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EL 386

LAKE YALKALPO

PROGRESS AND FINAL REPORTS TO LICENCE EXPIRY/SURRENDER FOR THE PERIOD 26/1/1978 TO 25/4/1979

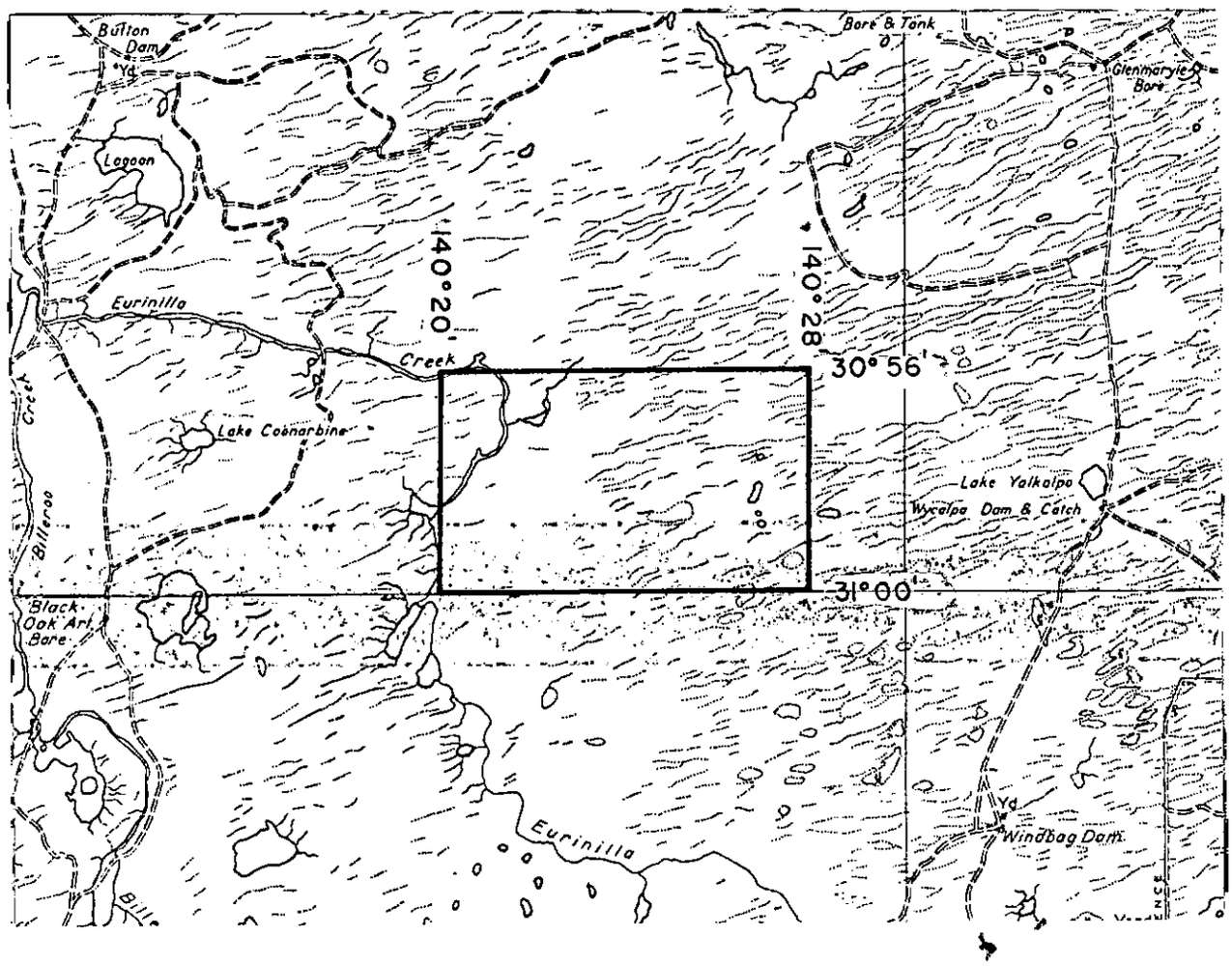
Submitted by
Oilmin NL and Techmin Pty Ltd
1979

Enquiries: Customer Services Branch
Minerals and Energy Resources
7th Floor
101 Grenfell Street, Adelaide 5000

Telephone: (08) 8463 3000
Facsimile: (08) 8204 1880

Government of South Australia
Primary Industries and Resources SA

SCHEDULE A



SCALE 1:250 000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

APPLICANT: OILMIN N.L., TRANSOIL N.L. AND PETROMIN N.L.

D.M.: 649/77

AREA: 94 Square kilometres

1: 250000 PLANS: FROME

EXPIRED

LOCALITY: LAKE YALKAPO AREA - APPROX. 150 KM N. OF OLARY

EXPIRY DATE: 25·4·79

E.L. No.: 386

CONTENTS ENVELOPE 3315

TENEMENT: E.L. 386

TENEMENT HOLDER: OILMIN N.L. - TRANSOIL N.L. - PETROMIN N.L.

REPORTS:

OILMIN N.L. TRANSOIL N.L. PETROMIN N.L.

EXPLORATION LICENCE 386

SOUTH AUSTRALIA

QUARTERLY REPORT FOR PERIOD ENDING 25th APRIL, 1978

R.J. FORREST

15th September, 1978.

INTRODUCTION

During the quarter, Minoil Services Pty. Ltd. of Adelaide, on behalf of the holders of E.L. 386, made an assessment of the mineralisation potential of the area and made recommendations for future work. A summary of the assessment and the recommendations is shown below.

MINERALISATION POTENTIAL

The Exploration Licence has only minor potential for "Olympic Dam" type mineralisation (i.e. mineralisation similar to Western Mining Corporation's copper - uranium deposit at Roxby Downs, South Australia).

RECOMMENDATIONS

No further work should be undertaken on E.L. 386 until the Companys' other Exploration Licences (383, 384, 385) have been explored.

R.J. Forrest

15th September, 1978.

OILMIN N.L. TRANSOIL N.L. PETROMIN N.L.

EXPLORATION LICENCE 386

SOUTH AUSTRALIA

QUARTERLY REPORT FOR PERIOD ENDING 25TH JULY, 1978.

R.J. FORREST

15th September, 1978.

INTRODUCTION

During the quarter an exploration programme consisting of a gravity survey followed by drilling was designed by Mr. I.P. Youles, Consulting Geologist, on behalf of the holders of E.L. 386.

The purpose of the survey is to more accurately delineate the peak of the gravity high in the Exploration Licence.

The gravity survey will be carried out in the near future.

A summary of the exploration programme is shown below.

PROPOSED EXPLORATION PROGRAMME

1. A gravity survey at 2km by 1km spacing.

2. A detailed gravity survey to define gravity peak and shape.

3. Drilling on the gravity peak.

R.J. Forrest

15th September, 1978.

000008

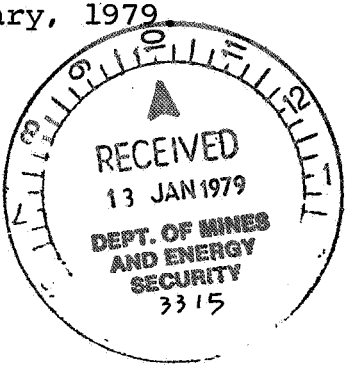
TECHMIN PTY. LTD.

7th FLOOR, 27-35 TURBOT ST., BRISBANE, Q. 4000
POSTAL ADDRESS: P.O. BOX 232, NORTH QUAY, Q. 4000
PHONE: 21 8288, 21 8448

Telegraphic Address:
"Techmin", Brisbane
Telex: AA41040

Management Company for—
OILMIN N.L.
TRANSOIL N.L.
PETROMIN N.L.

11th January, 1979



Director General,
Department of Mines and Energy,
P.O. Box 151,
EASTWOOD. S.A. 5063

3rd Quarterly Report EL 386

Summary

During the period literature studies were undertaken and a suggested programme of exploration to be undertaken in the 4th Quarter was received from I. Youles.

Consultants were contacted in respect to carrying out an expended version of I. Youles programme.

Literature Studies

Available literature on areas of the Stuart Shelf was studied by I. Youles and on the basis of his experience and the above studies a programme of field operations was formulated and submitted for consideration.

Field Programme

A copy of I. Youles suggested programme is attached to this report. In considering the programme it was decided to expand the activities to include Track Etch, magnetics, radiometric and gravity surveys.

TECHMIN PTY. LTD.

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POSTAL ADDRESS: P.O. BOX 232, NORTH QUAY, Q. 4000
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Telegraphic Address:
"Techmin", Brisbane
Telex: AA41040

Management Company for—
OILMIN N.L.
TRANSOIL N.L.
PETROMIN N.L.

000005

CWS..mb.

4th December, 1978.

The Director-General,
Department of Mines & Energy,
P.O. Box 151,
EASTWOOD, S.A., 5063.

Dear Sir,

Exploration Licences 383, 384, 385, 386.

Further to your letter of 29th September addressed to Mr. R.J. Forrest, the expense incurred on each Exploration Licence up to 25th April was $304-40.

No expenditure was incurred in the period from 25th April to 25th July.

Yours sincerely,

C.W. Siller,

Chairman of Directors.

OILMIN N.L. and WESTERN NUCLEAR AUSTRALIA LIMITED

REPORT ON

SURVEYS CARRIED OUT ON EL. 386 S.A.

WYCALPA DAM AREA

4th Quarterly Report

To Department of Mines

South Australia

January 1979

REPORT ON SURVEYS CARRIED OUT ON EL.386

CONTENTS

APPENDIX TO EL. 386

1. Equipment and manpower
2. Field notes of gravity stations

LIST OF PLANS

1. Locality map 1:250 000
2. Gravity map 1:20 000
3. Magnetic map 1:20 000
4. Radiometric map 1:20 000
5. Track Etch location map 1:20 000
6. Track Etch Detector Readings.

ATTACHMENTS

1. Track Etch Report by Terradex Corp
2. Report on Drilling Mudguard No.1 and Yalcalpo No.2 by B.C. Youngs (with EL383 Rpt)

REPORT ON SURVEYS CARRIED OUT ON EL. 386 S.A.

WYCALPA DAM

INTRODUCTION

Exploration Licence 386 of 94 km^2 was granted on 26th January 1978 for a term of one year. The Licence was subsequently extended for a period of three months to 26th April 1979.

An expenditure commitment of $3,000 is applied to the Licence and this figure has been exceeded in operations to date.

REPORT ON SURVEYS CARRIED OUT ON PART

EL. 386 (WYCALPA DAM)

SUMMARY

During the period October-December 1978 Track Etch, gravity, magnetic and radiometric surveying was carried out over an area of 25 square kilometres of EL.386 (total area 94 square km).

The Licence area was originally proposed by Mr R Grasso and the specific area to be surveyed was recommended by Mr I. Youles.

The area was surveyed on a 0.8 x 0.4 km (½ x ¼ mile) grid. A total of 96 sample sites or stations were occupied.

Base station was established at the south-east corner of the area.

No cultural or significant topographic feature exists within the area surveyed. The nearest cultural feature is Wycalpa Dam, a distance of 12 km to the east.

Results of the survey show:

1. Gravity A general low occupies the central part of the area. No highs were located or indicated. The variation over the area is approximately 2 milligals.

2. Magnetic A magnetic high exists in the north west corner of the surveyed area apart from which no magnetic features of note were located. The magnetic high in the north west corner does not coincide with any other geophysical feature.

RADIOMETRICS

Counts per second varied only very slightly throughout the area and no pattern could be discerned from the plotted results.

TRACK ETCH

A total of 9 (9% of total) cups returned significant readings. These points did not lie on a specific pattern although two (low order) significant values lie on line F at stations 4 and 5. There is no coincidence with other anomalous results.

RECOMMENDATIONS

The area is considered worthy of limited scout drilling for sedimentary uranium at the base of the Tertiary at a depth of approximately 100 meters. However the extremely difficult access due to the presence of unconsolidated low sand dunes means that a graded track would be a pre-requisite and the grader would be needed to aid in shifting the rig throughout the programme. The costs would consequently be rather high.

The area gives no indication of being potential for the Roxby Downs type of deposit and it is too long a set of odds to consider investigating the Cambrian calcareous sediments for sedimentary copper without the possibility of prospective Precambrian sediments also being present.

PREVIOUS INVESTIGATIONS

Apart from widely spaced seismic lines and regional gravity the area does not appear to have been the subject of prior investigation.

The Well completion Reports by Bridget C Youngs on Mudguard No.1 and Yalkalpo No.2 are relative to the area and gives a comprehensive coverage of previous activities in areas adjacent to the area of EL.386.

RESULTS OF THE DRILLING OF MUDGUARD NO.1 and YALKALPO No. 2

B.C. Youngs illustrates in the abovementioned Report:

1. Yalkalpo No.2 gave a strong gamma-ray signature at the base of the Tertiary (depth 77 metres). No equivalent anomaly is present in Mudguard No.1 but the radiometric fluctuations throughout the hole are much greater than at Yalkalpo No.2 with this one exception.

2. The Cambrian section containing sedimentary copper in Yalkalpo No.2 is absent in Mudguard No.1. But the basement ridge of volcanics intersected at 194 metres in Mudguard could be of local significance and drilling away from the ridge may see the reappearance of the Cambrian section referred to. The volcanics are reported to be anomalous for uranium and may be a source for sedimentary uranium in adjacent sediments.

PHYSIOOGRAPHY

The entire area is covered by low anastomosing sand dunes. The dunes generally run east-west and average approximately 3 metres above the clay plain on which they lie. Dunes throughout the region appear to bemigrating northwards with their southern approaches being more gentle than the northern slopes which are also less consolidated.

SURFACE GEOLOGY

Quaternary sands and clays cover the area. For a comprehensive discussion of the geology of the region see the Report by Birdget Youngs.

ACCESS

A poorly graded track exists from a turn off from the Great Western Highway approximately 10 km west of Cockburn thence via Mulyungarie to Quinyambie (which is not positioned as shown on the ¼ million geological map). About 3 km south of Quinyambie at Kidman No.1 well a track heads west to Kidman No.2 well and on to Wycalpo Dam. Kidman No.1 delivers good drinking water but is only available when the windmill is operating. Kidman No.2 is extremely salty and water at Wycalpa can only be used after heavy rain.

To reach the survey area from Wycalpa Dam requires a 12 km trek on compass bearing true west where line D was established. Bast station was established 2.4 km south of D1. A blazed tree with survey flagging marked A1. Emus and cockatoos were found to be greatly attracted by survey tapes and aluminium perma-tags and such markings were often found to last a very short time (frequently one night). No tracks and no permanent drinking (or other) water exists or is available within the survey area.

TRACK ETCH SURVEY

A location plan showing the position of stations and cup sites is enclosed. A Report by Terradex Corp on the results of the Track Etch survey is included.

In general the Track Etch survey shows a limited response and the anomalous values are of low order significance. The Track Etch results do not coincide with other anomalous areas as shown by gravity magnetics or radiometrics.

GRAVITY

A general low occupies the central part of the area. No highs were located or indicated. The variation over the area is approximately 2 milligals rising to 4 milligals in the southern margin. The rise to the south is considered to be a regional trend and not of significance in respect to mineral exploration.

MAGNETICS

A magnetic high exists in the north-west corner of the surveyed area apart from which no magnetic features of note were located. The magnetic high in the north west corner likely to reflect a basement high but does not coincide with any other geophysical feature.

RADIOMETRICS

Total counts per second varied only very slightly throughout the area and no pattern could be discerned from the plotted results.

SITUATION IN RESPECT TO THE HERITAGE COMMISSION

The area surveyed lies entirely within the area nominated by publication by the Commission for ultimate inclusion in the National Register.

RECOMMENDATIONS

It is considered that the area surveyed is prospective for sedimentary uranium at the base of the Tertiary (about 100 m). The present survey

did little or nothing to identify specific targets and hence a general scout drilling campaign would be required. Costs of such a campaign would be relatively high due to lack of access and facilities and general remoteness.

STATEMENT OF EXPENDITURE

Consultant geological/geophysical services	$3,130
Travelling and Head office overheads	865
Head office Technical supervision	870
Fees and sundry expenses	312
	$5,177

Commitment for EL.386/12 months	$3,000

APPENDIX

Equipment used

Warden gravity Meter No.W592

McPhar M700 Fluxgate Magnetometer

Scintillometer BG1 (total counts)

Automatic levels and associated equipment

Field vehicles - 1 Ford 351 V8
2 motor cycles
1 caravan

Manpower

1 operator

1 Offsider

1 Cook/mechanic

STN		Reading	Elem	Elec. Corr.	Lat Corr	Corrected 4 SV .097716 + Lat − Elev	Time	Mag 910
A	1	907.0	230.0	0	0	88.63	20/10/78	11 00
	2	900.5	249.3	1.15		89.14		1120
	3	907.3	244.3	0.85		89.51		1133
	4	905.0	247.5	1.05		89.48		1210
	5	902.0	243.3	0.80		88.94		1225
	6	905.1	248.3	1.10		89.54		1240
	7	903.0	240.8	0.65		88.89		13.10
	8	909.0	229.5	-0.03		88.79		13.20
	9	905.3	229.8	-0.01		88.45		14.00
	10	902.0	220.0	-0.60		87.54		14.20
	11	895.7	236.6	0.40		87.92		14.30
	12	894.8	232.2	0.47		87.91		14.50
	13	907.2	235.7	0.34		88.99		15.05
	14	906.0	247.5	1.05		89.58		15.15
	15	896.8	246.6	1.00		88.63		15 28
	16	915.2	225.7	-0.26		89.17		15 40
							90.73	16.20
							− 935 Mag.	
B	1	896.5	287.4	0.44	0.57	88.61	20/10/78	17.00
	2	895.9	231.5	0.09		88.20		17.15
	3	~~895.7 889.0~~	~~233.3 230.0~~	~~0.19 0~~		88.28		17.30
	4	889.0	230.0	0		87.44		17.45
	5	882.9	239.5	0.57		87.41		18.00
	6	879.7	226.9	-0.18		86.35	21/10/78	09.30
	7	878.0	239.9	0.59		86.95		09.45
	8	882.5	237.5	0.45		87.25		10.00
	9	879.7	222.0	-0.48		86.05		10.17
	10	890.5	210.6	-1.16		86.43		10.25
	11	893.0	207.8	-1.33		86.50		10 40
	12	887.9	208.3	-1.30		86.03		11.00
	13	884.3	217.6	-0.74		86.24		11.15
	14	888.0	205.3	-1.48		85.86		11.25
	15	889.0	205.7	-1.45		85.99		11 40
	16	905.0	200.3	-1.79		87.21		12.00
							90.81	09.00
							-920	mag

EL 386

Stn		Read	Elev.	El corr.	Lat. cor.	Corrected SV 0.097716	date / Time	Time
C	1	891.7	235.2	.31	+1.14	88.58	21/10/78	13 15
	2	885.7	238.5	.51		88.20		13 30
	3	895.5	219.8	−.61		88.03		13 45
	4	895.0	219.2	−.65		87.945		14 10
	5	885.0	218.4	−.68		86.94		14 25
	6	882.5	219.6	−.62		86.75		14 40
	7	877.0	225.4	−.27		86.57		15 00
	8	874.3	214.8	−.91		85.66		15 15
	9	872.5	216.0	−.84		85.56		15 30
	10	873.0	215.7	−.86		85.59		15 40
	11	883.5	210.6	−1.16		86.31		15 55
	12	871.5	221.1	−.53		85.77		16 10
	13	880.0	218.4	−.64		86.49		16 20
	14	873.5	217.0	−.78		85.71		16 40
	15	878.5	229.8	−.01		86.97		16 55
	16	878.8	229.1	−.05		86.96		17 10
							90.59	
							−90.5 mag	
D	1	897.0	200.4	−1.80	1.71	87.56	22/10/78	08 30
	2	886.5	205.2	−1.50		86.835	(92.65)	08 45
?	3	889.0	203.0	−1.62		86.96	(0810)	09 55
	4	889.5	201.4	−1.71		86.92		10 10
	5	873.5	208.2	−1.30		85.76		10 30
	6	872.6	212.2	−1.07		85.91		10 40
	7	872.0	212.0	−1.08		85.84		11 05
	8	873.2	213.0	−1.02		86.015		11 20
	9	868.2	225.0	−0.3		86.25		11 30
	10	864.5	213.1	−1.01		85.175		11 55
	11	876.5	237.5	0.45		87.81		12 15
	12	876.2	220.0	−0.60		86.73		13 30
	13	872.4	215.8	−0.85		86.11		13 50
	14	863.4	221.4	−0.51		85.57		14 00
	15	864.8	220.2	−0.59		85.62		14 15
	16	871.5	235.5	0.33		87.20		14·30
							90.48	15 50
							−950	mag.

Stn.		Read	Elev.	El Cor	Lat. Cor.	Corrected Reading SV .097716	Base repr date 000023 time 23/10/78	time
E	1	887·5	206·5	−1·41	+2·28	87·59	(92·58	0840
	2	880·0	204·0	−1·56		86·71	0815)	0855
	3	880·0	210·1	−1·20		87·07		0915
	4	884·0	214·0	−0·96		87·70		0925
	5	883·5	212·5	−1·05		87·56		0940
	6	884·0	213·2	−1·00		87·66		0955
	7	880·4	221·5	−0·51		87·80		1015
	8	878·4	219·5	−0·63		87·48		1035
	9	873·5	220·0	−0·60		87·03		1050
	10	882·0	216·5	−0·81		87·655		1115
	11	879·5	217·3	−0·76		87·46		1135
	12	877·0	215·5	−0·87		87·11		1155
	13	875·1	213·6	−0·98		86·81		1215
	14	877·5	211·5	−1·11		86·915		1230
	15	872·5	220·5	−0·57		86·97		1310
	16	885·0	212·3	−1·06		87·70		1320
							1400	
							92·71	−900 mag.
F	1	878·0	217·6	−·74	+2·85	87·90	92·71	1425
	2	879·0	203·5	−1·59		87·15		1438
	3	878·4	219·6	−·62		88·06		1450
	4	878·0	214·1	−·59		88·05		1505
	5	879·0	218·0	−·72		88·02		1518
	6	880·0	228·4	−·09		88·75		1528
	7	877·0	215·0	−·90		87·65		1540
	8	879·5	216·1	−·83		87·96		1555
	9	875·1	213·0	−1·02		87·34		1610
	10	880·0	219·0	−0·66		88·18		1630
	11	876·0	224·1	−0·95		87·50		1640
	12	882·0	216·0	−0·84		88·195		1700
	13	889·1	210·0	−1·20		88·53		1715
	14	880·0	212·9	−1·03		87·81		1730
	15	881·0	212·8	−1·03		87·91		1745
	16	8845	215·5	−0·86		88·42		1755
							1815	mag
							92·80	−930

GEOLOGICAL RESOURCES EL 384 1-22-79

TRACK ETCH SURVEY RESULTS AND STATISTICS

VALUES GIVEN IN T/SQ. MM. NORMALIZED TO 30 DAY EXPOSURE

NO. USEFUL PTS. : 60

HIGH (T/SQ. MM.): 22.7

LOW (T/SQ. MM.): 2.3

BACKGROUND MEAN (T/SQ. MM.): 6.4

STD. DEVIATION OF BKG. MEAN (T/SQ. MM.): 3.0

RELATIVE STD. DEVIATION (PERCENT): 46.6

HIGH RANKING POINTS

RANGE OF Z	NO. OF PTS.	RANGE OF T	RANGE OF RATIO TO BACKGROUND
2 - 3	1	13.0 - 13.0	2.0 - 2.0
3 - 4	0		
4 - 5	1	20.4 - 20.4	3.2 - 3.2
OVER 5	1	22.7 - 22.7	3.5 - 3.5

NO. OF PTS. ABOVE Z = 3: 2

PERCENT OF TOTAL PTS.: 3.3

(Z IS THE NUMBER OF STD. DEVIATIONS ABOVE BKG. MEAN)

GEOLOGICAL RESOURCES EL 384 1-22-79

CUP SERIAL NUMBER	DETECTOR READING (T/SQ. MM.)	FIELD NOTES AND DATA						
79151.	20.4	1043	-2400	10078	10	A	1	
79152.	22.7	896	-2400	10116	10	A	2	
79153.	4.5	892	-2375	10070	10	A	3	
79154.	5.7	1004	-2400	9946	9	A	4	
79155.	4.5	1374	-2375	9660	6	A	5	
79156.	4.5	1575	-2375	9466	5	A	6	
79157.	4.5	1901	-2415	9232	10	A	7	
79158.		2457	-2400	8854	8	A	8	NR
79159.	4.5	925	-2380	10173	5	B	8	
79160.	2.3	883	-2350	10157	6	B	7	
79161.	5.7	1032	-2400	10043	5	B	6	
79162.	7.9	1076	-2320	9964	6	B	5	
79163.	5.7	1626	-2400	9617	6	B	4	
79164.	7.9	1808	-2350	9374	5	B	3	
79165.	2.3	2199	-2405	9111	6	B	2	
79166.	4.5	2284	-2375	8978	7	B	1	
79167.	11.3	1075	-2385	10179	5	C	1	
79168.	2.3	1033	-2410	10134	5	C	2	
79169.	10.2	1439	-2350	9867	5	C	3	
79170.	2.3	1312	-2375	9893	6	C	4	
79171.	2.3	1534	-2365	9679	5	C	5	
79172.	3.4	1958	-2385	9311	5	C	6	
79173.	9.1	1816	-2380	9307	6	C	7	
79174.	3.4	2417	-2375	8925	10	C	8	
79175.	9.1	1253	-2405	8930	8	D	8	
79176.	7.9	1418	-2400	9352	7	D	7	
79177.	11.3	1315	-2390	9760	9	D	6	
79178.	11.3	1280	-2395	9931	11	D	5	
79179.	9.1	1715	-2380	10154	11	D	4	
79180.	3.4	1803	-2410	9970	6	D	3	
79181.		2194	-2405	10030	8	D	2	NR
79182.	6.8	2601	-2360	10030	5	D	1	
79183.	9.1	1360	-2395	10077	5	E	1	
79184.	7.9	1251	-2380	10191	8	E	2	
79185.		1391	-2400	10150	8	E	3	NR
79186.	5.7	1563	-2410	9972	7	E	4	
79187.	4.5	2041	-2380	9729	9	E	5	
79188.	7.9	2115	-2375	9558	8	E	6	
79189.	10.2	2509	-2400	9212	8	E	7	
79190.	5.7	2541	-2380	8960	7	E	8	
79191.	9.5	1510	-2420	8826	8	F	8	
79192.	8.3	1383	-2380	9045	8	F	7	
79193.	11.9	1611	-2385	9546	8	F	6	
79194.	13.0	1972	-2380	9608	10	F	5	
79195.	4.7	1890	-2360	9737	11	F	4	
79196.		2255	-2400	10071	10	F	3	NR
79197.	11.9	2609	-2405	10012	8	F	2	
79198.	10.7	2681	-2380	9984	8	F	1	

GEOLOGICAL RESOURCES EL 384 1-22-79

CUP SERIAL NUMBER	DETECTOR READING (T/SQ. MM.)	FIELD NOTES AND DATA
79199.	5.9	1879 -2385 9542 7 G 1
79200.	2.4	2101 -2405 9492 6 G 2
79201.	7.1	2440 -2380 9300 6 G 3
79202.	2.4	2391 -2375 9278 8 G 4
79203.	3.6	2633 -2380 9104 8 G 5
79204.	5.9	2755 -2390 9017 5 G 6
79205.	5.9	2851 -2405 8903 8 G 7
79206.	8.3	3630 -2385 8274 7 G 8
79207.	3.6	1790 -2360 7854 9 H 8
79208.	5.9	2581 -2365 800910 H 7
79209.	2.4	3460 -2380 8253 8 H 6
79210.	5.9	3679 -2400 8470 7 H 5
79211.	4.5	3509 -2430 8375 9 H 4
79212.	6.8	3815 -2420 861310 H 3
79213.	3.4	4151 -2400 8930 9 H 2
79214.	7.9	4350 -2405 9525 9 H 1

GEOLOGICAL RESOURCES EL 384 1-22-79

DETECTOR READING (T/SQ. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA						
	79185.	1391	-2400	10150	8	E	3	NR
	79196.	2255	-2400	1007110	F	3		NR
	79181.	2194	-2405	10030	8	D	2	NR
	79158.	2457	-2400	8854	8	A	8	NR
2.3	79171.	1534	-2365	9679	5	C	5	
2.3	79168.	1033	-2410	10134	5	C	2	
2.3	79165.	2199	-2405	9111	6	B	2	
2.3	79170.	1312	-2375	9893	6	C	4	
2.3	79160.	883	-2350	10157	6	B	7	
2.4	79209.	3460	-2380	8253	8	H	6	
2.4	79202.	2391	-2375	9278	8	G	4	
2.4	79200.	2101	-2405	9492	6	G	2	
3.4	79213.	4151	-2400	8930	9	H	2	
3.4	79174.	2417	-2375	8925	10	C	8	
3.4	79172.	1958	-2385	9311	5	C	6	
3.4	79180.	1803	-2410	9970	6	D	3	
3.6	79207.	1790	-2360	7854	9	H	8	
3.6	79203.	2633	-2380	9104	8	G	5	
4.5	79159.	925	-2380	10173	5	B	8	
4.5	79211.	3509	-2430	8375	9	H	4	
4.5	79155.	1374	-2375	9660	6	A	5	
4.5	79166.	2284	-2375	8978	7	B	1	
4.5	79153.	892	-2375	10070	10	A	3	
4.5	79156.	1575	-2375	9466	5	A	6	
4.5	79187.	2041	-2380	9729	9	E	5	
4.5	79157.	1901	-2415	9232	10	A	7	
4.7	79195.	1890	-2360	973711	F	4		
5.7	79154.	1004	-2400	9946	9	A	4	
5.7	79186.	1563	-2410	9972	7	E	4	
5.7	79190.	2541	-2380	8960	7	E	8	
5.7	79161.	1032	-2400	10043	5	B	6	
5.7	79163.	1626	-2400	9617	6	B	4	
5.9	79208.	2581	-2365	800910	H	7		
5.9	79204.	2755	-2390	9017	5	G	6	
5.9	79205.	2851	-2405	8903	8	G	7	
5.9	79210.	3679	-2400	8470	7	H	5	
5.9	79199.	1879	-2385	9542	7	G	1	
6.8	79212.	3815	-2420	861310	H	3		
6.8	79182.	2601	-2360	10030	5	D	1	
7.1	79201.	2440	-2380	9300	6	G	3	
7.9	79184.	1251	-2380	10191	8	E	2	
7.9	79162.	1076	-2320	9964	6	B	5	
7.9	79176.	1418	-2400	9352	7	D	7	
7.9	79214.	4350	-2405	9525	9	H	1	
7.9	79188.	2115	-2375	9558	8	E	6	
7.9	79164.	1808	-2350	9374	5	B	3	
8.3	79206.	3630	-2385	8274	7	G	8	
8.3	79192.	1383	-2380	9045	8	F	7	

GEOLOGICAL RESOURCES EL 384 1-22-79

DETECTOR READING (T/SQ. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA
9.1	79183.	1360 -2395 10077 5 E 1
9.1	79173.	1816 -2380 9307 6 C 7
9.1	79175.	1253 -2405 8930 8 D 8
9.1	79179.	1715 -2380 10154 11 D 4
9.5	79191.	1510 -2420 8826 8 F 8
10.2	79169.	1439 -2350 9867 5 C 3
10.2	79189.	2509 -2400 9212 8 E 7
10.7	79198.	2681 -2380 9984 8 F 1
11.3	79177.	1315 -2390 9760 9 D 6
11.3	79167.	1075 -2385 10179 5 C 1
11.3	79178.	1280 -2395 9931 11 D 5
11.9	79193.	1611 -2385 9546 8 F 6
11.9	79197.	2609 -2405 10012 8 F 2
13.0	79194.	1972 -2380 960810 F 5
20.4	79151.	1043 -2400 10078 10 A 1
22.7	79152.	896 -2400 10116 10 A 2

GEOLOGICAL RESOURCES EL 383 1-24-79

TRACK ETCH SURVEY RESULTS AND STATISTICS

VALUES GIVEN IN T/SQ. MM. NORMALIZED TO 30 DAY EXPOSURE

NO. USEFUL PTS. : 156

HIGH (T/SQ. MM.): 23.5

LOW (T/SQ. MM.): 0.8

BACKGROUND MEAN (T/SQ. MM.): 4.5

STD. DEVIATION OF BKG. MEAN (T/SQ. MM.): 2.4

RELATIVE STD. DEVIATION (PERCENT): 53.5

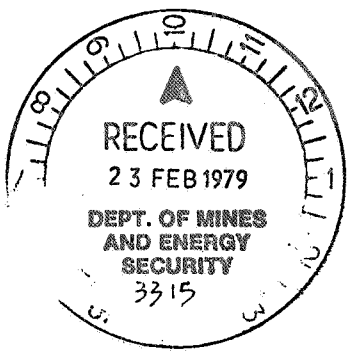
HIGH RANKING POINTS

RANGE OF Z	NO. OF PTS.	RANGE OF T	RANGE OF RATIO TO BACKGROUND
2 - 3	7	9.6 - 11.7	2.1 - 2.6
3 - 4	2	11.8 - 12.6	2.6 - 2.8
4 - 5	0		
OVER 5	3	17.1 - 23.5	3.8 - 5.2

NO. OF PTS. ABOVE Z = 3: 5

PERCENT OF TOTAL PTS. : 3.2

(Z IS THE NUMBER OF STD. DEVIATIONS ABOVE BKG. MEAN)



GEOLOGICAL RESOURCES EL 383 1-24-79

DETECTOR READING (T/SQ. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA					
	94696.	2115	-050	8014	13	J 2	NR
	94718.	2112	-120	8040	12	I 9	DAMAGED
	94726.	2115	-050	7974	12	I 1	NR
	94686.	2035	-100	8100	14	G 9	NR
0.8	94619.	1916	-185	8420	11	B12	
0.8	94609.	1926	-120	8600	12	A11	
0.8	94661.	1950	-040	8300	12	E 2	
0.8	94656.	1968	-060	8140	12	E 7	
0.8	94616.	1843	-080	8660	9	B15	
0.9	94687.	1998	-100	8150	11	G 8	
0.9	94684.	2041	-070	8190	14	G11	
0.9	94640.	2025	-060	7980	14	F10	
1.6	94581.	1999	-055	8338	13	C15	
1.6	94596.	1949	-065	8315	11	D 3	
1.6	94568.	2005	-115	8238	11	C 2	
1.7	94651.	2005	-180	8080	13	E12	
1.7	94657.	1985	-100	8040	13	E 6	
1.7	94625.	1912	-120	8527	16	B 6	
1.7	94621.	1962	-320	8650	10	B10	
1.7	94606.	1936	-075	8685	12	A 8	
1.7	94628.	1948	-095	8360	14	B 3	
1.7	94675.	2083	-090	8033	13	H13	
1.7	94683.	2032	-040	8194	14	G12	
1.7	94665.	2041	-040	8175	15	H 3	
1.7	94645.	2200	- 10	7910	15	F15	
1.7	94638.	2016	-060	7995	14	F 8	
1.7	94688.	1977	-090	8240	15	G 7	
1.7	94664.	2082	-045	8181	14	H 2	
1.8	94697.	2178	-015	8030	13	J 3	
2.4	94587.	2058	-080	8205	8	D12	
2.4	94589.	1976	-135	8250	10	D10	
2.4	94572.	1973	-085	8555	7	C 6	
2.4	94569.	2043	-075	8320	11	C 3	
2.4	94593.	1985	-085	8250	10	D 6	
2.5	94622.	1970	-180	8665	14	B 9	
2.5	94660.	1928	-050	8215	12	E 3	
2.5	94627.	1962	-090	8425	10	B 4	
2.5	94608.	1968	-090	8515	12	A10	
2.5	94629.	1940	-180	8365	16	B 2	
2.5	94648.	1985	-140	8125	14	E15	
2.5	94649.	2048	-180	8045	13	E14	
2.5	94601.	1959	-110	8470	11	A 3	
2.6	94672.	2114	-080	8066	13	H10	
2.6	94663.	2120	-065	8110	10	H 1	
2.6	94691.	2010	-100	8220	15	G 4	
2.6	94667.	2116	-100	8061	10	H 5	
2.6	94637.	2053	-060	8055	14	F 7	
2.6	94633.	2065	-130	8162	12	F 3	

GEOLOGICAL RESOURCES EL 383 1-24-79

DETECTOR READING (T/SQ. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA				
2.7	94712.	2032	-065	8111	15	I15
3.3	94586.	2070	-180	8175	11	D13
3.3	94580.	1915	-070	8395	12	C14
3.3	94575.	1960	-075	8710	13	C 9
3.3	94585.	2122	-135	8415	11	D14
3.4	94610.	1950	-085	8510	12	A12
3.4	94652.	2021	-165	7995	12	E11
3.4	94607.	2035	-120	8425	11	A 9
3.4	94659.	1959	-040	8100	15	E 4
3.4	94613.	1775	-140	8675	15	A15
3.4	94617.	1930	-080	8485	14	B14
3.5	94690.	1988	-100	8245	14	G 5
3.5	94642.	2098	- 00	7920	13	F12
3.5	94639.	2072	-050	7895	11	F 9
3.5	94643.	2112	-110	7940	12	F13
3.5	94673.	2252	-085	8055	12	H11
3.5	94681.	2016	-040	8196	12	G14
3.6	94722.	2087	-035	7900	13	I 5
3.6	94704.	2052	-070	8073	13	J10
3.6	94715.	2186	-080	8005	13	I12
3.6	94713.	2019	-060	8120	12	I14
4.1	94570.	1989	-060	8385	11	C 4
4.1	94576.	1894	-115	8565	13	C10
4.1	94595.	1898	-085	8410	11	D 4
4.1	94573.	1828	-085	8680	11	C 7
4.1	94597.	1926	-085	8355	12	D 2
4.2	94602.	1927	-095	8565	12	A 4
4.2	94630.	1951	-090	8288	14	B 1
4.2	94658.	1938	-090	8060	12	E 5
4.2	94604.	1930	-090	8535	12	A 6
4.2	94620.	1938	-205	8465	10	B11
4.2	94612.	1850	-105	8670	12	A14
4.2	94624.	1920	-220	8550	12	B 7
4.2	94615.	1788	-065	8521	15	B16
4.3	94670.	2056	-080	8153	12	H 8
4.3	94666.	2125	-080	8050	13	H 4
4.3	94644.	2160	-075	7912	12	F14
4.3	94692.	2072	-095	8148	13	G 3
4.3	94679.	2115	-050	8150	12	G16
4.3	94685.	2066	-110	8120	12	G10
4.3	94689.	2005	-100	8220	12	G 6
4.5	94714.	2073	-060	8070	11	I13
4.5	94706.	2075	-010	8160	11	J12
4.5	94708.	2052	-030	8275	15	J14
4.5	94711.	2098	-070	8037	11	I16
4.5	94719.	2066	-050	7995	13	I 8
4.5	94709.	2151	-110	8150	15	J15
4.9	94578.	1911	-100	8350	11	C12
4.9	94594.	1941	-075	8351	10	D 5
4.9	94591.	1976	-080	8274	12	D 8

GEOLOGICAL RESOURCES EL 383 - 1-24-79

DETECTOR READING (T/SQ. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA				
4.9	94571.	1921	-075	8410	12	C 5
4.9	94577.	1903	-105	8458	11	C11
5.0	94662.	2050	-060	8201	13	E 1
5.0	94618.	1964	-200	8365	10	B13
5.0	94626.	1934	-110	8460	12	B 5
5.0	94647.	2098	-100	8040	11	E16
5.0	94623.	1963	-220	8295	11	B 8
5.0	94655.	1971	-075	8110	15	E 8
5.0	94611.	1962	-090	8495	12	A13
5.2	94694.	2125	-085	8110	13	G 1
5.2	94676.	2110	-080	8102	12	H14
5.2	94693.	2095	-090	8130	13	G 2
5.4	94725.	2080	-100	7988	12	I 2
5.7	94584.	2129	-140	8411	13	D15
5.7	94588.	2010	-125	8230	10	D11
5.7	94567.	2000	-110	8307	12	C 1
5.7	94579.	1909	-095	8372	12	C13
5.9	94614.	1856	-105	8599	12	A16
5.9	94600.	1815	-160	8455	10	A 2
5.9	94653.	2005	-120	8010	12	E10
6.1	94646.	2110	-100	7945	13	F16
6.1	94682.	2020	-050	8200	12	G13
6.1	94680.	2004	-015	8235	16	G15
6.1	94671.	2068	-065	8100	12	H 9
6.3	94702.	2198	-050	7909	10	J 8
6.3	94710.	2268	-105	7920	11	J16
6.3	94723.	2050	-050	8005	13	I 4
6.3	94698.	2104	-025	8035	13	J 4
6.3	94721.	2100	-025	7935	12	I 6
6.5	94574.	1883	-085	8675	8	C 8
6.5	94583.	2137	-100	8175	10	D16
6.7	94654.	1996	-100	8055	12	E 9
6.7	94605.	1918	-120	8653	12	A 7
7.0	94668.	2101	-090	8065	12	H 6
7.0	94678.	2088	-040	8090	10	H16
7.0	94674.	2048	-090	8088	13	H12
7.2	94703.	2120	-080	8000	12	J 9
7.2	94707.	2018	-030	8261	15	J13
7.2	94724.	2058	-110	8000	13	I 3
7.2	94720.	2082	-050	7965	15	I 7
7.3	94582.	1947	-105	8375	11	C16
7.8	94631.	2071	-025	8167	13	F 1
8.1	94705.	2021	-095	8108	12	J11
8.1	94699.	2090	-005	8030	13	J 5
8.1	94700.	2086	-100	8034	14	J 6
8.1	94716.	2100	-050	8050	13	I11
8.2	94592.	2002	-080	8205	12	D 7
8.7	94677.	2131	-020	8110	15	H15
8.7	94632.	2083	-040	8130	12	F 2
9.0	94701.	2131	-080	8025	12	J 7

GEOLOGICAL RESOURCES EL 383 1-24-79

DETECTOR READING (T/SQ. MM.)	CUP SERIAL NUMBER	FIELD NOTES AND DATA
9.6	94669.	2114 -080 8072 12 H 7
9.6	94634.	2058 -140 8175 15 F 4
9.8	94598.	1900 -080 8366 12 D 1
9.9	94717.	2011 -050 8100 13 I10
10.4	94641.	2000 -060 8045 12 F11
10.9	94599.	1923 -050 8287 15 A 1
11.7	94695.	2146 -015 7990 13 J 1
11.8	94650.	2014 -160 8095 13 E13
12.6	94603.	1901 -095 8690 12 A 5
17.1	94590.	1923 -075 8319 14 D 9
17.4	94636.	2003 -060 8180 14 F 6
23.5	94635.	2040 -075 8110 16 F 5

GEOLOGICAL RESOURCES EL 383 1-24-79

CUP SERIAL NUMBER	DETECTOR READING (T/SQ. MM.)	FIELD NOTES AND DATA				
94567.	5.7	2000	-110	8307	12	C 1
94568.	1.6	2005	-115	8238	11	C 2
94569.	2.4	2043	-075	8320	11	C 3
94570.	4.1	1989	-060	8385	11	C 4
94571.	4.9	1921	-075	8410	12	C 5
94572.	2.4	1973	-085	8555	7	C 6
94573.	4.1	1828	-085	8680	11	C 7
94574.	6.5	1883	-085	8675	8	C 8
94575.	3.3	1960	-075	8710	13	C 9
94576.	4.1	1894	-115	8565	13	C10
94577.	4.9	1903	-105	8458	11	C11
94578.	4.9	1911	-100	8350	11	C12
94579.	5.7	1909	-095	8372	12	C13
94580.	3.3	1915	-070	8395	12	C14
94581.	1.6	1999	-055	8338	13	C15
94582.	7.3	1947	-105	8375	11	C16
94583.	6.5	2137	-100	8175	10	D16
94584.	5.7	2129	-140	8411	13	D15
94585.	3.3	2122	-135	8415	11	D14
94586.	3.3	2070	-180	8175	11	D13
94587.	2.4	2058	-080	8205	8	D12
94588.	5.7	2010	-125	8230	10	D11
94589.	2.4	1976	-135	8250	10	D10
94590.	17.1	1923	-075	8319	14	D 9
94591.	4.9	1976	-080	8274	12	D 8
94592.	8.2	2002	-080	8205	12	D 7
94593.	2.4	1985	-085	8250	10	D 6
94594.	4.9	1941	-075	8351	10	D 5
94595.	4.1	1898	-085	8410	11	D 4
94596.	1.6	1949	-065	8315	11	D 3
94597.	4.1	1926	-085	8355	12	D 2
94598.	9.8	1900	-080	8366	12	D 1
94599.	10.9	1923	-050	8287	15	A 1
94600.	5.9	1815	-160	8455	10	A 2
94601.	2.5	1959	-110	8470	11	A 3
94602.	4.2	1927	-095	8565	12	A 4
94603.	12.6	1901	-095	8690	12	A 5
94604.	4.2	1930	-090	8535	12	A 6
94605.	6.7	1918	-120	8653	12	A 7
94606.	1.7	1936	-075	8685	12	A 8
94607.	3.4	2035	-120	8425	11	A 9
94608.	2.5	1968	-090	8515	12	A10
94609.	0.8	1926	-120	8600	12	A11
94610.	3.4	1950	-085	8510	12	A12
94611.	5.0	1962	-090	8495	12	A13
94612.	4.2	1850	-105	8670	12	A14
94613.	3.4	1775	-140	8675	15	A15
94614.	5.9	1856	-105	8599	12	A16

GEOLOGICAL RESOURCES EL 383 1-24-79

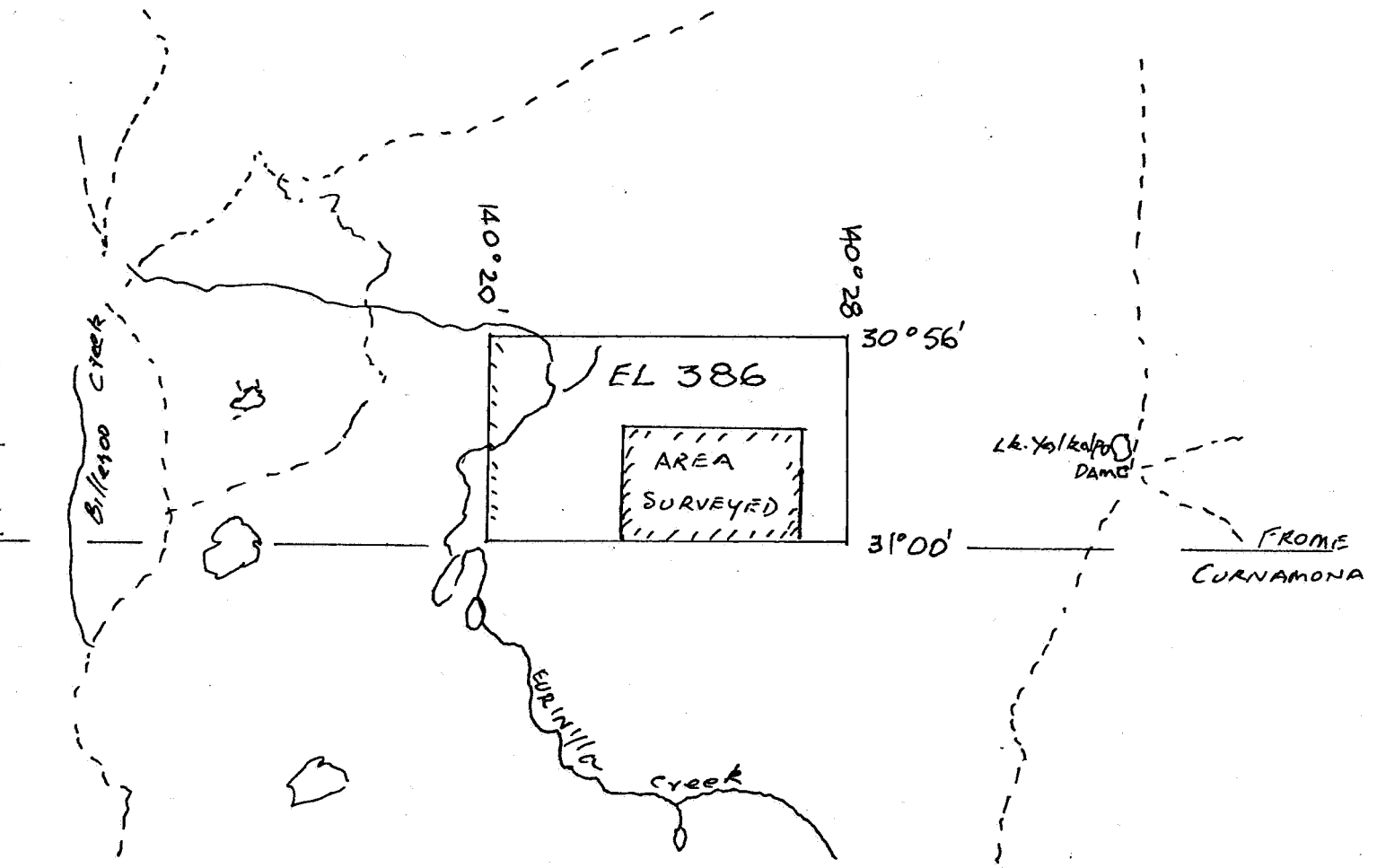
CUP SERIAL NUMBER	DETECTOR READING (T/SQ. MM.)	FIELD NOTES AND DATA				
94615.	4.2	1788	-065	8521	15	B16
94616.	0.8	1843	-080	8660	9	B15
94617.	3.4	1930	-080	8485	14	B14
94618.	5.0	1964	-200	8365	10	B13
94619.	0.8	1916	-185	8420	11	B12
94620.	4.2	1938	-205	8465	10	B11
94621.	1.7	1962	-320	8650	10	B10
94622.	2.5	1970	-180	8665	14	B 9
94623.	5.0	1963	-220	8295	11	B 8
94624.	4.2	1920	-220	8550	12	B 7
94625.	1.7	1912	-120	8527	16	B 6
94626.	5.0	1934	-110	8460	12	B 5
94627.	2.5	1962	-090	8425	10	B 4
94628.	1.7	1948	-095	8360	14	B 3
94629.	2.5	1940	-180	8365	16	B 2
94630.	4.2	1951	-090	8288	14	B 1
94631.	7.8	2071	-025	8167	13	F 1
94632.	8.7	2083	-040	8130	12	F 2
94633.	2.6	2065	-130	8162	12	F 3
94634.	9.6	2058	-140	8175	15	F 4
94635.	23.5	2040	-075	8110	16	F 5
94636.	17.4	2003	-060	8180	14	F 6
94637.	2.6	2053	-060	8055	14	F 7
94638.	1.7	2016	-060	7995	14	F 8
94639.	3.5	2072	-050	7895	11	F 9
94640.	0.9	2025	-060	7980	14	F10
94641.	10.4	2000	-060	8045	12	F11
94642.	3.5	2098	- 00	7920	13	F12
94643.	3.5	2112	-110	7940	12	F13
94644.	4.3	2160	-075	7912	12	F14
94645.	1.7	2200	- 10	7910	15	F15
94646.	6.1	2110	-100	7945	13	F16
94647.	5.0	2098	-100	8040	11	E16
94648.	2.5	1985	-140	8125	14	E15
94649.	2.5	2048	-180	8045	13	E14
94650.	11.8	2014	-160	8095	13	E13
94651.	1.7	2005	-180	8080	13	E12
94652.	3.4	2021	-165	7995	12	E11
94653.	5.9	2005	-120	8010	12	E10
94654.	6.7	1996	-100	8055	12	E 9
94655.	5.0	1971	-075	8110	15	E 8
94656.	0.8	1968	-060	8140	12	E 7
94657.	1.7	1985	-100	8040	13	E 6
94658.	4.2	1938	-090	8060	12	E 5
94659.	3.4	1959	-040	8100	15	E 4
94660.	2.5	1928	-050	8215	12	E 3
94661.	0.8	1950	-040	8300	12	E 2
94662.	5.0	2050	-060	8201	13	E 1
94663.	2.6	2120	-065	8110	10	H 1
94664.	1.7	2082	-045	8181	14	H 2

GEOLOGICAL RESOURCES EL 383 1-24-79

CUP SERIAL NUMBER	DETECTOR READING (T/SQ. MM.)	FIELD NOTES AND DATA					
94665.	1.7	2041	-040	8175	15	H 3	
94666.	4.3	2125	-080	8050	13	H 4	
94667.	2.6	2116	-100	8061	10	H 5	
94668.	7.0	2101	-090	8065	12	H 6	
94669.	9.6	2114	-080	8072	12	H 7	
94670.	4.3	2056	-080	8153	12	H 8	
94671.	6.1	2068	-065	8100	12	H 9	
94672.	2.6	2114	-080	8066	13	H10	
94673.	3.5	2252	-085	8055	12	H11	
94674.	7.0	2048	-090	8088	13	H12	
94675.	1.7	2083	-090	8033	13	H13	
94676.	5.2	2110	-080	8102	12	H14	
94677.	8.7	2131	-020	8110	15	H15	
94678.	7.0	2088	-040	8090	10	H16	
94679.	4.3	2115	-050	8150	12	G16	
94680.	6.1	2004	-015	8235	16	G15	
94681.	3.5	2016	-040	8196	12	G14	
94682.	6.1	2020	-050	8200	12	G13	
94683.	1.7	2032	-040	8194	14	G12	
94684.	0.9	2041	-070	8190	14	G11	
94685.	4.3	2066	-110	8120	12	G10	
94686.		2035	-100	8100	14	G 9	NR
94687.	0.9	1998	-100	8150	11	G 8	
94688.	1.7	1977	-090	8240	15	G 7	
94689.	4.3	2005	-100	8220	12	G 6	
94690.	3.5	1988	-100	8245	14	G 5	
94691.	2.6	2010	-100	8220	15	G 4	
94692.	4.3	2072	-095	8148	13	G 3	
94693.	5.2	2095	-090	8130	13	G 2	
94694.	5.2	2125	-085	8110	13	G 1	
94695.	11.7	2146	-015	7990	13	J 1	
94696.		2115	-050	8014	13	J 2	NR
94697.	1.8	2178	-015	8030	13	J 3	
94698.	6.3	2104	-025	8035	13	J 4	
94699.	8.1	2090	-005	8030	13	J 5	
94700.	8.1	2086	-100	8034	14	J 6	
94701.	9.0	2131	-080	8025	12	J 7	
94702.	6.3	2198	-050	7909	10	J 8	
94703.	7.2	2120	-080	8000	12	J 9	
94704.	3.6	2052	-070	8073	13	J10	
94705.	8.1	2021	-095	8108	12	J11	
94706.	4.5	2075	-010	8160	11	J12	
94707.	7.2	2018	-030	8261	15	J13	
94708.	4.5	2052	-030	8275	15	J14	
94709.	4.5	2151	-110	8150	15	J15	
94710.	6.3	2268	-105	7920	11	J16	
94711.	4.5	2098	-070	8037	11	I16	
94712.	2.7	2032	-065	8111	15	I15	
94713.	3.6	2019	-060	8120	12	I14	
94714.	4.5	2073	-060	8070	11	I13	

GEOLOGICAL RESOURCES EL 383 1-24-79

CUP SERIAL NUMBER	DETECTOR READING (T/SQ. MM.)	FIELD NOTES AND DATA					
94715.	3.6	2186	-080	8005	13	I12	
94716.	8.1	2100	-050	8050	13	I11	
94717.	9.9	2011	-050	8100	13	I10	
94718.		2112	-120	8040	12	I 9	DAMAGED
94719.	4.5	2066	-050	7995	13	I 8	
94720.	7.2	2082	-050	7965	15	I 7	
94721.	6.3	2100	-025	7935	12	I 6	
94722.	3.6	2087	-035	7900	13	I 5	
94723.	6.3	2050	-050	8005	13	I 4	
94724.	7.2	2058	-110	8000	13	I 3	
94725.	5.4	2080	-100	7988	12	I 2	
94726.		2115	-050	7974	12	I 1	NR



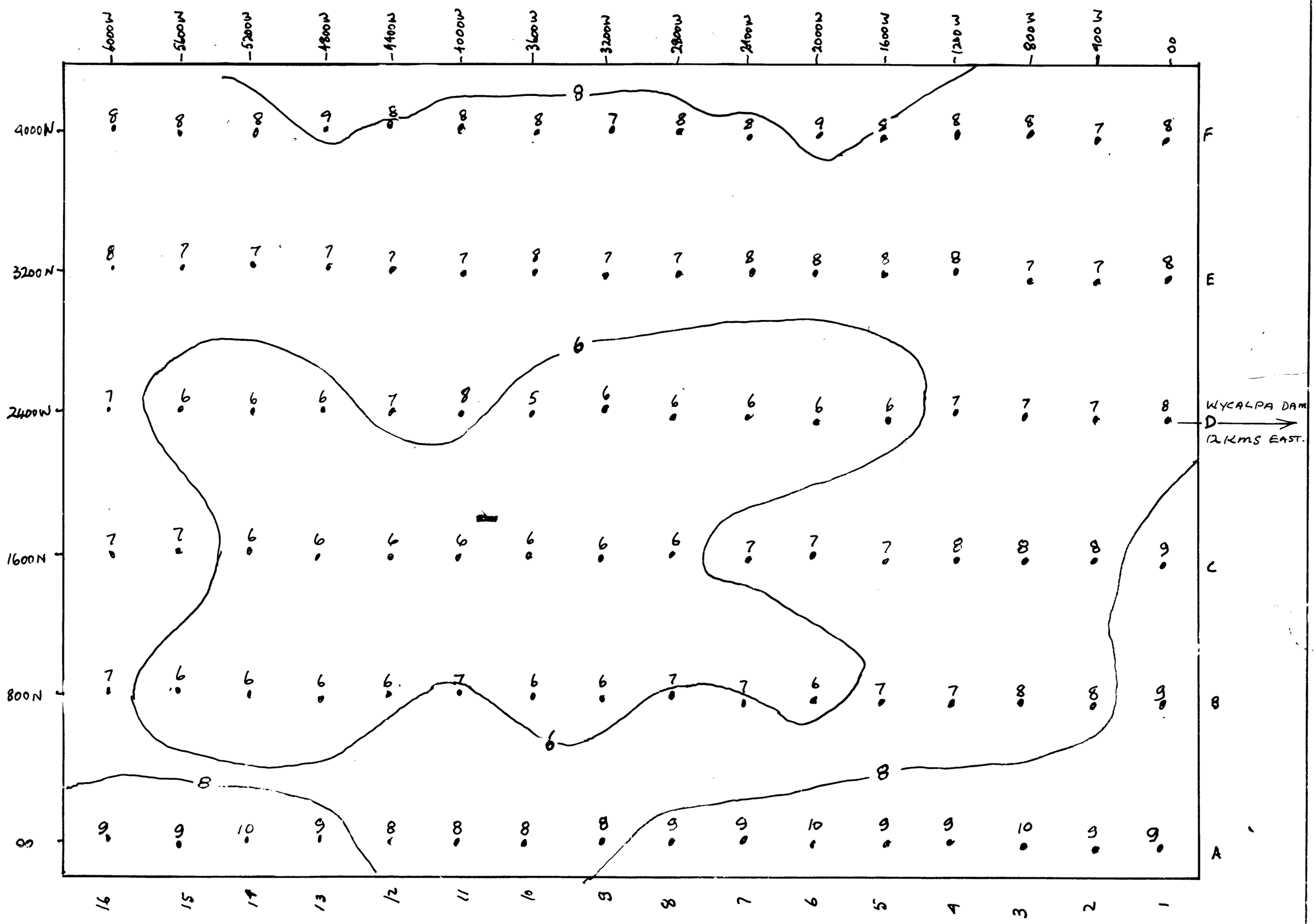
PART. FROME + CURNAMONA 1:250 000 SHEETS

LOCALITY PLAN

EL 386

(1)

JANUARY 1979



TRUE N

(2) GRAVITY SURVEY E.L.386 S.A.

milligal values relative to stn A1

scale 1 20000

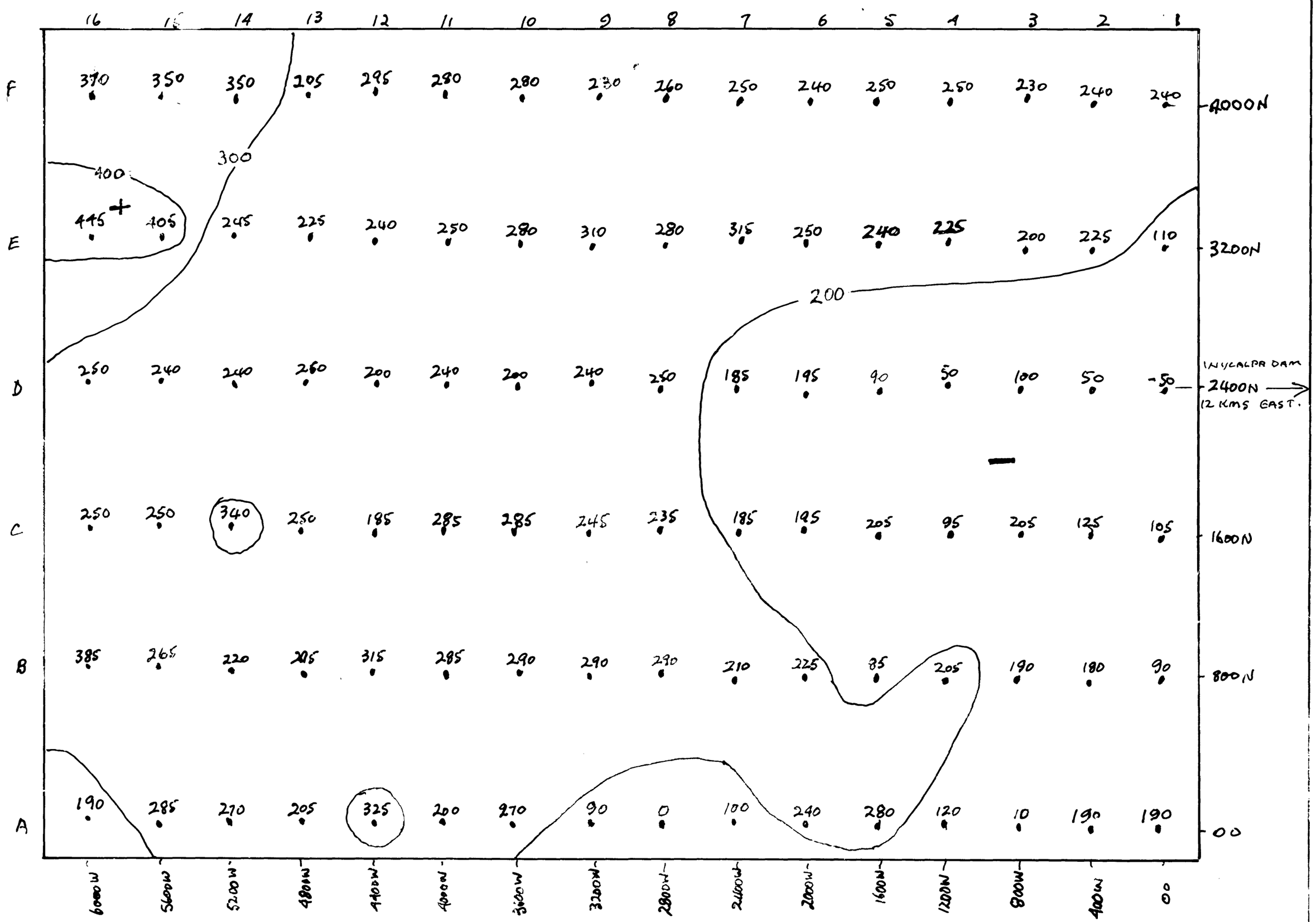
0 400 800 1200 1600 meters

0 1/4 1/2 3/4 1 mile

ENV 3315-1

DECEMBER 1978

SURVEY BY R HAYNES



(3)

MAGNETIC SURVEY E.L. 386 S.A.

vert. values relative to base station

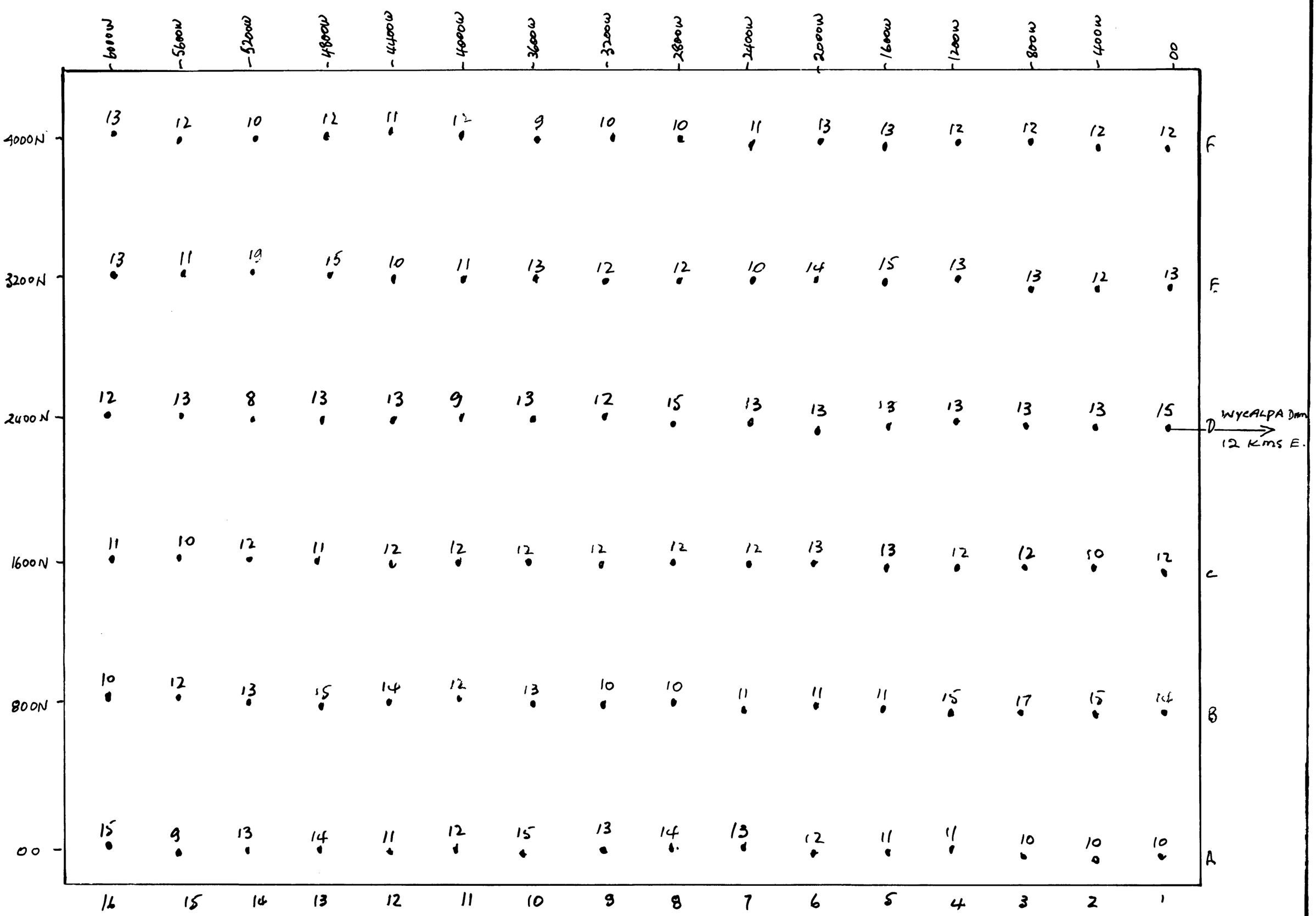
scale 1:20000

0 400 800 1200 1600 meters
0 1/4 1/2 3/4 1 mile

ENV3315-2

DECEMBER 1978

SURVEY BY R HAYNES



(4) RADIOMETRIC SURVEY E.L. 386 S.A.

total counts - per - second

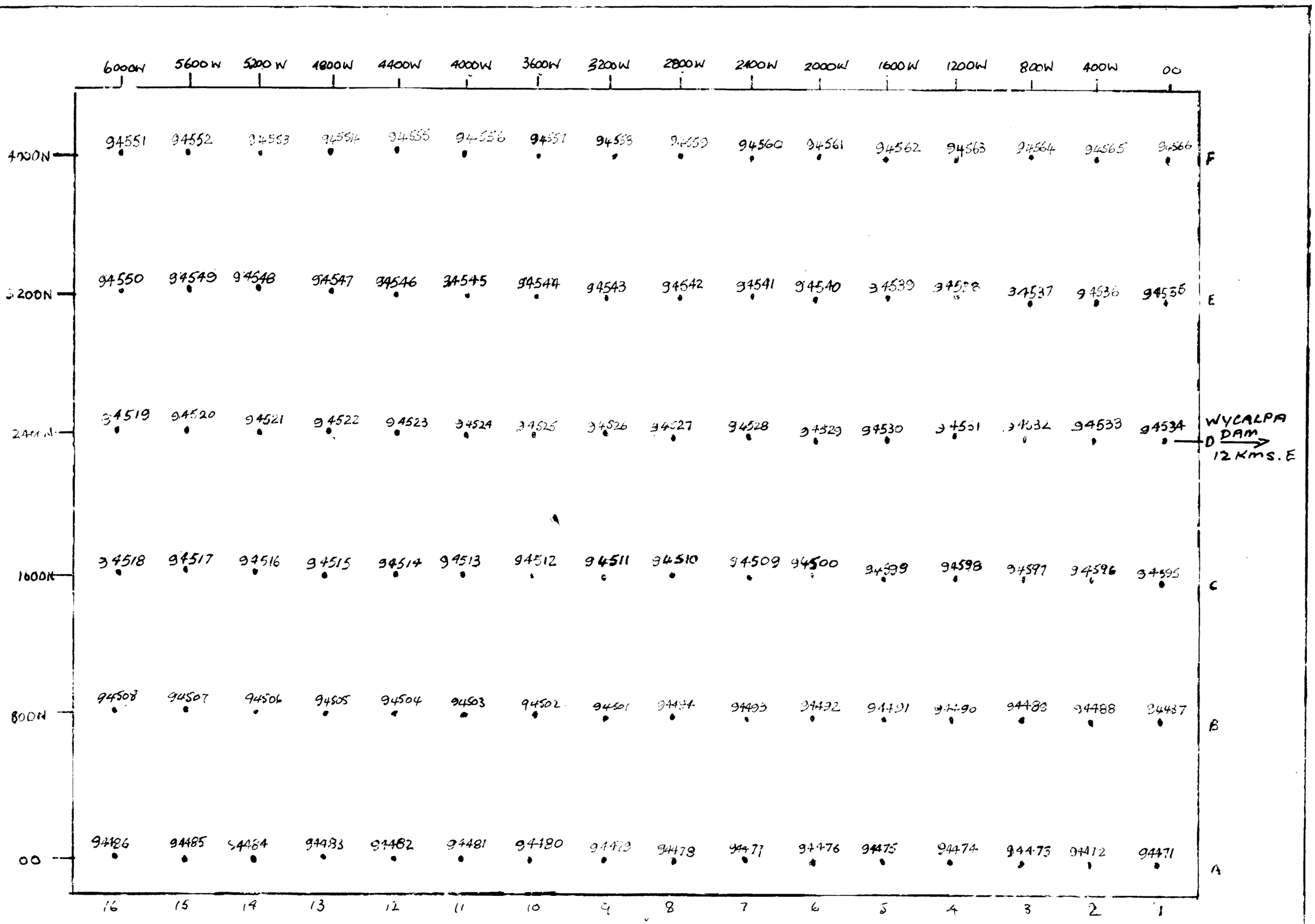
scale 1:20000

0 400 800 1200 1600 metres
0 1/4 1/2 3/4 1 mile

ENV 3315-3

DECEMBER 1978

SURVEY BY R HAYNES



(5) TRACK ETCH SURVEY E.L. 386 S.A

sup location

T. NORTH

N

scale 1:20000

0 400 800 1200 1600 metres
0 1/4 1/2 3/4 1 miles

ENV 3315-4

DECEMBER 1978

SURVEY BY RHAYNES.

3	3	[6]	1		1	4	2	4	1	4	[8]	[6]	2	3	3
2	4	[6]	1	[6]	4	4	4	1	5	3	5	4	2	1	2
1	1	1	1	1	2		2	4	1	1	1	[7]	[6]	5	2
5	1	1	4	2	3	1	5	1	4	1	3	2	1	1	3
1	1	1	[6]	1	1	1	1	2	2	2	1	2	[7]	3	3
3	2	3	3	2	[6]	2	3	5	3	3	1	3	[7]	3	3

ENV 3315-5

6

TRACK ETCH® DETECTOR READINGS

PREPARED FOR - GEOLOGICAL RESOURCES
PROJECT NAME - EL 386

BOXES AROUND VALUES ABOVE - 5.5
BACKGROUND VALUE- - - - - - 2.7
STANDARD DEVIATION- - - - - 1.5
SCALE - - - - - - - - - 1 TO ~~2000~~ 20000.
DATE - 1 23 79

PREPARED BY TERRADEX CORPORATION
1900 OLYMPIC BLVD. WALNUT CREEK CA

OILMIN N.L., TRANSOIL N.L. & PETROMIN N.L.

PRELIMINARY APPRAISAL,

E.L. 386

SOUTH AUSTRALIA

by

R.Grasso, M.Sc.,

MINOIL SERVICES PTY. LTD.

work on other file.

000040

CONTENTS.

Enclosures

Plan OTP 386/1	Lease map.
Plan OTP 386/2	Frome 1:250000 Geological map
Plan OTP 386/3	Frome 1:250000 Aeromagnetic map of total intensity.
Plan OTP 386/4	Frome 1:250000 Preliminary Bouguer anomaly map.

INTRODUCTION.

Exploration Licence No. 386 covers an area of approximately 94 sq. kilometres in South Australia. It is located approximately 480 kilometres north east of Adelaide in the southern part of the Strzelecki Desert. (plan OTP 386/1) The E.L. falls within the Frome 1:250000 sheet.

The area was chosen because of its potential for "Olympic Dam" type copper-uranium mineralisation. Appendix 1 is a summary of the Olympic Dam discovery, as published by the South Australian Department of Mines.

PREVIOUS INVESTIGATIONS.

The Frome 1:250000 sheet has been geologically mapped by the South Australian Department of Mines. (plan OTP 386/2) In addition, preliminary copies of the Frome 1:250000 Bouguer anomaly map (plan OTP 386/3) are available, and the Frome 1:250000 Aeromagnetic map of total intensity has been published. (plan OTP 386/4) Apart from the above basic information, there are geological and geophysical data in reports on activities of oil explorers, and companies searching for post-Mesozoic sedimentary uranium deposits. Also the drilling of three holes (Yalkalpo No. 1, Yalkalpo No, 2 and Mudguard No. 1) to the north east of the E.L. area has helped considerably in working out the subsurface geology in that general area.

REASON FOR PRESENT EXPLORATION.

Appendix 1 gives some general information of the Olympic Dam copper-uranium discovery. From this, and from discussions with officers of the South Australian Department of Mines, it seemed that some of the characteristics of the Olympic Dam mineralisation, are similar to some of the Mt. Painter uranium deposit (Youles, personal communication) and also to the Mt. Gunson copper mineralisation. The three deposits are all located on the continental margins of the Adelaide "Geosyncline", they are also associated with host rocks belonging to the Umberatana Group equivalents, and the Olympic Dam and Mt.Gunson deposits occur on gravity high anomalies. Magnetically, the Olympic Dam area is on a magnetic high, while the Mt. Gunson copper mineralisation is located on the flank of a magnetic high.

In comparing the above "indicators" with geological and geophysical properties of the E.L.386 area, the writer feels that the area has some potential for Olympic Dam type mineralisation and if the company's other areas (EL 383, EL 384 and EL 385) show encouragement, then E.L. 386 will warrant testing.

GEOLOGY OF THE E.L. 386 AND SURROUNDING AREAS.

The regional geology of the E.L.386 and surrounding areas is shown in the Frome 1:250000 geological sheet. (plan OTP 386/2) The surface of the E.L. area is mostly Recent sand and sand dunes of the Strzelecki Desert type. Some of the western part

of the E.L. area is cut by the Eurinilla Creek. Along this creek there are outcrops of the Coonarbine and Eurinilla formations. (Pleistocene) To the west and north of the western boundary of the E.L. there are outcrops of Namba formation. (Miocene) The stratigraphy of the rocks below the Miocene Namba formation has been deduced from the logs of the Yalkalpo No. 1, Yalkalpo No. 2 and Mudguard No. 1 holes. The post-Cambrian sections cut in these holes are 209 metres, 258 metres and 194 metres respectively. As is expected, there is a deepening of the basin in an easterly direction. The sub-surface rocks in the E.L. area should be represented by probably less than 40 metres of Tertiary Namba formation, underlain by approximately 25 metres of Tertiary Eyre formation. Below this unit, there should be about 100 metres of Mesozoic (Cretaceous and ?Jurassic) shales (conglomerate at base). In Yalkalpo Nos. 1 & 2 holes the Mesozoic conglomerates are underlain by Cambrian sediments; however, in Mudguard No. 1 hole, the Mesozoic conglomerate rests on "massive rhyolite". It is possible that within the E.L. area, the Cambrian section is also missing, and that the Mesozoic rests on ?Precambrian rocks.

MINERALISATION POTENTIAL OF THE E.L. 386 AREA.

The E.L.386 area is located on the eastern continental margin of the Adelaide "Geosyncline". It appears to contain a gravity anomaly (plan OTP 386/4) but this would

require some detailed gravity surveys for more accurate delineation. Plan OTP 386/3, the plan showing aeromagnetic contours of total intensity, does not show any definite magnetic anomalies within the E.L. area, but between the 2700 and the 2800 gamma contours, flexing of the intermediate contours may indicate a small anomaly.

As it is not known what pre-Cambrian rocks are likely to exist in the E.L. area, it is not known if Umberatana Group equivalents are present.

The E.L. 386 area has some potential (but not great) for "Olympic Dam" type mineralisation.

CONCLUSIONS & RECMMENDATIONS.

The E.L. 386 area has only minor potential for "Olympic Dam" type mineralisation. It is proposed that no further work be undertaken on this E.L. until the Company's other E.Ls.(EL383. EL 384 and EL 383) have been explored, and have found to show promise of a discovery.

ACKNOWLEDGEMENTS.

The writer wishes to express his appreciation to officers of the South Australian Department of Mines for making available information on open file. In particular to I,P, Youles for his helpful discussions and suggestions.

Adelaide,
Feb. 9, 1978

R.Grasso
MINOIL SERVICES PTY. LTD.

NUMBER 7
AUGUST 1977
ISSN 0313—6086

Olympic Dam Copper Deposit on Roxby Downs Station

The following notes on this important discovery have been prepared by agreement with Western Mining Corporation and provide for the first time details of stratigraphy and mineralisation. The co-operation of Western Mining in agreeing to the release is much appreciated, and the information is put forward with the prime objective of enabling other explorers in the area to assess better their own programmes. The Department will similarly be seeking the release of prime deeper drilling stratigraphic data from other explorers to ensure that the basic information is continually updated for the benefit of all explorers in the region.

The Olympic Dam Copper Prospect recently discovered by Western Mining Corporation is located approximately 25 km west of Andamooka. The area was selected for exploration after a detailed study of the tectonics, depositional environments and geophysics of the Proterozoic stratigraphy of the Stuart

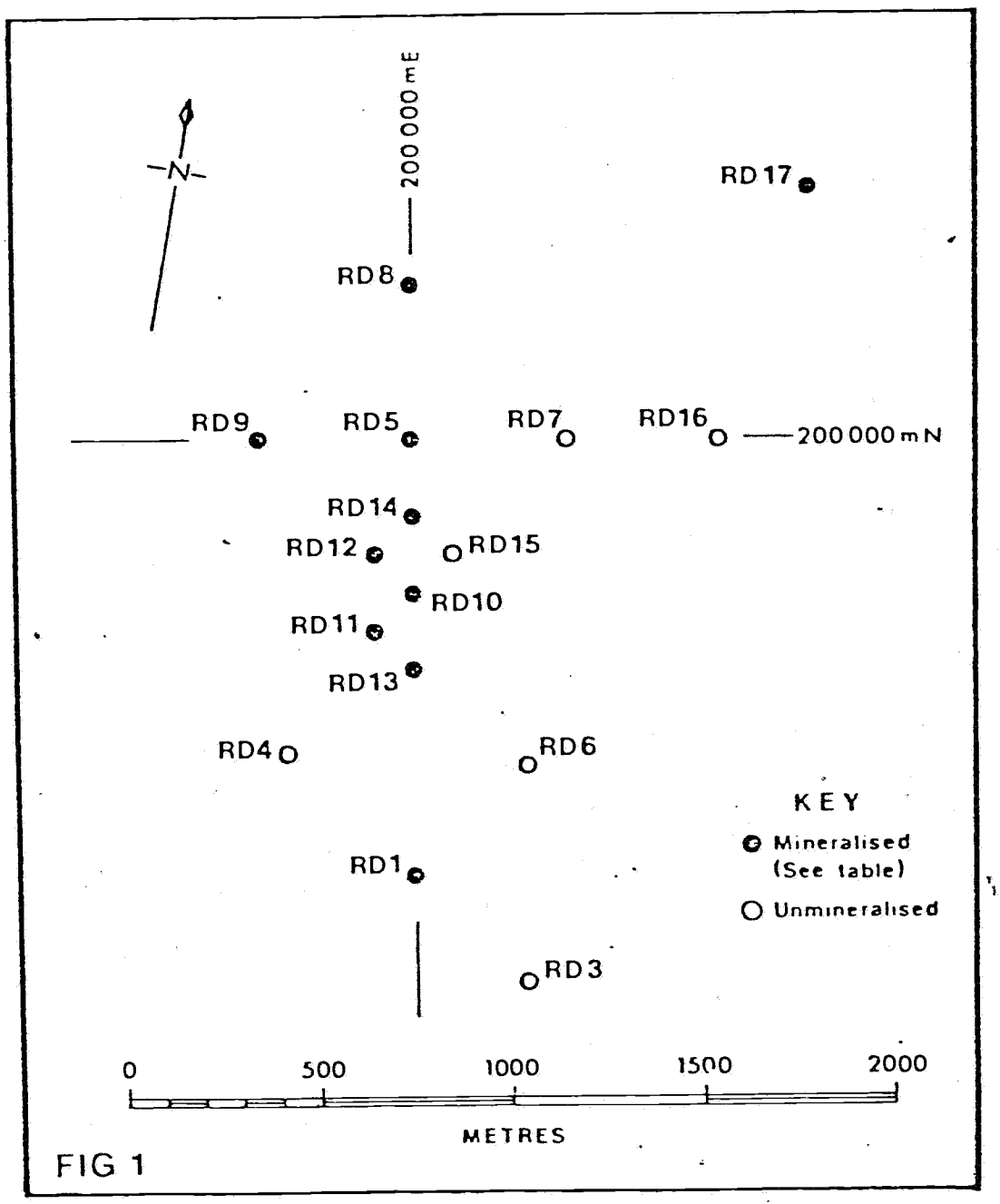


FIG 1

TABLE 1

Hole No.	Depth (m)	From (m)	To (m)	Thickness (m)	Cu	U_3O_8
RD 1	411	353	391	38	1.05	0.01
		including				
		371	391	20	1.30	0.01
RD 5	460	364	456	92	1.01	0.01
		including				
		364	398	34	1.38	0.01
RD 8	600	356	370	14	1.20	0.01
RD 9	500	386	480	94	0.38	Trace
		including				
		418	426	8	1.00	Trace
RD 10	529	348	518	170	2.12	0.059
		including				
		376	392	16	3.42	0.074
		422	432	10	4.38	0.086
RD 11	732	330	454	124	1.14	0.039
		494	618	124	1.03	0.041
		including				
		516	566	50	1.48	0.060
RD 12	575	370	380	10	2.20	0.054
		454	542	88	0.90	0.027
		including				
		454	482	28	1.71	0.047
RD 13	472	328	382	54	1.92	0.041
		including				
		336	370	34	2.40	0.053
		426	454	28	1.06	0.030
RD 14	696	356	416	60	1.38	0.015
		including				
		388	408	20	2.19	0.031
		442	562	120	1.36	0.044
		including				
		510	530	20	2.30	0.034
		612	620	8	1.83	0.050
RD 17	In Progress	327	401	74	2.5	0.078

Stable Shelf. Exploration Licence 190 was granted by the South Australian Government in May, 1975.

Regional gravity and magnetic surveys at a scale of 1:250 000 indicated a number of coincident gravity and magnetic anomalies in the area. These were interpreted as possibly representing structural situations similar to the Pernatty "Culmination" which is associated with the Mount Gunson copper mineralisation.

Detailed gravity and magnetic surveys further defined the structure on which the discovery hole, RD1 was sited in July, 1975. An additional 15 holes have since been drilled and their locations and assays are given in Figure 1 and Table 1. Nine of these holes have intersected mineralisation over an area

1 500 metres by 400 metres. They are widely spaced and although the rock types and the nature of the mineralisation are sufficiently similar to suggest continuity of the mineralisation between holes, a great deal more drilling will be required to establish an ore reserve. A further hole, RD17, located approximately 1 000 metres north east of this zone has also intersected mineralisation.

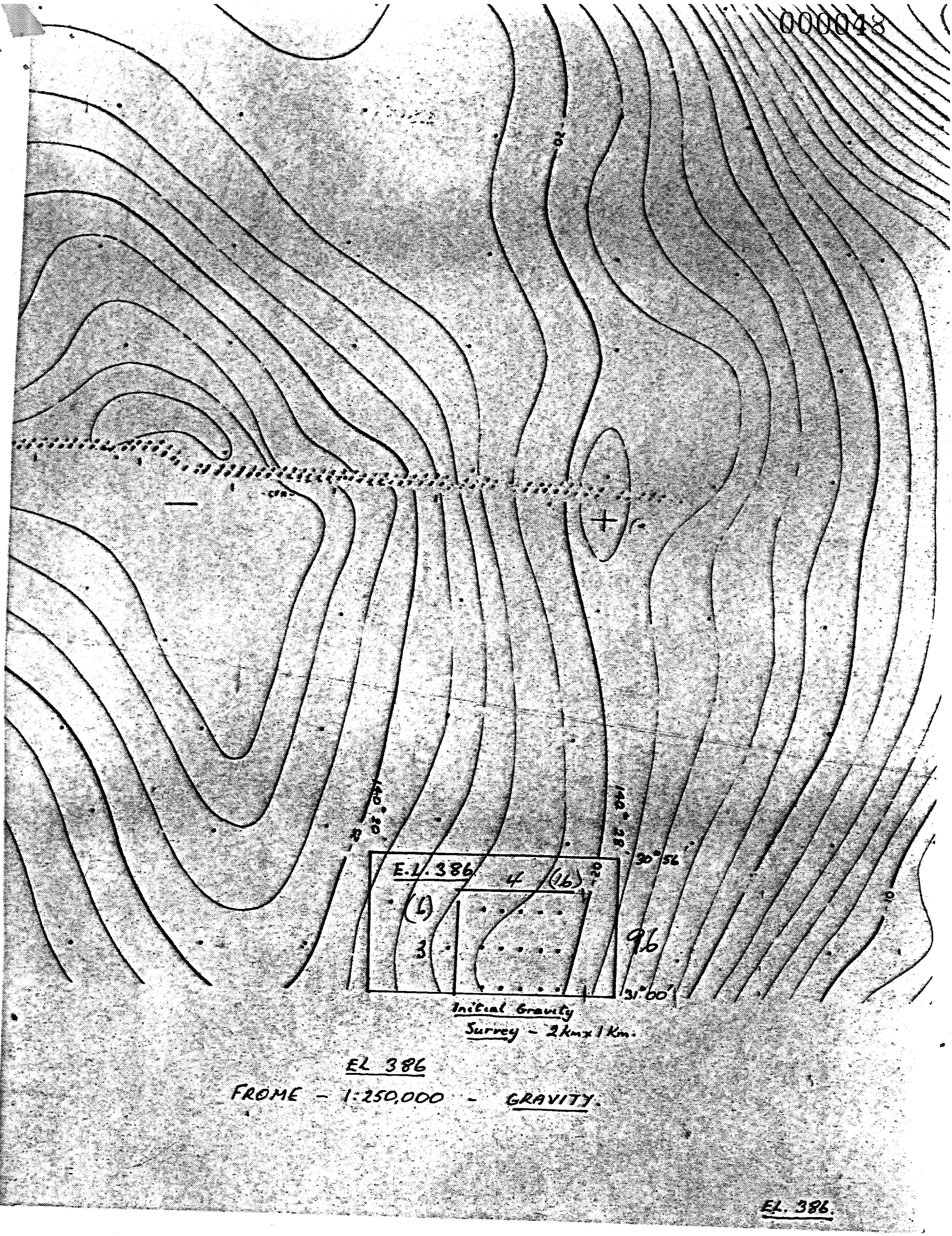
The mineralisation occurs approximately 350 metres below the surface and a generalised stratigraphic section of the cover sequence is as follows:-

Stratigraphy	Thickness
Andamooka Limestone	28- 54 metres
Arcoona Quartzite	130-165 "
Corraberra Sandstone	13- 25 "
Woomera Shale	105-127 "

The mineralisation occurs in a hematitic, granitic breccia. Petrographic studies show the copper minerals to be chalcopyrite, bornite, chalcocite and digenite, associated with quartz, sericite and hematite. Barite and fluorite are present in varying amounts. Sulphide textures indicate replacement of pyrite by chalcopyrite but co-existing bornite and chalcopyrite display mutual boundary textures with some crystallographically orientated exsolution intergrowths. Bornite, chalcocite and digenite are associated in intergrowths which are usually myrmekitic. Sulphide deposition seems to have evolved through an early iron rich stage to a later copper rich stage.

The uranium minerals are generally very fine grained and occur in association with the copper minerals. They have been identified with the electron microprobe analyser as uraninite and the uranium-titanium minerals brannerite and/or davidite. Covellite, carrolite, cobaltite and gold have also been identified in trace amounts in polished section.

000048

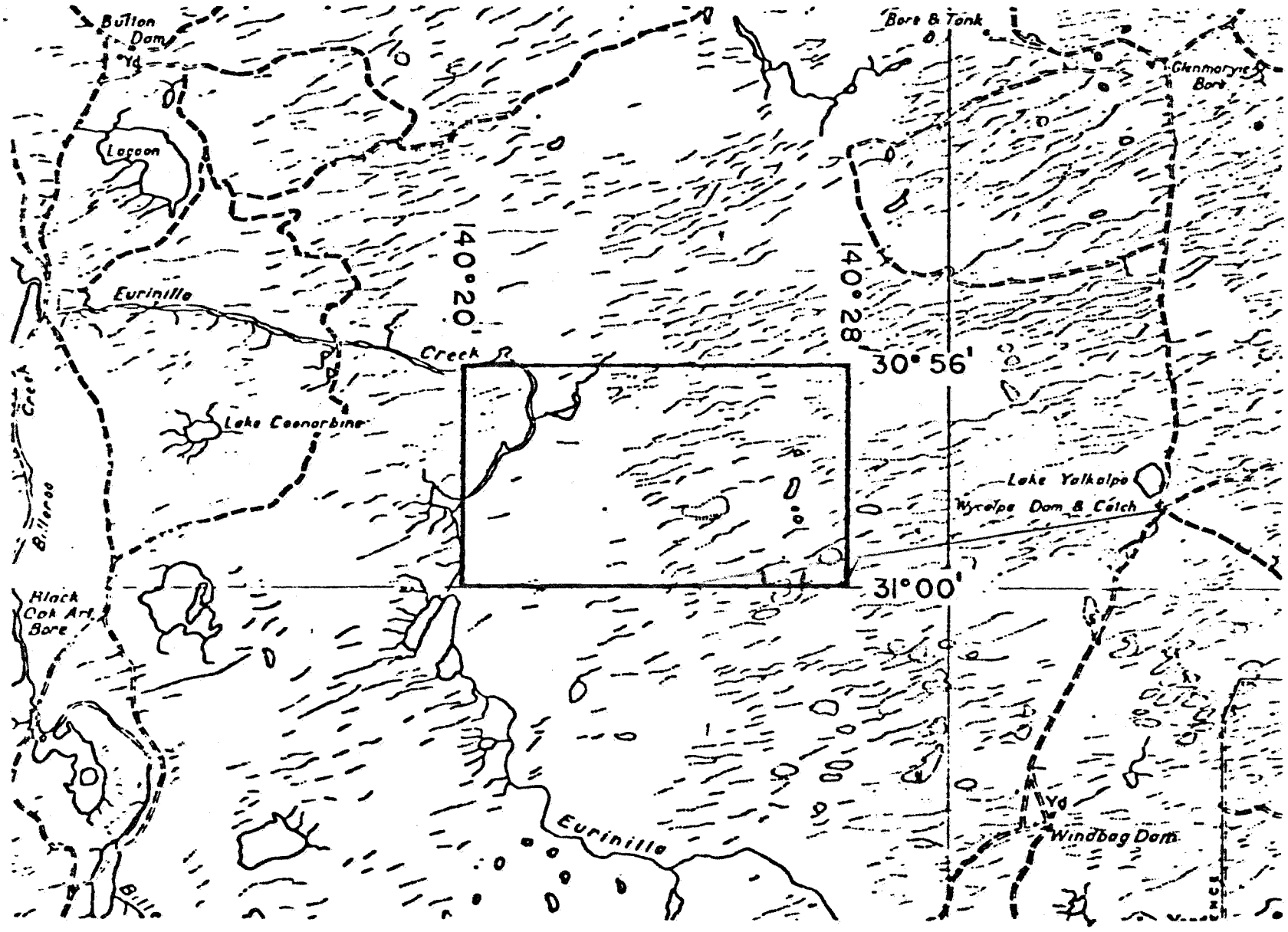


EL 386

FROME - 1:250,000 - GRAVITY.

EL. 386.

000049



bag 267 magnetic

SCALE 1:250 000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

APPLICANT: OILMIN N.L., TRANSOIL N.L. AND PETROMIN N.L.

D.M.: 649/77 AREA: 94 Square kilometres

1: 250000 PLANS: FROME

LOCALITY: LAKE YALKAPO AREA – APPROX. 150 KM N. OF OLARY

EXPIRY DATE: 25·1·79 E.L. No.: 386

OILMIN N.L.
PETROMIN N.L.
TRANSOIL N.L.

P.O. Box 232,
BRISBANE, NORTH QUAY, 4000

000050

15th April, 1979

Director General,
Department of Mines and Energy,
P.O. Box 151,
EASTWOOD, S.A. 5063

Dear Sir,

EXPLORATION LICENCES 384, 385 and 386

5th and Final Quarterly Report.

The above Exploration Licences are due to terminate on 25th April 1979.

The present Licence holders hereby advise that they do not intend to apply for an extension in respect to these licence Areas.

Activities

Fourth Quarterly Reports with expenditure statements were submitted in January 1979 which outlined the various activities that had been carried out on the areas.

Office studies and consideration of results have resulted in the decision not to proceed with further exploration of these Licence Areas. No further field work was carried out in the 5th Quarter.

Financial Statement for the 5th Quarter.

Only nominal expenditure was incurred during the period and figures supplied in January are still effective to date.

We thank you for the help received in these Areas by your Department.

Yours faithfully,

C.W. SILLER
Chairman of Directors
OILMIN N.L., PETROMIN N.L.
and TRANSOIL N.L.