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THE WEST COMET PROSPECT

OPERATIONS TO JULY 31st, 1969

J.H. Rattigan

R. Paterson

GEOPHOTO RESOURCES CONSULTANTS
BRISBANE

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INTRODUCTION

The Dundas District was selected as an exploration area for detailed surface and sub-surface investigation during 1968-69. The basis for this was prior knowledge of the general area by the senior writer, the considerable "lode" and "gossan" widths observed, the published records of high silver content of selected lead ores won in the past, and the lack of prospecting to depth over much of the area.

The West Comet Mine is recorded as the second major producer of silver and lead on the Dundas field chiefly in the years from 1888 to 1903, and a producer of argentiferous ferromanganese flux for smelting (Blissett, 1962).

For one of the most accessible and actively worked areas and one so close to Dundas and to Zeehan, the published information on the West Comet District is meagre. Moreover, it is often conflicting and in the past erroneous when a literature survey is made and publications compared, and when surface and sub-surface checks are made. No persons who worked on the old mines could be relocated and some second or third hand information from West Comet residents did not prove reliable.

The meagreness of information, the production figures, and early references to "very large ore bodies" (McIntosh Reid, 1925), the abundance of past workings and gloryholes relating to times of low metal prices and less advanced extraction techniques, and the wide surface evidences of mineralisation all stimulated interest in testing the West Comet District.

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Investigations in this report are results of preliminary studies only, and these have been aimed at discovering data on the geology and location and numbers of "mineralised lodes" rather than at proving up a mine.

LOCATION AND ACCESS

The district lies about 1 mile east and south-east of the abandoned township of Dundas and about 5 miles directly east of Zeehan. Road access is good by gravel road by the old rail route to Dundas to a gravel pit currently used at intervals for road bed material.

The West Comet district straddles a hill rising to about 1,200 feet, dividing tributaries of Comet Creek, Fernfields Creek and the main Dundas Rivulet to which the two former named creeks are themselves tributary. Relief over the area worked is about 350 feet. This hill will herein be referred to as West Comet Hill. The area is covered with dense rain forest and regrowth which obstructs rapid exploration work.

REGIONAL GEOLOGY

On the Zeehan 63,360 Geological Sheet (Tasmanian Department of Mines 1962), West Comet Hill is marked as serpentine, being part of the main mass described as a sill-like body about Mt. Razorback. East of this serpentine body lies the Precambrian Onah Quartzite and Slate. West of the serpentine body lie Cambrian formations of the Dundas Group.

From the present work the geologic picture is much more complex than known. In such a tectonically disturbed area this is to be expected.

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EXPLORATION 1968 - 1969

GRIDDING

Following granting of a licence E.L.6/68, it was considered that much of the imperfect data that could be gained by regional surveys and by airborne geophysical methods had already been gained by past explorers. It was felt that the best returns from exploration would probably be won by detailed gridding, ground geology and geophysics, and rock soil geochemistry about known signs of mineralisation and their extensions.

To this end a long base line was constructed bearing 092° (True) along the Dundas - Maestrie's Hill Track and parallel to the long axis of the Dundas section of the permit. The area comprising the Dundas Mineral Field was then divided into quadrangles of about 3000' by 2000' lying north and south of this baseline. The West Comet - Adelaide Sheet is one of these quadrangles lying south of the base line.

It was decided to concentrate exploration firstly on the area marked as West Comet Mine on the Zeehan Geological Sheets and to which more knowledgeable local prospectors referred to as West Comet. This area was gridded at two hundred foot separation of lines in offsets from the baseline (West Comet Grid). It would have been best to have a north south base for the grid as the grid lines would then have been more nearly perpendicular to the mineralised zones, but for continuity of sheets throughout the area, a long east west base line was thought necessary. In other areas east trending grid lines were turned off north-south sub-base lines. In the case of the West Comet grid, east trending ties were made and stations read between the lines as necessary.

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THE PROSPECT

References to the West Comet Prospect appear in both Blissett (1962) and McIntosh Reid (1925). These summaries are based on old records and reports and are somewhat vague. No detailed maps of the location of workings about the "West Comet Mine" are known.

References are made in McIntosh Reid (1925, p.p. 82-83)

- 1) to a "low level adit" crossing the "main ore body",
- 2) to "the other orebody",
- 3) to "two lodes near the eastern boundary of the property" and "one opened in small cuts on the western bank of the creek",
- 4) to "low grade ore excavated in open cuts",
- 5) to a deposit-"on the South bank of the creek and opposite the main open workings, a galena siderite vein....is opened by a short adit",
- 6) to a deposit-"in a small creek 3 chains west of that just described is another vein of similar nature".

The area gridded referred to in this report covers the prospect marked as West Comet on the Zeehan One Mile Series Geological Map. This is near the locality known as West Comet to the most knowledgable local prospectors and appears to encompass (2), (3) and (4) above.

However, it appears from information gained from this Geophoto Survey, and intensive restudy of oldest records, that the original "Main Lode" and "low level adit" of (1) above and to which most stratigraphic and other reference is made in summaries

by Blissett and McIntosh Reid, may lie on the west of the West Comet Hill. This is beyond the grid laid down and some half a mile west of the position plotted on the Zeehan One Mile Sheet. Steps are being taken to extend the grid westward to this locality.

MAGNETIC SURVEYS

The results of vertical intensity magnetometer survey are presented in Figure 1. The Instrument used was an MF-1 fluxgate magnetometer. The aim of this work was threefold -

1. Firstly to detect, in association with limited surface geologic data, the eastern boundary of the serpentine mass with slate and quartzite;
2. to detect transverse faulting by observing magnetometric data along this contact;
3. to detect, should any be present, possible pyrrhotite bearing lodes of similar type to those that occur in neighbouring areas in association with the same ultra-basic body.

The interpretation of magnetic data is not complete. The serpentine body was readily outlined, but the influence of the differences between outcrop and concealed areas of serpentine, magnetite segregations and mine-dump spoil have complicated the magnetic picture.

S.P. SURVEYS

A Self Potential survey was completed over the grid with a Sharpe VP-7 meter, and results presented in Figure 2. This reconnaissance type of survey has worked successfully in the

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general region. A prominent line of negative centres is sited near a line of ferruginous gossan worked for Pb-Ag ores and smelter flux about the area known locally as West Comet.

The origin of S.P. effects is still controversial and many factors causing potentials, arising from natural earth currents caused by other than sulphide bodies, have to be considered in interpretation. However, negative centres are detectable over many sulphide bodies where the water table completely covers the body.

GEOLOGY

Geological study will not be completed until more excavation and drilling is completed but the boundary of serpentine with Oonah beds in the critical area drilled to date is marked on Figure 2.

GEOCHEMISTRY

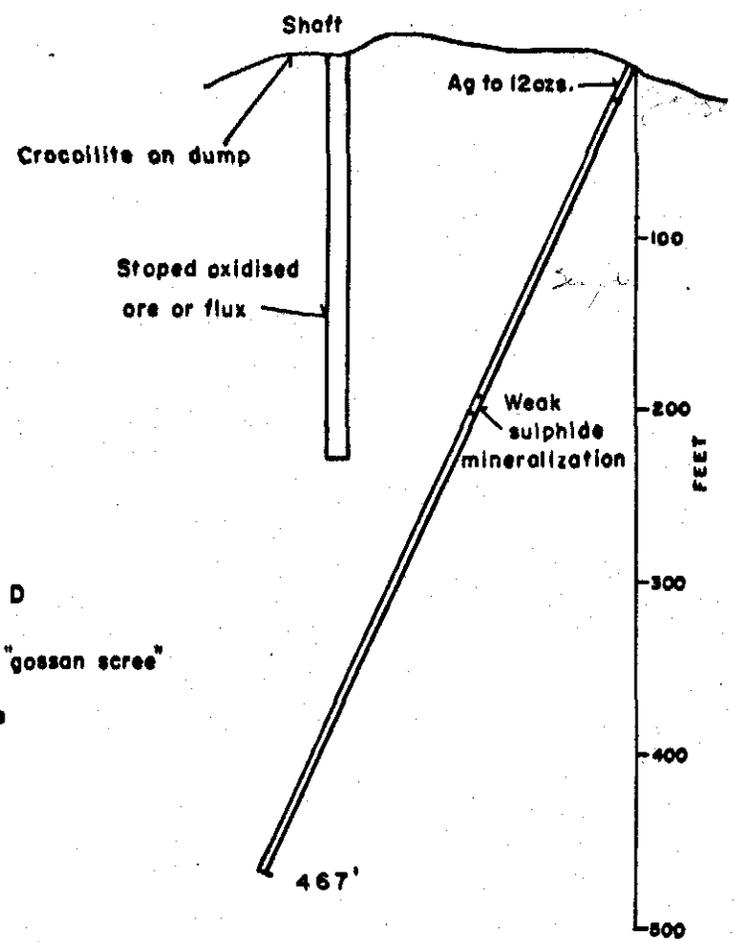
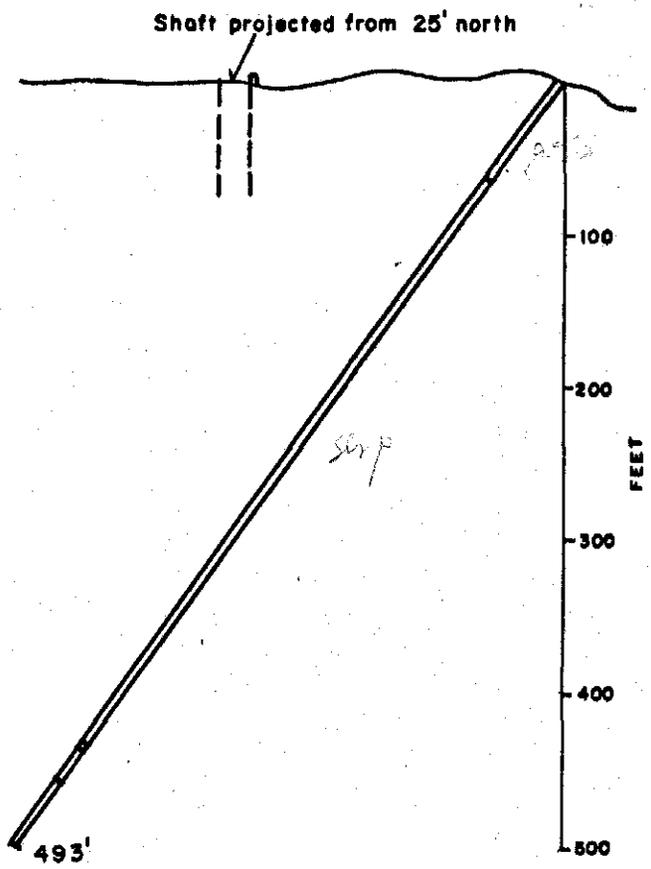
Some rock geochemistry was carried out over the gridded area using Cobra rock drills. This work was deferred as soon as a diamond drill was on site but will be extended and results recorded in a separate report.

DIAMOND DRILLING

Four diamond drill holes (two, DDH1 and DDH1A, from one site), were put down on the West Comet area during March-June 1969. These were probes to test location of mineralised lodes, the lithologic sequence, and the depth of oxidation, the cause of ferruginous cappings, and the usefulness of S.P. as an exploration tool. Core of interest was assayed by the Department of Mines Laboratories, Launceston, and results are appended.

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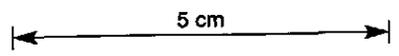
Fig. 1



- LEGEND
- "Gossan" or "gossan scree"
 - Serpentine
 - Dolomite

DDH 1A DEPRESSION 55°
BEARING 220°

DDH 1 DEPRESSION 65°
BEARING 258°



WEST COMET D.D.H. 1A

WEST COMET D.D.H. 1

D.D.H. 1 and 1A.

D.D.H. 1 and 1A (Figures 2, 3 and 4) were drilled from one site as first access was opened by bulldozer. They were aimed at testing 100 feet beneath the deepest accessible workings near the grid position, 700 south and 700 east (Figure 1).

These holes commenced in argentiferous, ferruginous "gossan" or "gossan" breccia and soon entered serpentine, partly dolomitised, with nothing of any further economic significance encountered except a narrow oxidised "gossan" vein at 454' in Hole 1A. This had a Zn content exceeding 1%.

D.D.H.2.

This hole was planned with a threefold aim

- 1) to test the section beneath the extensively excavated ferruginous capping for the source of the iron capping,
- 2) to test a negative S.P. centre,
- 3) to test beneath a soil and rock geochemical anomaly at 600E, 1000S.

The hole, after passing through weathered slates and quartzites, entered a section of alternating ferruginous "gossan" and sediment bands which was centred beneath the S.P. anomaly.

Large cavities encountered in drilling, and absence of core therein, prevented assays of gossan being particularly meaningful. It is probable that old workings were responsible, at least in part, for the cavities. The hole was abandoned in "gossan" because of difficulties in coping with cavities, but gained information on most of its objectives.

No mineralisation of great interest was encountered in the hole. All the sections were oxidised or partly oxidised to depths exceeding 300 feet subsurface.

The best "gossan" showed no better silver value than 5.0oz/ton associated with 0.5% Pb. It is possible that better values may have been encountered in the caved sections.

The most interesting gossans were located directly beneath the negative S.P. centre.

D.D.H. W.C.3.

In view of the difficulty in probing the gossanous sections with angled holes, D.D.H.3 was programmed as a shallow vertical hole over a strong negative S.P. centre. It had the following objectives

- 1) to test beneath the centre of an S.P. anomaly,
- 2) to test depth of oxidation.

This dip of strata and gossanous sections in the adjoining open cuts were steep so that little section was penetrated in the hole. However, signs of galena and sphalerite, the first in West Comet drilling, were encountered in carbonate rocks at depths between 178 and 361 feet, and continued for more than 100 feet in the hole.

No significant values were encountered, the best of analysed core sections to date being 1.32% Pb, 0.27% Zn and 1.3 ozs. Ag, between 353 feet and 355 feet. The assayed sections were not particularly argentiferous. The full 183 feet intersection would possibly not exceed 40 feet in true thickness and average values would be extremely low and of no direct economic interest.

CONCLUSIONS AND RECOMMENDATIONS

Drilling of the West Comet Prospect was deferred after these four holes, to consider geologic data obtained. The following conclusions have been drawn to date:

- 1) It is not yet certain whether the prominent line of S.P. anomalies on the "West Comet" Line is partly due to topographic effects of the open cuts in this area. Two holes, drilled to test anomalies, however, intersected weak mineralisation, one oxidised and one primary, directly below such centres.
- 2) The position of old lodes is not yet certain. Certainly the mineralisation so far encountered in D.D.H.2 and D.D.H.3 is not directly on the serpentine contact which is said in old literature to be the locus of ore. The position of "very large ore bodies, the main one being 50 to 70 feet in width and over 600 feet in length" of McIntosh Reid (1925) can not yet be said to have been re-established.

It is recommended that:

- 1) Further geologic work and drilling be done to test the untested zones between extremity of section penetrated in D.D.H.2 and D.D.H.3 and the eastern boundary of serpentine.
- 2) S.P. targets, particularly those associated with magnetic anomalies, be tested by shallow drilling.
- 3) The west side of the serpentine body on West Comet Hill be explored to check whether the "main ore body" is located thereon.

J.H. Rattigan

R. Paterson

REFERENCES

- BLISSETT, A.H., 1962 Explanatory Notes, Zeehan One
Mile Geological Series,
Tasmanian Department of Mines.
- McINTOSH REID, A., 1925 The Dundas Mineral Field,
Geological Survey Bull. 36,
Tasmania.

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APPENDIX 1

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DDH 1 Footage	SAMPLE	CU	NI	CO	PB	XPBX AG	ZN
gossan w. of collar	DD 100	100	775	80	6250	37	590
198-201	DD 101	20	1400	70	340	—	350
163-168	DD 102	10	1700	100	80	—	185
178-188	DD 103	10	1400	80	65	—	185
216-221	DD 104	10	1100	75	100	—	230
188-198	DD 105	5	1250	80	150	—	230
226-238	DD 106	5	1200	60	280	—	330
gossan, collar	DD 108	20	875	50	480	4	520
open cut below collar	DD 109	230	130	30	5000	26	520
15' ↙	DD 111	550	1400	40	1700	200	440
19' ↙	DD 112	40	500	80	130	30	450
	METHOD	101B	101B	101B	101B	107A	101B

sample missing

s. missing

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Geophoto Resources Ltd.,
30 Herschel Street,
Brisbane, Queensland. 4000.

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Dear Sirs,

West Comet Mine, Tas.

Herewith results of analyses on the following samples received from you on 21st May, 1959.

<u>Reg. No.</u>	<u>Sample No. etc.</u>	<u>Ozs./Ton</u>				
		<u>Ag</u>	<u>Pb</u>	<u>Per Cent</u>		<u>Cu</u>
				<u>Zn</u>		
690919.	No. 1. WCD-1A. 5'	1.1	0.05	0.02		Trace
0920.	2. " 10'	2.4	0.03	0.02		Trace
0921.	3. " 20'	1.7	0.04	0.04		Trace
0922.	4. " 25'	1.8	0.02	0.04		Trace
0923.	5. " 30'	5.2	0.02	0.05		0.02
0924.	6. " 35'	1.1	0.05	0.03		Trace
0925.	7. " 40'	3.5	0.51	0.03		0.02
0926.	8. " 45'	4.2	0.02	0.05		0.01
0927.	9. " 55'	2.5	0.02	0.06		0.01
0928.	10. " 60'	0.2	Nil	0.02		Nil

Analyses by *K. Austin*

Yours faithfully,

H. K. Wellington
(H.K. Wellington)
Chief Chemist & Metallurgist.

Fees: \$40.00

RECEIVED

Department of Mines,
Tasmania



TELEPHONES

METALLURGICAL RESEARCH	} 42431-2 2 LINES
LABORATORY	
MINES INSPECTION	
EXPLOSIVES AND INFLAMMABLE LIQUIDS	
SECRETAR OF MINES	22407

LAUNCESTON OFFICES.

287 WELLINGTON STREET,

SOUTH LAUNCESTON 10th June, 1969

c.c. to-
Geophoto Resources Ltd.,
Main Street,
Zeehan, Tas. 7469.

Geophoto Resources Ltd.,
30 Herschel Street,
Brisbane, Queensland. 4000.

Dear Sirs,

West Comet Mine, Tas.

Herewith results of analyses on the following samples
received from you 27th May, 1969.

Ref. No.	Sample No. etc.	Ozs./Ton	Per Cent		
			Ag	Pb	Zn
690960.	No. 15. WCD-1A	0.2	0.27	1.15	Trace
0961.	No. 1. WCD-2. 20'	0.6	0.04	0.06	0.02
0962.	2. " 30'	2.5	0.10	0.08	0.05
0963.	3. " 35'	1.8	0.12	0.06	0.04
0964.	4. " "	0.6	0.03	0.19	Trace
0965.	5. " "	2.0	0.52	0.25	Trace
0966.	6. " "	0.8	0.11	0.34	Trace
0967.	7. " "	1.0	0.70	0.19	Trace
0968.	8. " "	0.2	0.20	0.09	Trace
0969.	9. " "	0.3	0.18	0.14	Trace
0970.	10. " "	0.2	0.45	0.10	Trace
0971.	11. " "	0.2	0.02	0.03	0.01
0972.	12. " "	0.2	0.04	0.14	Trace
0973.	13. " "	Trace	0.01	0.17	Trace
0974.	14. " "	0.3	0.04	0.06	0.03
0975.	15. " "	Trace	Nil	0.04	Trace
0976.	16. " "	0.6	0.01	0.01	Trace

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0977.	17.	Trace	0.01	0.15	Nil
0978.	18.	Trace	0.02	0.06	Trace
0979.	19.	0.3	0.04	0.12	Trace
0980.	20.	0.3	Nil	0.12	Trace
690981.	<u>No. 21. WCD-2.</u> *	0.4	Trace	0.11	Trace
0982.	22.	0.4	0.02	0.21	Nil

* On bag No. 21. WCD-1.

Analyses by. *[Signature]*
[Signature]

Yours faithfully,

[Signature]

(H.K. Wellington)
Chief Chemist & Metallurgist.

Fees: \$92.00

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G.P. 1144



DEPARTMENT OF MINES—TASMANIA

LAUNCESTON OFFICES
287 WELLINGTON STREET
SOUTH LAUNCESTON 7250

TELEPHONES:
Metallurgical Research Laboratory
Mines Inspection
Explosives & Inflammable Liquids } 44 2431-2
(2 lines)

29th July, 1969.

c.c. to-
Geophoto Resources Ltd.,
Main Street,
Zeehan, Tas.

Geophoto Resources Ltd.,
30 Herschel Street,
Brisbane, Queensland, 4000.

Dear Sirs,

West Comet, Dundas.

Herewith results of analyses on the following samples received from you on 16th July, 1969.

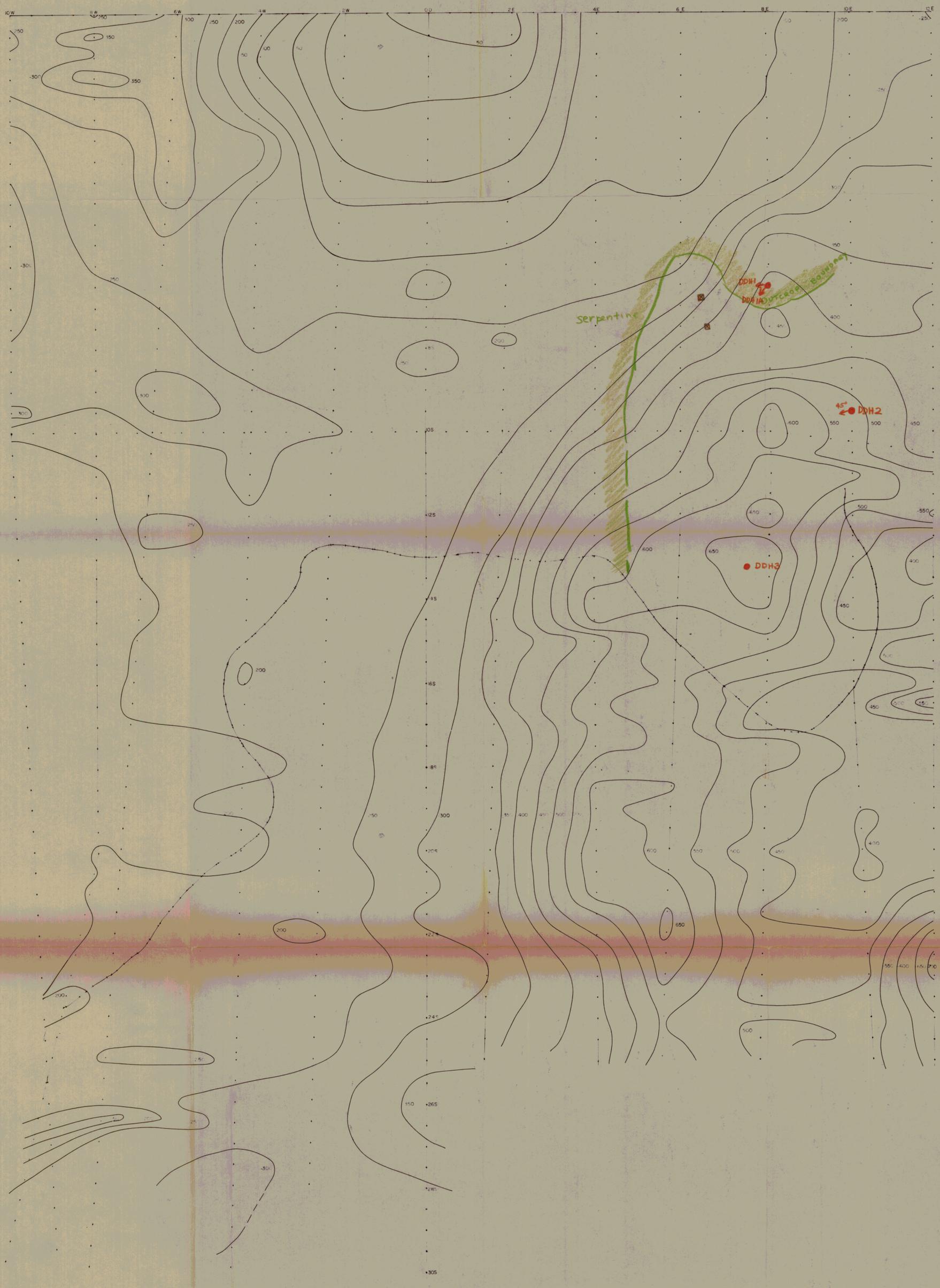
<u>Res. No.</u>	<u>Sample No. etc.</u>	<u>Ozs./Ton</u> <u>AE</u>	<u>% Pb</u>	<u>% Zn</u>	<u>% Cu</u>
691575.	<u>D.D.H. WC-B.</u> 136'-138'	0.1	0.08	Trace	0.01
1576.	138'-142'	1.3	0.70	0.24	0.01
1377.	142'-143'	Trace	0.01	0.01	0.01
1378.	216'-218' (Add RHB)	0.3	0.29	0.05	0.01
1379.	240'-241'	0.2	0.10	0.05	0.02
1380.	334 +	0.1	0.06	0.80	0.01
1381.	344'-346'	1.3	0.37	0.07	0.01
1382.	353'-355'	1.3	1.32	0.27	0.03

Analyses by *[Signature]*

Yours faithfully,

[Signature]
Chief Chemist & Metallurgist.

Fees: \$32.00



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FIG. 2 2178

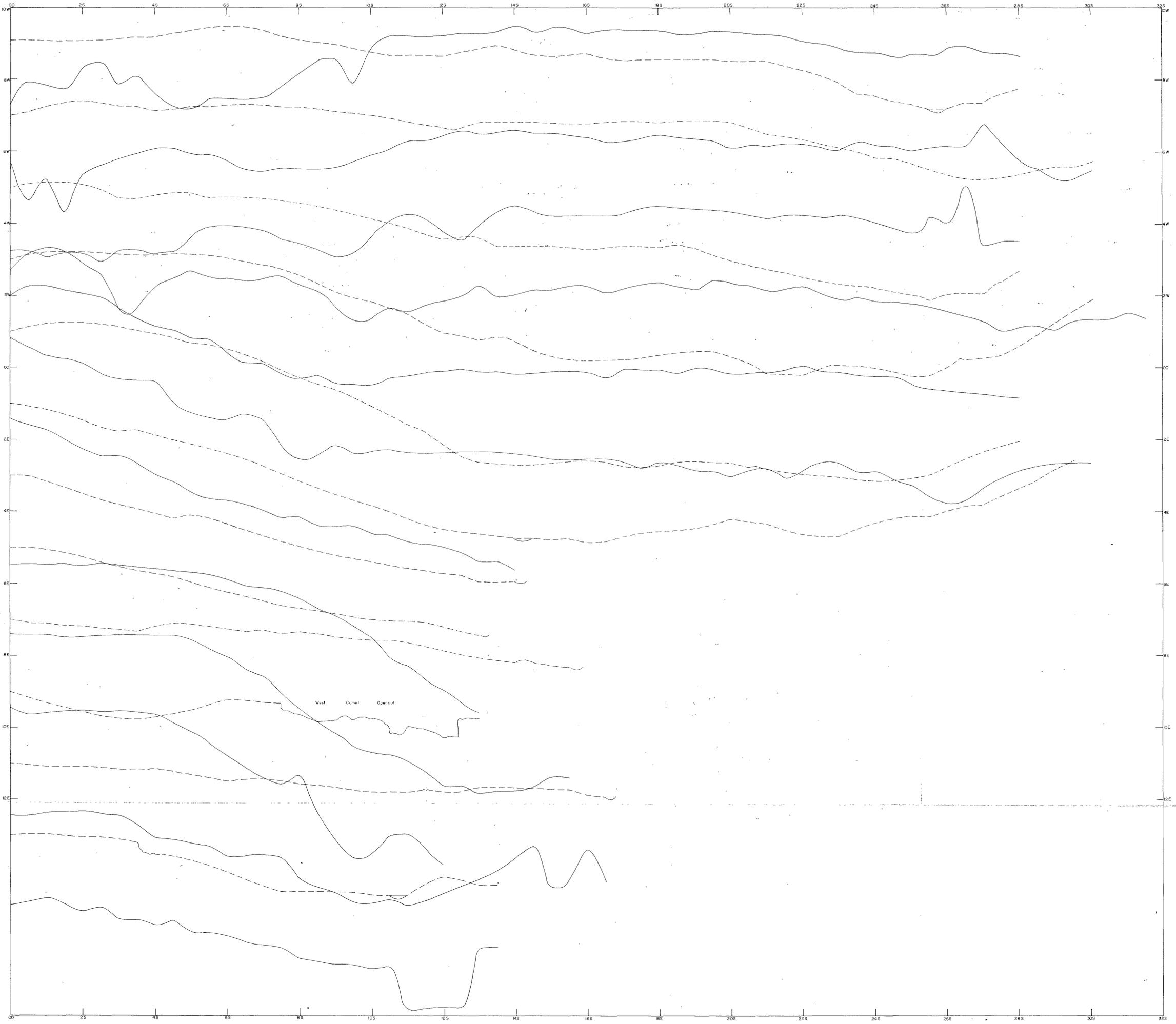
LEGEND
 Pegged station - 50 interval
 Adelaide - West Comet tram track
 Contour interval 50mv



GEOPHO RESOURCES CONSULTANTS
 BRISBANE, QUEENSLAND

ADELAIDE - WEST COMET GRID
 EL 7/68 DUNDAS, TASMANIA
 SELF POTENTIAL CONTOURS

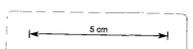
050161



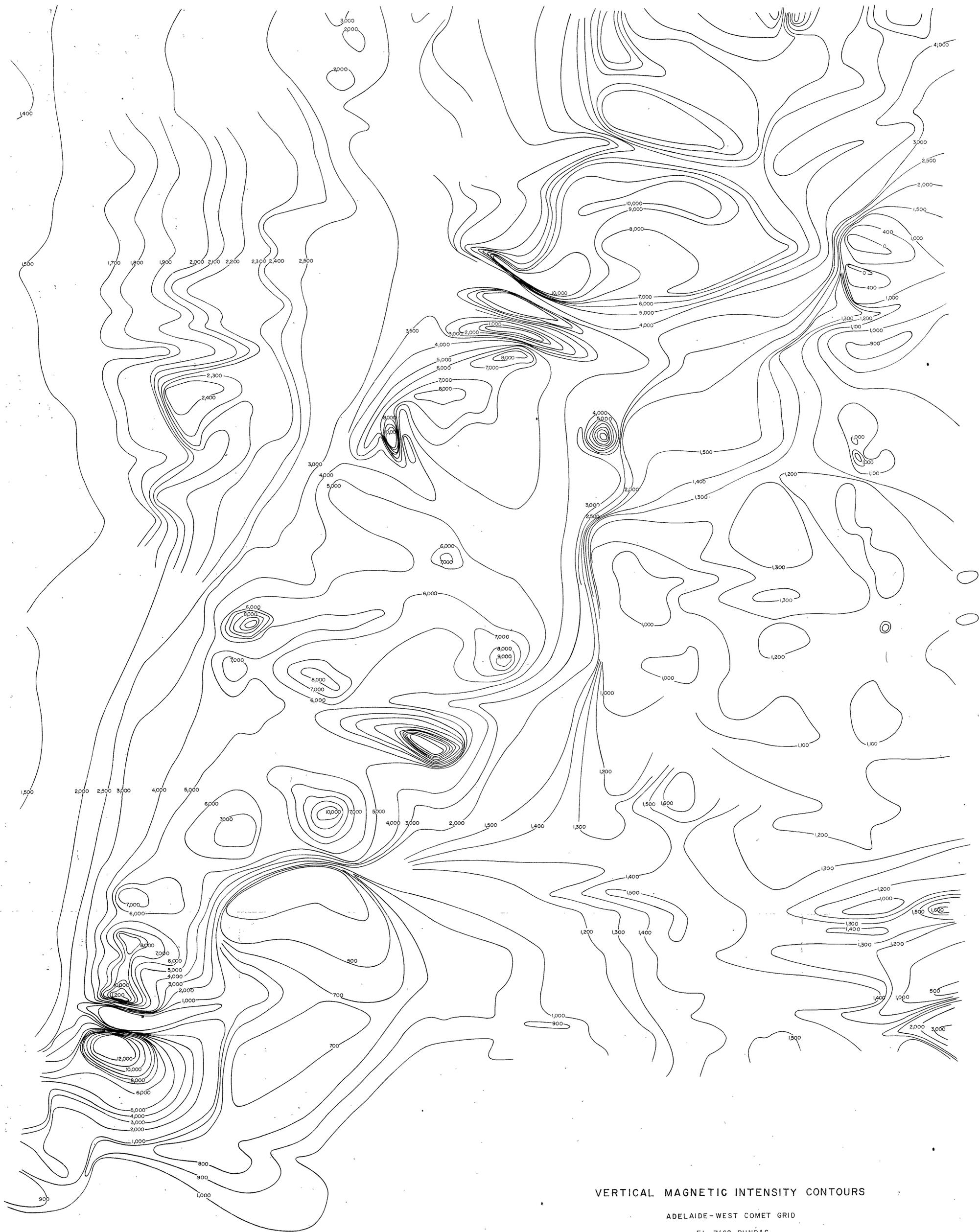
GEOPHOTO RESOURCES CONSULTANTS
 SELF POTENTIAL AND TOPOGRAPHIC PROFILES
 ADELAIDE - WEST COMET MINE GRID
 NORTH TRENDING SECTIONS 1000W TO 1200E

LEGEND:
 — Self potential
 - - - Topographic

HORIZONTAL AND VERTICAL SCALES
 100 75 50 25 0 100 200 300 FEET
 100 75 50 25 0 100 200 300 MILLIVOLTS
 VERTICAL SCALE



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VERTICAL MAGNETIC INTENSITY CONTOURS

ADELAIDE - WEST COMET GRID

EL 7/68 DUNDAS

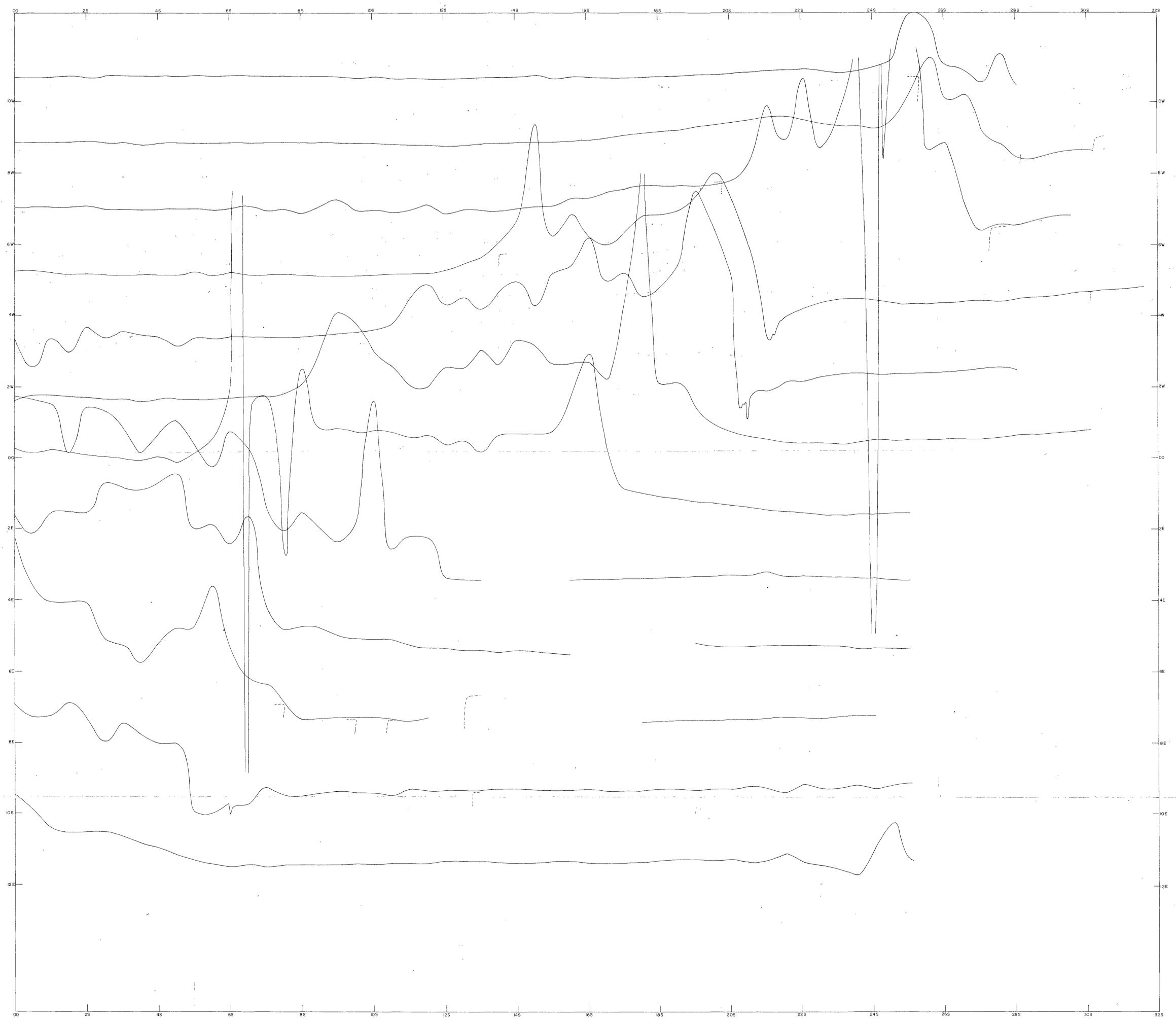


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FIG. 4

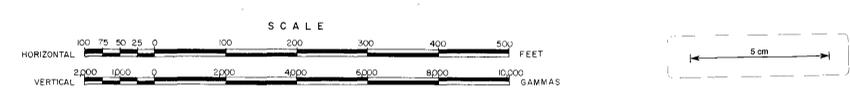
2180

950167

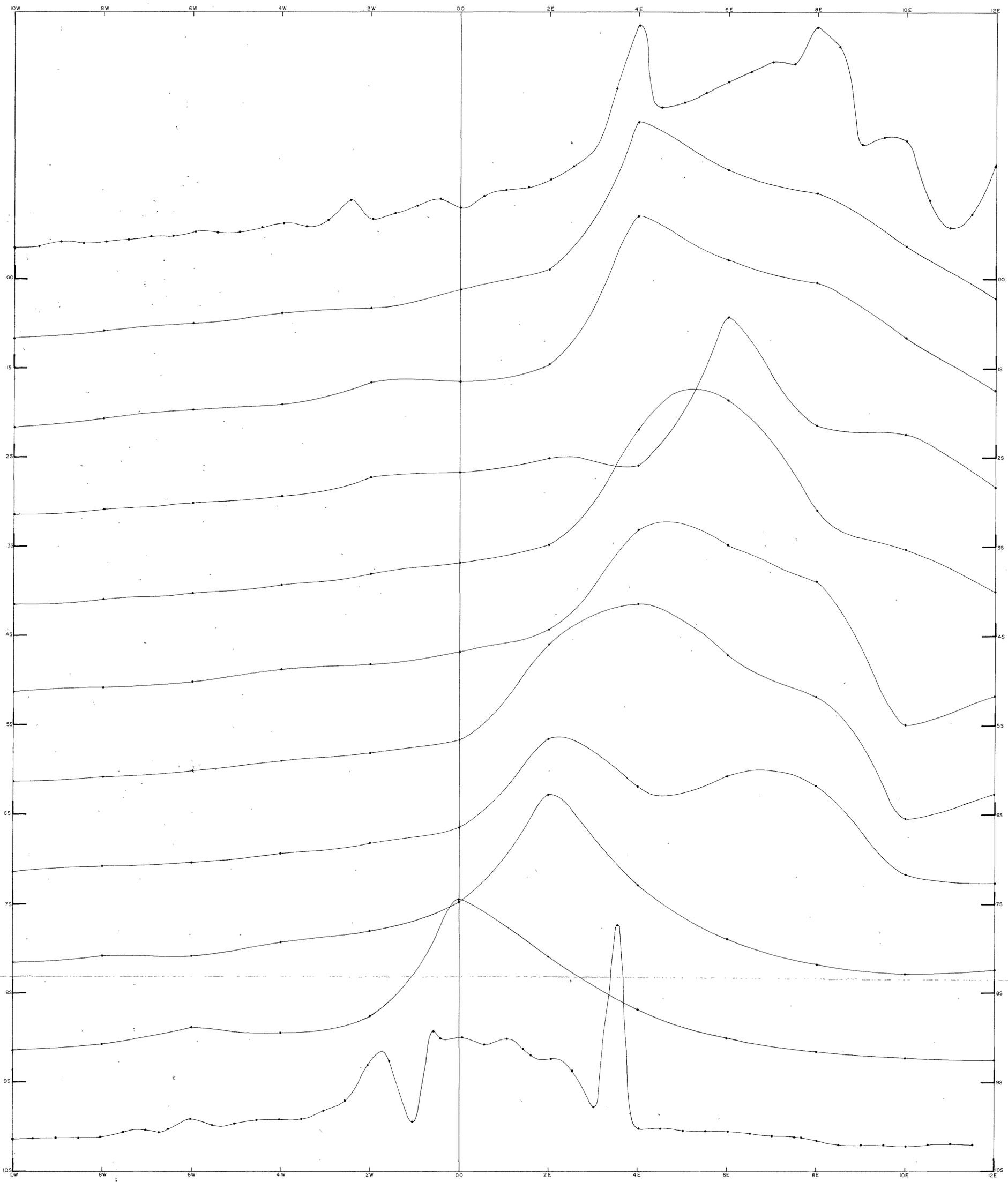


GEOPHOTO RESOURCES CONSULTANTS
 MAGNETIC VERTICAL FORCE PROFILES
 ADELAIDE - WEST COMET MINE GRID
 N-S SECTIONS 1000W TO 1200 E

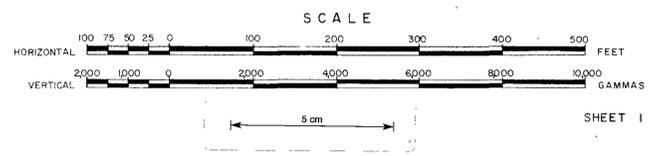
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GEOPHOTO RESOURCES CONSULTANTS
 MAGNETIC VERTICAL FORCE PROFILES
 ADELAIDE-WEST COMET MINE GRID
 E-W SECTIONS 00S TO 100S



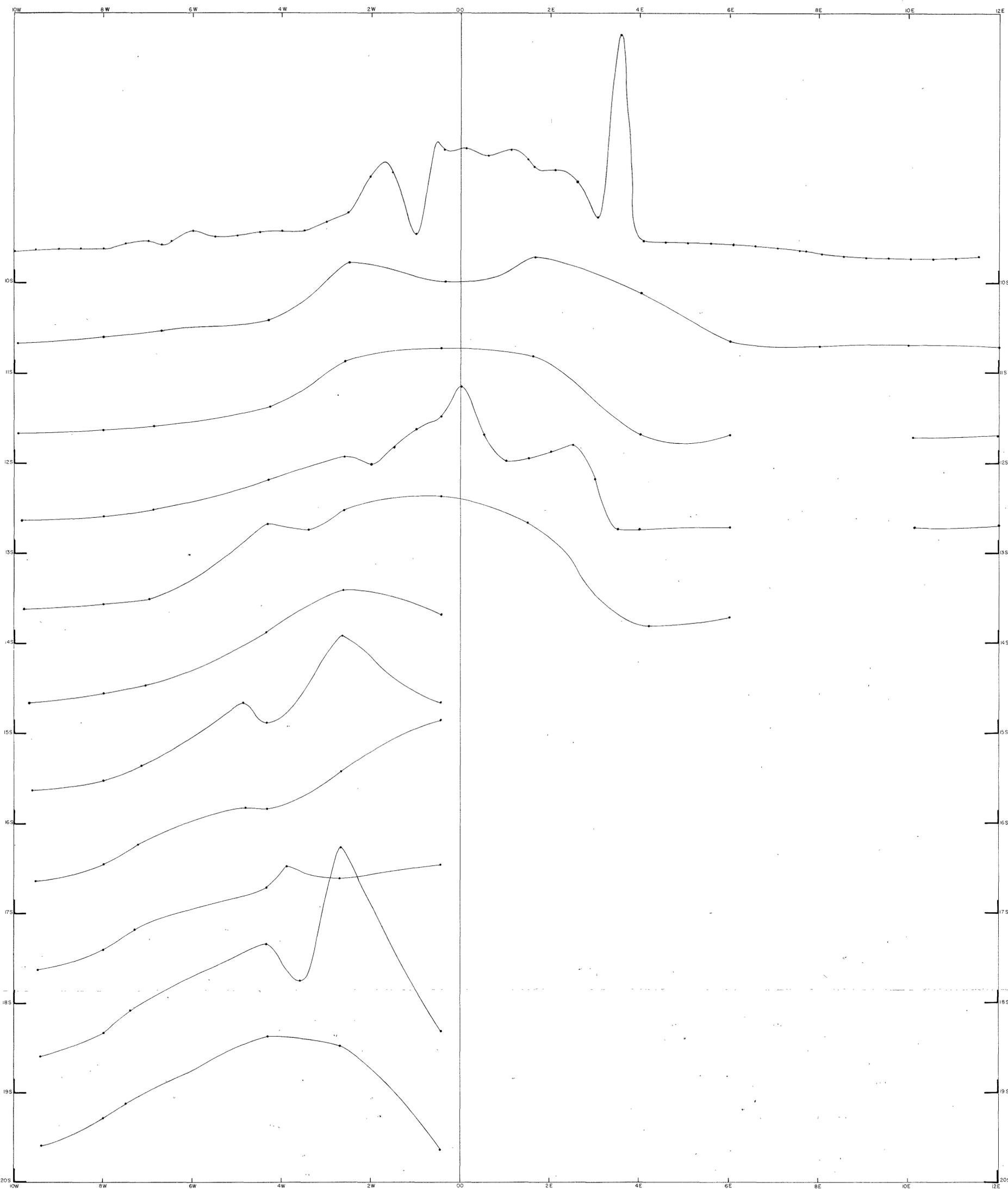
SHEET 1 OF 3 SHEETS

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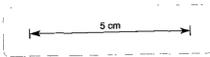
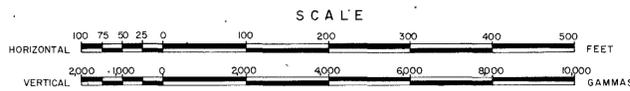
FIG. 6 2182

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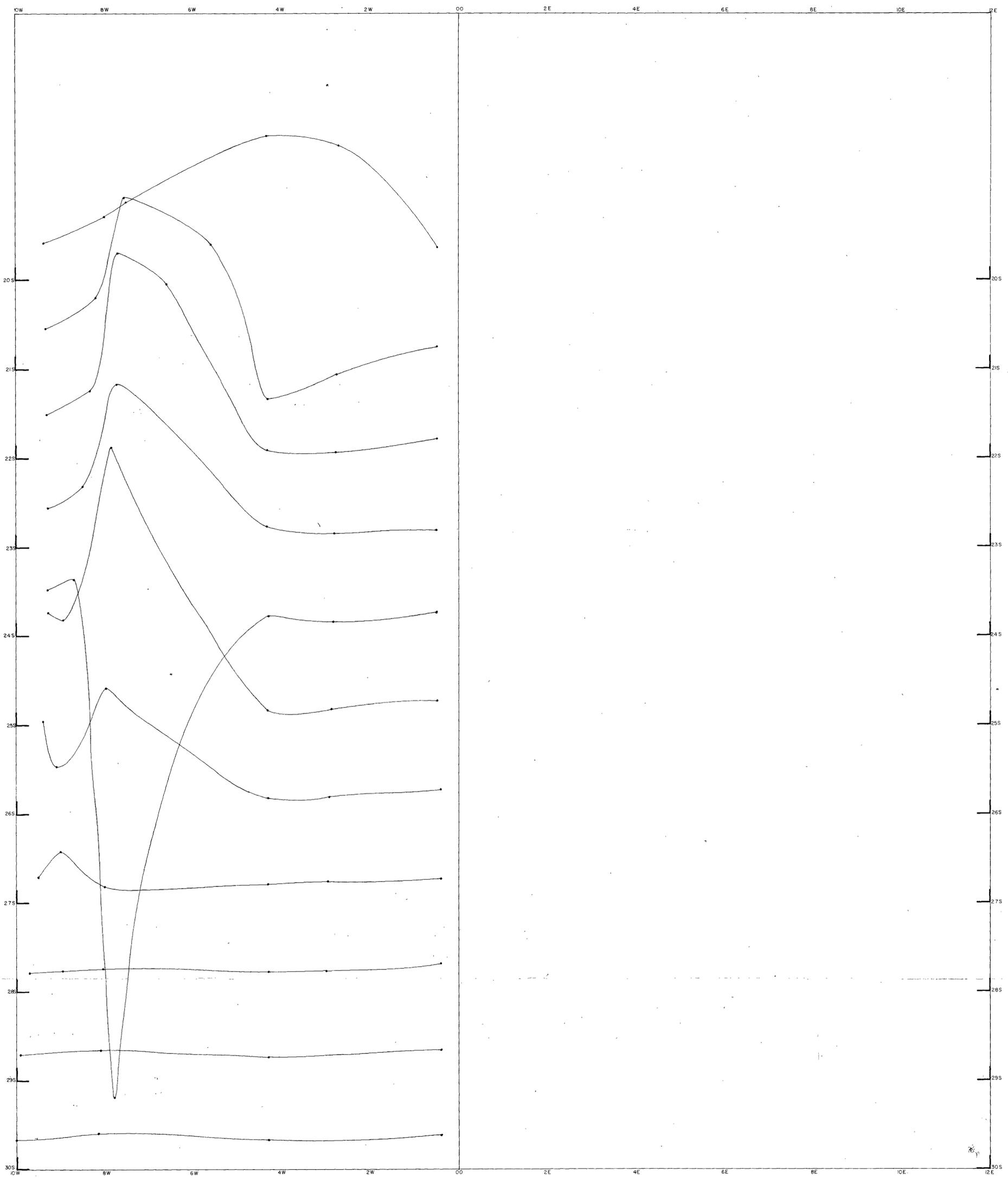


GEOPHOTO RESOURCES CONSULTANTS
 MAGNETIC VERTICAL FORCE PROFILES
 ADELAIDE-WEST COMET MINE GRID
 E-W SECTIONS 1000 S TO 2000 S



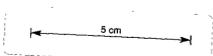
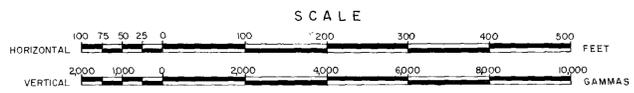
SHEET 2 OF 3 SHEETS

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GEOPHOTO RESOURCES CONSULTANTS
 MAGNETIC VERTICAL FORCE PROFILES
 ADELAIDE-WEST COMET MINE GRID
 E-W SECTIONS 2000S TO 3000S

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SHEET 3 OF 3 SHEETS

FIG. 8 2184

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