Rept. Bk. No. 58/135
G.S. No. 2881
D.M. 1200/63

DEPARTMENT OF MINES
SOUTH AUSTRALIA

GEOLOGICAL SURVEY
METALLIC MINERALS SECTION

SUMMARY REPORT

ON

EDIACARA MINERAL FIELD

by

L.G. Nixon
Senior Geologist

26th May, 1964

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SUMMARY REPORT ON EDIACARA MINERAL FIELD

This report summarises investigations undertaken to date in an assessment of the potential of the Ediacara Mineral Field. It is compiled for general distribution, and may be used as a guide for individual assessment of the economic potential of the field. Plan No. 62-765/6 is appended showing the location of the diamond drill sites. The field investigations have been suspended whilst an analysis is being made of the geological, geophysical and analytical data. Further analytical work on drill core samples is being carried out to assess the copper and silver content in the mineralised areas. The writer is indebted to members of the Exploration Geophysics Section for helpful discussions regarding the geophysical work done in the area.

NAME

Ediacara Mineral Field, comprising Greenwoods workings, Morish Adit and workings, the Black Eagle mine, the Southern workings also referred to in the references as Warrioota, Beltana, Beltana Broken Hill and Winninowie mine, the South-West Gossan area and the South-East Gossan area.

LOCATION

Approximately 300 miles north of Adelaide, about 12 miles west of Beltana railway station and 10 miles east of the edge of Lake Torrens on Beltana station, Pastoral Sheet No. 12, Pastoral Lease No. 2044, Block 1054.

ACCESS

A bitumen road extends from Adelaide to Quorn via Port Augusta. From Quorn a fast main gravel road extends north to Leigh Creek. The road from Beltana to the mineral field is graded part of the way but unsurfaced and crosses two substantial creeks (the Beltana and Warrioota) on the way, both being impassable when in flood. A power line from Port Augusta to Leigh Creek parallels the railway line about 11 miles to the east of the deposit.

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TITLE

Reserved from the operation of The Mining Act, gazetted 14.7.1960. Section 391 which covers the southern portion of the field is dedicated as a Fossil Reserve and placed under control of the Minister of Education. Gazetted 29.5.1958. D.M. 535/58. The whole area is within the Woomera Prohibited area Commonwealth gazette 27.6.1957 and the provisions of the Defence (Special undertakings) Act or the Supply and Development Regulations whichever is for the time being applicable, have equal force to prospectors as to others. The fact that a person has obtained from the State the necessary permit, licence or lease to prospect or mine in land which is within a prohibited area does not oust the application to him of the Commonwealth Act or Regulations. It will be necessary for persons making applications for leases in the Woomera Prohibited area to make application to Weapons Research Establishment for permission to enter the area.

PLAN NO.	TITLE	AUTHOR	DATE	SCALE
756/1	Ediacara Mineral Sections (Showing area declared a temporary reserve)			1"=20chns
757	Ediacara Mineral Sections (Trace of 756)			1"=20chns
758	Ediacara Mineral Claims (Pegged 9.7.1927)			
759	Ediacara Mineral Field (Geological Sketch map showing Ediacara South, Wheal Tyrell, Beltana, Warrioota & Ediacara Consols Blocks. Sketch sections N-S and E-W on drawing paper and trace)	Brown,H.Y.L.	17.5.1892	1"=30chns
1009	Ediacara Mining Field (Geology of)	Segnit,R.W.	12.6.1937	4"=1 mile
3438/1	Ediacara, Triangulation Survey (Shows triangulation with bearings and distances. Inset shows co-ordinates of stations)	The Zinc Corp. Ltd.	2.3.1946	1"=500'
3441	Ediacara, Greenwood and Morish Workings. (Geological Plan, Form lined, showing D.D.H. 1-5, Drainage, Roads, Adits, Workings, Shafts, and Grid).	Broadhurst,E.	2.7.1946	1"=100'.
3461	Ediacara, Greenwood Lode. (Shafts, Levels Nos. 1 & 2, Shoots, Lodes and Workings. Section showing shoots).	Broadhurst,E.	2.7.1946	1"=100'
3463L	Ediacara, Greenwood Workings. (Surface plan, form lined, showing Dumps, Shafts, DDH 1-5, Adits, Existing and ruined buildings, Roads, drainage, Open cut. Section line A-B, some surface geology for section A-B. Trace and tinted print).			
3464	Ediacara, Greenwood Workings. Section A-B, from Morish Adit to Greenwood Shaft, showing lodes.	Broadhurst, E.	2.7.1946	1"=100'
3465	Ediacara, Black Eagle Assays (Sample points and assays, Shafts, Drives, Stoped Ground, Open cut).	Broadhurst,E.	4.7.1946	1"=40'.
3466	Ediacara, Morish Workings. (Geology, showing Shafts, Levels, Bedded lode with geology. Trace and tinted print).	Broadhurst,E.	4.7.1946	1"=40'

PLAN NO.	TITLE	AUTHOR	DATE	SCALE
3467	Ediacara, South-Eastern Area, (Geology, Gridded trace. Print, tinted, shows shafts, Adit, D.D.H. 11 & 12).	Broadhurst,E.	4.2.1947	1"=200' V.I. 10
3473	Ediacara, Morish Adit to Greenwood Workings, E-W Section. (Shows lodes and geology) Tinted trace. Ref. plan 3463)	Broadhurst,E.		1"=100'
3479	Ediacara Surface Plan. (Gridded, showing boundary of Special Mining Lease No. 7, with drainage. Shows geology shafts, D.D.H.; Black Eagle Southern, Greenwood & Morish Workings, Tracks by Trig Stations. Tracing and tinted print. For sections see 2488)	Broadhurst,E.	7.8.1946	1"=500' V.I. 20'
3488	Ediacara Geological Sections (N-S Section at 1000W, E-W Section at 5000S. Reference plan 3479. Tracing and tinted print)	Broadhurst,E.	7.8.1946	1"=500'
F.11L	Ediacara, Assay Plan (Greenwood, Southern and other workings)	Austral Development Prop. Co.	15.11.1946	1"=40'
F.12L	Ediacara Mining Leases (Surface Plan and Assays Greenwoods, Southern and other workings, Geology, Widths and thickness, lengths, grade, tons/ horizontal ft. of ore).	Austral Development Prop. Co.	15.11.1946	1"=500'
F.13L	Ediacara, Sample and Assay Plan (Print, Contoured, Sample points in ink, Geology in coloured pencil, Grid and triangulation in lead pencil)	Austral Development Pty. Ltd.	15.11.1946	1"=500' V.I. 10'
47-23	Ediacara, Greenwood Workings (Surface plan showing geology, Section A-B, D.D.H. 1-5, Shaft, Morish Adit. Enlargment "C")	Broadhurst,E.	21.1.1947	1"=100'
47-29	Ediacara, Southern Workings (Shows form lines, DDH 6-10, Shafts, Geology. Enlargement A, Sec. A-B)	Broadhurst,E.	7.2.1947	1"=100'
47-30	Ediacara, Black Eagle and Morish Workings. (Geological Assays)	Broadhurst,E.	6.2.1947	1"=40'
47-31	Ediacara, South-eastern Area (Surface Plan showing geology, DDH 11 & 12 Enlargement "B")	Broadhurst,E.	4.2.1947	1"=200'

PLAN NO.	TITLE	AUTHOR	DATE	SCALE
L47-3	Ediacara Surface Plan (Morish Adit, Greenwood Shaft, Southern Workings, DDH, Gridded. Sections on lines 2000S, 5000S, 1000W. Boundary of lease).	Broadhurst,E.	7.8.1946	1"=500' V.I. 20
S23	Ediacara, Gossan Area. (Diagrammatic section, drawn for reproduction in Mining Review 84).	Broadhurst,E.	23.4.1947	
F115	Ediacara, Greenwood Workings, (Section A-B, from Morish Adit to Greenwood Shaft showing lodes)	Broadhurst,E.	2.7.1947	1"=40'
3663	Ediacara, Topographical Survey and Triangulation. Contoured & gridded, shows bearings and distances triangulated, spot heights.	Mines Dept.		1"=500'
4096	Ediacara Geophysical Survey (Areas covered by, Southern Morish, Greenwoods and Black Eagle Workings, Gridded and tinted, showing geological areas surveyed and electromagnetic indications).	Broadhurst,E.		1"=500'
61-368	Ediacara Surface Plan (Location of samples with assays).	Nixon, L.G.	29.4.1961	1"=500'
62-133	Ediacara Mineral Field (Geological Plan)	Nixon, L.G.	27.4.1962	1"=500'
L62-46	Ediacara Mineral Field (Geological Plan, Preliminary, Block 1054, P.L. 2044).	Nixon, L.G.	27.4.1962	1"=500' 1"=4000'
L62-50	Ediacara Mineral Field (Geochemical, Stratigraphic, Surface Sections DDH 3-6 & E6/61)	Thomson, B. & Nixon, L.G.	1.5.1962	Vert. 1" = 50'
L62-51	Ediacara Mineral Field Geochemical Sections DDH 1-12 2-11	Thomson, B. & Nixon, L.G.	17.4.1962	Vert. 1" = 50'
62-262	Ediacara Mineral Field (Geochemical Bores. Samples for sections & generalised stratigraphy, Longitudinal Projection).	Thomson,B.	18.4.1962	1"=500' Vert.1"= 50'
62-765	Ediacara Mineral Field (Bore location and general geological plan)	Nixon, L.G.	19.11.1962	1"=2000
L.62-180	Ediacara, Geophysical Survey. Electromagnetic sections of grids 5-6.	Benlow, J.	13.12.1962	1"=4000

PLAN NO.	TITLE	AUTHOR	DATE	SCALE
S.3307	Ediacara, Geophysical Resistivity - Induced Polarization Survey (Legend)	Benlow,J.	14.12.1962	
62-803	Ediacara, Geophysical Electromagnetic Survey (Sections of grids 1 & 2).	Benlow,J.	14.12.1962	
62-804	Ediacara, Geophysical Electromagnetic Survey (Sections of grids 3 & 4)	Benlow,J.	14.12.1962	
L.62-187	Ediacara, Geophysical Electromagnetic Survey (Sections of grids 5 & 6).	Benlow,J.	18.12.1962	
62-792	Ediacara, Resistivity & Induced Polarisation Survey (Line 10N).	Benlow,J.		
62-793L to 62-795L	Ediacara, Resistivity & Induced Polarisation Survey 62-793L (Line 0) 62-794L (Line 10S) 62-795L (Line 20S)	Benlow,J.	7.12.1962	
L.63-105	Ediacara, Standard Sheet (Topographical Base Map)	Mines Dept.	4.3.1963	1"=60ch
L.63-124	Ediacara, Geological Map and Section of Ediacara Mineral Field.	Nixon,L.G.	11.3.1963	1"=500'
63-640	Ediacara Regional Plan	Nixon,L.G.	22.7.1963	1"=4000
S.3588	Ediacara Mineral Field (Table showing Induced Polarisation Anomalies)	Benlow, J.	14.7.1963	
63-682	Ediacara Mineral Field Induced Polarisation Resistivity Survey	Benlow,J.	20.8.1963	1"=500'
S.3490	Ediacara Mineral Field Legend for maps.	Benlow,J.	19.8.1963	
63-707	Ediacara - Beltana Route (Map with mileages)		1963	1"=60ch
L.63-207 to L.63-226	Ediacara, Resistivity and Induced Polarisation Survey L63-207 Grid B, Line 10E L63-208 Grid B, Line 00 L63-209 Grid B, Line 10W L63-210 Grid A, Line 20N L63-211 Grid A, Line 10N L63-212 Grid A, Line 00 L63-213 Grid A, Line 10S L63-214 Main Grid, Line 2000N L63-215 Main Grid, Line 8500S L63-216 Main Grid, Line 8000S L63-217 Main Grid, Line 7500S L63-218 Main Grid, Line 7000S L63-219 Main Grid, Line 6000S L63-220 Main Grid, Line 5000S L63-221 Main Grid, Line 4000S L63-222 Main Grid, Line 3000S	Benlow,J.	24.9.1963	1"=200'

PLAN NO.	TITLE	AUTHOR	DATE	SCALE
L63-223	Main Grid, Line 2000S			
L63-224	Main Grid, Line 1000S			
L63-225	Main Grid, Line 000			
L63-226	Main Grid, Line 1000N			
L63-236	Ediacara Mineral Field (Induced Polarisation Survey Metal Factor Contours, Main Grid)	Benlow, J.	14.10.1963	1"=200
63-976 to 63-979	Ediacara Mineral Field Induced Polarisation Survey,	Benlow, J.	18.11.1963	
	63-976 Short Spread Traverse, Locality plan			1"=500
	63-977 Short Spread Traverse, Grid A, Test Area.			1"=50'
	63-978 Main Grid, Lines 500S, 1500S, 4500S			1"=200
	63-979 Main Grid, Lines 2500S, 3800S			1"=200
L64-68	Ediacara, Induced Polarisation Contours (Plan showing contours over main grid).	Benlow, J.		1"=500

SIZE

The mineralised beds extend over a length of approximately 16,000 feet and with a maximum width of 7000 feet forming a relatively shallow basin structure.

GEOLOGY

The rocks may be classified into three main types. These are quartzites, shales and dolomites. The lowest beds in the area are dolomites of the Wonoka Formation which are overlain by sandstones, siltstones and ortho-quartzites of the Pound Formation. These formations are part of the Wilpena Group in the Adelaide System. In the Pound Formation the earliest known fossils are found; these are mainly soft bodied marine animals discovered by Sprigg in 1947. This fossiliferous member forms a useful marker on the flanks and around the southern portion of the mineral field.

At the top of the Pound Formation there is a marked lithological change. The beds are still predominantly arenaceous but have a characteristic green or purple colouration and contain evidence of abundant organic activity in the form of worm tracks

and burrows. This horizon is distinctive and persistent over the entire field and is easily recognisable in diamond drill core, it is included, with a sequence of weathered calcareous shales and sandstones up to 60 feet thick, in the Parachilna Formation, and is considered to be the base of the Cambrian System in this area. Conformably overlying the Parachilna Formation is a sequence of dolomite beds of different lithologies which are in excess of 800 feet in the deepest part of the basin structure, these beds form part of the Ajax Limestone Formation of Lower Cambrian Age. Unconformably overlying the Cambrian and Pre-Cambrian Systems are flat lying conglomerates and sandstone of Tertiary Age which are overlain by fossiliferous coxiella limestones of Pleistocene or Recent Age The older sediments have been warped into a series of gentle folds pitching flatly to the southwest, arranged en echelon with the whole fold system pitching towards the south. Between Mt. James and Randell's Lookout the folds form three shallow basins each of a different size, the largest being in the centre of the mineral field.

Two directions of faults have been mapped. A strongly developed system of relative large faults trending NNE sub-parallel to the axes of the folds, and an E-W system of many small faults. Both systems post date the folding.

The base metal content in the carbonate sequence is anomalously high throughout, but is generally higher nearer the base. The bulk of the lead mineralisation revealed in diamond drill core is in the form of galena. Microscopic examination has shown that a film of cerussite or anglesite usually surrounds the galena crystals. Covellite is frequently found in the cerussite and anglesite zones indicating original chalcopyrite in the mineralisation.

The minerals identified from the ore bodies include Calcite, Gypsum, Dolomite, Barite, Barito-calcite, Quartz, Cerargyrite (Ag Cl), Galena (Pb S), Cerussite ($Pb\ CO_3$), Anglesite ($PbSO_4$) Lanarkite (Pb_2SO_5), Phosgenite ($(Pb\ Cl)_2CO_3$),

Covellite (CuS), Melaconite (CuO), Connellite (probably $CuSO_4$. 2 $CuCl_2$ 19 Cu $(OH)_2$ H_2O) Malachite ($CuCO_3$. Cu $(OH)_2$, ?Lampadite (cuprous manganese 4-18% Cu). Psilomelane and Pyrolusite (MnO_2), Wad (cobaltiferous), Pyrite (FeS_2). The main ore minerals seen in the three largest workings are cerussite and malachite.

DRILLING

Two zones, relatively richer in the base metals, have been revealed by the drilling programme. These zones are 50 feet apart and between 100 and 200 feet above the Cambrian-Precambrian contact. The metal values in most of the holes have been averaged over 10 ft. intervals.

Altogether thirty five holes have been drilled into the Ediacara mineral field. Two were drilled between 1900 and 1902 by the Public Works Department and only sketchy logs of the holes exist. Examination of pieces of the old core still at the field show galena mineralisation although there is no record of mineralisation in the drill logs, and no assays were done on any of the core.

Between September 1946 and October 1947 the Department drilled three holes for Zinc Corporation Ltd. Bores numbered 1-12 and 2-11 were practically barren; bore 3-6 showed sparse copper and lead mineralisation between 100'9" - 140'3".

In the current programme thirty holes were drilled mainly in the northern half of the structure, the results of this drilling with summarised geological logs and the more important intersections are appended to this report.

A summary of the diamond drill hole data is tabled below, which lists the essential information on lead intersections in drill holes in the current programme.

SUMMARY OF DIAMOND DRILL HOLE DATA - EDIACARA MINERAL FIELD

Hole No.	Collar Co-ordinates	Collar Elevation.	Depth to Mineralisation	Length in Mineralisation	Average Assay for Lead %	Summary of Lead Assay data for various grades and widths.
E1	150N 4540W	960'	-	-	-	No Assays
E2	1140N 3500W	990'	105'6"	3'	0.967	0-179'6"Av.0.105% Pb. 105'6"-108'6"Av.0.967% 106'6"-108'6"Av.1.28%P
E3	3800N 600E	1110'	6'	6'	1.43	6'-305'5" Av.0.062% Pb 6'-12' Av.1.43% Pb 7'-10' Av.2.35% Pb
E4	3600N 300W	1125'	-	-	-	0-197'10"Av.0.0035% Pb
E5	2500N 1000W	1118'	((i) (115'6" ((ii) (175'10"	18'3" 24'2"	1.07 1.02	115'6"-141'2"Av.0.91%P 115'6"-133'9"Av.1.07%P 175'10"-191'Av.1.02%Pb 184'-191' Av. 2.02%Pb.
E6	2300N 2000W	1050'	0	130'3"	1.56	0-130'3" Av. 1.56% Pb. 0-99' Av. 2.03% Pb. 23'6"-38'6" Av. 7.27%P
E7	1550S 3800W	1050'	160'	140'	1.02	135'-300' Av. 0.88% Pb 160'-300' Av. 1.02% Pb 205'-250'4" Av. 2.3%Pb
E8	2350S 4000W	1030'	-	-	-	0-198' Av. 0.007% Pb.
E9	3000S 4000W	1040'	-	-	-	0-248'6" Av. 0.06% Pb.
E10	4000S 3000W	1055'	187'	49'6"	1.06	187-247'6" Av. 0.97% P 187-237'6" Av. 1.06% P
E11	4000S 500E	1120'	-	-	-	0-234' Av. 0.018% Pb.
E12	3000S 500E	1115'	-	-	-	0-312' Av. 0.0079% Pb.
E13	2250N 1925W	1050'	58'	22'	1.09	37-80' Av. 0.92% Pb. 58-80' Av. 1.09% Pb. 58-63' Av. 2.08% Pb. 76-80' Av. 2.63% Pb.
E14	2350N 1825W	1040'	20'	95'	1.92	20-45' Av. 1.08% Pb. 65-115' Av. 1.98% Pb 20-115' Av. 1.92% Pb.
E15	2000N 2100W	1060'	80'	100'	1.04	60-180' Av. 0.92% Pb. 80-180' Av. 1.04% Pb 130-140' Av. 2.195% Pb.
E17	2200N 1750W	1068'	160'	10'	1.03	100-110' Av. 1.07% Pb. 160-170' Av. 1.03% Pb. 0-221'4" Av. 0.47% Pb.
E18	3700N 500E	1118'	15'	15'	0.983	0-52' Av. 0.38% Pb. 15-25' Av. 0.9% Pb 15-30' Av. 0.983%. Pb.

Hole No.	Collar Co-ordinates	Collar Elevation.	Depth to Mineralisation	Length in Mineralisation	Average Assay for Lead	Summary of Lead Assay data for various grades and widths.
					%	
E19	3700N 600E	1114'	-	-	-	0-52' Av. 0.084% Pb.
E20	3700N 700E	1110'	20'	2'	0.945	0-53'6" Av. 0.50% Pb. 20-22' Av. 0.945% Pb 21-22' Av. 1.11% Pb.
E21	1000N 3450W	992'	-	-	-	0-385'6" Av. 0.09% Pb.
E22	1700N 2800W	1015'	0	199'7"	0.11	0-199'7" Av. 0.11% Pb
E23	1950N 1250W	1088'	10'	60'	0.99	0-70 Av. 0.88% Pb. 10-70' Av. 0.99% Pb.
E24	2000S 1800W	1078'	0	952'	0.1	0-952' Av. 0.097% Pb
E31	2200N 550W	1120'	0	225'	0.2	0-353'6" Av. 0.14% Pb
E32	1500N 1300W	1100'	270'	75'	0.91	325-345' Av. 2.2% Pb. 293'4"-345' Av. 1% Pb 270-345' Av. 0.91% Pb
E33A	850N 2050W	1065'	310'	70'	1.03	300-380' Av. 0.94% Pb. 310-380' Av. 1.03% Pb 0-517'8" Av. 0.27% Pb.
E34	250N 2750W	990'	560'	30'	1.07	450-510' Av. 0.91% Pb. 450-500' Av. 0.998% Pb 560-590' Av. 1.07% Pb 570-580' Av. 1.95% Pb.
E35	2850N 200E	1130'	30'	50'	1.23	30-110' Av. 0.86% Pb. 30-80' Av. 1.234% Pb 30-60' Av. 2.52% Pb. 0-353'6" Av. 0.25% Pb
E39	1000N 1400W	1070'	522'	20'	1.05	522-552' Av. 0.88% Pb. 522-542' Av. 1.05% Pb 0-692' Av. 0.17% Pb.
I.P.1	-	-	-	-	-	
I.P.2	-	-	-	-	-	

GEOPHYSICS

In 1947 Zelman and Richardson of the Commonwealth Mineral Resources Survey carried out geophysical surveys at the Ediacara Mineral Field using electromagnetic, potential ratio, spontaneous polarisation, magnetic and resistivity methods. Two electromagnetic anomalies were located in the South-West Gossan area and drilled, but were barren of the ore minerals. No formal report covering this work was issued.

The geophysical work connected with the present investigations was requested in an attempt to locate suspected, relatively small, high grade pods of sulphide mineralisation. The surveys were carried out by J. Benlow assisted by B. Taylor, P. Turner and J. Quelch. This party has traversed in excess $63\frac{1}{2}$ miles, under some of the harshest conditions to be encountered in this State and the standard of the work produced is a credit to the members of the team.

The methods used included electromagnetic (21.5 miles) magnetic (4.5 miles) I.P. (200' spread 4.5 miles) I.P. (Combined spread 32.5 miles) I.P. (short spread 0.7 miles).

Two E.M. anomalies were located on the western flank of the area and drilled; no mineralisation was encountered in the first hole and low grade predominantly carbonate mineralisation in the second. On the north-eastern and eastern side of the structure E.M. responses are associated with a long narrow conductor orientated N-S parallel to the bedding; to the east is a similar, parallel but weaker response. These conductors are interpreted as being due to mineralised sediments. The conductors are separated across stratigraphic width of 140' and could reflect two zones of mineralisation similar to those found on the western side. E.M. anomalies in the Gap Creek Fault area, parallel the fault. These are weak and may possibly reflect a weakly mineralised bed.

Resistivity and I.P. traverses were carried out over the main grid area to explore for relatively high grade but small "pods" of sulphide mineralisation. Up to the present time these

surveys have not shown any marked anomalies where sulphide mineralisation is known to occur as for instance in the vicinity of DDH. E6/61, and generally in the north-western area of the field. Dr. T. Cantwell, who has examined the plotted results of the I.P. work is of the opinion that there is unlikely to be any significant metal concentrations in this structure.

Benlow (1963 Rept. Bk. 58/87) who carried out a short spread survey over holes E6/61, E13/61, E14/61, E15/61, E17/61, made a comparative plot of the profiles of frequency effects and resistivities. These showed a very slight rise in the frequency effects with a marked increase in resistivity. Benlow is of the opinion that the increase in frequency is so small that it is unreliable. One of his conclusions is that there is little evidence from the surveys to support the existence of a significantly large deposit.

At the present time there are some aspects of the geophysical results which require further examination - among these are (i) the absence of I.P. effects in the vicinity of D.D.H. 6 and in the north-western portion of the field generally where there is known sulphide mineralisation. (ii) the cause of the I.P. anomalies within the Cambrian sequence and outside it in sediments which are known to be barren. A drill hole (No. I.P.1) drilled into a pronounced I.P. anomaly in the Pound Formation failed to reveal any mineralisation. The shape of the anomaly suggests a tectonic feature and one suggested explanation is a clayey fault gouge zone, but this explanation is not acceptable to Dr. Cantwell. A second drill hole (No. I.P. 2) drilled into an I.P. anomaly within the basin failed to intersect identifiable mineralisation. Benlow (1964) suggests the anomaly may be caused by a leached and weakly mineralised zone, however other holes similarly leached are not associated with anomalies.

A thorough study of the combined results of geological mapping, geophysical traverses, chemical analysis of core samples and petrological work has been initiated to attempt to explain the geophysical results. No further geophysical work is

recommended at the present time.

The main conclusion arrived at from the geophysical work done to date is that the methods used do not indicate the presence of significant sulphide mineralisation at Ediacara.

WORKINGS

The four main workings on the field are (i) the Southern Workings (ii) Black Eagle Mine (iii) Greenwoods Workings, (iv) Morish Adit.

(i) The Southern Workings include an adit 370' long with stoping along both sides. The general outline of the stopes indicates a narrow ore body elongated in a N-S direction which dips flatly to the north parallel to the bedding. Most of the ore mined was the carbonate of lead, although early records state that the lode was discovered by working 20% malachite which occurred in slabs about 6 inches thick and weighing up to 2 cwts. A number of short adits and shallow shafts and pits have been dug to investigate the extent of the mineralised zone but no other lodes have been found although there is widespread low grade lead and copper mineralisation in the equivalent stratigraphic positio around the southern portion of the field. Sampling by Bounty and Gibson indicates an average of 12% lead and 1 oz. silver per ton over an average width of 4.7 feet.

(ii) The Black Eagle Mine was worked for copper which occurs mainly as the oxide or carbonate. Only a small tonnage of ore was taken from this area, which is stratigraphically above the lead rich horizons at both the northern and southern ends of the field.

(iii) Greenwoods workings are the most important of the workings at Ediacara. They are surrounded by a host of shafts, adits and pits. The ore mined was rich and appears to have been mainly galena and cerussite. Galena is found in the southern fac of the adit whilst cerussite is the main ore mineral in the pillars and on the northern wall of the stope. The lodes worked were at two levels, roughly circular in shape and parallel to the bedding. The grade of ore from the mine is estimated at 31%

lead and 9 oz. silver over an average thickness of 2.4 feet.

(iv) Morish Adit is located to the west of Greenwoods workings in Cambrian carbonates on the down-faulted western side of Gap Creek fault. No recorded production figures are available for these old workings. From examination of the existing workings and the small size of the stopes, it is inferred that the production must have been small, most of the workings appear to have been of an exploratory nature.

PRODUCTION

Recorded copper production from Ediacara up to 1913 totals 36.63 tons of copper metal for 264 tons of ore, mined from the Black Eagle deposit.

Lead production from Greenwoods workings is estimated at 8,800 tons averaging 31% lead and 9 oz. of silver over an average thickness of 2.4 feet. Production from the Southern Workings is estimated to be of the order of 15,000 tons averaging 12% lead and 1 oz. of silver over an average width of 4.7 feet.

RESERVES

Inferred reserves from the existing drilling programme are computed for three different grades. The total tonnage for a grade averaging 2.1% Pb over a thickness of 20 feet is inferred at 620,000 tons ore. For a grade averaging 1.13% Pb over a thickness of 52 feet the inferred reserves are estimated at 17,500,000 tons ore. For a grade averaging 0.9% Pb with a mean thickness of 58 feet the inferred reserves are estimated at 31,800,000 tons ore.

METALLURGY

Two samples of 3 tons and 2 tons each, representing different average grades, were submitted to A.M.D.L. for beneficiation tests.

Three tests were carried out varying frother addition. All other conditions of the tests were similar. Each sample consisted of 20 lbs. of ore ground to minus 100 mesh (90% - 200 mesh) at 70% solids in a rod mill.

The results of these tests indicate that the low grade ore is particularly amenable to concentration by flotation, recoveries amounting to 88% Pb, 57% Ag for a feed grade of 1% Pb and 0.32 oz. Ag per ton, and a concentrate grade of 68% Pb., 17 oz. Ag.

COST ESTIMATES

Analysis of costs indicates that for the operation to break even 2% Pb and 0.6 oz./ton Ag, with a minimum production of 6 million tons per annum and with metal prices at A10/7 per oz. for Ag and A£90 per ton for lead would be necessary. Ore reserves would have to be of the order of 120 million tons. These figures do not include estimates for copper which occurs in various parts of the mineral field. Further analyses for copper are being carried out on core samples for comparison with spectrographic analyses.

CONCLUSIONS & RECOMMENDATIONS

1. Diamond drilling has outlined an area of mineralisation in the north-western portion of the Ediacara Mineral Field which contains an estimated 17,000,000 tons of over 1% Pb or 31,000,000 tons of 0.9% Pb and has confirmed the stratiform nature of the mineralisation.

2. Geophysical surveys carried out at Ediacara included both electrical and magnetic methods. Neither E.M. nor I.P. methods revealed any anomalies within the Cambrian sequence which may be due to significant metal concentrations. No marked I.P. effects were found in areas where diamond drilling has intersected galena mineralisation.

3. The grade of lead mineralisation alone is not sufficient for economic mining at the present time. The minimum requirements under present conditions for a mining operation to

break even are 120 million tons of 2% Pb and 0.6 oz. Ag/ton.

4. Although the ore minerals seen in the drill core were mainly sulphides the ore bodies mined were mainly carbonates except for Greenwoods lode where there appears to have been a mixture of sulphide and carbonate ore minerals. The ore seen in the existing pillars and in the faces of the stopes is mainly cerussite.

5. Areas of further interest include the north-eastern portion of the field where E.M. and I.P. anomalies appear to be associated with possible mineralisation in Cambrian sediments, the southern third of the field including the South-East Gossan area where there is a large geophysical anomaly, and scattered manganese copper and lead mineralisation; the South-West Gossan area where there is scattered manganese copper and lead mineralisation; the southern third of the mineral field beneath the plateau on the western and southern sides where mineralisation has been found in the carbonates in drill core and from shaft samples; in the vicinity of the Black Eagle Mine where D.D.H. E7/61 intersected secondary copper and lead mineralisation between 135-315 feet.

6. No further field investigations are recommended until all the analytical data are to hand and a study of the geology, geophysics and analytical data from diamond drill core completed.

L.G. Nixon
Senior Geologist
METALLIC MINERALS SECTION

LGN:AGK
26/5/64

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. I.P. 1

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO. 127/63

COLLAR CO-ORDS: 5000S 3005W R.L.: GRID:

DIRECTION: 090° ANGLE: 65° DEPTH: 619'3" PLAN REF.: L63-124

DATE HOLE COMMENCED: 15.5.63 COMPLETED: 12.7.63 DRILLER: K. Kruze

HOLE LOGGED BY: L.G.Nixon ON: 8.8.63 HIRER: Mines Department

OBJECT: To test an I.P. anomaly off the south-western gossan area.

RESULT: No mineralisation was intersected. The entire hole was in the Pound Quartzite.

LOG Comprises - Summarised geological log

Depth From Ft. Ins.	Depth To Ft. Ins.	LOG
0 0	619 3	A sequence of pink and white kaolinitic sandstones with occasional micaceous rich horizons and some clay bands.
		END OF HOLE.

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. I.P. 2

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 33/64

COLLAR CO-ORDS: 3000S 370W R.L.: 1122' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 853' PLAN REF.: L63-124

DATE HOLE COMMENCED: 7.9.63 COMPLETED: 15.11.63 DRILLER: K. Kruze

HOLE LOGGED BY: P. Fleming ON: 9.12.63 HIRER: Mines Department

OBJECT: To test an I.P. anomaly located in a favourable horizon.

RESULT: No analytical data at present.

LOG Comprises - Summarised geological log

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	172	2	Weathered grey dolomites with purple and brown iron staining.
172	2	348	0	Generally massive grey dolomite. ?Archaeocyathae between 216'-251' and at 282'. Pyrite and marcasite in fractures and cavities.
348	0	400	0	Broken core, sheared in parts, leached and weathered. Secondary iron sulphides occur in fracture planes.
400	0	574	6	Broken friable core of weathered yellow-brown, silty and in places, clayey dolomites. Leaching is evident. Pyrite is rare.
574	6	610	9	Oolitic and pisolitic dolomites interbedded with flaggy, and massive dolomites and sedimentary breccia horizons. Minute flecks of galena occur between 595'-604'.
610	9	749	6	Weathered laminated silty, sandy and oolitic dolomites and occasional red and yellow clay layers. Pyrite occurs along fracture planes.
749	6	827	0	Predominantly sandstones and yellow-brown clayey sand probably derived from advanced weathering of sandy dolomite beds.
827	0	834	6	White medium grained sandstone with green clayey material and worm burrow casts.
834	6	853	0	White cross-bedded sandstone of the Pound Formation.

END OF HOLE

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. 1A/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 64/62

COLLAR CO-ORDS: 150N 454OW R.L.: 960' GRID:

DIRECTION: 335° ANGLE: 57° DEPTH: 205'2" PLAN REF.: L63-124

DATE HOLE COMMENCED: 2.11.61 COMPLETED: 11.11.61 DRILLER: L. Gergye

HOLE LOGGED BY: L.G. Nixon ON: 22.11.61 HIRER: Mines Department

OBJECT: To test an electromagnetic anomaly for possible copper and silver-lead mineralisation in the Lower Cambrian succession.

RESULT: No observed mineralisation. The bore failed to reach the Cambrian sequence through the recent talus material.

LOG Comprises - Summarised geological log

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	34	0	Grey dolomite boulders, probably river conglomerate.
34	0	55	0	Clayey sand and kunkar and occasional zones of pieces of dolomite.
55	0	131	2	Clay with river conglomerate and gravel zones.
131	2	183	8	Red and green variegated clays.

END OF HOLE

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. 2A/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 65/62

COLLAR CO-ORDS: 1140N 3500W R.L.: 990' GRID:

DIRECTION: 300° ANGLE: 45° DEPTH: 212'3" PLAN REF.: L63-124

DATE HOLE COMMENCED: 3.11.61 COMPLETED: 13.11.61 DRILLER: M.E.Kamaruts.

HOLE LOGGED BY: L.G. Nixon ON: 15.11.62 HIRER: Mines Department

OBJECT: To test an electromagnetic anomaly for possible copper and silver lead mineralisation in the Lower Cambrian succession.

RESULT: Between 76'8" and 145'1" (68'5") anomalous lead values averaging 0.33% were revealed on analysis.

LOG Comprises - Summarised geological log
Report of chemical analysis of core between 76'8" and 132'1".

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	36	0	Pink and white weathered dolomite and kunkar.
36	0	76	8	Weathered white and khaki coloured dolomite and grey green clay with polyhedral cracks.
76	8	145	0	Predominantly a brecciated and weathered limestone with iron staining and leaching. Gypsum is found in some cavities in the rock. Anomalous lead values are found in this zone. Some pyrite with other opaques occur at approximately 80'. It is probable that the base metal minerals occur either as carbonates or sulphates.
145	0	202	7	Sandy pale pink and grey dolomites.
202	7	212	3	Medium grained weathered oolitic dolomitic sandstone.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. 2A/64

Footage	Mark	Lead (Pb) %	Silver (Ag) per long ton oz.	Silver (Ag) per long ton dwt.	Copper (Cu) %
76'8" - 95'3"	A2202/62	0.54	Nil		0.10
95'3" - 118'8"	A2203/62	0.39	Nil		0.05
118'8" - 132'1"	A2205/62	0.13	0.0	1.0	0.01

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E3/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 76/62

COLLAR CO-ORDS: 2800N 600E R.L.: 1110' GRID:

DIRECTION: 360° ANGLE: 80° DEPTH: 305'5" PLAN REF.: L63-124

DATE HOLE COMMENCED: 16.11.61 COMPLETED: 30.11.62 DRILLER: L.Gergye

HOLE LOGGED BY: L.G. Nixon ON: 9.1.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian succession.

RESULT: Relatively rich copper and silver mineralisation averaging 12.48% Cu and 8 oz. 17 dwts. Ag per ton between 6' and 12' beneath the surface. All the ore minerals were of secondary origin.

LOG Comprises - Summarised geological log.
Report of chemical analysis of core from 6' to 12'.

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	6	6	Tough dense siliceous dolomite with copper carbonate staining between 5'-6', and brecciated dolomite to 6'6".
6	6	12	0	Heavily iron stained red brown weathered dolomite with gypsum veins and infillings, and copper carbonate staining in most of the core.
12	0	91	8	Predominantly brecciated dolomite with occasional sandy and oolitic beds.
91	8	181	0	Predominantly a sequence of interbedded oolitic, sandy, laminated and sometimes massive fine-grained dolomite beds.
181	0	190	0	Relatively coarser grained green and brown feldspathic and clayey sandstone.
190	0	305	5	Pound Formation.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH E3/61

Footage	Mark	Lead (Pb) %	Silver oz.	Silver dwts.	Copper (Cu) %
6' - 7'	A654/62	0.7	0	6.0	3.35
7' - 8'	A655/62	3.7	4	8.0	0.91
8' - 9'	A656/62	0.8	0	10.0	3.20
9' - 10'	A657/62	2.55	9	14.0	12.3
10' - 11'	A658/62	0.6	19	0.0	33.8
11' - 12'	A659/62	0.2	19	4.0	21.3

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E4/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 77/62

COLLAR CO-ORDS: 3600N 300W R.L.: 1125' GRID:

DIRECTION: 315° ANGLE: 75° DEPTH: 262'1" PLAN REF.: L63-124

DATE HOLE COMMENCED: 17.11.61 COMPLETED: 30.11.61 DRILLER: M.E.Kamaruts

HOLE LOGGED BY: L.G. Nixon ON: 1.2.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Anomalously high lead values occur from the surface to 39'3" but these are not of economic grade. No economically significant copper mineralisation was found.

LOG Comprises - Summarised geological log
Report of spectrographic analysis of core from surface to 39'3".

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	35	0	Interbedded fine-grained and oolitic dolomites with disseminated copper sulphide and carbonates mineralisation at 23 feet.
35	0	152	0	Sandy crossbedded dolomite sequence comprising sandy dolomites, fine-grained dolomites, oolitic dolomites and dolomite breccias. Copper mineralisation is found disseminated in the dolomite between 36'5" and 38'3" or as carbonate staining along fractures between 148'3" - 152'.
152	0	197	10	A sequence of interbedded dolomites, green shales, pink and green feldspathic sandstones and occasional lenses of oolitic dolomite.
197	10	210	0	Green and brown mottled clayey sandstone with worm burrow casts.
210	0	262	1	Pound Formation.

END OF HOLE

REPORT OF SPECTROGRAPHIC ANALYSIS DDH E4/61

Footage		Mark	Lead (Pb) ppm	Copper (Cu) ppm
0	11'8"	A1719/62	500	200
11'8"	20'6"	A1720/62	1500	300
20'6"	27'3"	A1721/62	4000	500
27'3"	32'3"	A1722/62	1000	400
32'3"	39'3"	A1723/62	400	1300

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO.E5/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 86/62

COLLAR CO-ORDS: 2500N 1000W R.L.: 1118' GRID:

DIRECTION: ANGLE: Vertical DEPTH 333'7" PLAN REF.: L63-124

DATE HOLE COMMENCED: 2.12.61 COMPLETED: 23.1.62 DRILLER: L. Gergye

HOLE LOGGED BY: L.G. Nixon and D. Smale ON: 1.5.62 HIRER: Mines Dept.

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Anomalous metal values for lead are found in the entire length of assayed core from the surface to a depth of 227'4". A significant intersection was found between 126'6" - 190'. Copper shows anomalous but uneconomic values between 130' - 143' and 185' - 217'10".

LOG Comprises - Summarised geological log
Report of chemical analysis between 115'6" - 190'

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	32	2	Broken core consisting of pieces of blue, pink and grey dolomites.
32	2	128	9	Siliceous and brecciated dolomite with oolitic bands.
128	9	150	10	Brecciated fine-grained dolomite, oolitic in places, with scattered copper and lead (galena) mineralisation.
150	10	181	8	Predominantly fractured dolomite with rare shale beds. Manganese oxides occur along fracture planes with the characteristic dendritic pattern.
181	8	194	2	Brecciated dolomite with dendritic manganese along fractures and scattered galena mineralisation. Malachite occurs between 187'11" - 194'8".
194	2	228	0	Siliceous sandy and oolitic dolomite beds.
228	0	308	4	Interbedded shales, sandstones, sandy and oolitic dolomite beds.
308	4	318	0	Brown and green clayey and kaolinitic sandstone with abundant worm burrow casts.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. E 5/61

Footage	Mark	Lead (Pb) %	Silver (Ag) oz.	Silver (Ag) dwt.	Copper (Cu) %
115'6" - 126'6"	A1819/62	0.96	-		-
126'6" - 130'	A1820/62	0.67	-		-
130' - 133'9"	A1821/62	1.70	-		-
133'9" - 141'2"	A1822/62	0.51	-		-
141'2" - 152'10"	A1823/62	0.48	-		-
152'10" - 164'2"	A1824/62	0.26	-		-
164'2" - 175'10"	A1825/62	0.16	-		-
175'10" - 184'	A1826/62	3.3	0	5.0	0.01
184' - 185'	A1827/62	3.6	2	8.0	0.21
185' - 186'	A1828/62	3.4	5	3.0	0.20
186' - 187'	A1829/62	0.94	5	18.0	0.08
187' - 188'	A1830/62	1.41	0	11.0	0.10
188' - 189'	A1831/62	1.07	0	8.0	0.15
189' - 190'	A1832/62	0.45	1	11.0	0.17

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E6/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER. NO.: 85/62

COLLAR CO-ORDS: 2300N 2000W R.L.: 1050' GRID:

DIRECTION: 315° ANGLE: 75° DEPTH: 216' PLAN REF.: L63-124

DATE HOLE COMMENCED: 4.12.62 COMPLETED: 14.12.62 DRILLER: M.E. Kamaruts

HOLE LOGGED BY: L.G. Nixon ON: 4.2.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Anomalous lead metal values were found from the surface to a drilled depth of 140'3", with significant intersections.

LOG Comprises - Summarised geological log
Chemical analysis for lead, silver and copper from the surface to 130'3".

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	45	4	Fine-grained dense siliceous dolomite with layers of sandy and oolitic dolomite. Scattered galena is found in most of the core.
45	4	107	5	Varieties of dolomites, including sandy, oolitic, brecciated and fine-grained types. Galena is found throughout the length of the core as scattered crystals or occupying openings along fractures.
107	5	137	2	Fine-grained and oolitic dolomites but there is little evidence of mineralisation. Copper carbonates occur along fractures between 116'9" - 118'5".
137	2	191	0	A sequence of sandy, oolitic and laminated dolomites interbedded with shales and sandstones. No mineralisation observed.
191	0	199	0	Relatively coarse green and brown mottled clayey sandstones with worm casts.
199	0	216	0	Medium-grained pink to light brown sandstone of the Pound Formation.

END OF HOLE.

REPORT OF CHEMICAL ANALYSIS DDH E6/61

Footage	Mark	Lead (Pb) %	Silver (Ag) oz.	Silver (Ag) dwt.	Copper (Cu) %
0 - 10'	A905/62	0.28	0	3	0.01
10' - 23'6"	A906/62	0.38	0	8	"0.01
23'6"- 24'6"	A639/62	3.6	0	12.0	"0.03
24'6"- 25'6"	A640/62	2.2	0	10.0	0.03
25'6"- 26'6"	A641/62	9.6	2	2.0	0.05
26'6"- 27'6"	A642/62	5.7	1	19.0	0.04
27'6"- 28'6"	A643/62	8.8	5	2.0	0.05
28'6"- 29'6"	A644/62	3.25	1	11.0	0.03
29'6"- 30'6"	A645/62	5.35	2	3.0	0.02
30'6"- 31'6"	A646/62	3.95	1	4.0	0.02
31'6"- 32'6"	A647/62	20.2	3	2.0	0.02
32'6"- 33'6"	A648/62	12.1	1	11.0	0.04
33'6"- 34'6"	A649/62	8.8	1	6.0	0.04
34'6"- 35'6"	A650/62	7.2	1	16.0	0.02
35'6"- 36'6"	A651/62	10.0	3	18.0	0.04
36'6"- 37'6"	A652/62	6.4	3	10.0	0.03
37'6"- 38'6"	A653/62	1.9	1	9.0	0.03
38'6"- 45'	A907/62	0.85	0	19	0.1
45' - 55'	A908/62	0.12	0	4	"0.01
55' - 60'	A909/62	0.50	0	9	"0.01
60' - 65'	A910/62	0.85	0	9	"0.01
65' - 69'	A911/62	0.15	0	4	"0.01
69' - 70'	A912/62	0.50	0	14	"0.01
70' - 71'	A913/62	1.45	0	9	"0.01
71' - 72'	A914/62	2.1	1	9	"0.01
72' - 73'	A915/62	3.25	1	14	"0.01
73' - 74'	A916/62	3.65	2	7	"0.01
74' - 75'	A917/62	3.55	1	3	"0.01
75' - 76'	A918/62	7.1	2	4	"0.01
76' - 77'	A919/62	3.9	1	4	"0.01
77' - 78'	A920/62	0.34	2	7	0.01
78' - 79'	A921/62	0.58	0	5	0.01
79' - 80'	A922/62	12.2	3	5	"0.01
80' - 81'	A923/62	8.1	1	10	0.01
81' - 82'	A924/62	3.7	0	14	0.01
82' - 83'	A925/62	2.9	1	7	0.01
83' - 84'	A926/62	3.4	1	13	0.01
84' - 89'	A927/62	0.58	0	11	"0.01
89' - 90'6"	A928/62	2.4	2	8	0.01
90'6"- 92'6"	A929/62	0.14	0	3	"0.01
92'6"- 97'	A930/62	1.0	0	9	0.01
97' - 98'	A931/62	5.0	2	19	0.02
98' - 99'	A932/62	1.2	0	15	0.01
99' - 100'	A933/62	0.40	0	3	"0.01

REPORT OF CHEMICAL ANALYSIS DDH E6/61
(contd.)

Footage	Mark	Lead (Pb) %	Silver (Ag) oz.	Silver (Ag) dwt.	Copper (Cu) %
100' - 100'6"	A934/62	0.25	0	5	0.01
100'6" - 115'	A935/62	0.24	0	4	0.01
115' - 120'10"	A936/62	0.24	0	5	"0.01
120'10" - 130'3"	A937/62	0.14	0	4	0.02
130'3" - 140'	A938/62	0.07	0	3	0.05
140' - 149'8"	A939/62	0.04	0	2	0.02
149'8" - 159'5"	A940/62	0.01	0	6	0.01
159'5" - 169'2"	A941/62	"0.01	0	3	"0.01
169'2" - 178'10"	A942/62	"0.01	0	2	0.02
178'10" - 186'6"	A943/62	"0.01	0	14	0.07
186'6" - 191'	A944/62	"0.01	0	1	"0.01
191' - 200'	A945/62	"0.01	Nil		"0.01
200' - 206'	A946/62	"0.01	Nil		"0.01
206' - 216'	A947/62	"0.01	Nil		0.02

" = less than.

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E7/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER. NO.: 118/62

COLLAR CO-ORDS: 1550S 3800W R.L.: 1050' GRID:

DIRECTION: 270° ANGLE: 70° DEPTH: 315'4" PLAN REF.: L63-124

DATE HOLE COMMENCED: 10.3.62 COMPLETED: 19.5.62 DRILLER: M.E. Kamaruts

HOLE LOGGED BY: L.G. Nixon D. Smale ON: 30.5.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Secondary lead and copper mineralisation of significant grade between 135' - 290'. Copper averaging 0.65% over 55' was intersected between 135'-190'. Lead averaged 0.998% over 155 feet from 135 feet to 290'.

LOG Comprises - Summarised geological log
Report of chemical analysis from 135' to 315'4" For Pb
" " " " from 135' to 190' For Cu

Report of Spectrographic analysis from 135' to 315'4".

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	36	0	Clay and fragments of brown and grey dolomite.
36	0	42	10	No core.
42	10	67	6	Brown and pink fragments of dolomite with clay in places. Occasionally relict oolitic structures may be seen.
67	6	140	10	Broken core composed of fragments of pink dolomite and red brown clays, haematitic in part. Chemical analysis shows up to 0.62% Cu and 0.59% Pb between 135-140'10". It is suspected that the lead may be occurring as sulphate and carbonate minerals and copper as the oxide.
140	10	142	10	Brecciated dolomite with copper carbonate staining.
142	10	145	6	Red-brown, purple and yellow clays and shale. Copper values up to 2.1%.
145	6	148	4	Weathered sandy brecciated dolomites, abundant manganese oxides.
148	4	275	4	Weathered brown and purple shales and narrow brecciated dolomite zones. Copper carbonates and barytes occur along the length of the core. Quartzite occurs from 197'8" to 199'2". Lead values increase up to 0.88% between 260'4" - 275'4".

GEOLOGICAL LOG OF DDH E7/61
(contd.)

Depth From Ft. Ins.	Depth To Ft. Ins.	LOG
275 4	290 4	Pink and purple sandy shales and siltstones. Lead values up to 0.65% but copper values have fallen off considerably.
290 4	315 4	Pink and white sandy siltstones. Metal values although anomalously high have fallen to less than 1/10 of the content of the overlying sediments.
		END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. E7/61

Footage	Mark	Copper (Cu) %	Lead (Pb) %
135' - 140'	A2553/62	0.62	0.59
140' - 145'	A2554/62	2.10	0.125
145' - 150'	A2555/62	1.02	0.64
150' - 155'	A2556/62	0.33	0.33
155' - 160'	A2557/62	1.40	0.13
160' - 165'	A2558/62	0.29	0.13
165' - 170'	A2559/62	0.22	0.20
170' - 175'	A2560/62	0.28	0.40
175' - 180'	A2561/62	0.34	0.40
180' - 185'	A2562/62	0.23	0.14
185' - 190'	A2563/62	0.27	0.14
190' - 205'	A2564/62	-	0.58
205' - 215'	A2565/62	-	0.70
215' - 225'	A2566/62	-	2.60
225' - 235'	A2567/62	-	3.25
235' - 244'	A2568/62	-	3.30
244' - 245'4"	A2569/62	-	0.65
245'4" - 250'4"	A2570/62	-	0.60
250'0" - 260'	A2972/62	-	0.14
260' - 270'	A2973/62	-	0.88
270' - 280'	A2974/62	-	0.65
280' - 290'	A2975/62	-	0.64
290' - 300'	A2976/62	-	0.11
300' - 305'4"	A2977/62	-	0.085
305' - 315'4"	A2978/62	-	0.050

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E8/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 119/62

COLLAR CO-ORDS: 2350S 4000W R.L.: 1030' GRID

DIRECTION: 270° ANGLE: 70° DEPTH: 198' PLAN REF.: L63-124

DATE HOLE COMMENCED: 10.3.62 COMPLETED: 29.3.62 DRILLER: L.Gergye

HOLE LOGGED BY: L.G. Nixon ON: 15.6.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: No mineralisation of potentially economic grade was found but anomalously high values for lead from the surface to a depth of 140' was revealed by spectrographic analysis.

LOG Comprises - Summarised geological log
Report of spectrographic analysis of core from surface to 130'.

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	44	6	Leached brown and purple coloured, brecciated dolomite.
44	6	91	0	Broken core composed of brecciated weathered and leached brown and purple and in places clayey dolomite, usually with gypsum along fracture planes and lining cavities.
91	0	133	2	Weathered sandy dolomites, dolomitic sandstone and sandstones with interbedded white and purple silts and shales.
133	2	143	0	Coarse friable white sandstone with scattered malachite staining. This zone is equated with the beds containing abundant worm burrow markings immediately overlying the Pound Formation.
143	0	178	0	Dense, tough fine grained quartzitic sandstone with interbedded soft white and pink arkosic sandstone of the Pound Formation.

END OF HOLE

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E9/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 103/62

COLLAR CO-ORDS: 3000S 4000W R.L.: 1040' GRID

DIRECTION: - ANGLE: Vertical DEPTH: 348'6" PLAN REF.: L63-124

DATE HOLE COMMENCED: 13.2.62 COMPLETED: 7.3.62 DRILLER: L. Gergye

HOLE LOGGED BY: L.G. Nixon ON: 20.7.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Spectrographic analysis reveals higher than normal concentrations of lead and copper values, but none of the samples showed enough values to be chemically analysed.

LOG Comprises - Summarised geological log
Report of spectrographic analysis from surface to 163'6".

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	17	4	Purple brecciated dolomite. Kunkar is evident near the surface. Gypsum occurs along fractures.
17	4	49	3	Completely weathered dolomite and yellow brown clay.
49	3	84	6	Weathered and brecciated dolomite and occasional clay layers. No core between 77'6" - 81'6".
84	6	106	0	Brecciated dolomite, manganese oxide, barytes and silty clay.
106	0	143	6	Predominantly white siliceous siltstone and sandstone sequence. No core from 127' - 133'6".
143	6	163	6	Yellow, green, brown and white silts and shales.
163	6	173	6	Pale greenish sandstone. Possibly the unit at the base of the Parachilna Formation in the Ediacara area.
173	6	248	6	Off-white and purple sandstone and laminated purple silts and fine sandstones.

END OF HOLE

REPORT OF SPECTROGRAPHIC ANALYSIS DDH E9/61

Footage	Mark	Copper (Cu)	Lead (Pb)
0 - 10'	A2637/62	100	50
10' - 24'	A2638/62	1000	250
24' - 34'	A2639/62	1000	300
34' - 44'	A2640/62	1000	200
44' - 54'	A2641/62	2500	1200
54' - 64'	A2642/62	300	100
64' - 74'	A2643/62	1000	1000
(No Core 77'6" - 81'6")			
74' - 84'	A2644/62	500	400
84' - 94'	A2645/62	250	120
94' - 104'	A2646/62	500	400
104' - 114'	A2647/62	1000	1200
(No Core 106'6" - 107'6")			
114' - 127'	A2648/62	500	300
(No Core 127'-133'6")			
133'6"- 148'6"	A2649/62	100	100
(No Core 148'6" - 150'6")			
150'6"- 163'6"	A2650/62	120	150

Results in p.p.m.

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E10/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 104/62

COLLAR CO-ORDS: 4000S 3000W R.L.: 1055' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 247'6" PLAN REF.: L63-124 M.E.

DATE HOLE COMMENCED: 15.2.62 COMPLETED: 7.3.62 DRILLER: Kamaruts

HOLE LOGGED BY: L.G. Nixon ON: 31.5.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Copper values averaging 0.29% from 100 to 227'6".
Lead values averaging 0.57% from 80 to 247'6".

LOG Comprises - Summarised geological log
Report of chemical analysis for copper between 100 - 227'6" and lead between 80-247'6".

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	79	9	Fractured grey dolomite.
79	9	187	0	Weathered brown, grey and yellow fractured dolomite.
187	0	247	0	Interbedded clays, shales, and dolomite beds, grey, brown and white in colour.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH E10/61

Footage	Mark	Copper (Cu) %	Lead (Pb) %
80' - 90'	A2602/62	-	0.10
90' - 100'	A2603/62	-	0.20
100' - 110'	A2604/62	0.53	0.65
110' - 120'	A2605/62	0.21	0.45
120' - 130'	A2606/62	0.18	0.40
130' - 140'	A2607/62	0.24	0.10
140' - 150'	A2608/62	-	0.10
150' - 159'6"	A2609/62	-	0.20
172'8" - 177'8"	A2610/62	-	0.30
187' - 197'	A2611/62	-	0.45
197' - 207'	A2612/62	0.49	1.60
207' - 217'6"	A2613/62	0.27	1.50
217'6" - 227'6"	A2614/62	0.08	0.95
227'6" - 237'6"	A2615/62	-	0.80
237'6" - 247'6"	A2616/62	-	0.50

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E11/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 95/62

COLLAR CO-ORDS: 4000S 500E R.L.: 1120' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 234' PLAN REF.: L63-124

DATE HOLE COMMENCED: 25.1.62 COMPLETED: 9.2.62 DRILLER: L. Gergye

HOLE LOGGED BY: L.G. Nixon ON: 8.6.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: No copper or lead mineralisation was seen in the core. No significant rineralisation showed in the spectrographic analysis.

LOG Comprises - Summarised geological log

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	234	0	Essentially a fractured grey leached and weathered dolomite with some fawn coloured shales at 183 feet.
				END OF HOLE AT 234'.

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E12/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 90/62

COLLAR CO-ORDS: 3000S 500E R.L.: 1115' GRID

DIRECTION: - ANGLE: Vertical DEPTH: 312'3" PLAN REF.: L63-124

DATE HOLE COMMENCED: 17.12.61 COMPLETED: 7.2.62 DRILLER: M.E. Kamaruts

HOLE LOGGED BY: L.G. Nixon ON: 4.5.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: No copper or lead minerals were seen in the core and no significant mineralisation was revealed by spectrographic analysis.

LOG Comprises - Summarised geological log

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	257	0	Essentially a leached and weathered siliceous pale grey fractured dolomite.
257	0	309	0	White, weathered dolomite.
309	0	312	3	Dolomite shales.

END OF HOLE

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E13/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 129/62

COLLAR CO-ORDS: 2250N 1925W R.L.: 1050' GRID:

DIRECTION - ANGLE: Vertical DEPTH: 163' PLAN REF: L63-124

DATE HOLE COMMENCED: 2.4.62 COMPLETED: 8.4.62 DRILLER: L. Gergye

HOLE LOGGED BY: L.G. Nixon ON: 3.5.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Chemical analysis for lead was carried out on the section of core in which galena was noted, the average value obtained over 48' between 52'-100' was 0.83%. Anomalous lead values were revealed by spectrographic analysis of the core from the surface to 110'.

LOG Comprises - Summarised geological log
Report on chemical analysis from 52'-100'.

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	30	0	Fractured fine-grained and sandy dolomite weathered in places to a brown clayey material.
30	0	52	0	Weathered green and brown sandy dolomites with minor granule layers.
52	0	94	0	Massive sandy, in places cross bedded, and oolitic dolomite layers with scattered galena mineralisation.
94	0	121	6	Interbedded cross-bedded sandy and fine-grained dolomite layers with occasional oolite beds. No galena mineralisation is seen but pyrite is evident usually disseminated along the core but sometimes occurring in clusters. Between 115'6" - 117' scattered malachite staining.
121	6	163	0	Interbedded laminated and sandy dolomites. Pyrite abundant in some zones and intra-formational slumping common.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. E13/61

Footage			Mark	Lead (Pb) %
52'	-	53'	A2358/62	0.91
53'	-	58'	A2359/62	0.64
58'	-	63'	A2360/62	2.08
63'	-	68'	A2361/62	0.19
68'	-	72'	A2362/62	0.26
72'	-	76'	A2363/62	0.29
76'	-	80'	A2364/62	2.63
80'	-	85'	A2365/62	0.15
85'	-	90'	A2366/62	0.82
90'	-	95'	A2367/62	1.16
95'	-	100'	A2368/62	0.20

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E14/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 135/62

COLLAR CO-ORDS: 2350N 1825W R.L.: 1040' GRID

DIRECTION - ANGLE: Vertical DEPTH: 156'6" PLAN REF.: L63-124

DATE HOLE COMMENCED: 11.4.62 COMPLETED: 12.5.62 DRILLER: L. Gergye

HOLE LOGGED BY: L.G. Nixon ON: 29.5.61 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Anomalous lead values were found from the surface to a depth of 145'. Chemical analysis for portions of core showing galena between 20-115' gave average values of 1.83% Pb and 1.3 oz. Ag per ton.

LOG Comprises - Summarised geological log
Report of chemical analysis from 20'-115'

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	1	0	Kunkar
1	0	25	0	Buff and blue-grey fine-grained dolomite with zones of slumping and intraformational breccias.
25	0	54	6	Blue-grey and buff coloured dolomite, brecciated in places, with interbedded oolitic layers. Galena scattered along the length of the core as clusters of crystals or along fractures.
54	6	110	5	Grey and blue sandy dolomite. Galena is scattered along the length of the core as individual crystals or clusters of crystals and along fractures.
110	5	156	6	Sandy cross-bedded dolomite, occasional shale beds and oolitic layers. No galena identified in the core.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. E14/61

Footage			Mark	Lead (Pb) %	Silver (Ag)(oz. per ton) oz.	dwts.
20'	-	25'	A2522/62	1.36	0	9
25'	-	30'	A2523/62	1.09	0	6
40'	-	45'	A2525/62	0.79	0	5
65'	-	70'	A2528/62	1.27	1	9
70'	-	75'	A2529/62	1.77	2	3
75'	-	80'	A2530/62	3.35	1	9
80'	-	85'	A2531/62	3.95	1	16
85'	-	90'	A2532/62	4.45	1	9
90'	-	95'	A2533/62	2.95	2	3
95'	-	100'	A2534/62	0.45	0	2
105'	-	110'	A2536/62	1.35	0	7
110'	-	115'	A2537/62	0.27	0	2

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E15/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 157/62

COLLAR CO-ORDS: 2000N 2100W R.L.: 1060' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 224'8" PLAN REF.: L63-124

DATE HOLE COMMENCED: 14.5.62 COMPLETED: 23.5.62 DRILLER: L.Gergye

HOLE LOGGED BY: D. Smale ON: 17.7.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Anomalous lead values averaging 0.56% extend the entire length of the hole. Values averaging 1.044% were found between 80'-180'. No significant copper mineralisation was found.

LOG Comprises - Summarised geological log
Report of chemical analysis for lead

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	40	0	Interbedded grey and buff coloured dolomites with occasional intraformational breccias and oolite layers.
40	0	165	0	Galena scattered along the length of the core in buff and grey dolomites and dolomite breccias, either as disseminated crystals or along fracture planes.
165	0	224	8	No galena identified but pyrite is found scattered along the length of the core and chalcopyrite is noted at 184'9". The host rock is sandy cross-bedded dolomite interbedded with fine-grained and oolitic dolomite beds.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. E15/61

Footage	Mark	Lead (Pb) %
0 - 10'	A3222/62	0.075
10' - 20'	A3223/62	0.085
20' - 30'	A3224/62	0.150
30' - 40'	A3225/62	0.175
40' - 50'	A3226/62	0.210
50' - 60'	A3227/62	0.250
60' - 70'	A3228/62	0.280
70' - 80'	A3229/62	0.350
80' - 90'	A3230/62	0.600
90' - 100'	A3231/62	1.58
100' - 110'	A3232/62	0.93
110' - 120'	A3233/62	0.57
120' - 130'	A3234/62	1.04
130' - 140'	A3235/62	3.25
140' - 150'	A3236/62	0.78
150' - 160'	A3237/62	0.32
160' - 170'	A3238/62	0.36
170' - 180'	A3239/62	1.01
180' - 190'	A3240/62	0.15
190' - 200'	A3241/62	0.030
200' - 210'	A3242/62	0.04
210' - 224' 8"	A3243/62	0.22

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E17/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 164/62

COLLAR CO-ORDS: 2200N 1750W R.L.: 1068' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 221'6" PLAN REF: L63-124

DATE HOLE COMMENCED: 25.5.62 COMPLETED: 5.6.62 DRILLER: M.E. Kamaruts

HOLE LOGGED BY: L.G. Nixon ON: 16.6.62 HIRER: Mines Dept.

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Galena was noted in the core between 26'10" - 192'. Analysis reveals the mineralisation extends from the surface to the bottom of the hole. The average grade of lead for the entire core is 0.31% Pb. Between 80' - 180' the core averages 0.47% Pb.

LOG Comprises - Summarised geological log
Report of chemical analysis.

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	26	10	Pale grey and buff coloured dolomites and brecciated dolomite beds. No galena mineralisation seen.
26	10	57	6	Dense, buff and grey dolomites with scattered lead mineralisation.
57	6	192	0	Dense, buff and sandy dolomites, dolomite breccia and oolitic dolomite beds. Sparse galena mineralisation along the length of the core.
192	0	221	4	No galena mineralisation in this section of the core which includes fine and sandy cross-bedded brown and blue coloured dolomites with interbedded laminated dolomitic shales near the bottom.

END OF HOLE.

REPORT OF CHEMICAL ANALYSIS DDH. E17/61

Footage			Mark	Lead (Pb) %
0	-	10'	A3244/62	0.25
10'	-	20'	A3245/62	0.15
20'	-	30'	A3246/62	0.15
30'	-	40'	A3247/62	0.14
40'	-	50'	A3248/62	0.26
50'	-	60'	A3249/62	0.13
60'	-	70'	A3250/62	0.18
70'	-	80'	A3251/62	0.18
80'	-	90'	A3252/62	0.42
90'	-	100'	A3253/62	0.24
100'	-	110'	A3254/62	1.07
110'	-	120'	A3255/62	0.34
120'	-	130'	A3256/62	0.29
130'	-	140'	A3257/62	0.36
140'	-	150'	A3258/62	0.24
150'	-	160'	A3259/62	0.30
160'	-	170'	A3260/62	1.03
170'	-	180'	A3261/62	0.37
180'	-	190'	A3262/62	0.21
190'	-	200'	A3263/62	0.17
200'	-	210'	A3264/62	0.21
210'	-	221'4"	A3265/62	0.15

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E18/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 162/62

COLLAR CO-ORDS: 3750N 500E R.L.: 1118' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 52' PLAN REF.: L63-124

DATE HOLE COMMENCED: 24.5.62 COMPLETED: 25.5.62 DRILLER: L. Gergye

HOLE LOGGED BY: L.G. Nixon ON: 15.6.62 HIRER: Mines Department

OBJECT: To test for extensions to the copper mineralisation found in Diamond Drill Hole E3/61.

RESULT: Relatively low grade copper and silver-lead mineralisation was found from 5 - 40 feet.

LOG Comprises - Summarised geological log
Report of analysis for copper and lead.

Depth From Ft. Ins.	Depth To Ft. Ins.	LOG
0 0	3 4	Sandy calcareous loam grading to broken pieces of dolomite.
3 4	43 0	Pink and grey sandy and oolitic dolomites. Copper mineralisation occurs along fracture planes and as oolites in the dolomite, usually in the form of malachite.
43 0	52 0	Interbedded dolomite, sandstone and siltstone horizons.
		END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. E18/61

Footage	Mark	Copper (Cu) %	Lead (Pb) %
0 - 5'	A2957/62	0.02	0.10
5' - 10'	A2958/62	0.18	0.27
10' - 15'	A2959/62	0.30	0.35
15' - 25'	A2960/62	1.80	0.90
25' - 30'	A2961/62	1.85	1.15
30' - 40'	A2962/62	0.18	0.10
40' - 52'	A2963/62	0.02	0.07

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E19/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 163/62

COLLAR CO-ORDS: 3750N 600E R.L.: 1114' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 51'6" PLAN REF.: L63-124

DATE HOLE COMMENCED: 25.5.62 COMPLETED: 26.5.62 DRILLER: L. Gergye

HOLE LOGGED BY: L.G. Nixon ON: 12.6.62 HIRER: Mines Department

OBJECT: To test for extensions to the copper and silver-lead found in DDH E3/61.

RESULT: Copper and silver-lead mineralisation extends from the surface along the entire length of the core.

LOG Comprises - Summarised geological log
Report of chemical analysis
Report of spectrographic analysis

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	1	0	Soil and calcareous clay.
1	0	10	8	Grey dolomite and dolomitic shales. Malachite in the core along fracture planes or scattered like oolitic grains.
10	8	21	6	Grey to pale pink oolitic dolomites, brecciated in places.
21	6	29	0	Weathered dolomite and gypseous mudstone, malachite occurs along fracture planes.
29	0	47	0	Weathered dolomites and silty off-white laminated shales. Malachite staining occurs along fracture planes.
47	0	51	6	Grey and white dolomitic sandstone.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. E19/61

Footage			Mark	Copper (Cu) %	Lead (Pb) %
21'	-	25'	A2966/62	6.9	0.37
25'	-	28'	A2967/62	0.275	0.28
28'	-	34'	A2968/62	1.30	-

REPORT OF SPECTROGRAPHIC ANALYSIS DDH. E19/61

Mark		Copper (Cu)	Lead (Pb)
A2964/62		500	600
A2965/62		250	1000
A2966/62	xx	10000	1200
A2967/62		1200	1200
A2968/62		5000	500
A2969/62		60	50

(Results in ppm) xx = Greater than.

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E20/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 165/62

COLLAR CO-ORDS: 3750N 700E R.L.: 1110' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 53'6" PLAN REF.: L63-124

DATE HOLE COMMENCED: 28.5.62 COMPLETED: 30.5.62 DRILLER: L. Gergye

OBJECT: To test for extensions to the copper and lead mineralisation found in D.D.H. E3/61

RESULT: Lead values up to 1.11% and copper values up to 0.96% were intersected in this hole.

LOG Comprises - Summarised geological log
Report on chemical analysis for copper lead and zinc

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	7	0	Calcareous pale red-brown clay underlain by mottled grey dolomite.
7	0	11	0	Mottled grey dolomite containing scattered galena crystals.
11	0	27	0	Grey, pale brown, and red-brown fine-grained and oolitic dolomites. Copper carbonates are scattered as oolites in the core. The kernels of some of these cupriferous oolites contain copper sulphides.
27	0	34	0	Weathered oolitic siliceous dolomite.
34	0	53	6	Interbedded sandy dolomites and dolomitic siltstone.
				END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH E20/61

Footage	Mark	Copper (Cu) %	Lead (Pb) %	Zinc (Zn) %
15' - 16'	A2667/62	0.05	0.46	0.03
16' - 17'	A2668/62	0.07	0.26	.02
17' - 18'	A2669/62	0.05	0.39	.01
18' - 19'	A2670/62	0.15	0.40	.01
19' - 20'	A2671/62	0.15	0.35	.08
20' - 21'	A2672/62	0.57	0.78	.34
21' - 22'	A2673/62	0.60	1.11	.44
22' - 23'	A2674/62	0.04	0.32	.17
23' - 24'	A2675/62	0.52	0.89	.55
24' - 25'	A2676/62	0.07	0.41	.48
25' - 26'	A2677/62	0.74	1.02	.39
26' - 27'	A2678/62	0.96	0.77	.19
27' - 28'	A2679/62	0.32	0.51	-
28' - 29'	A2680/62	0.23	0.42	-
	A2954/62	-	0.39	-
	A2955/62	-	0.52	-
	A2956/62	-	0.07	-

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E21/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 166/62

COLLAR CO-ORDS: 1000N 3450W R.L.: 992' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 385'6" PLAN REF.: L63-124

DATE HOLE COMMENCED: 1.6.62 COMPLETED: 6.7.62 DRILLER: L. Gergye

HOLE LOGGED BY: D. Smale ON: 20.7.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: No mineralisation of economic significance although analysis reveals anomalous values of copper, lead and zinc.

LOG Comprises: - Summarised geological log
Report of chemical analysis for lead

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	30	0	Reddish-brown pebbles and cobbles of dolomite.
30	0	77	0	Light brown and grey dolomites and dolomite breccia.
77	0	113	0	Silicified dolomite containing small crystals of chalcopyrite near 105'. Carbonate, possibly cerussite, in cavities.
113	0	162	0	Fragmentary yellow-grey dolomite and yellow-brown rubble and powder. Some cerussite suspected. Barytes content increases from 130'.
162	0	274	6	Dolomite breccia and siliceous dolomite. Small patches of malachite between 162-165'.
274	6	354	10	Sandy dolomites, dolomite breccia and sandstone. Crystals and nodules of pyrite occur along the length of the core.
354	10	385	6	Interbedded silty laminated and sandy dolomites.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. E21/61

Footage	Mark	Lead (Pb) %
Sur. - 10'	A3286/62	0.05
10' - 20'	A3287/62	0.05
20' - 30'	A3288/62	0.05
30' - 40'	A3289/62	0.20
40' - 50'	A3290/62	0.30
50' - 60'	A3291/62	0.05
60' - 70'	A3292/62	0.05
70' - 80'	A3293/62	0.05
80' - 90'	A3294/62	0.10
90' - 100'	A3295/62	0.10
100' - 110'	A3296/62	0.15
110' - 120'	A3297/62	0.15
120' - 130'	A3298/62	0.10
130' - 140'	A3299/62	0.05
140' - 150'	A3300/62	0.05
150' - 160'	A3301/62	0.05
160' - 170'	A3302/62	0.05
170' - 180'	A3303/62	0.05
180' - 190'	A3304/62	0.05
190' - 200'	A3305/62	0.05
200' - 210'	A3306/62	0.05
210' - 220'	A3307/62	0.05
220' - 230'	A3308/62	0.10
230' - 240'	A3309/62	0.30
240' - 250'	A3310/62	0.05
250' - 260'	A3311/62	0.05
260' - 270'	A3312/62	0.10
270' - 280'	A3313/62	0.05
280' - 290'	A3314/62	0.15
290' - 300'	A3315/62	0.05
300' - 310'	A3316/62	0.20
310' - 320'	A3317/62	0.15
320' - 330'	A3318/62	0.10
330' - 340'	A3319/62	0.10
340' - 350'	A3320/62	0.10
350' - 360'	A3321/62	0.10
360' - 370'	A3322/62	0.05
370' - 380'	A3323/62	0.05
380' - 385'6"	A3324/62	0.05

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E22/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 186/62

COLLAR CO-ORDS: 1700N 2800W R.L.: 1015' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 199'7" PLAN REF: L63-124

DATE HOLE COMMENCED: 7.6.62 COMPLETED: 18.6.62 DRILLER: M.E. Kamaruts

HOLE LOGGED BY: D. Smale ON: 20.7.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: No lead or copper mineralisation of economic significance.

LOG Comprises - Summarised geological log
Report of chemical analysis for lead

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	65	6	Fractured sandy dolomite and siliceous dolomite breccias.
65	6	146	0	Sandy and fine grained dolomites, occasional shale fragments in the sandy dolomites.
146	0	190	6	Interbedded dolomites, sandstones and shales.
190	6	199	5	Green and brown mottled sandstone with tubicolar worm casts
199	5	199	7	Sandstone of the Pound Formation.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. E22/61

Footage	Mark	Lead (Pb) %
0 - 10'	A3266/62	0.35
10' - 20'	A3267/62	0.15
20' - 30'	A3268/62	0.09
30' - 40'	A3269/62	0.15
40' - 50'	A3270/62	0.10
50' - 60'	A3271/62	0.10
60' - 70'	A3272/62	0.10
70' - 80'	A3273/62	0.10
80' - 90'	A3274/62	0.10
90' - 100'	A3275/62	0.20

REPORT OF CHEMICAL ANALYSIS DDH E22/61
(Contd.)

Footage			Mark	Lead (Pb) %
100'	-	110'	A3276/62	0.20
110'	-	120'	A3277/62	0.05
120'	-	130'	A3278/62	0.20
130'	-	140'	A3279/62	0.10
140'	-	150'	A3280/62	0.05
150'	-	160'	A3281/62	0.05
160'	-	170'	A3282/62	0.05
170'	-	180'	A3283/62	0.05
180'	-	190'	A3284/62	0.05
190'	-	199'7"	A3285/62	0.05

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E23/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 199/62

COLLAR CO-ORDS: 1950N 1250W R.L.: 1088' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 252'8" PLAN REF: L63-124

DATE HOLE COMMENCED: 21.6.62 COMPLETED: 10.7.62 DRILLER: M.E. Kamaruts

HOLE LOGGED BY: D. Smale ON: 10.7.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Lead values averaged 0.99% between 10' - 60'. Anomalous lead values were found along the entire length of the core.

LOG Comprises - Summarised geological log
Report of chemical analysis for lead

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	141	6	A sequence of fine-grained and sandy dolomite horizons and quartz-dolomite-breccia zones, varying in colour from grey to purple.
141	6	179	6	Buff and pink sandy and fine-grained laminated and flaggy to massive dolomites.
179	6	201	0	Green and brown soft sandstone showing tubicolar casts.
201	0	252	8	Purplish quartzite of the Pound Formation.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. E23/61

Footage			Mark	Lead (Pb) %
Sur.	-	10'	A3327/62	0.25
10'	-	20'	A3328/62	0.34
20'	-	30'	A3329/62	0.88
30'	-	40'	A3330/62	0.90
40'	-	50'	A3331/62	1.94
50'	-	60'	A3332/62	1.44
60'	-	70'	A3333/62	0.44
70'	-	80'	A3334/62	0.22
80'	-	90'	A3335/62	1.12
90'	-	99'9"	A3336/62	0.40
99'9"	-	110'	A3613/62	0.25
110'	-	120'	A3614/62	0.40
120'	-	130'	A3615/62	0.20
130'	-	140'	A3616/62	0.10
140'	-	150'	A3617/62	0.05
150'	-	160'	A3618/62	0.05
160'	-	170'	A3619/62	0.05
170'	-	180'	A3620/62	0.05
180'	-	190'	A3621/62	0.10
190'	-	200'	A3622/62	0.45
200'	-	210'	A3623/62	0.02
210'	-	220'	A3624/62	0.02
220'	-	230'	A3625/62	0.03
230'	-	240'	A3626/62	0.05
240'	-	251'	A3627/62	0.05

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E24/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 43/63

COLLAR CO-ORDS: 2000S 1800W R.L.: 1078' GRID

DIRECTION: - ANGLE: Vertical DEPTH: 952' PLAN REF.: L63-124

DATE HOLE COMMENCED: 7.9.62 COMPLETED: 17.12.62 DRILLER: M.E. Kamaruts

HOLE LOGGED BY: L.G. Nixon D. Smale ON: 7/3/63 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Anomalous lead metal values are revealed by spectrographic analysis for the entire core with relatively higher values between 576'-596' and 766'-806', but no exploitable values were found.

LOG Comprises - Summarised geological log

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	476	0	A sequence of pink and grey fractured, slumped and brecciated dolomites with pyrite and marcasite scattered along the core, particularly in fracture planes. Archaeocyathæ occur between 168'-170'.
476	0	850	0	Predominantly dense fine-grained pale grey and dark grey to off-white and pink dolomite. Dolomite breccia and granule horizons are common. Galena first appears in the core at 582' and persists to 851'. Pyrite is also evident along this section of the core.
850	0	886	6	Sandy and oolitic dolomites with galena mineralisation evident to 870'.
886	6	933	0	Weathered shales, siltstones, fine-grained sandstones and dolomites.
933	0	946	0	Green and brown clayey sandstone with worm burrow casts.
946	0	952	0	Pink to white sandstone of the Pound Formation.

END OF HOLE

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E31/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 9/63

COLLAR CO-ORDS: 2200N 550W R.L.: 1128' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 368'6" PLAN REF.: L63-124

DATE HOLE COMMENCED: 13.7.62 COMPLETED: 2.8.62 DRILLER: M.E.Kamarut

HOLE LOGGED BY: D. Smale ON: 10.9.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: No high grade mineralisation was found in this hole. Relatively higher lead values are found in the upper part of the hole from the surface to 225'.

LOG Comprises - Summarised geological log
Report of chemical analysis for lead.

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	105	3	Buff, grey dolomite with manganese staining.
105	3	145	6	Buff, grey dolomite and dolomite breccias, galena appears at 108'.
145	6	298	0	Dark grey sandy dolomites and dolomite breccias. Galena occurs as small crystals disseminated in the core and in fracture planes.
298	0	353	6	Interbedded fine-grained and sandy, massive and laminated dolomites with occasional oolitic beds.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. E31/61

Footage	Mark	Lead (Pb) %
5' - 10'	A3628/62	0.10
10' - 20'	A3629/62	0.10
20' - 30'	A3630/62	0.15
30' - 40'	A3631/62	0.25
40' - 50'	A3632/62	0.15
50' - 60'	A3633/62	0.20
60' - 70'	A3634/62	0.15
70' - 80'	A3635/62	0.15
80' - 90'	A3636/62	0.15
90' - 100'	A3637/62	0.20
100' - 110'	A3638/62	0.10
110' - 120'	A3639/62	0.20
120' - 130'	A3640/62	0.20
130' - 140'	A3641/62	0.10
140' - 150'	A3642/62	0.30
150' - 160'	A3643/62	0.20
160' - 170'	A3644/62	0.20
170' - 183'7"	A3645/62	0.40
183'7" - 195'	A3707/62	0.44
195' - 205'	A3708/62	0.24
205' - 215'	A3709/62	0.15
215' - 225'	A3710/62	0.10
225' - 235'	A3711/62	0.05
235' - 245'	A3712/62	0.03
245' - 255'	A3713/62	0.035
255' - 265'	A3714/62	0.06
265' - 275'	A3715/62	0.06
275' - 285'	A3716/62	0.04
285' - 295'	A3717/62	0.07
295' - 305'	A3718/62	0.05
305' - 315'	A3719/62	0.03
315' - 325'	A3720/62	0.05
325' - 335'	A3721/62	0.03
335' - 345'	A3722/62	0.025
345' - 353'6"	A3723/62	0.020

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E32/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 31/63

COLLAR CO-ORDS: 1500N 1300W R.L.: 1100' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 462'9" PLAN REF.: L63-124

DATE HOLE COMMENCED: 4.8.62 COMPLETED: 10.9.62 DRILLER: M.E. Kamaruts

HOLE LOGGED BY: D. Smale ON: 5.10.62 HIRER: Mines Departmen

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Between 270'-345' lead values averaging just over 0.9% were found. Higher than normal lead values are found throughout the carbonate sequence.

LOG Comprises - Summarised geological log
Report of chemical analysis for lead

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	46	6	Light grey and dark grey dolomites, silicified in part.
46	6	75	9	Brown and purple coloured dolomite, the purple colour becoming pronounced at depth.
75	9	112	0	Buff and mottled grey dolomite and dolomite breccias.
112	0	341	8	Laminated and massive dolomites and dolomite breccias. Galena first noted from 156'2", pyrite noted from 286'6".
341	8	419	0	Grey and buff coloured, fine-grained, sandy and oolitic dolomites with galena and pyrite mineralisation.
419	0	449	3	Very pale grey dolomite with interbedded laminated shaley and sandy dolomites.
449	3	459	2	Greenish-grey coarse clayey sandstone with worm burrow casts.
459	2	462	9	Pale purplish quartzite of the Pound Formation.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. E32/61

Footage	Mark	Lead (Pb) %
Surface - 10'	A3746/62	0.04
10' - 20'	A3747/62	0.045
20' - 30'	A3748/62	0.045
30' - 40'	A3749/62	0.06
40' - 50'	A3750/62	0.10
50' - 60'	A3751/62	0.19
60' - 70'	A3752/62	0.06
70' - 80'	A3753/62	0.035
80' - 90'	A3754/62	0.13
90' - 100'	A3755/62	0.10
100' - 110'	A3756/62	0.19
110' - 120'	A3757/62	0.12
120' - 130'	A3758/62	0.13
130' - 140'	A3759/62	0.12
140' - 150'	A3760/62	0.095
150' - 160'	A3761/62	0.29
160' - 170'	A3762/62	0.19
170' - 180'	A3763/62	0.31
180' - 190'	A3764/62	0.39
190' - 200'	A3765/62	0.35
200' - 210'	A3766/62	0.73
210' - 220'	A3767/62	0.42
220' - 230'	A3768/62	0.37
230' - 240'	A3769/62	0.45
240' - 250'	A3770/62	0.21
250' - 260'	A3771/62	0.55
260' - 270'	A3772/62	0.38
270' - 280'	A3773/62	0.87
280' - 293'4"	A3774/62	0.66 ×
293'4" - 305'	A3839/62	0.39 ×
305' - 315'	A3840/62	0.25
315' - 325'	A3841/62	0.18
325' - 335'	A3842/62	1.12
335' - 345'	A3843/62	3.10
345' - 355'	A3844/62	0.09
355' - 365'	A3845/62	0.46
365' - 375'	A3846/62	0.17
375' - 385'	A3847/62	0.07
385' - 395'	A3848/62	0.055
395' - 405'	A3849/62	0.04
405' - 415'	A3850/62	0.04

REPORT OF CHEMICAL ANALYSIS DDH. E32/61
(contd.)

Footage	Mark	Lead (Pb) %
415' - 425'	A3851/62	0.03
425' - 435'	A3852/62	0.02
435' - 445'	A3853/62	0.025
445' - 455'	A3854/62	0.025
455' - 462'9"	A3855/62	0.02

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E33A/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 30/63

COLLAR CO-ORDS: 850N 2050W R.L.: 1065' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 517'8" PLAN REF.: L63-124

DATE HOLE COMMENCED: 6.8.62 COMPLETED: 28.8.62 DRILLER: L.Gergye

HOLE LOGGED BY: L.G. Nixon ON: 29.8.62 HIRER: Mines Departmen

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Lead is found in varying amounts along the entire length of the core, averaging 0.27% over 517'8". Between 310'-380' the average lead value is 1.03%. Malachite nodules between 478'-480' indicates the minimum depth to which weathering has penetrated.

LOG Comprises - Summarised geological log
Report of chemical analysis for lead

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	6	0	Grey dolomite and large scattered galena crystals.
6	0	13	6	Grey dolomite. No mineralisation evident.
13	6	69	6	Massive and in places slumped grey dolomite. Galena was seen at 14' and an Archaeocyatha fossil at 65'.
69	6	102	8	Brecciated and fractured grey dolomite with scattered galena and occasional Archaeocyathae fossils.
102	8	218	4	Interbedded grey dolomites and breccias. No Archaeocyathae fossils seen. Pyrite is evident in the core.
218	4	308	9	Interbedded, laminated dark grey and massive light grey dolomites. Galena is scattered along the length of the core.
308	9	418	8	Mainly massive dolomites and dolomite breccias and occasional oolitic and laminated dolomite horizons. Galena occurs along the length of the core.
418	8	449	6	Oolitic dolomites more abundant, interbedded with laminated and sandy dolomites. Galena and pyrite can be seen in the core.
449	6	480	6	Laminated, flaggy and oolitic dolomites with scattered pyrite and chalcopyrite. Between 478'4" - 480'6" malachite nodules also occur.
480	6	495	2	Oolitic dolomite and green, black and white dolomitic shales.

GEOLOGICAL LOG DDH. E33A/61
(contd.)

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
495	2	499	8	Greenish-white kaolinitic sandstone.
499	8	510	0	Greenish, clayey sandstone with worm burrow casts.
510	0	517	8	Pinkish white sandstone of the Pound Formation.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. E33A/61

Footage	Mark	Lead (Pb) %
Surface - 10'	A3670/62	0.105
10' - 20'	A3671/62	0.06
20' - 30'	A3672/62	0.05
30' - 40'	A3673/62	0.06
40' - 50'	A3674/62	0.14
50' - 60'	A3675/62	0.05
60' - 70'	A3676/62	0.065
70' - 80'	A3677/62	0.06
80' - 90'	A3678/62	0.115
90' - 100'	A3679/62	0.37
100' - 110'	A3680/62	0.095
110' - 120'	A3681/62	0.20
120' - 130'	A3682/62	0.24
130' - 140'	A3683/62	0.24
140' - 150'	A3684/62	0.055
150' - 160'	A3685/62	0.06
160' - 170'	A3686/62	0.03
170' - 180'	A3687/62	0.185
180' - 190'	A3688/62	0.09
190' - 200'	A3689/62	0.08
200' - 210'	A3690/62	0.100
210' - 220'	A3691/62	0.175
220' - 230'	A3692/62	0.185
230' - 240'	A3693/62	0.37
240' - 250'	A3694/62	0.37
250' - 260'	A3695/62	0.62
260' - 270'	A3696/62	0.14
270' - 280'	A3697/62	0.100
280' - 290'	A3698/62	0.20

REPORT OF CHEMICAL ANALYSIS DDH. E33A/61
(contd.)

Footage	Mark	Lead (Pb) %
290' - 300'	A3699/62	0.35
300' - 310'	A3724/62	0.31
310' - 320'	A3725/62	2.60
320' - 330'	A3726/62	0.67
330' - 340'	A3727/62	0.40
340' - 350'	A3728/62	1.65
350' - 360'	A3729/62	0.18
360' - 370'	A3730/62	0.88
370' - 380'	A3731/62	0.80
380' - 390'	A3732/62	0.10
390' - 400'	A3733/62	0.23
400' - 410'	A3734/62	0.075
410' - 420'	A3735/62	0.19
420' - 430'	A3736/62	0.06
430' - 440'	A3737/62	0.02
440' - 450'	A3738/62	0.02
450' - 460'	A3739/62	0.025
460' - 470'	A3740/62	0.02
470' - 480'	A3741/62	0.02
480' - 490'	A3742/62	0.02
490' - 500'	A3743/62	0.025
500' - 510'	A3744/62	0.02
510' - 517'8"	A3745/62	0.02

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E34/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 44/63

COLLAR CO-ORDS: 250N 2750W R.L.: 990' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 689'9" PLAN REF.: L63-124

DATE HOLE COMMENCED: 14.9.62 COMPLETED: 2.9.63 DRILLER: L. Gergye

HOLE LOGGED BY: L.G. Nixon ON: 18.1[illegible].63 HIRER: Mines Department
D. Smale

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Between 450' - 510' the core averaged 0.91% Pb. Between 560' - 590' the core averaged 1.07% Pb.

LOG Comprises - Summarised geological log
Report of chemical analysis for lead and copper.

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	58	0	Brown and grey dolomites with intraformational slumping and breccias.
58	0	160	2	Fractured grey dolomite. Core is broken in this section. Secondary lead mineralisation occurs along fractures.
160	2	421	6	Laminated and flaggy grey dolomites. Pyrite, marcasite and manganese oxides are seen in the core.
421	6	443	7	Massive medium-grained, grey dolomite. Scattered galena and pyrite crystals occur as rare scattered flecks along the core.
443	7	612	0	Massive sandy, pisolitic and oolitic dolomites, with galena and pyrite mineralisation along the length of the core.
612	0	678	0	Interbedded, shales, orthoquartzites, oolitic dolomites and clay horizons.
678	0	688	0	Brown and green clayey sandstone.
688	0	689	9	Pinkish white sandstone of the Pound Formation.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. E34/61

Footage	Mark	Lead (Pb) %
Sur. - 10'	A4022/62	0.04
10' - 20'	A4023/62	0.05
20' - 30'	A4024/62	0.045
30' - 40'	A4025/62	0.06
40' - 50'	A4026/62	0.055
50' - 60'	A4027/62	0.08
60' - 70'	A4028/62	0.06
70' - 80'	A4029/62	0.06
80' - 90'	A4030/62	0.045
90' - 100'	A4031/62	0.03
100' - 110'	A4032/62	0.04
110' - 120'	A4033/62	0.03
120' - 130'	A4034/62	0.03
130' - 140'	A4035/62	0.04
140' - 150'	A4036/62	0.06
150' - 160'	A4037/62	0.035
160' - 170'	A4038/62	0.06
170' - 180'	A4039/62	0.04
180' - 190'	A4040/62	0.04
190' - 196'2"	A4041/62	0.04
196'2" - 206'	A675/63	0.045
206' - 216'	A676/63	0.057
216' - 226'	A677/63	0.052
226' - 236'	A678/63	0.045
236' - 246'	A679/63	0.055
246' - 256'	A680/63	0.066
256' - 266'	A681/63	0.048
266' - 276'	A682/63	0.042
No core		
278' - 286'	A683/63	0.040
286' - 296'	A684/63	0.033
296' - 306'	A685/63	0.040
306' - 316'	A686/63	0.031
316' - 326'	A687/63	0.045
326' - 335'6"	A688/63	0.040
Deflection		
335'6" - 346'	A689/63	0.053
346' - 350'10"	A690/63	0.070

REPORT OF CHEMICAL ANALYSIS DDH. E34/61
(contd.)

Footage	Mark	Copper (Cu) %	Lead (Pb) %
360' - 370'	A984/64	0.021	0.068
370' - 380'	A985/64	0.022	0.135
380' - 390'	A986/64	0.044	0.22
390' - 400'	A987/64	0.195	0.385
400' - 410'	A988/64	0.037	0.066
410' - 420'	A989/64	0.050	0.034
420' - 430'	A990/64	0.016	0.045
430' - 440'	A991/64	0.022	0.090
440' - 450'	A992/64	0.011	0.085
450' - 460'	A993/64	0.011	0.705
460' - 470'	A994/64	0.005	1.40
470' - 480'	A995/64	0.004	0.835
480' - 490'	A996/64	0.004	0.90
490' - 500'	A997/64	0.005	1.05
500' - 510'	A998/64	0.003	0.55
510' - 520'	A999/64	0.002	0.14
520' - 530'	A1000/64	0.002	0.035
530' - 540'	A1001/64	0.008	0.99
540' - 550'	A1002/64	0.005	0.48
550' - 560'	A1003/64	0.008	0.13
560' - 570'	A1004/64	0.017	0.26
570' - 580'	A1005/64	0.032	1.95
580' - 590'	A1006/64	0.040	1.05
590' - 600'	A1007/64	0.048	0.015
600' - 610'	A1008/64	0.024	0.30
610' - 620'	A1009/64	0.024	0.26
620' - 630'	A1010/64	0.024	0.46
630' - 640'	A1011/64	0.040	0.20
640' - 650'	A1012/64	0.077	0.105
650' - 660'	A1013/64	0.028	-
660' - 670'	A1014/64	0.029	-
670' - 680'	A1015/64	0.034	-

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E 35/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 40/63

COLLAR CO-ORDS: 2850N 200E R.L.: 1130' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 326'2" PLAN REF.: L63-124

DATE HOLE COMMENCED: 30.8.62 COMPLETED: 11.9.62 DRILLER: L. Gergye

HOLE LOGGED BY: D. Smale ON: 26.10.62 HIRER: Mines Department

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence.

RESULT: Lead mineralisation was intersected between 30' - 70' averaging 1.2% Pb.

LOG Comprises - Summarised geological log
Report of chemical analysis for lead

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	139	0	Massive grey dolomites and dolomite breccias.
139	0	308	0	Massive, oolitic and laminated dolomites.
308	0	314	0	Green and brown clayey sandstones with worm burrow casts.
314	0	326	2	Purple and green oolitic sandstone.

END OF HOLE

REPORT OF CHEMICAL ANALYSIS DDH. E35/61

Footage			Mark	Lead (Pb) %
Sur.	-	10'	A3929/62	0.055
10'	-	20'	A3930/62	0.065
20'	-	30'	A3931/62	0.06
30'	-	40'	A3932/62	0.615
40'	-	50'	A3933/62	3.55
50'	-	60'	A3934/62	1.4
60'	-	70'	A3935/62	0.15
70'	-	80'	A3936/62	0.455
80'	-	90'	A3937/62	0.215
90'	-	100'	A3938/62	0.25
100'	-	110'	A3939/62	0.115
110'	-	120'	A3940/62	0.17
120'	-	130'	A3941/62	0.24

REPORT OF CHEMICAL ANALYSIS DDH. E35/61
(contd.)

Footage			Mark	Lead (Pb) %
130'	-	140'	A3942/62	0.25
140'	-	150'	A3943/62	0.115
150'	-	160'	A3944/62	0.06
160'	-	170'	A3945/62	0.03
170'	-	180'	A3946/62	0.05
180'	-	190'	A3947/62	0.045
190'	-	200'	A3948/62	0.06
200'	-	210'	A3949/62	0.04
210'	-	220'	A3950/62	0.06
220'	-	230'	A3951/62	0.075
230'	-	240'	A3952/62	0.04
240'	-	250'	A3953/62	0.03
250'	-	260'	A3954/62	0.025
260'	-	270'	A3955/62	0.025
270'	-	280'	A3956/62	0.025
280'	-	290'	A3957/62	0.02
290'	-	300'	A3958/62	0.015
300'	-	310'	A3959/62	0.015
310'	-	326'2"	A3960/62	0.025

DEPARTMENT OF MINES, SOUTH AUSTRALIA

LOG OF DIAMOND DRILL HOLE NO. E39/61

PROJECT: Ediacara Mineral Field D.M.: 940/61

HD.: Outside hundreds CO.: Outside counties HOLE SER.NO.: 45/63

COLLAR CO-ORDS: 1000N 1400W R.L.: 1070' GRID:

DIRECTION: - ANGLE: Vertical DEPTH: 691' PLAN REF.: L63-124

DATE HOLE COMMENCED: 14.9.62 COMPLETED: 17.12.62 DRILLER: R.S.Munro

HOLE LOGGED BY: D. Smale ON: 29.1.63 HIRER: MINES DEPARTMENT

OBJECT: To test for copper and silver-lead mineralisation in the Lower Cambrian sequence and to measure the depth to the water table.

RESULT: Very low grade lead mineralisation extends from 220'-562', within this zone a relatively higher grade of lead mineralisation occurs between 512'-532' averaging 1.05% Pb.
Depth to water table 166' from surface.

LOG Comprises - Summarised geological log
Report of chemical analysis for lead

Depth From Ft.	Ins.	To Ft.	Ins.	LOG
0	0	187	0	Dark grey mottled dolomite, recrystallised.
187	0	305	0	Medium grey and dark mottled dolomite with pyrite and galena. Occasional dolomite breccia layers.
305	0	553	9	Massive and laminated dolomite, with galena and pyrite visible in the core. Occasional dolomite breccia layers.
553	9	602	8	Sandy dolomites, very weathered in places, some galena and pyrite.
602	8	668	5	Interbedded, massive, oolitic and sandy dolomites, with pyrite in the upper portion. Sandstones more frequent at depth.
668	5	678	6	Green and brown clayey sandstone with worm burrow casts.
678	6	691	0	Sandstone beds of the Pound Formation.

END OF HOLE.

REPORT OF CHEMICAL ANALYSIS DDH. E39/61

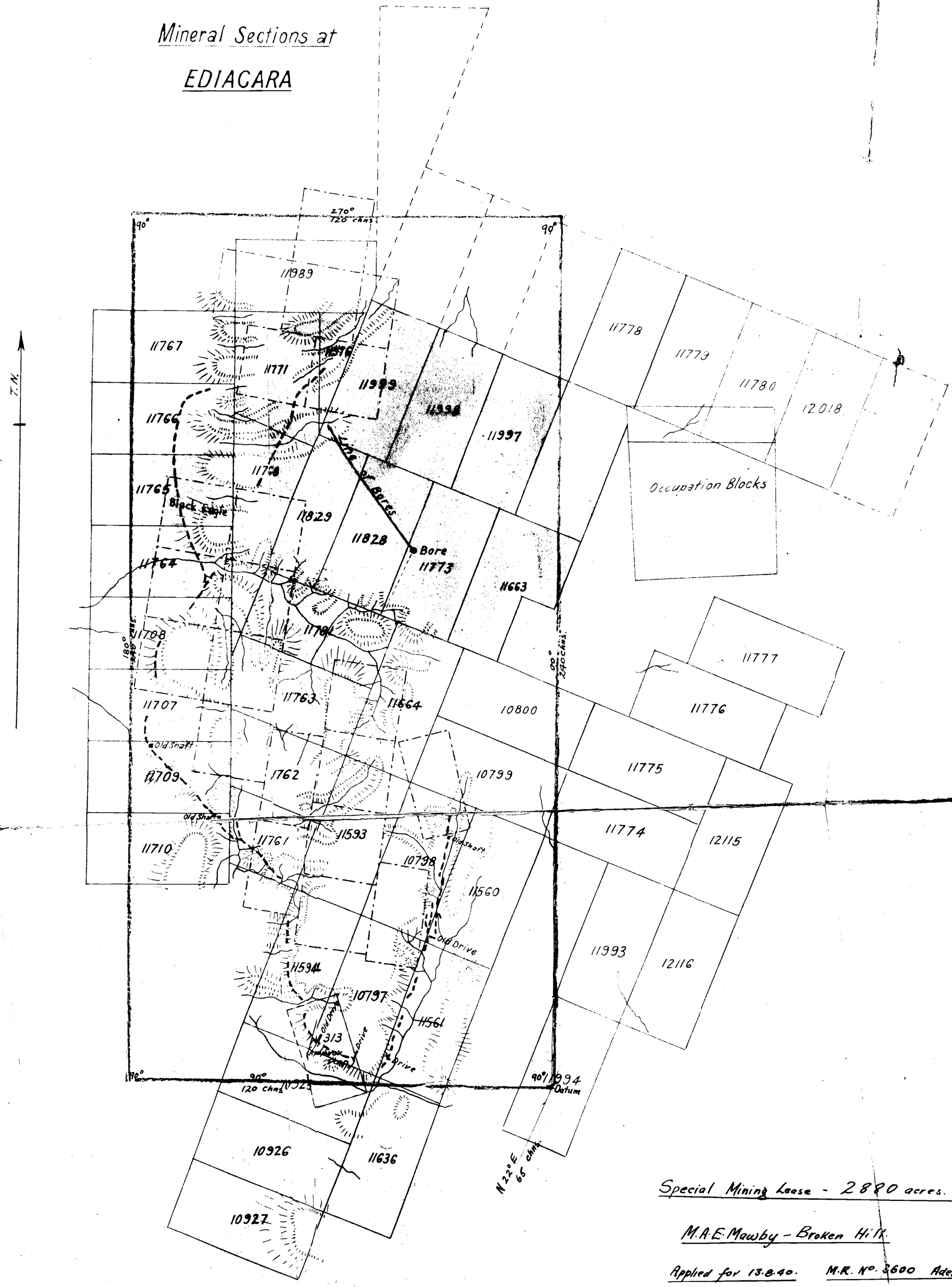
Footage	Mark	Lead (Pb) %
Sur. - 10'	A3961/62	0.05
10' - 20'	A3962/62	0.045
20' - 30'	A3963/62	0.035
30' - 40'	A3964/62	0.045
40' - 50'	A3965/62	0.05
50' - 60'	A3966/62	0.03
60' - 70'	A3967/62	0.035
70' - 80'	A3968/62	0.03
80' - 90'	A3969/62	0.085
90' - 100'	A3970/62	0.065
100' - 110'	A3971/62	0.03
110' - 120'	A3972/62	0.035
120' - 130'	A3973/62	0.045
130' - 140'	A3974/62	0.055
140' - 150'	A3975/62	0.08
150' - 160'	A3976/62	0.045
160' - 170'	A3977/62	0.085
170' - 180'	A3978/62	0.05
180' - 190'	A3979/62	0.06
190' - 200'	A3980/62	0.085
200' - 210'	A3981/62	0.085
210' - 220'	A3982/62	0.10
220' - 230'	A3983/62	0.27
230' - 240'	A3984/62	0.075
240' - 250'	A3985/62	0.105
250' - 260'	A3986/62	0.115
260' - 270'	A3987/62	0.10
270' - 282'	A3988/62	0.20
282' - 292'	A691/63	0.30
292' - 302'	A692/63	0.22
302' - 312'	A693/63	0.20
312' - 322'	A694/63	0.18
322' - 332'	A695/63	0.11
332' - 342'	A696/63	0.12
342' - 352'	A697/63	0.35
352' - 362'	A698/63	0.102
362' - 372'	A699/63	0.097
372' - 382'	A700/63	0.195
382' - 392'	A701/63	0,21
392' - 402'	A702/63	0.14
402' - 412'	A703/63	0.14

REPORT OF CHEMICAL ANALYSIS DDH. E39/61
(contd.)

Footage			Mark	Lead (Pb) %
412'	-	422'	A704/63	0.25
422'	-	432'	A705/63	0.34
432'	-	442'	A706/63	0.32
442'	-	452'	A707/63	0.28
452'	-	462'	A708/63	0.35
462'	-	472'	A709/63	0.27
472'	-	482'	A710/63	0.13
482'	-	492'	A711/63	0.50
492'	-	502'	A712/63	0.18
502'	-	512'	A713/63	0.24
512'	-	522'	A714/63	0.40
522'	-	532'	A715/63	1.70
532'	-	542'	A716/63	0.40
542'	-	552'	A717/63	0.34
552'	-	562'	A718/63	0.12
562'	-	572'	A719/63	0.09
572'	-	582'	A720/63	0.14
582'	-	592'	A721/63	0.12
592'	-	602'	A722/63	0.50
602'	-	612'	A723/63	0.03
612'	-	622'	A724/63	0.04
622'	-	632'	A725/63	0.03
632'	-	642'	A726/63	0.03
642'	-	652'	A727/63	0.03
652'	-	662'	A728/63	0.03
662'	-	672'	A729/63	0.03
672'	-	682'	A730/63	0.03
682'	-	691'	A731/63	0.03

Mineral Sections at

EDIACARA



Special Mining Lease - 2880 acres.

M.A.E. Mawby - Broken Hill.

Applied for 13.8.40. M.R. No. 3600 Adelaide.

NOTE:- Sections tinted pink have been declared a temporary reserve.

Reefs shown thus ---------

More recent holdings shown thus — · — · — · —

Scale
1 Inch = 20 Chains

DM 575/40

LEGEND

CAINOZOIC

Recent

- Sand dunes
- Alluvium & gravels

Tertiary

- Duricrust

PALAEOZOIC

Cambrian

- Dolomites
- Shales
- Wormburrow sandstone

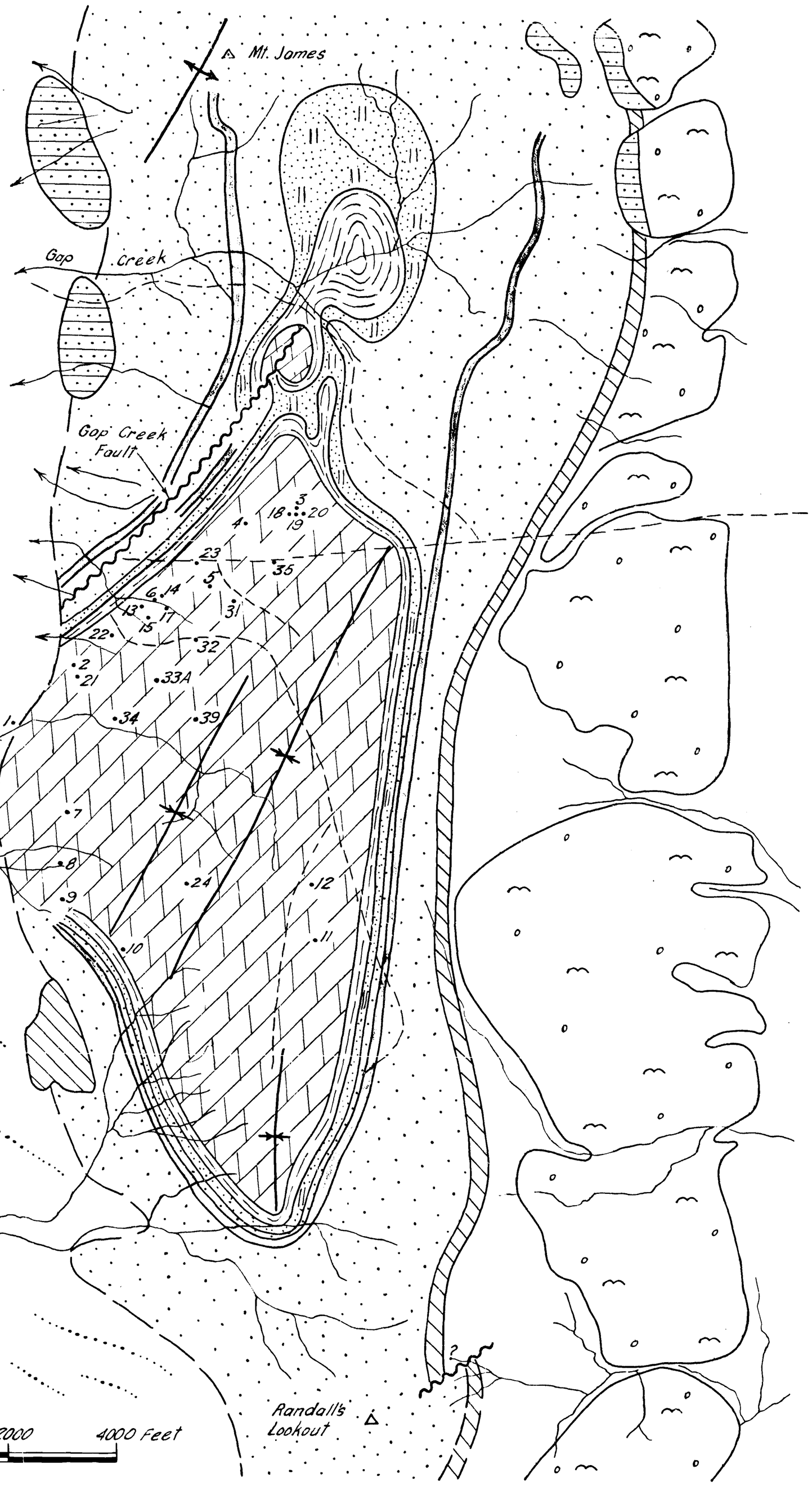
PROTEROZOIC

- Poundsandstone with fossil beds
- Dolomite
- Anticline
- Syncline
- •39 Diamond drill holes with numbers which have been abbreviated by the omission of E/-/61 eg. •39 should be • E/39/61
- ---Track

N

SCALE

Feet 2000 0 2000 4000 Feet



To accompany a report by L.G. Nixon.

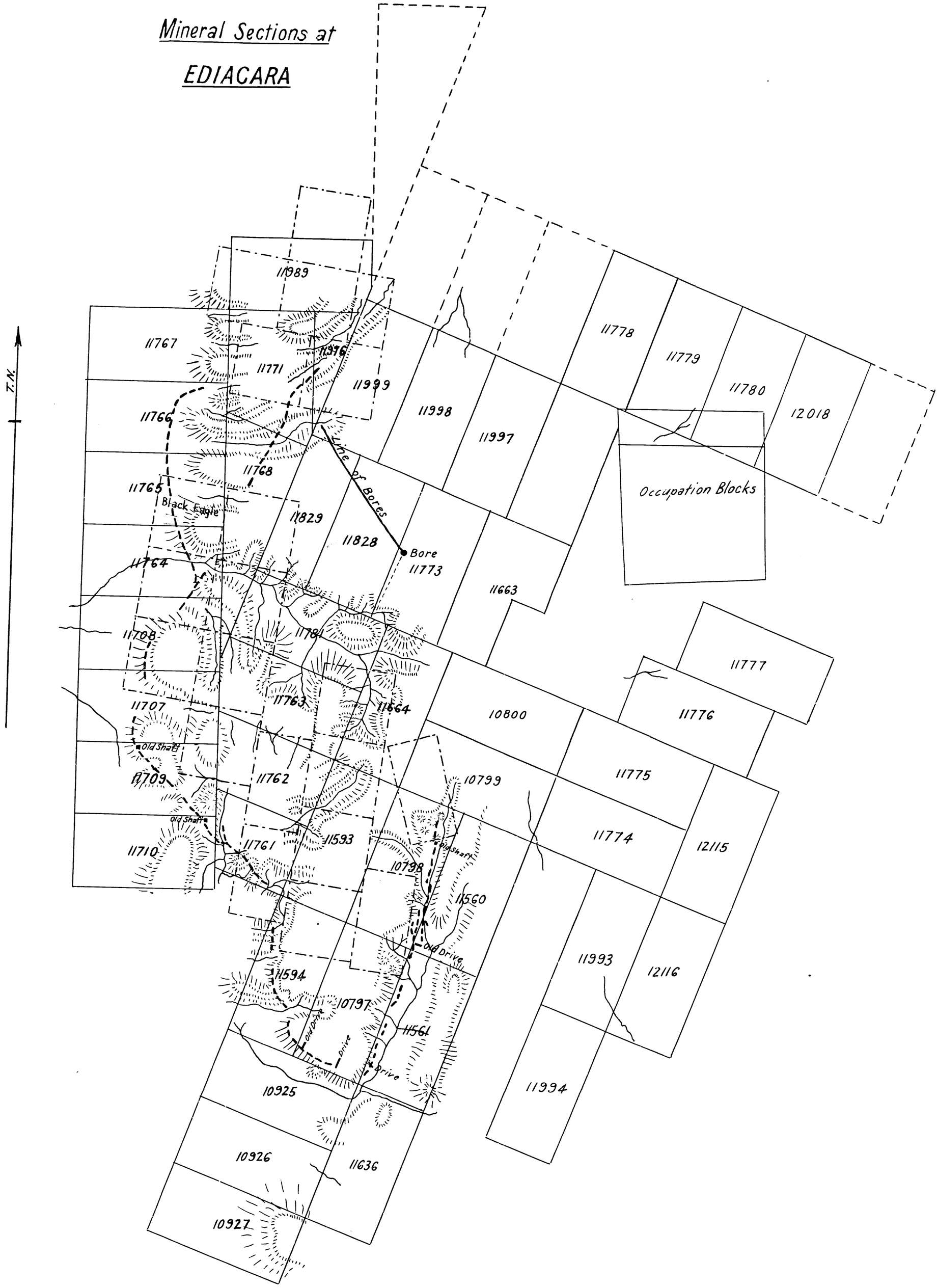
S.A. DEPARTMENT OF MINES

No.	Amendment	Exd.	Date

EDIACARA MINERAL FIELD BORE LOCATION AND GENERAL GEOLOGICAL PLAN

Approved	Passed		Scale : 2000' to 1"
		Drn.	
		Tcd. B.S.	62-765
		Ckd.	Cc.
Director		Exd.	Date 19-11-62

Mineral Sections at EDIACARA

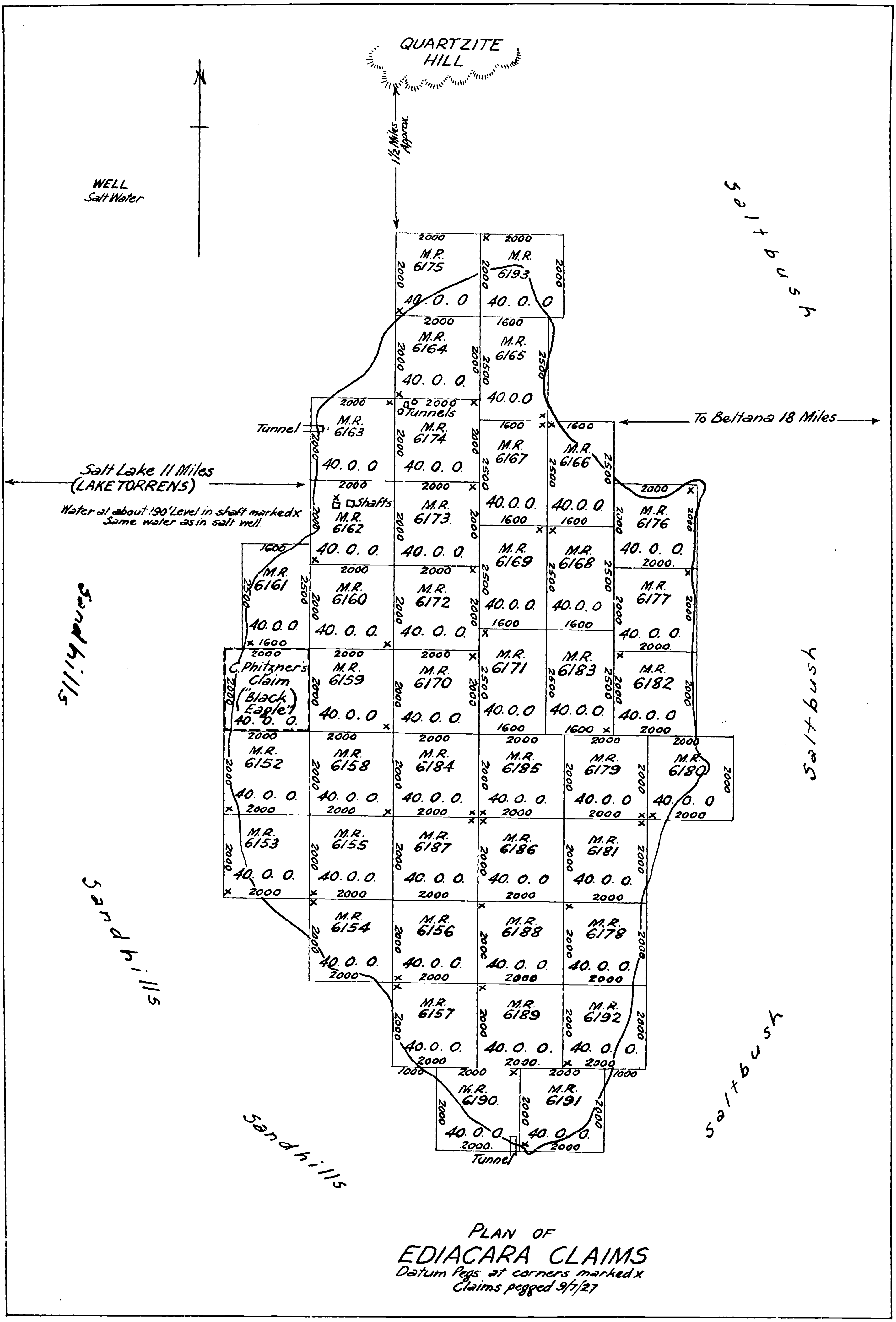


△ Randall's Lookout

NOTE:- Sections tinted pink have been declared a temporary reserve.
Reefs shown thus ---------
More recent holdings shown thus —·—·—·—·—

Scale
1 Inch = 20 Chains

757
Cc


QUARTZITE HILL
1½ Miles Approx.
WELL
Salt Water
Salt Lake 11 Miles (LAKE TORRENS)
Water at about 190' Level in shaft marked x
Same water as in salt well.
To Beltana 18 Miles
Tunnel
Tunnels
Shafts
C. Phitzner's Claim ("Black Eagle") 40. 0. 0.
M.R. 6175 40. 0. 0
M.R. 6193 40. 0. 0
M.R. 6164 40. 0. 0.
M.R. 6165 40.0.0
M.R. 6163 40. 0. 0
M.R. 6174 40. 0. 0.
M.R. 6167 40.0.0.
M.R. 6166 40.0.0
M.R. 6162 40. 0. 0.
M.R. 6173 40. 0. 0.
M.R. 6176 40. 0. 0.
M.R. 6161 40.0.0
M.R. 6160 40. 0. 0.
M.R. 6172 40. 0. 0.
M.R. 6169 40.0.0.
M.R. 6168 40.0.0
M.R. 6177 40. 0. 0.
M.R. 6159 40. 0. 0
M.R. 6170 40. 0. 0.
M.R. 6171 40.0.0
M.R. 6183 40.0.0.
M.R. 6182 40.0.0
M.R. 6152 40. 0. 0.
M.R. 6158 40. 0. 0.
M.R. 6184 40. 0. 0.
M.R. 6185 40. 0. 0.
M.R. 6179 40.0.0
M.R. 6180 40. 0. 0
M.R. 6153 40. 0. 0.
M.R. 6155 40. 0. 0.
M.R. 6187 40. 0. 0.
M.R. 6186 40. 0. 0
M.R. 6181 40. 0. 0.
M.R. 6154 40. 0. 0.
M.R. 6156 40. 0. 0.
M.R. 6188 40. 0. 0.
M.R. 6178 40. 0. 0.
M.R. 6157 40.0. 0.
M.R. 6189 40. 0. 0.
M.R. 6192 40. 0. 0.
M.R. 6190 40. 0. 0
M.R. 6191 40. 0. 0.
saltbush
saltbush
saltbush
sandhills
sandhills
sandhills

PLAN OF
EDIACARA CLAIMS
Datum Pegs at corners marked x
Claims pegged 9/7/27

758
Cc

A SKETCH PLAN & SECTIONS

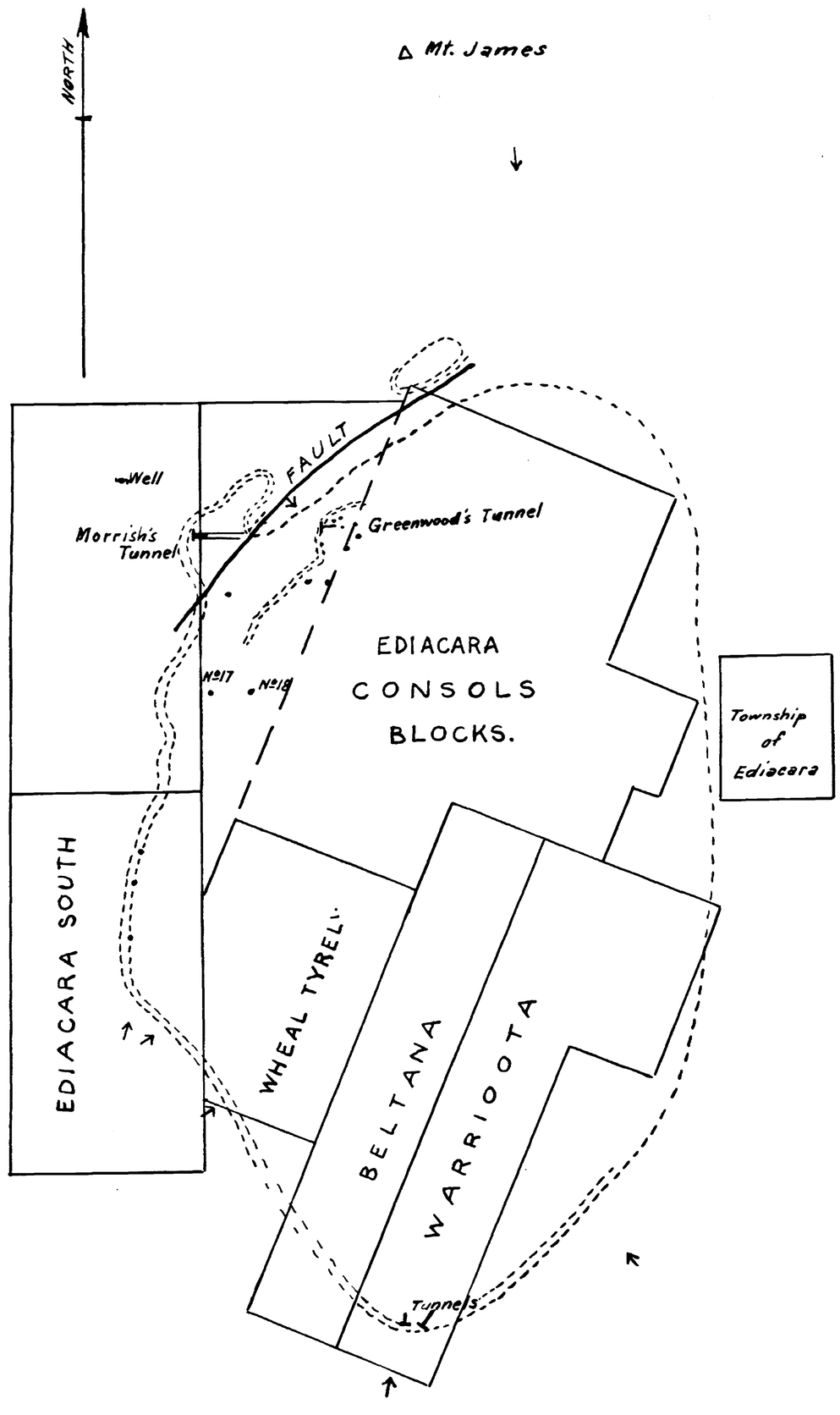
OF THE

EDIACARA SILVER FIELD

To accompany Report on the

EDIACARA CONSOLS SILVER MINE.

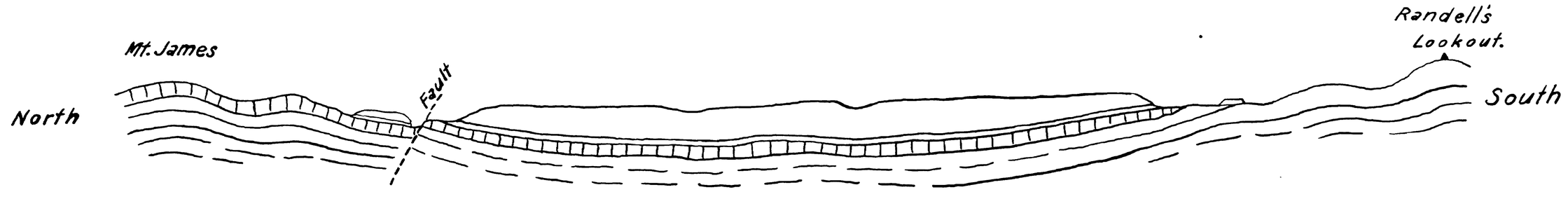
SCALE :- 30 CHAINS TO AN INCH.



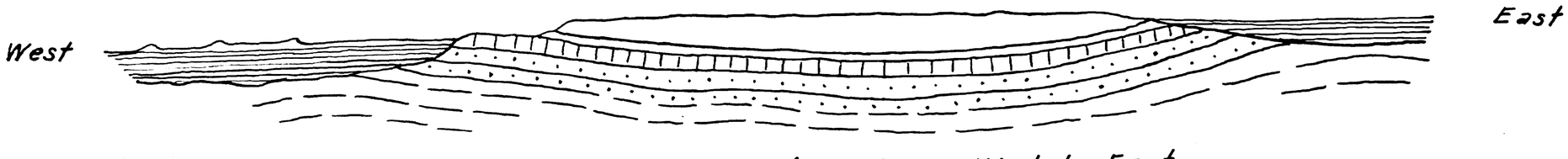
Legend.

- *Alluvial and Tertiary Beds.*
- *Dolomitic limestone. (containing argentiferous ores.)*
- *Kaolinised shales and sandstone. (containing argentiferous ores.)*
- *Quartzite and sandstone beds.*
- *Upper workings.*
- *Shafts.*
- *Tunnels.*

Note:- Boundaries of rock formations on this plan are delineated approximately so far as is necessary to illustrate the geology of the Ediacara Consols Blocks.



Sketch Section from North to South.



Sketch Section from West to East.

CENTIMETRES
0 5 10
0 1 2 3 4

1

H.Y.L. Brown
Govt. Geologist.

PART III

GEOLOGICAL MAP OF
EDIACARA MINING FIELD

SCALE 1/4 0 1/2 1 3/4 2 MILES.

LAT. 30° 46' S

LONG. 138° 09'

GAP HUT & WELL

GAP CREEK

ST JAMES

BLACK EAGLE No 20

No 1

SYNCLINE

AXIS OF

SH 1.

A1 A2 A3 A4

N

LEGEND

RECENT TO PLEISTOCENE
- SAND DUNES
- ALLUVIUM

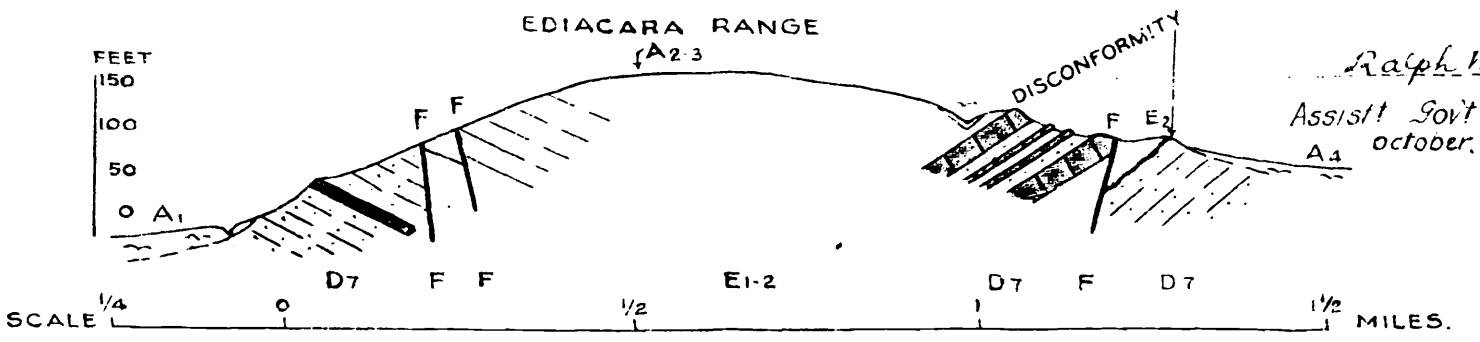
PLEISTOCENE TO TERTIARY
- FERRUGINOUS GRAVELS

LOWER CAMBRIAN
- LIMESTONES AND SHALES E2

DISCONFORMITY

UPPER PRE-CAMBRIAN
- FLINDERS RANGE SERIES: QUARTZITE D7
- FLINDERS RANGE SERIES: SANDSTONE
- UPPER PURPLE SHALES D6h
- FAULT LINES: CONCEALED ..... F; OBSERVED ..... F
- COPPER LODE XXXXX
- STRIKE AND DIP ..... 30°E/12°
- SHAFTS ..... ADITS .....
- BORES ..... No 1

FIG. 22



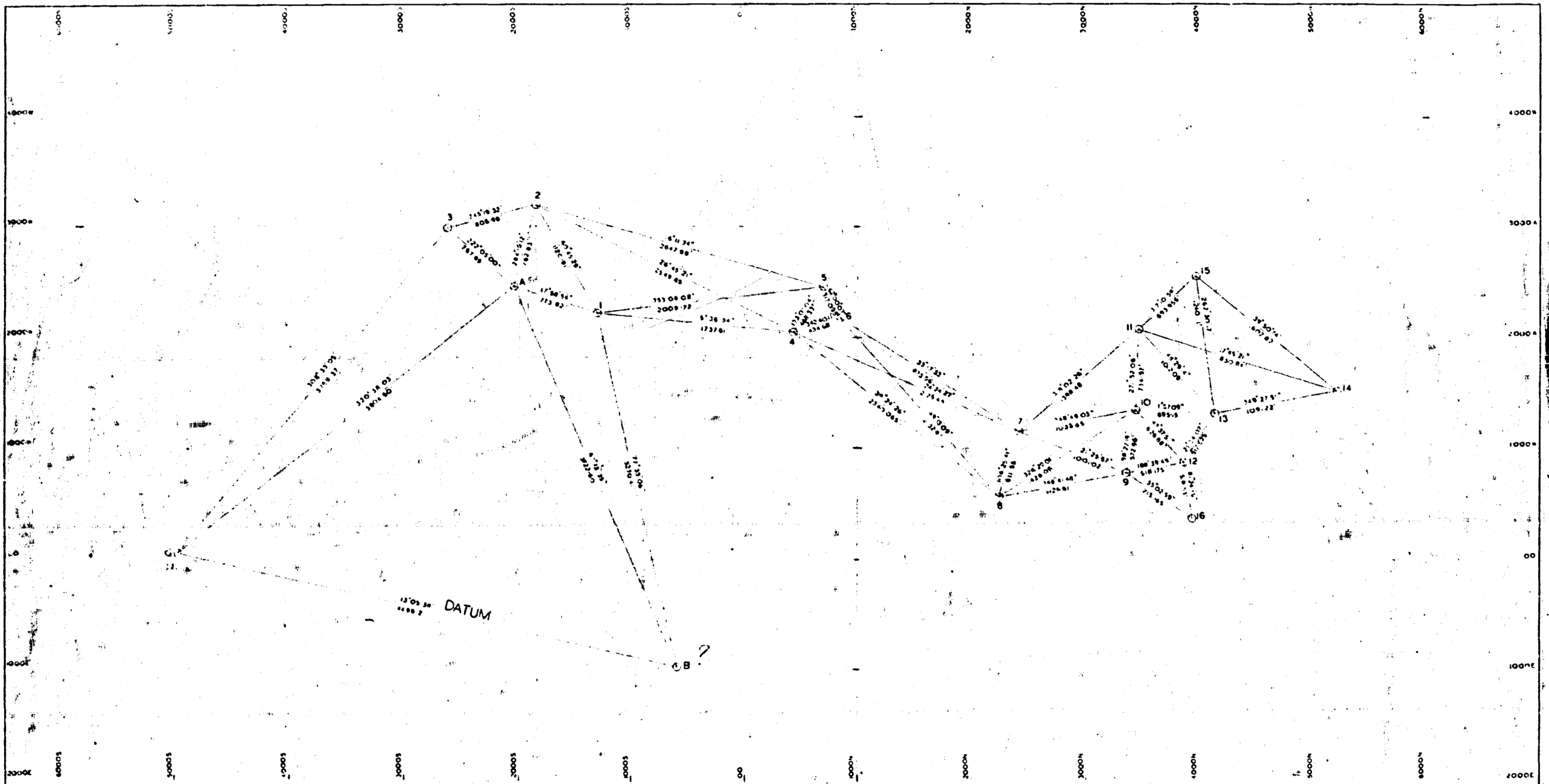
SECTION ON LINE A_1–A_4 ACROSS EDIACARA RANGE

FIG. 23

Ralph W. Segnit
Assist Govt Geologist
October 1938.

T. E. MOORE GOVERNMENT PHOTOLITHOGRAPHER ADELAIDE

1009



STN.	CO-ORDS.				STN.	CO-ORDS.			
B	591·00	S	977·50	E	8	2241·37	N	560·62	W
A	2032·00	S	2454·90	W	9	3346·09	N	761·435	W
G	4973·30	S	41·80	W	10	3430·32	N	1348·07	W
1	1295·98	S	2216·01	W	11	3454·27	N	2082·25	W
2	1843·54	S	3194·08	W	12	3854·13	N	883·435	W
3	2624·17	S	2989·65	W	13	4125·07	N	1324·39	W
4	433·31	N	2046·16	W	14	5197·90	N	1523·92	W
5	699·40	N	2455·63	W	15	3963·31	N	2553·90	W
6	848·26	N	2175·64	W	16	3931·57	N	370·72	W
7	2414·33	N	1147·22	W					

EDIACARA

TRIANGULATION SURVEY

ZINC CORP. LTD. B. HILL.

DRAWN	J.E.D.	2.3.46	DRAWING NUMBER
TRACED	J.E.D.	2.3.46	
EXAMINED	C.A.B.	2.3.46	3438/1
APPROVED			R 20/22 Cc

SCALE: 1" = 500'

Copy 1

LEGEND

RECENT	1	TALUS & SAND DUNES
CAMBRIAN	2	LIMESTONE
	3A	CALCAREOUS CURRENT BEDDED SANDSTONE
	3B	SILICEOUS LIMESTONE
	3C	CALCAREOUS CURRENT BEDDED SANDSTONE
	3D	CALCAREOUS SANDSTONE
	4	QUARTZITE
	5	SANDSTONE

BEDS OF BRECCIATED & SILICIFIED LIMESTONE

SILICIFIED LIMESTONE

TOP OF OUTCROP OF LIMESTONE BEDS

STRIKE & DIP OF BEDDING

HORIZONTAL BEDDING

CONTOURS

CREEK

FAULT

STRIKE & DIP OF FAULT

UNDERGROUND STOPES

SHAFT & DEPTH — 185'

PROPOSED DIAMOND DRILL HOLES — D.D.H. 4 ⊙ 55°

PROPOSED AREA OF GEOPHYSICAL SURVEY SHOWN

E. Broadbent
Mining Engineer

GREENWOODS SHAFT

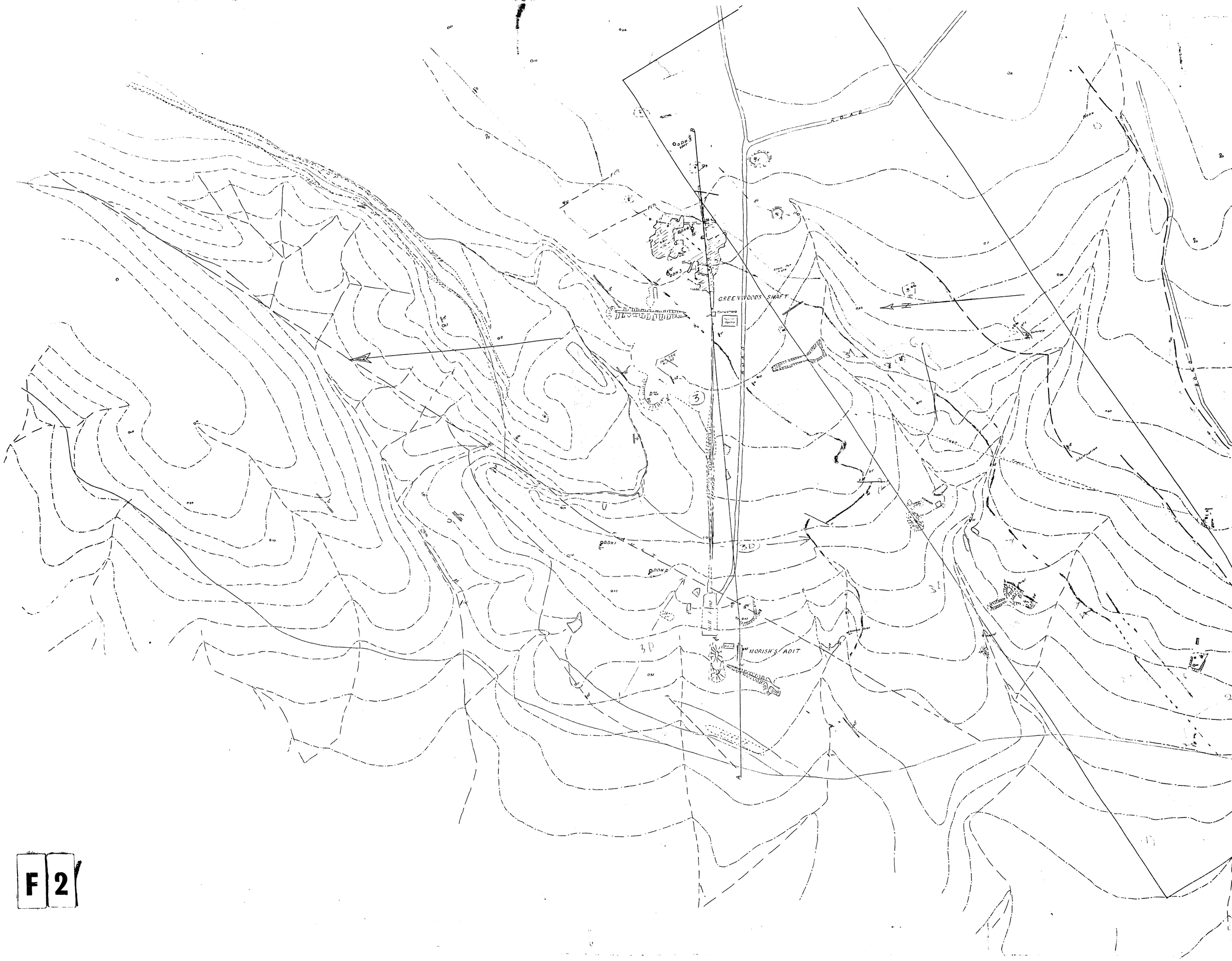
MORISH'S ADIT

D.D.H.1

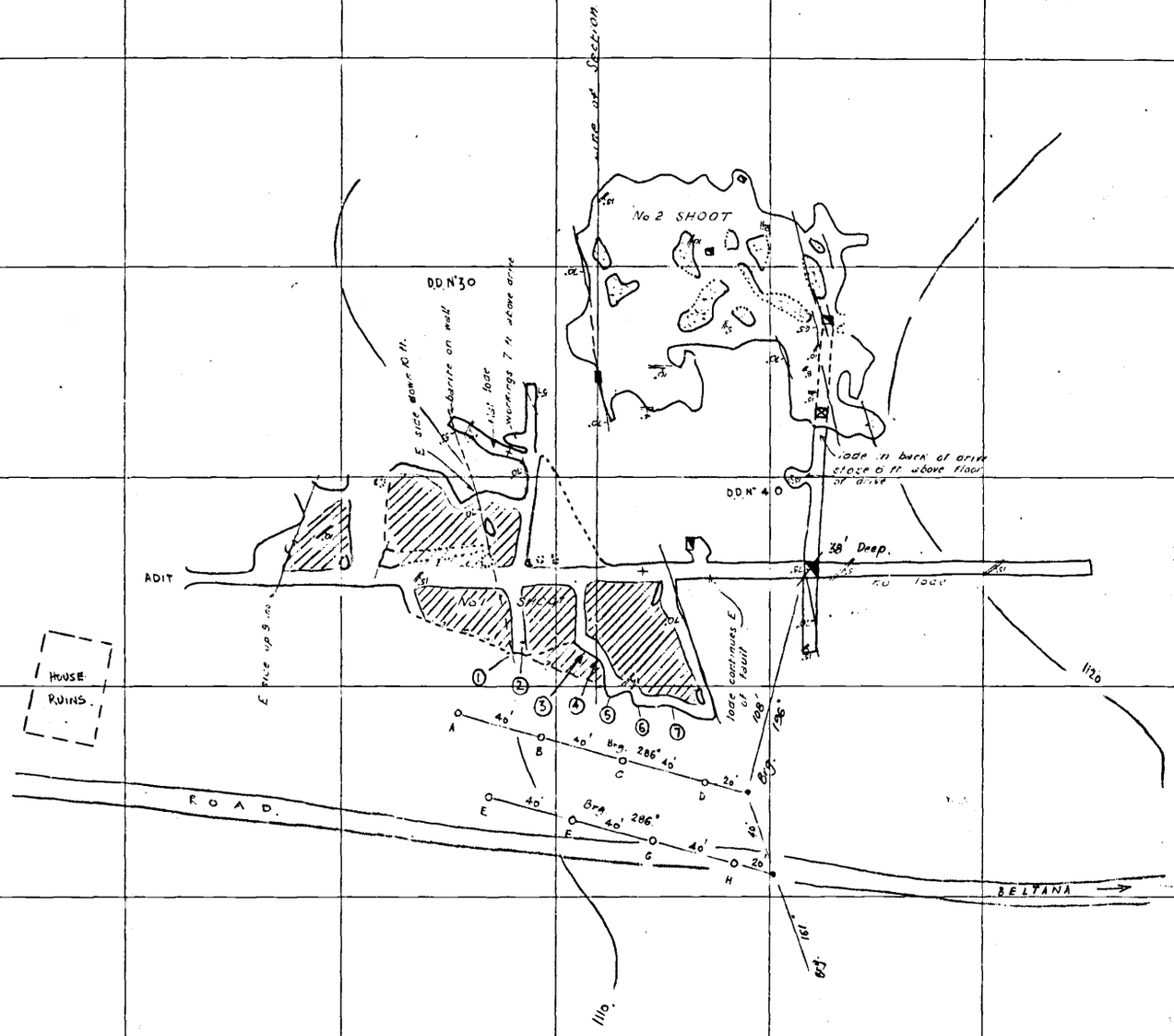
D.D.H.2

F1

3441L



F 2



N°	WIDTH	% Pb.	Ozs. Ag
①	1·3'	44·9	13·6
②	1·6'	27·1	8·6
③	1·9'	36·8	11·4
④	2·4'	22·6	10·0
⑤	1·4'	24·2	7·4
⑥	2·1'	19·9	6·0
⑦	1·6'	17·6	5·0

Additions in pencil from Zinc Corp.ⁿ Ltd X 29-2 8.11.60

Location of 3.4.5 by S.B.

S. A. G.—DEPT. OF MINES

EDIACARA

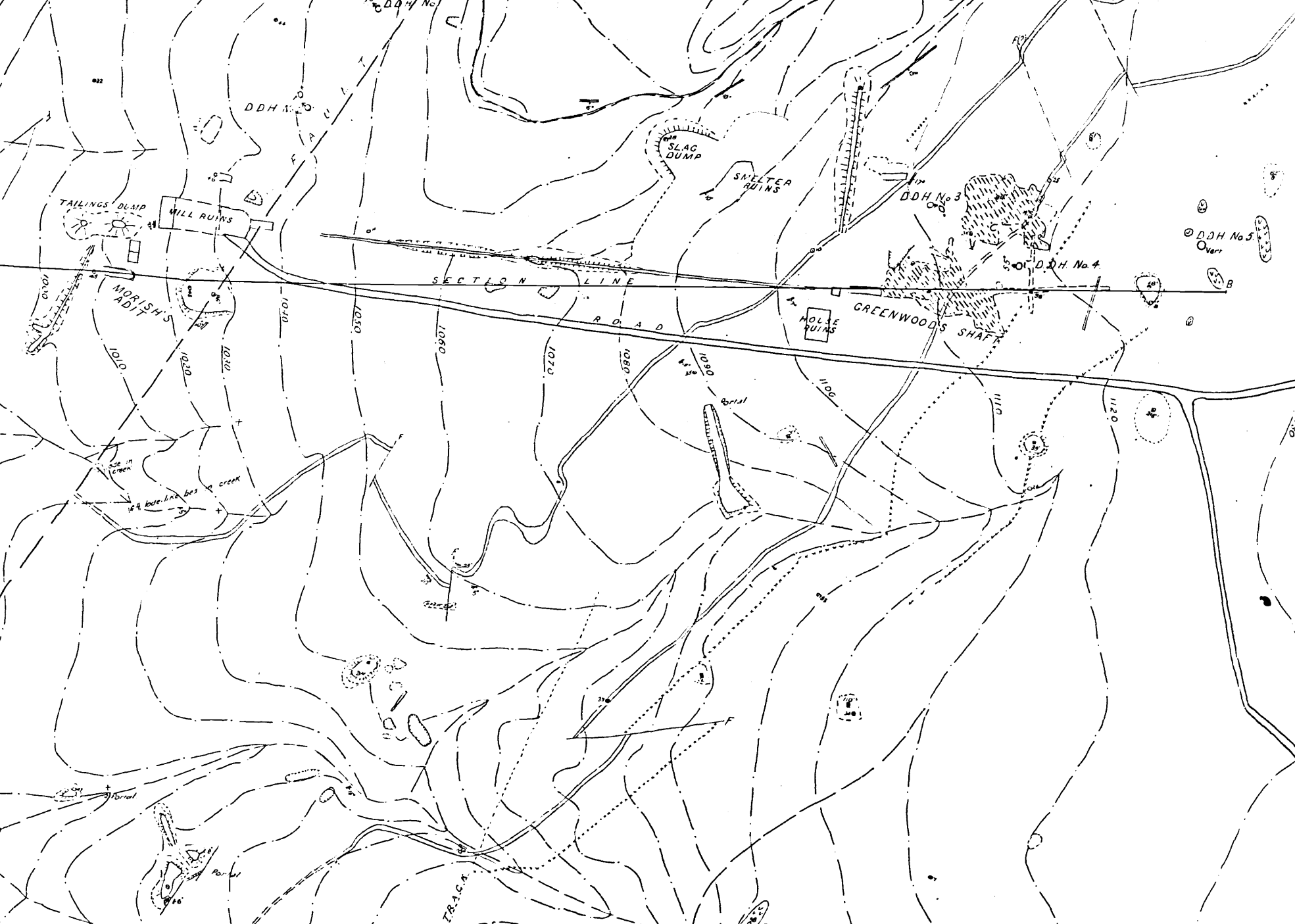
GREENWOOD'S LODE

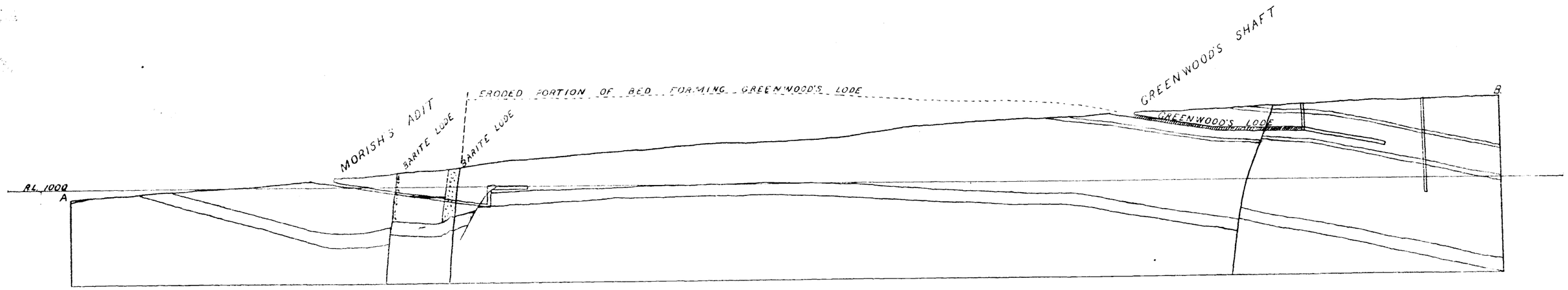
PLAN & SECTION

SCALE 1" = 40'

L. Broadhurst
ASSISTANT GOVERNMENT GEOLOGIST
2-7-46

Drawing Reference	Approved		Drwg. N° 3461
Locality Plan N° 3463		SBD. Director of Mines 2-7-46	


DDH No 1
DDH No 2
SLAG DUMP
SMELTER RUINS
DDH No 3
DDH No 5
Vert
DDH No 4
TAILINGS DUMP
MILL RUINS
SECTION LINE
ROAD
MORISH'S ADIT
HOUSE RUINS
GREENWOOD'S SHAFT
Burial
creek
1010
1020
1030
1040
1050
1060
1070
1080
1090
1100
1110
1120



S. A. G. DEPT. OF MINES

— EDIACARA —

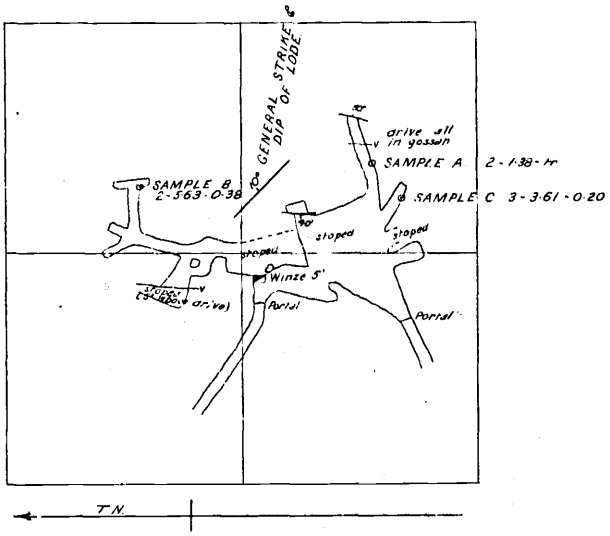
GREENWOOD'S WORKINGS

SECTION A–B

SCALE 1" = 100'

L. Broadhurst
ASSISTANT GOVERNMENT GEOLOGIST
2-7-46.

Drawing Reference	Approved	Scale	1 inch = 100 ft.		S.A.G.—DEPT. OF MINES		Drwg. No 3464
Section line A-B shown on Plan No 3463	S.B.O. Director of Mines 2-7-46	Passed		Dr. E.B.	EDIACARA GREENWOOD'S WORKINGS SECTION A-B		
				Tr. E.B.			
		Date 2-7-46		Ckd.			



LEGEND

	Silver dwt.	Copper %	Lead %
SAMPLE A	2	1·38	Tr.

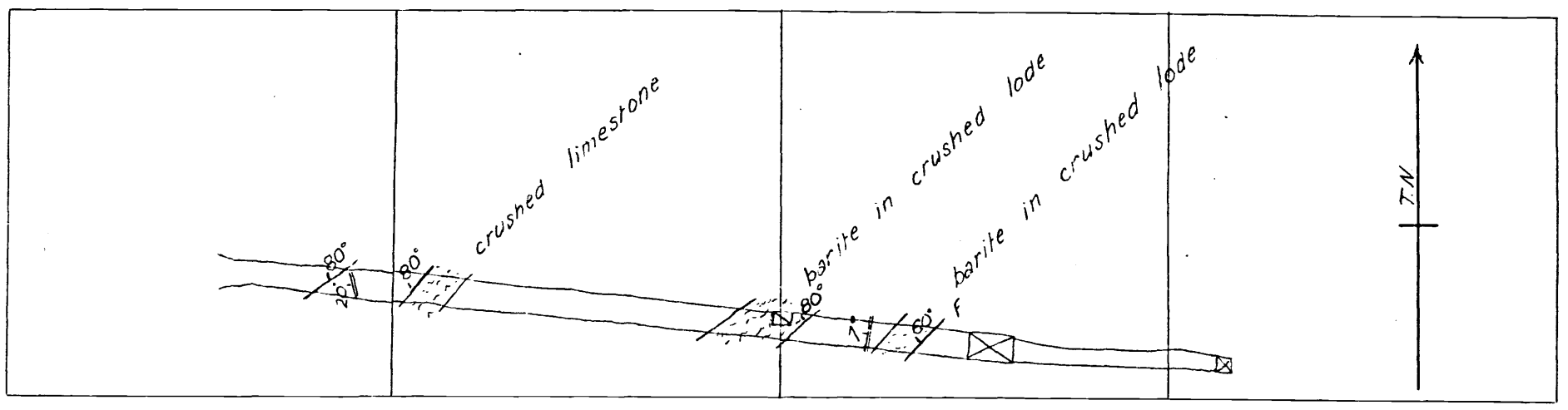
L. Broadhurst
Assistant Government Geologist.

S A G DEPT. OF MINES

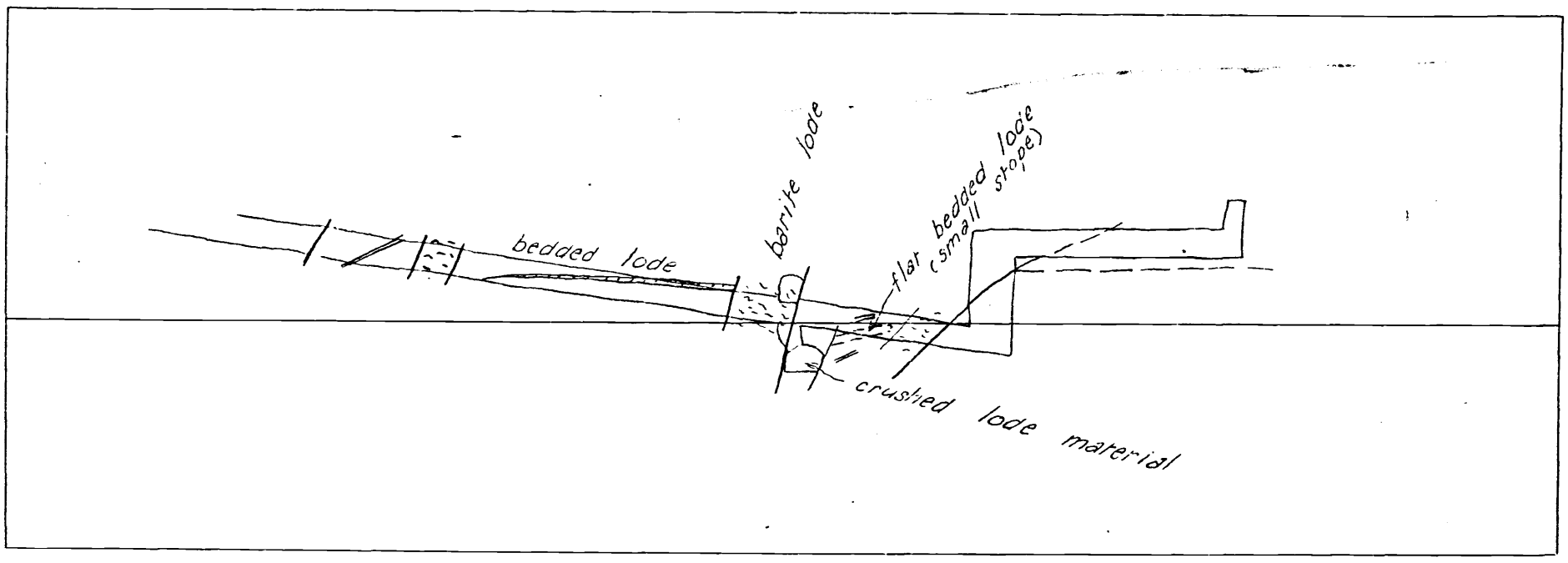
EDIACARA

BLACK EAGLE

Drawing Reference	Scale	40 feet to 1 inch		D	No 3465
Locality Plan No 3479	Approved Director of Mines		Drawn	E.B.	Cc
	Date	4-7-46	Traced		
			Checked		



PLAN



SECTION

LEGEND

BEDDED LIMESTONE

QUARTZITE

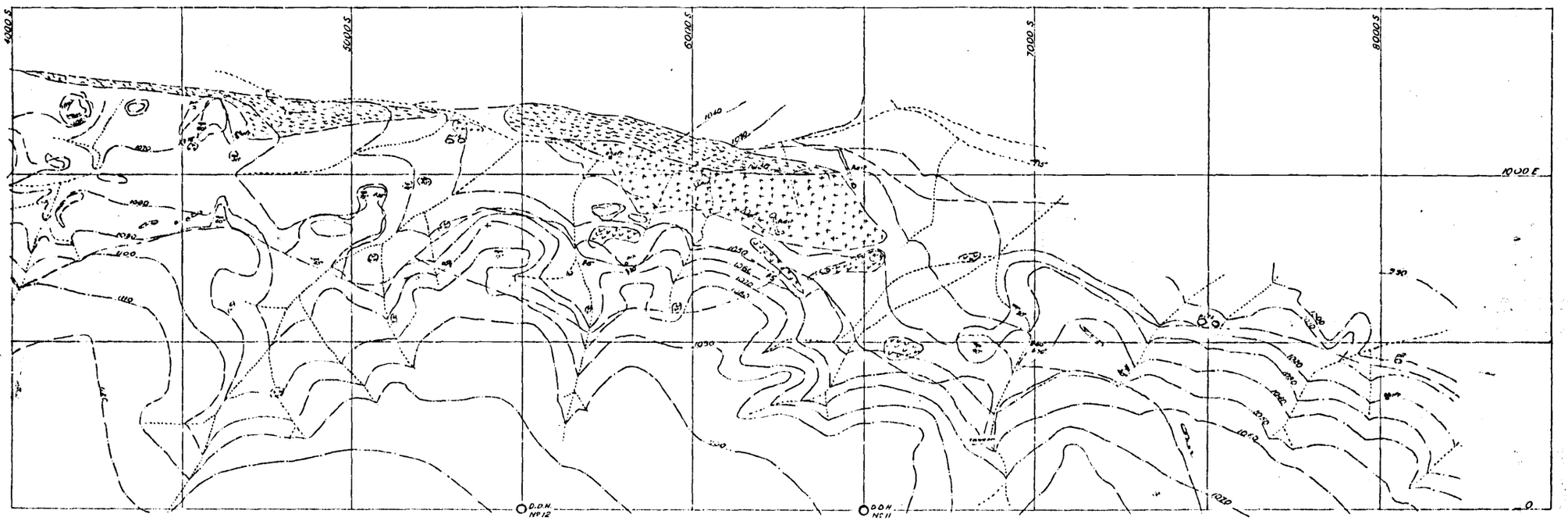
L. Broadhurst
Assistant Government Geologist

S. A. G. DEPT. OF MINES

EDIACARA

MORISH WORKINGS

Drawing Reference	Scale	40 feet to 1 inch			D	No 3466
Enlarged from Plan No 3463	Approved Director of Mines	1/30	Drawn	E.B.		
	Date	4-7-46	Traced			
			Checked			



N

LEGEND

LIMESTONE	
CURRENT-BEDDED LIMESTONE	
SANDSTONE	
SILICIFIED LIMESTONE	
IRONSTONE	
QUARTZ	
CREEKS	
CONTOURS	
STRIKE AND DIP OF BEDDING	15°
HORIZONTAL BEDDING	+
PROPOSED DIAMOND DRILL HOLES	O DDH

UNCOLOURED OR UNSHADED AREAS ARE LOW-LYING AND PROBABLY FORMED BY WHITE EARTHY SILICIFIED LIMESTONE.

L. Broadhurst.
Assistant Government Geologist

S. A. G. DEPT. OF MINES

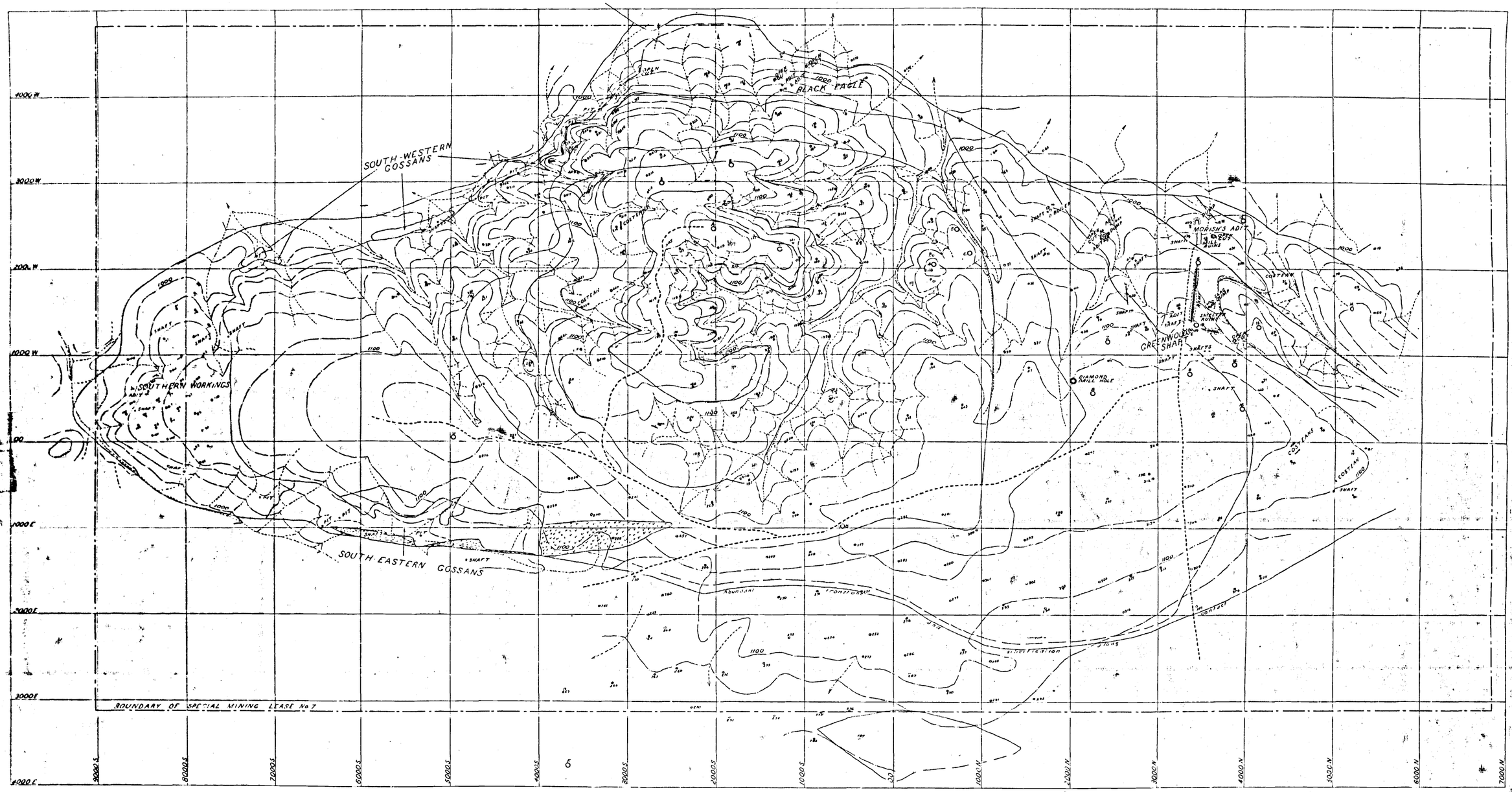
EDIACARA

SOUTH-EASTERN AREA

Drawing Reference	Scale	200 feet to 1 inch				C	№ 3467
Enlarged from plan № 3479	Approved Director of Mines		Drawn	E.B.			Cc
	Date	4.7.46	Traced				
			Checked				

Plan 3473 is currently missing.

Plan Number: **N3473**
Plan Title: Ediacara mine, Morish adit - Greenwood workings E-W section.



LEGEND

- SAND DUNES AND TALUS
- LIMESTONE
- TRANSITION BEDS
- SANDSTONE
- QUARTZ
- SILICIFIED LIMESTONE

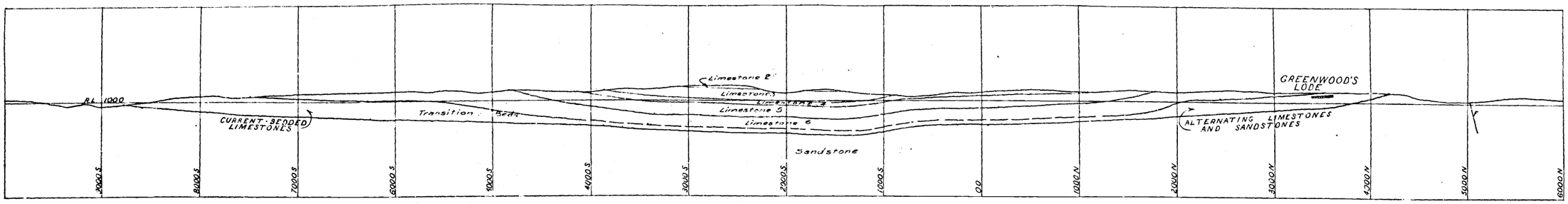
NOTE DEEPER SHADES OF BLUE INDICATE INCREASED THICKNESS OF LIMESTONE.

REFERENCE TO SIGNS

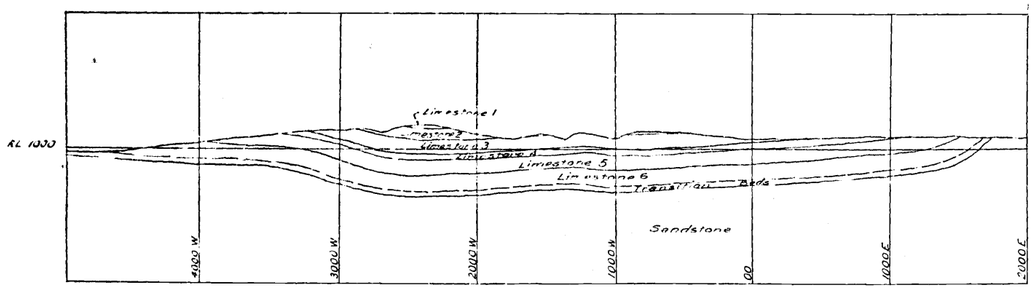
- CONTOURS
- CREEKS
- ROADS
- SURVEY PEGS
- TRIANGULATION STATIONS
- STRIKE AND DIP OF BEDDING
- FAULT

L. Broadhurst
Assist. Government Geologist

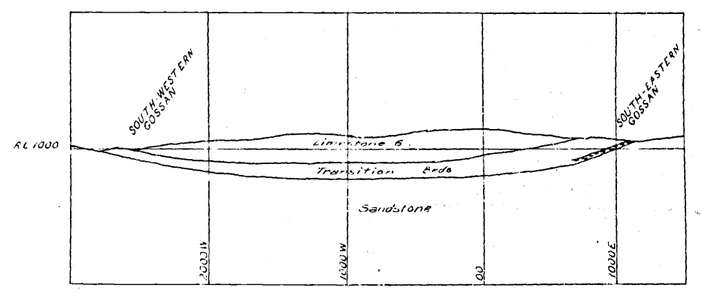
Approved	Surveyed by T.G. Gibson F.B. L.B. Stadia B				S.A.G. — DEPT. OF MINES	SCALE
1/8/47 Director of Mines	Geology by E. Broadhurst				EDIACARA SURFACE PLAN	500 feet to 1 inch
	Designed		Checked		Drawing References	B No 3479
	Plotted	T.G.G.	Examined		3488, 3464 Sections, 3462, 3467, 3463 Enlargements, 3465 Block Eagle, 3461 Greenwoods, 3466 Morish's	
	Drawn	E.B.	Passed			
Date 7-8-46	Traced			Dun C.		Cc



N-S SECTION AT 1000 W



E-W SECTION AT 2000 S



E-W SECTION AT 5000 S

LEGEND

SAND DUNES AND TALUS

LIMESTONE

TRANSITION BEDS

SANDSTONE

QUARTZ

SILICIFIED LIMESTONE

Assist. Government Geologist.

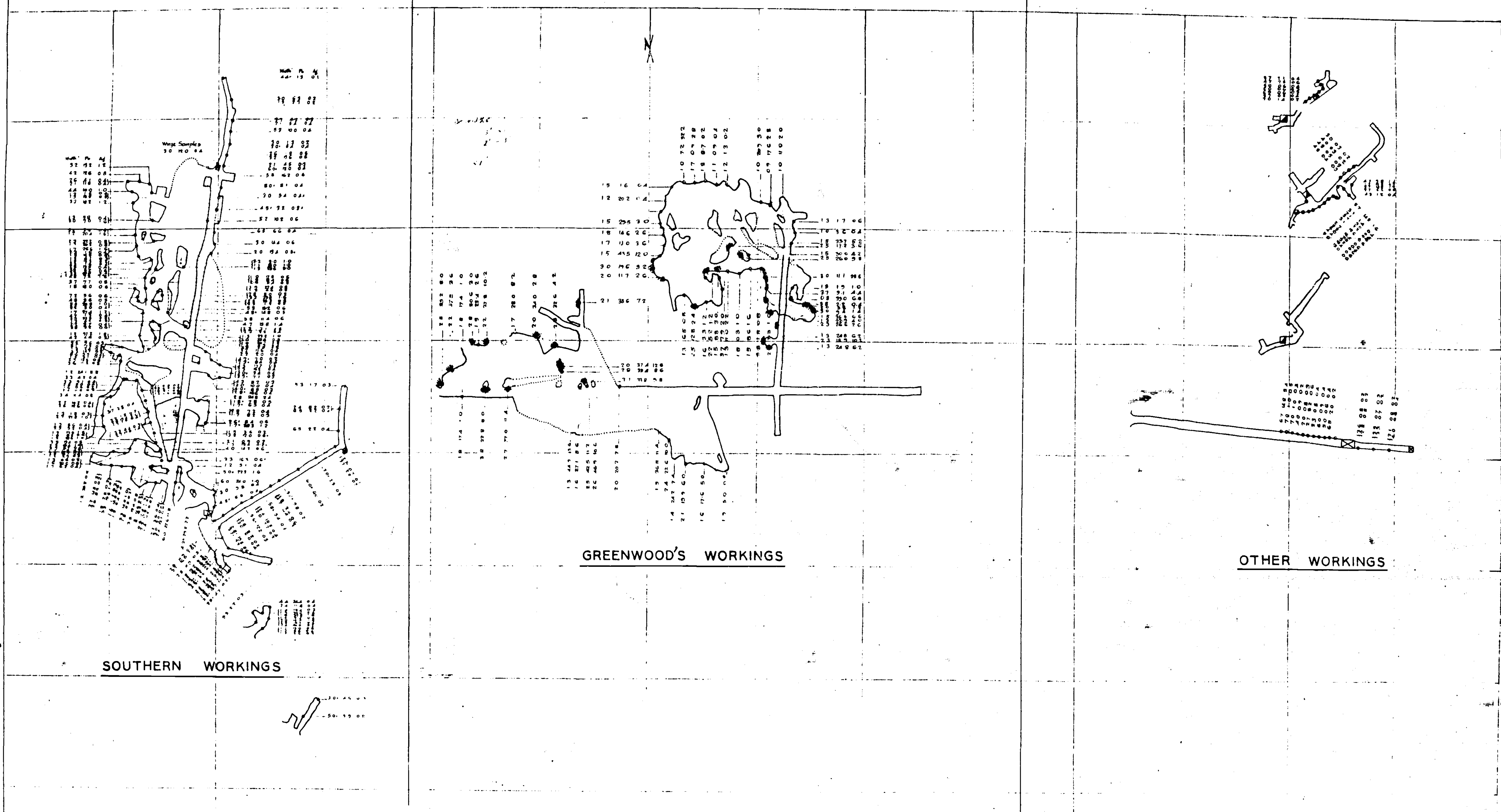
Approved	Surveyed by T.C.G. Gibson F.B. L.B. Sketch B.					S.A.G. — DEPT. OF MINES.
	Geology by C. Broadhurst					EDIACARA SECTIONS
	Designed		Checked		Drawing References	
	Plotted	T.C.G.	Examined		3479 Surface Plan	
Director of Mines	Drawn	E.B.	Passed			
Date J.-B.-46	Traced			C. in C.		

SCALE 500 feet to 1 inch

B

No 3488

Cc



AUSTRAL DEVELOPMENT PROPRIETARY LTD

EDIACARA MINING LEASE.

ASSAY PLAN

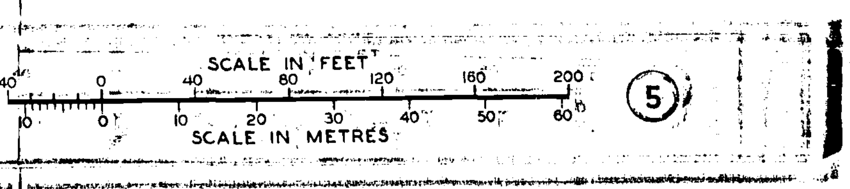
Scale 40 feet to an Inch.

LEGEND.

+-+-+	[illegible]
----	Brow above undercut stope.
......	Possible wall
o	Sample channel

Feet	[illegible]	ozs Ag	
1 2	22 [illegible]	18	
{ 1 3	[illegible]	0 4	
{ 2 4	[illegible]	1 5	Sample split
2 8 +	[illegible]	1 4	Whole [illegible] not exposed
[illegible] 8	[illegible]	1 6 x	Sample on brow above stope

Note Whole [illegible] sampled in all cases



F 11

SCALE IN METRES 250 0 500 750

SCALE IN FEET 500 0 1000 1500 2000 2500

SAMPLE IN DOLOMITE HORIZON
Coord. position N 2550'
W 2510

Sample No	Width	%	Ag oz
42	3.0	4.88	2.0

GREENWOODS WORKINGS
ORE IN FACE
Width 68.2'
Thickness 2.3'
Length 375.0'
Tons/hor ft 16
Grade .Pb 27.9 oz Ag 4.79

GRAB SAMPLE IN SHALE HORIZON (GOSSAN)
Coord position S 5120
W 2390

Sample No	Cu %	Pb %	Ag oz	Remarks
32	2.8	17.7	0.2	

GRAB SAMPLES IN SHALE HORIZON (GOSSAN)

Sample No	Cu %	Pb %	Ag oz
26	Tr.	1.4	0.1
27	2.1	0.7	0.2
28	Tr.	0.5	0.1
29	4.0	0.5	0.1
30	1.8	3.1	0.1
31	0.2	2.0	0.1
33	Tr.	3.5	0.1
34	Tr.	2.5	0.1
35	Tr.	2.1	0.1
36	Tr.	0.3	0.1
37	1.1	1.0	0.1
38	3.4	0.6	0.1
39	10.2	0.7	0.1
40	0.2	0.5	0.1
41	Tr.	0.5	0.1

GRAB SAMPLES IN SHALE HORIZON (GOSSAN)
Coord Position S 8100
W 1600

Sample No	Cu %	Pb %	Ag oz	Remarks
24	0.2	17.7	0.1	Open cut
23	0.6	15.8	0.1	Shaft dump

GRAB SAMPLES IN SHALE HORIZON (GOSSAN)

Sample No	Cu %	Pb %	Ag oz
17	0.6	0.5	0.2
18	Tr.	0.3	0.1
19	Tr.	0.5	0.1
20	Tr.	0.3	0.1
21	Tr.	0.6	0.1
22	Tr.	1.8	0.1
23	0.6	0.2	0.2

GRAB SAMPLES IN SHALE HORIZON (GOSSAN)

Sample No	Cu %	Pb %	Ag oz
1	3.7	0.7	0.1
2	Tr.	0.4	0.1
3	0.5	0.6	0.1
4	0.5	0.6	0.1
5	0.6	0.4	0.1
6	8.8	2.0	0.1
7	0.2	0.5	0.1
8	Tr.	0.7	0.1
9	Tr.	0.7	0.1
10	Tr.	0.9	0.1
11	0.2	0.4	0.1
12	Tr.	0.7	0.1
13	Tr.	0.5	0.1
14	0.1	0.5	0.1
15	2.2	0.5	0.1
16	5.5	0.4	0.1

SOUTHERN WORKINGS
ORE IN FACE
Width 107.8'
Thickness 4.8'
Length 310.0'
Tons/hor. Ft. 13 or 79
Grade 2.% 16.6 oz. Ag 12 2% Pb. 14.5 oz Ag 0.8.

6000N
5000N
4000N
3000N
2000N
1000N
0
1000S
2000S
3000S
4000S
5000S
6000S
7000S
8000S
9000S
7000 W
6000 W
5000 W
4000 W
3000 W
2000 W
1000 W
0
1000 E
2000 E
3000 E
4000 E

AUSTRAL DEVELOPMENT PROPRIETARY LTD.

EDIACARA MINING LEASE.

SURFACE PLAN

Scale: 500 feet to 1 inch.

LEGEND.
- Dolomite
- Shale
- Sandstone & Quartzite
- Quartz blow
- Gossan
- Underground workings.

FIG 1

AUSTRAL DEVELOPMENT PROPRIETARY LTD.

EDIACARA MINING LEASE.

SURFACE PLAN

S.A.G. DEPT. OF MINES

EDIACARA

GREENWOOD WORKINGS

SURFACE PLAN

SCALE

FEET 100 50 0 100 200 300 400 500 600 700 800 900 1000 1100 FEET

LEGEND

RECENT

1. TALUS & SANDSTONE

CAMBRIAN

2. LIMESTONE
3A. CALCAREOUS CURRENT BEDDED SANDSTONE
3B. SILICEOUS LIMESTONE
3C. CALCAREOUS CURRENT BEDDED SANDSTONE
3D. CALCAREOUS SANDSTONE
4. QUARTZITE
5. SANDSTONE

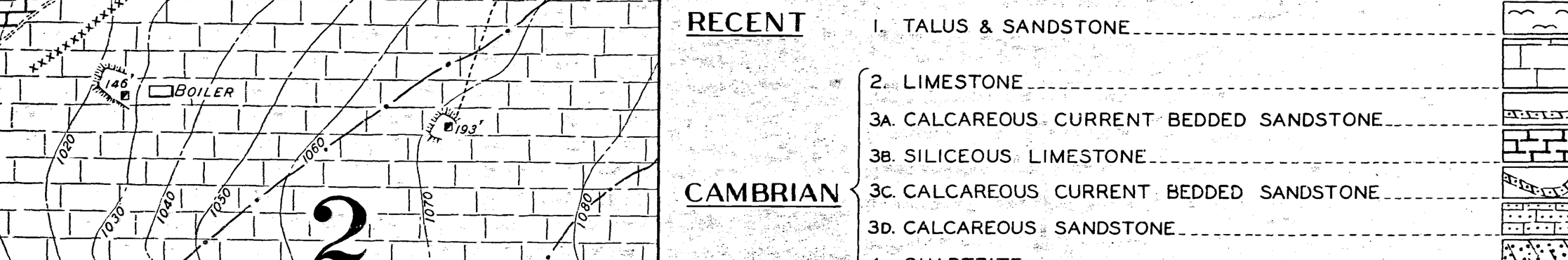
SILICIFIED LIMESTONE

REFERENCE TO SIGNS

BEDS OF BRECCIATED & SILICIFIED LIMESTONE
TOP OF OUTCROP OF LIMESTONE BED
STRIKE & DIP OF BEDDING — 40°
HORIZONTAL BEDDING
CONTOURS — 1070
CREEKS
FAULT (WITH STRIKE & DIP) — F 70°
ENGINE FOUNDATIONS
UNDERGROUND STOPES
SHAFTS & DEPTHS — 39'
COSTEAN
PITS
DIAMOND DRILL HOLES (PROPOSED) — D.D.H. No 3
DIRECTION & DEPRESSION OF D.D.H. — 70°

E. Broadhurst
ASSISTANT GOVERNMENT GEOLOGIST

SECTION A–B



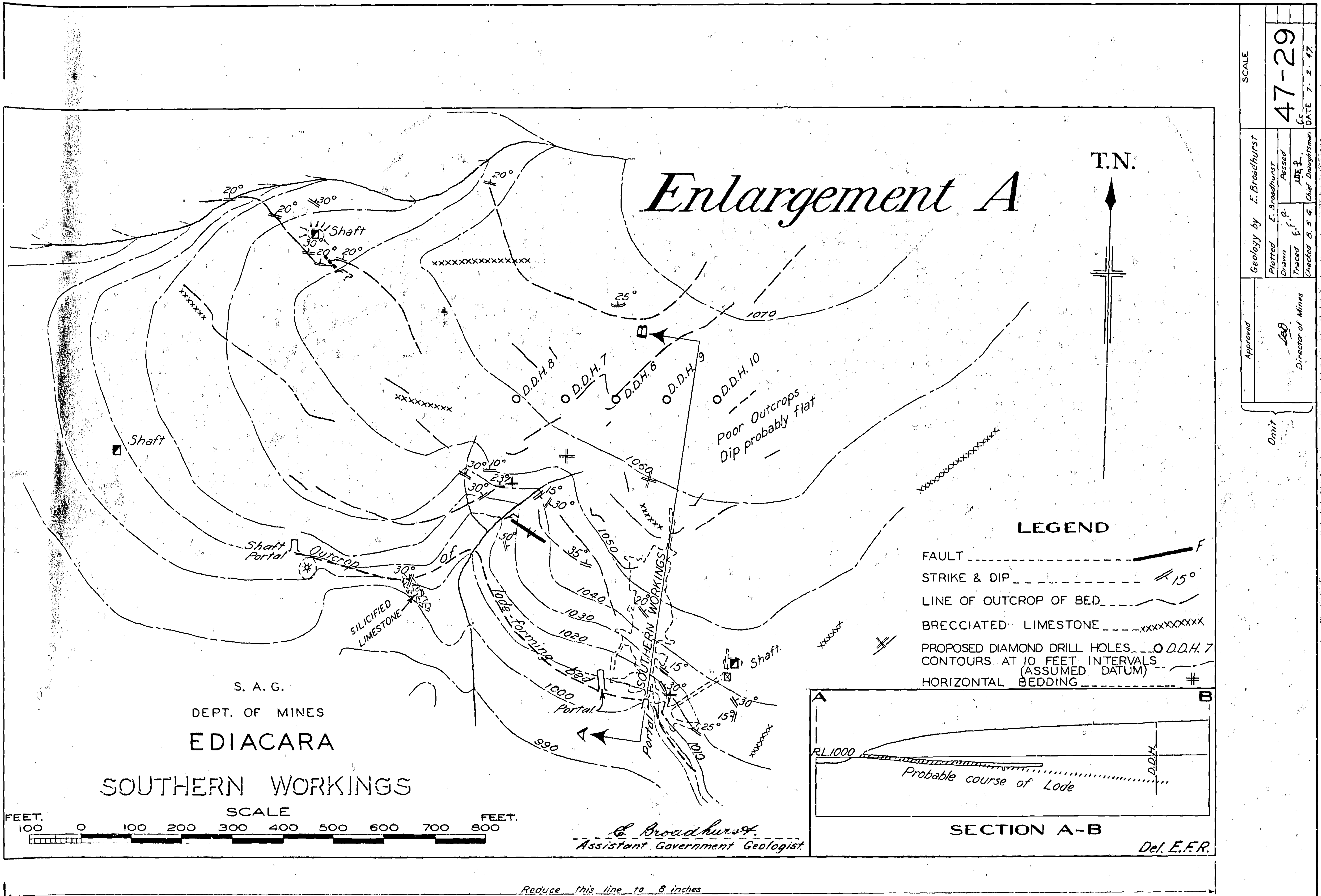
Del. B.T.

Reduce this Line to 8 inches

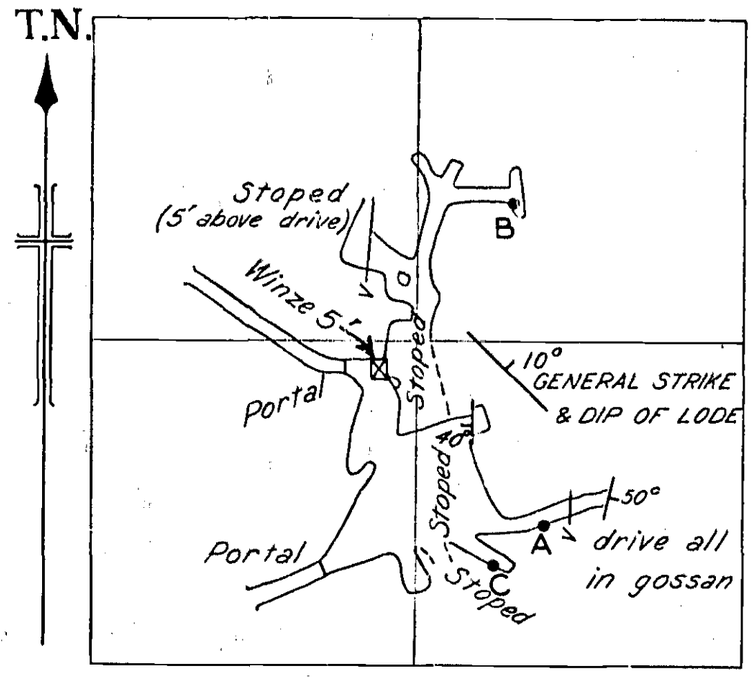
Approved	Geology by E. Broadhurst.		SCALE 100 feet to 1 inch
Director of Mines	Plotted by E. Broadhurst.		47–23
	Drawn B.T.	Passed	
	Traced		
	Checked E.F.R.	Chief Draughtsman	Date 21–1–47

Ediacara Surface Plan	3479				
Associated Drawings	Drg No.	No.	Authority	Date	Amendment

Enlargement C



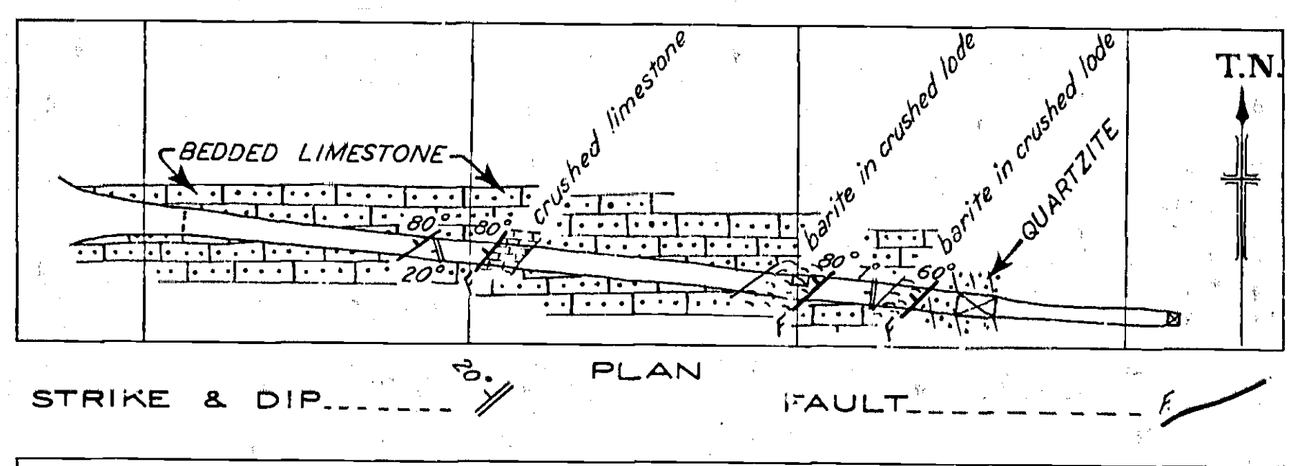
Enlargement A
T.N.
S. A. G.
DEPT. OF MINES
EDIACARA
SOUTHERN WORKINGS
SCALE
FEET. 100 0 100 200 300 400 500 600 700 800 FEET.
E. Broadhurst
Assistant Government Geologist.
LEGEND
FAULT F
STRIKE & DIP 15°
LINE OF OUTCROP OF BED
BRECCIATED LIMESTONE
PROPOSED DIAMOND DRILL HOLES D.D.H. 7
CONTOURS AT 10 FEET INTERVALS (ASSUMED DATUM)
HORIZONTAL BEDDING
SECTION A-B
R.L.1000
D.D.H.
Probable course of Lode
Del. E.F.R.
Shaft
Shaft Portal
Outcrop of lode forming bed
SILICIFIED LIMESTONE
Portal
SOUTHERN WORKINGS
D.D.H. 8
D.D.H. 7
D.D.H. 6
D.D.H. 9
D.D.H. 10
Poor Outcrops
Dip probably flat
1070
1060
1050
1040
1030
1020
1010
1000
990
SCALE
47-29
Geology by E. Broadhurst
Plotted E. Broadhurst
Drawn E.F.R.
Traced
Checked B. S. G.
Passed
Chief Draughtsman
DATE 7. 2. 47.
Approved
Director of Mines
Omit
Reduce this line to 8 inches

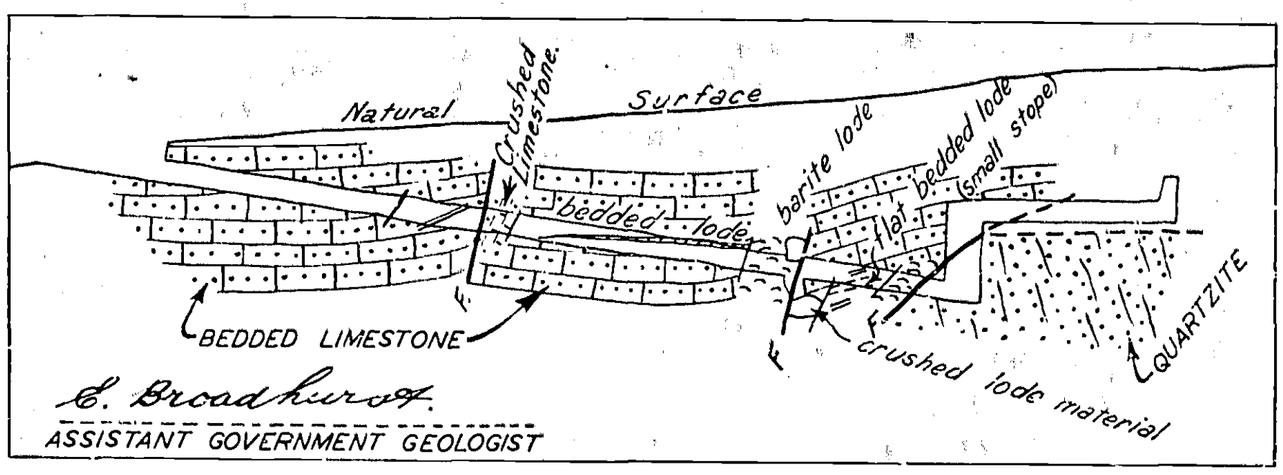


LEGEND

SAMPLE	SILVER dwt.	COPPER %	LEAD %
A	2	1·38	Trace
B	2	5·63	0·38
C	3	3·61	0·20

BLACK EAGLE





SECTION

MORISH WORKINGS

FEET 40 0 40 80 120 160 200 240 280 FEET

SCALE

S. A. G. DEPT. OF MINES

del. E.F.R.

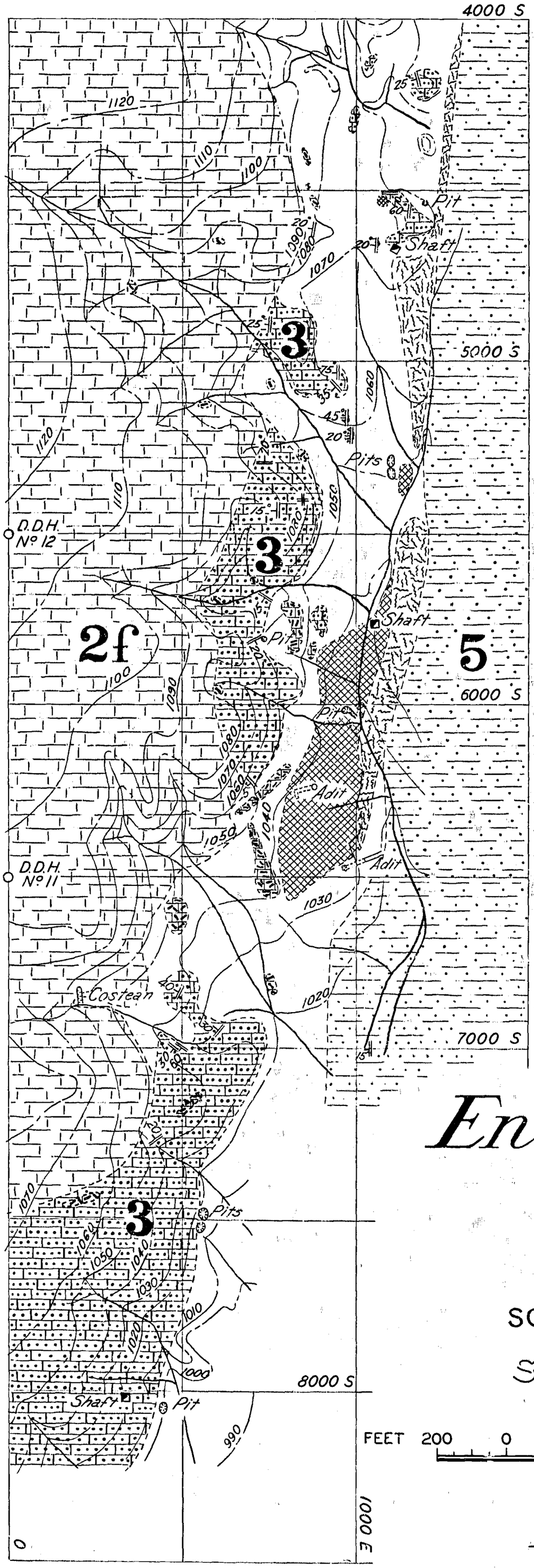
Reduce this line to 8 inches

EDIACARA – BLACK EAGLE AND MORISH WORKINGS

S. A. G. DEPT. OF MINES

EDIACARA
BLACK EAGLE
AND
MORISH WORKINGS

Approved.	Geology by E. Broadhurst.	SCALE 40 feet to 1 inch.
	Plotted E. Broadhurst.	
	Drawn E.F.R. / Traced E.F.R. / Checked B.S.G.	Passed / Chief Draughtsman
A. B. Dickinson. Director of Mines. per A.S.A.		47-30
		DATE 6 · 2 · 47.



T.N.

- LEGEND -

- LIMESTONE ---------- 2f
- CURRENT BEDDED LIMESTONE -- 3
- SANDSTONE ---------- 5
- SILICIFIED LIMESTONE ----------
- IRONSTONE ----------
- QUARTZ ----------
- CREEKS ----------
- CONTOURS -- 10 FEET INTERVALS ASSUMED DATUM -- 1080
- STRIKE & DIP OF BEDDING ----
- HORIZONTAL BEDDING ----------
- DIAMOND DRILL HOLES ----- DDH Nº11

NOTE :—
UNSHADED AREAS ARE LOW LYING AND PROBABLY FORMED BY WHITE EARTHY SILICIFIED LIMESTONE.

Enlargement B

S. A. G. DEPT OF MINES

EDIACARA

SOUTH-EASTERN AREA

SURFACE PLAN

SCALE

FEET 200 0 200 400 600 800 1000 1200 FEET

E. Broadhurst

ASSISTANT GOVERNMENT GEOLOGIST.

Del. B.S.G.

Reduce this line to 5"

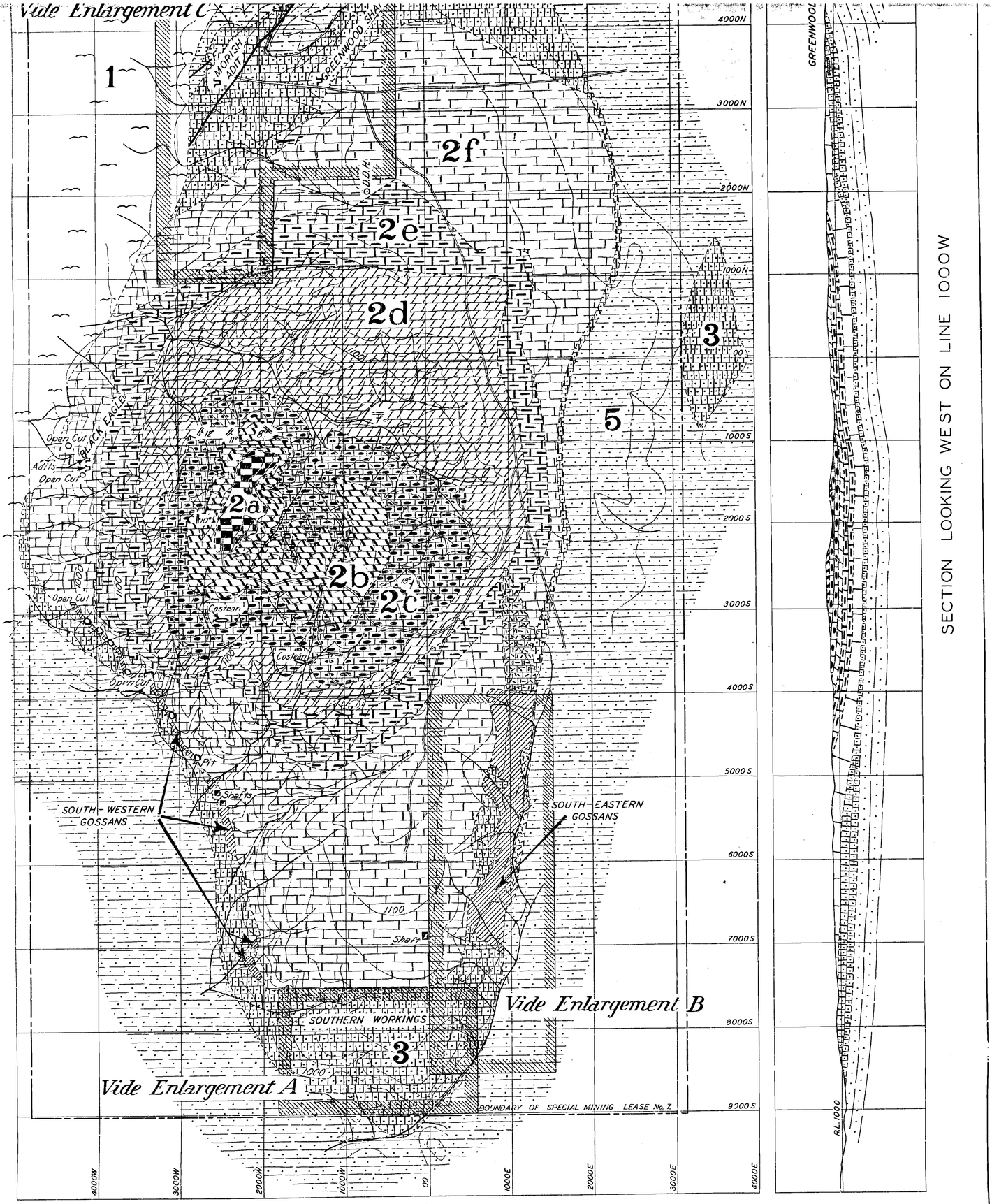
Approved.	Geology & Plotting by E Broadhurst.			47-31
Director of Mines.	Drawn.	B.S.G.	Passed.	Cs.
	Traced.		C.D.	Date. 4-2-47
	Checked	E.F.R.		

SECTION LOOKING WEST ON LINE 1000W

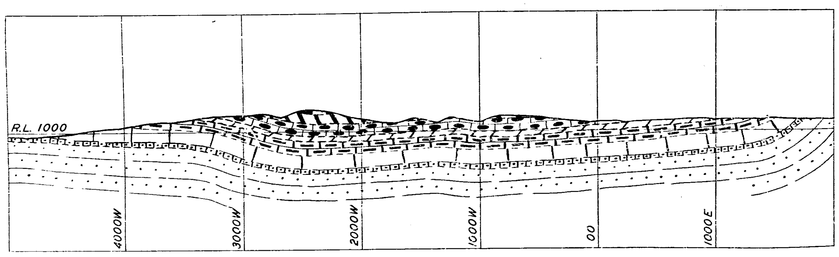
Approved	Geology by E. Broadhurst.	SCALE
S. B. Dickinson, Director of Mines	Plotted E. Broadhurst. Drawn E.F.R. Passed Traced Checked B.T. Chief Draughtsman	L47-3, R 20/30
		DATE 7-2-47

Omit

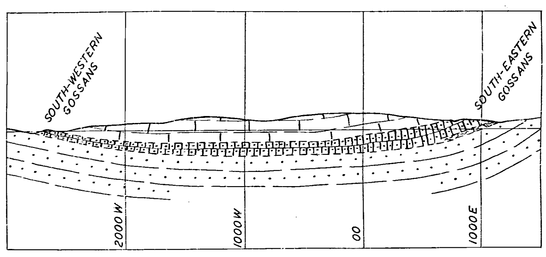
F 1



SECTION LOOKING WEST ON LINE 10000W



SECTION LOOKING NORTH ON LINE 2000S



SECTION LOOKING NORTH ON LINE 5000S

LEGEND

RECENT

SAND DUNES & TALUS — 1

CAMBRIAN

LIMESTONE — 2a, 2b, 2c, 2d, 2e, 2f

TRANSITION BEDS — 3

QUARTZITE — 4

SANDSTONE — 5

SILICIFIED LIMESTONE

REFERENCE TO SIGNS

QUARTZ

STRIKE & DIP OF BEDDING — 47°

FAULTS — F

CONTOURS — 1000

CREEKS

ROADS

DIAMOND DRILL HOLES — D.D.H.

GOSSANS

PITS

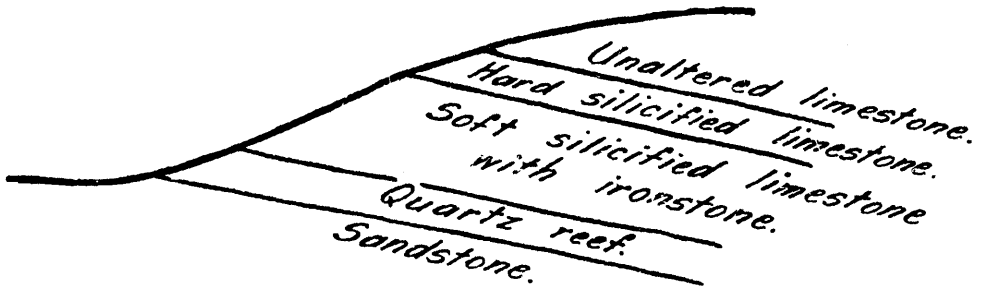
SCALE IN FEET 0 500 1000 1500 2000 2500

SCALE IN METRES 0 250 500 750

F2

del E.F.R.

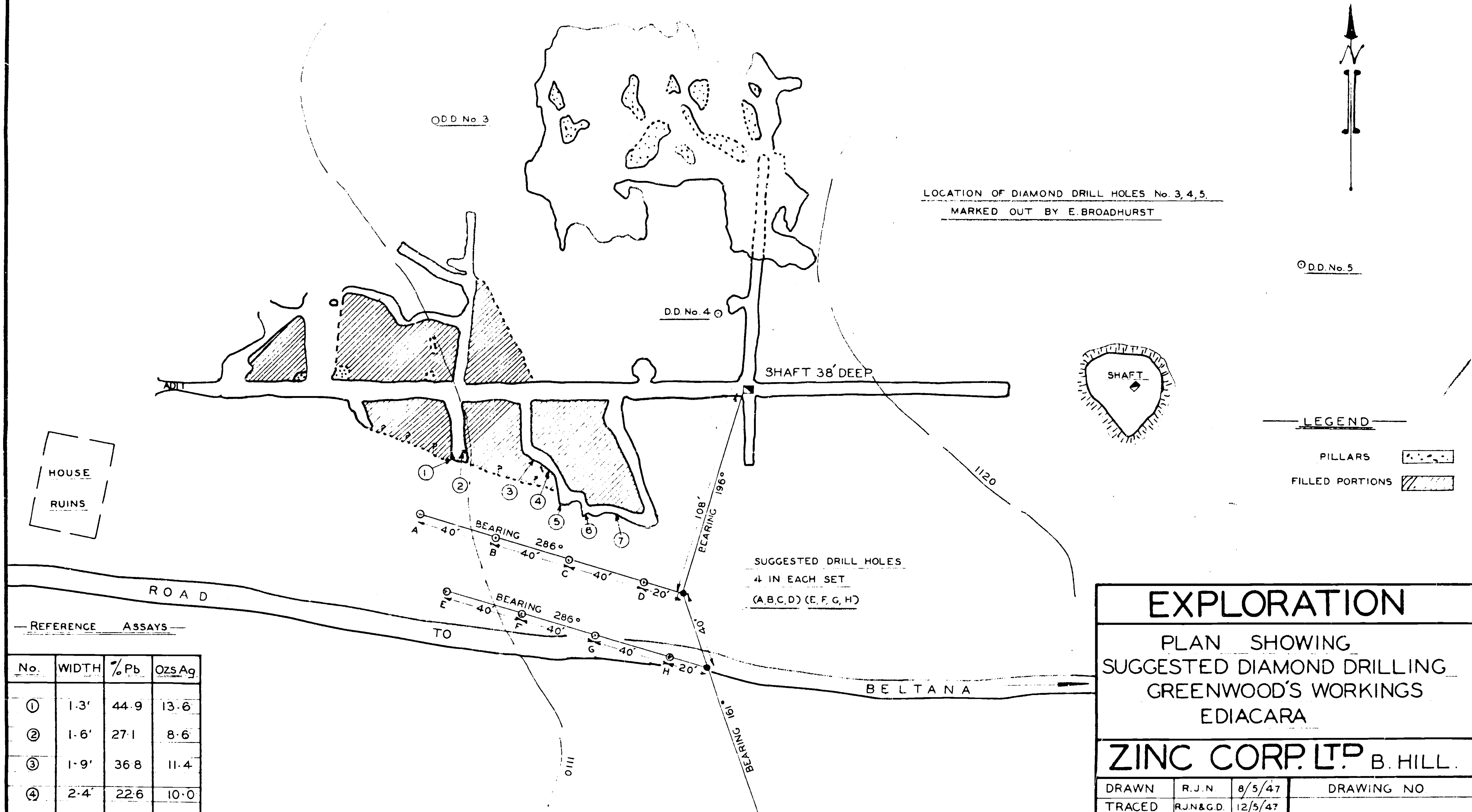
Reduce this line to 8 inches



DIAGRAMMATIC SECTION OF GOSSAN AREA

Reduce this line to 3½".

Approved			S. A. G. DEPT. OF MINES	SCALE
S. B. Dickinson Director of Mines for A.I.A	Drn. G. Tcd. G. Ckd. G. Exd.	Passed W. E. H. for C. D.	Diagrammatic section of Gossan Area.	S 23 Cc Date 23. 4. 47.



REFERENCE ASSAYS

No.	WIDTH	% Pb	Ozs Ag
1	1·3'	44·9	13·6
2	1·6'	27·1	8·6
3	1·9'	36·8	11·4
4	2·4'	22·6	10·0
5	1·4'	24·2	7·4
6	2·1'	19·9	6·0
7	1·6'	17·6	5·0

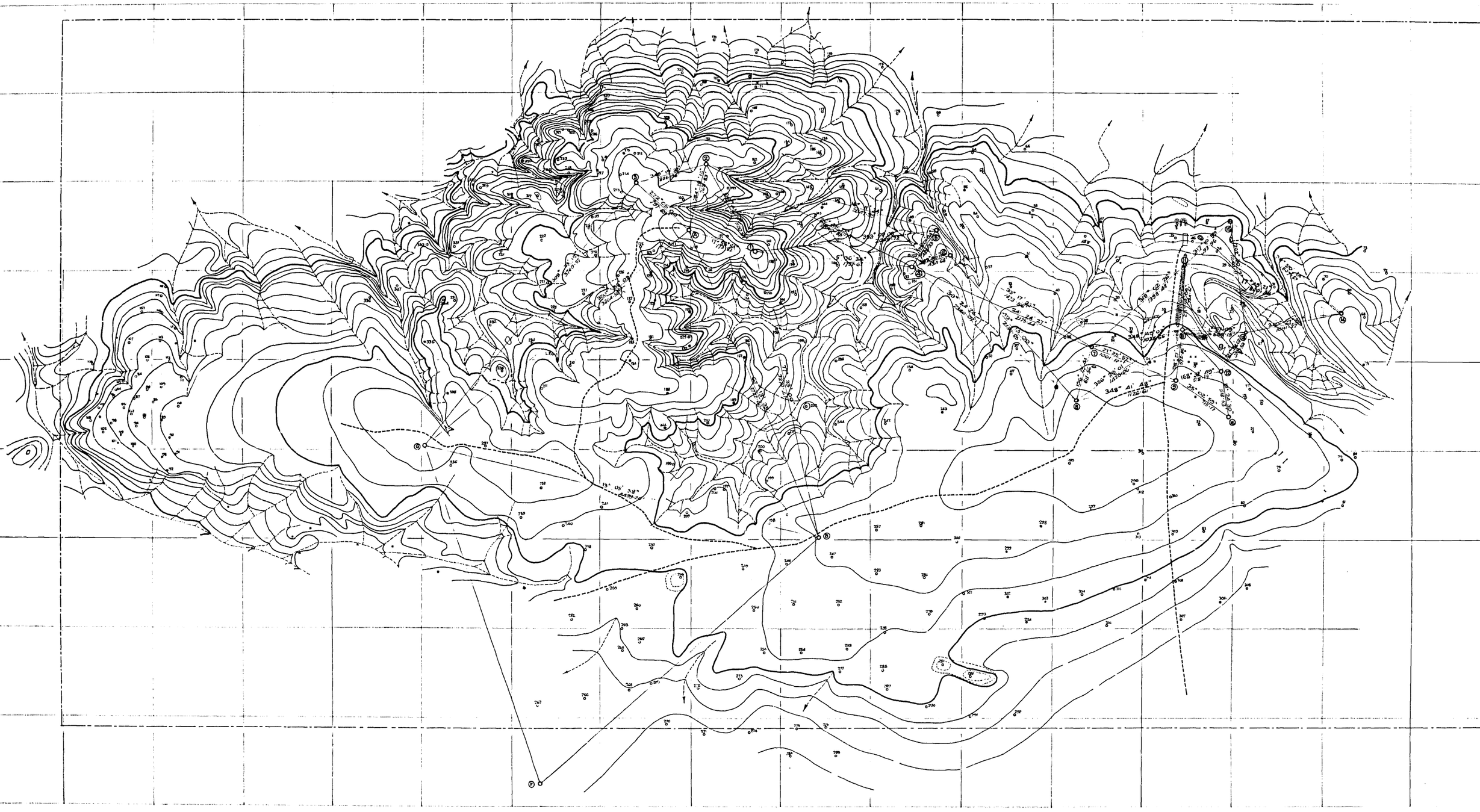
EXPLORATION

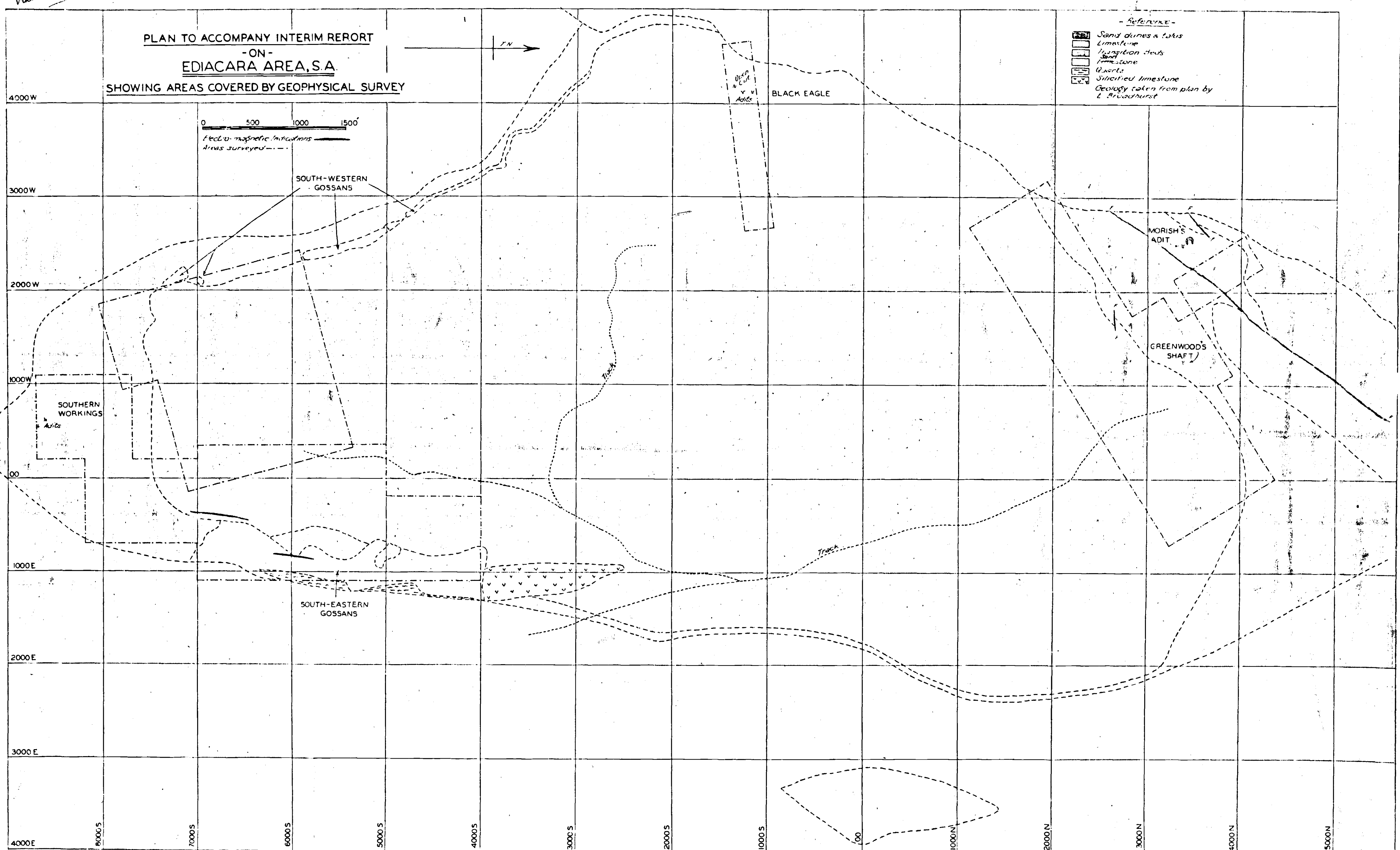
PLAN SHOWING
SUGGESTED DIAMOND DRILLING
GREENWOOD'S WORKINGS
EDIACARA

ZINC CORP. LTD. B. HILL.

			DRAWING NO
DRAWN	R.J.N.	8/5/47	X29-2
TRACED	R.J.N.&G.D.	12/5/47	
CHECKED			
APP'V'D			
SCALE — 1 INCH = 40 FEET			Vide Dm 1/4/47

Copy 3 F1/5





PLAN TO ACCOMPANY INTERIM RERORT
-ON-
EDIACARA AREA, S.A.
SHOWING AREAS COVERED BY GEOPHYSICAL SURVEY
T.N.
0 500 1000 1500
Electro-magnetic Indications
Areas surveyed
- Reference -
Sand dunes & talus
Limestone
Transition beds
Sand limestone
Quartz
Silicified limestone
Geology taken from plan by
L. Broadhurst
SOUTH-WESTERN GOSSANS
BLACK EAGLE
Open Cut
Adits
MORISH'S ADIT
GREENWOOD'S SHAFT
SOUTHERN WORKINGS
Adits
Track
Track
SOUTH-EASTERN GOSSANS
4000W
3000W
2000W
1000W
00
1000E
2000E
3000E
4000E
8000S
7000S
6000S
5000S
4000S
3000S
2000S
1000S
00
1000N
2000N
3000N
4000N
5000N

1436

Assay N°		Width	Location	Cu %	Pb %	Ag %
1				3·7	0·7	0·1
2	619		Fault Breccia	Tr.	0·4	0·1
	620		Dump	6·9	1·1	0·2
	621		Tunnel E end	4·1	0·6	0·1
	622		Tunnel W end	0·2	0·5	0·1
3	623			0·5	0·6	0·1
4	624		Dump	0·5	0·6	0·1
5	625		Costean	0·6	0·4	0·1
6	626		Pit	8·8	2·3	0·1
7	628		Costean	0·2	0·5	0·1
8	627		Dump	Tr.	0·7	0·1

Assay N°		Width	Location	Cu %	Pb %	Ag %
9				Tr.	0·7	0·1
10				Tr.	0·9	0·1
11	629			0·2	0·4	0·1
12				Tr.	0·7	0·1
-	631		Tunnel N end	Tr.	0·7	0·1
	632		Tunnel E	Tr.	1·3	0·1
	633		W face	Tr.	0·6	0·1
	634		Dump	Tr.	0·8	0·1
	635		N end Adit	Tr.	0·6	0·1
	636		Costean	Tr.	0·5	0·1
15	638?			2·2	0·5	0·1
	639		Adit	0·1	0·5	0·1
	640			0·2	0·5	0·2
13				Tr.	0·5	0·1
14				0·1	0·5	0·1

Assay N°		Width	Location	Cu %	Pb %	Ag %
	641		Dump	1·5	0·4	0·1
	642		Lode	1·0	0·6	0·1
16	643		Dump	5·5	0·4	0·1
17	644			0·6	0·5	0·2
	645		Tunnel	Tr.	0·3	0·1
	646	5'	Tunnel	Tr.	0·3	0·1
18	647!		Dump	Tr.	0·3	0·1
	648	4'		Tr.	0·4	0·1
19	649!	4'		Tr.	0·5	0·1
	650	4'		Tr.	0·4	0·1
	651	2½'		Tr.	3·1	0·3
	652	4'	Band in Tunnel	Tr.	0·8	0·1
	653	4'	Top	Tr.	1·3	0·1
	654	4'	Middle	Tr.	3·2	0·2
	655	4'	Bottom	Tr.	12·6	0·3

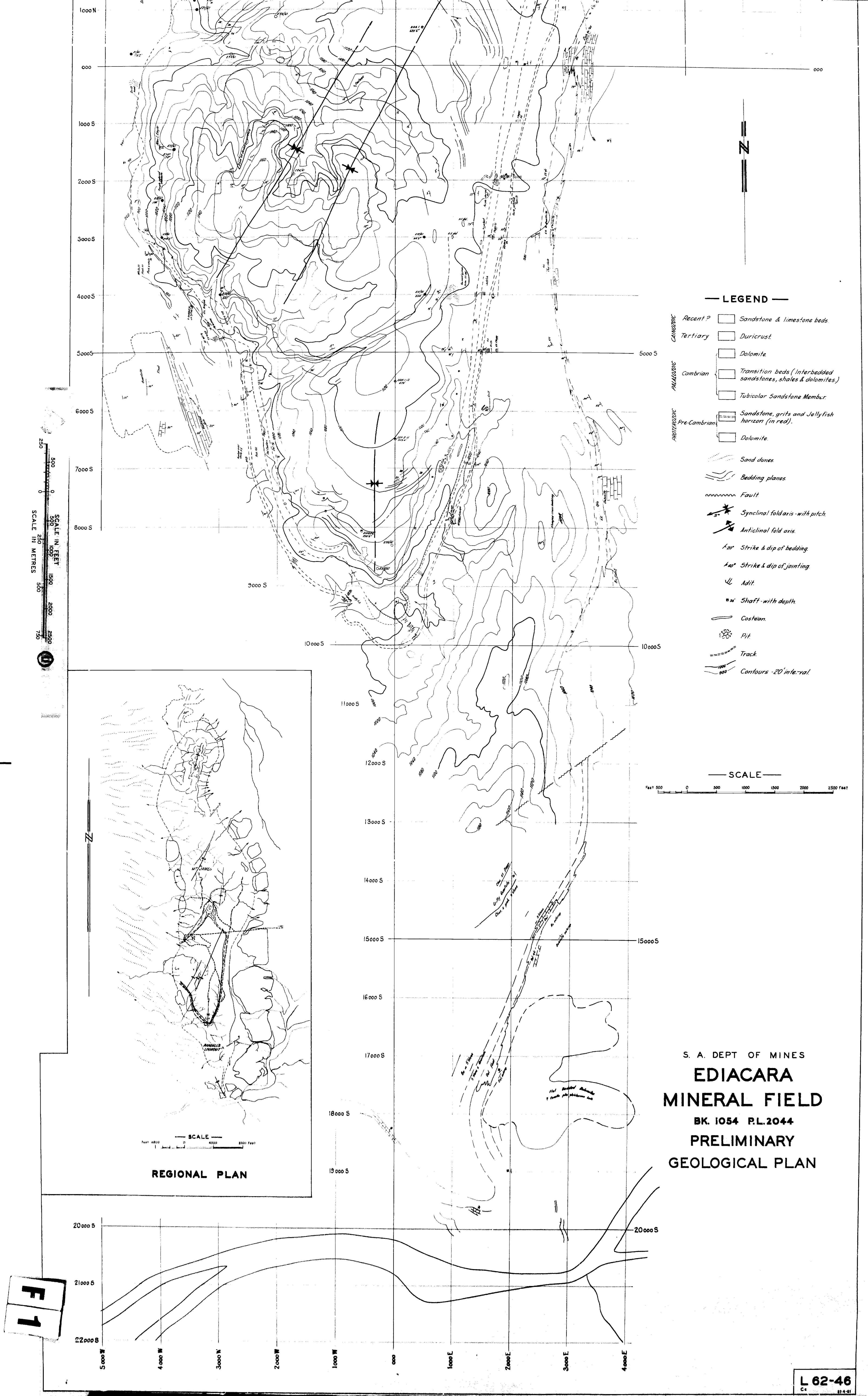
Assay N°		Width	Location	Cu %	Pb %	Ag %
20	656	3½'	Creek	Tr.	0·3	0·1
	657					
22	658			Tr.	1·8	0·1
	659	3'	E end	Tr.	1·3	0·2
	660	6'		0·2	3·0	0·2
	661	4'		1·5	4·9	0·1
	662	3½'	W end	0·9	3·2	0·1
24	663		Grab N tunnel	0·4	17·7	0·1
25	664		Dump	0·6	16·8	0·1
21	665	3'		Tr.	0·6	0·1
23	-			0·6	3·2	0·2
26	-			Tr.	1·4	0·1
	666			Tr.	2·1	0·1
	667			0·8	6·6	0·1
27	668			2·1	0·7	0·2
28	669			Tr.	0·5	0·1
29	670		Dump	4·0	0·5	0·1

Assay N°		Width	Location	Cu %	Pb %	Ag %
30	671			1·8	5·1	0·1
31	672			0·2	2·0	0·1
32	673			2·8	17·7	0·2
33	674			Tr.	3·5	0·1
34	675		Dump	Tr.	2·5	0·1
35	676			Tr.	3·1	0·1
36	677	6'		Tr.	0·3	0·1
37	678			1·1	1·0	0·1
38	679			3·9	0·6	0·1
39	680			10·2	0·7	0·1
40	681!			0·2	0·5	0·1
41	-			Tr.	0·5	0·1
42	685	3'	Tunnel	Tr.	48·8	2·0

To accompany report by L. G. Nixon

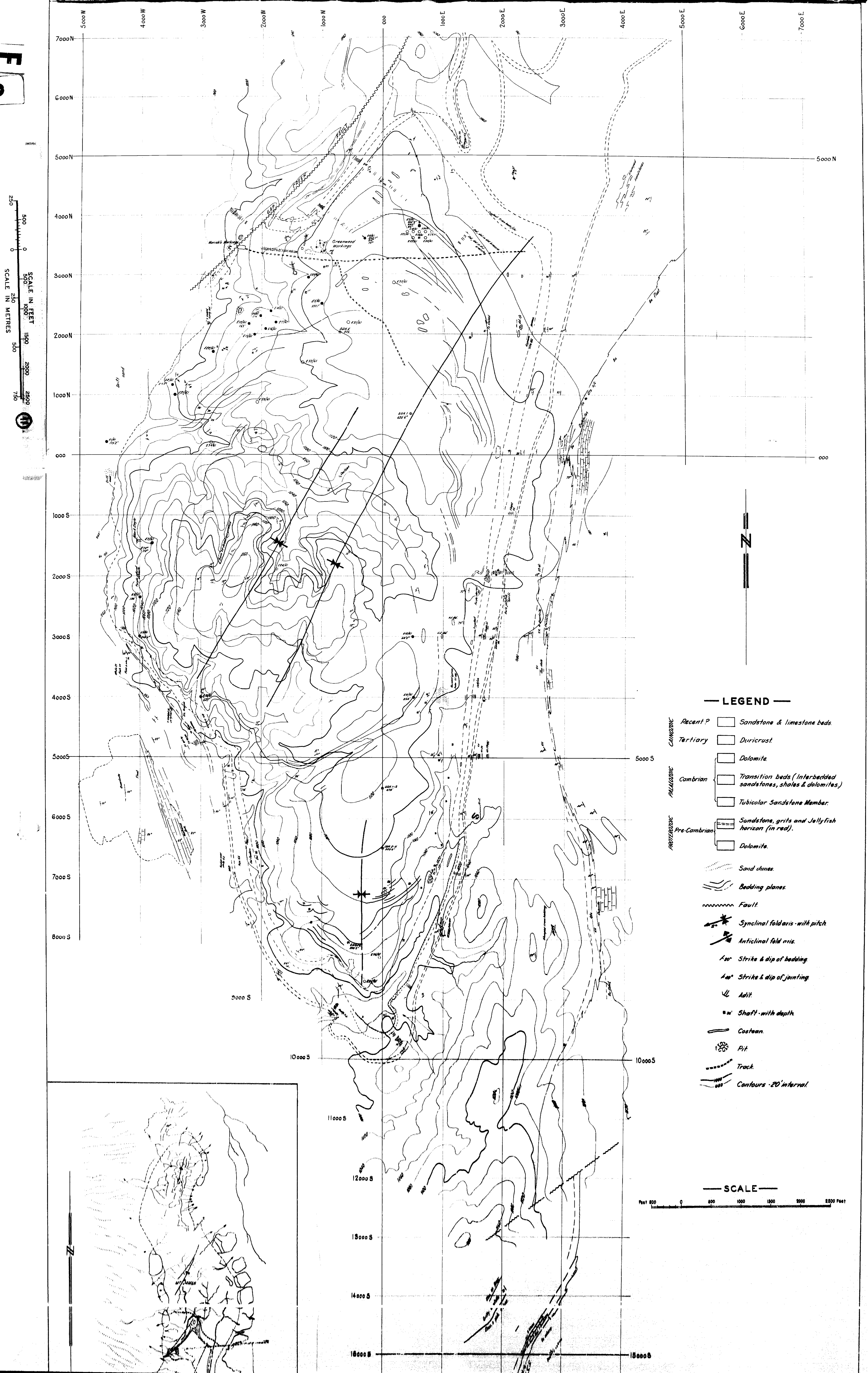
S.A. DEPT. OF MINES

Associated Drawing	No.	No.	Amendment	Exd.	Date	Req. No. / D.M. / Compiled from		Approved	Passed		
							EDIACARA			Drn. / Tcd. G. S. / Ckd. / Exd.	Scale: 500 ft to 1 inch
							SURFACE PLAN	Director of Mines			61-368 Cc
											Date 29-4-61



S. A. DEPT OF MINES
EDIACARA
MINERAL FIELD
BK. 1054 P.L.2044
PRELIMINARY
GEOLOGICAL PLAN
— LEGEND —
CAINOZOIC
Recent ? Sandstone & limestone beds.
Tertiary Duricrust.
PALAEOZOIC
Cambrian Dolomite.
Transition beds (Interbedded sandstones, shales & dolomites)
Tubicolar Sandstone Member.
PROTEROZOIC
Pre-Cambrian Sandstone, grits and Jellyfish horizon (in red).
Dolomite.
Sand dunes.
Bedding planes.
Fault.
Synclinal fold axis - with pitch.
Anticlinal fold axis.
Strike & dip of bedding.
Strike & dip of jointing.
Adit.
Shaft - with depth.
Costean.
Pit.
Track.
Contours - 20' interval.
— SCALE —
Feet 500 0 500 1000 1500 2000 2500 Feet
SCALE IN FEET
SCALE IN METRES
REGIONAL PLAN
MT. JAMES
RANDALLS LOOKOUT
1000 N
000
1000 S
2000 S
3000 S
4000 S
5000 S
6000 S
7000 S
8000 S
9000 S
10000 S
11000 S
12000 S
13000 S
14000 S
15000 S
16000 S
17000 S
18000 S
19000 S
20000 S
21000 S
22000 S
5000 W
4000 W
3000 W
2000 W
1000 W
000
1000 E
2000 E
3000 E
4000 E
F 1
L 62-46

F 2


5000 W
4000 W
3000 W
2000 W
1000 W
000
1000 E
2000 E
3000 E
4000 E
5000 E
6000 E
7000 E
7000 N
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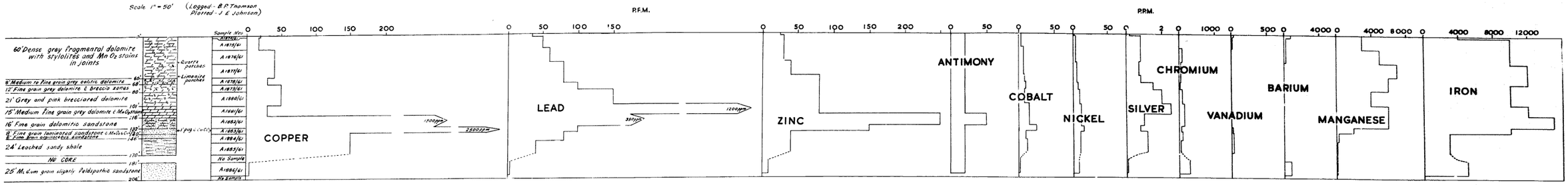
1000 S
2000 S
3000 S
4000 S
5000 S
6000 S
7000 S
8000 S
9000 S
10000 S
11000 S
12000 S
13000 S
14000 S
15000 S
SCALE IN FEET
SCALE IN METRES
0
250
500
750
1000
1500
2000
2500
Greenwood Workings
— LEGEND —
CAINOZOIC
Recent ?
Sandstone & limestone beds.
Tertiary
Duricrust.
PALAEOZOIC
Cambrian
Dolomite.
Transition beds (Interbedded sandstones, shales & dolomites.)
Tubicolar Sandstone Member.
PROTEROZOIC
Pre-Cambrian
Sandstone, grits and Jellyfish horizon (in red).
Dolomite.
Sand dunes.
Bedding planes.
Fault.
Synclinal fold axis - with pitch.
Anticlinal fold axis.
Strike & dip of bedding.
Strike & dip of jointing.
Adit.
Shaft - with depth.
Costean.
Pit.
Track.
Contours - 20' interval.
— SCALE —
Feet 500
0
500
1000
1500
2000
2500 Feet
MT JAMES

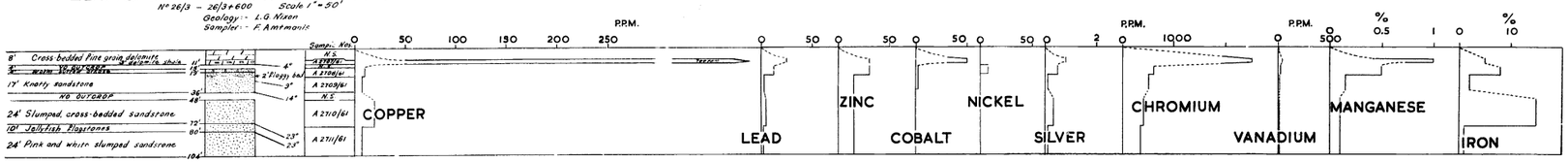
EDIACARA D.D. HOLE 3-6

Scale 1" = 50' (Logged - B.P. Thomson Plotted - J.E. Johnson)



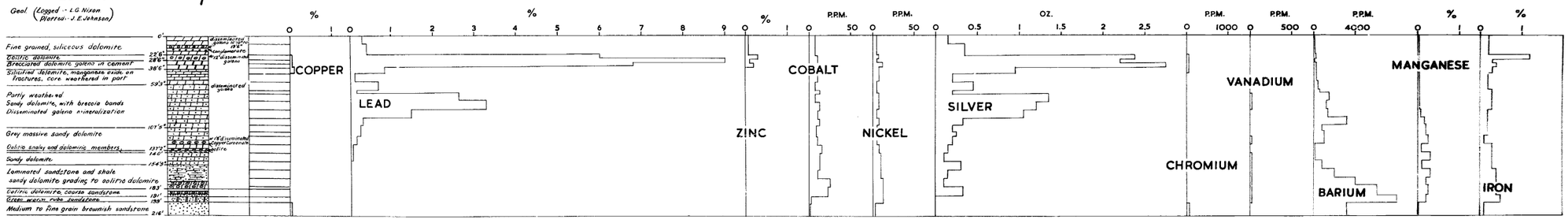
EDIACARA STRATIGRAPHIC SECTION

N° 26/3 - 26/3+600 Scale 1" = 50'
Geology :- L.G. Nixon
Sampler :- F. Ammonis



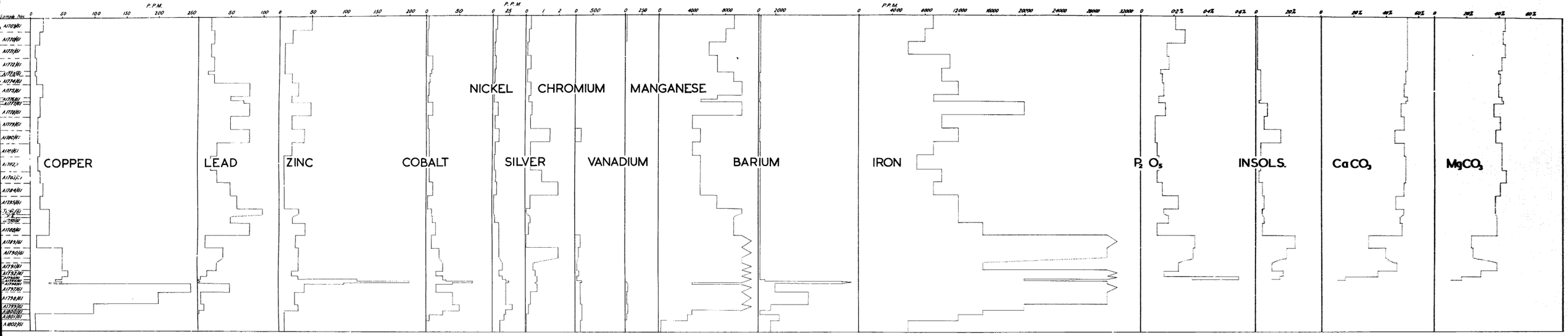
EDIACARA E 6/61

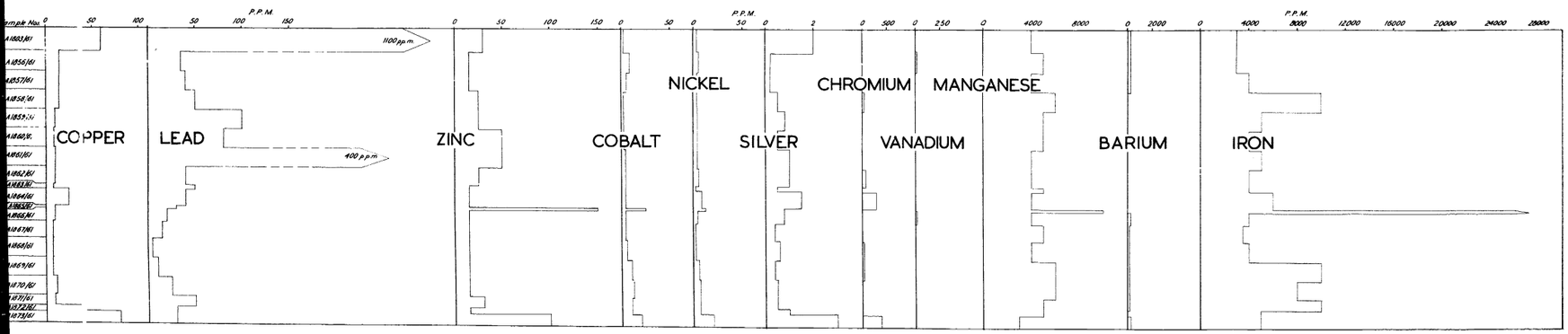
Geol. (Logged :- L.G. Nixon Plotted :- J.E. Johnson)



EDIACARA GEOCHEMICAL SECTIONS

L62-50
Cc 1-5-62





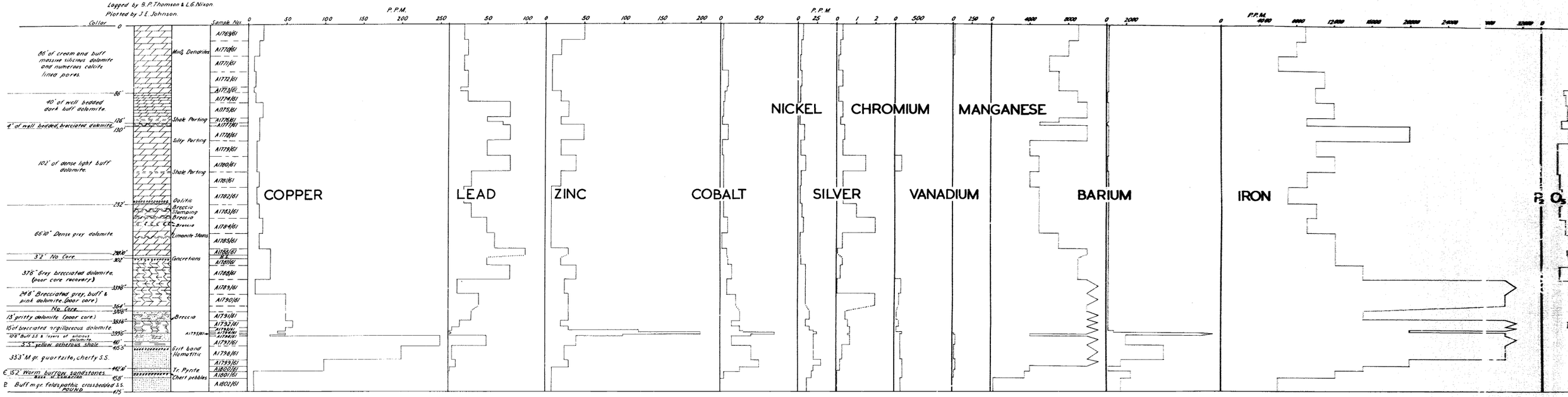
EDIACARA GEOCHEMICAL SECTIONS
D.D.H. 1-12 & 2-11

F 1

L62-51

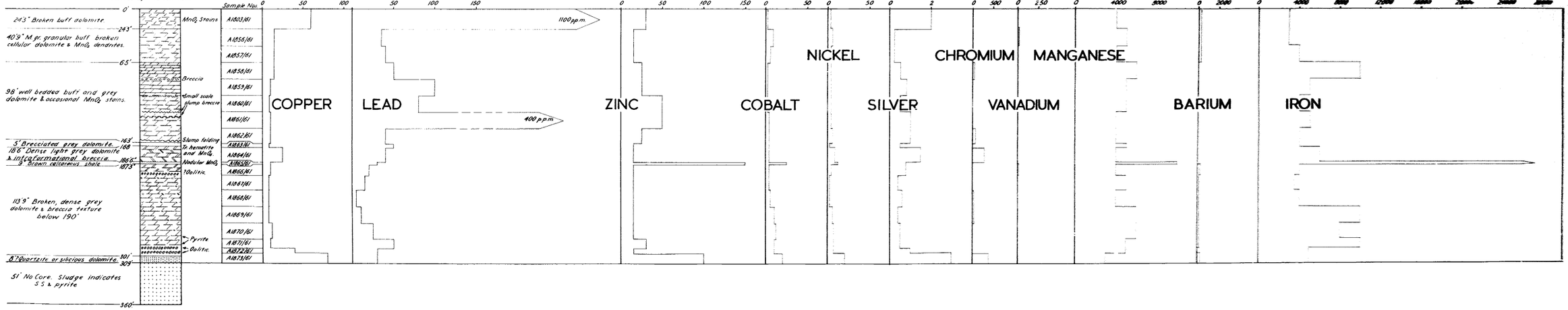
EDIACARA D.D.H. 1-12

Logged by B.P. Thomsen & L.G. Nixon.
Plotted by J.E. Johnson.



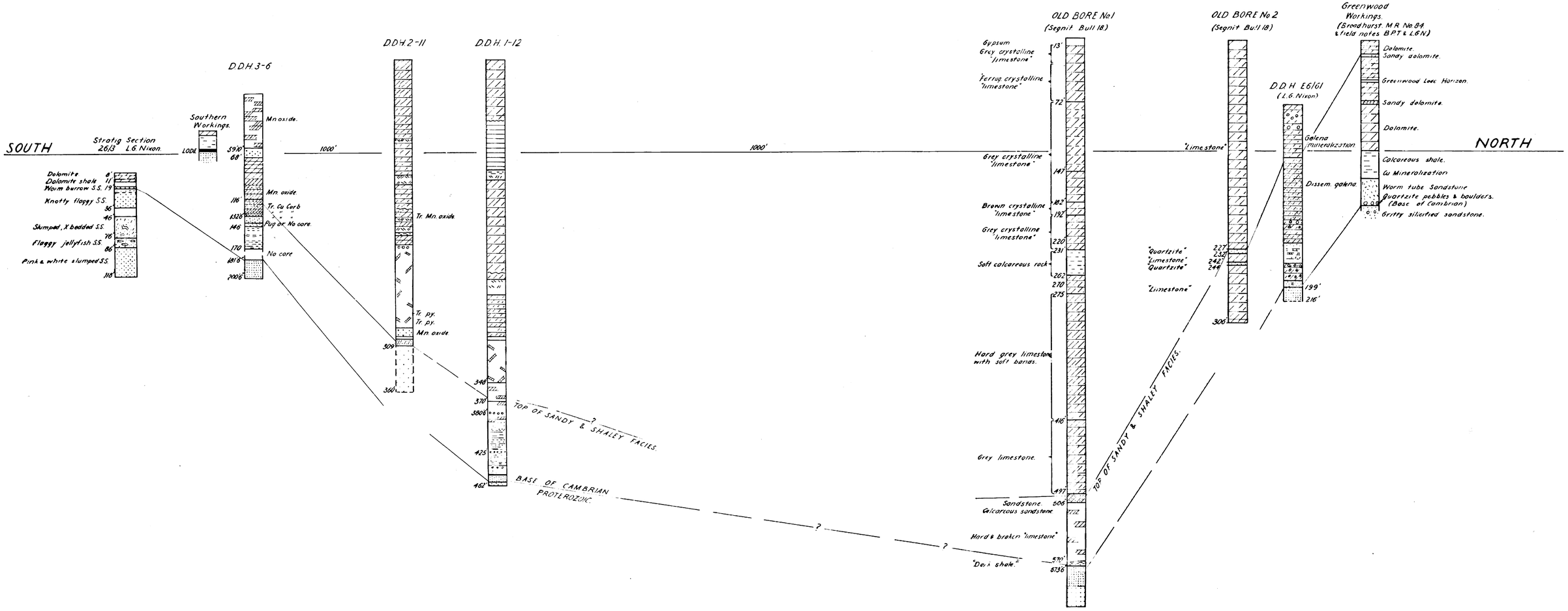
EDIACARA D.D.H. 2-11

Logged by B.P. Thomsen.
Plotted by J.E. Johnson.



EDIACARA GEOCHEMICAL SECTIONS
D.D.H. 1-12 & 2-11

F 2



SCALE

Horizontal 1" = 500'

Vertical 1" = 50'

S.A. DEPT. OF MINES

LONGITUDINAL PROJECTION SHOWING GEOCHEMICAL SAMPLED BORES, SECTIONS & OLD BORES.
GENERALIZED STRATIGRAPHY
EDIACARA MINERAL FIELD

Req. No.
D.M.
Compiled from

Associated Drawing | No. | No. | Amendment | Exd. | Date

Approved | Passed

Director of Mines

Drn. Tr'd C.W.F.
Ckd.
Exd.

Scale

62-262

Cc

Date 18-4-62

LEGEND

CAINOZOIC

Recent

- Sand dunes
- Alluvium & gravels

Tertiary

- Duricrust

PALAEOZOIC

Cambrian

- Dolomites
- Shales
- Wormburrow sandstone

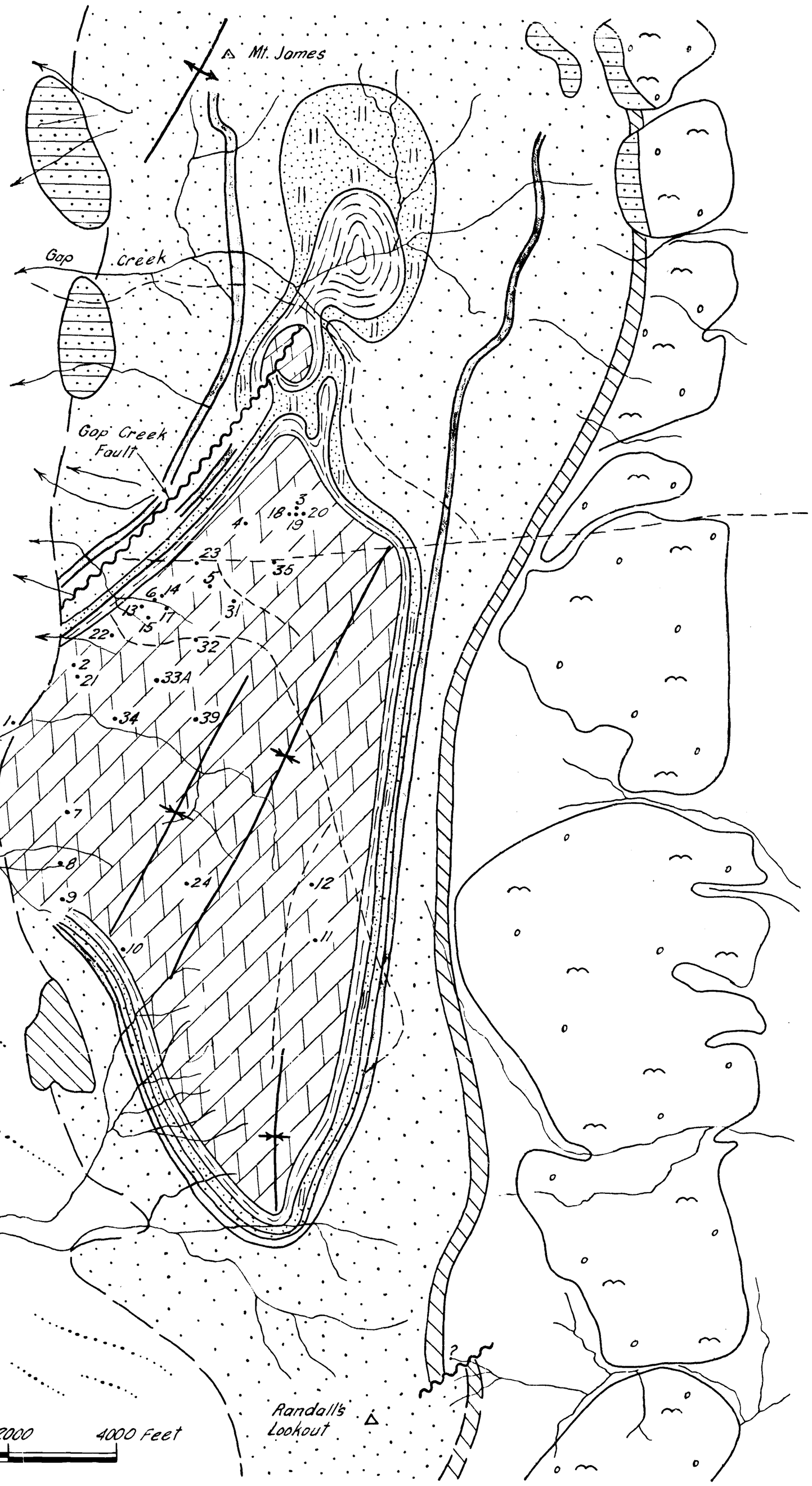
PROTEROZOIC

- Poundsandstone with fossil beds
- Dolomite
- Anticline
- Syncline
- •39 Diamond drill holes with numbers which have been abbreviated by the omission of E/-/61 eg. •39 should be • E/39/61
- ---Track

N

SCALE

Feet 2000 0 2000 4000 Feet



To accompany a report by L.G. Nixon.

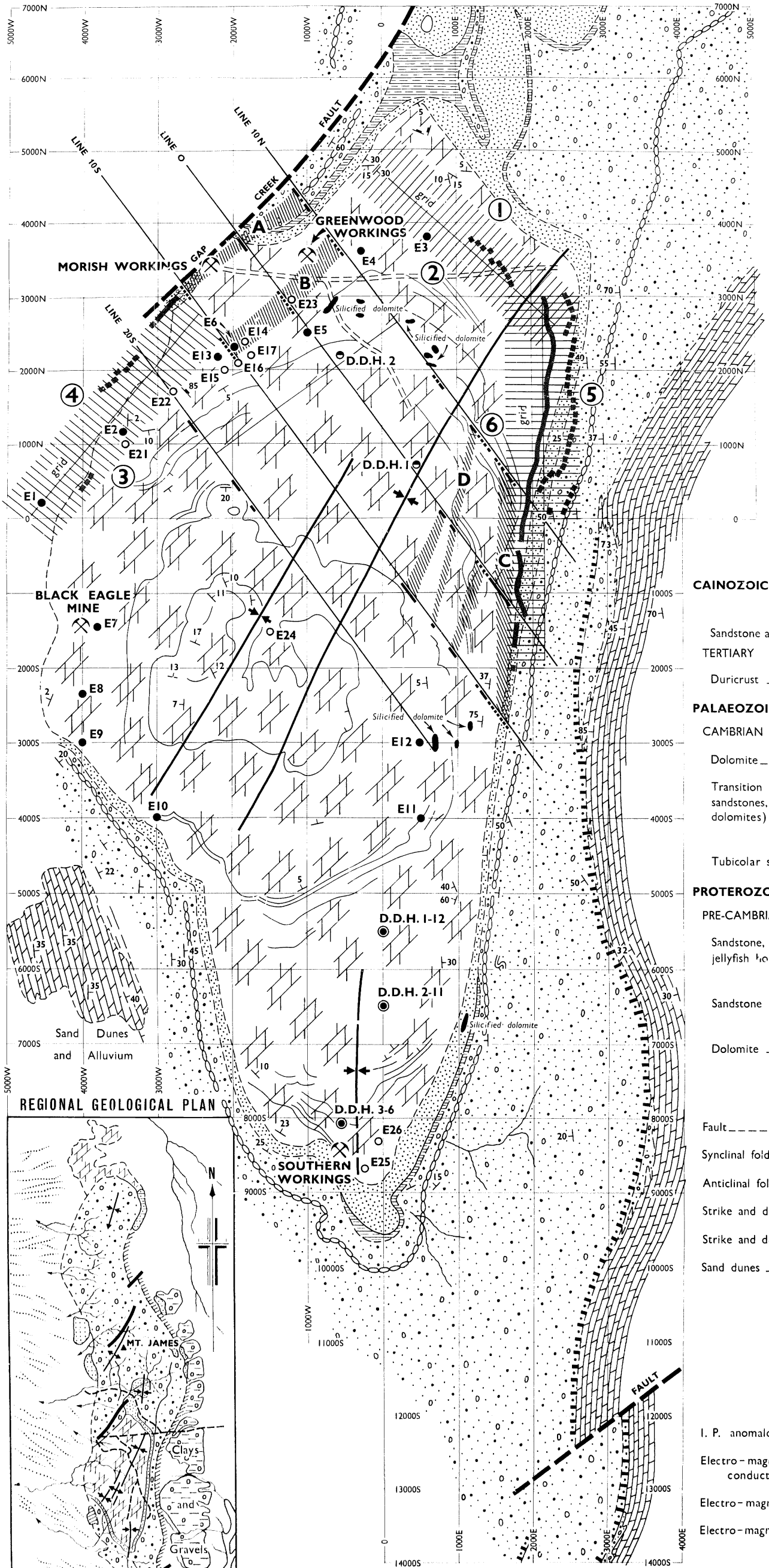
S.A. DEPARTMENT OF MINES

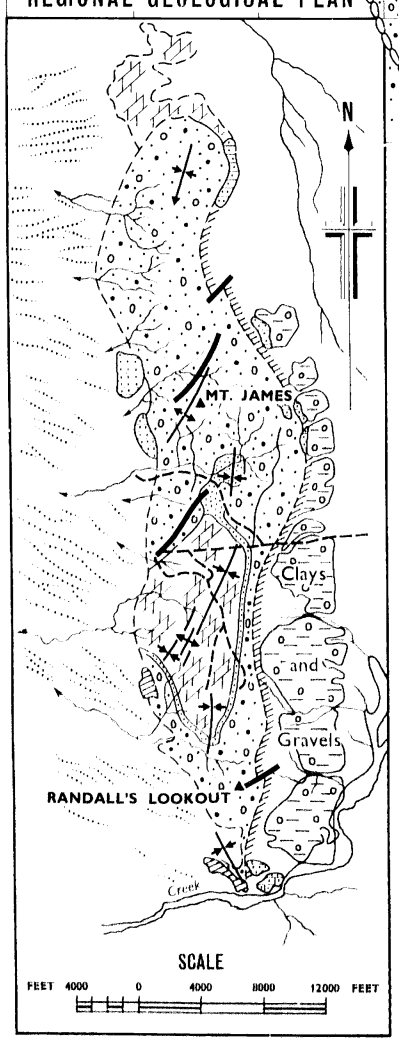
No.	Amendment	Exd.	Date

EDIACARA MINERAL FIELD BORE LOCATION AND GENERAL GEOLOGICAL PLAN

Approved	Passed		Scale : 2000' to 1"
		Drn.	
		Tcd. B.S.	62-765
		Ckd.	Cc.
Director		Exd.	Date 19-11-62

REGIONAL GEOLOGICAL PLAN





LEGEND

CAINOZOIC

Sandstone and limestone beds

TERTIARY

Duricrust

PALAEOZOIC

CAMBRIAN

Dolomite

Transition beds (interbedded sandstones, shales and dolomites)

Tubicolar sandstone member

PROTEROZOIC

PRE-CAMBRIAN

Sandstone, grits and jellyfish horizon

Sandstone

Dolomite

Fault

Synclinal fold axis

Anticlinal fold axis

Strike and dip of bedding

Strike and dip of jointing

Sand dunes

I. P. anomalous zone

Electro-magnetic conducting zone

Electro-magnetic conductor

Electro-magnetic grid number

Geophysics by J. C. Benlow

SCALE

FEET 1000 0 1000 2000 3000 4000 FEET

Del. W.M. 162-180

Geology by L. G. Nixon

Dept. of Mines

EDIACARA MINERAL FIELD

RESISTIVITY & INDUCED POLARIZATION SURVEY

LEGEND

Primary I.P. anomalous zone.

Secondary I.P. anomalous zone.

Vertical Magnetic Intensity (1" to 200 γ).

Resistivity values in Ω metres above line.
Metal factor values below line.
Frequency effects in parentheses.
Contouring logarithmic.
Electrode spread, dipole - dipoles at 200.'
Frequencies used - 0·3 - 3·0 c.p.s.

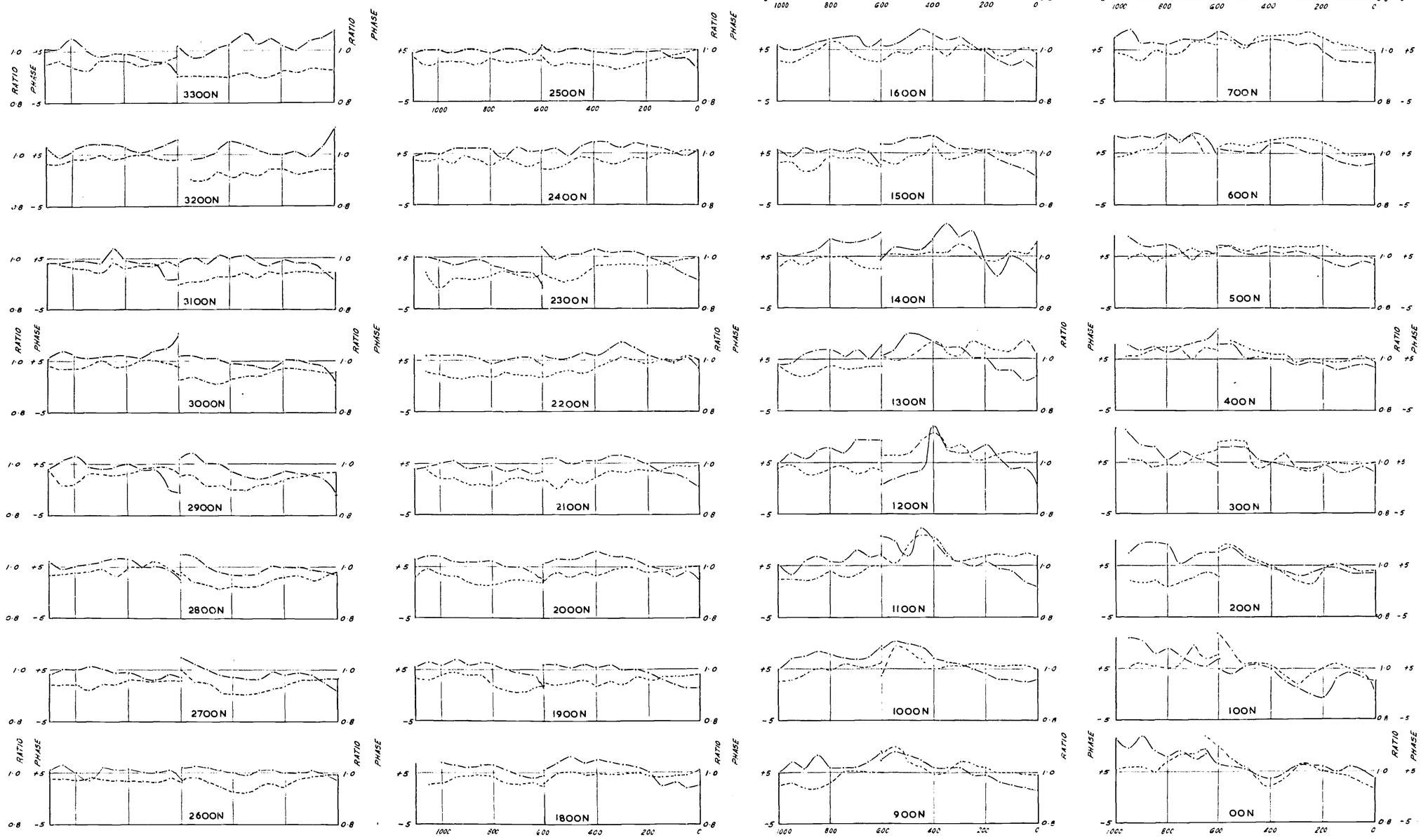
SCALE - 200 ft. to 1 in.

To accompany report by J. Benlow.

S.A. DEPARTMENT OF MINES

Approved	Passed	Drn.		D.M.	Scale —
	[illegible]	Tcd. M.B.L.		Req.	S 3307 Cc.
		Ckd.			
Director		Exd.			Date 14·12·62

200—2-61 3805



To accompany report by J. Benlow

S.A. DEPT. OF MINES

EDIACARA MINERAL FIELD
ELECTROMAGNETIC SURVEY
GRIDS 1 & 2

Req. No.		Approved	Passed		Scale :
D.M.				Drn.	62 - 803
Compiled from				Tcd. A.O.W.	Cc
		Director of Mines		Ckd.	
				Exd.	Date 14 - 12 - 62

Associated Drawing	No.	No.	Amendment	Exd.	Date

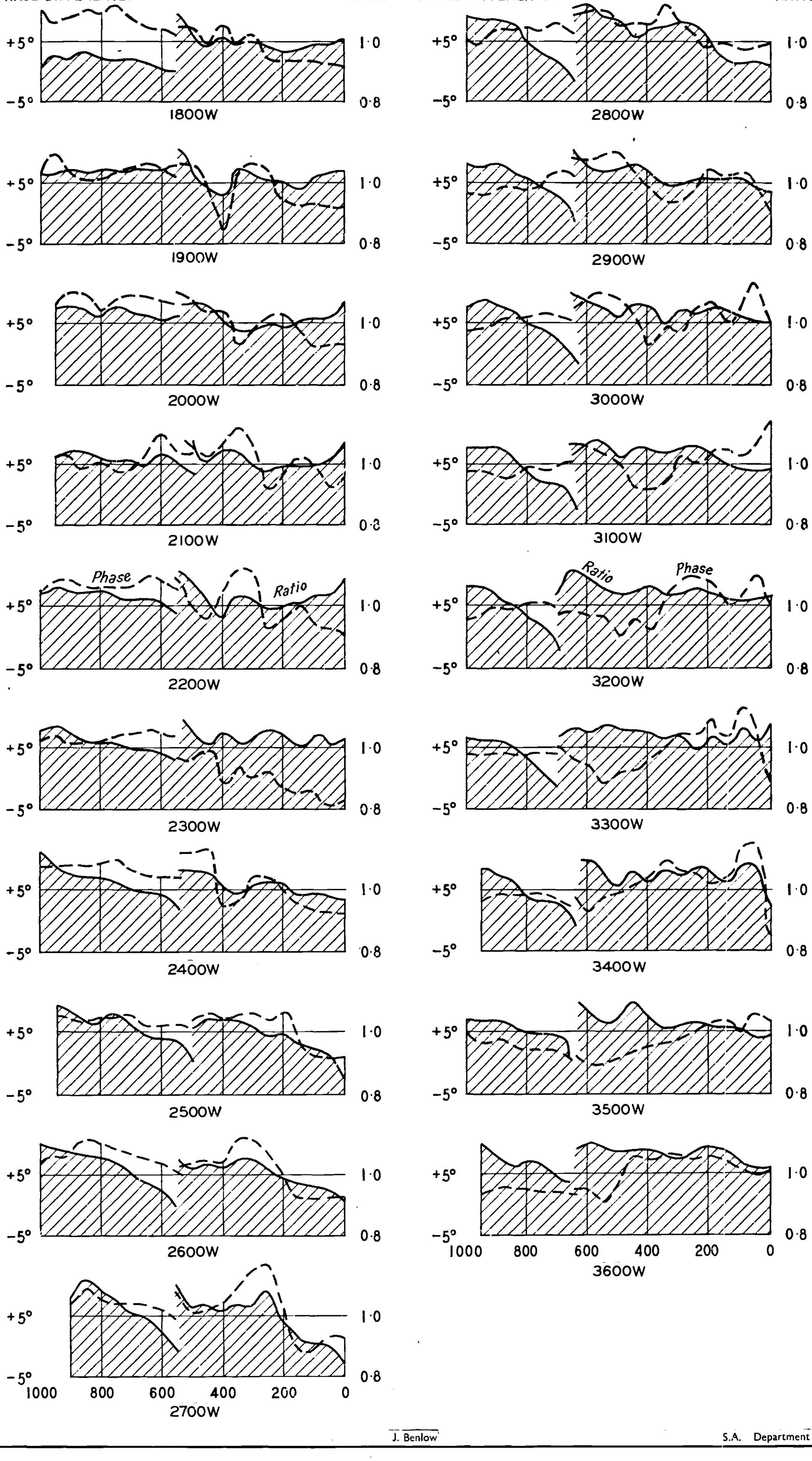
PHASE DIFFERENCES RATIO

PHASE DIFFERENCES RATIO

62-804 A

J. Benlow

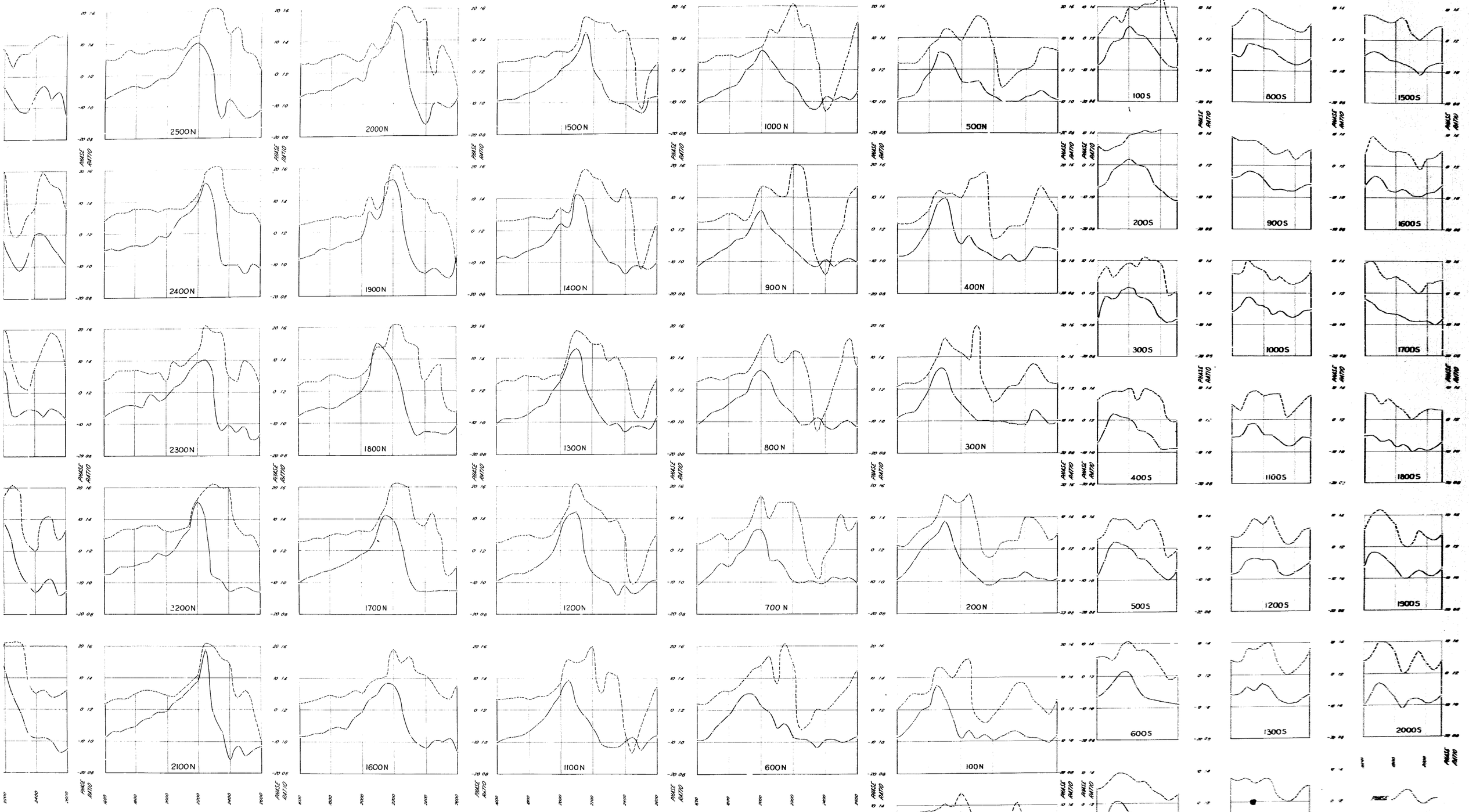
S.A. Department of Mines



62-804 B

J. Benlow

S.A. Department of Mines



S. A. DEPT. OF MINES

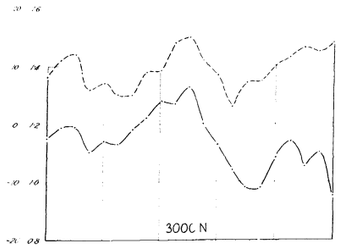
EDIACARA MINERAL FIELD

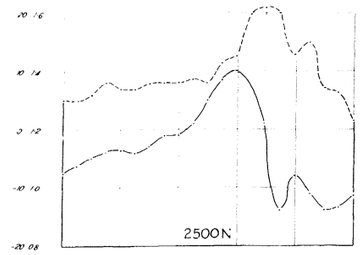
ELECTROMAGNETIC SURVEY

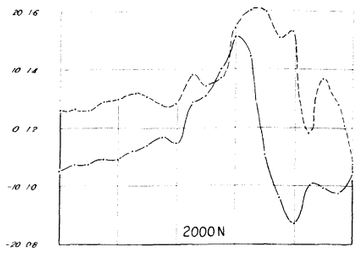
GRIDS 5& 6

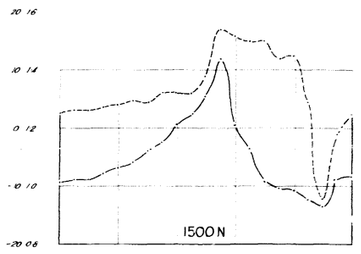
LG2-187
Gc

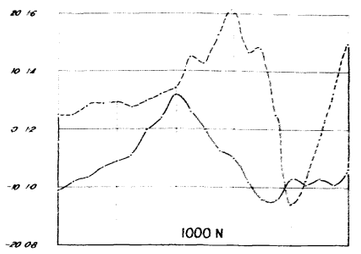
F 1

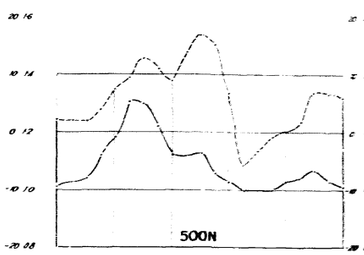


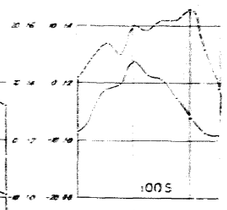


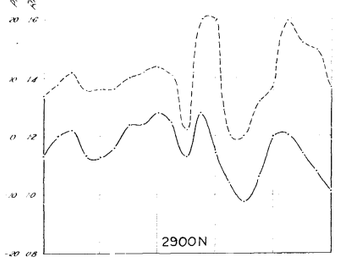


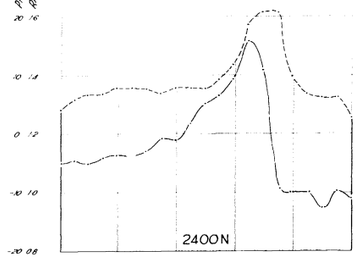


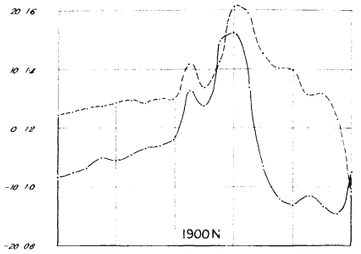


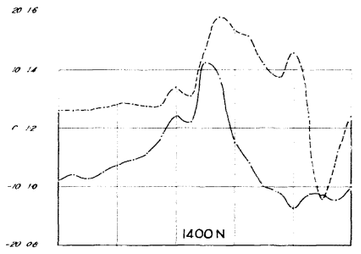


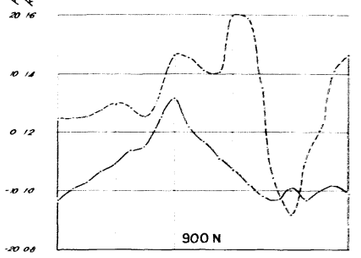


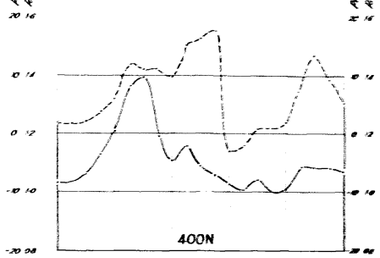


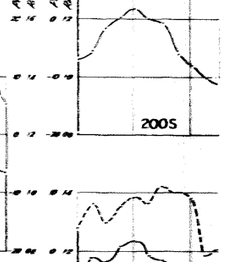


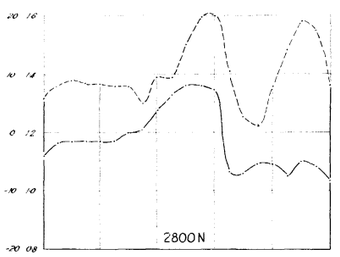


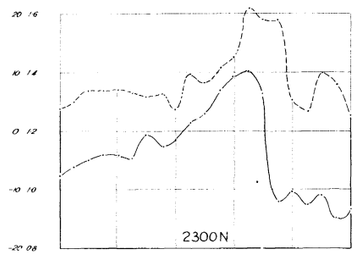


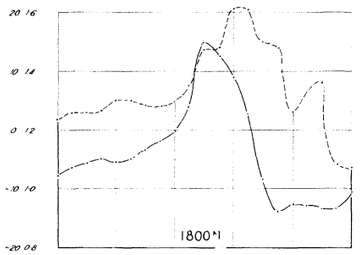


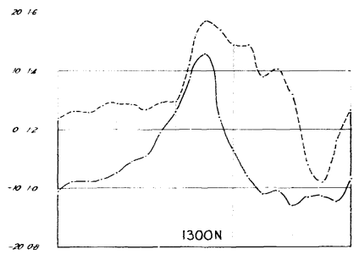


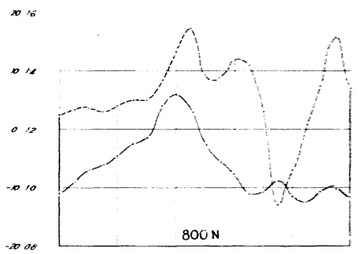


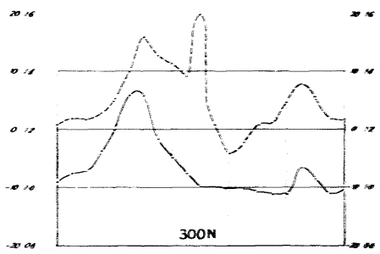


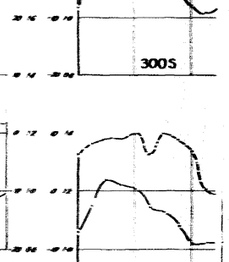


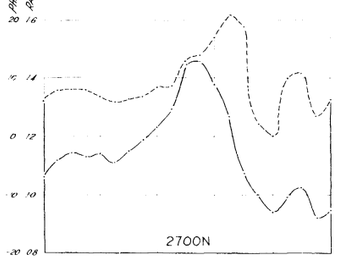


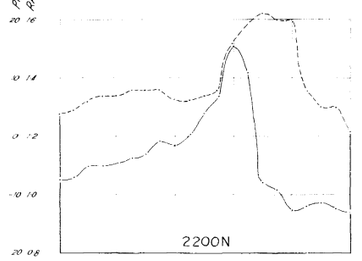


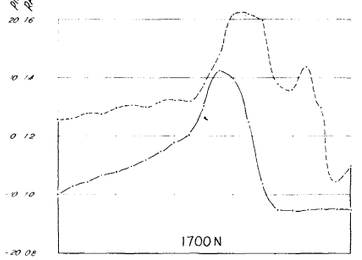


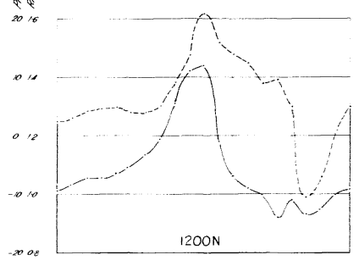


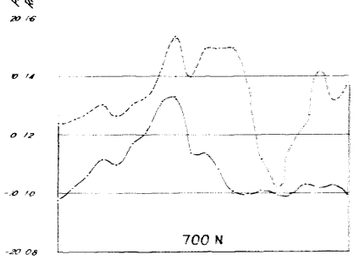


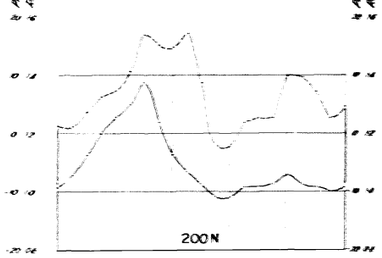


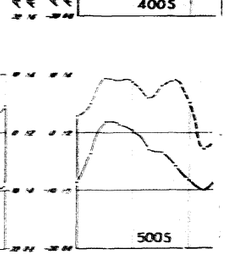


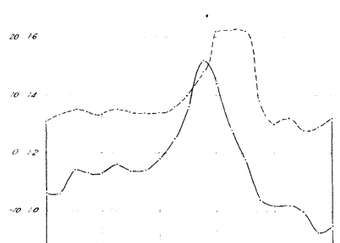


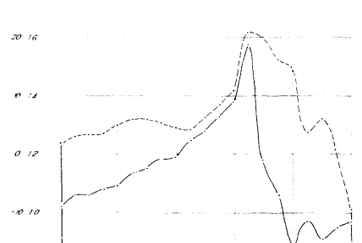


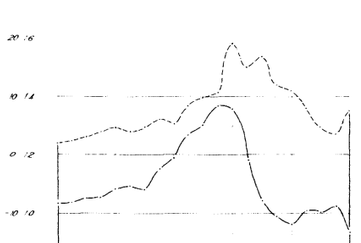


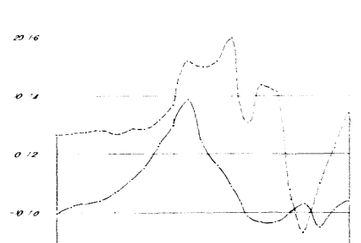


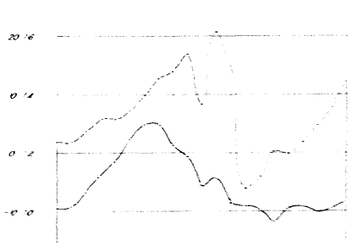


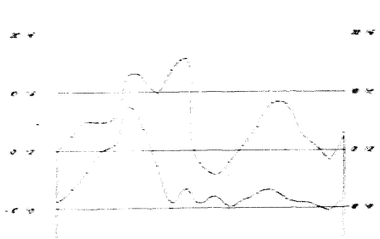


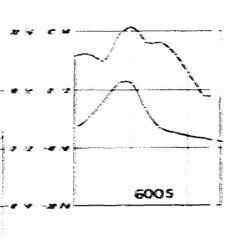


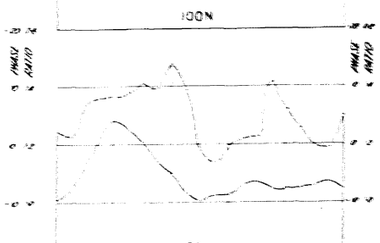


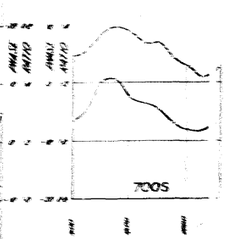












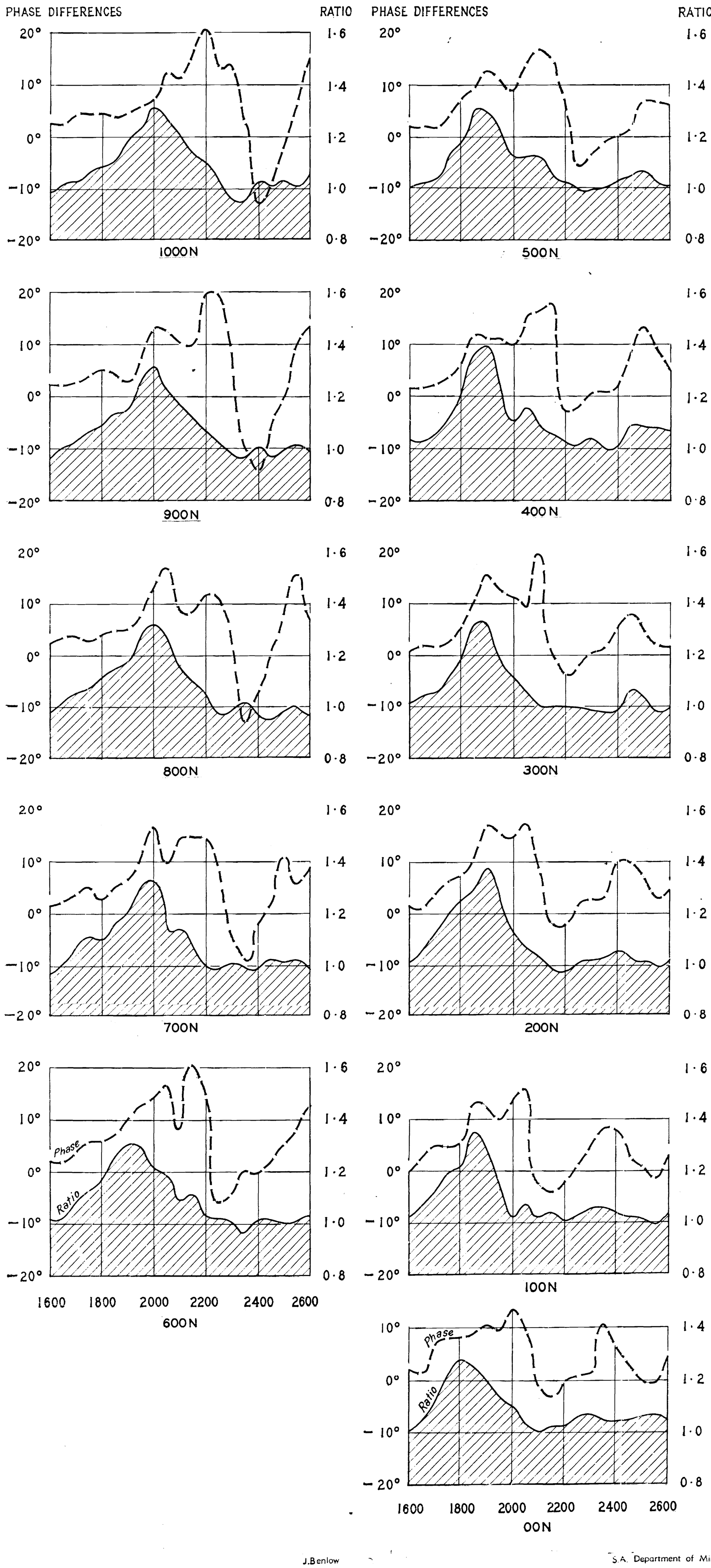
F 2

S. A. DEPT. OF MINES

EDIACARA MINERAL FIELD

ELECTROMAGNETIC SURVEY

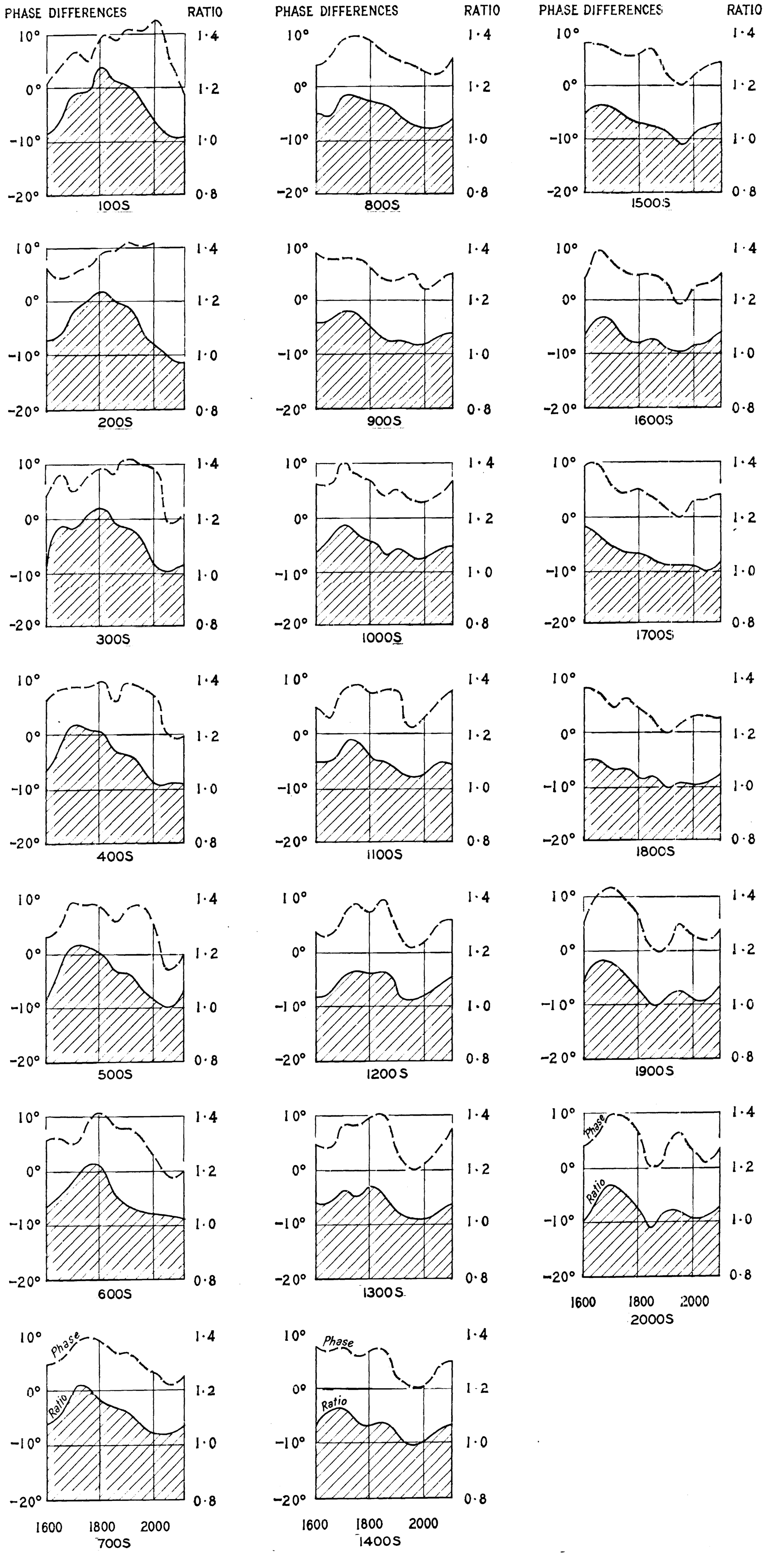
GRIDS 5& 6

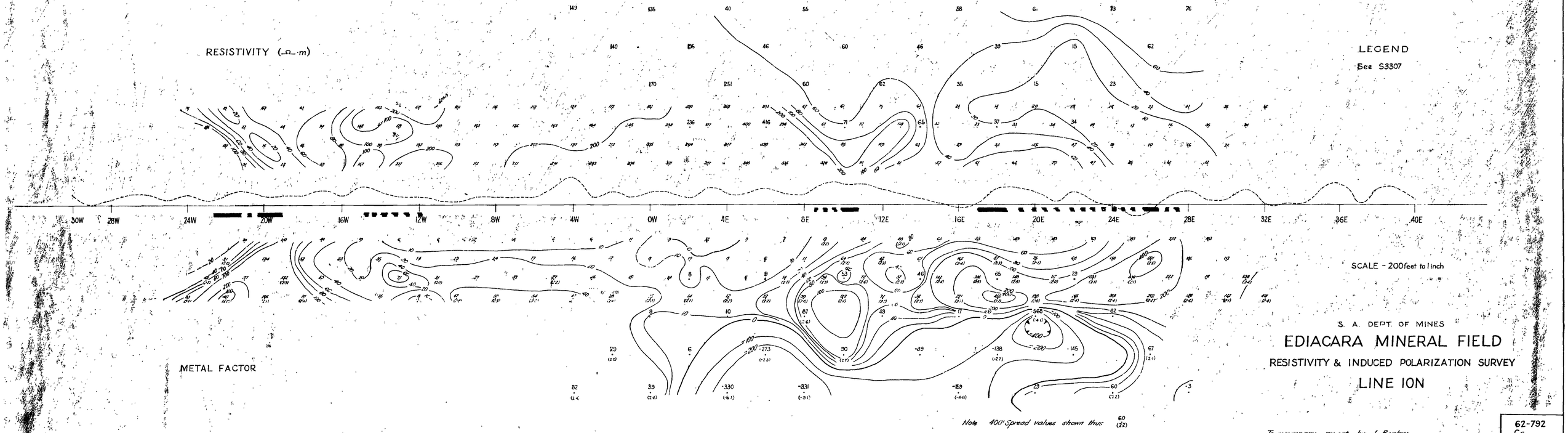


62-187 C

J.Benlow

S.A. Department of Mines


PHASE DIFFERENCES
RATIO
10°
0°
-10°
-20°
1·4
1·2
1·0
0·8
100S
800S
1500S
200S
900S
1600S
300S
1000S
1700S
400S
1100S
1800S
500S
1200S
1900S
600S
1300S
2000S
1600
1800
2000
Phase
Ratio
700S
1400S



LEGEND

See S3307

SCALE - 200 feet to 1 inch

S. A. DEPT. OF MINES

EDIACARA MINERAL FIELD

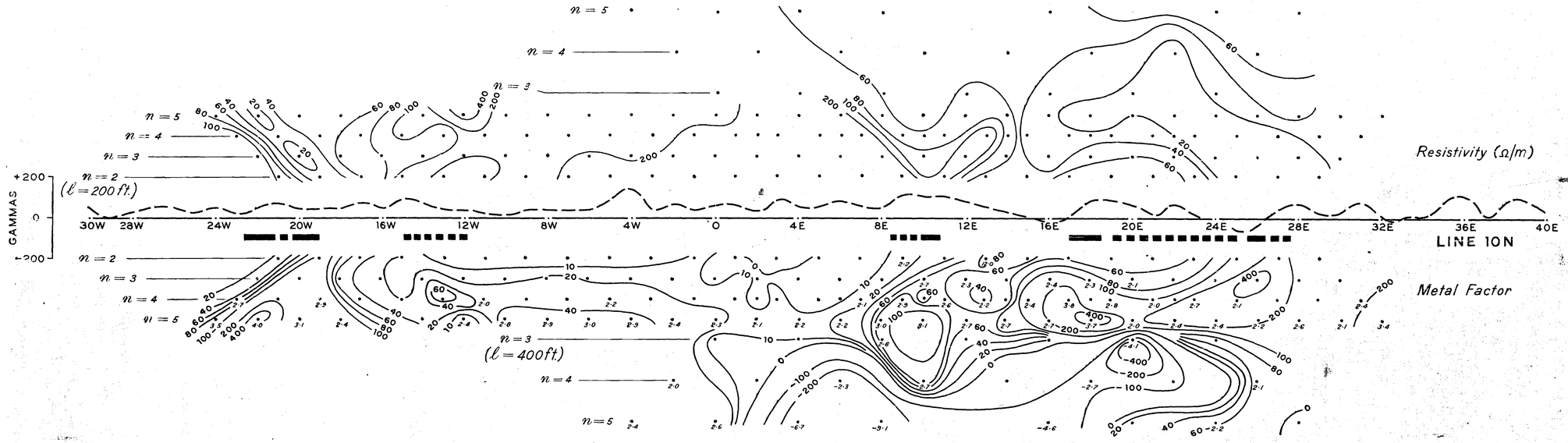
RESISTIVITY & INDUCED POLARIZATION SURVEY

LINE 10N

Note 400' Spread values shown thus: 60 (22)

To accompany report by J. Benlow

62-792
Gc.



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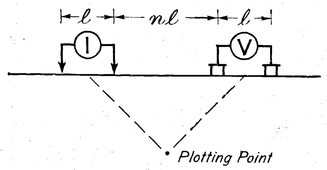


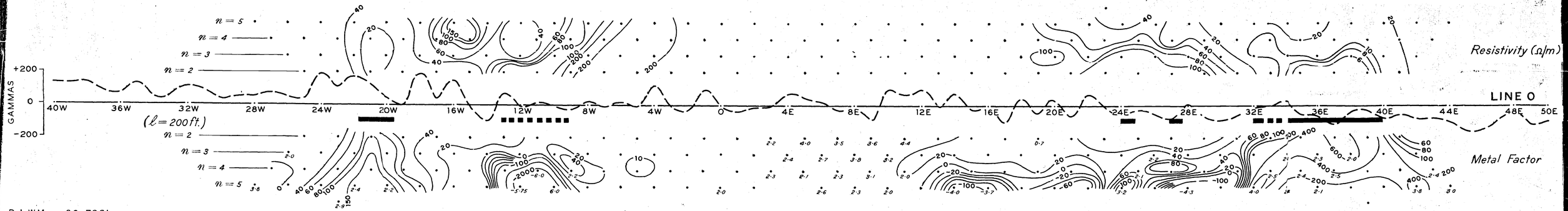
Formula for Dipole-Dipole Configuration is $\rho_a = \frac{V\pi\ell}{I} \times n(n^2-1)$

where ρ_a = apparent resistivity
V = voltage read
I = current transmitted
ℓ = electrode spacing
n = number of electrode spaces between midway of receiver dipole and transmitter dipole

Primary I.P. anomaly
Secondary I.P. anomaly
Vertical magnetic intensity
Frequency effects
Contouring : logarithmic
Electrode spread type : Dipole – Dipole
Frequencies used : 0·3 – 3·0 c.p.s.
Dipole Distance : 200 ft. and 400 ft.

SCALE

FEET 200 0 200 400 600 800 FEET

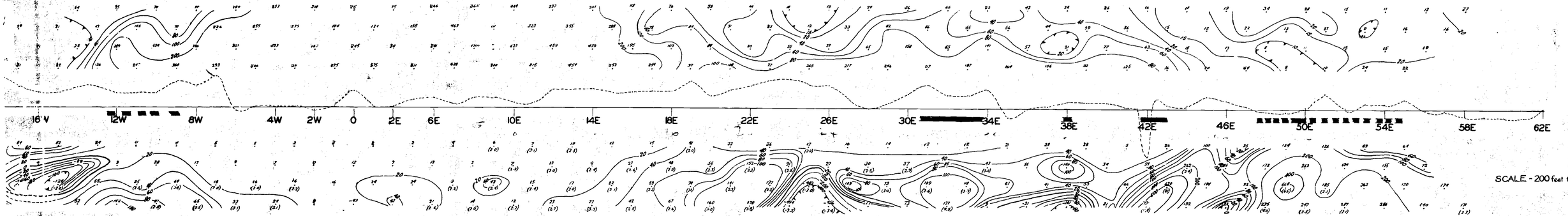


Del. W.M. 62-793L

J.C. Benlow

S.A. Department of Mines

LEGEND
See S3307



SCALE - 200 feet to 1inch.

S. A. DEPT. OF MINES

EDIACARA MINERAL FIELD

RESISTIVITY & INDUCED POLARIZATION SURVEY

LINE 10S

To accompany report by J. Benlow.

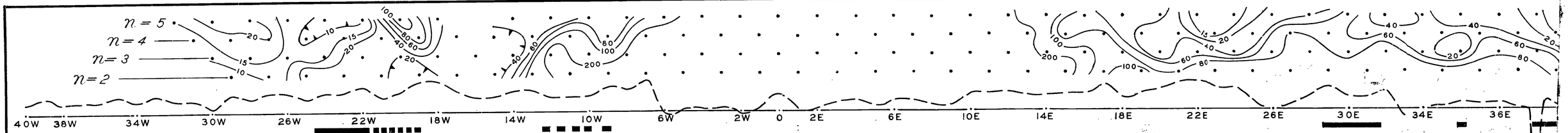
62-7941
Cc

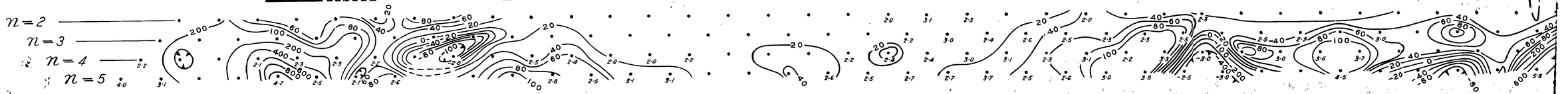
Also on 62-793

F 1

SCALE IN FEET
200 0 200 400 600 800 1000
100 0 100 200 300
SCALE IN METRES

9





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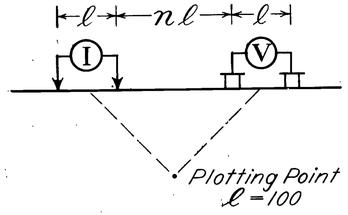


Formula for Dipole-Dipole Configuration

is $\rho a = \frac{V\pi\ell}{I} \times n(n^2+1)$

where ρa = apparent resistivity
V = voltage read
I = current transmitted
ℓ = electrode spacing
n = number of electrode spaces between midway of receiver dipole and transmitter dipole

Surface projection of primary I.P. anomaly

Surface projection of secondary I.P. anomaly

Frequency effects 4·5

Contouring: logarithmic 20 30

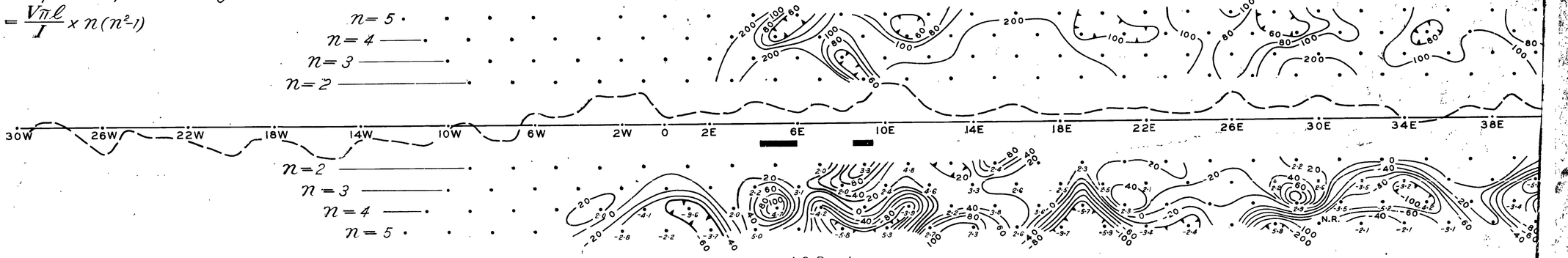
Electrode spread type: Dipole-Dipole

Vertical magnetic intensity

Dipole distance: 100 feet

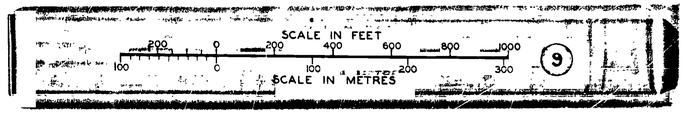
Frequencies used: 0·3-3 c.p.s.

No Result



Del.B.T. 62-795L

J.C. Benlow

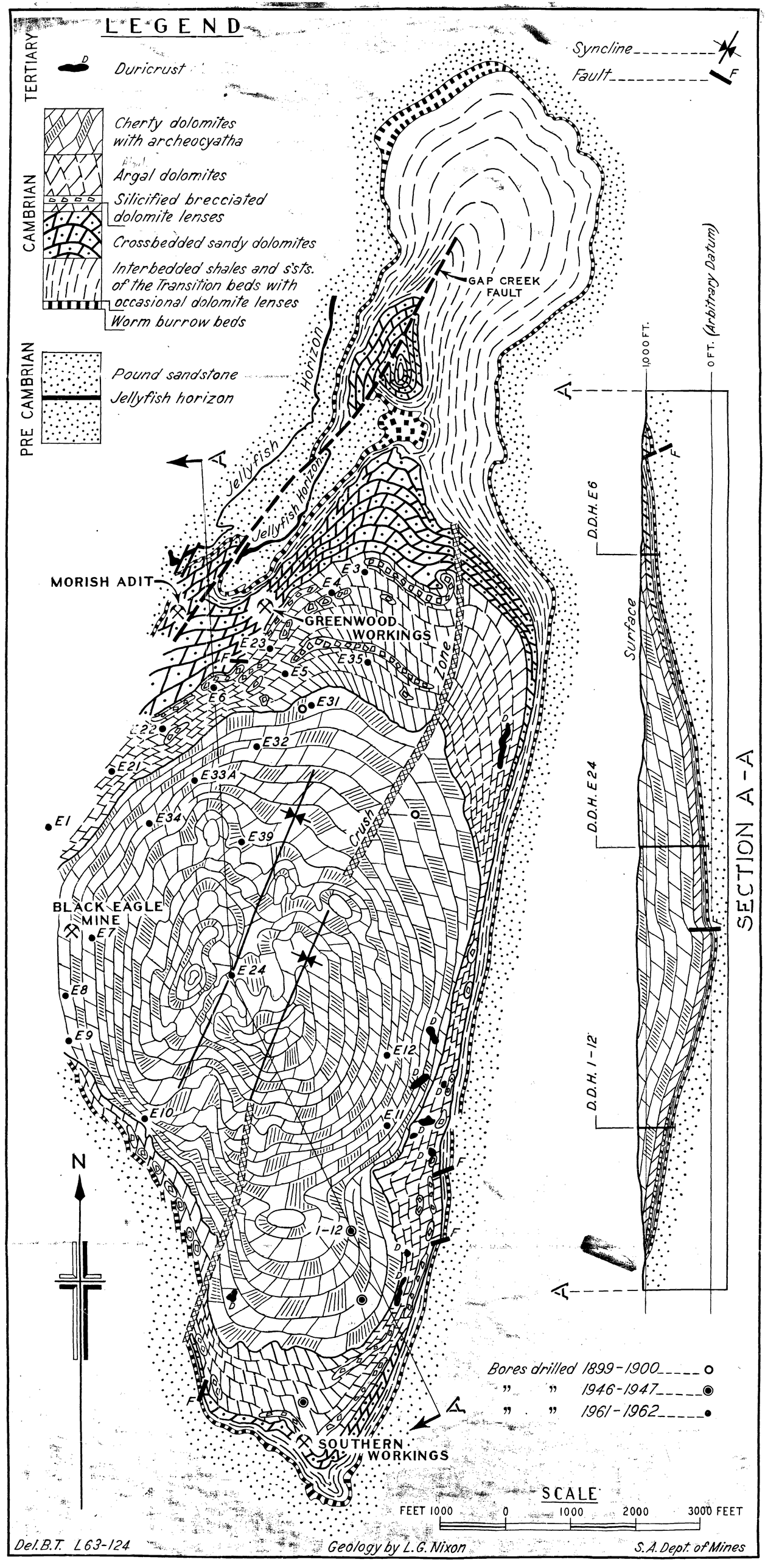


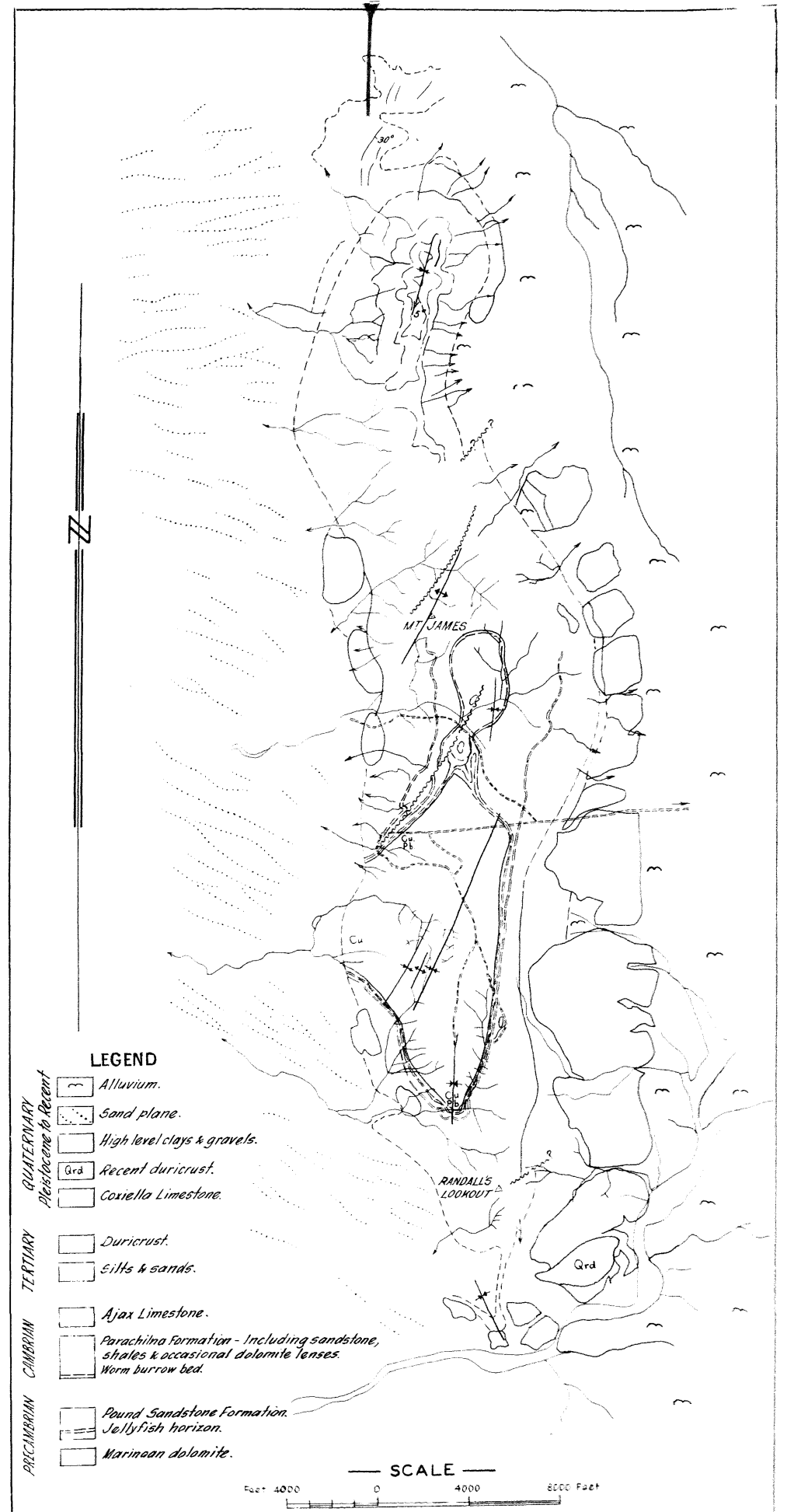
RESISTIVITY

EDI

A MINER

F 2


LEGEND
TERTIARY
D
Duricrust
CAMBRIAN
Cherty dolomites with archeocyatha
Argal dolomites
Silicified brecciated dolomite lenses
Crossbedded sandy dolomites
Interbedded shales and s'sts. of the Transition beds with occasional dolomite lenses
Worm burrow beds
PRE CAMBRIAN
Pound sandstone
Jellyfish horizon
Syncline
Fault
F
GAP CREEK FAULT
Jellyfish Horizon
MORISH ADIT
GREENWOOD WORKINGS
Crush Zone
BLACK EAGLE MINE
SOUTHERN WORKINGS
E1
E2
E3
E4
E5
E6
E7
E8
E9
E10
E11
E12
E21
E22
E23
E24
E31
E32
E33A
E34
E35
E39
1-12
N
SECTION A-A
1000 FT.
0 FT. (Arbitrary Datum)
D.D.H. E6
D.D.H. E24
D.D.H. 1-12
Surface
Bores drilled 1899-1900
" " 1946-1947
" " 1961-1962
SCALE
FEET 1000 0 1000 2000 3000 FEET
Del. B.T. L63-124
Geology by L.G. Nixon
S.A. Dept. of Mines



EDIACARA
REGIONAL PLAN

63-640
Cc 22-7-63

S. A. Dept. of Mines.

LINE	ANOMALIES													
	A		U		V		W		X-X'		Y		Z	
	FE	ρa	FE	ρa	FE	ρa	FE	ρa	FE	ρa	FE	ρa	FE	ρa
2000N														
1000N			4·2	319										
000	3·9	39	6·7	328	4·0	30								
500S									5·3	82				
1000S	5·3	31			5·6	40			5·4	246				
1500S	5·6	47							5·6	19				
2000S	5·1	39							4·1	70				
2500S	4·1	47							3·8	142			2·9	120
3000S	4·0	20									2·9	175	3·4	153
3500S	3·9	42									4·5	65	?	?
4000S	3·9	46					4·9	134			3·9	141	3·6	213
4500S	3·3	45											5·0	91
5000S	?	?									4·4	57	3·9	467
6000S	4·9	66												
7000S														
7500S														
8000S														
8500S														

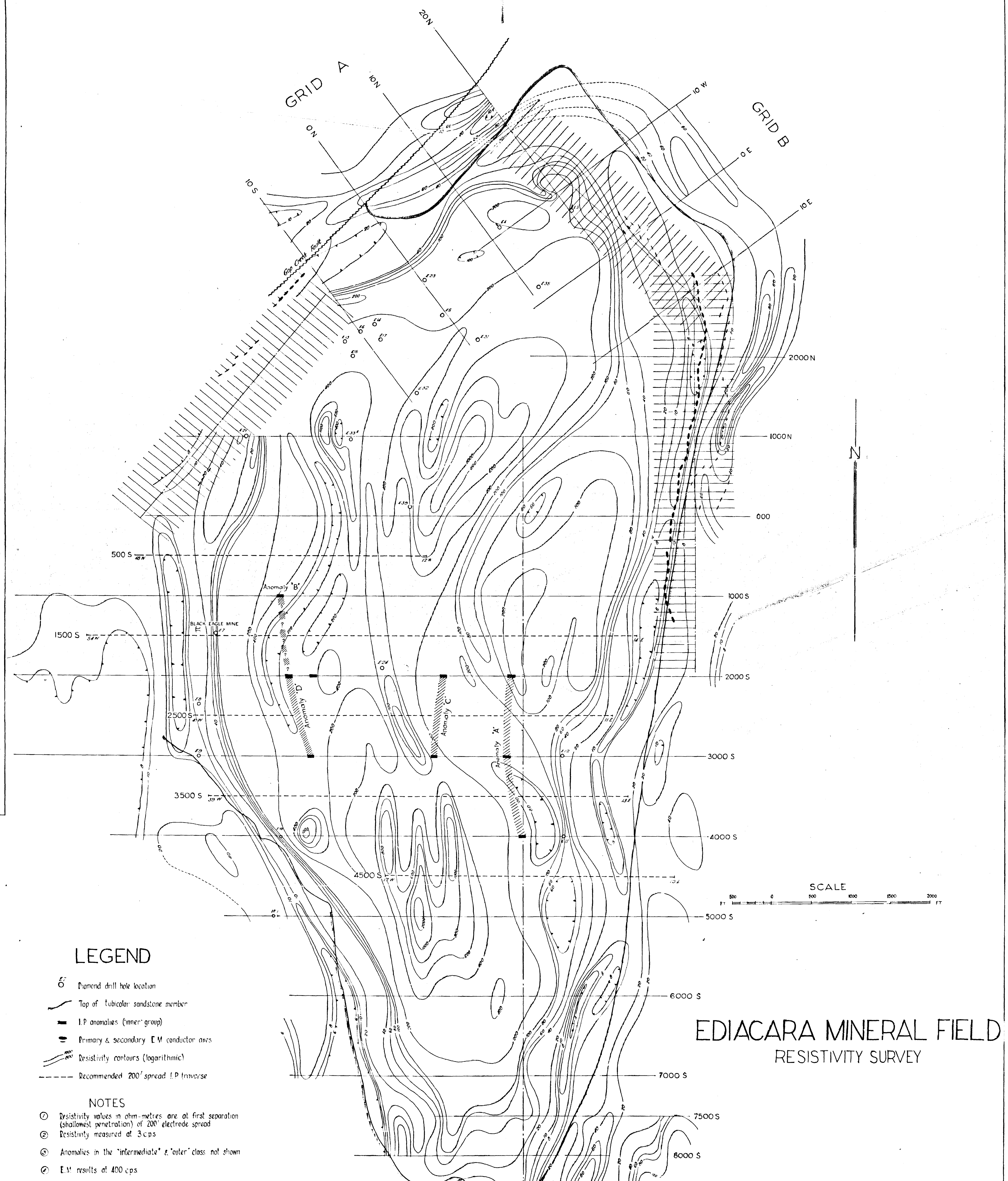
Drilling target shown:

To accompany report by J. Benlow

S.A. DEPARTMENT OF MINES

Approved	Passed	Drn.	EDIACARA MINERAL FIELD MAIN GRID I. P. Anomalies – Table of Values	D.M.	Scale
		Tcd.		Req.	S 3588
		Ckd.			Cc
Director		Exd.			Date 14·2·64

200—2·61 8805



EDIACARA MINERAL FIELD

RESISTIVITY SURVEY

LEGEND

- Diamond drill hole location
- Top of tubicolar sandstone member
- I.P anomalies (inner group)
- Primary & secondary E.M conductor axes
- Resistivity contours (logarithmic)
- Recommended 200′ spread I.P traverse

NOTES

1. Resistivity values in ohm-metres are at first separation (shallowest penetration) of 200′ electrode spread
2. Resistivity measured at 3 c.p.s
3. Anomalies in the "intermediate" & "outer" class not shown
4. E.M results at 400 c.p.s
5. Geology from drawing L62-46

SCALE IN FEET
500 0 500 1000 1500 2000 2500
250 0 250 500 750
SCALE IN METRES

(11)

63-682
Cc
Date 20 8 63

To accompany report by J. Benlow

63-682
Cc

LEGEND

Metal Factor and apparent resistivity contours at logarithmic intervals

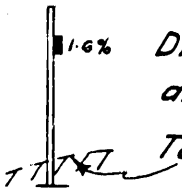
1350
(5·1)

Metal Factor value
Frequency effect

32

Apparent resistivity in Ohm metres

Electromagnetic conductor axis (400 c.p.s.)



Diamond drill hole with approximate width and grade of lead

Top of tubicolor sandstone member

"Intermediate" I.P. anomalies

NOTE:

Frequencies used: 0·3 and 3·0 c.p.s.

Type of electrode spread: dipole - dipole

Spread distance: 200' and 400' (combined)

To accompany report by J. Benlow.

S.A. DEPARTMENT OF MINES

Approved	Passed	Drn.	EDIACARA MINERAL FIELD	D.M.	Scale —
		Tcd.	LEGEND FOR I.P.	Req.	S3490
		Ckd.	1" TO 200' SECTIONS		Cc
Director		Exd.			Date 19-8-63

280—7·61 3806

TRACK FROM BELTANA TO DEPT. OF MINES CAMP AT EDIACARA

N

Approx Nth

White Signal Flag on the 9 mile Post of Creek 16.7

Start of Grey Rocky Track

16·1

15·65 Fork

15·55 Small Creek

15·1 Fork

14·5 Gate

Commonwealth Prohibited Area Sign (Both)

13·2 In 2 Arms 1st gravel on this track

12·15 Fork

12·0 Gate

Fork 10·15 Sandy Creek 10·0

9·45 Gate

Exit 379 9

Creek entry at 9·7

CREEK

The Tracks in dashed Lines have been taken from Geological Map May 1961

USUAL TRACK

Air Beacon

NEW Rly LINE

Rly Xing

Power Line

Gate 36

Warrioota Rly Stn

Creek

To Copley Line

Beltana Rly Stn

Beltana Post Office and Store

Monument

Beltana N.S. Hostel

Gate 30

Step in Fence 31

Gate 36

Main Road

Old Rly

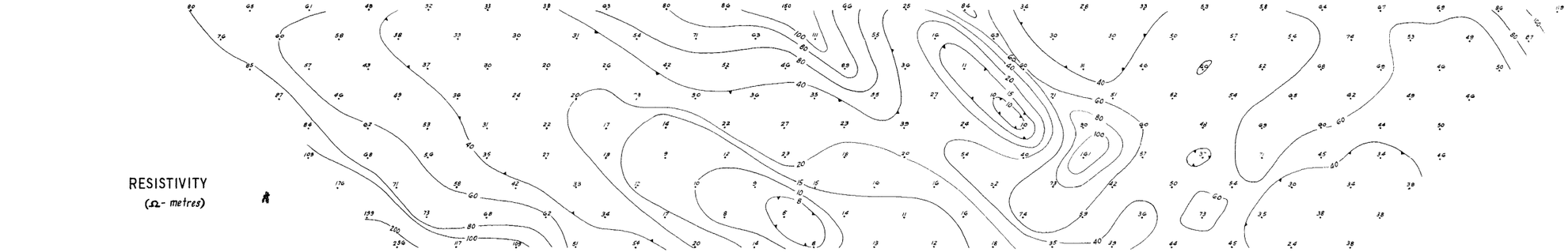
To Adelaide

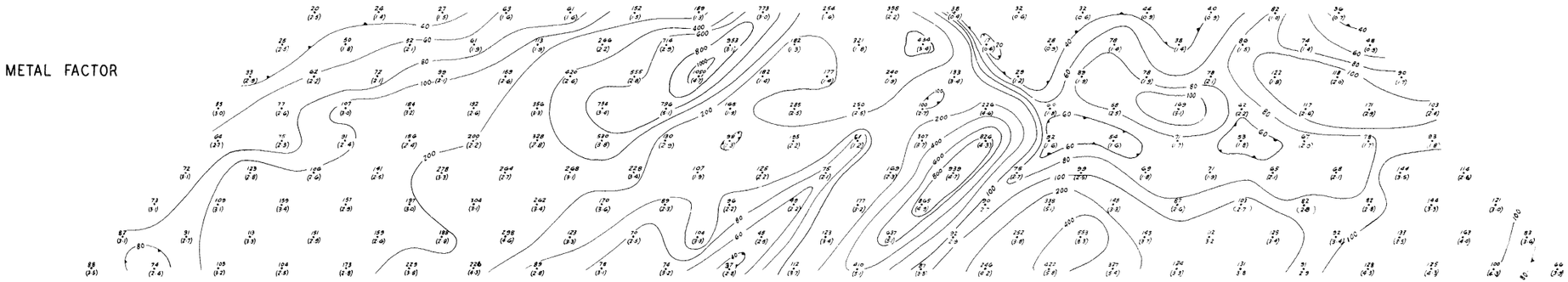
Scale in Miles

0 1 2 3 4 5 6 7 8

63-707

Cc

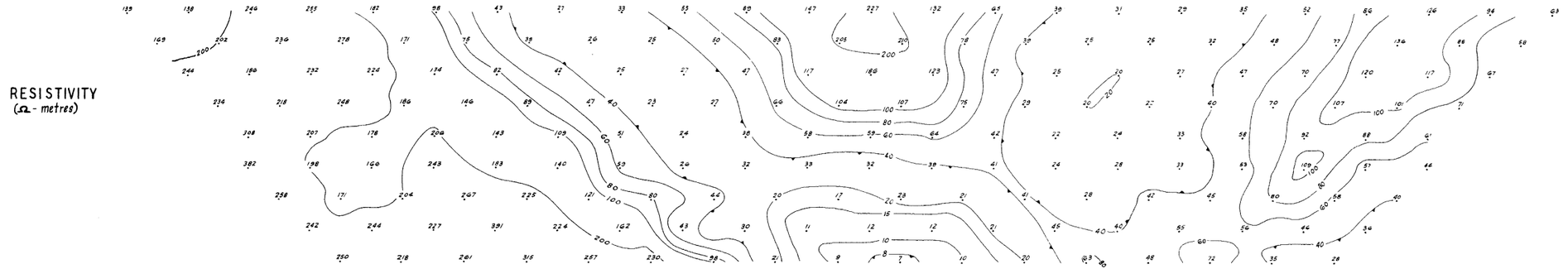


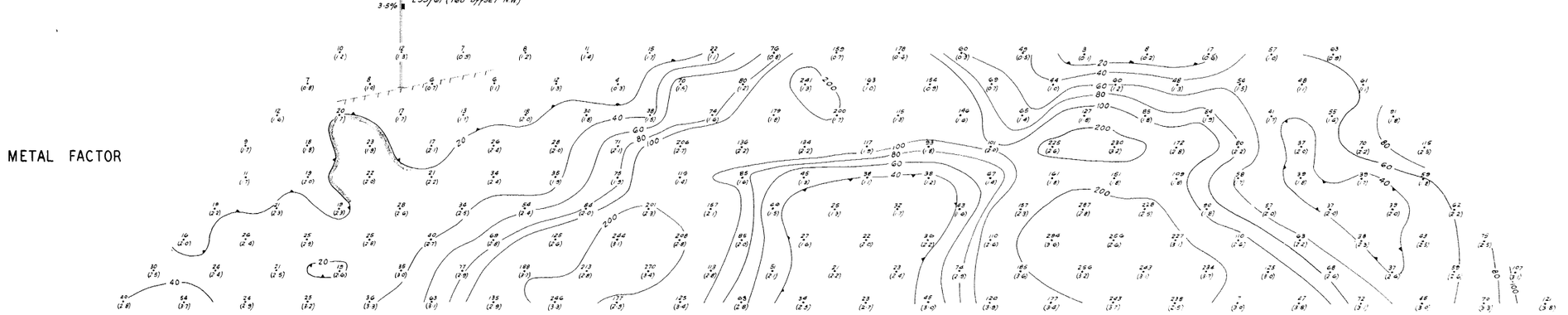


S.A. DEPT. OF MINES
EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY

GRID B
LINE 10E

L63-207
Cc





S.A. DEPT. OF MINES

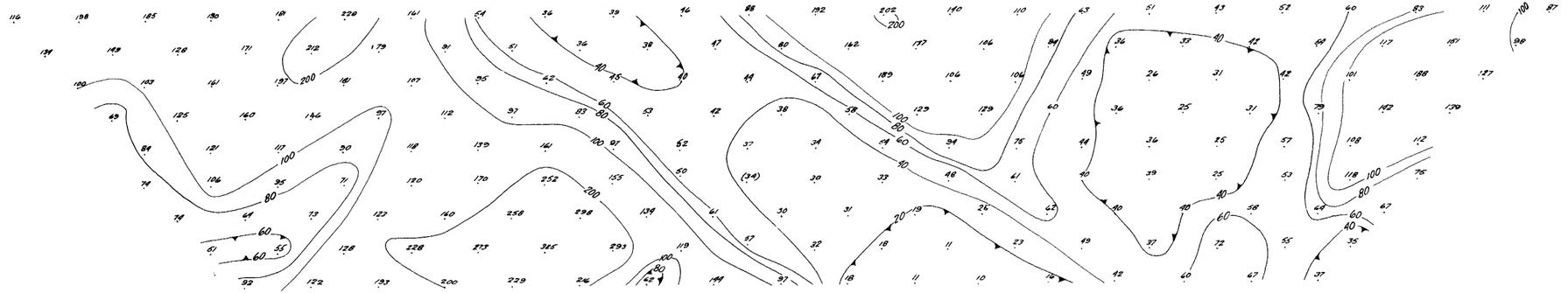
EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY

GRID B
LINE 00E

L 63-208
Cc

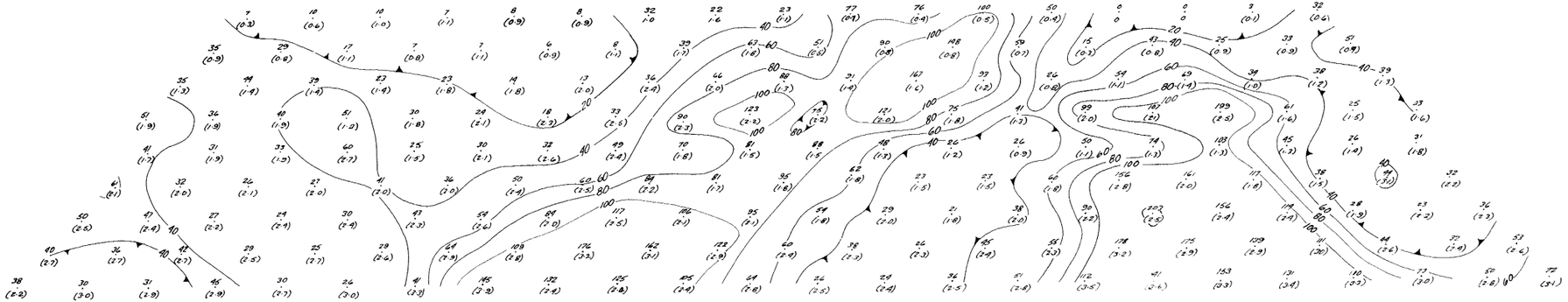
RESISTIVITY

Ω-metres



12S 10S 2S 0N 2N 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48 50N 52N 56N 58N

METAL FACTOR



S.A. DEPT. OF MINES

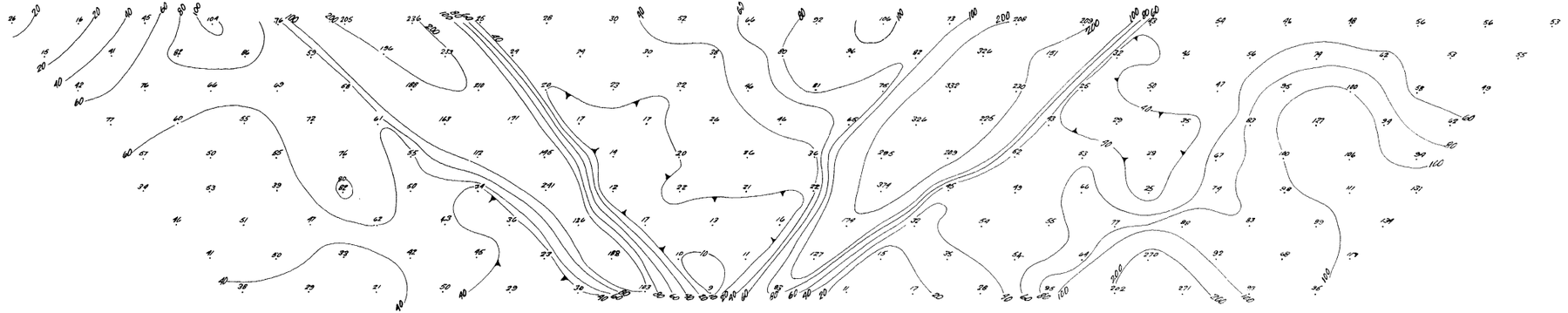
EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY

GRID B
LINE 10W

L 63-209
Cc

RESISTIVITY

Ω-metres

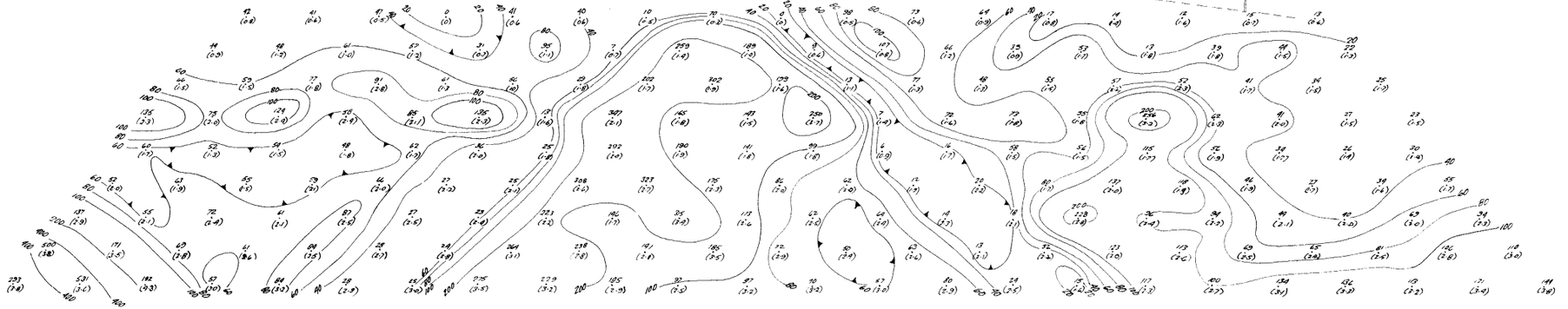


56W 54W 46W 44 42 40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2W 0 2E 4 6 8E 12E 14E

L3/61

Pb mineralisation

METAL FACTOR



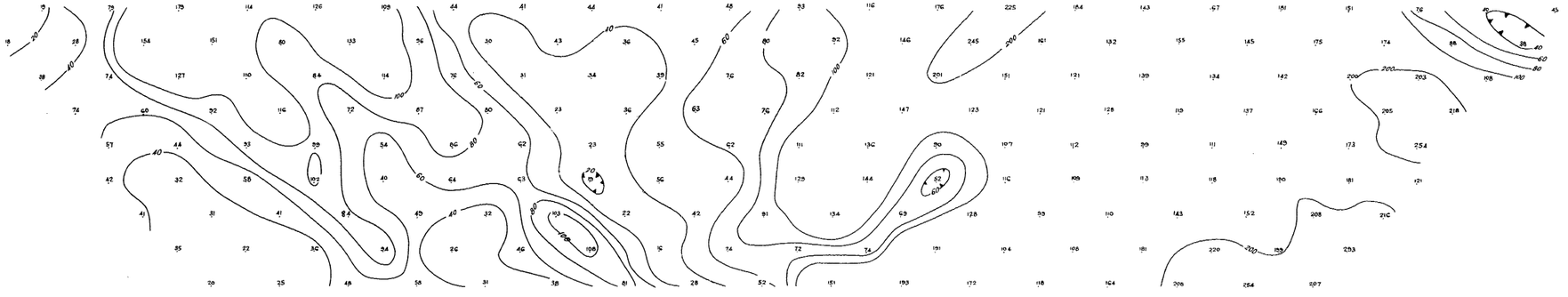
S.A. DEPT OF MINES

EDIACARA MINERAL FIELD

INDUCED POLARIZATION SURVEY

GRID A
LINE 20N

L63-210
Cc



RESISTIVITY

Ω - metres

52W 50W 42 40 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2W 0 2E 4 6 8 10 12 16E 18E

E4/61 0.5%

E35/61 3.5%

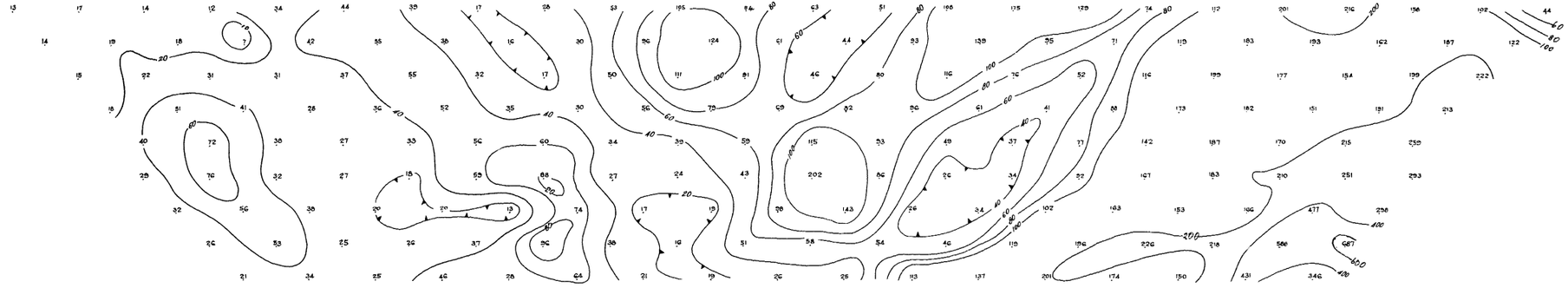
METAL FACTOR

S.A. DEPT OF MINES

EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY

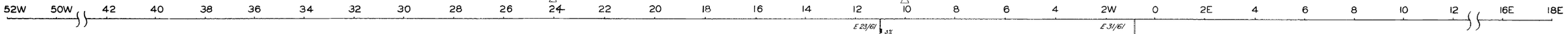
GRID A
LINE ION

L63-211
Cc

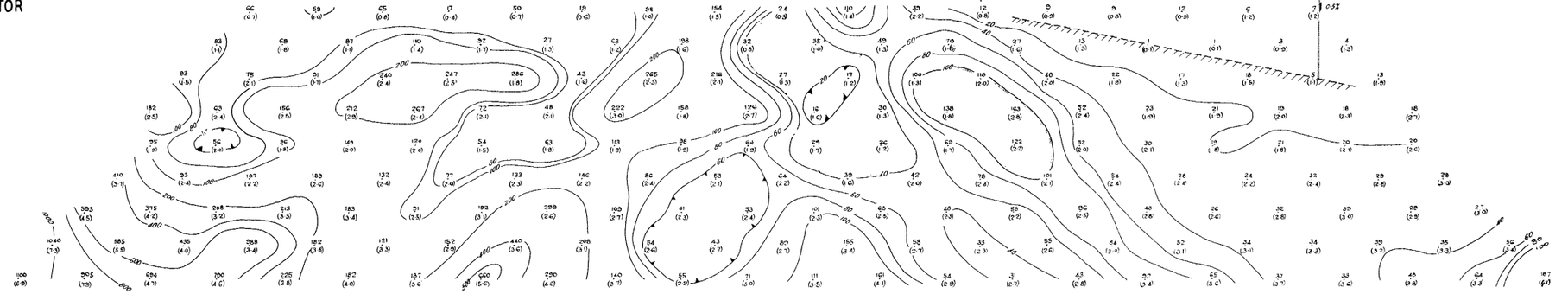


RESISTIVITY

Ω - metres



METAL FACTOR



S.A. DEPT. OF MINES

EDIACARA MINERAL FIELD

INDUCED POLARIZATION SURVEY

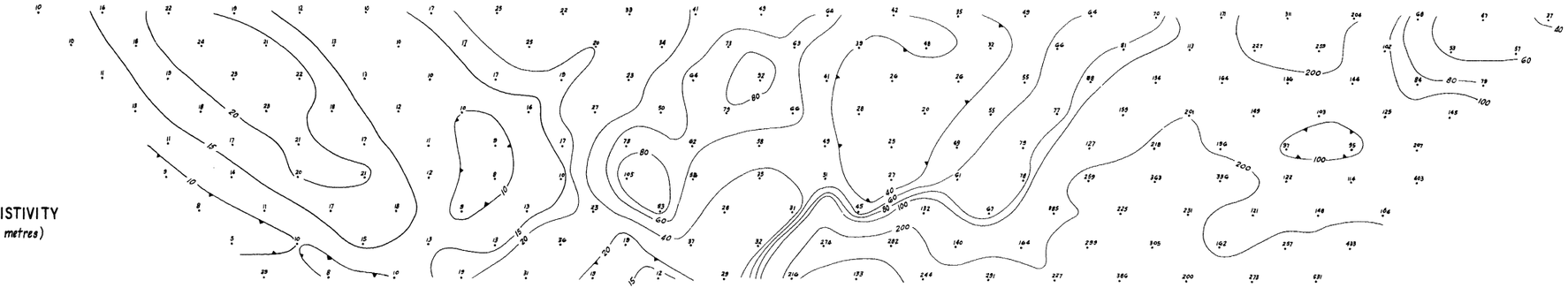
GRID A

LINE ON

L63-212

Cc

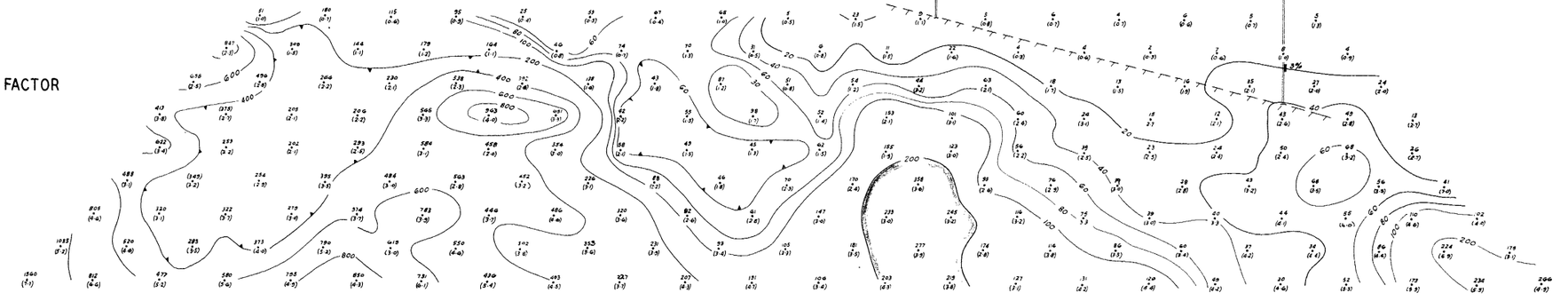
RESISTIVITY
(Ω metres)



50W 42 40 38 36 34 32 30 28 26 24 22 20W 18 16 14 12 10W 8 6 4 2W 0 2E 4 6 8 10E 12 14 18 20E

E6/21 7% 6% E32/61 5%

METAL FACTOR

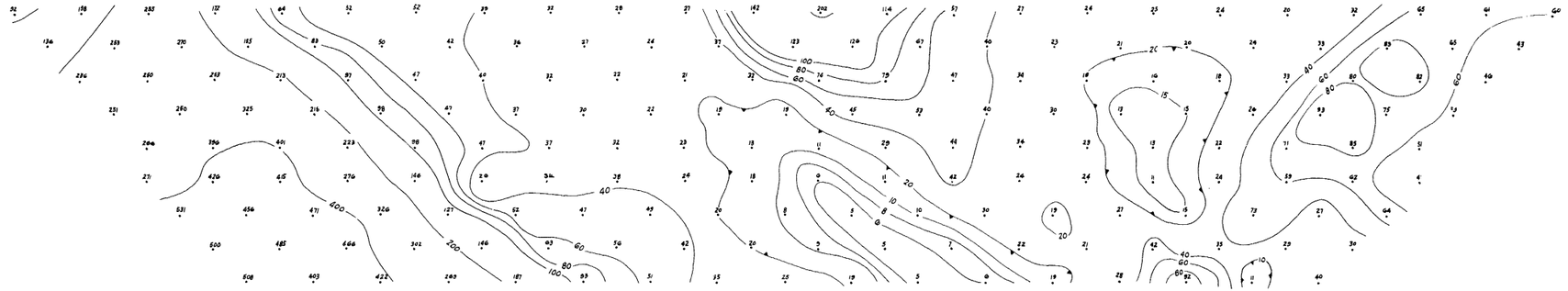


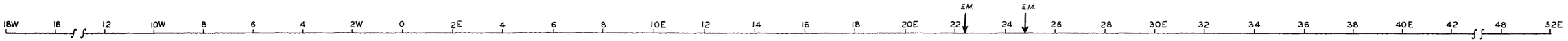
S.A.DEPT. OF MINES
EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY

GRID A
LINE 10S

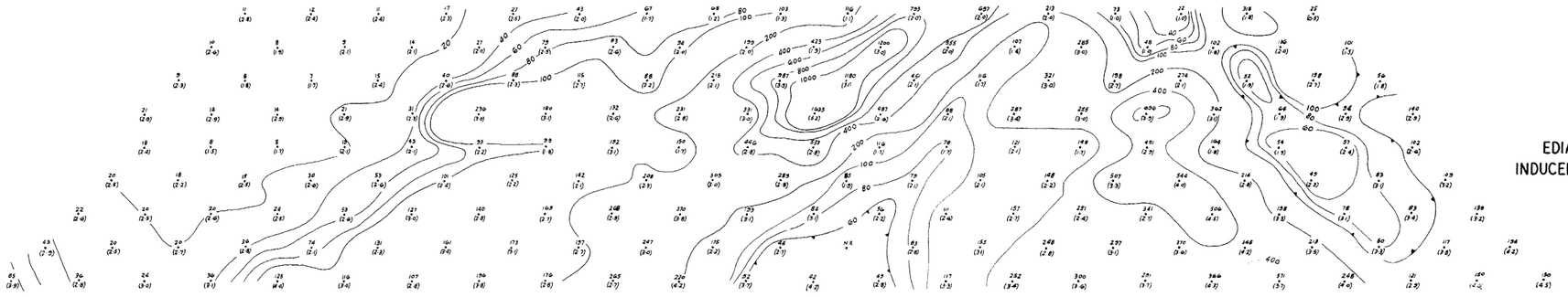
L63-213
Cc

RESISTIVITY
(Ω Metres)





METAL FACTOR

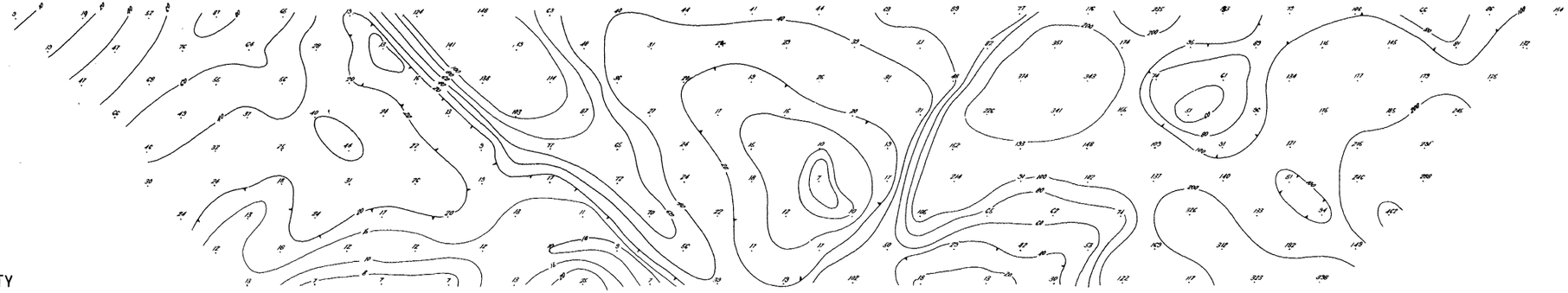


S.A. DEPT OF MINES

EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY

MAIN GRID
LINE 2000N

L63-214
Cc

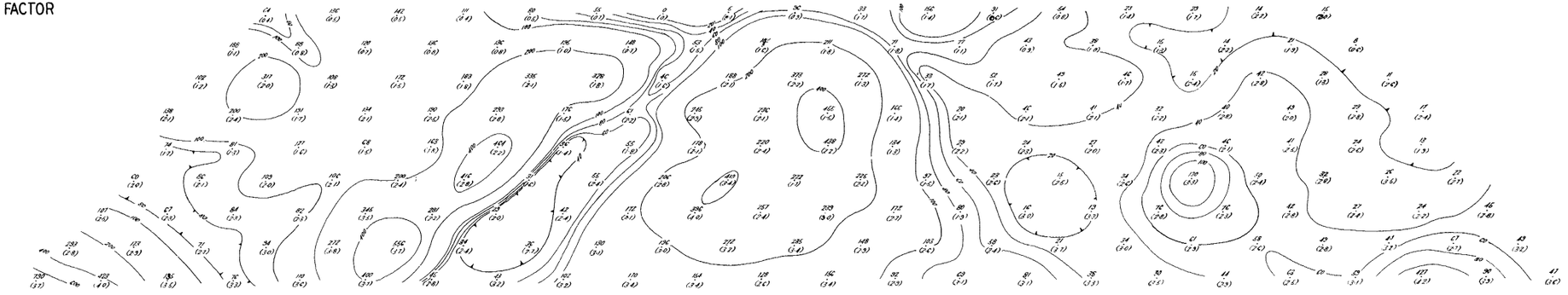


RESISTIVITY

Ω metres

28W 26 24 20 18 16 14 12 10 8 6 4 2 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 38 40E

METAL FACTOR



S.A. DEPT. OF MINES

EDIACARA MINERAL FIELD

INDUCED POLARIZATION SURVEY

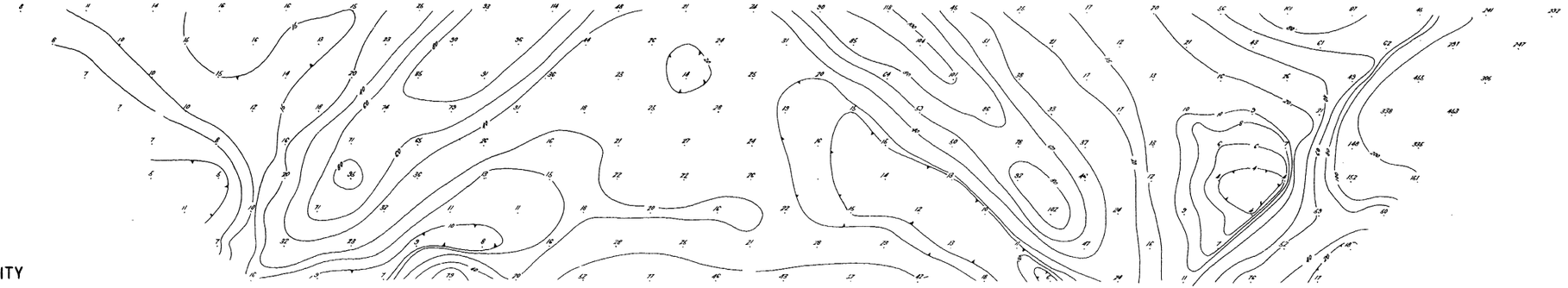
MAIN GRID
LINE 8500S

L63-215

Cc

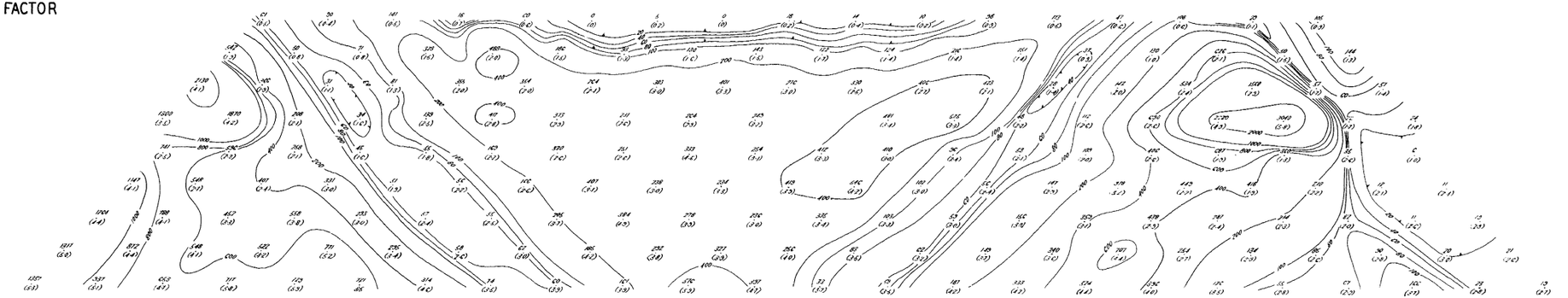
RESISTIVITY

Ω metres



40W 38 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2 0 2 4 6 8 10 12 14 16 18 20 22 24 28 30E

METAL FACTOR



S.A. DEPT OF MINES

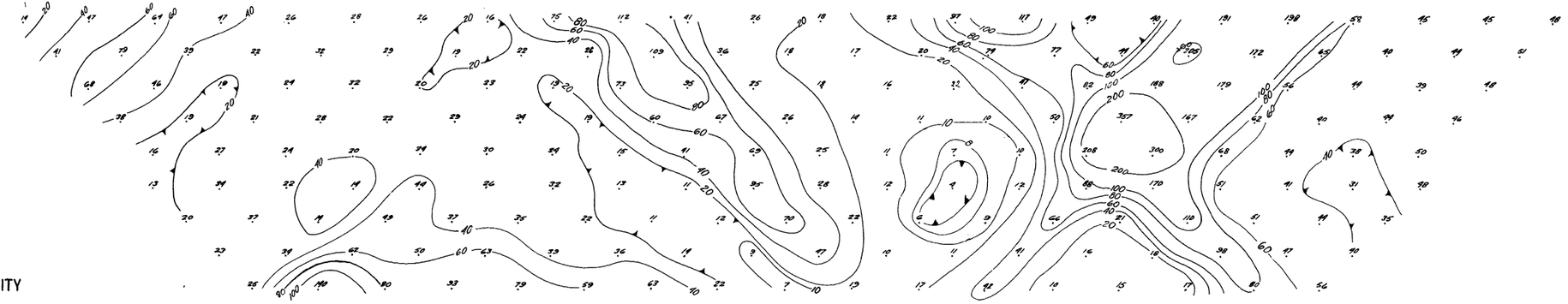
EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY

MAIN GRID
LINE 8000 S

L63-216
Cc

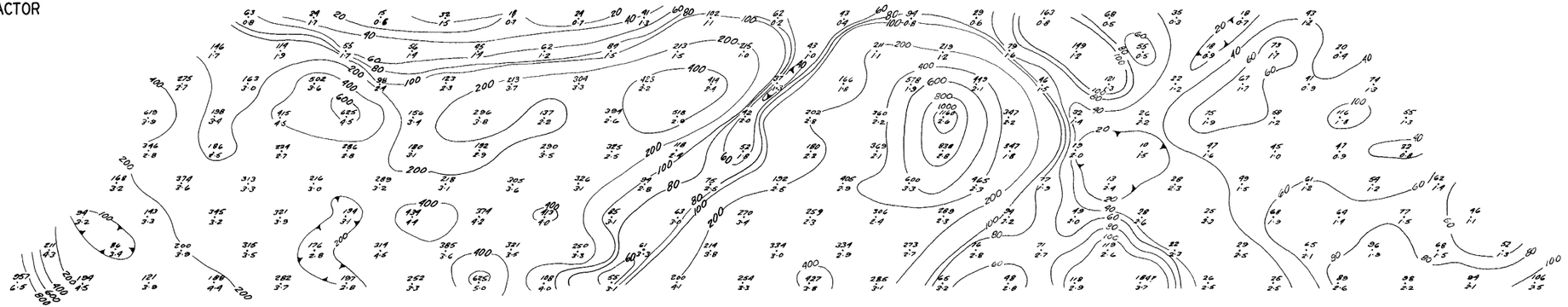
RESISTIVITY

Ω metres



24W 22W 20 18 16 14 12 10 8 6 4 2W 0 2E 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34E 36E 38E

METAL FACTOR



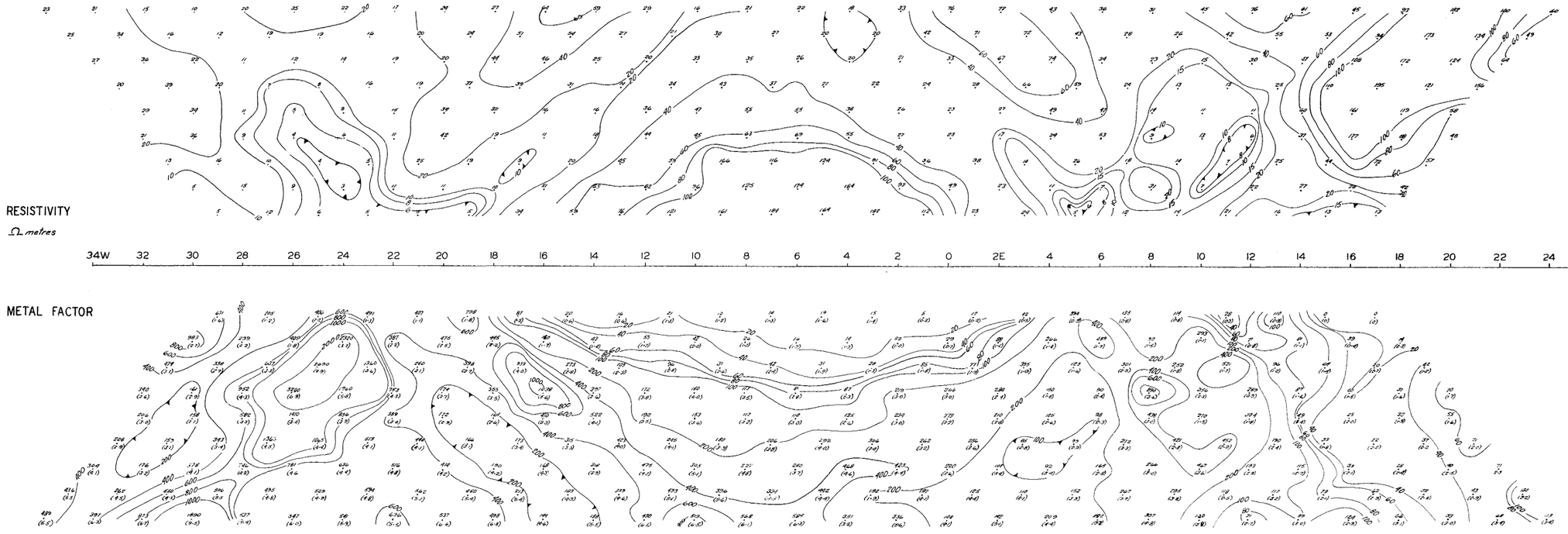
S.A. DEPT. OF MINES

EDIACARA MINERAL FIELD

INDUCED POLARIZATION SURVEY

MAIN GRID
LINE 7500S

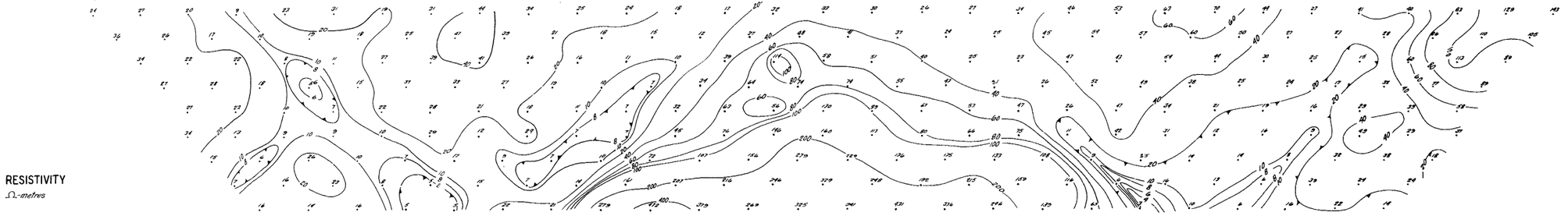
L63-217
Cc



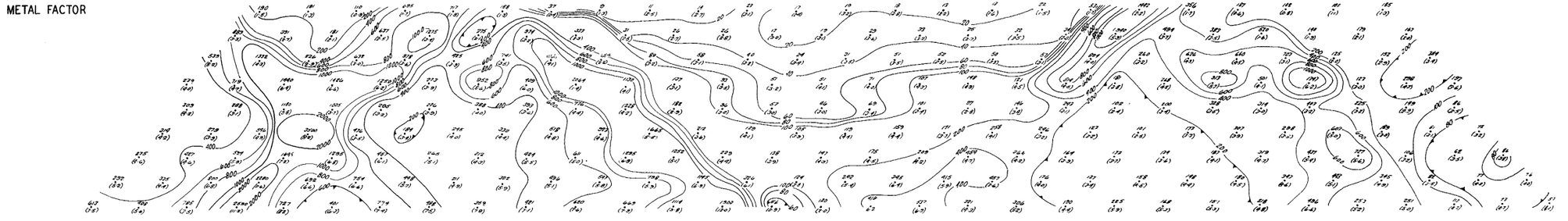
S.A. DEPT. OF MINES
EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY

MAIN GRID
LINE 7000S

L63-218
Cc

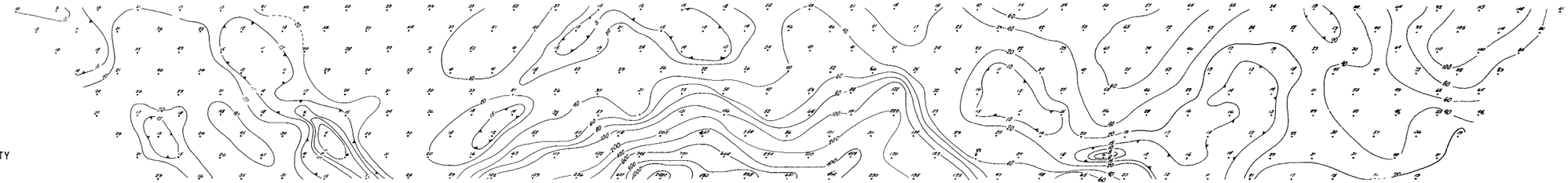


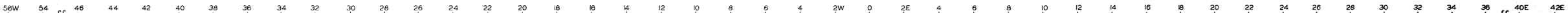
48W 46W 38 36 34 32 30 28 26 24 22 20 18 16 14 12 10 8 6 4 2W 0 2E 4 6 8 10 12 14 16 18 20 22 24 26 28 30 34E 36E

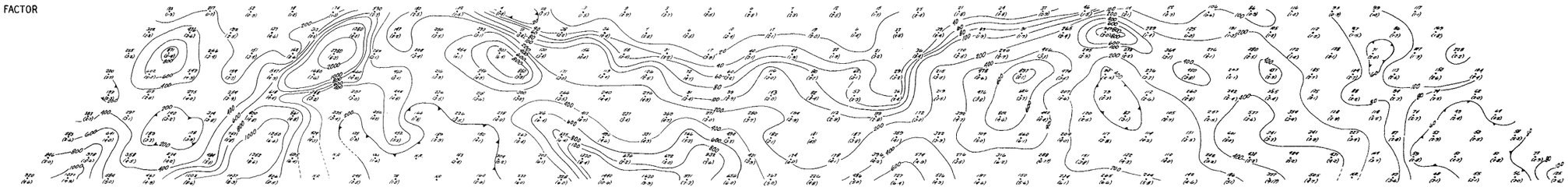


S.A. DEPT. OF MINES
EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY
MAIN GRID
LINE 6000S

L63-219
Cc



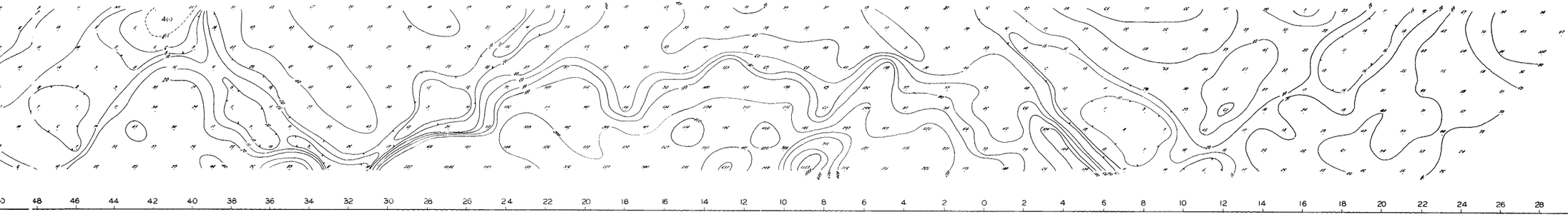


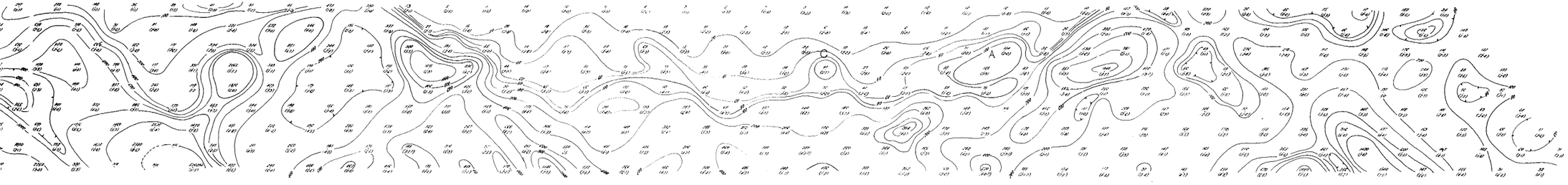


S.A. DEPT. OF MINES
EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY

MAIN GRID
LINE 5000S

L63-220
Cc





S A DEPT. OF MINES
EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY

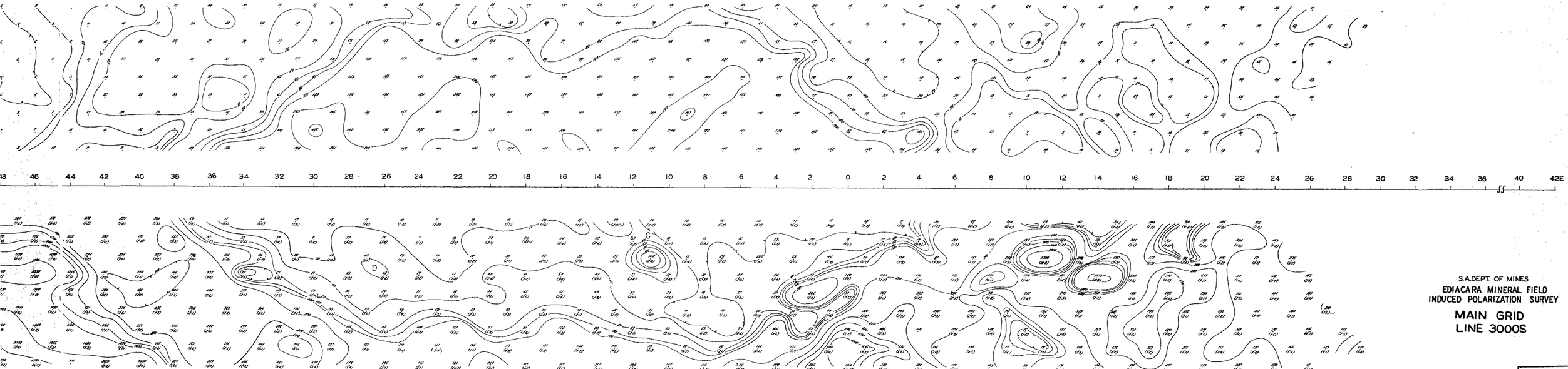
MAIN GRID
LINE 4000S

L63-221
Cc

SCALE IN FEET
200 0 200 400 600 800 1000
100 0 100 200 300
SCALE IN METRES

9

F 1



S.A.DEPT. OF MINES
EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY

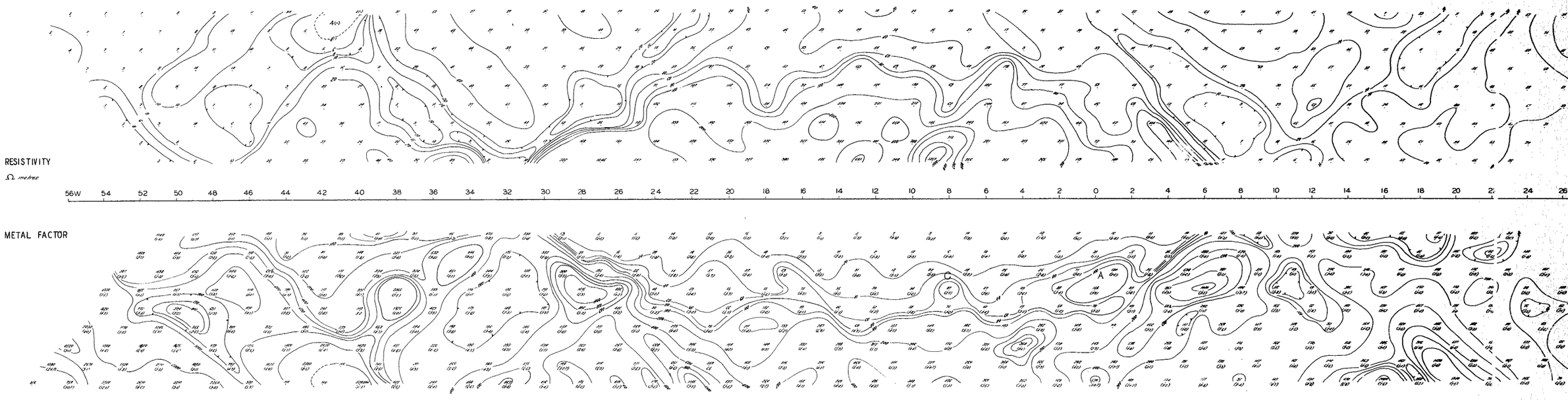
MAIN GRID
LINE 3000S

L63-222
Cc

SCALE IN FEET
200 0 200 400 600 800 1000
100 0 100 200 300
SCALE IN METRES

9

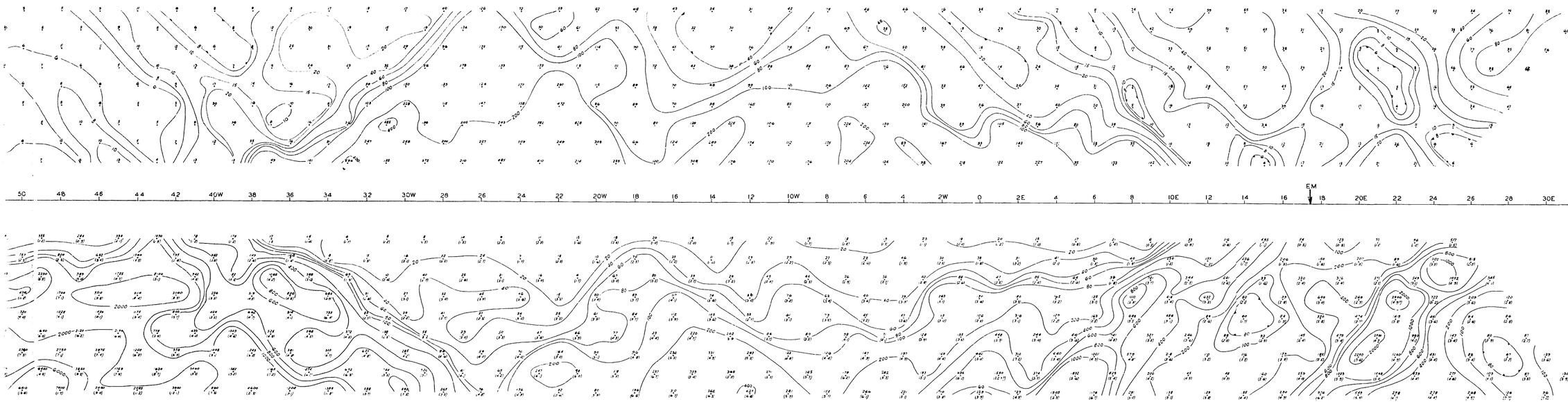
F 1



F 2

SCALE IN FEET
200 0 200 400 600 800 1000
100 0 100 200 300
SCALE IN METRES

9



S.A. DEPT. OF MINES
EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY

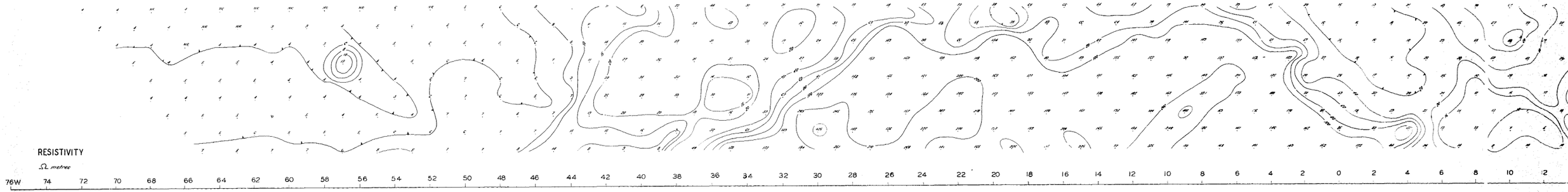
MAIN GRID
LINE 2000S

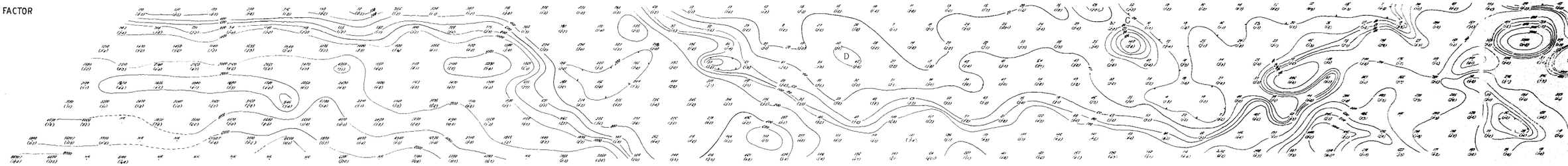
L63-223
Cc

SCALE IN FEET
200 0 200 400 600 800 1000
100 0 100 200 300
SCALE IN METRES

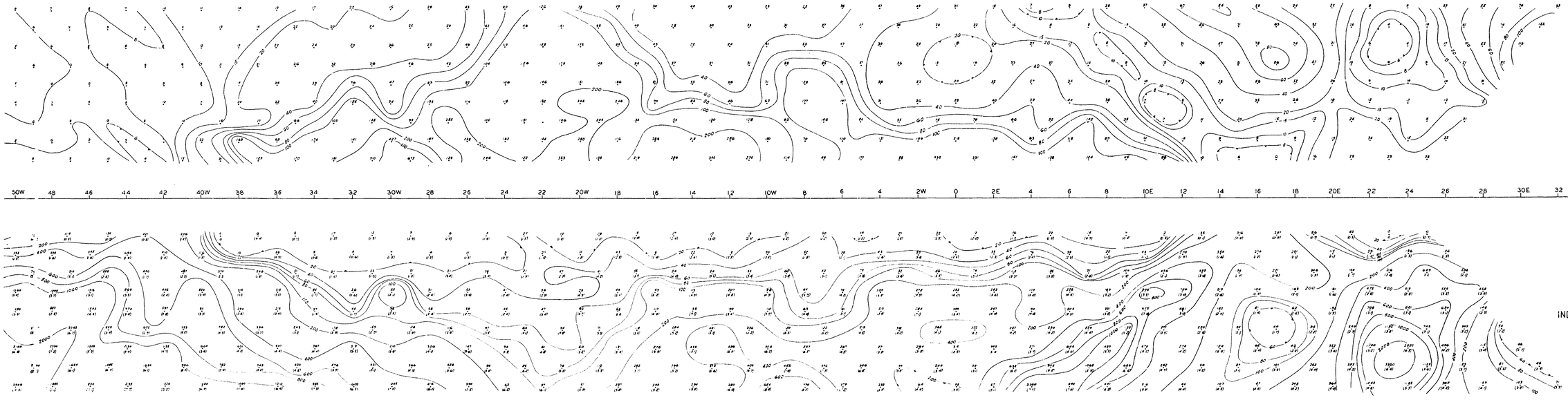
9

F 1


RESISTIVITY
Ω metres
76W
74
72
70
68
66
64
62
60
58
56
54
52
50
48
46
44
42
40
38
36
34
32
30
28
26
24
22
20
18
16
14
12
10
8
6
4
2
0
2
4
6
8
10
12


METAL FACTOR
C
D

F 2



S.A. DEPT. OF MINES

EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY

MAIN GRID
LINE 1000S

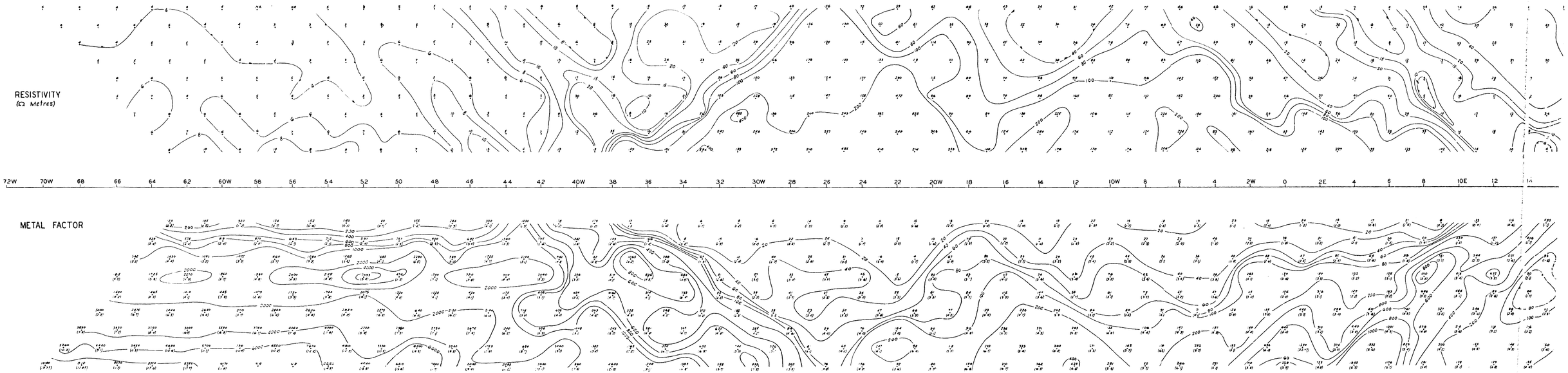
L63224
Cc

SCALE IN FEET
200 0 200 400 600 800 1000

SCALE IN METRES
100 0 100 200 300

9

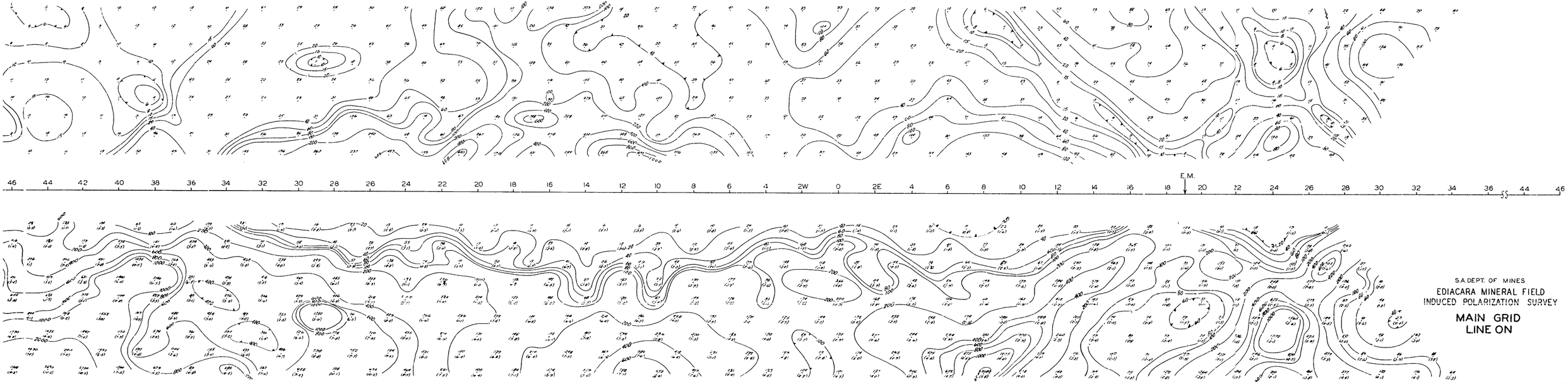
F 1



F 2

SCALE IN FEET
200 0 200 400 600 800 1000
100 0 100 200 300
SCALE IN METRES

9



S.A. DEPT. OF MINES

EDIACARA MINERAL FIELD

INDUCED POLARIZATION SURVEY

MAIN GRID

LINE ON

L63-225

Cc

SCALE IN FEET

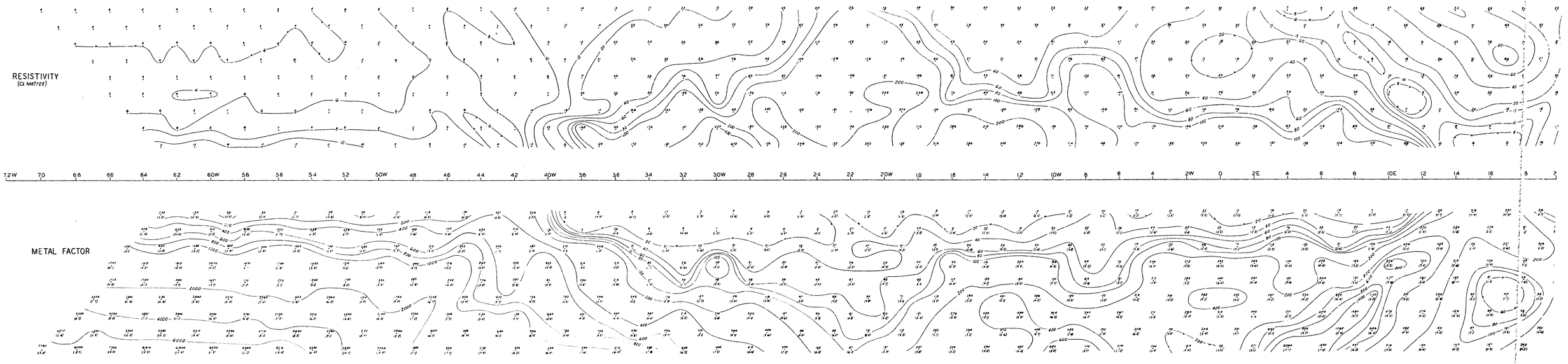
200 0 200 400 600 800 1000

100 0 100 200 300

SCALE IN METRES

9

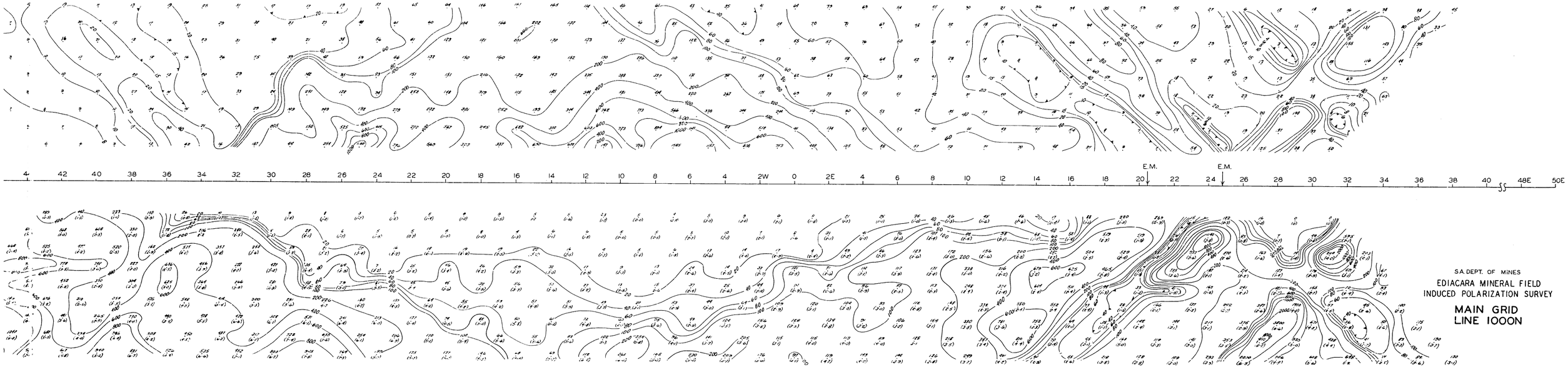
F/1



F 2

SCALE IN FEET
200 0 200 400 600 800 1000
100 0 100 200 300
SCALE IN METRES

9



S.A. DEPT. OF MINES

EDIACARA MINERAL FIELD

INDUCED POLARIZATION SURVEY

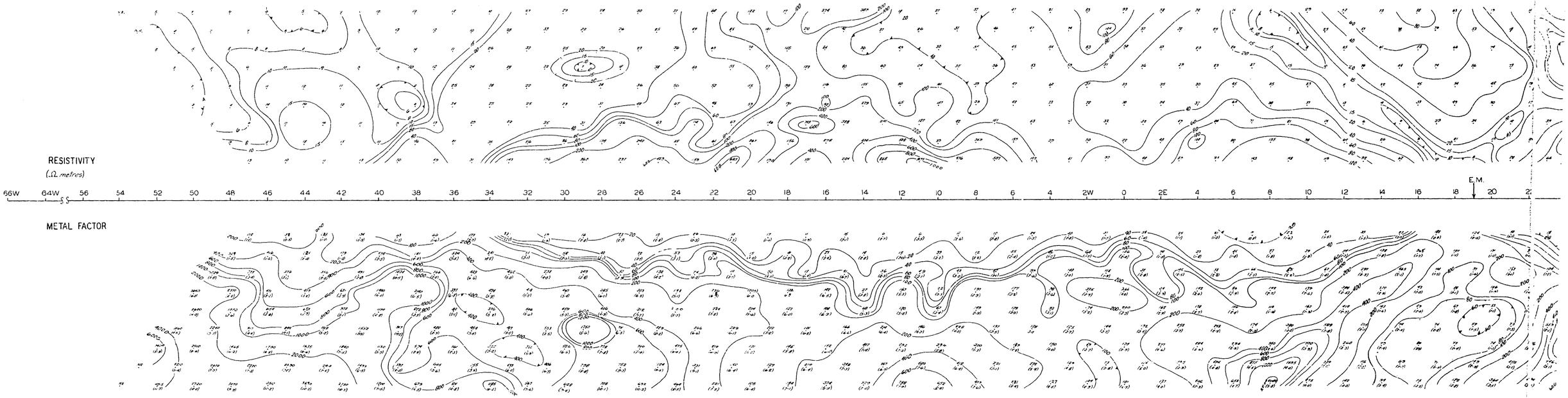
MAIN GRID

LINE 10OON

L63-226

Cc

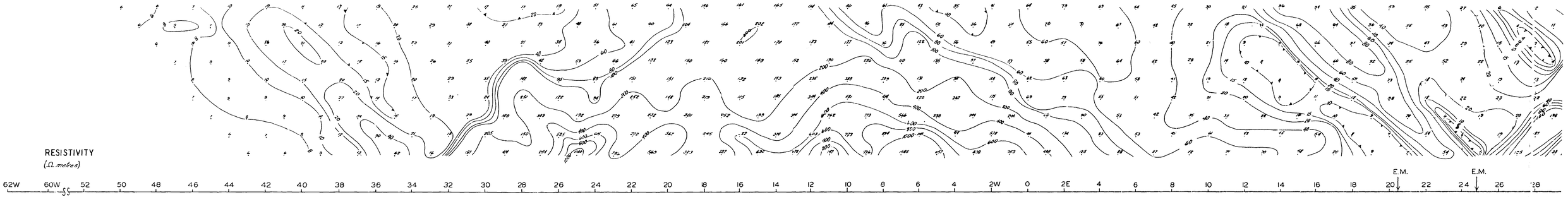
F 1

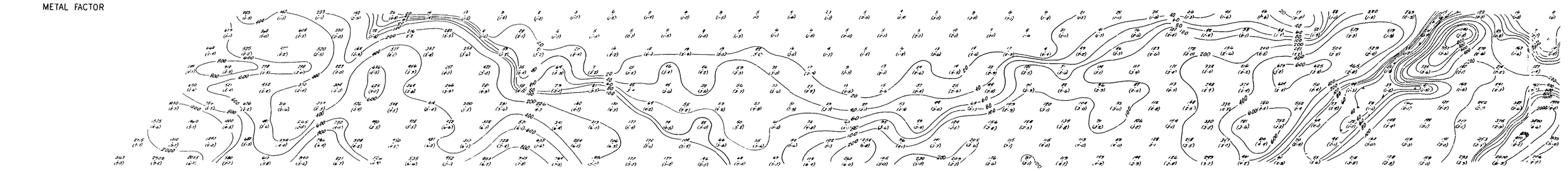


F 2

SCALE IN FEET
200 0 200 400 600 800 1000
100 0 100 200 300
SCALE IN METRES

9





F 2

SCALE IN FEET
200 0 200 400 600 800 1000
100 0 100 200 300
SCALE IN METRES

9

2000 N.

1000 N.

000

1000 S.

2000 S.

3000 S.

4000 S.

5000 S.

6000 S.

7000 S.

7500 S.

8000 S.

8500 S.

Probably related.

Metal factors of 20, 40, 80, 100, 200, 400 etc. Logarithmic intervals.

Limestone/tubicolar sandstone contact (dip of bed idealized)

Anomalous I.P. effect probably occurring within the basin rocks.

"Intermediate" anomalies

Drillhole with approximate width & grade of lead.

G,F etc. Anomalies in "outer" group.

EM conductor axis.

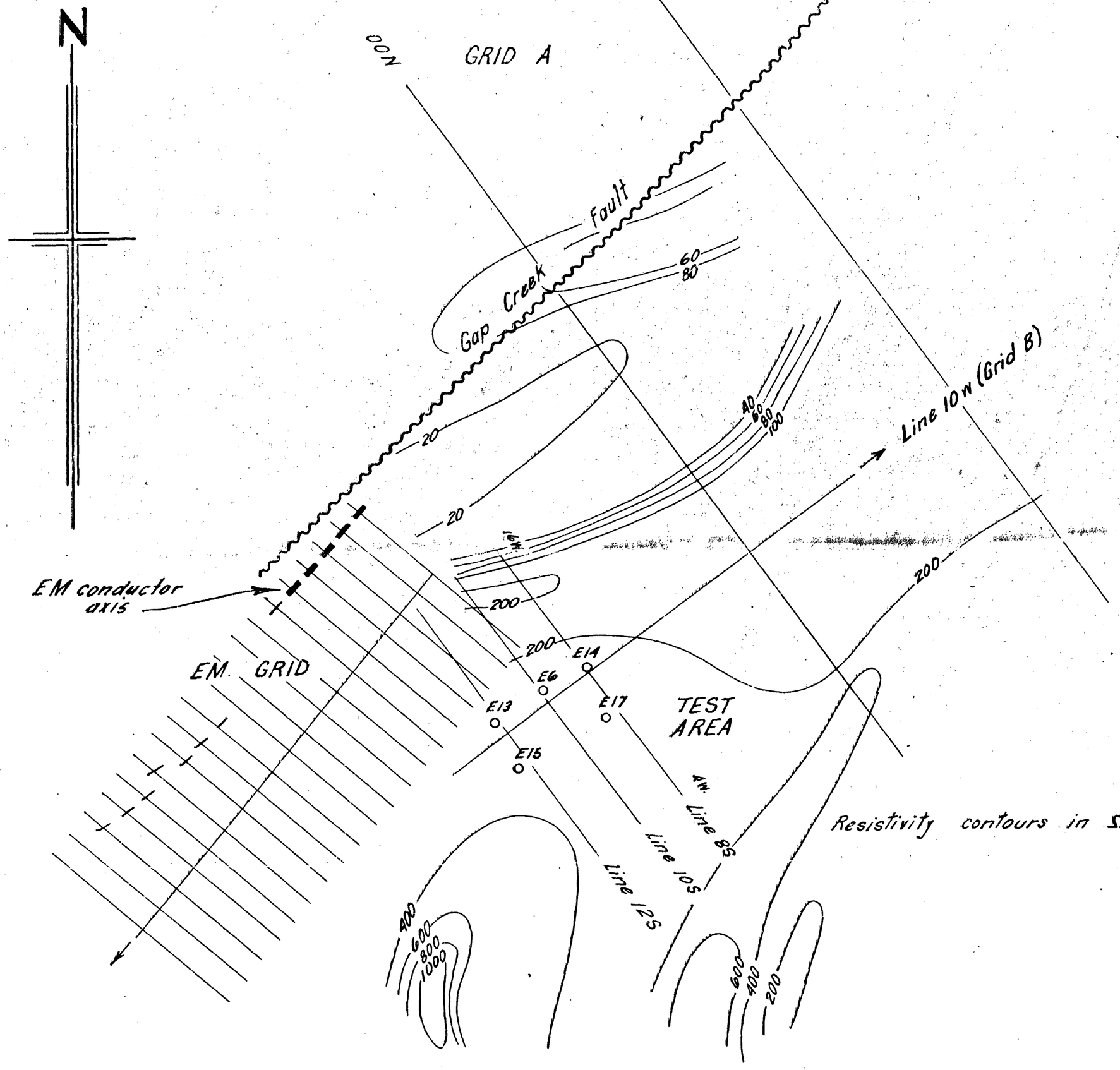
S. A. DEPT. OF MINES

EDIACARA MINERAL FIELD

MAIN GRID

INDUCED POLARIZATION
METAL FACTOR CONTOURS

L63-236
Cc



To accompany a report by J. Benlow.

S.A. DEPARTMENT OF MINES

No.	Amendment	Exd.	Date

EDIACARA MINERAL FIELD
SHORT SPREAD I. P. TRAVERSES
LOCALITY PLAN

Approved	Passed		Scale : 1" to 500'
		Drn.	
		Tcd. B.G.	63-976
		Ckd.	Cc.
Director		Exd.	Date 15-11-63

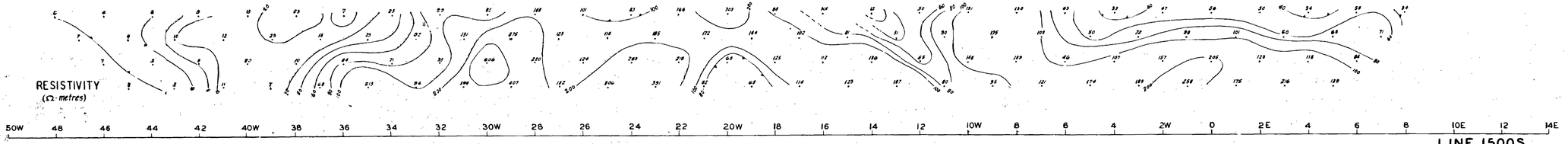
200—6.63 1423

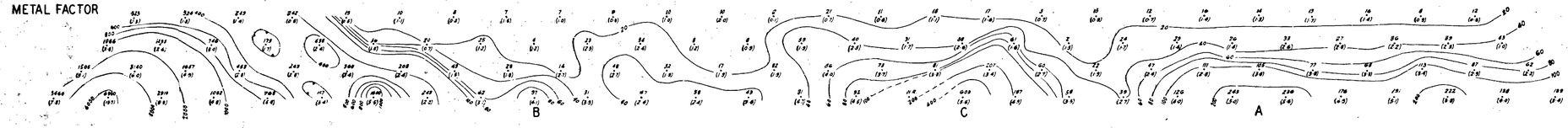
S.A. DEPT. OF MINES

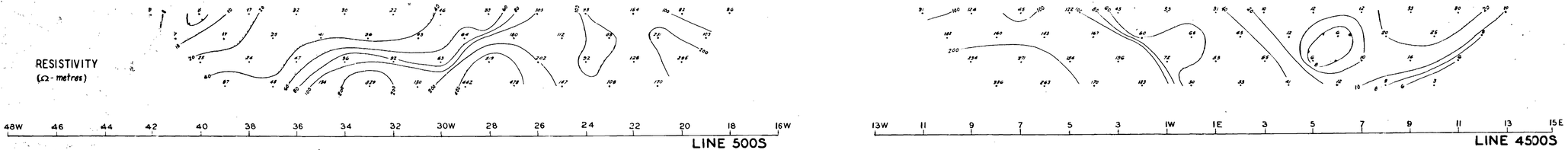
EDIACARA MINERAL FIELD
SHORT SPREAD I.P. TEST AREA
GRID A

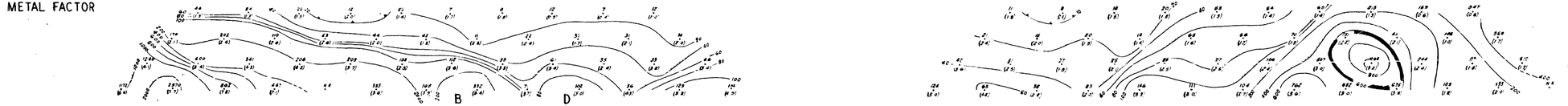
63-977
Cc
19-11-63 A.O.W.

63-977
Cc





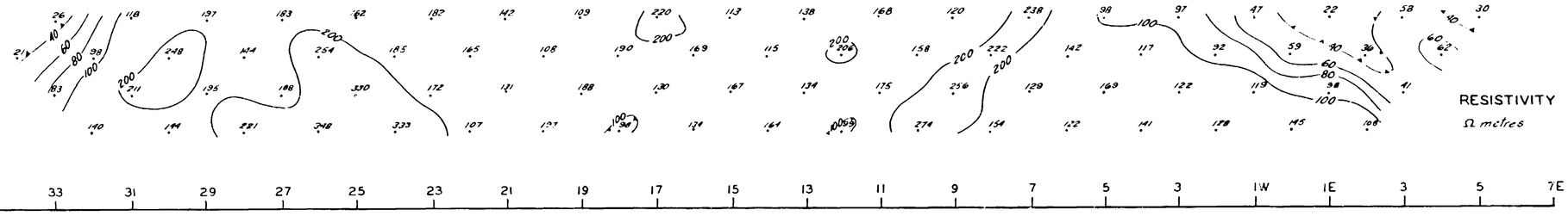




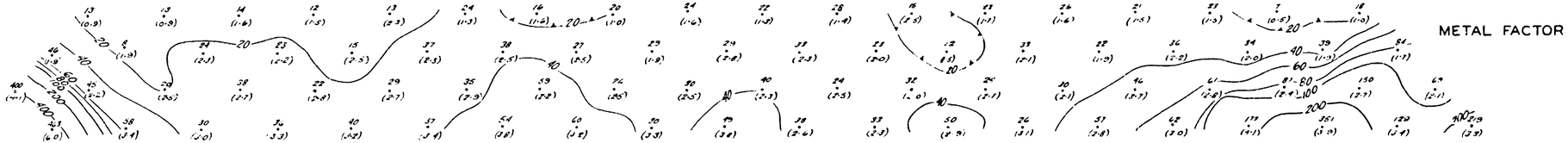
S.A. DEPT. OF MINES
EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY

MAIN GRID
LINES 500S 1500S & 4500S

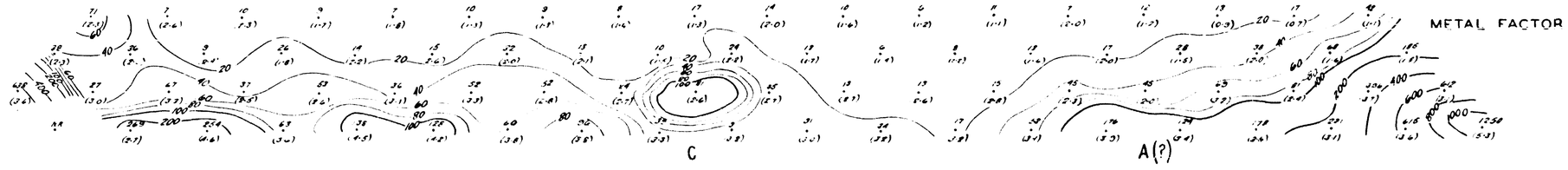
63-978



2500S



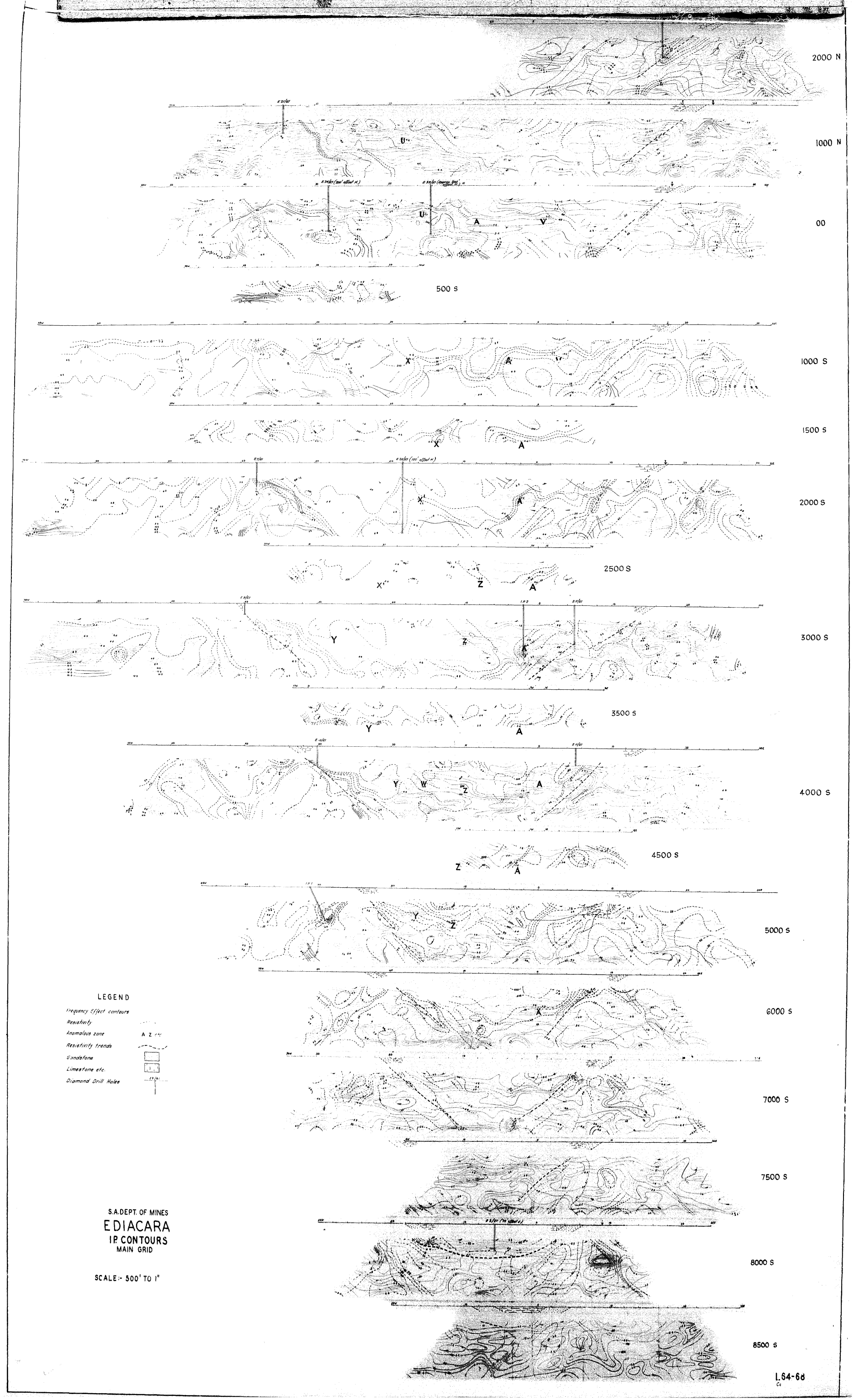
3500S



S.A. DEPT. OF MINES
EDIACARA MINERAL FIELD
INDUCED POLARIZATION SURVEY

MAIN GRID
LINES 2500S & 3800S

63-979
Cc



LEGEND

- Frequency Effect contours
- Resistivity
- Anomalous zone — A Z etc.
- Resistivity trends
- Sandstone
- Limestone etc.
- Diamond Drill Holes — E.3/61

S.A.DEPT. OF MINES

EDIACARA

I.P. CONTOURS

MAIN GRID

SCALE:- 500' TO 1"

I.64-68