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GEOPHOTO MINERALS REPORT 1970/76

THE WEST KOSMINSKY PROJECT

EL7/68 - WEST TASMANIA

R.G. PATERSON

TEXINS DEVELOPMENT PTY. LTD.

INTRODUCTION

Since the completion of Geophoto Minerals Report 1970/41, further detailed mapping has been carried out on the above prospect. Results of detailed geochemical traverses 400'N and 400'S of D.D.H. K.H.W.1 are complete, together with a report on V.L.F. work carried out by the Bureau of Mineral Resources in this vicinity. Contoured maps of magnetic and self potential surveys have assisted in interpretation. The following is a summary of all anomalous data with proposed further drilling and geophysics.

GEOLOGY

A surface gossan similar to that depicting the main Kosminsky lode lies approximately 650 ft. south-west and is parallel to it. This western gossan line is generally wider and more persistent at the surface. Its true position is masked at its centre by the lateritic ironstone material associated with the West Kosminski serpentinite. The position of the serpentinite contact has been inferred from surface data and judging from D.D.H. K.H.W. 1, dips at a steep angle to the west. D.D.H. K.H.W. 1 was originally planned to continue to the serpentinite contact since a geochemical peak occurred at this horizon. However, drilling difficulties due to (1) extreme hole deviation, and (2) caving of the hole three times

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(the last time resulting in a loss of bit, reamer and inner tube), caused the hole to be abandoned before this horizon could be reached. The hole finished at a point vertically beneath the surface contact. Magnetic gradients about the serpentinite contacts tend to support a westerly dip although transverse magnetisation is a controlling factor here. It is not certain whether the attitude of the serpentinite contact should reveal the attitude of the western lodes.

Hence, the dip of the West Kosminsky lode is uncertain and it is not likely to be revealed except by further drilling or perhaps detailed I.P. However, a detailed examination of all adits and surface outcrop will be made before one of these methods is applied.

The West Kosminsky gossan extends for a strike length of approximately 2,000 ft. from a point about 100 ft. north of South Comet Creek, where it appears to have been prospected by a shaft, to a saddle between the Stichtite and Platt serpentinites, where its northward continuation is obscured by a wide expanse of ferromanganese gossan and lateritic metal. Almost all the gossan material is anomalous for Pb and Zn.. Numerous adits have been driven into it and these require more detailed mapping and sampling. Crocoite and pyromorphite are common secondary constituents of the lode materials. These lodes have been described as the Platt prospect, by A.M. Reid, 1925a in the Dundas Mineral Field.

Just north of K.H. 8 drill site the West Kosminaky gossan expands to twice its normal width and anomalous Pb-Zn boxworks occur across strike for 200 ft. This may represent the surface expression of two lodes as intersected in K.H.W. 1.

In the south, the gossan line separates a chert conglomerate to the west from cream carbonated siltstones and shales, buff and crimson weathered sandstones or tuffs and black slate to the east. The conglomerate appears to be the Red Lead Conglomerate of the Dundas Group while the siltstones, shales and deeply weathered sandstones or tuffs belong to the Crimson Creek Formation. However, the crimson weathered sandstones and tuffs are similar to beds at the base of the Dundas Group.

At the centre, the gossan line separates the West Kosminsky serpentinite to the west from grey and buff micaceous quartz sandstones and some grey weathered slate material to the east. Scree and lateritic material obscures most outcrop. In K.H.W. 1 the lode material was contained in carbonated siltstones of the Crimson Creek formation after the hole first penetrated carbonated sandstone material and then black slate.

In the north, the gossan line separates an obscure mass of silicious dolomite and talc to the west from crimson weathered sandstones and tuffs, and cream-purple shales to the east. The sandstones etc. and shales belong to the Crimson Creek Formation. A black slate horizon may also exist

but is obscured, that is, black slate was intersected in D.D.H. Platt No. 1 which was drilled to intersect beneath the most eastern workings of the Platt prospect.

CONCLUSION

On surface indications and the results of one drill hole, this gossan line appears to have as much potential for discovery of mineable widths of moderate grade Pb and Zn sulphides as the Main Kosminsky Line.

FURTHER PROSPECTIVE ZONE

500 ft. west again from the above gossan, and with the same strike, lies another similar gossan which runs along the west contact of the West Kosminsky serpentinite. It is anomalous in Pb and Zn but needs to be covered in more detail by extending previous geochemical traverses 4N and 00 further west. The 4S traverse may have already covered the southern extension since a large regular Pb anomaly was obtained near the western end of this line. This line should also be extended, however, as loose gossan material has not been fully covered.

In the north, the gossan continues as far north as its eastern counterpart, where lateritic material obscures its extension. To the south it continues towards anomalous grab samples, near a waterfall in a tributary of the South Comet Creek, and also toward a mineralised zone in the Hodge Slate which has been opened by a 10 ft. adit. Samples of mineralised rock yielded 9% Pb here but only  $\frac{1}{2}$  oz. of Ag. Still further south on the other side of South Comet Creek, mineralisation may link up with a line of quartz goethite gossan described as South Comet West in Geophoto Minerals Report 1970/41. However, the line may be offset by a fault somewhere in the vicinity of South Comet Creek.

Further geologic work is necessary just north of South Comet Creek, although thick scrub and poor outcrop are inhibitive. Further geochemistry in conjunction with V.L.F. as an aid in locating conductive zones and in mapping structure, could be used with advantage. I.P. could be used for further detail. Abundantly graphitic slates are not a problem here. Host rocks belong to the Dundas Group.

#### GEOCHEMISTRY

Three detailed geochemical traverses approximately 400 ft. apart have been completed over the West Kosminsky lode. The result of one of these traverses (00) has been tested by means of D.D.H. K.H.W. 1. A

plan showing geochemical and geophysical profiles in relation to this drill hole was enclosed in Geophoto Minerals Report 1970/41.

Line 00 : See above

Line 4N :

1. A broad moderately strong Pb anomaly occurs with its centre between 100 ft. and 200 ft. on this traverse. Pb reaches a peak of 0.6% at 145 ft. Pb continues to fluctuate from 0.1 to 0.2% until 400 ft. Associated Cu reaches a peak of .02% at 145 ft. Zn is elevated only slightly above background reaching 0.1% at 150 ft.

2. A broad, very strong Pb anomaly occurs with its centre between 725 ft. and 850 ft. Pb reaches a peak of 1.6% at 745 ft. and 795 ft., and 1.5% at 830 ft. and 840 ft. Zn is associated with a peak of 0.4% from 840 ft. to 845 ft. Cu and Ni values are also above background in this zone reaching peaks of 0.03 and 0.3 respectively. Nickel sulphides should be kept in mind here since the anomaly is at the contact of the serpentinite.

Line 4S :

1. An irregular Pb-Zn anomaly occurs between 0 ft. and

007

350 ft. Pb reaches a peak of 2.78% at 15 ft. but generally hovers between 0.2% and 0.6% with one value of 0.87% at 70 ft. Zn reaches a peak of 1.04%, also at 70 ft. Cu is elevated slightly above background reaching 0.35% at 85 ft. Ni has an almost corresponding high above 0.1% (peak of 0.175%) between 85 ft. and 145 ft.

2. A broad consistently strong Pb anomaly occurs between 840 ft. and 915 ft. with all values above 0.8%. The peak value is 1.46% at 880 ft. Zn fluctuates about 0.2% throughout and has a peak of 0.36% at 840 ft. A nickel peak of .22% also occurs at 840 ft. but nickel is well below 0.1% over the remainder of this anomaly. Cu is elevated by 5 to 10 times background from 840 ft. to 915 ft. and has a peak of 0.02% at 905 ft.

3. A broad, weak Pb-Zn anomaly occurs from 475 ft. to 650 ft. Values of Zn fluctuate from 0.2% to 0.3% over most of this length. Pb is confined to the length 545 ft. to 605 ft. where values range from 0.4% to 0.6%. Elsewhere Pb is less than 0.1%. Ni is generally elevated to just below 0.1% in this area due to the proximity of the ultrabasic. Cu is little above background.

GEOPHYSICSI. Magnetics :

(a) In previous survey discussions magnetic data have been used to define the serpentinite contacts and a certain contour value has been taken to indicate this contact. However, if similar values, that is, 2,000  $\gamma$  are taken for the West Kosminsky body, then some confusion arises.

For example, the geochemical anomalies near the serpentinite appear to lie 100 ft. to 200 ft. within it. This is not consistent with surface data.

A more accurate location for the contact is found by taking a point halfway between the maximum and minimum values.

(b) The West Kosminsky serpentinite appears to be an accordant sill and it gives the impression of having been folded in a similar manner to the Dundas Group rocks to the west. Its relationship with the Crimson Creek rocks to the east is obscured by surface lateritic material and deep weathering.

(c) The magnetic pattern shows strong linears in north-west and north-north-east directions.

II. Self Potential :

(a) A very large hill anomaly occurs over Kosminsky Hill West with minimum values exceeding 0.8 volts. Since hill anomalies have not been regularly observed in the Dundas area it is thought that the presence of numerous bodies which may be sources of negative potential could be contributing to such an effect here.

In hilly country corrections may arise from uphill currents (due to the fact that in the earth's electrical field localities of higher elevation are at a different potential.)

Self potential profiles have been superimposed on the geochemical profiles for lines 00, 4N and 4S.

Line 00 : See Geophoto Minerals Report 1970/41.

Line 4N :

A very large self potential minimum occurs at 650 ft. on this traverse and apparently corresponds with a topographic high. The strong Pb anomaly commences at 670 ft. approximately but occurs amongst gossan scree etc. It is possible the geochemical anomaly's true origin is a little further uphill and hence correlates with the self potential minimum.

Line 4S :

A broad self potential minimum occurs from 250 ft. to 750 ft. on this traverse. Two minima lie at 295 ft. and 675 ft. but again these anomalies are not centrally located with respect to the geochemical anomalies and lie on their flanks. There does not appear to be any obvious topographic control.

III. V.L.F. :

In the summer of 1970 the Bureau of Mineral Resources carried out a V.L.F. survey in the vicinity of Kosminsky Hill where there was some control from drilling. Good correlation was obtained with the near surface position of the Main Kosminsky Lode.

The following is a summary of anomalies obtained during the same survey over the southern half of the West Kosminsky gossan. Positions of probable conductors are described in Comet Kosminsky grid co-ordinates.

1.	26S + 15.5W	
2. (a)	28S + 19.0W	
2. (b)	28S + 16.0W	weak
3. (a)	30S + 15.5W	weak
3. (b)	30S + 17 - 17.5W	weak
4. (a)	32S + 14 - 14.5W	
4. (b)	32S + 12.5 - 13.0W	weak

1. shows near correlation with an I.P. anomaly and also with very minor outcropping gossan and scree.

2.(a) correlates with gossan scree in the vicinity of the serpentinite.

2.(b) is weak but shows good correlation with the more clearly defined gossan line associated with the West Kosminsky body, possibly first intersection in K.H.W. 1.

3.(a) although weak, shows good correlation with boxworked material of gossan line mentioned in 2(b).

3.(b) is a weak anomaly which occurs over a shallow creek bed. Mineralisation occurs on strike here, however, and anomaly should be investigated further.

4.(a) is a strong anomaly which occurs beside the line of boxworked gossan previously mentioned. The centre of gossan outcrop is at 32S + 15.0W. Black slate occurs in a creek just north of V.L.F. anomaly and may form the lode wall. Black slate may be giving rise to the anomaly here.

4.(b) is a weak anomaly which has been upgraded since it lies

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on strike with the Kosminsky Mine lode. However, black slates have been cut in a trench about 20 ft. south of here and again may be responsible.

IV. I.P. :

I.P. has been run on line 26S. An anomaly occurs between 17.5 and 19.5W as was mentioned above. Over the eastern half of the anomaly, frequency effects are poor but they increase and become more anomalous to the west and at depth. The line has not been extended far enough to delineate the lodes intersected in K.H.W.1. Small gossan outcrops occur in the vicinity of this anomaly between 17.5 and 19.5W which should be tested in conjunction with either the eastern or western drilled deposits.

RECOMMENDATIONS

This prospect warrants immediate further investigation by I.P. and/or drilling at 400 ft. intervals along strike. A.V.L.F. survey might also prove invaluable with regard to locating shear zones etc. A dip determination should be made on the intersections of K.H.W. 1 at the earliest opportunity as designed in Geophoto Minerals Report 1970/41.

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Both geochemical and geophysical work should proceed on the more western prospective zone at the same time, with a view to combining both zones into one drill program.

Adits in the vicinity of this zone should be mapped and sampled in detail. Further geologic work should be attempted north of South Comet Creek to Line 28S.

Following a dip determination and some I.P. work, drill sites should be selected and access to these planned so as to gain most geological information where scree and weathering have limited observations.

The geology is complex and it is hopeless to try and resolve it while having so many unknowns. Near surface pitting and costeaning by bulldozers is to be recommended in locations where a drill hole is not certain to succeed. A truer indication of lode width at surface may indicate that the horizon is likely to be sub-economic; even so, considering horizons drilled to date, lodes in this area are inclined to pinch and swell over short distances and more than one indication of width appears necessary before declaring an horizon too narrow for exploitation.

PLANS

*missing not with  
this report.*

- 1. Geochemical - Geophysical Profiles and Geologic Section 00
- 2. " " " " " 4N 1/254
- 3. " " " " " 4S 1/253
- 4. Bonanza S.P. contours 1/264
- 5. Bonanza Magnetic contours 1/265
- 6. Bonanza Geologic Map 1/263
- 7. Comet - Kosminsky S.P. contours 1/204
- 8. Comet - Kosminsky Magnetic contours 1/205
- 9. Comet - Kosminsky Geologic Map 1/203
- 10. South Comet Geologic Map 1/206

Also contains 1/239 and 1/261.

NOVEMBER 1970

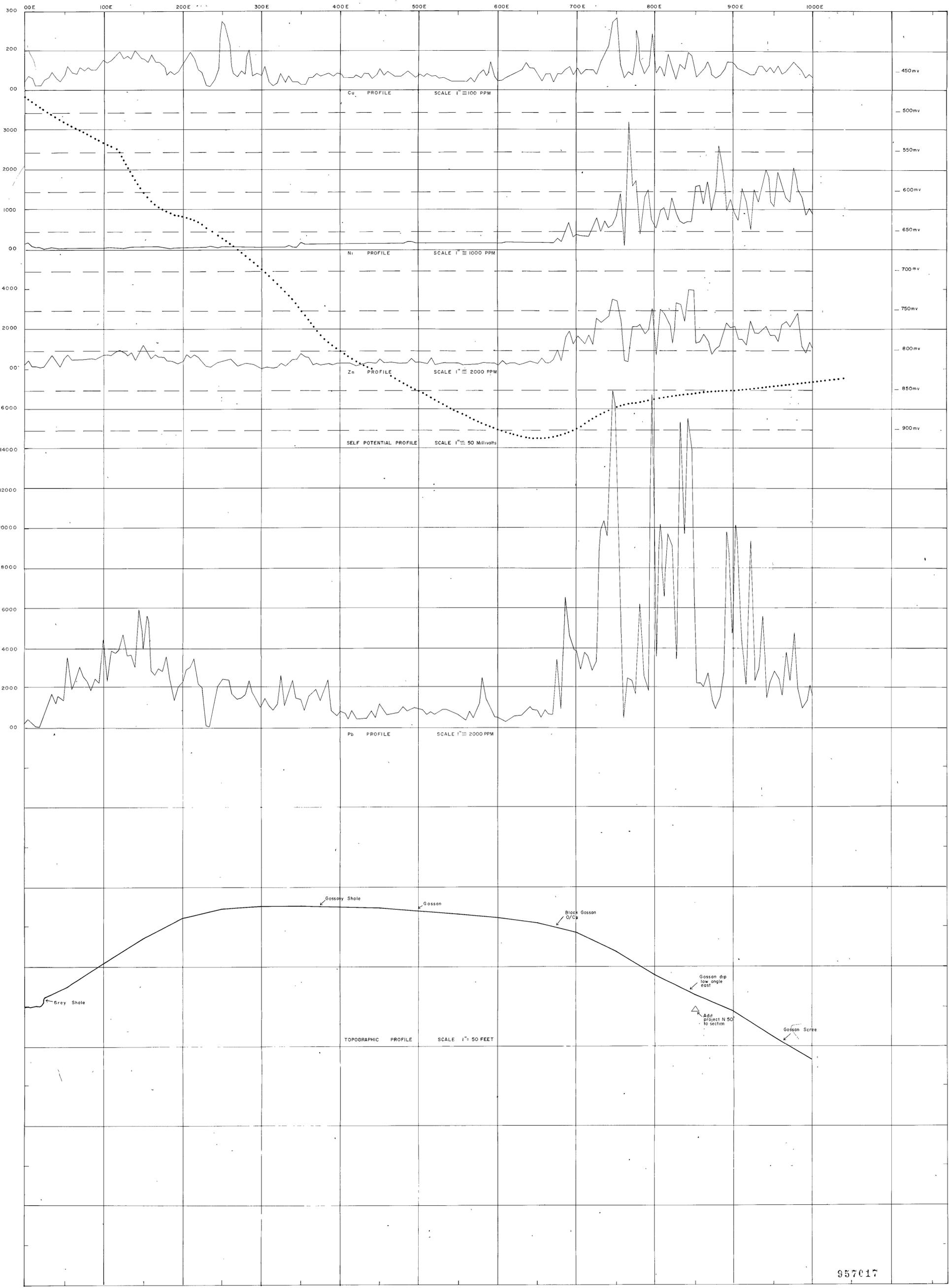
RODNEY G. PATERSON

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REFERENCES

1. Geophoto Minerals Report 1970/41
2. The Dundas Mineral Field. Reid, 1925a.
3. V.L.F. - E.M. Test Survey, Dundas, Tasmania by  
W.J. Langron and P.J. Gillespie



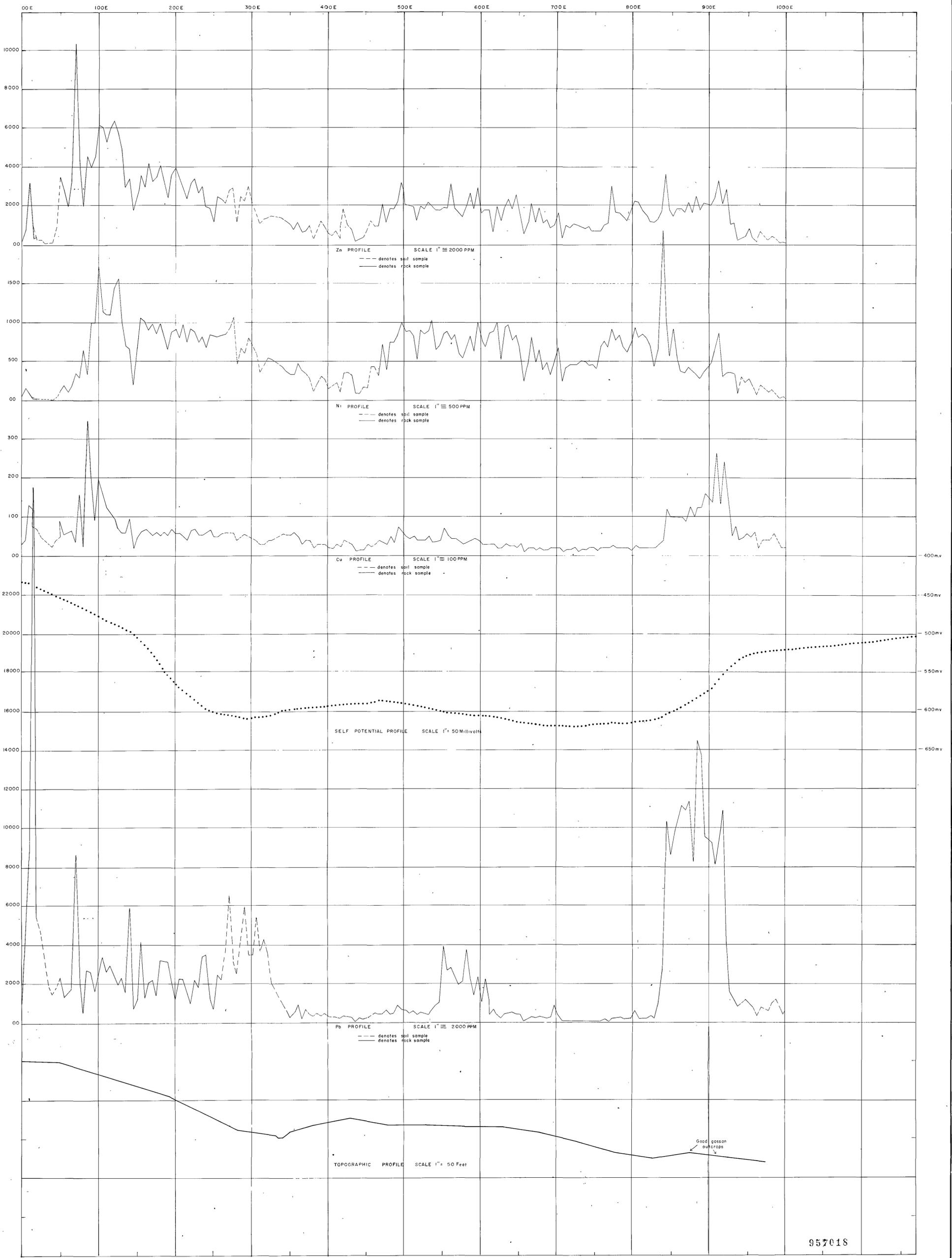
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DRAWN	TEXINS DEVELOPMENT PTY LTD
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CHECKED	<b>GEOPHYSICAL, GEOCHEMICAL</b>
GEOLOGIST	<b>&amp; TOPOGRAPHIC PROFILES</b>
APPROVED	<b>K.H. WEST LINE 4N2216</b>
REVISIONS	SCALE 1" = 50 feet
PROJECT	7/68 DRAWING NO 1/254



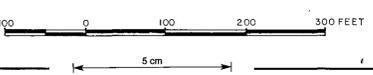
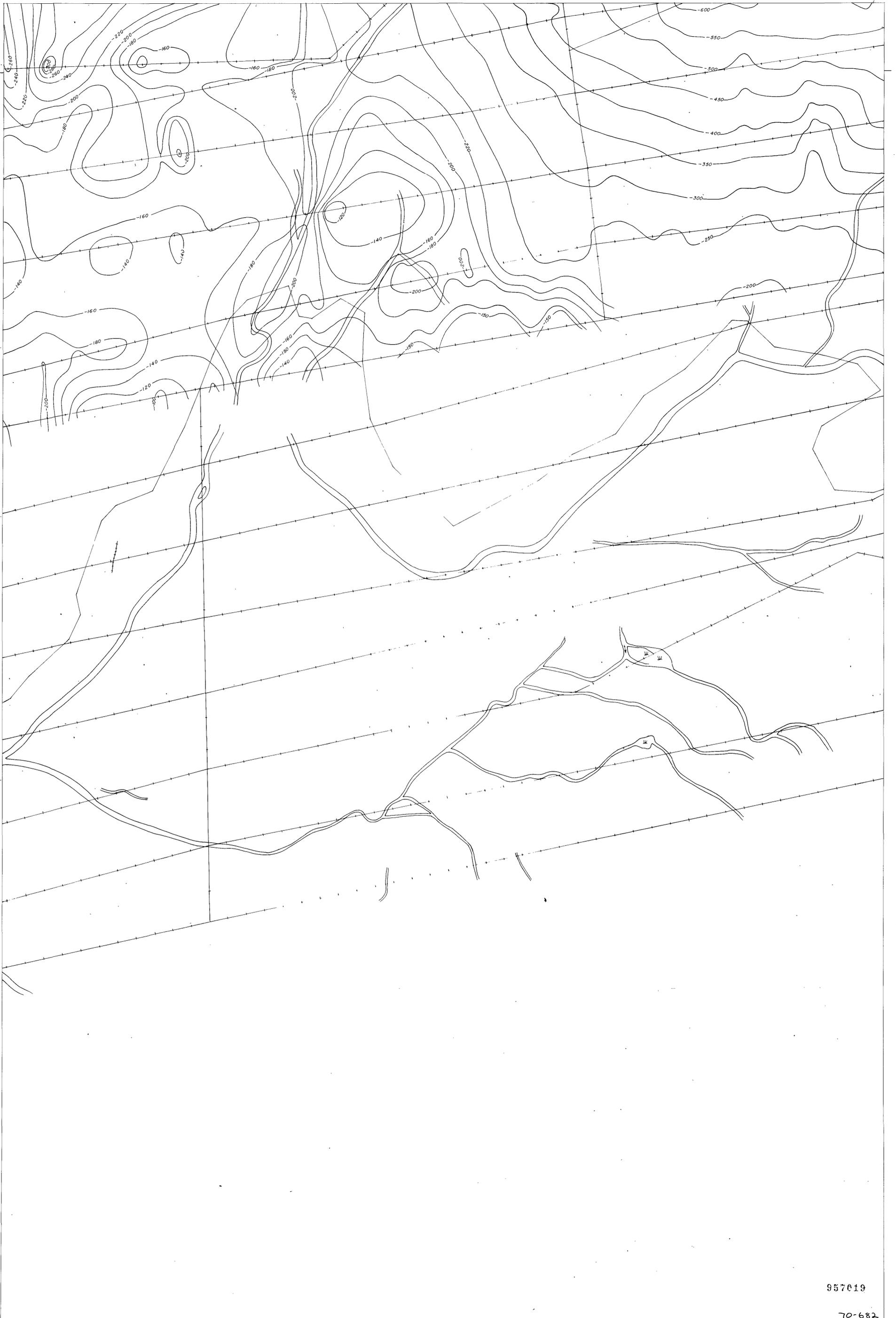
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GEOLOGIST			
APPROVED			
SCALE		1" = 50 feet	
REVISIONS			
		PROJECT	7/68
		DRAWING NO.	1/253



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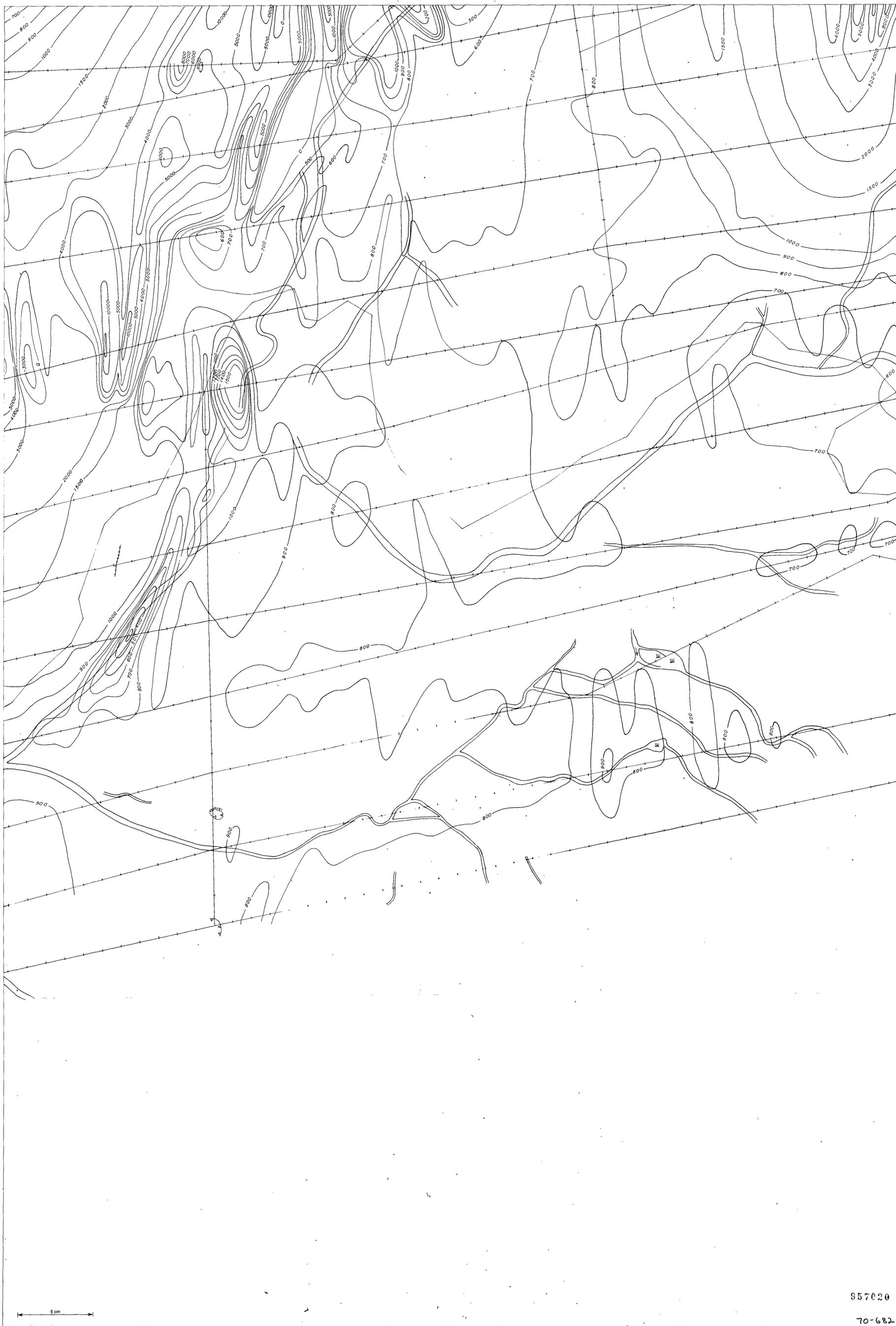
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BONANZA GRID  
SELF POTENTIAL CONTOURS

TRACED 2213  
DRAWING NO. 1/264

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100 0 100 200 300 FEET

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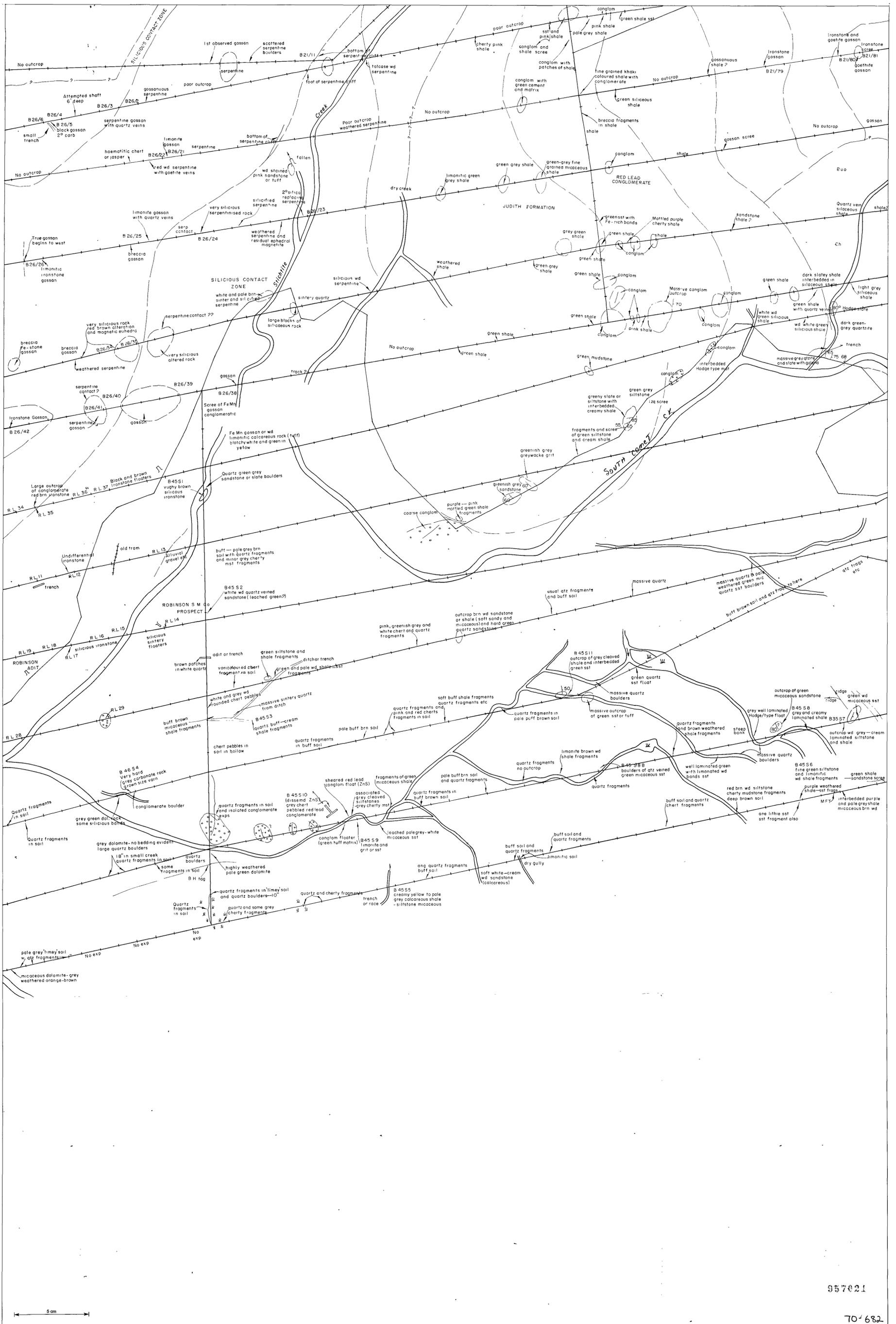


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BONANZA GRID  
MAGNETIC INTENSITY CONTOURS

TRACED G Henderson Jan '71  
DRAWING NO. 1/265

2219



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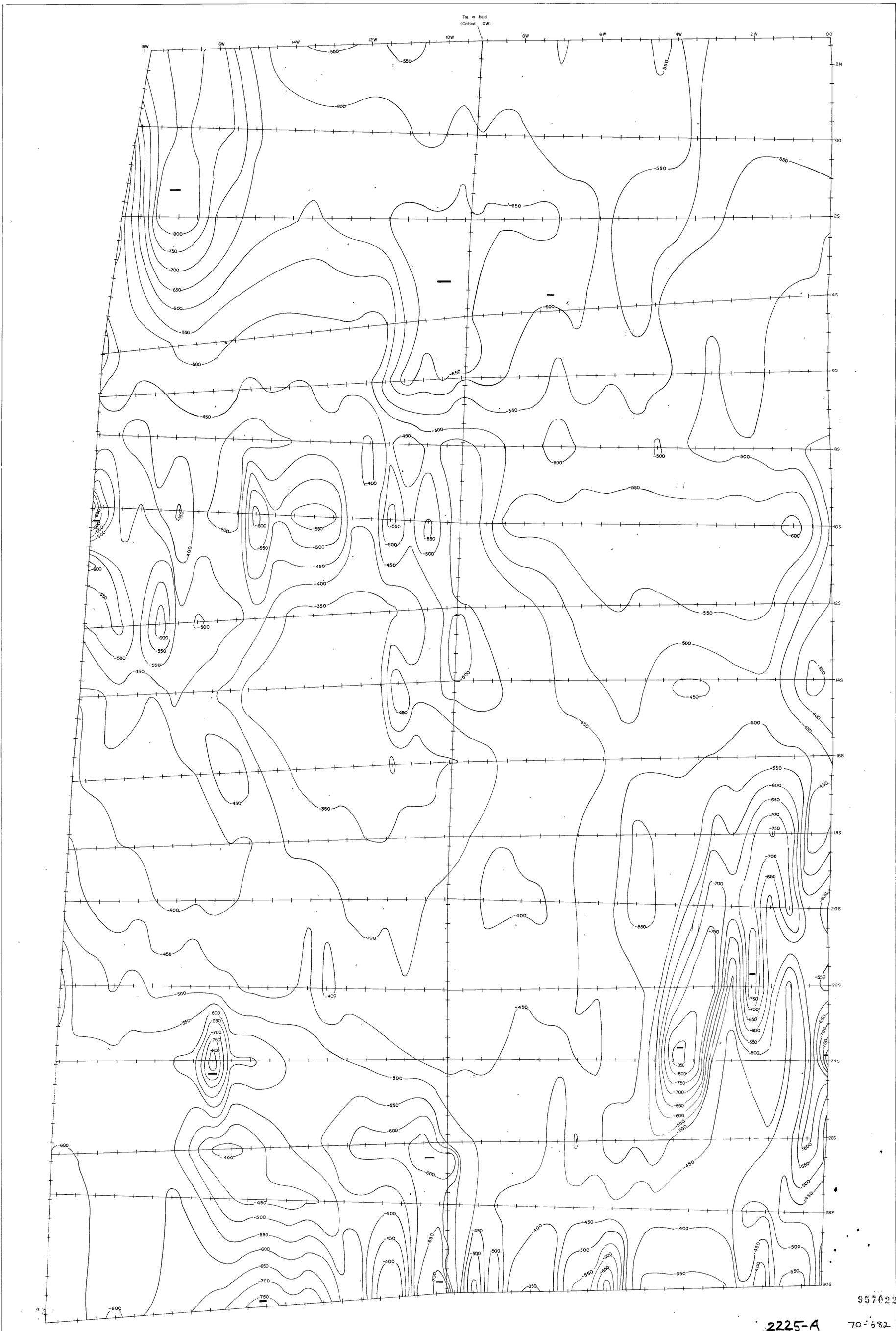


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BONANZA GRID  
GEOLOGIC MAP

TRACED B.J.P. 2220  
DRAWING NO. 1/263

The in field  
(Called 10W)



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2225-A

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100 0 100 200 300 FEET  
Contour Interval 50 mv

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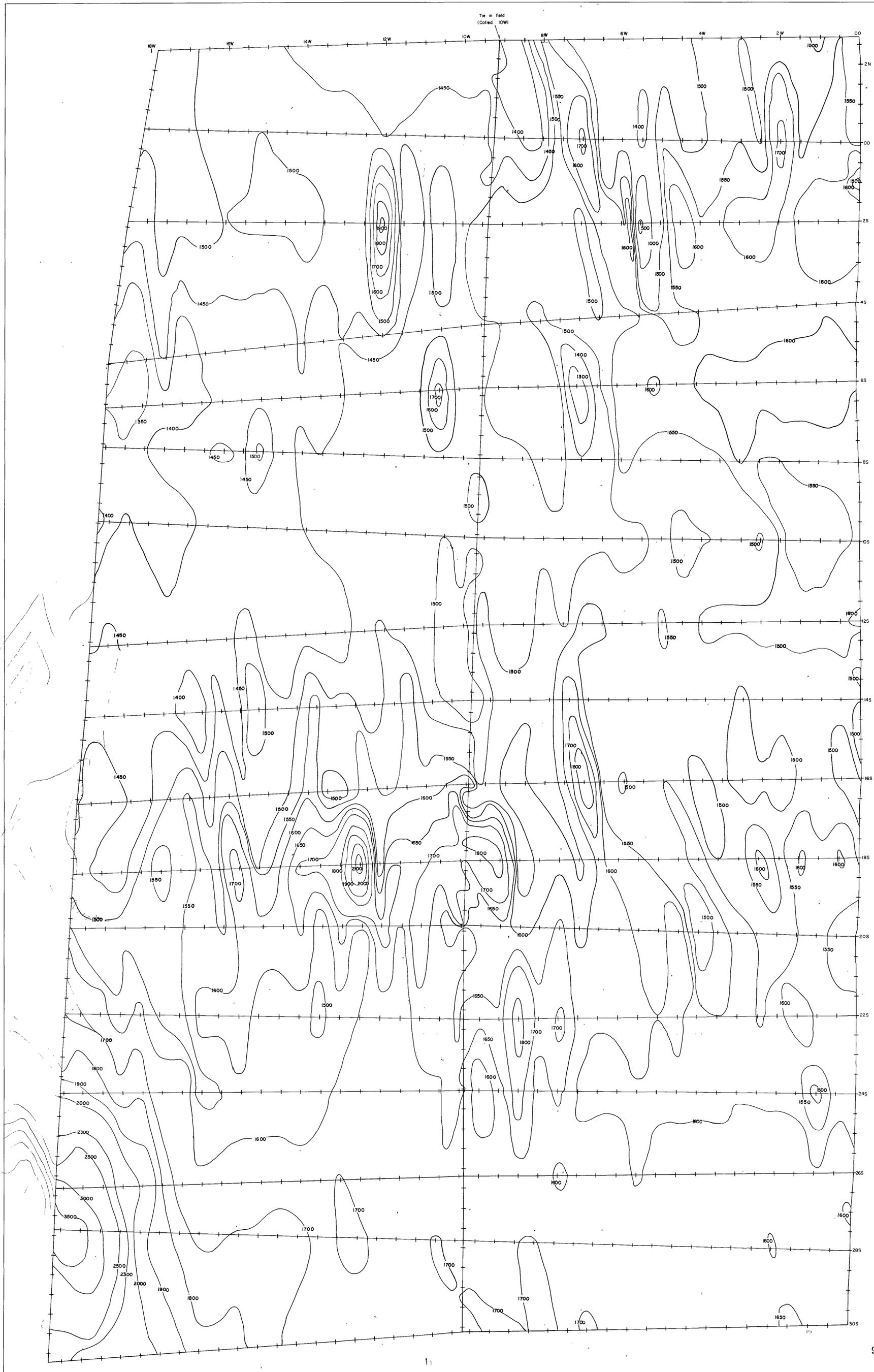


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COMET-KOSMINSKY GRID  
SELF POTENTIAL CONTOURS

TRACED W Jongejan  
DRAWING NO. 1/204

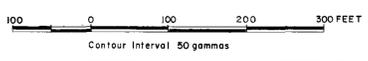
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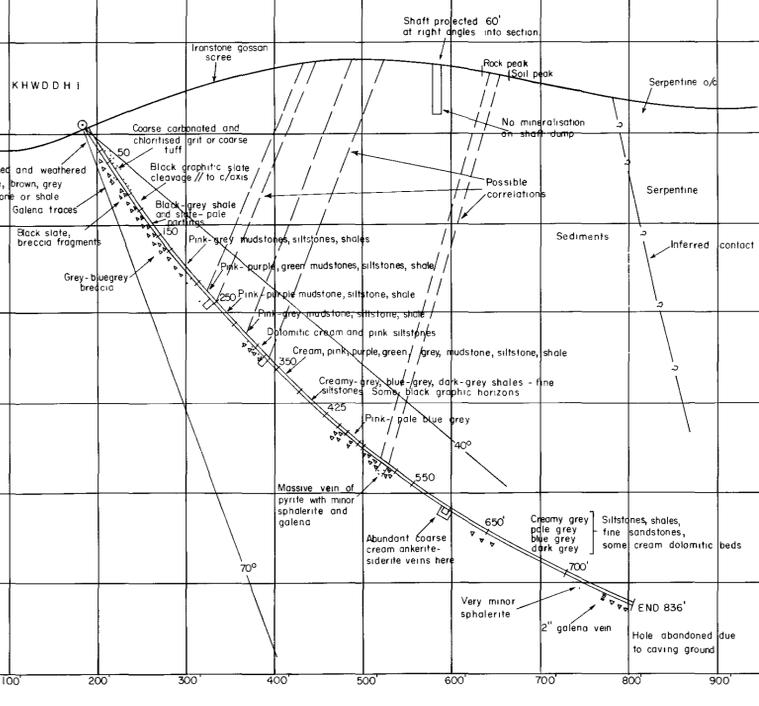
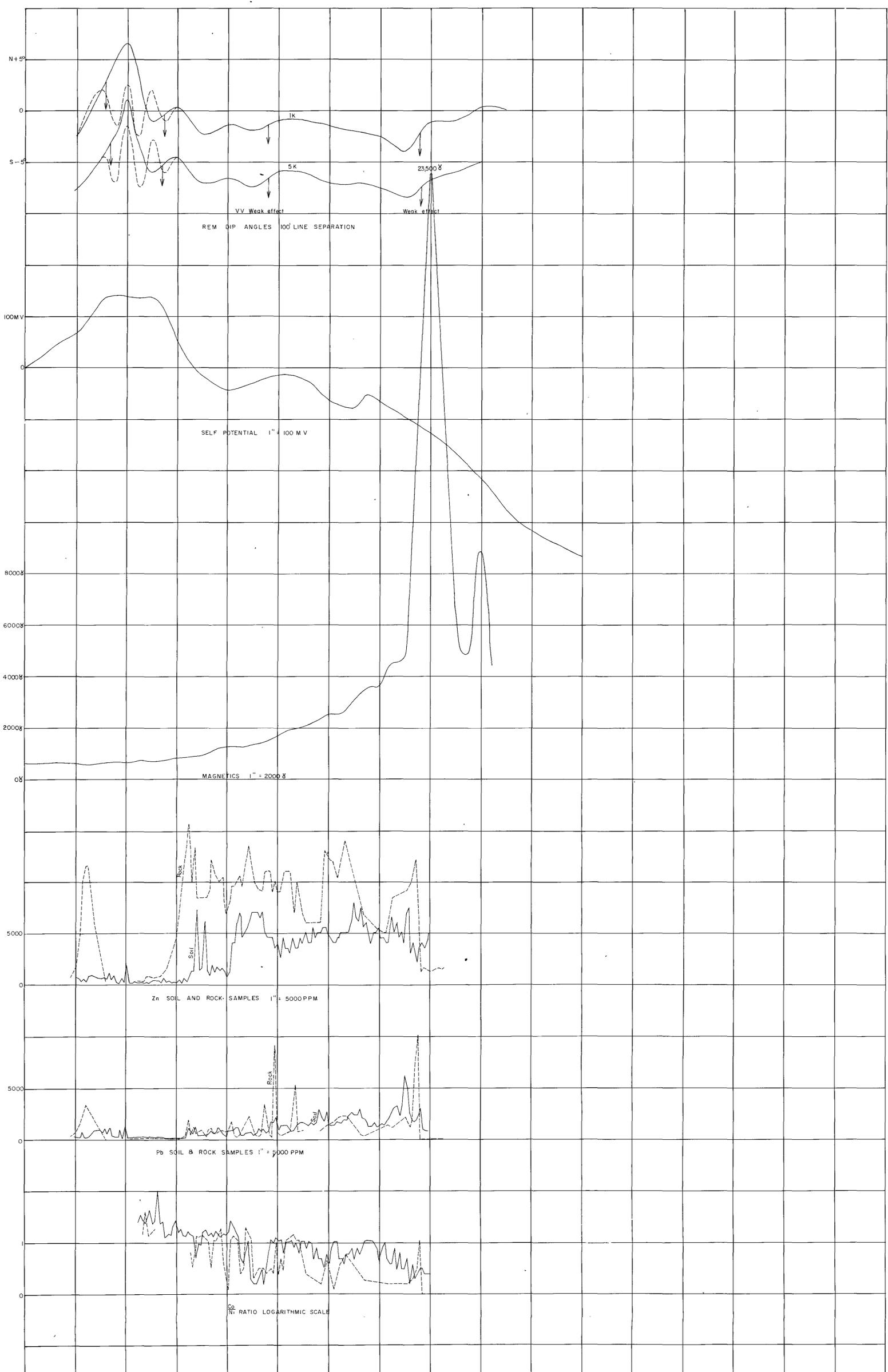
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COMET-KOSMINSKY GRID  
VERTICAL MAGNETIC INTENSITY  
CONTOURS

TRACED E. Meads 2221  
DRAWING NO 1/205







ETCH TESTS

0	: 55°
100	: 55°
200	: 50/20°
300	: 48°
400	: 45/20°
450	: 39/20°
500	taken as : 36°
600	" " : 32°
700	" " : 28°
800	" " : 24°

Unable to lower overshot and clinometer

957026 5 cm

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TRACED	M McGuire 18/8/70
CHECKED	
GEOLOGIST	
APPROVED	

SCALE

REVISIONS	
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 2224  
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**OVERLAY OF GEOLOGICAL & GEOPHYSICAL PROFILES**

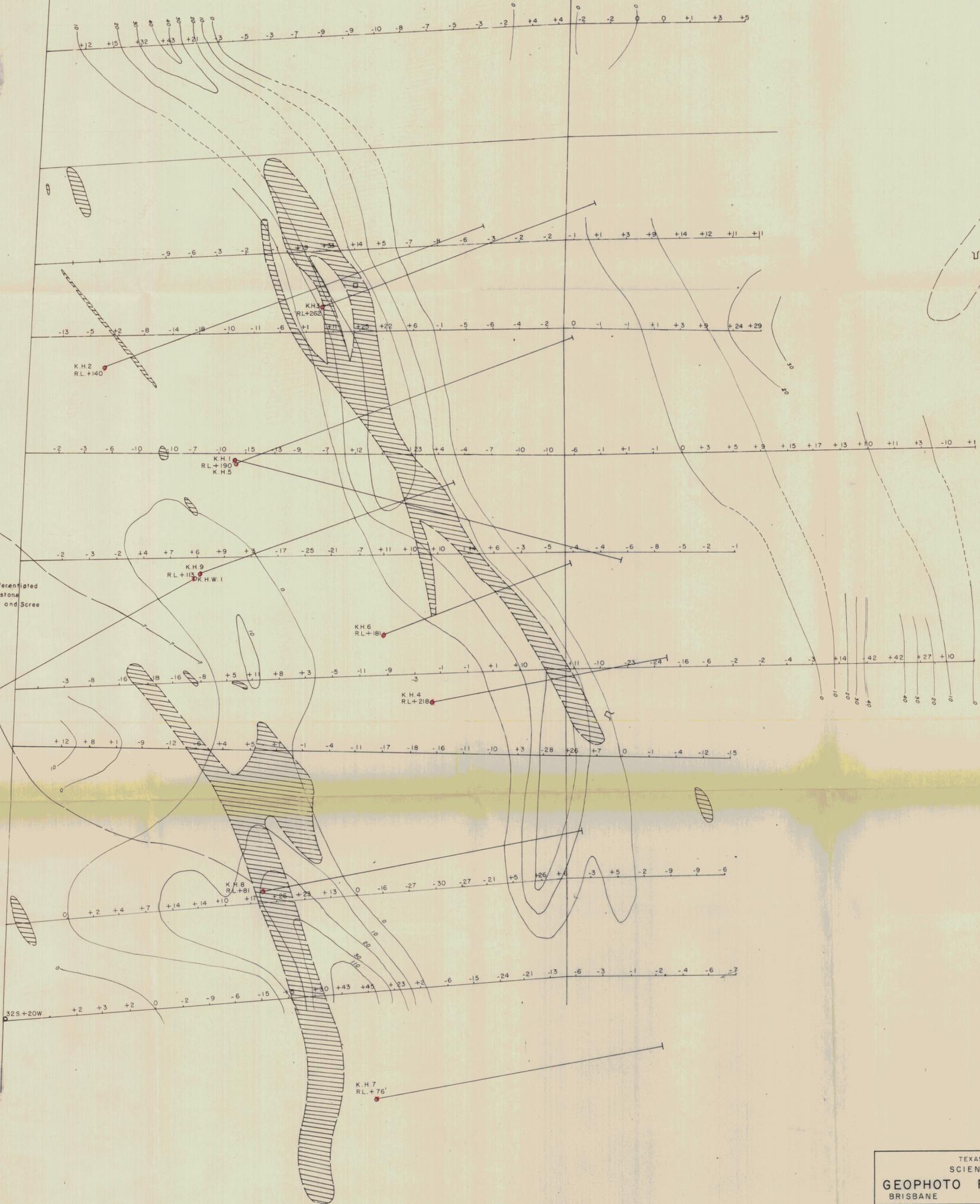
PROJECT 7/68 DRAWING NO 1/239

1/239

Zero Datum

0 125

125 + 20W



Undifferentiated Ironstone Outcrop and Scree

Quartz Rich Fe Mn Gossan

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DRAWN	TEXINS DEVELOPMENT PTY LTD.
TRACED	E.L. 7/68 DUNDAS DISTRICT
CHECKED	<b>KOSMINSKY HILL LODE OUTCROP</b>
GEOLOGIST	<b>WITH V.L.F. CONTOURS</b>
APPROVED	
SCALE 1" = 100'	
REVISIONS	
PROJECT 7/68	DRAWING NO. 1/261