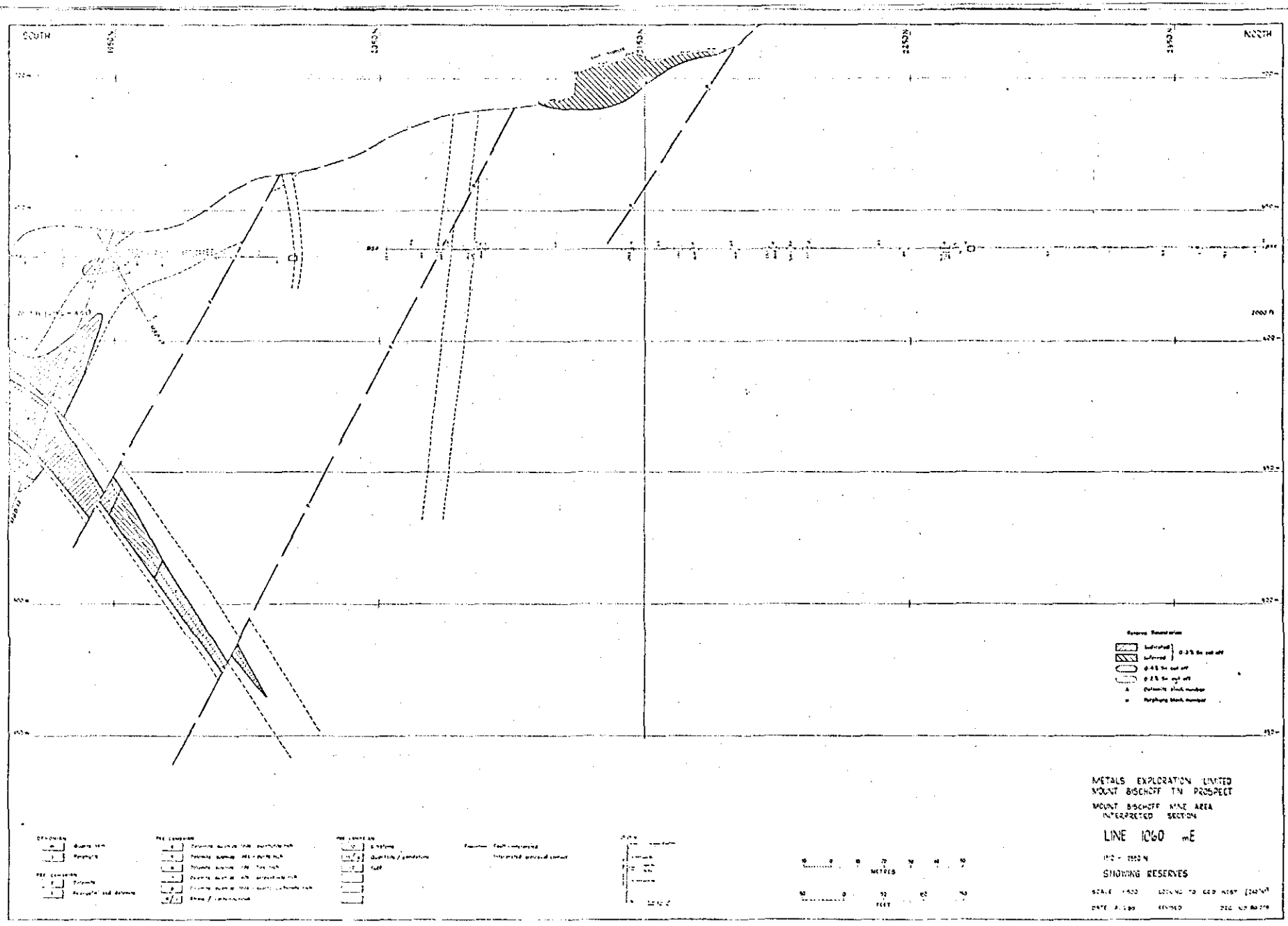
5 cm



PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

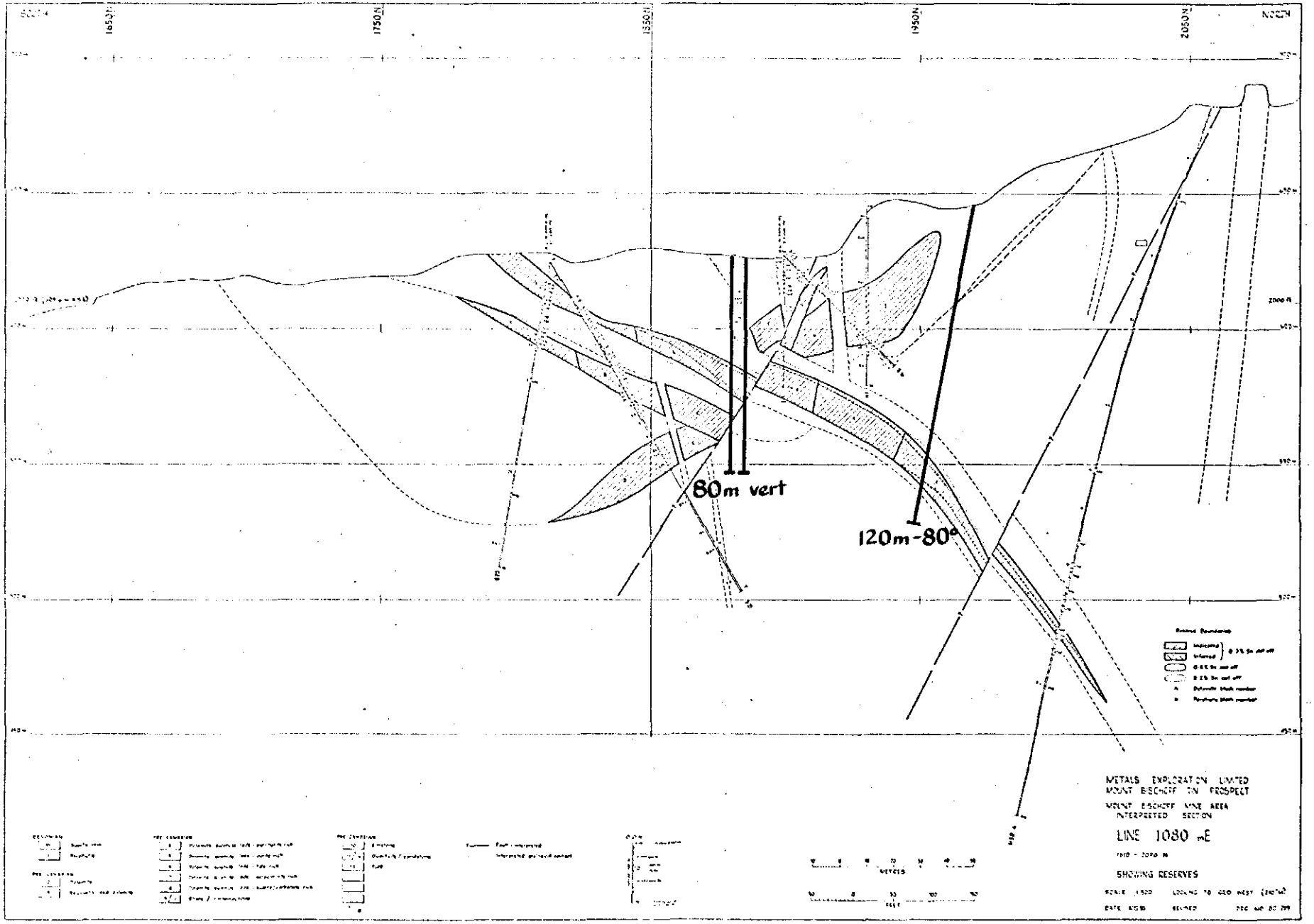


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

5 cm



PROPOSED STAGE 3A DRILLING PROGRAMME

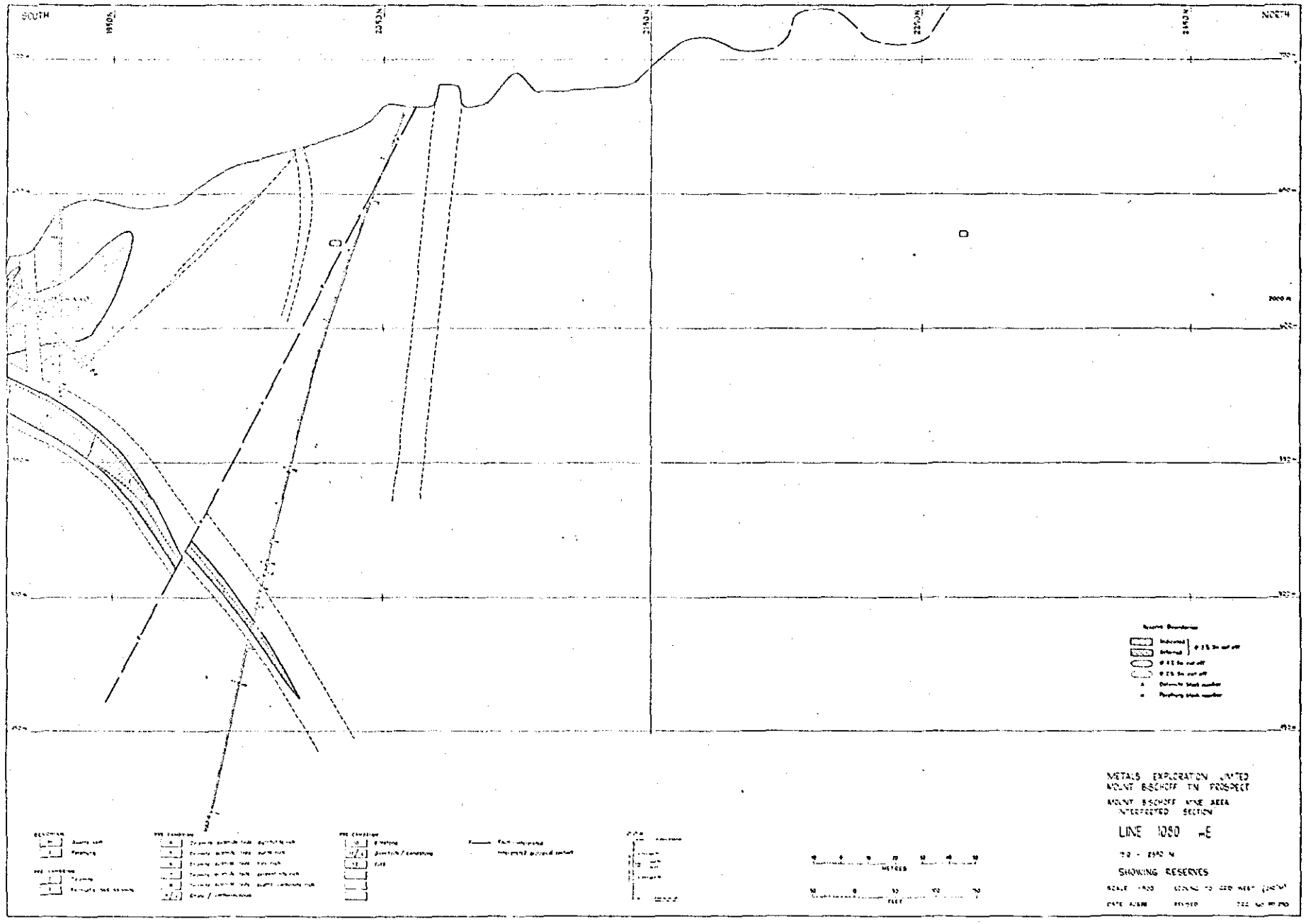
Proposed Diamond Drillhole.

Scale 1:2000

5 cm

S

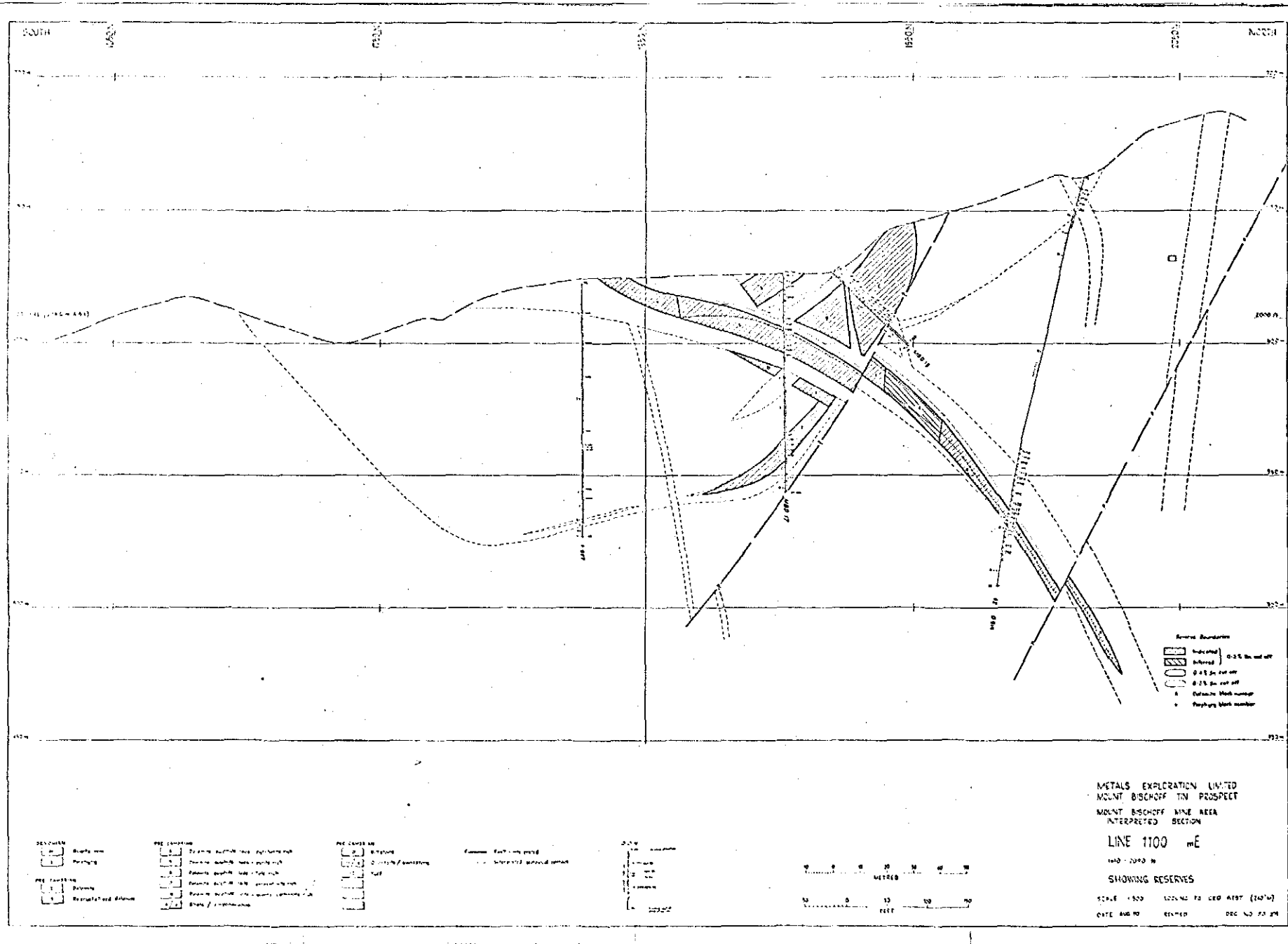
021036



PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

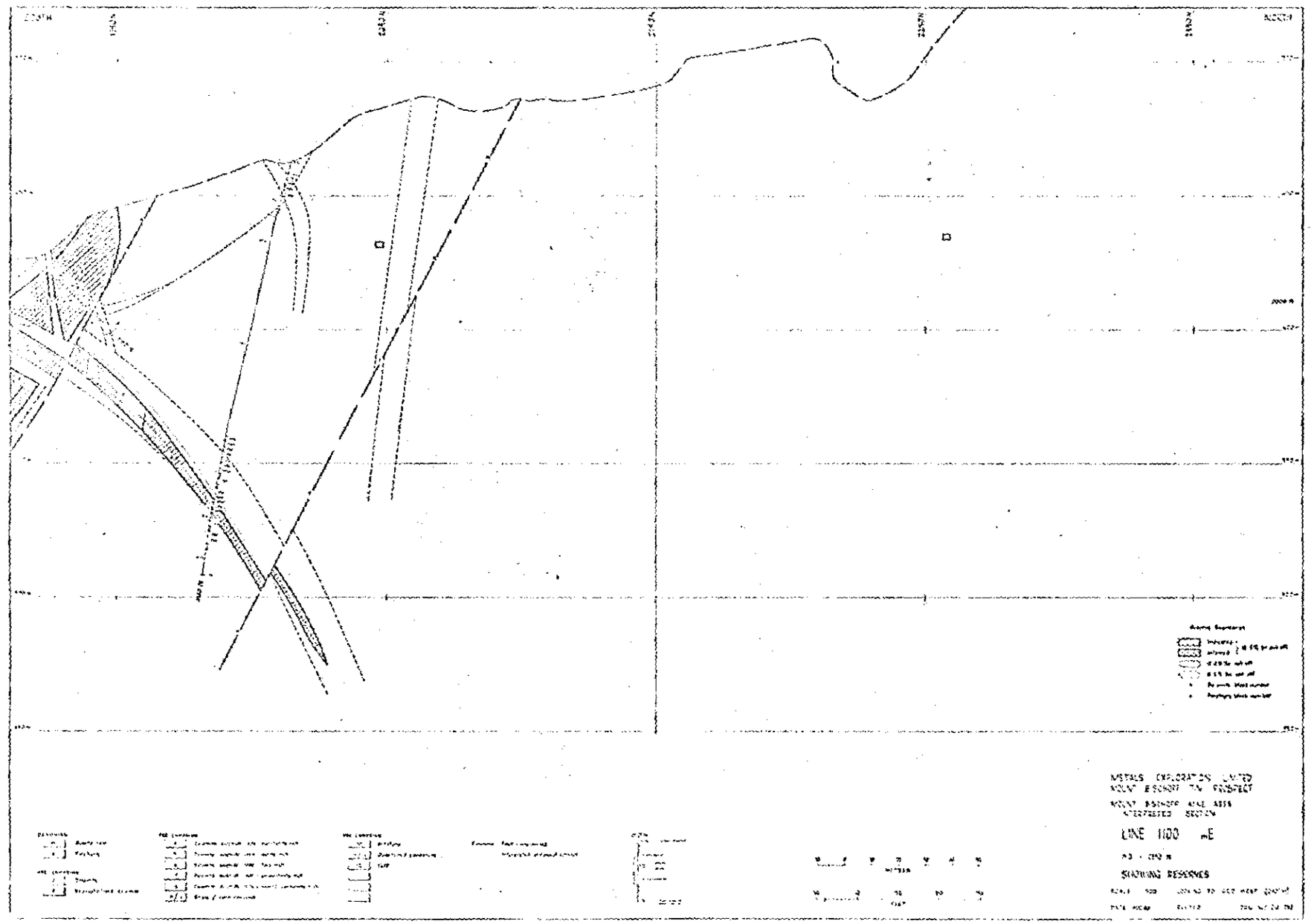


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

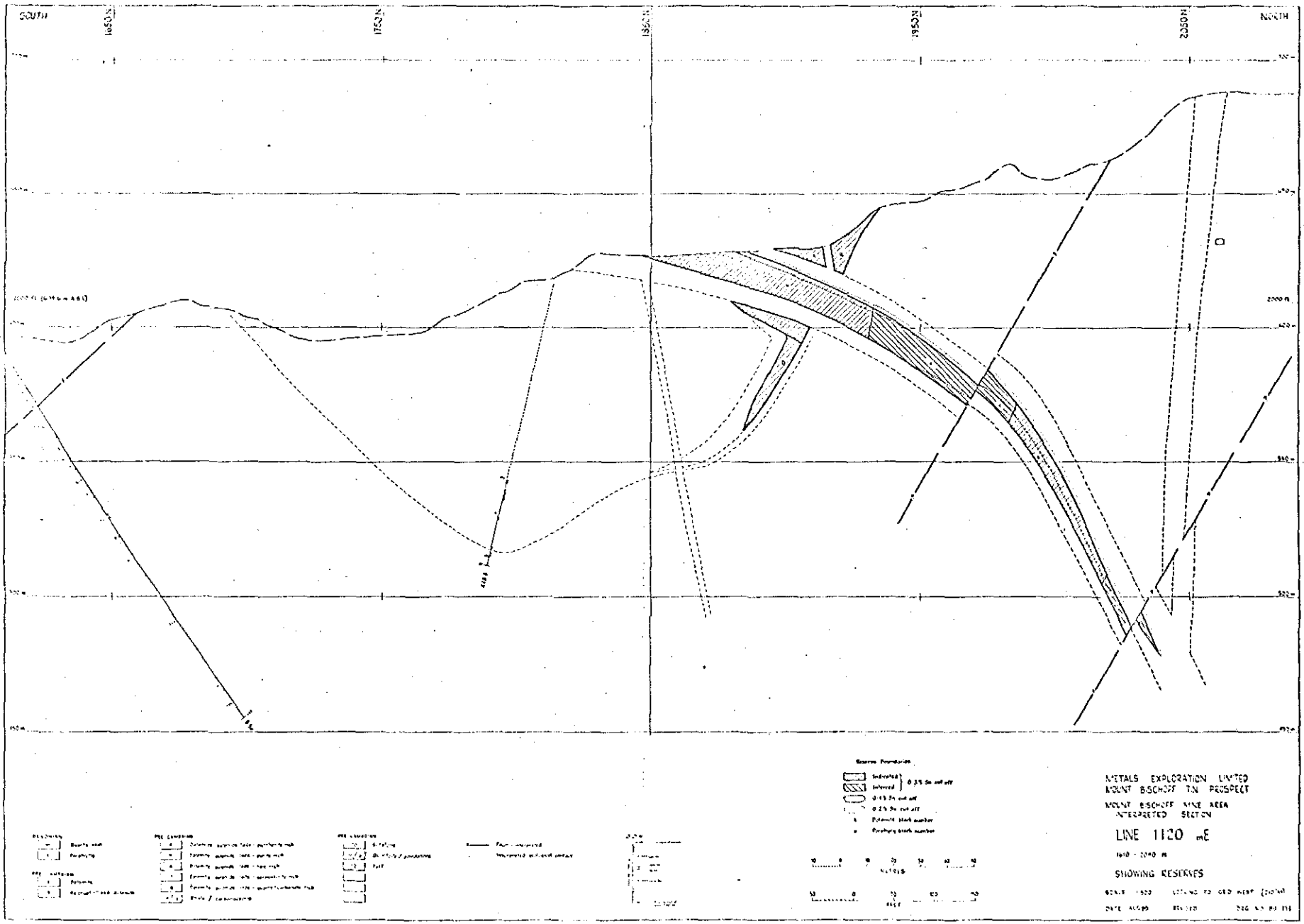
5 cm



PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm



PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

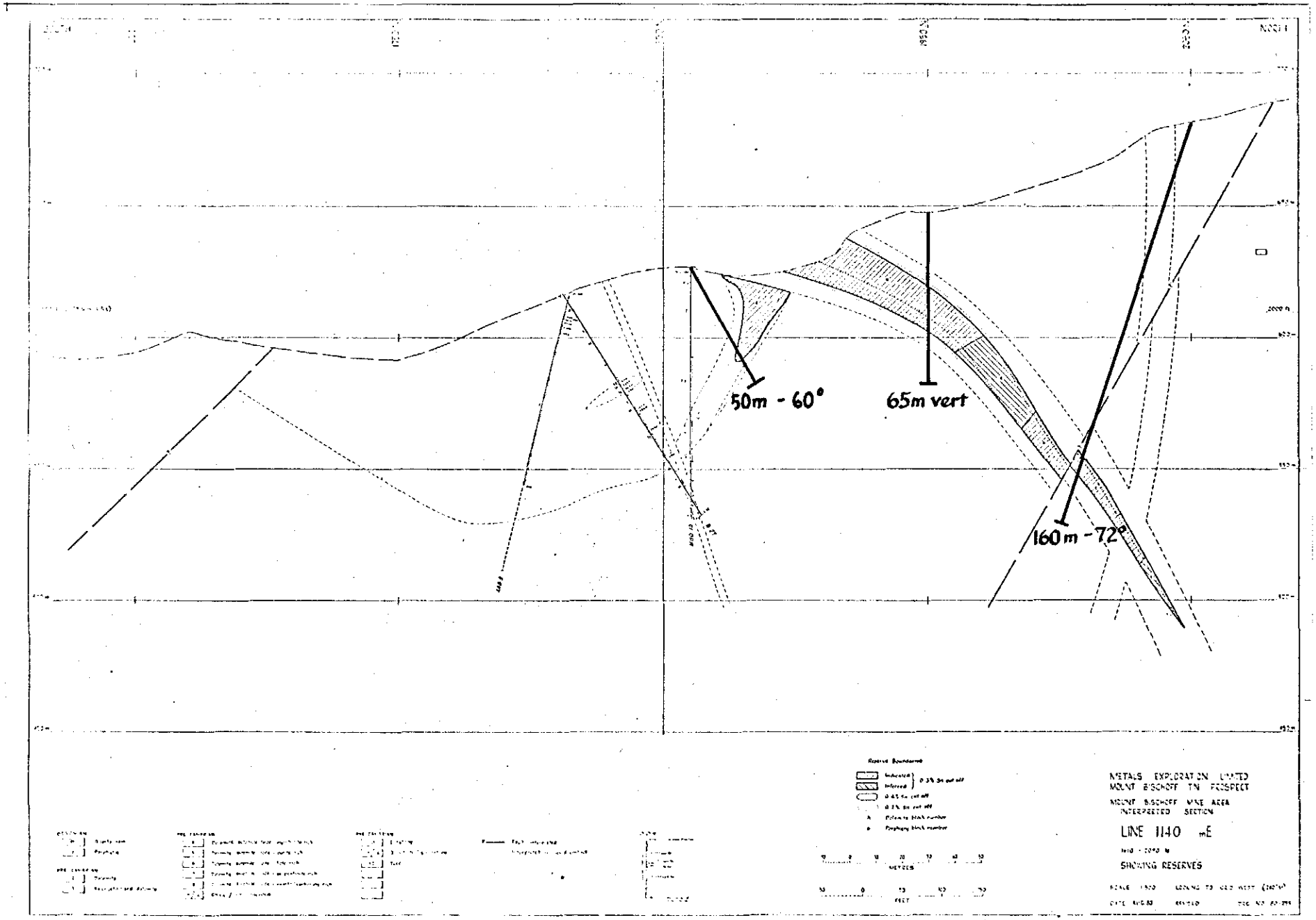
W

021010

PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm



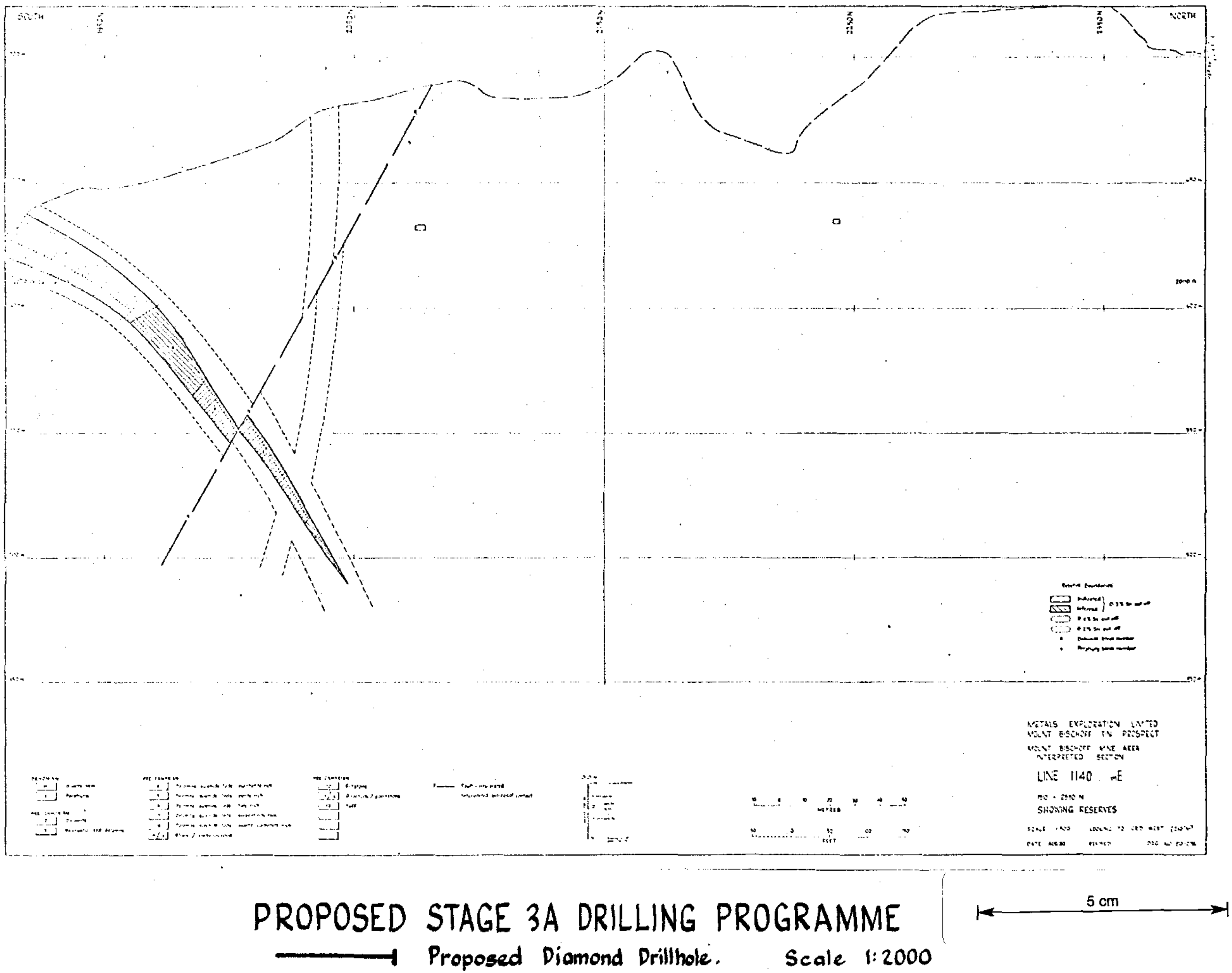
PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

5 cm

5

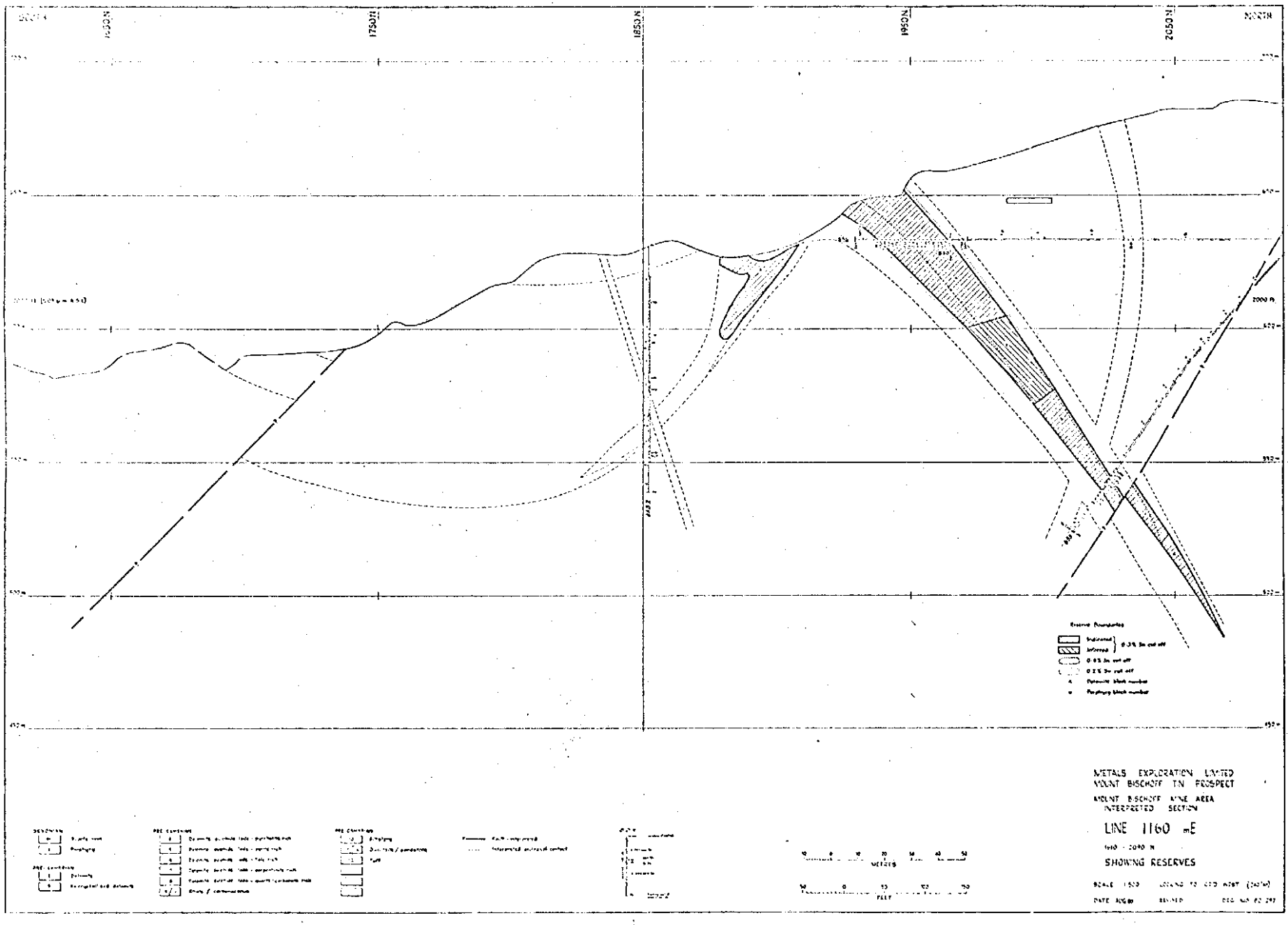


PROPOSED STAGE 3A DRILLING PROGRAMME

Scale 1:2000

021043

A-1

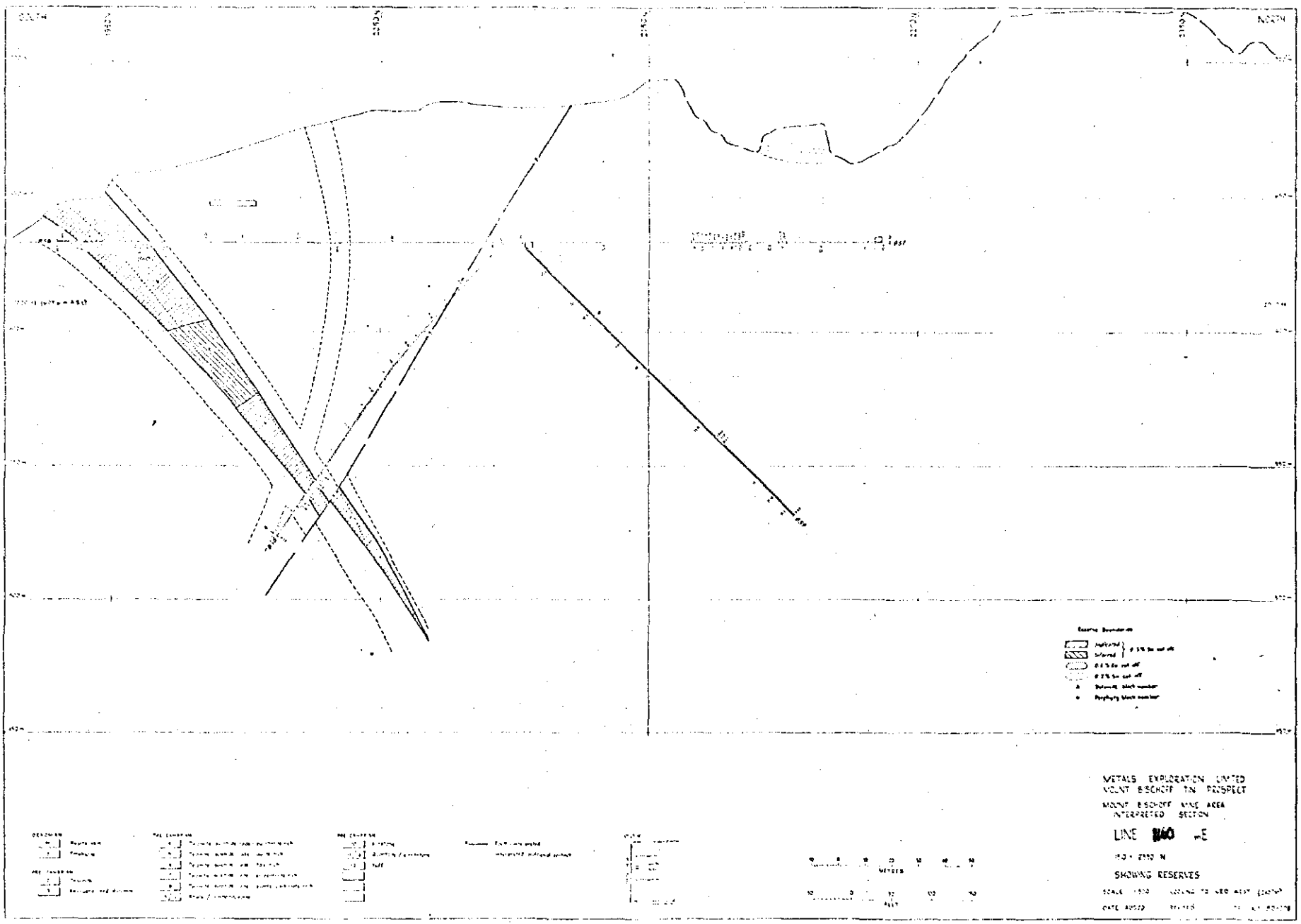


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

B-1



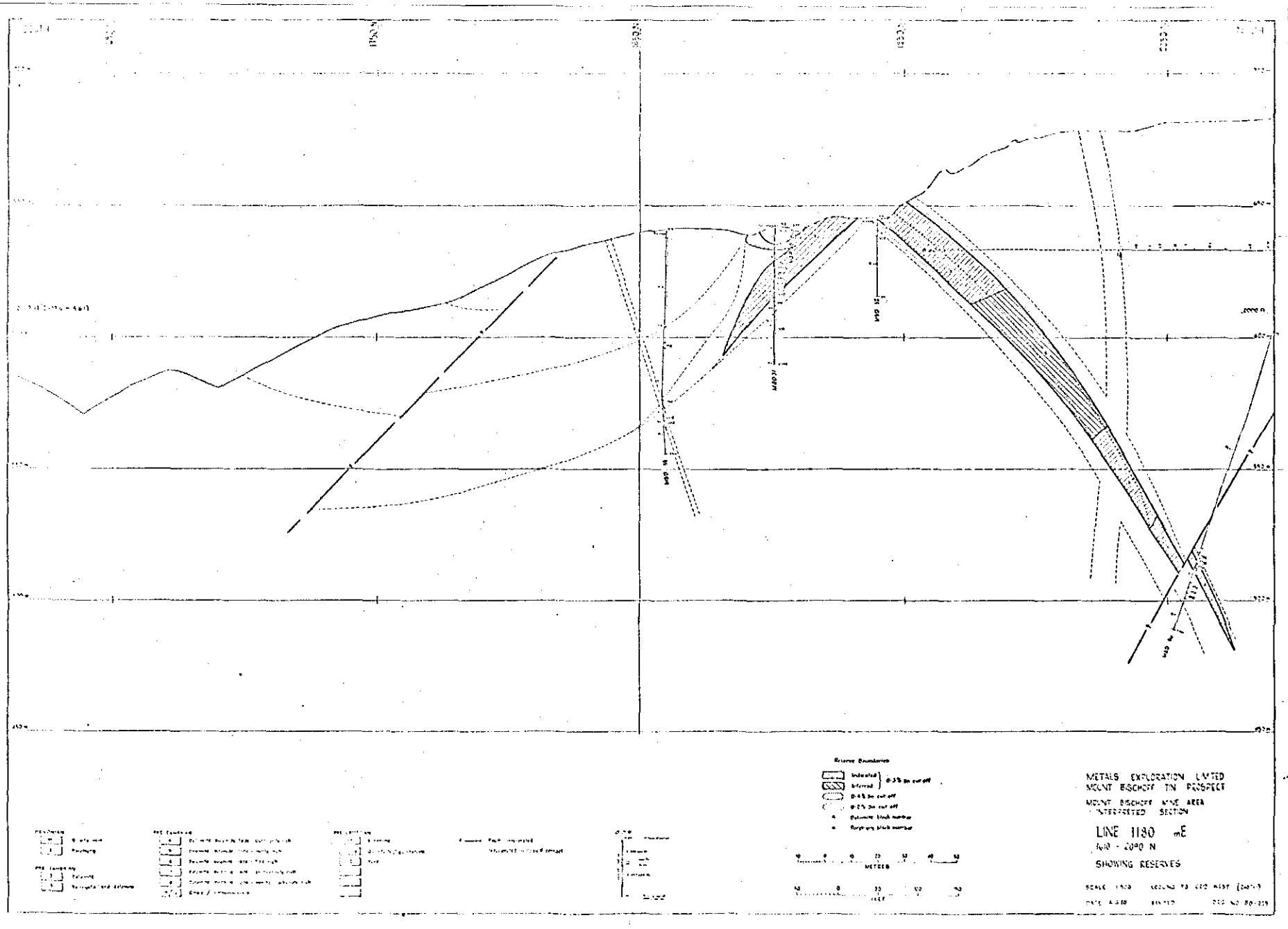
PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

5 cm

C-1

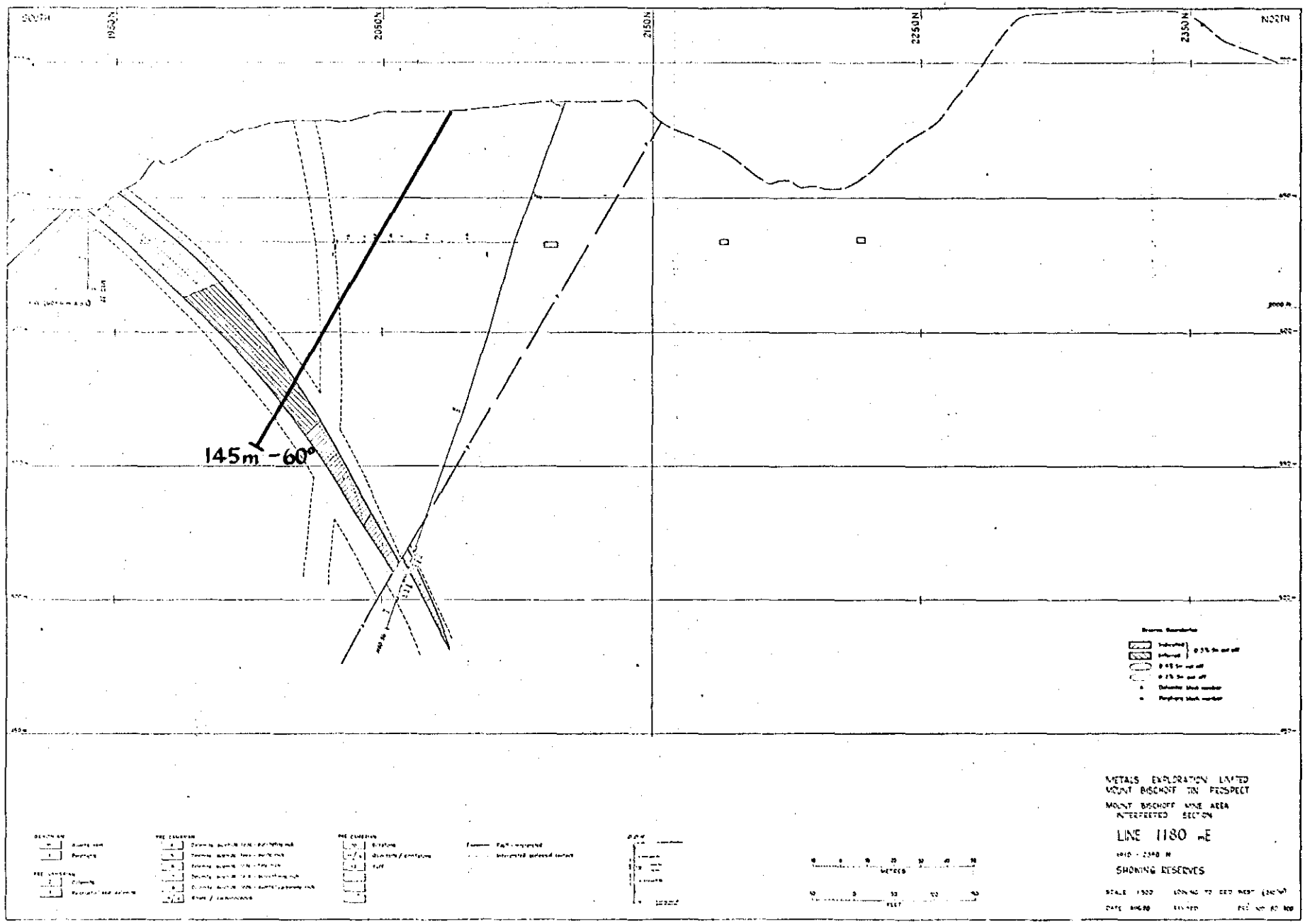


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

D-1



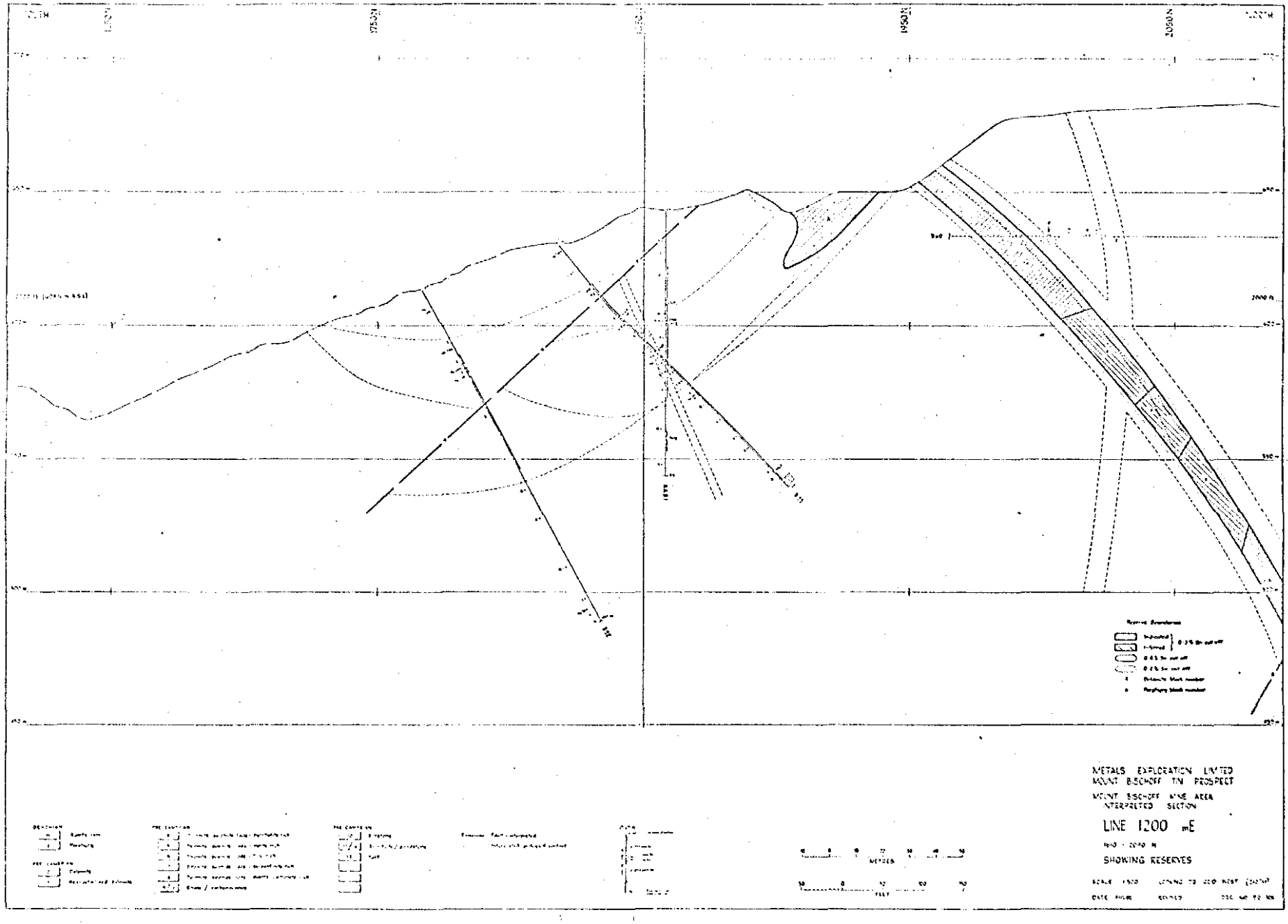
PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

5 cm

E-1



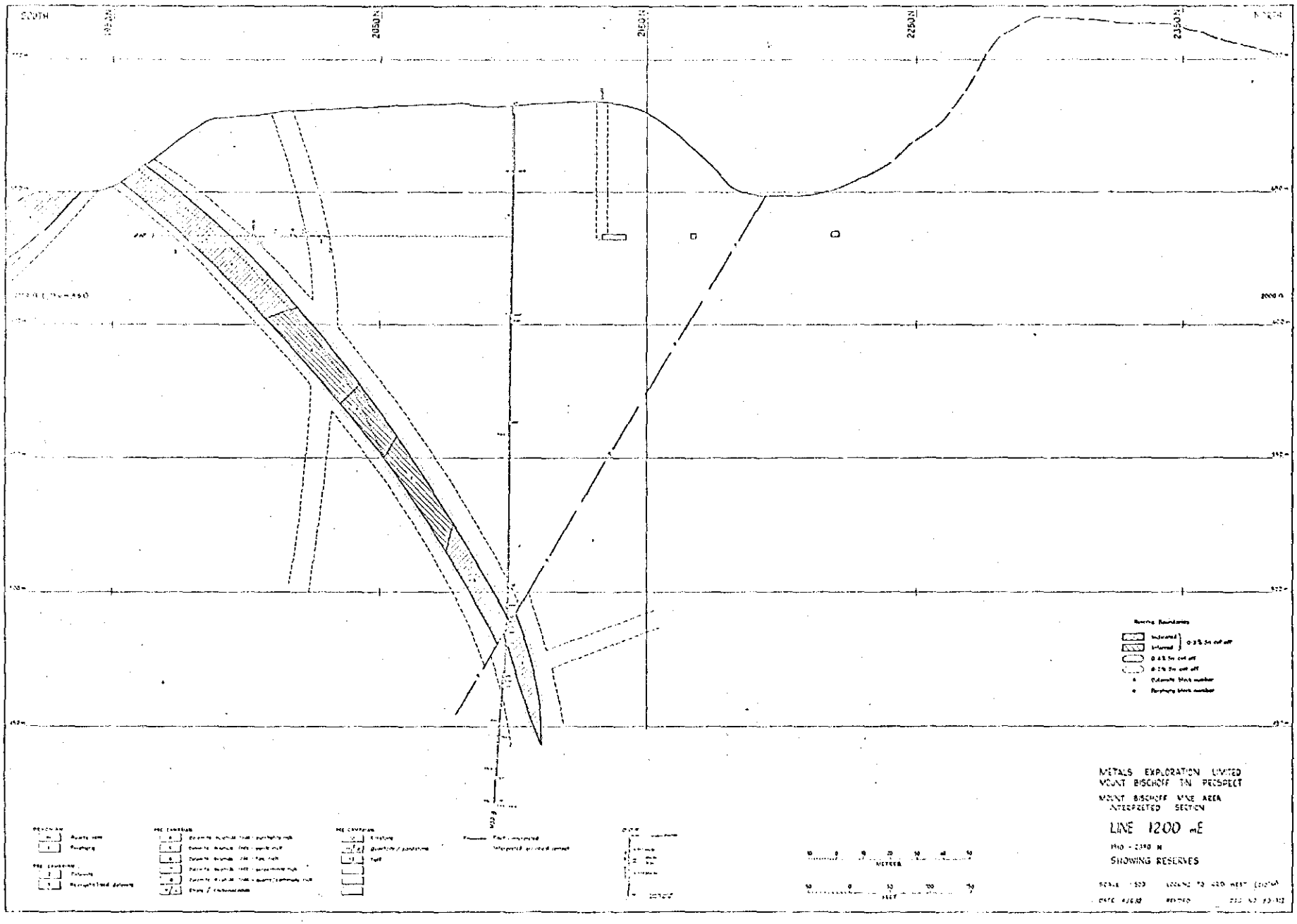
PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

5 cm

F-1

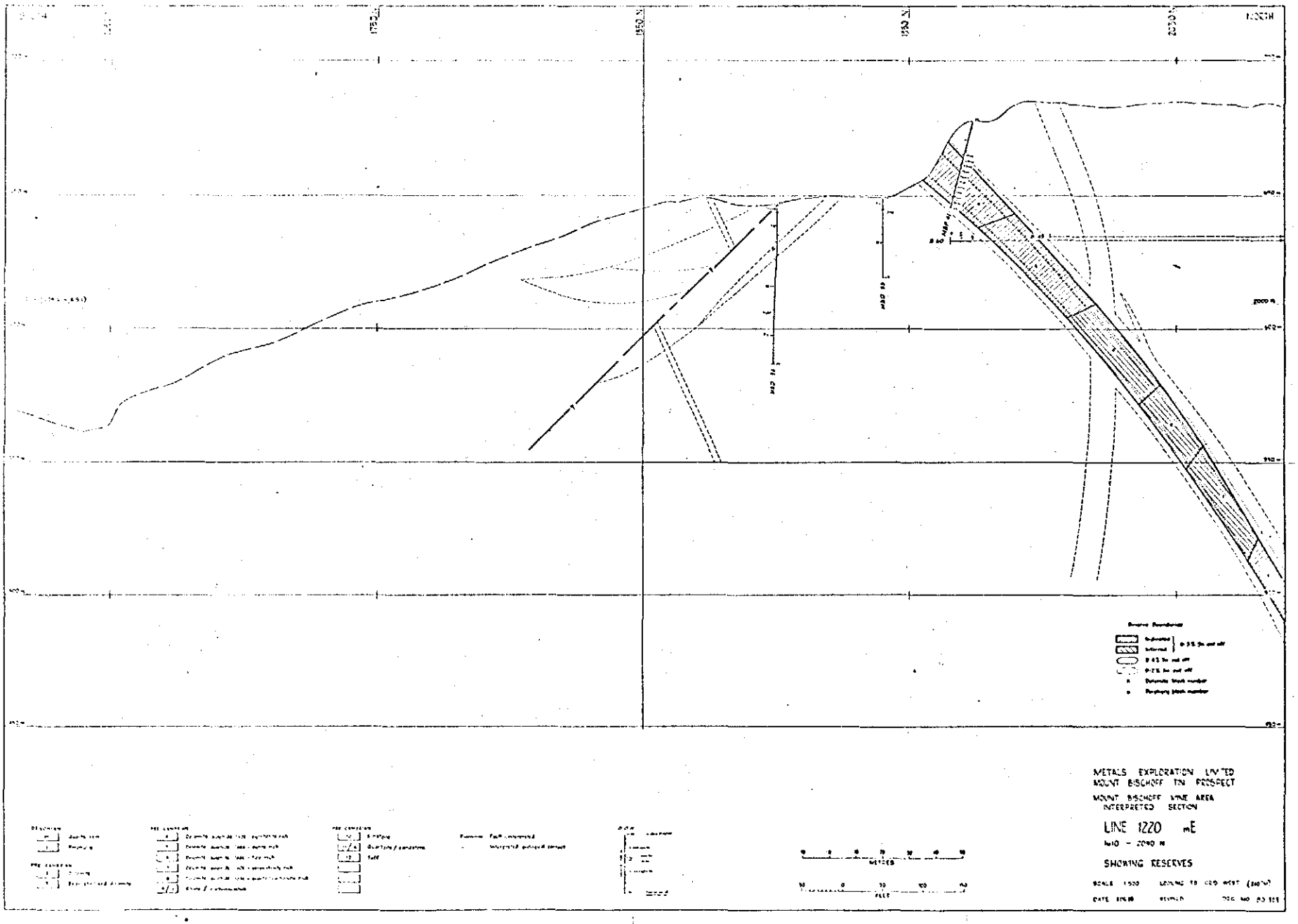


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

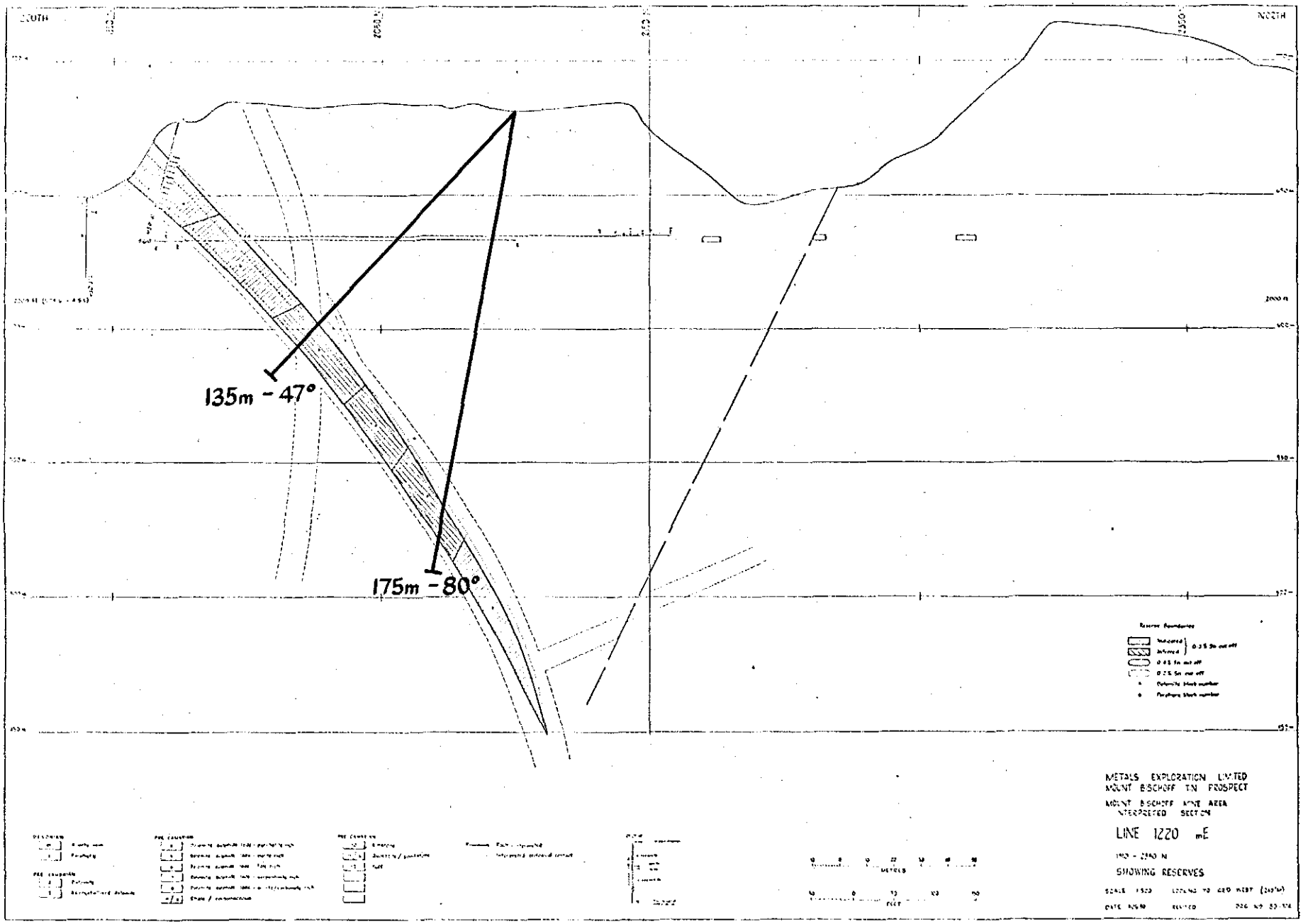
G-1



PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

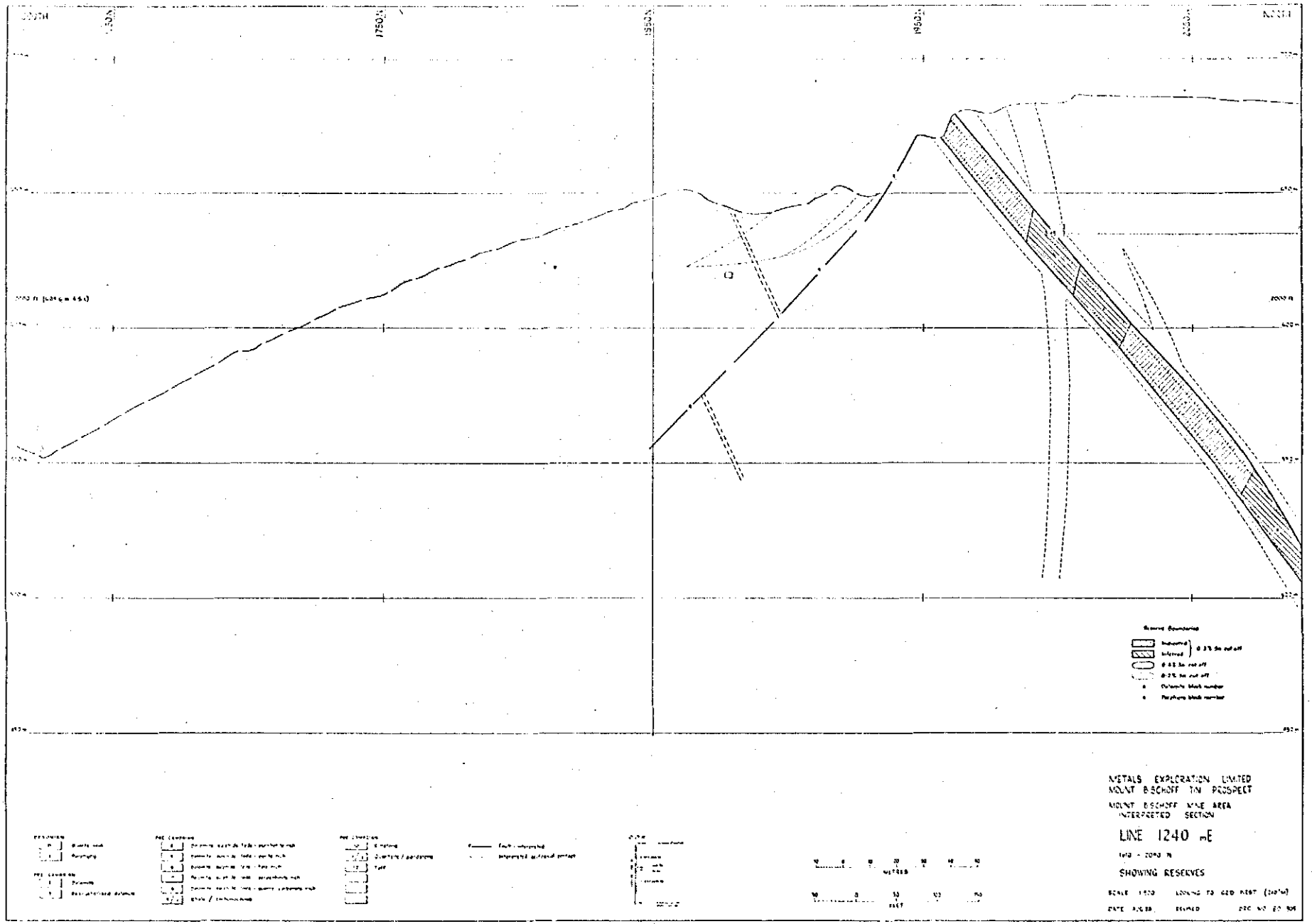
5 cm



PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

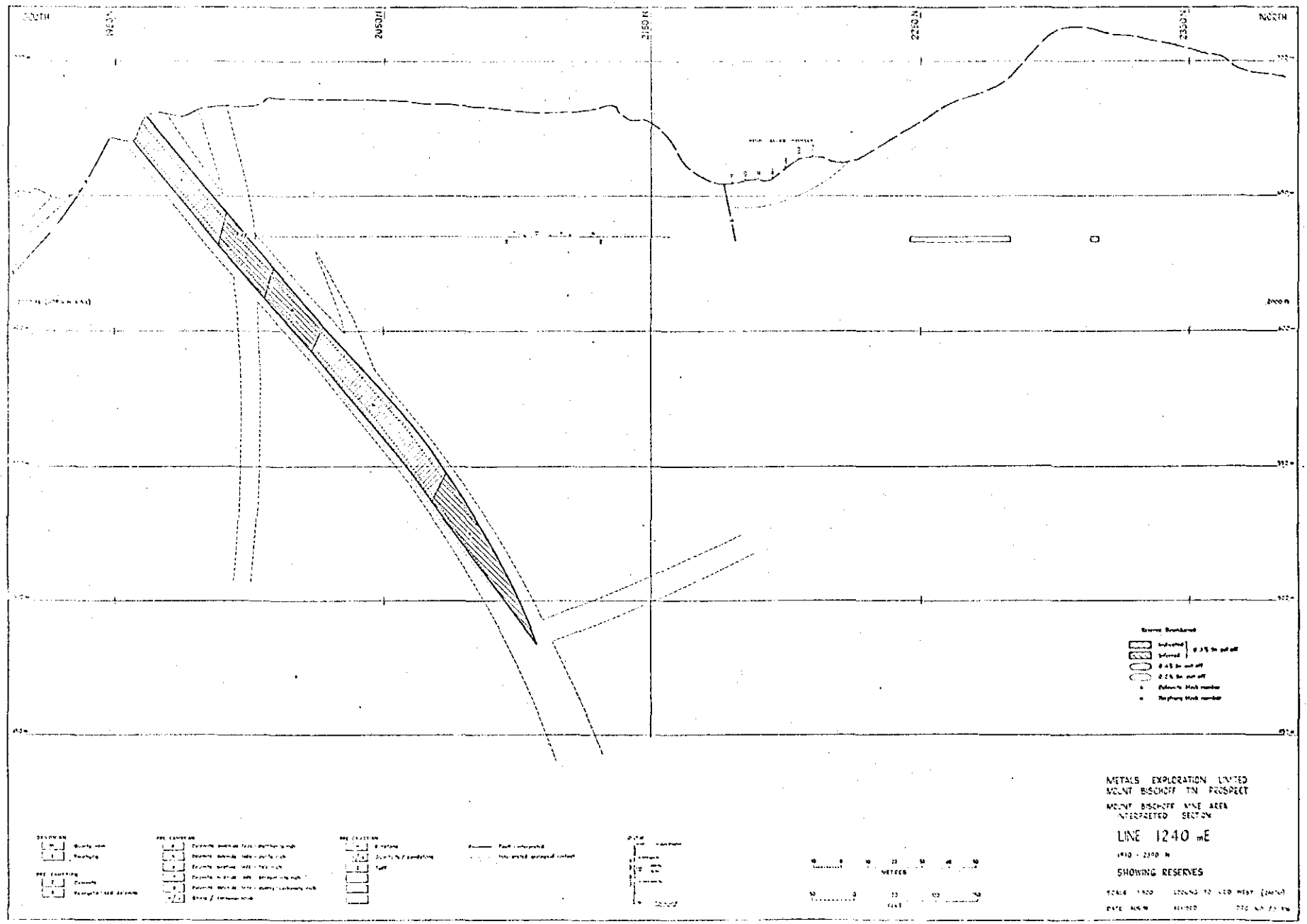
5 cm



PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

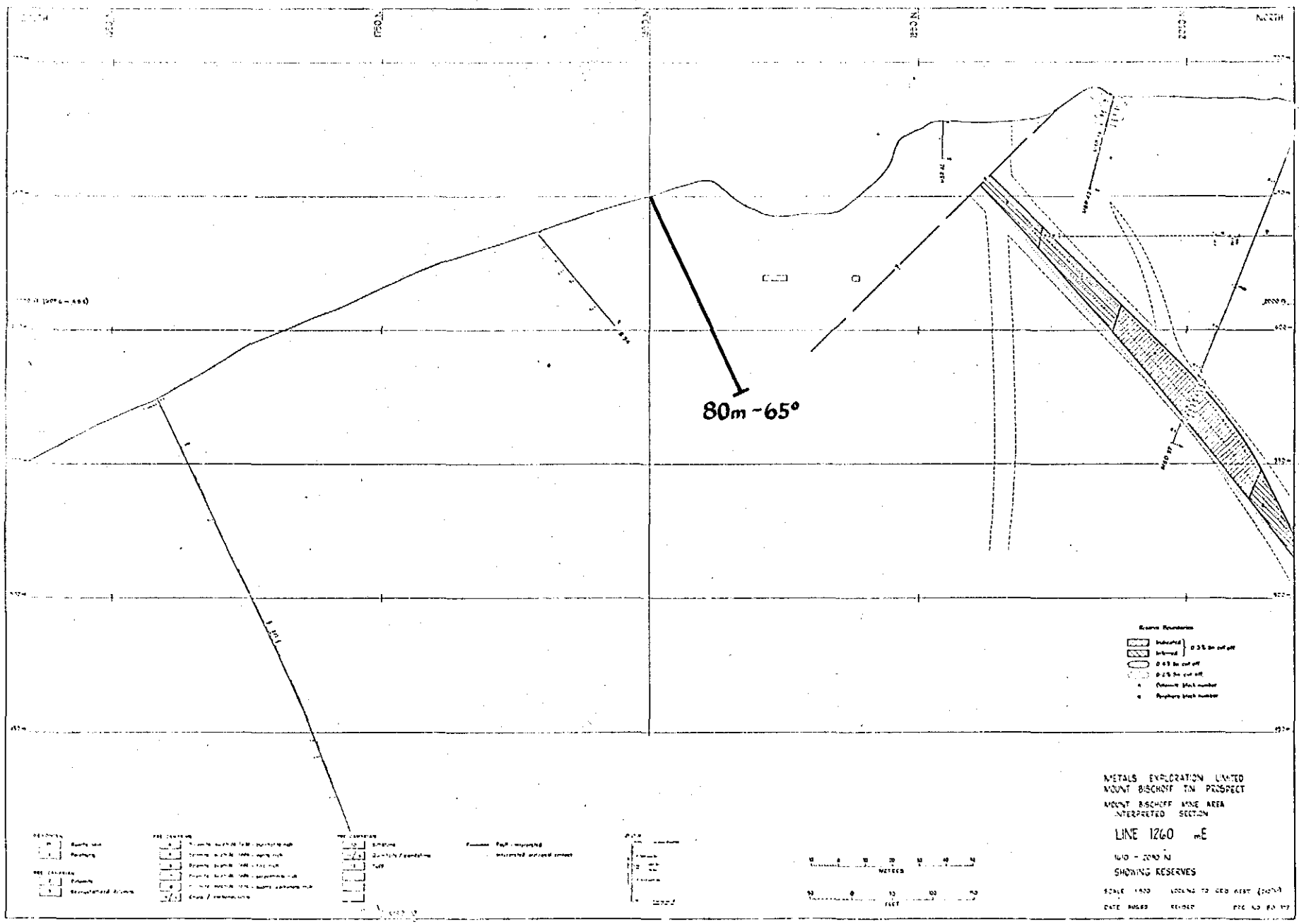


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

K-1

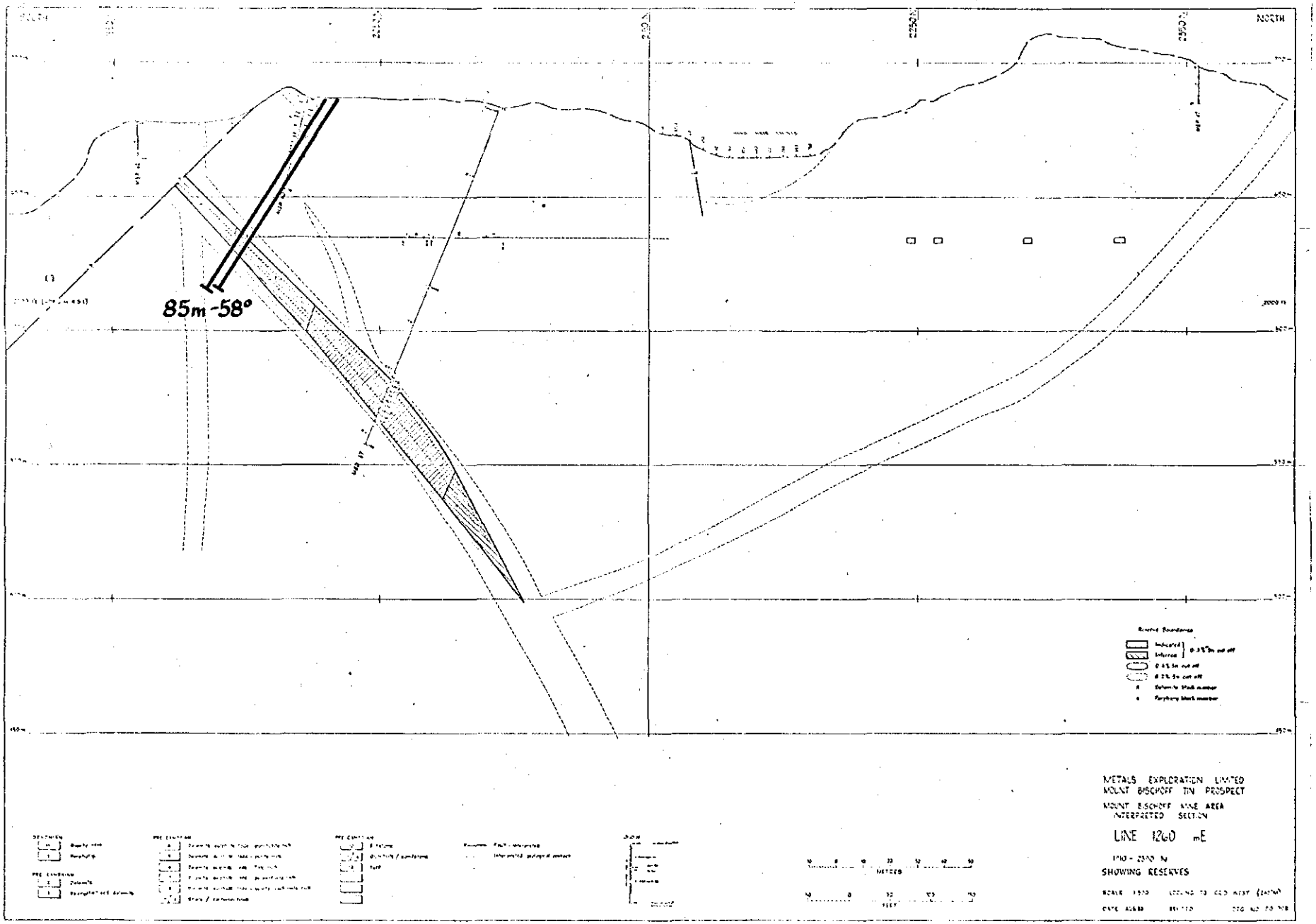


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

0210154

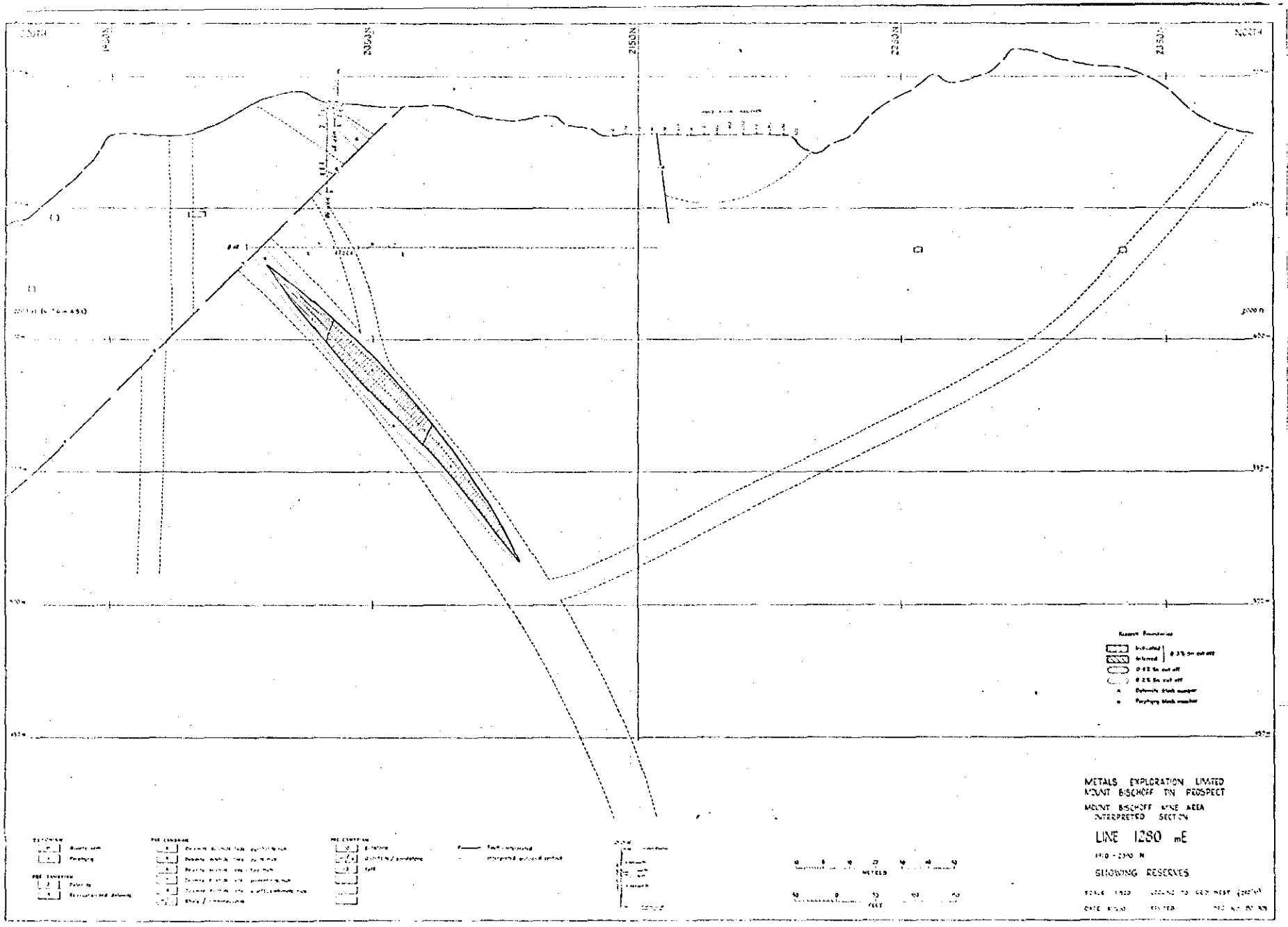


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

M-1



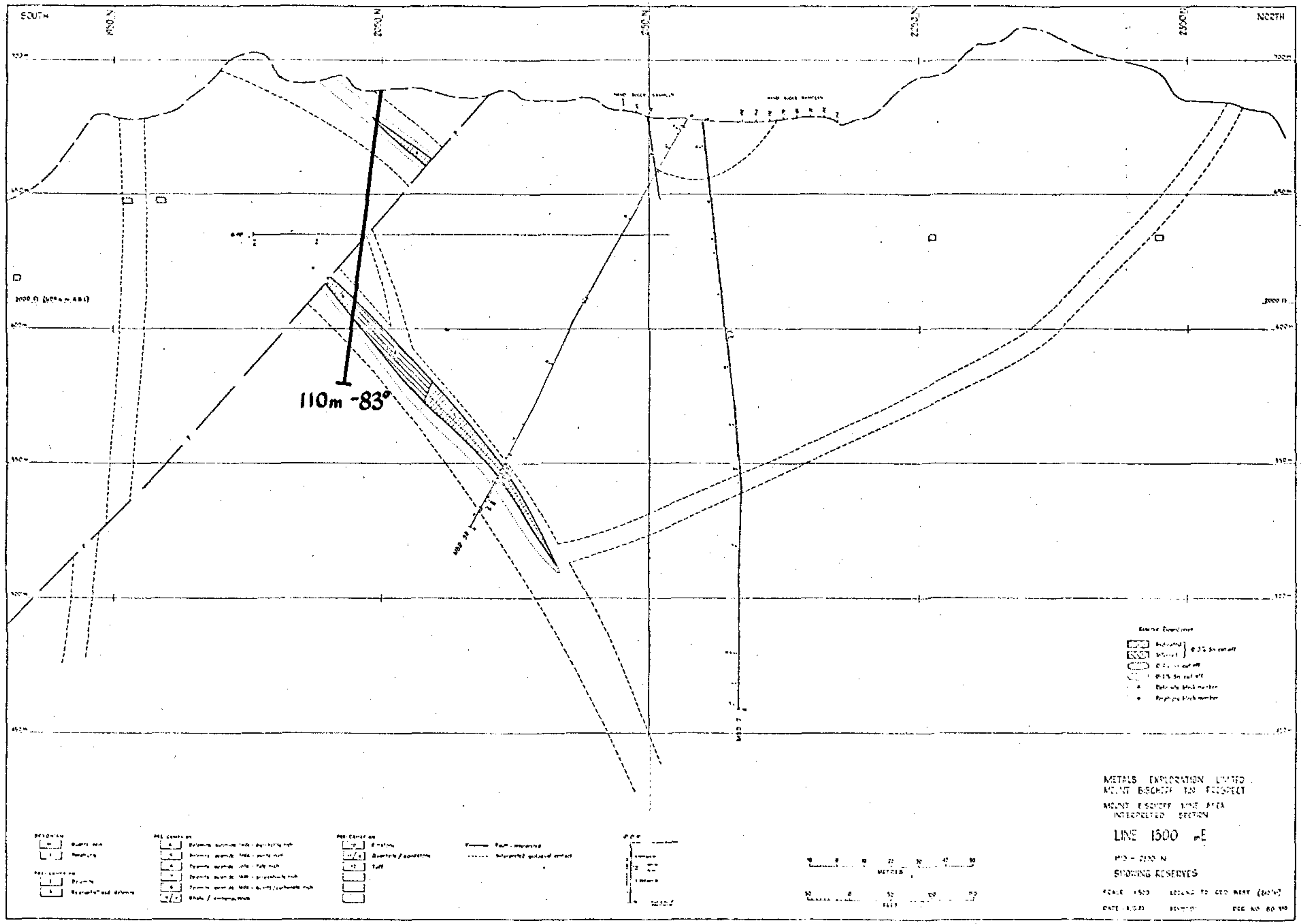
PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

021056

IV-1

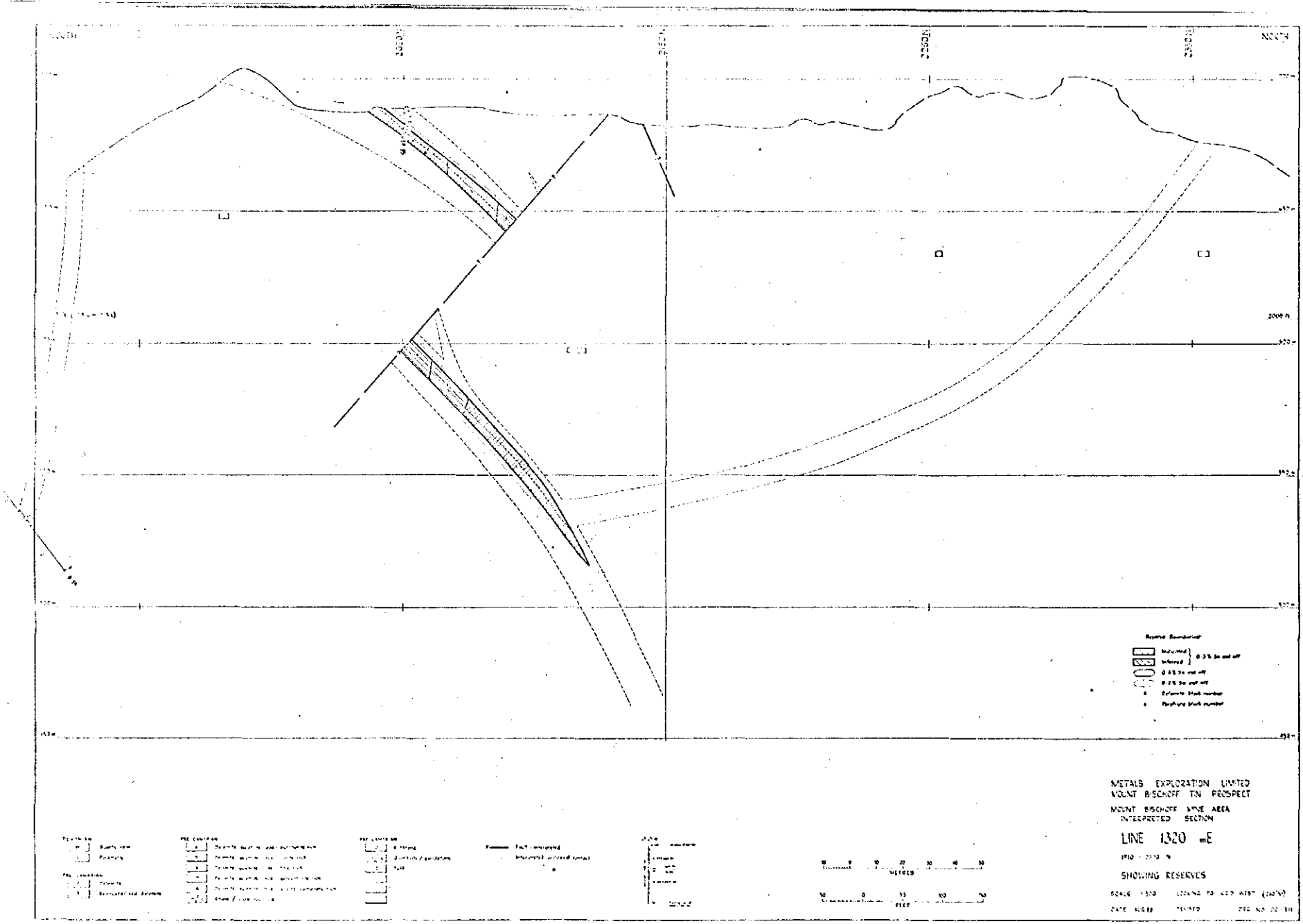


021057

PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

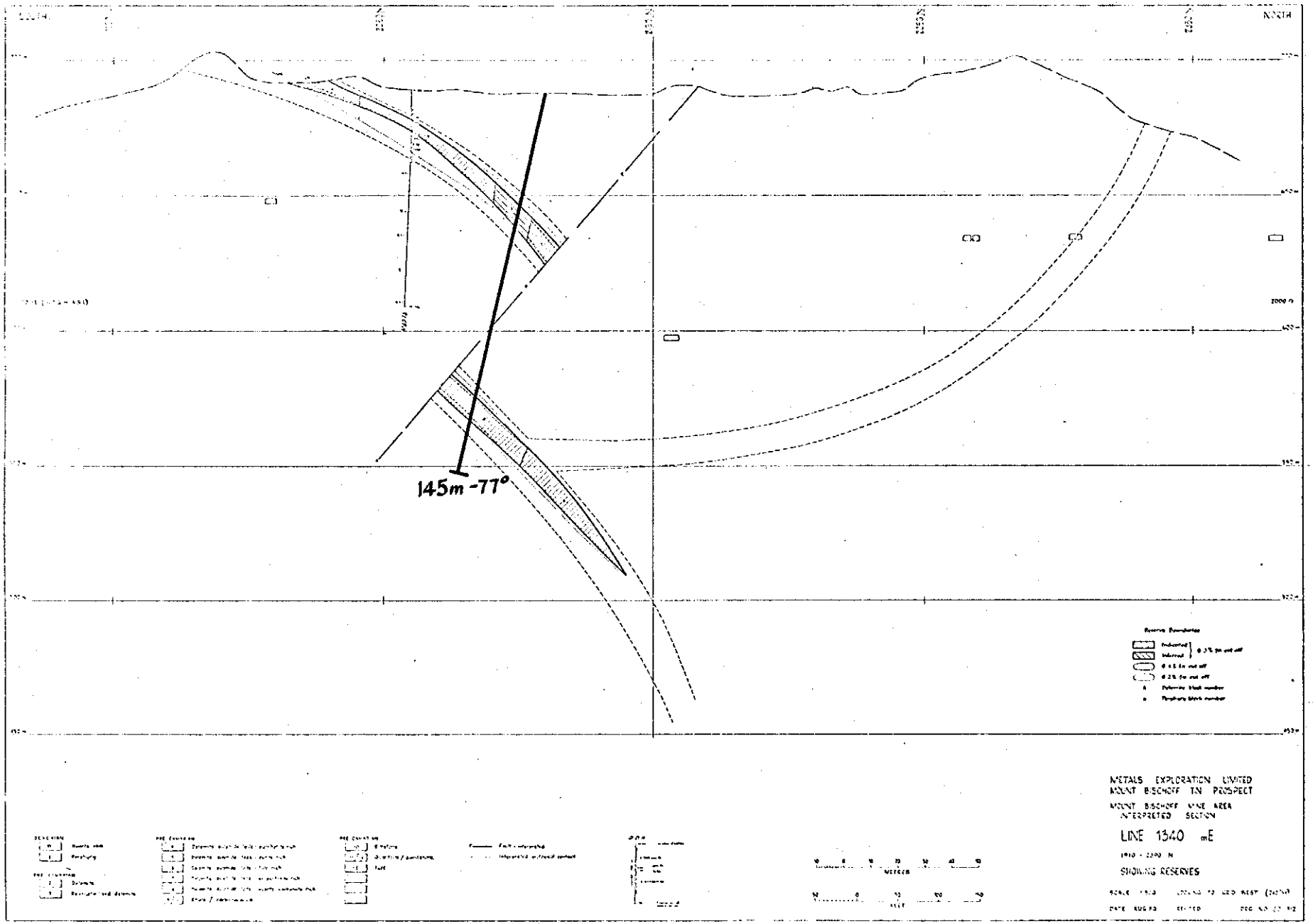


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

P-1

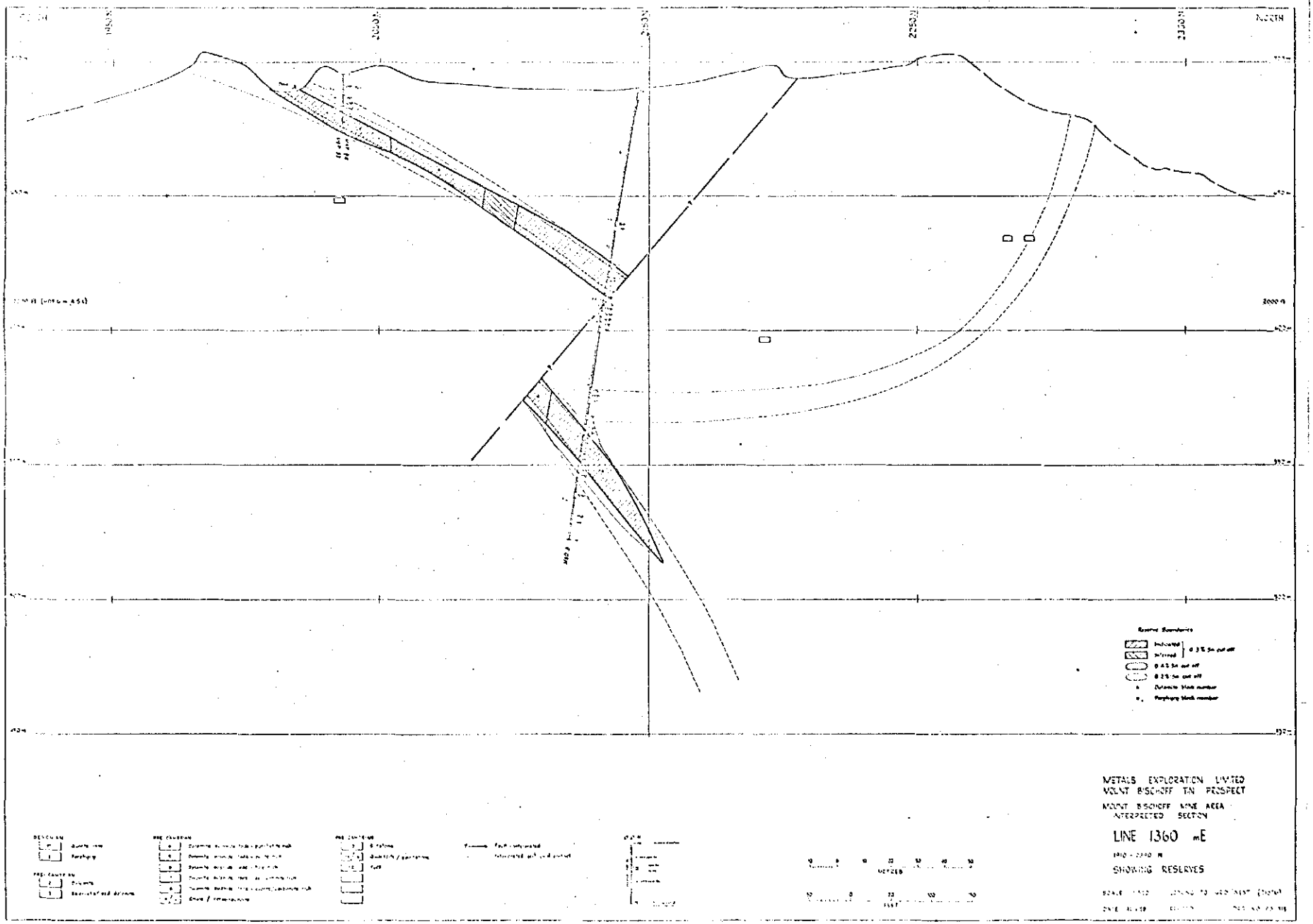


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

Q-1



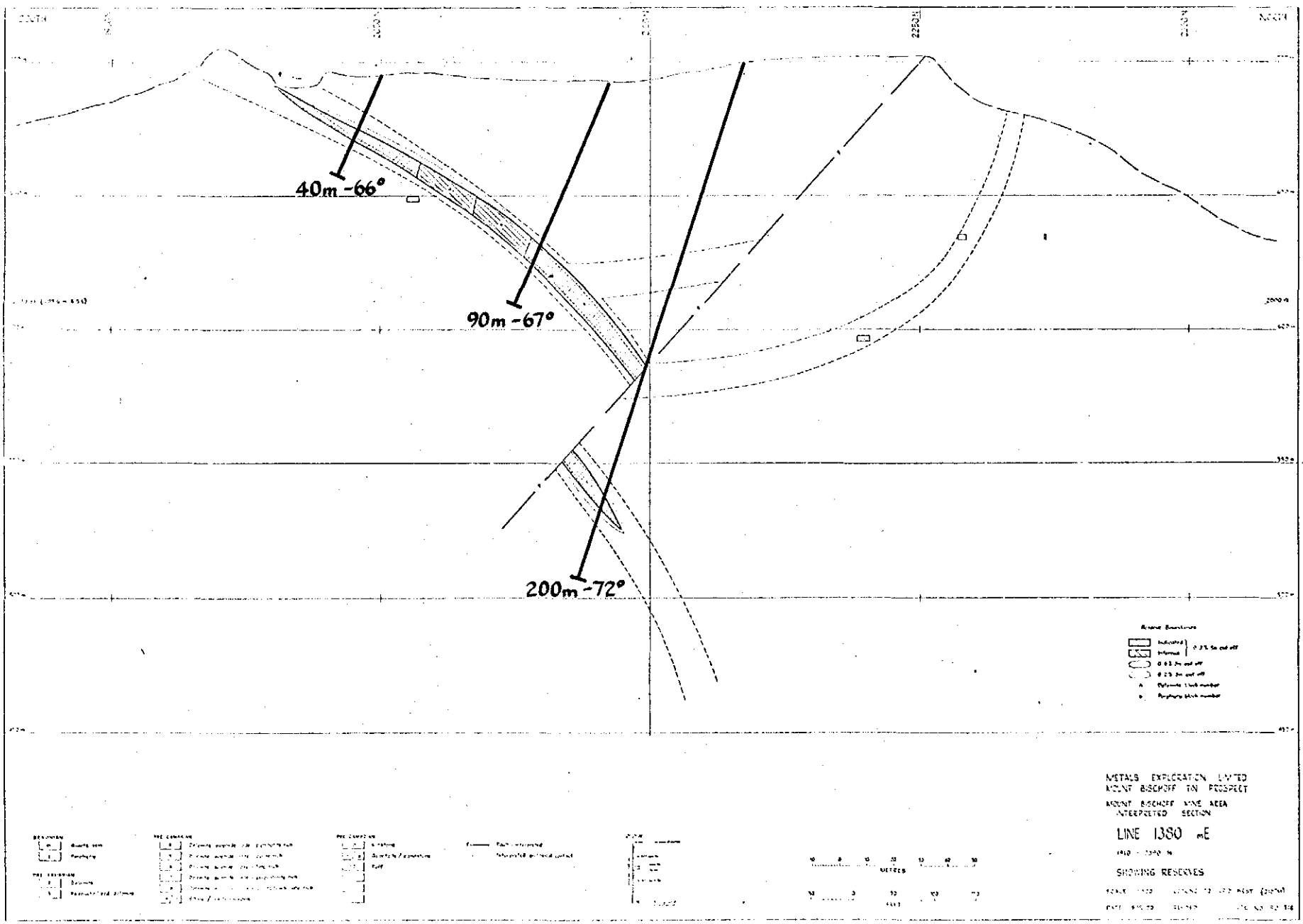
PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

5 cm

R-1



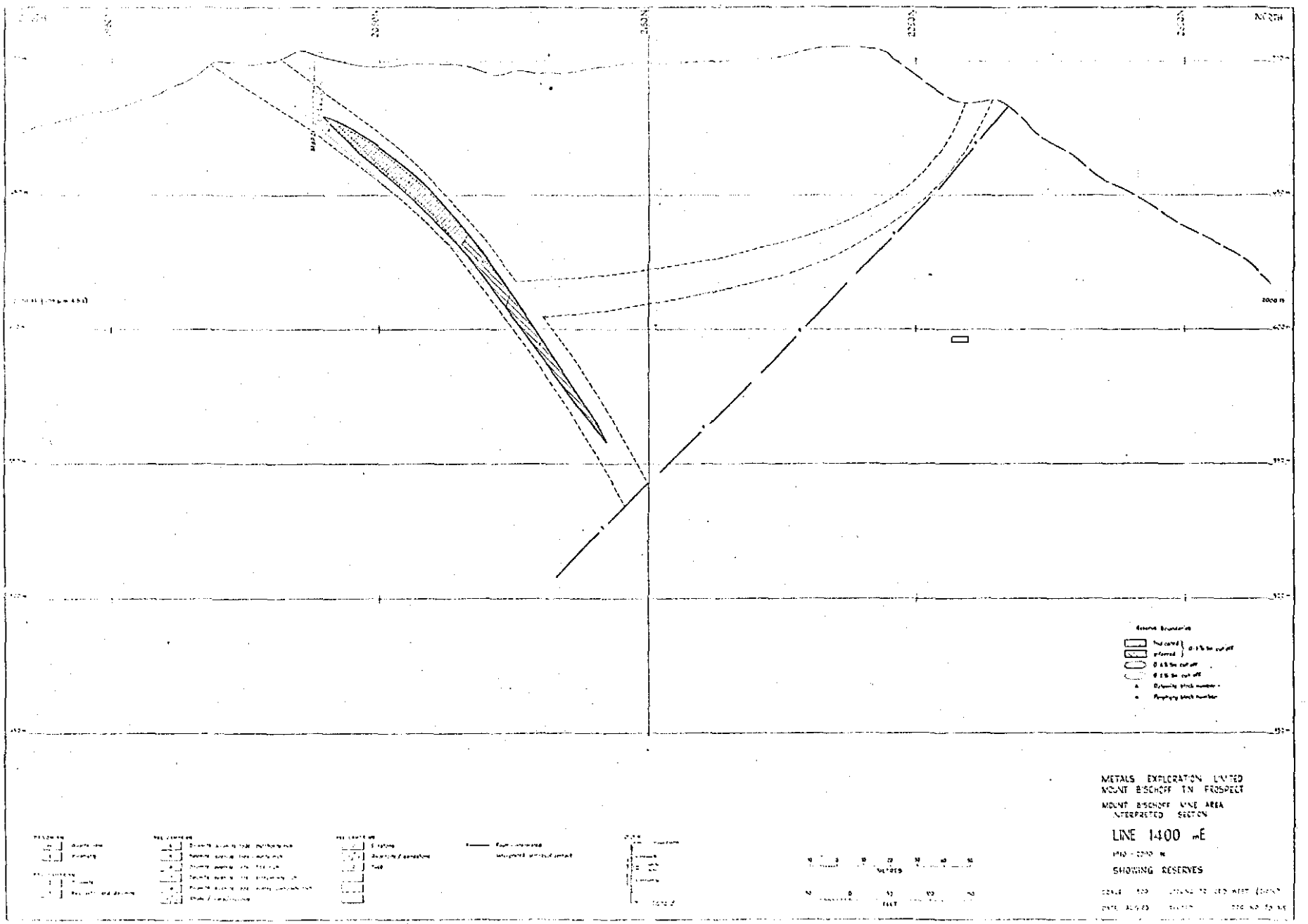
PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

5 cm

S-1

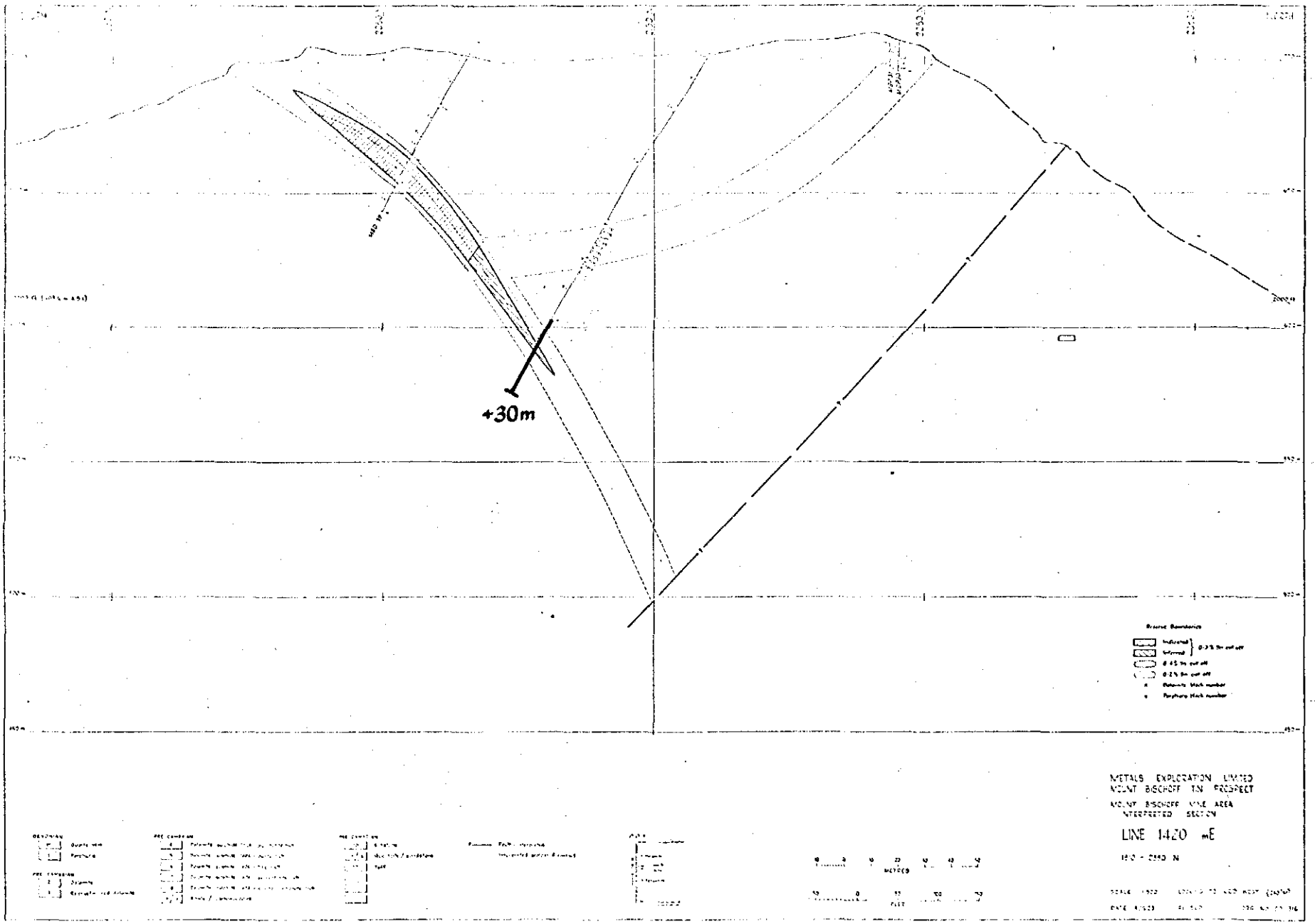


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

T-1

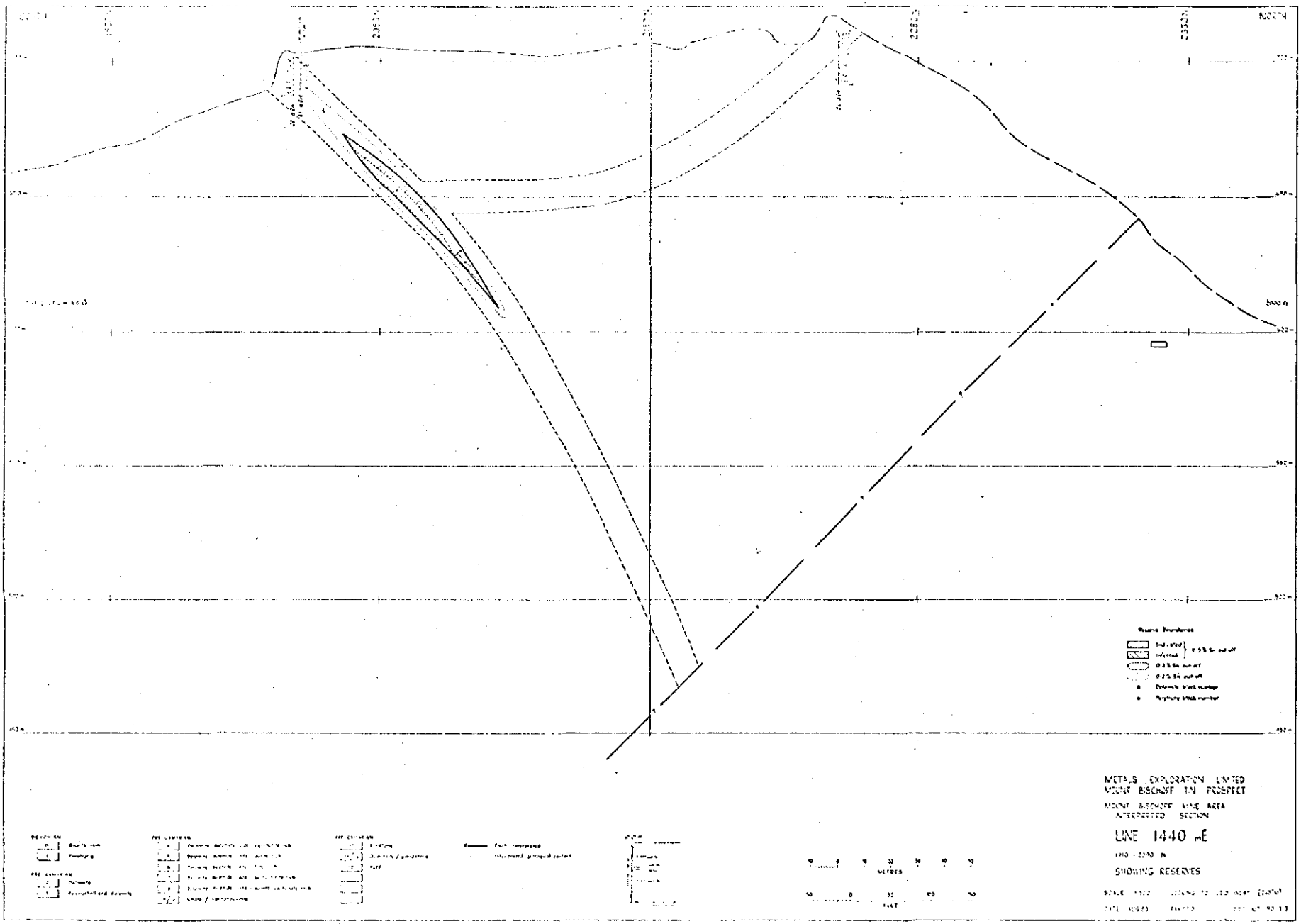


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

5 cm



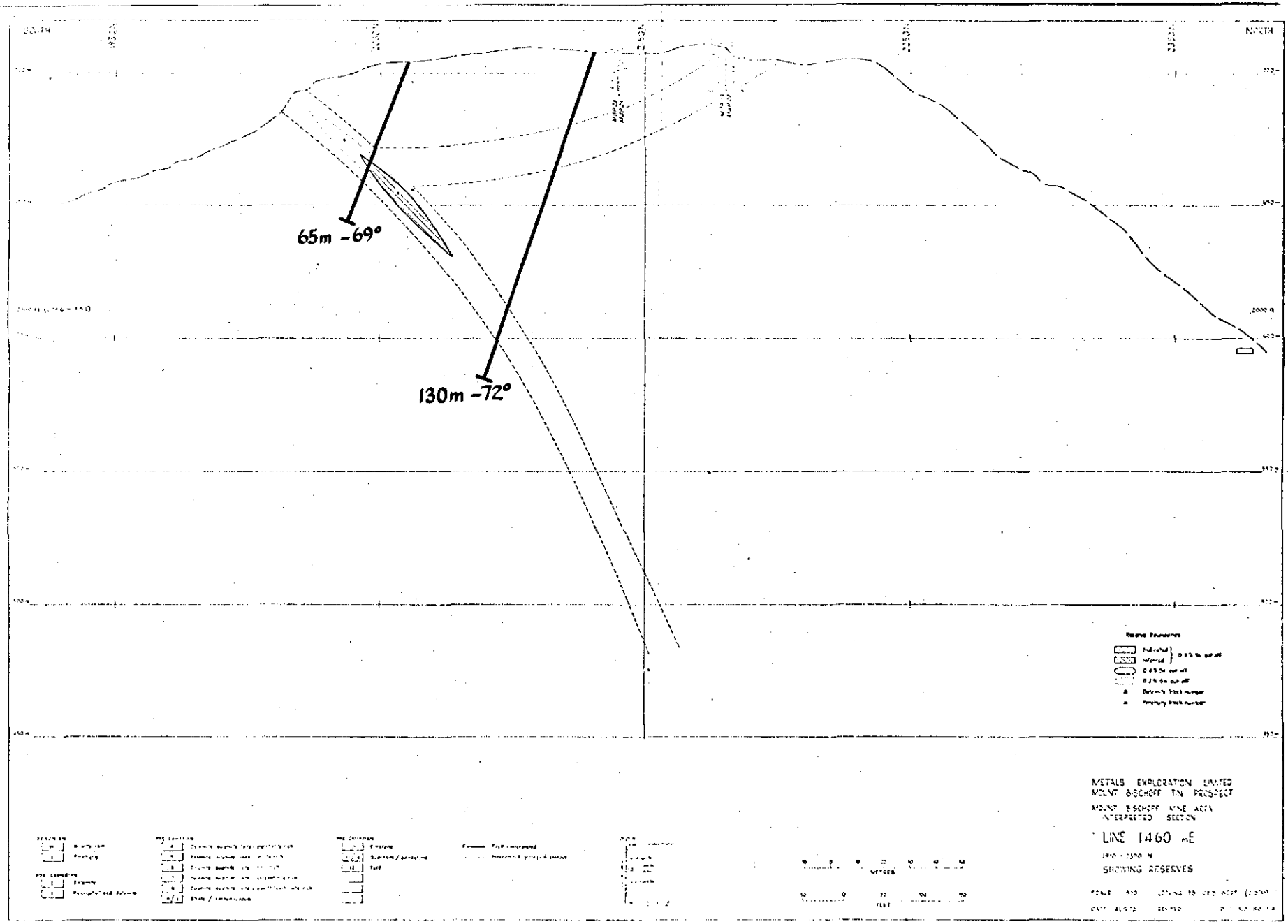
PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

5 cm

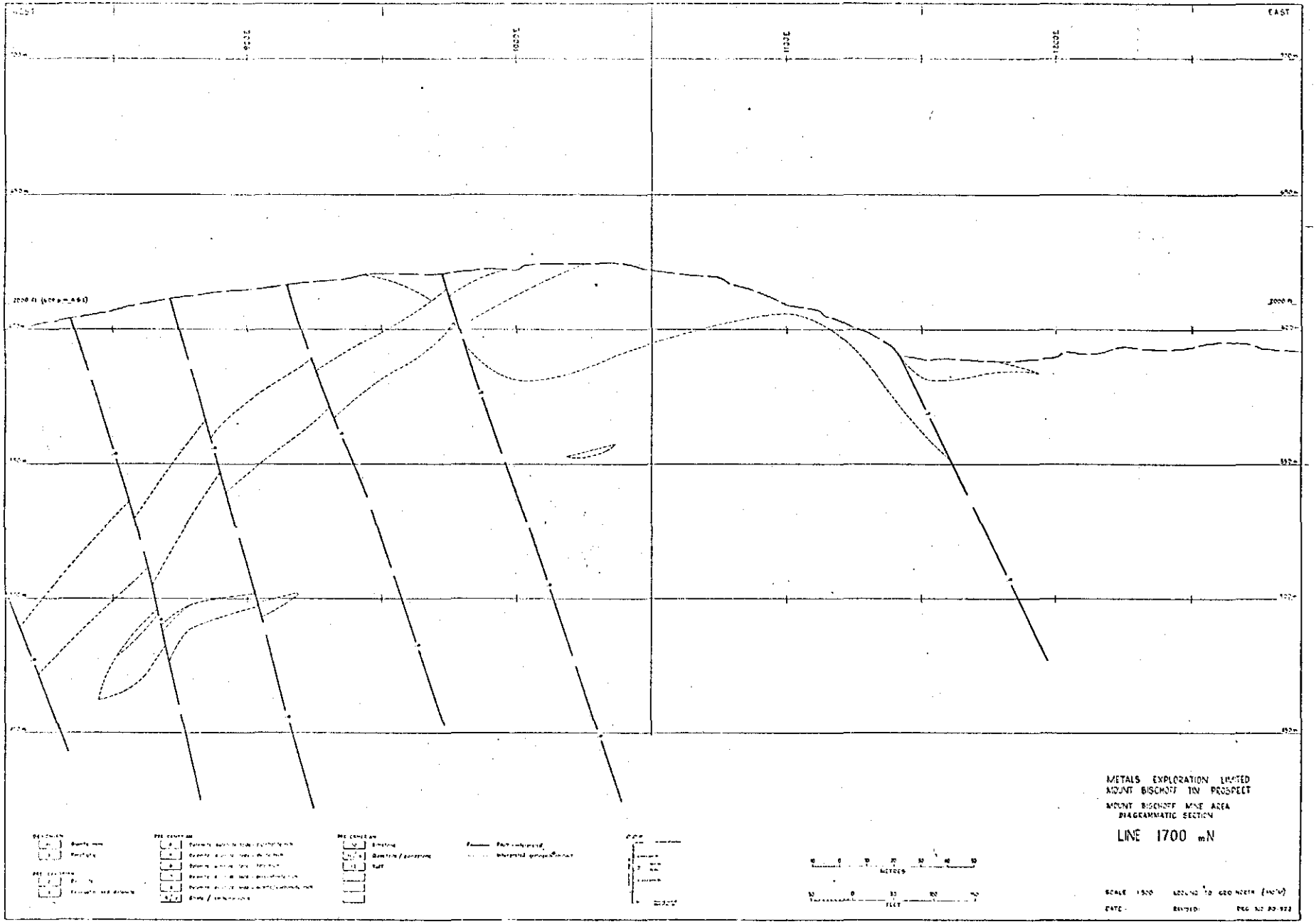
V-1



PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm



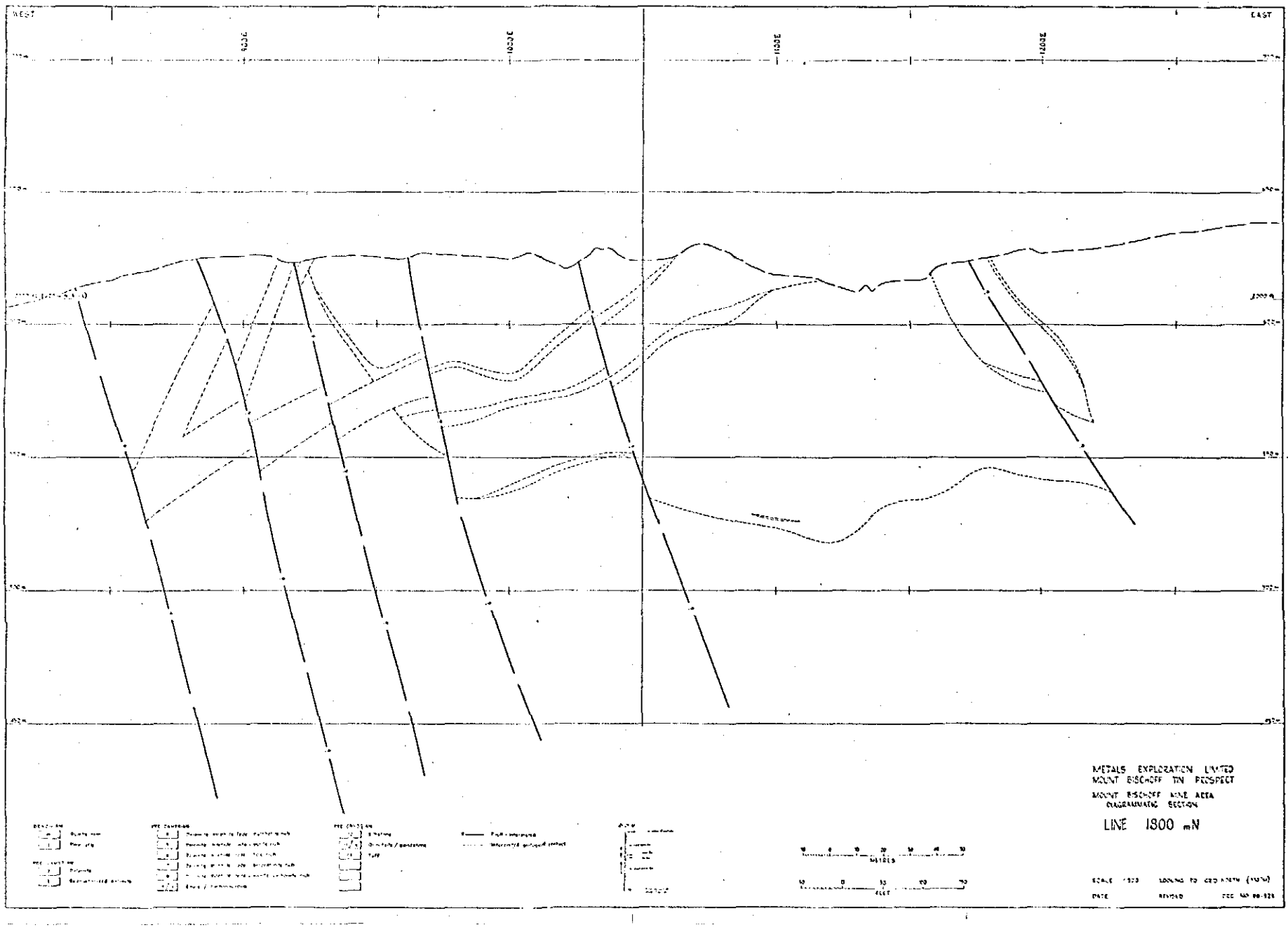
PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

5 cm

X-1



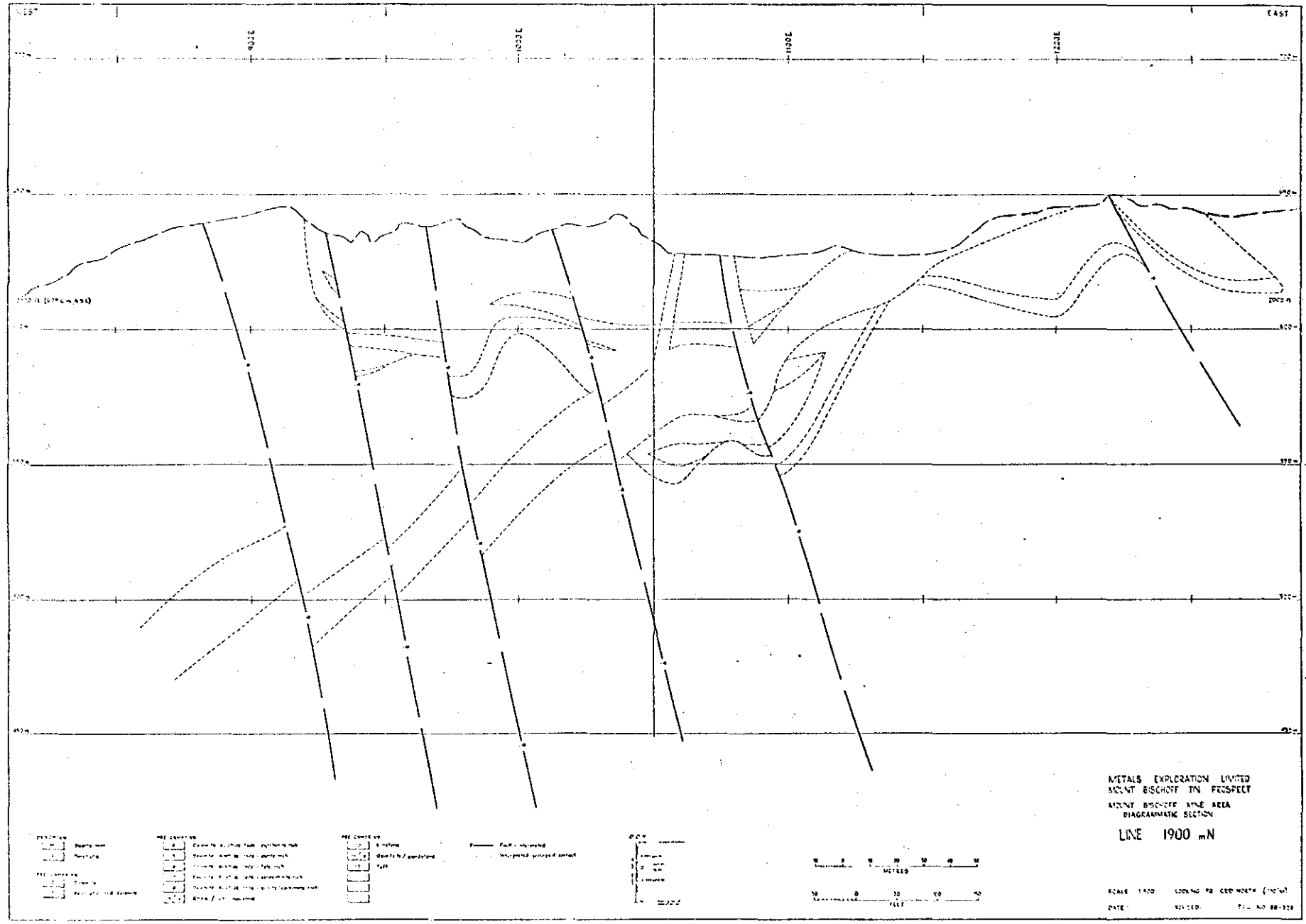
PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole.

Scale 1:2000

5 cm

02 1063

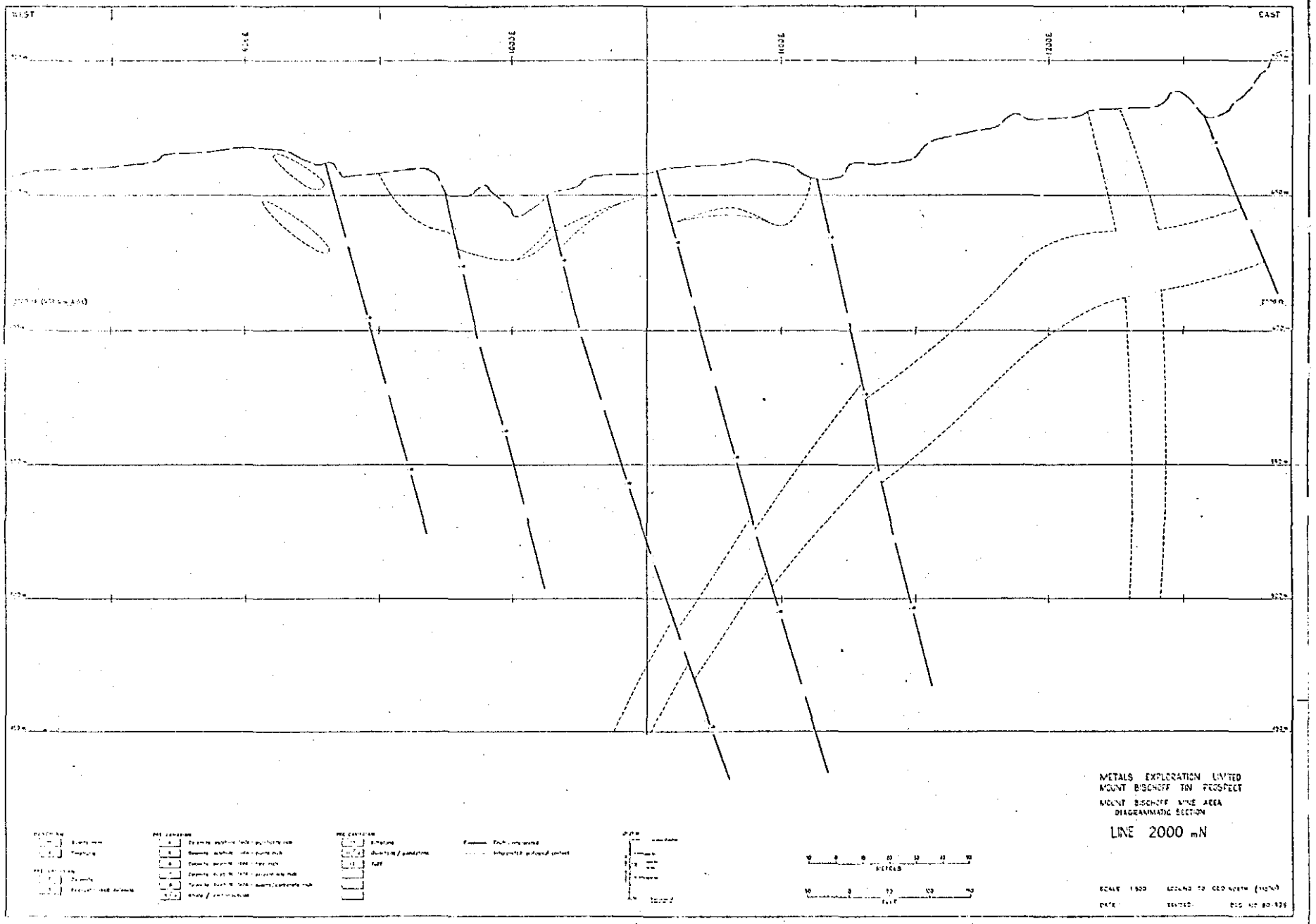


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm

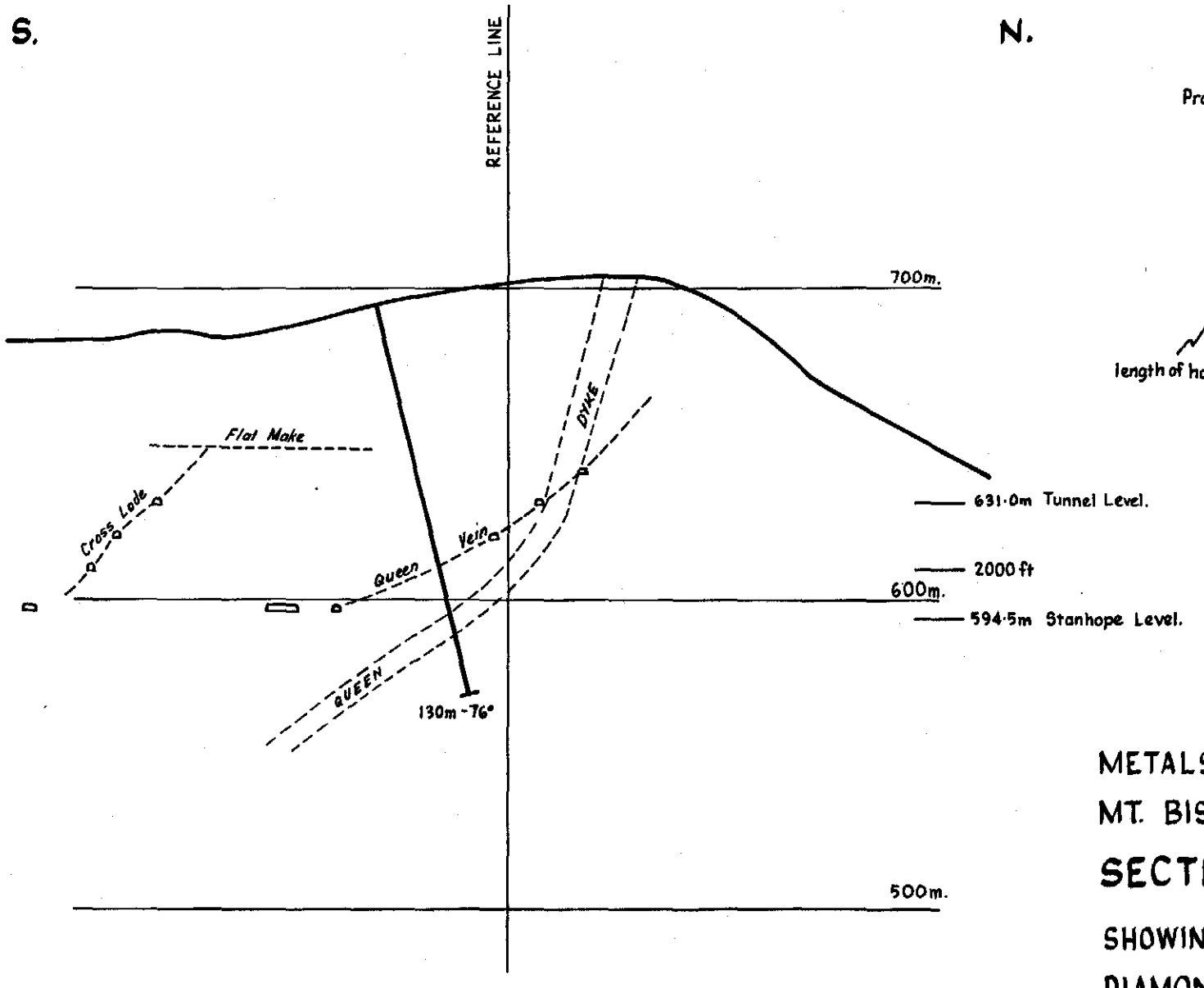
2-1

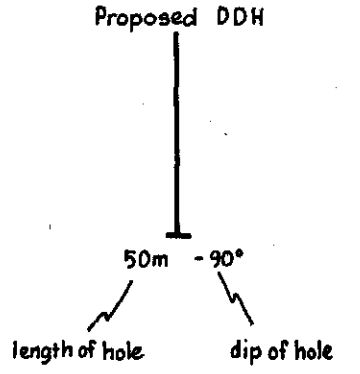


PROPOSED STAGE 3A DRILLING PROGRAMME

Proposed Diamond Drillhole. Scale 1:2000

5 cm





5 cm

METALS EXPLORATION LIMITED

MT. BISCHOFF TIN PROSPECT

SECTION BB -40m.

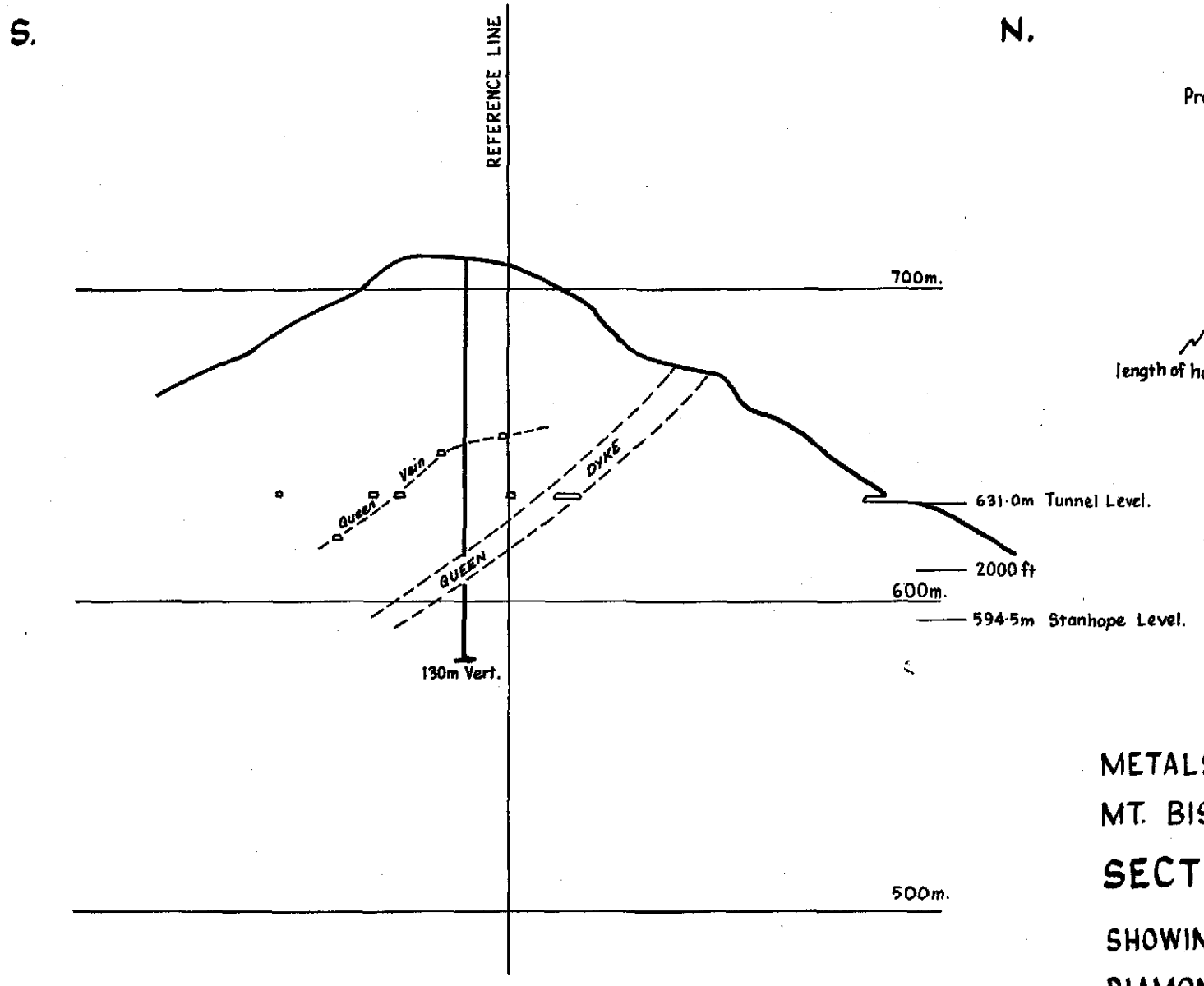
SHOWING PROPOSED
DIAMOND DRILLHOLES

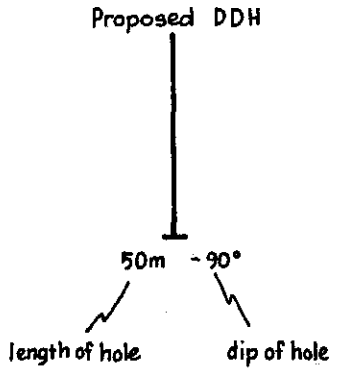
SCALE 1:2000

DATE OCT 80

DRG NO. 80-445

02107.0





5 cm

METALS EXPLORATION LIMITED

MT. BISCHOFF TIN PROSPECT

SECTION BB + 120m

SHOWING PROPOSED

DIAMOND DRILLHOLES

SCALE 1:2000

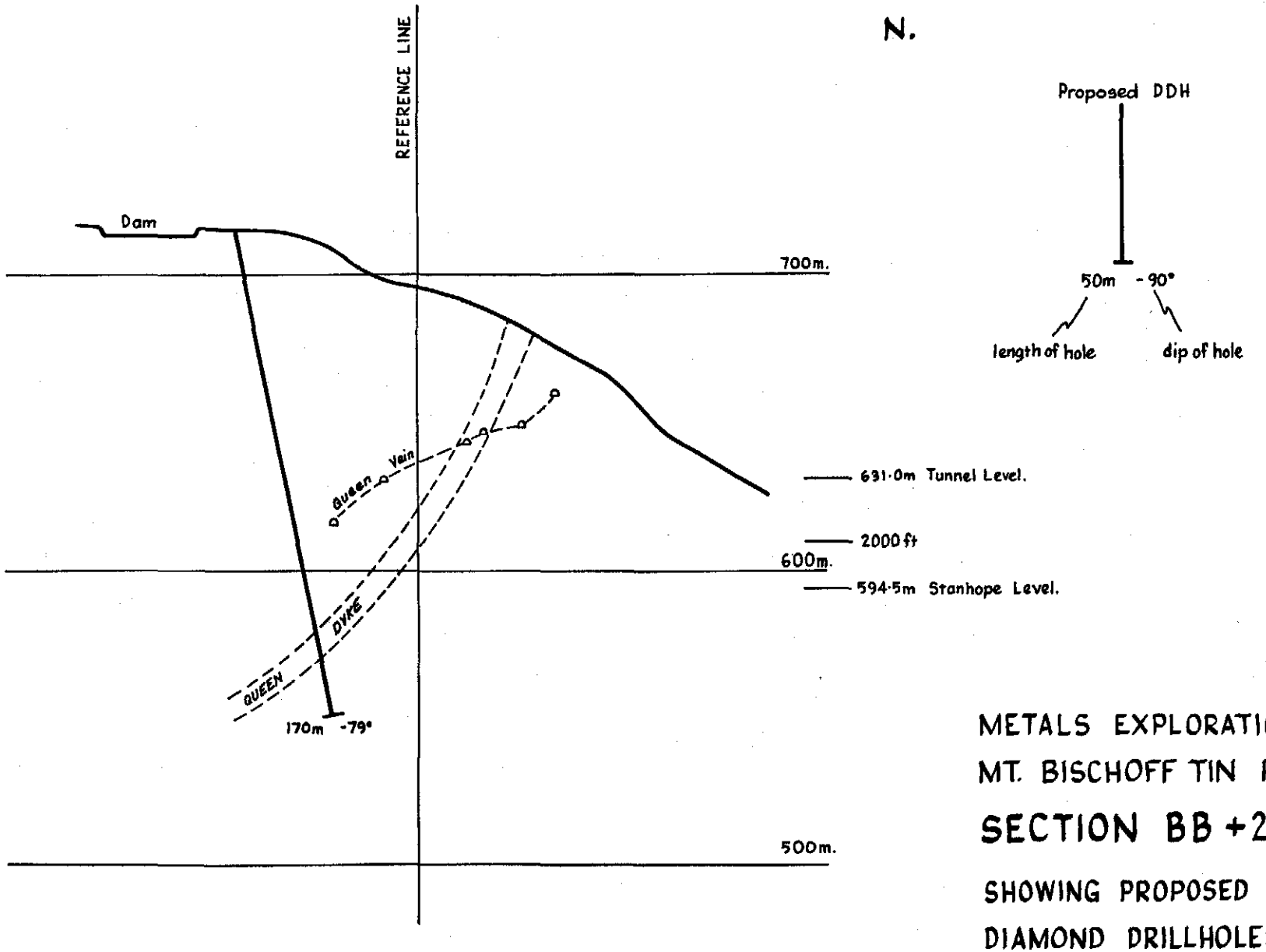
DATE OCT 80

DRG. NO. 80-446

02107 11

S.

N.



5 cm

METALS EXPLORATION LIMITED

MT. BISCHOFF TIN PROSPECT

SECTION BB +200m.

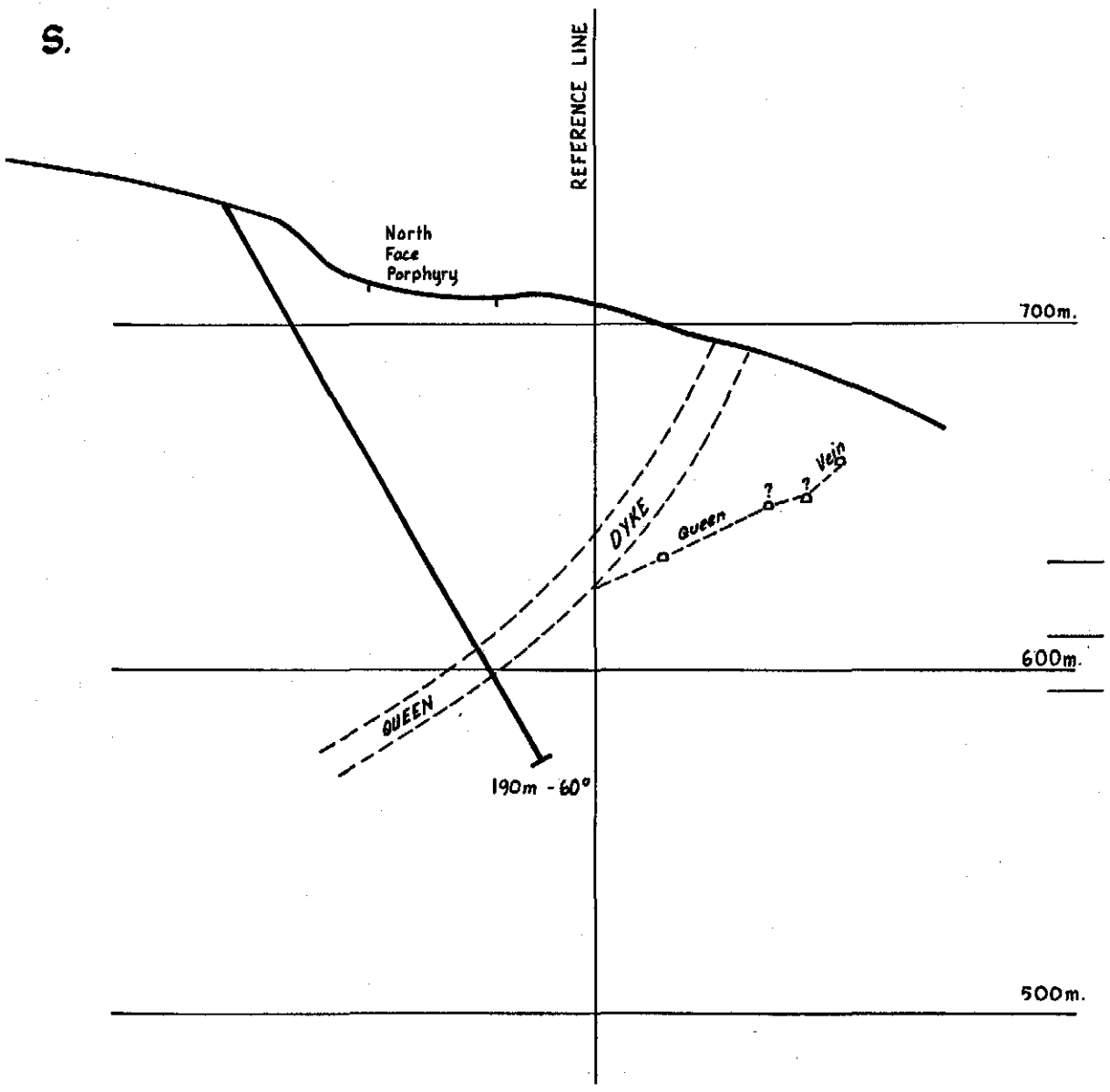
SHOWING PROPOSED

DIAMOND DRILLHOLES

SCALE 1:2000

DATE OCT 80

DRG. NO. 80-447



Proposed DDH

50m - 90°

length of hole — dip of hole

5 cm

02107/3

METALS EXPLORATION LIMITED

MT. BISCHOFF TIN PROSPECT

SECTION BB + 280m

SHOWING PROPOSED DIAMOND DRILLHOLES

SCALE 1:2000

DATE OCT 80

DRG. NO. 80-448

80-1505

021074

METALS EXPLORATION LIMITED
MT BISCHOFF TIN PROSPECT

MT BISCHOFF MINE AREA

PROPOSED PORPHYRY DRILLING
STAGE 3A PROGRAMME

Scale 1 2000

MBD 6
MBD 9
MBD 42
MBD 44
MBD 45
MBD 25
MBD 41
MBD 46
MBD 24
MBD 26
Dolomite only
GOSSAN FACE
MBD 23
MBD 22
MBD 29A
MBD 29
MBD 21
MBD 20
MBD 2
MBD 1
MBD 27
MBD 15
WHITE FACE
MBD 16
MBD 19
MBD 13
GOSSAN
MBD 4
MBD 17
PIG
FLAT
MBD 18
MBD 28
DYKE
Dolomite only
HAPPY VALLEY
MBD 30
MBD 35
MBD 31
MBD 32
MBD 36
MBD 34
MBD 33
FACE
WHITE
MBD 10
Dolomite Only
MBD 37
MBD 5
BROWN FACE
STANHOPE DYKE
MBD 38
MBD 14
MBD 3
DYKE
QUEEN
DESERT FACE
MBD 40
MBD 39
SLAUGHTERYARD FACE
WESTERN DYKE
BB 240
BB 200
BB 160
BB 120
BB 80
BB 40
BB

Existing Drill hole with porphyry intersection

Proposed Drill hole and porphyry intersection

Queen Dyke - porphyry Q

Metallurgical Hole M

Queen Dyke grid

Interpreted geological contact

MEL GRID NORTH (330°)
ADOPT MAG. NTH

50 0 50 100 150
METRES
200 0 100 200 300 400
FEET

5 cm

Drg No 80-450

GEOEX
PTY. LTD.

METALS EXPLORATION N.L.

MT. BISCHOFF AREA – TAS.

STAGE 3A

GROUND GEOPHYSICS COVERAGE
PROPOSED

SURVEYED MARCH '79	APPROVED J.E. MAHON
DRAWN R.G.Z	PROJECT Nº 79187
MEL. DRG. Nº 80-433	SHEET Nº 1

021075

LOCATION

1:6000

5 cm

SCALE IN METRES
100 50 0 100 200 300 400 500 metres

SURVEY SPECIFICATIONS

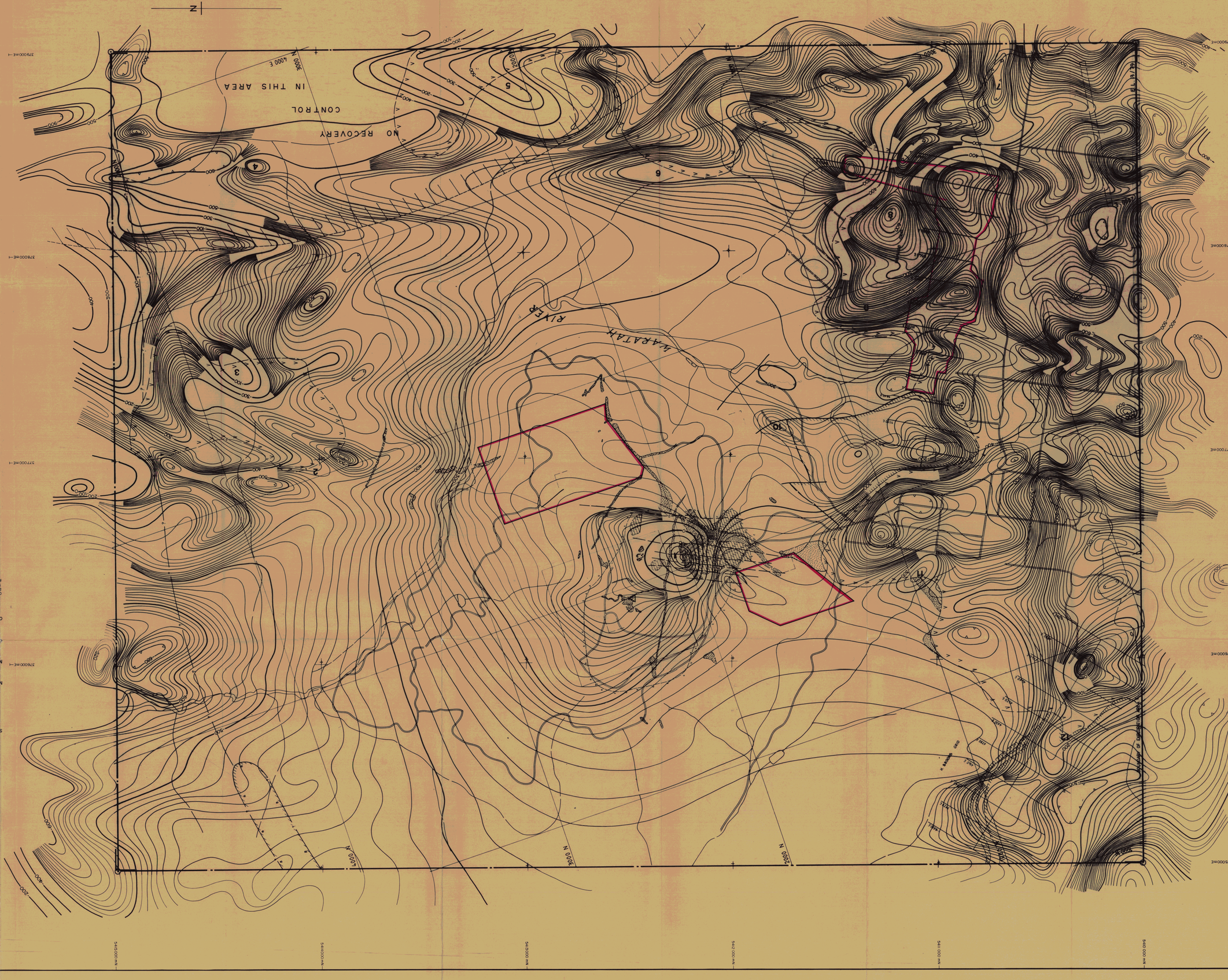
AIRCRAFT	BELL 206 B
MAGNETOMETER	VARIAN 4937 A PROTON PRECESSION USING TOWED BIRD CONFIGURATION WITH 37m CABLE
DIURNAL RECORDER	GEOMETRICS G826 PROTON PRECESSION MAGNETOMETER WITH RUSTRAK RECORDER & CRYSTAL CLOCK
ALTIMETER	BONZER TSN-70
ANCILLIARY EQUIPMENT	GEOEX INTERVALOMETER GEOEX DIGITAL AQUISITION SYSTEM
	CENTURY 444 6 CHANNEL ANALOGUE LIGHT BEAM RECORDER
	VINTEN 16 mm GROUND TRACKING CAMERA
READING INTERVAL	1·0 SECOND
NOMINAL AIRCRAFT SPEED	60 KNOTS
NOMINAL AIRCRAFT SURVEY ALTITUDE	90 METRES
SENSOR CLEARANCE 75 METRES	

REFERENCE

SURVEY BOUNDARY
MAGNETIC LOW
MAGNETIC HIGH
CONTOUR VALUE IN GAMMAS
CONTOUR INTERVAL – 10 GAMMAS

THE DATA HAS BEEN ADJUSTED FOR DIURNAL VARIATION WITH AN ADOPTED VALUE OF 62255 GAMMAS AT THE DIURNAL BASE STATION AT WYNYARD AERODROME 40°59'S, 145°43'30"E EAST. THE SENSOR HEIGHT WAS 2 METRES. THE DATUM FOR THE TOTAL MAGNETIC INTENSITY CONTOURS IS THE INTERNATIONAL GRF REFERENCE FIELD 1979·25

RECENT		Alluvium
TERTIARY		Basalt / Gravels
DEVONIAN		Quartz porphyry
		Greywackes and mudstone
CAMBRIAN		Basic rocks
		Dolomite / Mineralised Dolomite
PROTEROZOIC		Quartzite, siltstone and shales / Carbonaceous



80-1505