Open File Envelope No. 3613

EL 529

POUTCHINA HILL

PROGRESS REPORTS FOR THE PERIOD 12/9/79 TO 11/9/81

Submitted by
Samedan Oil Corp. of Australia and Esso Australia Ltd
1981

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PRIMARY INDUSTRIES AND RESOURCES SA

CONTENTS ENVELOPE 3613 TRANSPARENT CYLINDER 3613/1

TENEMENT:E.L. 529. (pg. 41 does not exsit)

TENEMENT HOLDER: SAMEDAN OF AUSTRALIA.

REPORT:
SAMEDAN OIL CORP. 1979.
E.L. 529. Progress report.
(period: September 22 - December 22, 1979.)
NO PLANS. pg. (7)

EXPENDITURE:
E.L. 529. Exploration expenditures.
(period: September 22 - December 22, 1979.)
NO PLANS. pg. (8)

REPORT:
SAMEDAN OIL CORP. 1980.
E.L. 529. Quarterly Progress Report.
(period:December 13, 1979 - March 12, 1980)
NO PLANS pg. (9)

EXPENDITURE:
E.L.529. Exploration expenditures.
(period: December 13, 1979 - March 12, 1980.)
NO PLANS. pg. (10)

EXPENDITURE:
E.L.529. Exploration expenditure S.A.
(period: 1st march, 1980 - 31st May, 1980)
NO PLANS. pg. (11)

REPORT:
SAMEDAN OF AUST. & ESSO AUST. LTD. 1980.
E.L. 529. "Poutchina" Pt. Augusta region.
S.A. quarterly report.
(period:March 12, 1980 - June 11, 1980)
NO PLANS. pg. (12)

CONTENTS ENVELOPE 3613 TRANSPARENT CYLINDER 2613/1

REPORT:

ESSO AUST. LTD. 1980.
E.L. 529. "Poutchina" Pt. Augusta region,
S.A. quarterly report.
(period: June 12, 1980 - September 11, 1980) pgs.(13-18)

PLANS:

TABLE. 1. (A,B,C) Listing of radiometric anomalies. pgs.(16-18)

FIG. 1. (DWG. NO. 581-6) E.L. 529 "Poutchina"
Aeromagnetic contours.
Scale 1:50,000. (3613-1) (1)

FIG.2. (DWG. NO. 581-8) E.L. 529. "Poutchina"
Stacked aeromagnetic.profiles.
Scale: 1:50,000 (3613-2) (1)

FIG.3. (DWG. NO. 581-7) E.L. 529 "Poutchina"
Airborne survey - Flight line recovery &
Radiometric anomalies.
Scale 1:50,000. (3613-3) (1)

FIG.4. Radiometric anomaly distribution.
(Ternary diagram) (3613-4) (1)

REPORT:

ESSO AUSTRALIA LTD. 1980.
E.L.529. "Poutchina" quarterly report.
(Period: September 11, 1980 - December 11, 1980) pgs.(19-40)

PLANS:

FIG.1. (DWG. NO. 581-6) E.L. 529. "Poutchina"
Aeromagetic contours.
Scale 1:50,000. (3613-1) (2)

FIG.2. (DWG.NO. 581-8) E.L. "Poutchina"
Stacked aeromagnetic profiles.
Scale 1:50,000. (3613-2) (2)

CONTENT ENVELOPE 3613 TRANSPARENT CYLINDER 3613/1

FIG.3. (DWG. NO. 581-7) E.L. 529. "Poutchina". Airborne survey - Flight line recovery.& Radiometric anomalies. Scale 1:50,000. (3613-3) (2)

FIG.4. (DWG. NO. 581-9) E.L. 529. "Poutchina" Aeromagnetic survey - preliminary interpretation. Scale 1:50,000 (3613-4) (2)

FIG.5. Interpretative cross section - line 160- "Poutchina" aeromagnetic survey. (3613-5) (2)

FIG.6. Interpretative cross section- line 280- "Poutchina" aeromagnetic survey. (3613-6) (2)

FIG.7. Interpretative cross section - line 500. "Poutchina" aeromagnetic survey. (3613-7) (2)

FIG.8. Interpretative cross section - line 800. "Poutchina" aeromagnetic suvery. (3613-8) (2)

FIG.9. Interpretative cross section - line 1100. "Poutchina" aeromagnetic survey. (3613-9) (2)

REPORT:

GREIG D.D. 1981. Esso Aust. Ltd. - Minerals Dept. E.L.529, "Poutchina" Quarterly report of exploration to S.A.D.M.E. (period ending March 11, 1981.) pgs.(42-122)

PLAN:

FIG.1. Location map 1:250,000 showing further Geophysical surveys & drilling. pg. (44)

CONTENTS ENVELOPE 3613

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Solo Geophysics & Co.Yudapinna, via Pt. Augusta,
S.A.grid: :Poutchina December, 1980
phase 1.
NO PLANS. pgs. (45-122)

REPORT:
ESSO AUST. LTD. - MINERALS DEPT.
E.L.529 "Poutchina", S.A.
Quarterly report on exploration,
(period ending 11th June, 1981) pgs. (123-136)

PLANS:
FIG.1. (DWG. NO. 581-12)
Drill hole location diagram. (3613-1) (3)
FIG.2. (DWG. NO. 581-13).
Gravity survey. (3613-2) (3)
FIG.3. (DWG. NO..581-14)
Ground magnetic profiles Jungle Dam. (3613-3) (3)
FIG.4. (DWG. NO. 581-15) Ground magnetic profiles
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FIG.5. (DWG. NO. 581-16) Ground magnetic profile
Burk Dam. (3613-5) (3)
FIG.6. (DWG.NO.581-17) Geological map 1:100,000. (3613-6) (3)
FIG.7. (DWG. NO. 581-18) Interpretative proterozoic
geology 1:100,000. (3613-7) (3)
FIG.8. (DWG. NO. 581-19) Geological map sheet1.
1:40,000. (3613-8) (3)
FIG.9. (DWG. NO. 581-20) Geological map sheet 2.
1:40,000. (3613-9) (3)

APPENDIX: 1.
Electromagnetic sounding technique.
NO PLANS. pgs.(127-128)

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APPENDIX 2.

Jungle Dam Prospect, ground magnetic modelling programme line 1200n. pgs. (129-136)

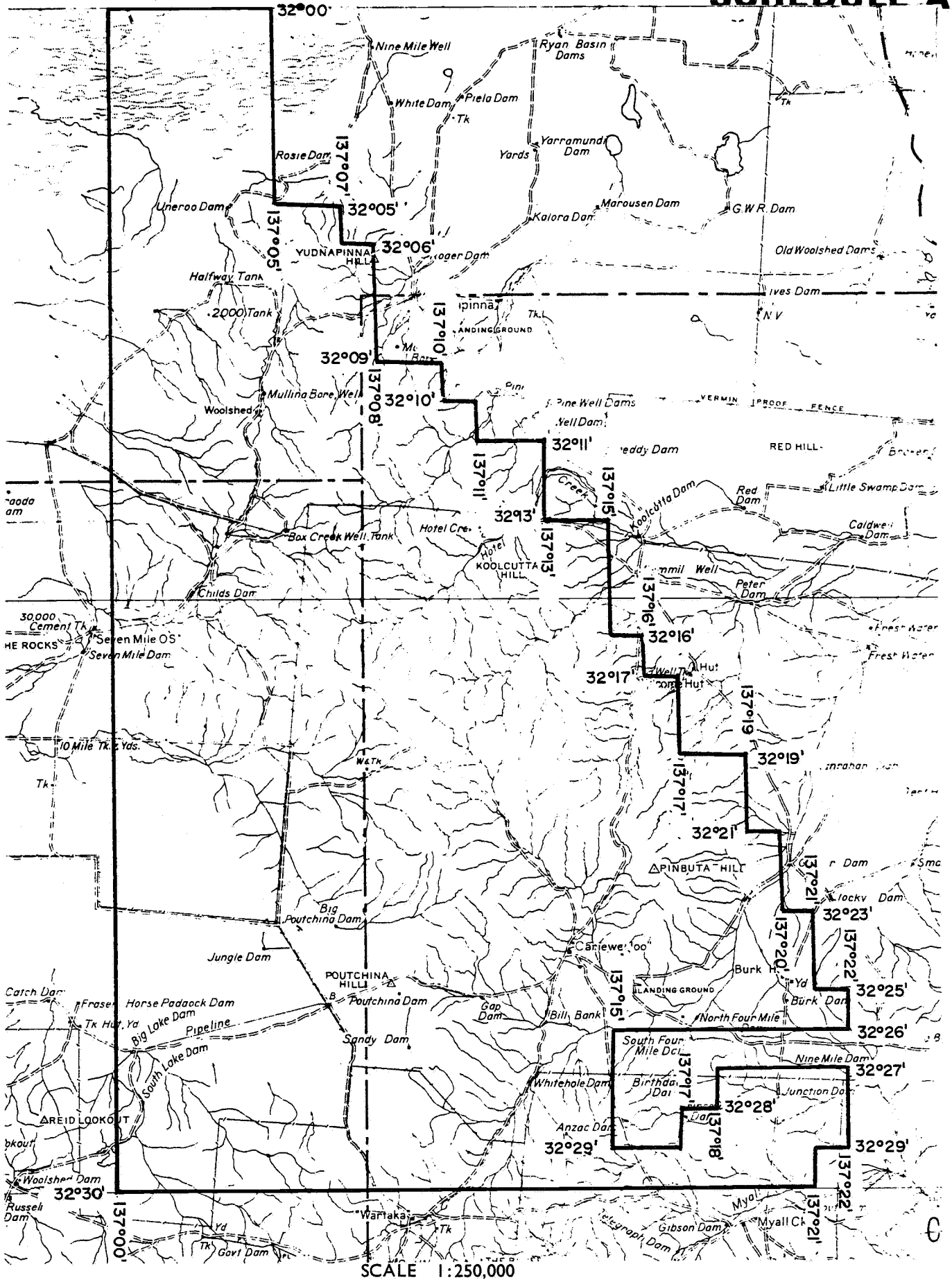
PLATE:

P.1. Jungle Dam Prospect geoprobe 1200n - 650e. pg.(134)

P.2. Jungle Dam Prospect geoprobe 1200n - 750e. pg.(135)

P.3. Burk Dam Prospect geoprobe 1250n - 00e. pg.(136)

SCHEDULE A



SCALE 1:250,000

KILOMETRES 5 0 5 10 15 20 25 KILOMETRES

EXPIRED

APPLICANT: SAMEDAN OF AUSTRALIA

DM: 244/79 AREA: 1168 square kilometres

1:250 000 PLANS: PORT AUGUSTA

LOCALITY: POUTCHINA HILL AREA — 60 km W of PORT AUGUSTA

DATE GRANTED: 12 - 9 - 79 DATE EXPIRED: 11 - 9 - ~~80~~ 81 EL No: 529

SAMEDAN OIL CORPORATION

EXPLORATION LICENCE 529

PROGRESS REPORT

(Period: September 22 - December 22, 1979)

Exploration Licence 529, of 1204 square kilometres, was granted to Samedan Oil Corporation on September 22, 1979. The area is a continuation of Samedan's exploration programme in the adjoining Exploration Licence 398 area, where exploration has been confined in and around the Roopena Fault.

The first phase of exploration will be a detailed airborne magnetic survey of the licence area which is mostly covered by Pandurra Formation and to a lesser extent in the south the Gawler Range Volcanics. The aim of the survey is to assist in determining Carpentarian basement structures and depths to the basement. It is proposed to fly at flight lines at 500 metres apart and at elevation above the ground of 100 metres. Tenders for the contract survey will be invited shortly and the survey is expected to begin early in 1980.

SAMEDAN OIL CORPORATION

EXPLORATION EXPENDITURE

EXPLORATION LICENCE 529

(Period: September 22 - December 22, 1979)

	$
Exploration Licence Fees	631.00
Maps	393.25
Salaries	1,402.58
	$2,426.83

ATTACHMENT 1.

009

SAMEDAN OIL CORPORATION

EXPLORATION LICENCE 529

QUARTERLY PROGRESS REPORT

Period: December 13, 1979 to March 12, 1980

Tenders were invited for a contract aeromagnetic survey involving 3000 line kilometres over the whole exploration licence at line spacings of 500 metres and mean terrain clearance of 100 metres.

A contract is expected to be let soon with the flying to begin within the next two months.

ATTACHMENT 2.

SAMEDAN OIL CORPORATION

EXPLORATION LICENCE 529

EXPLORATION EXPENDITURES

Period: December 13, 1979 to March 12, 1980

Salary of Geologist	-	$1,059.52

SAMEDAN OIL CORPORATION

EXPLORATION EXPENDITURE

EXPLORATION LICENCE 529
SOUTH AUSTRALIA

Period: 1st March, 1980 to 31st May, 1980

	$
Geological	1,381
Geophysical	19,951
Overheads	1,047
	$22,379

EXPLORATION LICENCE 529 "POUTCHINA"

PORT AUGUSTA REGION, SOUTH AUSTRALIA

QUARTERLY REPORT FOR THE PERIOD MARCH 12, 1980 TO JUNE 11, 1980

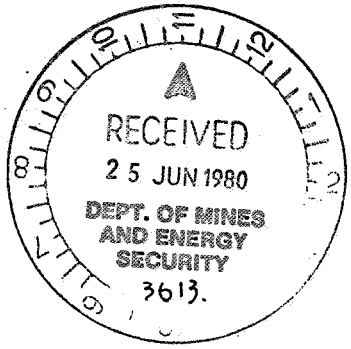
As part of a joint venture agreement being negotiated between Samedan of Australia and Esso Australia Ltd. involving E.L. 529 "Poutchina" and the adjoining E.L. 398 "Roopena", the Coal and Minerals Department of Esso Australia Ltd. assumed operating responsibilities for E.L. 529 during the quarter.

The major activity undertaken during the quarter was a combined aeromagnetic-spectrometer survey covering the entire licence area. The survey specifications were as follows:-

Contractor - Geometrics International Corporation
Aircraft - Britten Norman Islander
Sensor (Aircraft) height - 100 m
Line spacing - 400 m
Aircraft speed - 110 knots
Line orientation - 060°
Tie line spacing - 5 km
Magnetometer - Geometrics G-803
Sample Interval - 1 second
Sensitivity - 1 nanotesla
Spectrometer - Geometrics GR 800
Crystal volume- 1024 cubic inches

No data from this survey has been received from the contractor to date.

The future exploration programme within the E.L. is dependent on a detailed assessment of this geophysical data and available geological, gravity and Open File exploration data.



EXPLORATION LICENCE 529 "POUTCHINA"

PORT AUGUSTA REGION, SOUTH AUSTRALIA

QUARTERLY REPORT FOR THE PERIOD JUNE 12, 1980 TO SEPTEMBER 11, 1980

INTRODUCTION

The major activities undertaken during the fourth quarter of E.L. 529 were the completion and interpretation of the airborne magnetometer-spectrometer survey completed during the previous quarter. A limited amount of reconnaissance geology and preliminary photo-geological interpretation were undertaken.

AEROMAGNETIC DATA

The initial aeromagnetic data tied into the Australian Metric Grid is included as Figures 1 - 3. The final data will be included in a subsequent report. The magnetic data has been machine contoured and processed as follows:-

IGRF: Removed,datum 2000 nT added
GRID MESH: 100 m x 100 m
CONTOUR INTERVAL: 5nT
GRID NOTATION: Australian Metric Grid
COMPILED BY: Engineering Computer Services Pty. Ltd.

Further machine filtering of this data to separate the higher frequency dyke effects from the deeper responses is in progress, as is quantitative interpretation of a selection of the magnetic features. The results of this work will be reported when they become available.

SPECTROMETER DATA

A detailed interpretation of the radiometric data has been completed. No ground follow up has been attempted as yet.

A total of 98 anomalies (Table 1, Figures 3 and 4) have been identified from the analogue records for flight lines 1 to 137 and tie lines 1 to 3. These were selected on the basis of the uranium channel radiation only with an anomaly being designated as a twice background (or greater) deflection for a statistically meaningful number of readings. These anomalies have been further classified in terms of the relative contributions from potassium uranium and thorium as follows:-

The local backgrounds were subtracted from the full count rates to obtain the anomalous counts in each channel. The percentage contributions from the three elements were calculated using the formulae:

$$K\% = \frac{K}{K + U + Th} \times 100$$

$$U\% = \frac{U}{K + U + Th} \times 100$$

$$Th\% = \frac{Th}{K + U + Th} \times 100$$

Table 1 lists the corrected anomalous values and the relative percentage contributions. These have also been plotted on a ternary diagram (Figure 4). From this it can be seen that the majority of the anomalies fall within a tight cluster near the potassium corner. These have been interpreted as "hot granite" type responses and are probably related to outcropping or subcropping Gawler Range Volcanics in the south-western part of the area. Of the remaining anomalies only three (3, 5, 94) have above average uranium contributions, but these all have relatively low total count responses.

Both the northern half and the south-eastern section of the E.L. are relatively non-radioactive with total count, potassium, uranium and thorium channel backgrounds of 1500-2500 c.p.s., 40-60 c.p.s., 20-30 c.p.s. and 20-40 c.p.s. respectively.

FUTURE PROGRAMME

A programme based on the detailed interpretation and evaluation of the aeromagnetic and to a lesser extent the radiometric survey data is envisaged. This will probably necessitate ground magnetic and gravity surveys to follow up areas of interest generated from the magnetics or from the published 1:250,000 gravity data. A limited amount of photo-geological mapping is also planned.

LIST OF TABLES AND FIGURES

TABLE 1 (A,B,C)		Listing of Airborne Radiometric Anomalies
FIGURE 1	(Dwg. No. 581-6)	E.L. 529 "Poutchina" Aeromagnetic Contours Scale 1:50,000
FIGURE 2	(Dwg. No. 581-8)	E.L. 529 "Poutchina" - Stacked Aeromagnetic Profiles. Scale 1:50,000
FIGURE 3	(Dwg. No. 581-7)	E.L. 529 "Poutchina" Airborne Survey - Flight Line Recovery and Radiometric Anomalies Scale 1:50,000
FIGURE 4		Radiometric Anomaly Distribution (Ternary Diagram).

TABLE IA

ESSO AUSTRALIA LTD.

POUTCHINA AREA SOUTH AUSTRALIA
LISTING OF RADIOMETRIC ANOMALIES

ANOMALY NUMBER	LINE NUMBER	FID. VALUE	TOTAL COUNT	POT. COUNT	URAN. COUNT	THOR. COUNT	POT. RATIO	URAN. RATIO	THOR RATI
1	1	3186	1500	84	12	35	64	9	26
2	3	4114	3100	280	20	56	78	5	15
3	5	4853	600	10	20	14	22	45	31
4	8	5854	1500	8	20	50	10	25	64
5	8	5883	600	16	24	4	36	54	9
6	8	6190	2900	166	28	80	60	10	29
7	8	6200	3000	166	48	80	56	16	27
8	9	6231	3300	216	32	74	67	9	22
9	9	6305	4600	304	42	118	65	9	25
10	10	6833	1500	40	22	68	30	16	52
11	10	6880	3100	170	34	76	60	12	27
12	10	6964	4000	200	50	110	55	13	30
13	10	6986	2800	170	28	66	64	10	25
14	11	7025	2800	148	26	40	69	12	18
15	11	7042	3400	158	20	110	54	6	38
16	11	7073	2500	138	22	60	62	10	27
17	12	7733	2300	110	34	74	50	15	33
18	12	7760	3600	210	40	104	59	11	29
19	12	7812	3800	200	32	104	59	9	30
20	12	7834	2800	120	32	84	50	13	35
21	12	7846	2500	95	26	74	48	13	37
22	12	7860	2200	60	26	64	40	17	42
23	13	7885	3350	170	30	74	62	10	27
24	13	7907	3450	170	26	84	60	9	30
25	13	7959	3250	184	36	69	63	12	23
26	13	7976	1350	80	20	34	59	14	25
27	14	8603	2700	160	32	80	58	11	29
28	14	8625	2900	180	24	80	63	8	28
29	14	8653	1800	120	28	56	58	13	27
30	14	8664	3300	200	34	90	61	10	27
31	14	8738	3500	198	32	100	60	9	30
32	15	8805	4500	200	42	80	62	13	24
33	15	8816	4900	270	46	110	63	10	25
34	15	8835	3500	170	36	70	61	13	25
35	15	8915	4700	210	48	100	58	13	27
36	15	8942	4900	260	41	110	63	9	26
37	16	9578	3100	200	28	64	68	9	21
38	16	9604	3800	220	36	100	61	10	28
39	16	9667	2200	110	26	50	59	13	26
40	16	9690	3100	150	38	60	60	15	24

CLOSE POUTCHINA1

TABLE 1B

ESSO AUSTRALIA LTD.

POUTCHINA AREA SOUTH AUSTRALIA
LISTING OF RADIOMETRIC ANOMALIES

ANOMALY NUMBER	LINE NUMBER	FID. VALUE	TOTAL COUNT	POT. COUNT	URAN. COUNT	THOR. COUNT	POT. RATIO	URAN. RATIO	THOR. RATIO
41	16	9717	4000	190	62	100	53	17	28
42	16	9740	4800	240	62	104	59	15	25
43	17	9751	3800	260	36	88	67	9	22
44	17	9801	4700	280	51	110	63	11	24
45	17	9846	3100	160	28	100	55	9	34
47	17	9865	2600	136	38	45	62	17	20
48	17	9877	3500	180	32	65	60	10	28
49	17	9904	5700	290	40	120	64	8	26
50	17	9917	3700	220	40	90	62	11	25
51	18	10567	3500	230	31	90	65	8	25
53	18	10587	4700	290	38	110	66	8	25
54	18	10601	1600	100	36	40	56	20	22
55	18	10610	3000	165	38	90	56	12	30
56	18	10640	3100	190	36	70	64	12	23
57	18	10670	3100	195	36	70	64	11	23
58	18	10732	3400	210	36	110	58	10	30
59	19	10843	4000	268	18	100	69	4	25
60	19	10899	4000	228	36	80	66	10	23
61	19	10920	5400	298	32	130	64	6	28
62	19	10939	4300	268	40	100	65	9	24
63	19	10957	3600	228	36	80	66	10	23
64	20	11586	4900	280	40	100	66	9	23
65	20	11613	5100	260	36	110	64	8	27
66	20	11638	4800	240	56	105	59	13	26
67	20	11766	3200	220	32	75	67	9	22
68	21	11816	3800	180	42	90	57	13	28
69	21	11994	4600	260	40	110	63	9	26
70	21	12014	3700	220	30	90	64	8	26
72	22	12878	3800	90	52	115	35	20	44
74	23	12931	3500	178	34	90	58	11	29
75	23	12947	4100	198	38	110	57	10	31
76	24	13948	4000	250	56	90	63	14	22
77	27	15163	900	0	42	0	0	100	0
78	28	16268	2700	119	0	0	100	0	0
79	28	16268	2700	120	36	66	54	16	29
80	29	16333	1700	80	46	30	51	29	19

CLOSE POUTCHINA2

TABLE IC

ESSO AUSTRALIA LTD.

POUTCHINA AREA SOUTH AUSTRALIA
LISTING OF RADIOMETRIC ANOMALIES

ANOMALY NUMBER	LINE NUMBER	FID. VALUE	TOTAL COUNT	POT. COUNT	URAN. COUNT	THOR. COUNT	POT. RATIO	URAN. RATIO	THOR. RATIO
81	29	16366	3900	230	36	80	66	10	23
82	29	16388	3000	170	26	80	61	9	28
83	30	17440	4500	230	54	110	58	13	27
84	32	18708	2700	130	38	70	54	16	29
85	32	18755	4200	200	46	110	56	12	30
86	34	19999	2600	110	28	40	61	15	22
87	34	20040	2800	130	28	30	69	14	15
88	35	23108	2500	140	36	60	59	15	25
89	36	21890	2500	100	32	70	49	15	34
90	62	39589	1000	62	22	24	57	20	22
91	65	41011	900	40	18	22	50	22	27
92	901	2290	3200	184	36	90	59	11	29
93	901	2317	1400	104	36	52	54	18	27
94	903	885	500	20	22	8	40	44	16
95	902	2464	3100	196	36	46	70	12	16
96	902	2514	2100	96	36	46	53	20	25
97	902	2747	5000	224	86	0	72	27	0
98	902	2747	5000	224	42	88	63	11	24
99	902	2778	5100	224	28	88	65	8	25
100	902	2806	3400	204	28	68	68	9	22
101	902	2906	1000	40	32	30	39	31	29
102	902	3010	700	30	20	20	42	28	28

FIG. 1.

POUTCHINA_581 3613-1.(1)

MAGNETIC CONTOURS

Scale 1:50,000

0 1 2 3 4 5 km

Author GEOMETRICS

Date SEPT 80

Dwg N°581-6

Revised

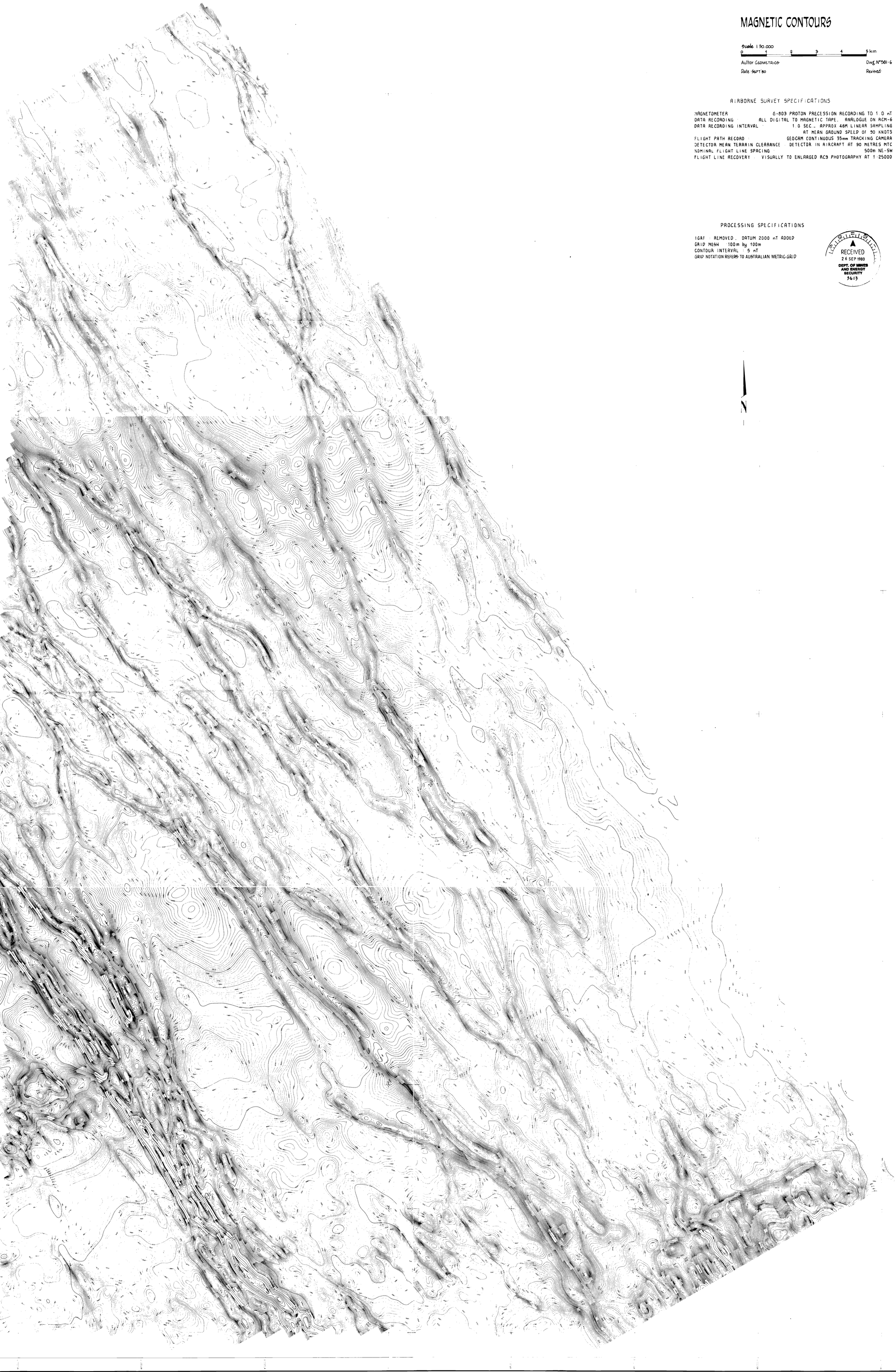
AIRBORNE SURVEY SPECIFICATIONS

MAGNETOMETER	G-803 PROTON PRECESSION RECORDING TO 1.0 nT
DATA RECORDING	ALL DIGITAL TO MAGNETIC TAPE. ANALOGUE ON RCM-6
DATA RECORDING INTERVAL	1.0 SEC. APPROX 46M LINEAR SAMPLING AT MEAN GROUND SPEED OF 90 KNOTS
FLIGHT PATH RECORD	GEOCAM CONTINUOUS 35mm TRACKING CAMERA
DETECTOR MEAN TERRAIN CLEARANCE	DETECTOR IN AIRCRAFT AT 90 METRES MTC
NOMINAL FLIGHT LINE SPACING	500m NE-SW
FLIGHT LINE RECOVERY	VISUALLY TO ENLARGED RC9 PHOTOGRAPHY AT 1:25000

PROCESSING SPECIFICATIONS

IGRF : REMOVED. DATUM 2000 nT ADDED
GRID MESH : 100m by 100m
CONTOUR INTERVAL : 5 nT
GRID NOTATION REFERS TO AUSTRALIAN METRIC GRID

N



POUTCHINA_581 3613-2.(7)

STACKED PROFILES

Scale 1:50,000

0 1 2 3 4 5km

Author GEOMETRICS

Date SEPT 80

Dwg N° 581-8

Revised:

AIRBORNE SURVEY SPECIFICATIONS

MAGNETOMETER : G-803 PROTON PRECESSION RECORDING TO 1.0 nT
DATA RECORDING : ALL DIGITAL TO MAGNETIC TAPE . ANALOGUE ON RCM-6
DATA RECORDING INTERVAL : 1.0 SEC. . APPROX 46M LINEAR SAMPLING AT MEAN GROUND SPEED OF 90 KNOTS
FLIGHT PATH RECORD : GEOCAM CONTINUOUS 35mm TRACKING CAMERA
DETECTOR MEAN TERRAIN CLEARANCE : DETECTOR IN AIRCRAFT AT 90 METRES MTC
NOMINAL FLIGHT LINE SPACING 400m NE-SW
FLIGHT LINE RECOVERY : VISUALLY TO ENLARGED RC9 PHOTOGRAPHY AT 1:25000

PROCESSING SPECIFICATIONS

IGRF : REMOVED . DATUM 2000 nT ADDED
VERTICAL SCALE : 100nT/cm
GRID NOTATION REFERS TO AUSTRALIAN METRIC GRID

N

POUTCHINA-581

3613-3.00

FLIGHT PATH RECOVERY

Scale 1:50,000

0 1 2 3 4 5km

Author: GEOMETRICS

Date: Sept 80

Dwg N9581-1

Revised:

AIRBORNE SURVEY SPECIFICATIONS

MAGNETOMETER : G-803 PROTON PRECESSION RECORDING TO 1.0 nT
DATA RECORDING : ALL DIGITAL TO MAGNETIC TAPE - ANALOGUE ON RCM-6
DATA RECORDING INTERVAL : 1.0 SEC. - APPROX. 40M LINEAR SAMPLING
AT MEAN GROUND SPEED OF 90 KNOTS
FLIGHT PATH RECORD : GEOCAM CONTINUOUS 35mm TRACKING CAMERA
DETECTOR MEAN TERRAIN CLEARANCE : DETECTOR IN AIRCRAFT AT 90 METRES MTC
NOMINAL FLIGHT LINE SPACING : 400m NE-SW
FLIGHT LINE RECOVERY : VISUALLY TO ENLARGED RC9 PHOTOGRAPHY AT 1:25000
PROMINENT TRACKS AND FENCELINES: _____

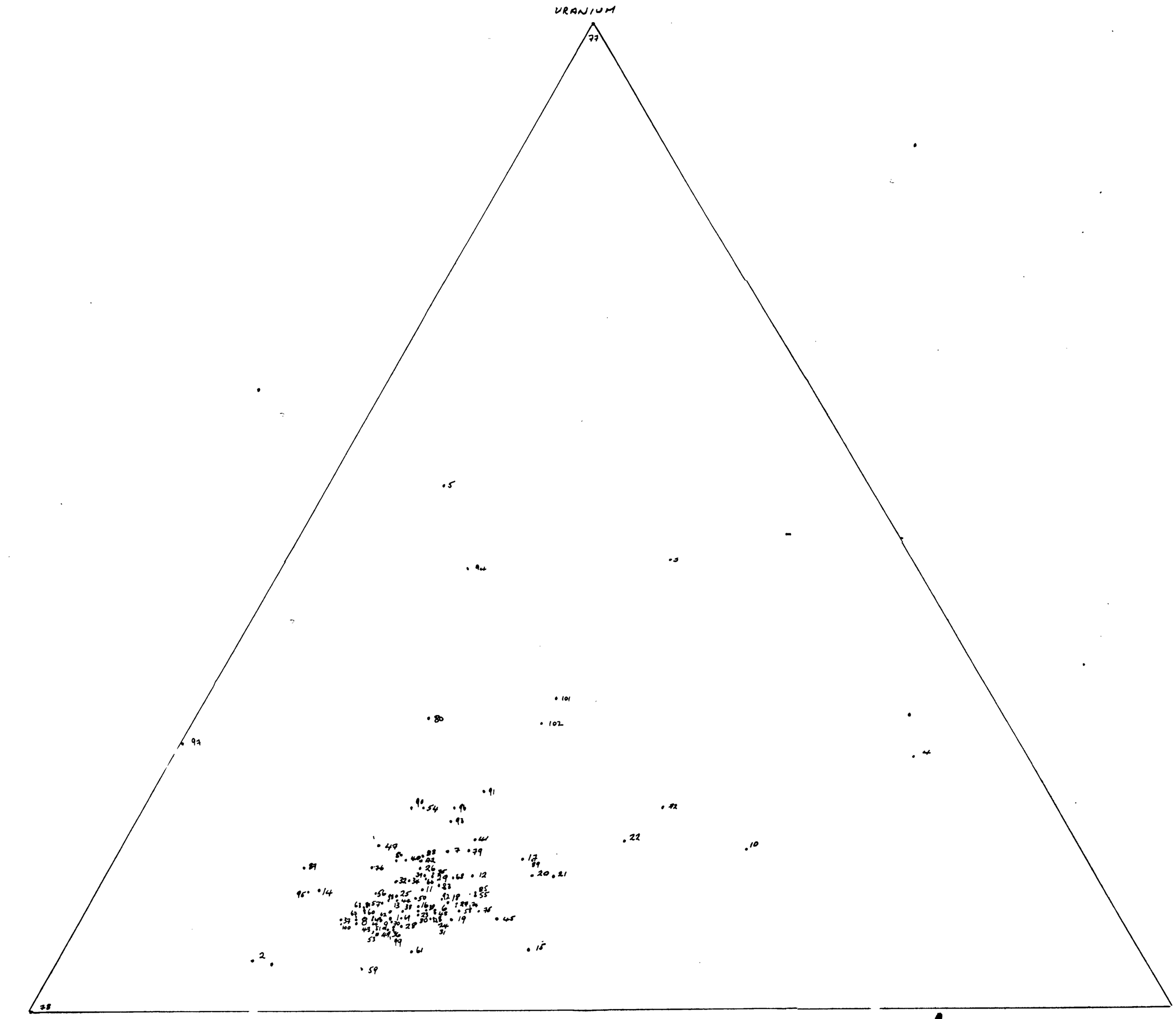
PROCESSING SPECIFICATIONS

GRID NOTATION REFERS TO AUSTRALIAN METRIC GRID

RECEIVED
26 SEP 1980
DEPT. OF MINES AND ENERGY SECURITY
3613

N

● 25 Airborne Radiometric Anomaly (prefix ABR)



3613-4 (I)

FIGURE 2

POUTCHINA DISTRIBUTION
OF ANOMALIES

FIG. 4.

EXPLORATION LICENCE 529 "POUTCHINA"

PORT AUGUSTA REGION, SOUTH AUSTRALIA

QUARTERLY REPORT FOR THE PERIOD SEPTEMBER 12, 1980 TO DECEMBER 11, 1980

1. INTRODUCTION

The major activity undertaken during the quarter was the quantitative interpretation of portions of the aeromagnetic data collected previously.

2. AEROMAGNETIC SURVEY

The final version of the aeromagnetic contours, stacked profiles and flight line location maps are included as Figures 1-3. Initial versions of this data were included in the fourth quarterly report. However it has subsequently been found that the Australian Metric Grid co-ordinates reported on these initial maps are incorrect. Correct E.L. boundary location and latitude and longitude position are shown in Figures 1-3 accompanying this report.

3. AEROMAGNETIC INTERPRETATION

A preliminary interpretation of the Poutchina aeromagnetic survey was prepared by Geospex Associates Pty. Ltd. for the Minerals Department, Esso Australia Ltd. The objectives of this study were to determine the depth, attitude and distribution of magnetic sources along selected profiles from the aeromagnetic survey.

The magnetic sources thought to be present include:

i) doleritic dykes within the early Adelaidean Pandurra Formation (?Beda Volcanics feeders),

ii) possible sills or volcanics within the Pandurra Formation. These again should have affinities to the Beda Volcanics,

iii) basic dykes, sills and volcanics beneath the Pandurra Formation. These are tentatively correlated with the Roopena Volcanics and/or the Gawler Range Volcanics.

Analysis of the aeromagnetic data was implemented with the Geospex interactive computer modelling facility. Approximate model matching was specified for the preliminary interpretation since a large number of magnetic sources are present within each profile.

3.1 Interpretation Procedure

The interpretation procedure can be divided into three discrete stages:

i) Regional - residual analysis,

ii) Interactive geological cross section construction, and

iii) Interpretation of the simulated magnetic response.

A general purpose interactive geophysical interpretation programme package (GEO 2D) developed by Geospex was used for this interpretation. A general description of this programme package is included as Appendix 1.

3.1.1 Regional-Residual Analysis

Regional-residual analysis consists of the removal of the influence of deep magnetic sources from the field data. In this case since the IGRF had already been removed, regional removal refers to shallow crustal features generally deeper than about 5 kilometres.

A regional magnetic field is computed by fitting a low order polynomial curve (1st to 5th order) to the data by a least squares procedure. The optimum order of polynomial is chosen by visual comparison with the field data. This choice is made quickly by use of the interactive graphics display facility.

Once a regional has been selected, the package allows the result to be directly subtracted from the field data. A residual profile of data computed in this way is then used as the basic data set for the interpretation.

In some cases, a secondary regional may be required where large amplitude anomalies dominate those of lesser amplitude. The same procedure as described above may again be used. However, the polynomial is normally restricted to first or second order.

3.1.2 Interactive Geophysical Modelling

Most of the magnetic features (Figure 1) are perpendicular to the flight path and have long strike length compared to their width. This is well suited to two dimensional geophysical modelling using the method of Talwani and Heirtzler (1965). By using this method, it is only necessary to define the cross-section of the geology to completely define the geophysical model.

A section of the aeromagnetic profile containing between 100 and 200 data points is selected for modelling and generally contains from 1 to 10 magnetic anomalies. The profile is then displayed on the colour graphics terminal prior to construction of the geological cross-section. A cross-section of regions of anomalous magnetic susceptibility is drawn on the colour screen as a series of polygons. Once the cross section has been drawn, the model total magnetic field is computed and displayed in a different colour on top of the aeromagnetic data.

Differences between the two are immediately apparent and adjustments can be made to the model susceptibility, depth and shape. Once the changes have been implemented, a new set of model data is computed for comparison with the field data. This procedure is iterated until the required "goodness of fit" is achieved.

The required goodness of fit for this preliminary interpretation was considered to be a comparison which provided a reasonable estimate of model shape (i.e. dyke, plate or block), a good estimate of depth, an indication of dip and a good estmation of susceptibility-thickness product.

Once a suitable fit has been achieved, the results presented on the screen are plotted for later use in the interpretation.

3.1.3 Presentation and Interpretation

Each of the model sets created from individual profile segments is stored on disc until the line has been completed. Then all the models are combined to produce a continuous geological cross-section. This composite cross-section is then computed for the complete length of the aeromagnetic profile. Both the model data and field data are plotted above the interpreted geological cross-section.

Depth information from the interpretation is corrected for sensor altitude and plotted on the stacked profile map (Figure 4) along with a symbol which indicates the shape of the magnetic source. Structural information such as faulting can be interpreted by use of the cross-section and stacked profile map.

3.2 Interpretation Results

Results from the interactive interpretation are presented as Figure 4, and as interpretive cross-sections in Figures 5 - 9. Prior to discussing the map presentation, a description of each profile will be provided.

3.2.1 Line 160

This line was selected because it is located near the zone of disturbed, shallow source magnetics in the south east corner of the E.L. Anomalies along Line 160 are essentially two dimensional while those to the south become less consistent.

Results from the preliminary interpretation of Line 160 are shown in Figure 5. The field data is represented by the black trace and the simulated magnetic field data is blue. Below the profiles, the interpretive cross-section is plotted in green. Cross-section depths refer to depth below the aircraft and it is necessary to subtract 90 metres to obtain depth below ground level. Numerals on the x ordinate are the distances in metres from the start of the profile.

Most of the interpreted sources can be attributed to dykes. Even the wide blocks could be attributed to a group of thin dykes with higher magnetic susceptibilities. Near 8,000 metres, there is an interesting double anomaly with two distinctive sources. Here, the interpretation is depicted as a shallow dyke superimposed on a deeper block or dyke swarm. It would also be possible to replace the deeper block with volcanics at approximately the same depth. Depths to the top of the dykes increase progressively from a shallow 30 metres in the south west to 350 metres in the north east. A deep dyke like source at 11,000 is much deeper than any of the other interpreted dykes and the anomaly amplitude is very high. It is not plausible to model this as a group of shallower dykes due to the smooth nature of the anomaly. As such, the anomaly could be caused by a shallow basement or a group of older dykes.

Three magnetic anomalies have been interpreted as volcanics within or below the Pandurra Formation. Alternate multiple dyke interpretations are possible for the anomalies at 6,500 and 16,500 although the volcanics interpretation appears more plausible when comparing anomaly character with adjacent lines. In general, the broad low amplitude anomalies suggest faulted volcanic layers. Often, the faults appear to be intruded by dykes which may persist for long distances. In regions of little dyke activity, it is often possible to determine the fault throw from the interpreted cross-section. Although the extent of the interpreted volcanics on the section is limited, it is possible that large areas of volcanics exist within the region of the aeromagnetic survey.

Between 13,000 and 16,000, there is a broad discrepancy between the interpreted model and field data. This is attributed to inadequate removal of the regional magnetic field. However, this does not adversely influence the interpretation as it is probably associated with magnetic sources below the depth zone of interest (> 1000 m).

3.2.2 Line 280

A good general match has been achieved on Line 280. However, this was the first line interpreted and the dips shown for volcanic sources are exaggerated compared with other lines. The dip is further exaggerated by a horizontal to vertical scale ratio of 0.5.

Depths to the interpreted dyke sources increase from west to east in the same manner as Line 160. However, depths are generally larger ranging from 100 metres to about 240 metres. Dip directions appear reasonable although the presence of remanent magnetization in the dykes could produce a substantial error in the interpretation.

The presence of shallow volcanics is evident in this profile in the region of 10,000 to 16,000. However, the dips are probably exaggerated. The interpreted depths at 10,500 and 13,600 should be more reliable than that associated with the neighbouring faulted block of volcanics.

As for Line 160, the broad discrepancy between 11,000 and 16,000 is believed to be caused by inadequate removal of the regional magnetic field.

3.2.3 Line 500

Only a portion of Line 500 was interpreted to examine the low amplitude region between 8,000 and 12,000. Dykes at an approximate depth of 150 metres are interpreted on either side of this region. Volcanic units are interpreted within this zone with faulting at 8,000, 8,700, 9,900 and 11,700 metres. If faulting is responsible for the discontinuous nature of the volcanic layer, then the apparent loss of material near 9,000 could be explained by an up faulted block and subsequent erosion to the present unconformity surface. This would indicate a fault throw in excess of 250 metres if the top surface of the dykes is considered to be at the unconformity. The amount of throw probably decreases to the north west where the volcanics appear more continuous and the evidence of faulting disappears.

3.2.4 Line 880

Depth interpretations of the dykes on Line 880 suggest a gently undulating unconformity horizon with depths ranging from 80 to 190 metres. Potential volcanic sources are also very shallow and are located in the general vicinity of the unconformity. A deeper volcanic source at 19,000 is adversely influenced by dykes on either side and the depth is probably grossly over - estimated.

3.2.5 Line 1100

Interpretation of dyke like anomaly sources gives depth estimates for the unconformity surface ranging from 80 to 120 metres. An isolated depth estimate of 260 metres near 12,000 could be an over-estimate although it may be caused by a dyke which terminates below the unconformity. This estimate would probably be reproduced on lines further to the north west where it exhibits a well defined broad anomaly shape.

Faulted volcanics between 7,000 and 9,500 are a reasonable interpretation of the associated magnetic anomalies. However, the depth to the deeper unit is probably over-estimated. The depth estimate for the shallow unit should be reliable. This model also provides the direction of throw for the fault.

3.2.6 Stacked Profile Map

Results from the interpretation of individual profile interpretations have been transferred to the stacked profile map (Fig. 4). These are depicted as a symbol representative of the class of magnetic source and a depth estimate in metres. Also shown are the locations of faults and where possible, an indication of the direction of throw.

Depth estimates for the dykes generally lie between 30 and 200 metres with the bulk of estimates between 100 and 150 metres. It is felt that these are representative of an unconformity surface possibly at the base of the Pandurra Formation. As such, these results are useful for mapping of the unconformity. The dykes are continuous for long distances and generally follow the same north west trend. Presumably, they are intruded along major fault zones.

In regions of less intense magnetic activity, it is possible to interpret the presence of flat lying magnetic features such as volcanics or sills. Since these features appear to be present throughout the survey area, it is more probable that they are caused by volcanics. Although volcanics are only shown in a small number of areas where there is little influence from the dykes, it is probable that the volcanics extend through the areas perturbed by dykes. The only reason that it is possible to see the volcanics is because they are faulted. More often than not, these faults have been intruded by dykes and the existence of a volcanic unit cannot be detected over the dominating influence of the dyke. There is evidence of a short dyke along one of the faults interpreted between Lines 280 and 500.

4. FUTURE PROGRAMME

Further detailed evaluation and interpretation of the aeromagnetic data is envisaged. This will probably necessitate ground magnetic and gravity surveys to follow up any areas of interest generated. A limited amount of drilling may also be attempted to test some of the interpretations if warranted.

REFERENCES

Pratt, D.A., 1980. Preliminary Interpretation of the Poutchina Aeromagnetic Survey. Consultant report to Esso Australia Ltd. by Geospex Associates Pty. Ltd.

Talwani, M. & Heirtzler, J.R., 1964, Computation of magnetic anomalies caused by two dimensional structures of arbitrary shape, in Computers in the Mineral Industries: G. Parks, Ed., Stanford Univ., p. 464-480.

LIST OF APPENDIXES AND FIGURES

APPENDIX 1 A description of GEO2D two dimensional interactive geophysical modelling package. (Geospex Associates Pty. Ltd.).

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FIGURE 2 (Dwg. No. 581-8) E.L. 529 "Poutchina" - Stacked Aeromagnetic Profiles. Scale 1:50,000

FIGURE 3 (Dwg. No. 581-7) E.L. 529 "Poutchina" Airborne Survey - Flight Line Recovery and Radiometric Anomalies Scale 1:50,000

FIGURE 4 (Dwg. No. 581-9) E.L. 529 "Poutchina" Aeromagnetic Survey - Preliminary Interpretation. Scale 1:50,000

FIGURE 5 Interpretative Cross Section - Line 160 - Poutchina Aeromagnetic Survey.

FIGURE 6 Interpretative Cross Section - Line 280 Poutchina Aeromagnetic Survey.

FIGURE 7 Interpretative Cross Section - Line 500. Poutchina Aeromagnetic Survey.

FIGURE 8 Interpretative Cross Section - Line 880 Poutchina Aeromagnetic Survey.

FIGURE 9 Interpretative Cross Section - Line 1100 Poutchina Aeromagnetic Survey.

APPENDIX 1

APPENDIX 1

A DESCRIPTION OF

GEO2D

TWO DIMENSIONAL INTERACTIVE

GEOPHYSICAL MODELLING

PACKAGE

INTRODUCTION

GEO2D is a general purpose interactive program for the graphic analysis of geophysical and geochemical field data. This package is oriented to the analysis of multi-variable data collected along profiles or at random as may be the case for geochemical data. Question and answer interaction relieves the interpreter from the need for reference manuals, which greatly improves concentration, interest and throughput. A 1 hour training session is all that is required to start a geophysicist or geologist on the system.

The system is specifically designed for the geophysicist or geologist who wishes to examine, manipulate, display and interpret numerical field data in a friendly interactive manner. It is possible to display and manipulate simultaneously, multi-variable data such as gravity, magnetics and radiometric data or multi-element geochemical data.

Interactive modelling packages are available for gravity and magnetics which allow geological cross-sections to be drawn on the graphics screen. Theoretical geophysical responses can be computed and compared directly with field data. The same cross-section can be used for both gravity and magnetcis to allow for maximum utilization of field data.

Regional-residual analysis of geophysical data is simply achieved on this system by both manual and automatic methods of determination. A polynomial regression procedure is

available for choosing polynomials up to order 15. A quick comparison of the results informs the interpreter of the optimum choice.

General statistics can be performed on the data and this is particularly useful for geochemical data in understanding the relationships between the different variables. A special feature of this package is the ability to perform statistics on incomplete data sets. That is, analyses for some elements may be missing which leaves gaps in the data set. This is particularly important in the calculation of correlation coefficients.

A consistant design philosophy has been used throughout the development of this interactive analysis package. This philosophy is based on the need to maintain the operator's interest, throughput and tidyness. These objectives are obtained by the interactive question-answer response while utilizing only those routines which are computationally efficient and avoid loss of interpreter concentration. Because of the flexibility and fast response time of the package, the interpreter can express his own interpretive flair. Paramount in the routine usage of such a package is the need for good book-keeping. This system uses a data base structure which automatically keeps track of the interpreter's results for easy reference at a later date.

Expansion of the facilities available for data analysis is a key component of the package design. It is only necessary

to insert one or two new subroutines to add a new function to the package. All the other plotting and analysis routines are available for operation on the data processed by the new routine Since these routines are overlain in memory, no additional memory is required to increase the sophistication. New routines are constantly being added to improve the effectiveness of the package.

Of special interest is the interactive graphics component of the package which takes advantage of the graphics cursor. Most graphics display terminals have a cursor which can be moved across the screen under keyboard or "joy stick" control. The position of this cursor is monitored by the program and can be used interactively to draw geological cross-sections on the screen. It is this facility which is used in the gravity and magnetics routines to interpret field data. This procedure allows the construction of a geological cross-section and assignment of geophysical properties. In addition, the location of geological boundaries and the geophysical properties may also be changed interactively. If a colour graphics unit is available, the results are especially definitive. Once the interpreter has achieved a good match between the simulated response of the geologic section and the field geophysical data, the results can be plotted for later use.

OPERATIONAL FACILITIES GEO2D

DATA RETRIEVAL

Use of the general 2D data base facility makes it a simple matter to retrieve an individual profile or data set by a name which has previously been assigned at the time the file was input to the computer. It is not necessary to recall the whole of a given profile as only part need be specified. Multiple data sets may be retrieved for simultaneous analysis during a given interactive session. The only restriction is that there are the same number of points retrieved from each set. Normally, these will have coincident profile location (x), but this is not mandatory.

The whole operation of the data base retrieval is transparent to the operator as it is only necessary to specify his data requirements in response to questions displayed on the interpreter's graphics console. Unformatted input alleviates the need for an unfriendly operations manual which is often encountered in batch operations. The whole basis for this system is its friendly interactive nature which allows a novice to be operating independently in 1 to 2 hours.

DATA STORAGE

After a long interactive session, it may be desirable to save the results generated by many of the sub-program options for use at a later date. Since the system forces the operator

to give each new variable a name at the time it is generated, saving the results in the general 2D data base format is a simple matter. It is only necessary to assign a file name (independent of operating system) and all results generated during the interactive session will be saved on disc. This data can be accessed later by the Data Retrieval operation.

GRAPHICS DISPLAY

Every variable that is stored in memory can be displayed rapidly by the general purpose graphics display. Some of the options available are:

(a) Automatic default settings for quick preview
(b) Fixed scaling for Y axis
(c) Variable scaling for Y axis
(d) Variable annotation
(e) Optimized scaling in X and Y
(f) Continuous or data point display
(g) Individual variable selection.

Variable scaling of the Y axis is important when comparing variables with different dynamic ranges such as magnetics and gravity data. This option allows the base level and scales of the two variables to be different and provide optimum use of the graphics display area. Scaling information is placed beside the variable annotations at the top right hand side of the screen.

GRAPHICS PLOTTING

With any interpretation package, it is desirable to be able to save selected graphics displays in hard copy form. This option is available in the package and is independent of the available hardware. Whenever a plot output is requested, the graphics display is saved in a plot file which is reproduced at the end of the interactive session. The plot file is completely general and software is available to present the results on X,Y plotters such as Calcomp or raster plotters similar to Versatec. The software is easily modified for non-standard plotters such as the Houston Instruments HI-PLOT or Hewlett Packard XY plotters. If a multi-pen plotter is available, then these will also be utilized by the package.

DATA INTERPOLATION

Both equispaced and randomly spaced data are manipulated by GEO2D. However, an option is available to convert randomly spaced data to a regular spacing by spline interpolation. This option is required by the filtering routine or it may be used to improve the plot appearance of sparsely sampled profiles. In the case of magnetics and gravity interpretation, it may be desirable either to reduce or increase the data spacing, depending upon the original sample interval. Spline interpolation is optimal for potential field data.

DATA MANIPULATION

Numerical operations between variables are simply implemented in GEO2D. These may be considered as graph-graph manipulations of whole data set strings. Operations supported are:

(a) addition of 2 variables
(b) subtraction of 2 variables
(c) multiplication of 2 variables
(d) division of 2 variables
(e) creation of a new constant variable
(f) creation of a linear function of the type
$y = a + bx$

Each of the above operations produces a new variable which may again be manipulated. In this way, a complex combination of variables may be achieved. Options (e) and (f) were introduced to allow variable scaling or subtraction of a background level. This is useful in regional removal in magnetics and gravity interpretation.

DATA STATISTICS

A number of statistical routines for analysis of geochemical and geophysical data has been included in GEO2D.

(1) Single variable statistics
(2) Two variable statistics
(3) Regression analysis.

Single variable statistics computes a range of simple statistics for any or all variables in memory.

(a) Min.
(b) Max.
(c) Mean
(d) Standard deviation
(e) Variance.

Two variable statistics computes correlation coefficient and covariance statistics between any two or all variables in memory. This is particularly useful in geochemical sample analyses.

Regression analysis is used to fit a polynomial curve to any variable stored in memory. The order of polynomial may be between 1 and 14. Statistical information resulting from the regression is listed on the console terminal. By changing the order of the polynomial and using the graphics display, it is possible to determine the optimum polynomial for a particular task by interactive methods.

FILTERING

A low pass convolution filter routine is available for equispaced data. If the data is initially randomly spaced, the the Spline Interpolation routine should be used prior to filtering. A special feature of this routine is that the operator need only specify the frequency cutoff and filter length. It is not necessary to supply the program with user defined coefficients. The problem of filter roll-off at the

end of the data sets is handled automatically by reducing the length of the filter and recalculating filter weights until a minimum length of 2 is reached. This means that there is a progressive deterioration in filter response at data set ends with the last two points remaining unfiltered. This problem is normal for all filtering techniques. The method adopted here alleviates the need for the operator to make any decisions and is regarded as an optimum for geophysical data analysis.

A high pass filter is implemented by subtracting the output of the low pass filter from the original data using the Data Manipulation option.

GRAVITY INTERPRETATION

Two dimensional gravity modelling is ideal for interactive geophysical interpretation as it provides a very fast response time even for complex models. Three dimensional modelling is more complex and time consuming and is generally not as suitabl for interactive interpretation, except for very simple models.

A general two dimensional polygonal model has been adopted for use in this program. The gravity profile is assumed to be perpendicular to the strike direction of the model which extends to infinity on either side of the model. The program allows the definition of up to 20 discrete models and/or 200 polygon vertices. Each model may have a different density contrast.

Models may be defined interactively on the graphics screen by moving a cursor around the cross-section of each model. Thi is very useful in the early stages of interpretation and for drawing up the initial model. An option is available for savin the coordinates of the model in a data file which can be edited or retrieved at a later date. After drawing the initial model, it is possible to modify geological boundaries by selecting the vertex to be changed and moving the cursor to the new location. Density contrasts may also be modified interactively.

Three general model classes are defined to assist with a wide range of problems encountered in mineral and oil exploration.

(a) closed polygon models
(b) infinite 2 layer model
(c) infinite 3 layer model.

Class (a) is often used in mineral exploration for geological units which have limited lateral extent. Class (b) is generally used in basin studies where it is desirable to map basement relief as a function of density contrast. Class (c) may be used in either mineral or basin studies for investigation of fold structures. Also Classes (b) and (c) may be used in conjunction with Class (a) to assist with complex modelling problems and regional isolation.

An important attribute of this modelling package is the ability to extend structures beyond the limits of the field

data. This is most important for regional isolation and the analysis of small residual gravity anomalies. In this way, edge effects are minimized, which is an important attribute when compared with conventional filters which are subject to adverse problems at the ends of lines. This can be extremely important when field lines are short or the anomalies are located near the end of a profile.

An iterative modelling procedure has been included for the two layer problem (Class (b)) to speed up the interpretation of basement depths. This model assumes a single density contrast and computes a depth adjustment to an initial model based on the residual difference between the field data and the initial computed model. This process may be iterated any number of times to achieve a good fit. A final adjustment to the model may be applied manually. This option may be used to produce contours of basement depth when a number of profiles is available. This is valid as long as the structures are approximately 2 dimensional or basement gradients are small.

MAGNETIC INTERPRETATION

A general two dimensional magnetic modelling option similar to that of the gravity modelling is available in this package. All the same facilities except for iterative basement modelling are available in the magnetics interpretation option. The only difference is the need to specify the magnetic field characteristics, magnetic susceptibilities and profile orientation.

A major advantage of this package is that it is possible to analyse coincident gravity and magnetic data with the same model cross-section. It is only necessary to change density for magnetic susceptibility or vice versa. In this way, it is possible to refine the model cross-section until both sets of model results are in agreement with the field data.

SUPPORT SOFTWARE

General support software for data preparation and previewing is supplied with the interactive package. This includes an ASCI to binary file conversion routine which produces USAF data base format files from files created by the host computer editor. The advantage of this procedure is speed in data recovery and forced documentation of all data files.

Multiple logical files are supported within the one physical file which allows all files from a single project to be stored in a tidy fashion. A merge program is supplied to concatenate a number of single logical files. The directory for each file is stored at the beginning of the merged file. This allows rapid inspection of file contents.

Since the USAF file is in binary format, it can not be accessed simply by the system editor. A utility program is supplied to list information contained in the USAF files. Various depths of listing can be obtained with simple option selection.

(1) File Header
(2) Directory
(3) Data.

Often, it is only necessary to determine the contents of the file by listing the directory. However, if data is chosen, then any individual data item can be displayed at will.

Plotting of interactive graphics results is done at the termination of an interpretation session. A general purpose plot routine which converts the plot files to plotter instructions is supplied with the package. However, if sufficient memory space is available in the host computer, it is possible to plot in real time with an appropriate modification to the plot dump routines.

POUTCHINA_581 3613-1 (7)

MAGNETIC CONTOURS

Scale 1:50,000

0 1 2 3 4 5 km

Author GEOMETRICS

Date SEPT 80

Dwg N°581-6

Revised

AIRBORNE SURVEY SPECIFICATIONS

MAGNETOMETER	G-803 PROTON PRECESSION RECORDING TO 1.0 nT
DATA RECORDING	ALL DIGITAL TO MAGNETIC TAPE. ANALOGUE ON RCM-6
DATA RECORDING INTERVAL	1.0 SEC. APPROX 46M LINEAR SAMPLING AT MEAN GROUND SPEED OF 90 KNOTS
FLIGHT PATH RECORD	GEOCAM CONTINUOUS 35mm TRACKING CAMERA
DETECTOR MEAN TERRAIN CLEARANCE	DETECTOR IN AIRCRAFT AT 90 METRES MTC
NOMINAL FLIGHT LINE SPACING	500m NE-SW
FLIGHT LINE RECOVERY	VISUALLY TO ENLARGED RC9 PHOTOGRAPHY AT 1:25000

PROCESSING SPECIFICATIONS

IGRF REMOVED. DATUM 2000 nT ADDED
GRID MESH 100m by 100m
CONTOUR INTERVAL 5 nT
GRID NOTATION REFERS TO AUSTRALIAN METRIC GRID

BOUNDARY OF E.L. 529

137°00'

137°05'

32°00'

137°15'

137°20'

137°22'

32°05'

N

3613-2 (II)

POUTCHINA_581

STACKED PROFILES

Scale 1:50,000
0 1 2 3 4 5Km

Author: GEOMETRICS
Date: Oct '80

Dwg. No 581-B
Revised:

AIRBORNE SURVEY SPECIFICATIONS

MAGNETOMETER : G-803 PROTON PRECESSION RECORDING TO 1.0 nT
DATA RECORDING : ALL DIGITAL TO MAGNETIC TAPE _ ANALOGUE ON RCM-6
DATA RECORDING INTERVAL : 1.0 SEC. _ APPROX 46M LINEAR SAMPLING AT MEAN GROUND SPEED OF 90 KNOTS
FLIGHT PATH RECORD : GEOCAM CONTINUOUS 35mm TRACKING CAMERA
DETECTOR MEAN TERRAIN CLEARANCE : DETECTOR IN AIRCRAFT AT 90 METRES MTC
NOMINAL FLIGHT LINE SPACING 400m NE-SW
FLIGHT LINE RECOVERY : VISUALLY TO ENLARGED RC9 PHOTOGRAPHY AT 1:25000

PROCESSING SPECIFICATIONS

IGRF : REMOVED . DATUM 2000 nT ADDED
VERTICAL SCALE : 100nT/cm

N

BOUNDARY OF E.L. 529

32°00'
32°10'
32°20'
32°30'
153°00'
153°05'
153°10'
153°15'
153°20'
153°22'
153°15'

MINERALS DEPARTMENT ESSO AUSTRALIA LTD.

POUTCHINA - 581

3613-4

PRELIMINARY INTERPRETATION AEROMAGNETIC SURVEY

Scale 1:50,000

0 1 2 3 4 5 Km

Author: GEOSPEX — Dwg. N° 581-3

Date: 2-1-81 — Revised:

AIRBORNE SURVEY SPECIFICATIONS

MAGNETOMETER : G-803 PROTON PRECESSION RECORDING TO 1.0 nT
DATA RECORDING : ALL DIGITAL TO MAGNETIC TAPE - ANALOGUE ON RCM-6
DATA RECORDING INTERVAL : 1.0 SEC. - APPROX 46M LINEAR SAMPLING AT MEAN GROUND SPEED OF 90 KNOTS
FLIGHT PATH RECORD : GEOCAM CONTINUOUS 35mm TRACKING CAMERA
DETECTOR MEAN TERRAIN CLEARANCE : DETECTOR IN AIRCRAFT AT 90 METRES MTC
NOMINAL FLIGHT LINE SPACING 400m NE-SW
FLIGHT LINE RECOVERY : VISUALLY TO ENLARGED RC9 PHOTOGRAPHY AT 1:25000

PROCESSING SPECIFICATIONS

IGRF : REMOVED . DATUM 2000 nT ADDED
VERTICAL SCALE : 100nT/cm

320 — Depths to volcanics or silts (metres)
360 — Depths to basement block or group of dykes (metres)
80 — Depths to top of dyke (metres)
D / U — Interpreted fault

BOUNDARY OF E.L. 525

157°00'
32°00'
157°30'
32°10'
52°30'
157°45'
157°22'

LINE 160

3613-5.

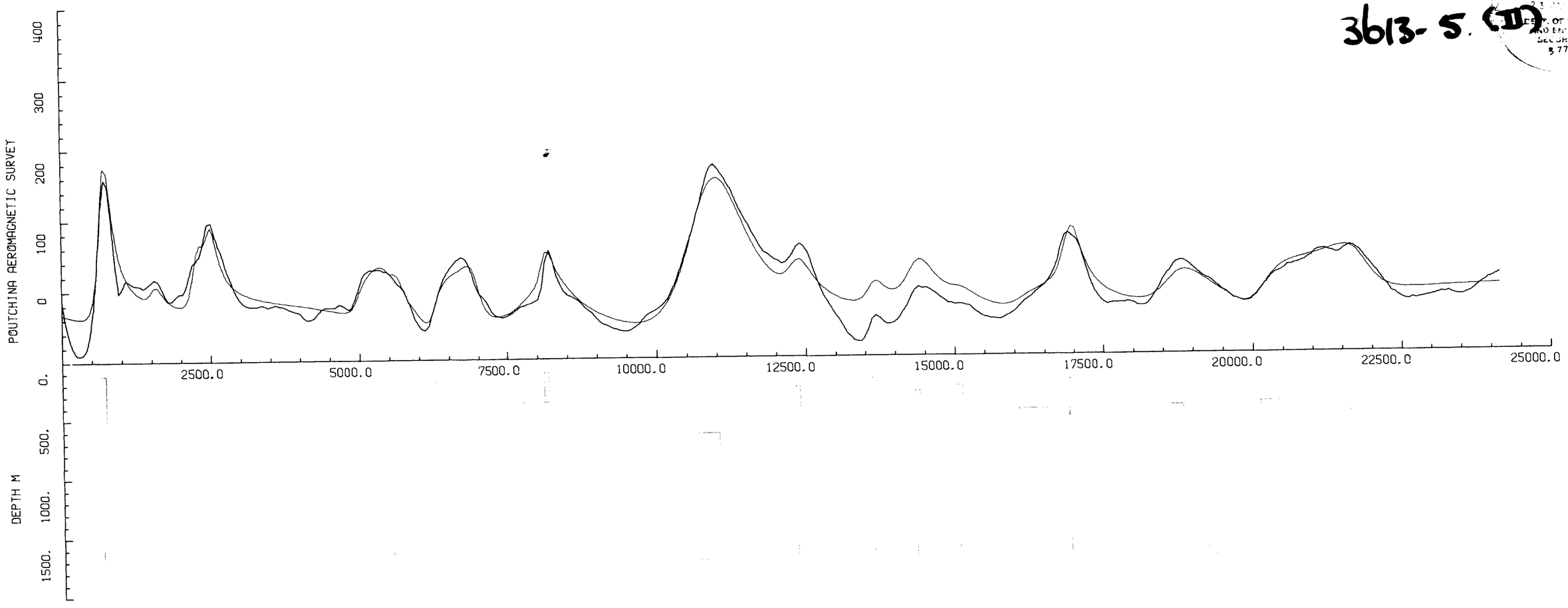


Fig. 5

LINE 280

3613-6 (II)

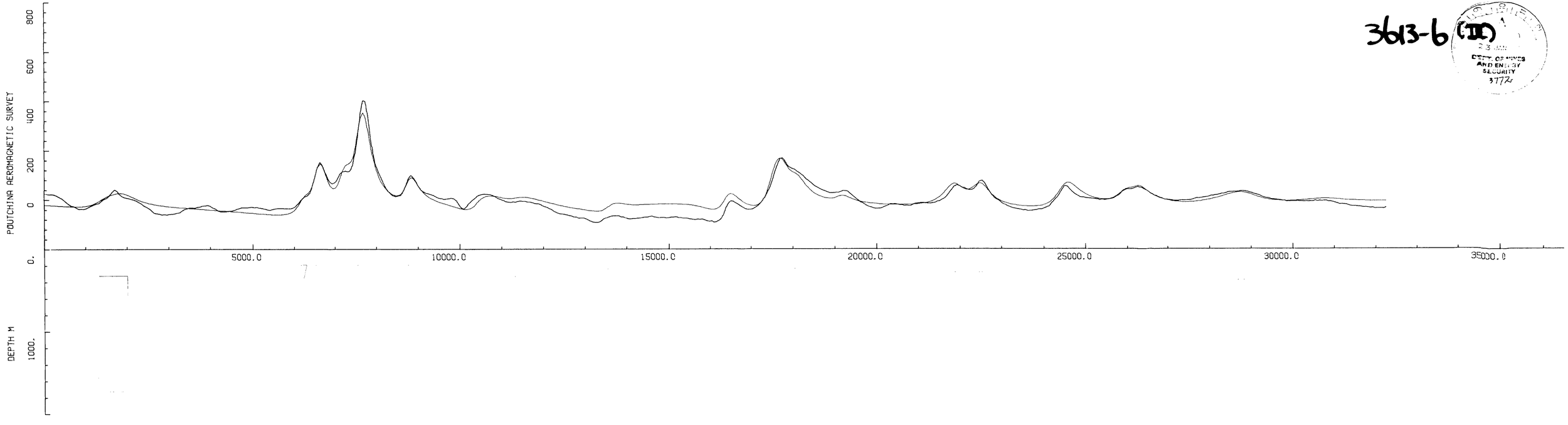


Fig. 6

LI 5 .

3613-7 (20)

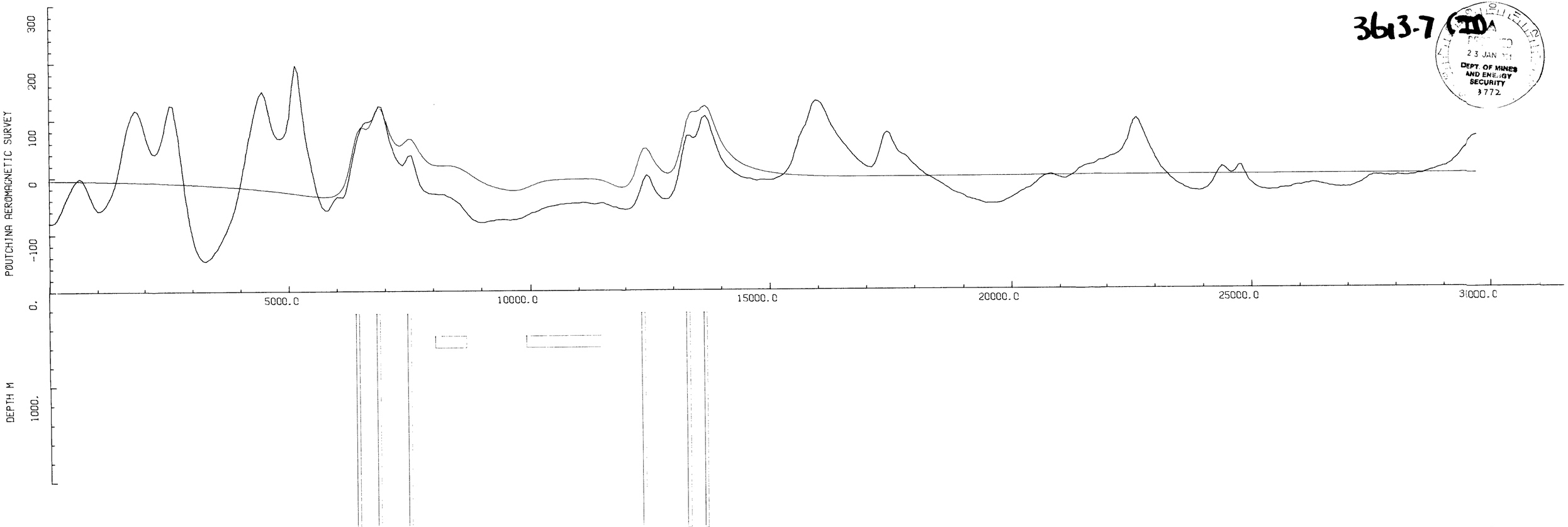


Fig. 7

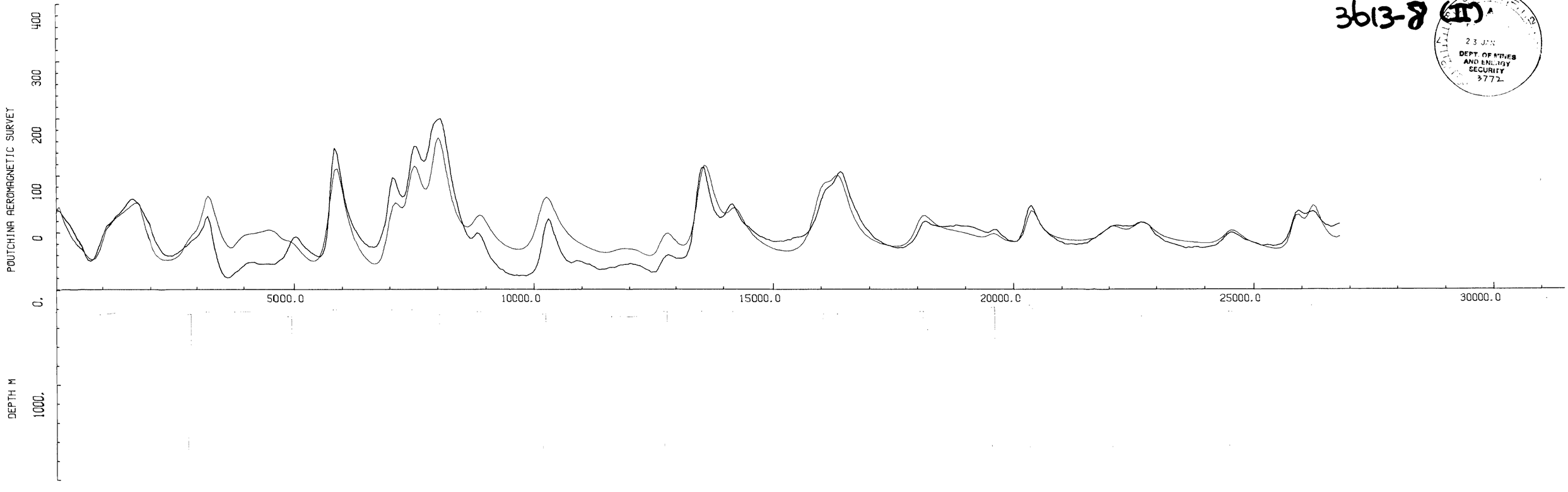


Fig 8

LINE 11C)

3613-9 (ID)

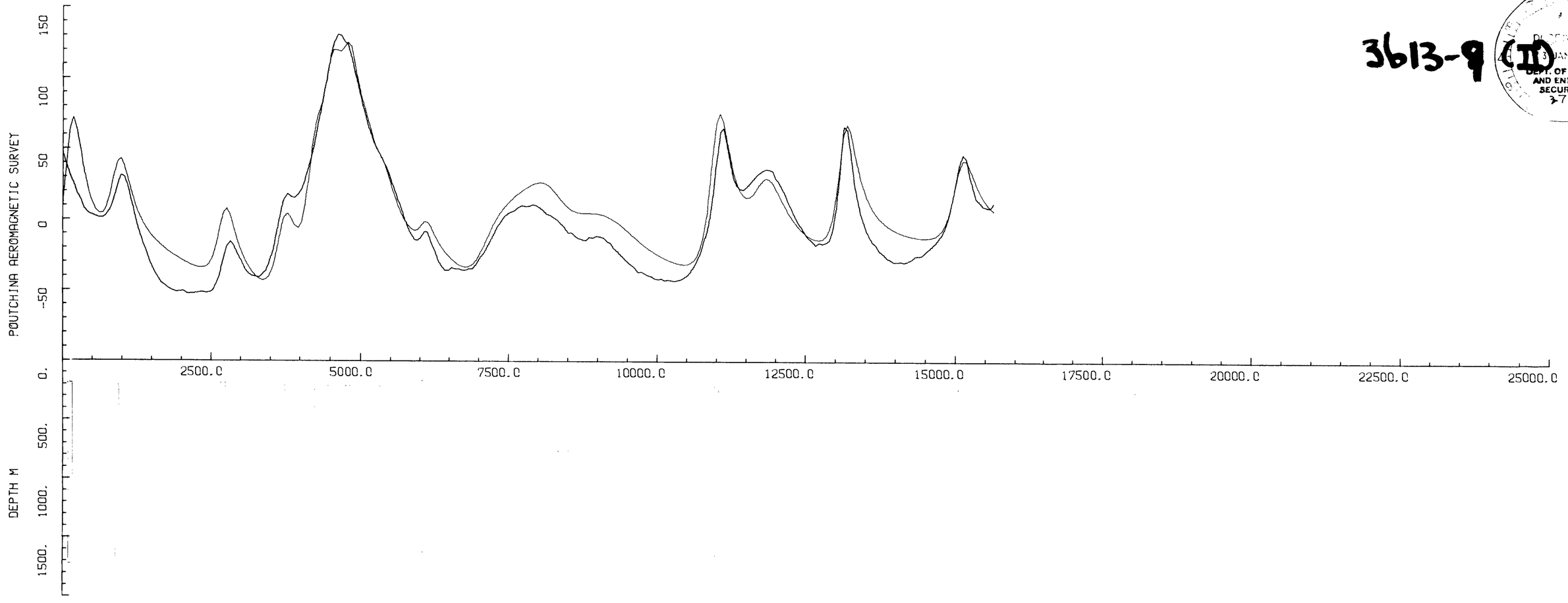


Fig. 9

ESSO AUSTRALIA LIMITED - MINERALS DEPARTMENT

EXPLORATION LICENCE 529 - POUTCHINA

QUARTERLY REPORT OF EXPLORATION TO S.A.D.M.E.

FOR THE PERIOD ENDING MARCH 11, 1981

By D.D. Greig

C O N T E N T S

SUMMARY

PREVIOUS EXPLORATION

CURRENT EXPLORATION

FUTURE PROGRAMME

APPENDIX - GRAVITY SURVEY OVER POUTCHINA ANOMALY,
SOLO GEOPHYSICS AND CO., DECEMBER 1980.

PLANS - POUTCHINA E.L. LOCATION MAP, 1:250,000
SHOWING TARGETS FOR FURTHER GEOPHYSICAL SURVEYS AND DRILLING.

SUMMARY

Field work was not undertaken during the quarter. Results from an earlier gravity and magnetic survey were received, although these do not appear to warrant any follow-up. However, further work, in the form of magnetic traverses, E.M. sounding and drilling, is planned in two areas as an extension of an earlier aeromagnetic survey.

PREVIOUS EXPLORATION

The results of an earlier aeromagnetic survey were reported in the last quarter. Of particular interest was the identification of areas underlain by possible Roopena volcanics in the south and centre of the E.L. These could represent an extension of this Adelaidean-Carpentarian boundary formation from the type area some 40 kms to the southeast and raises the possibility that underlying Roopena Sequence sediments (with stratiform base metal mineralisation) of the Roopena Homestead area could also be present in Poutchina.

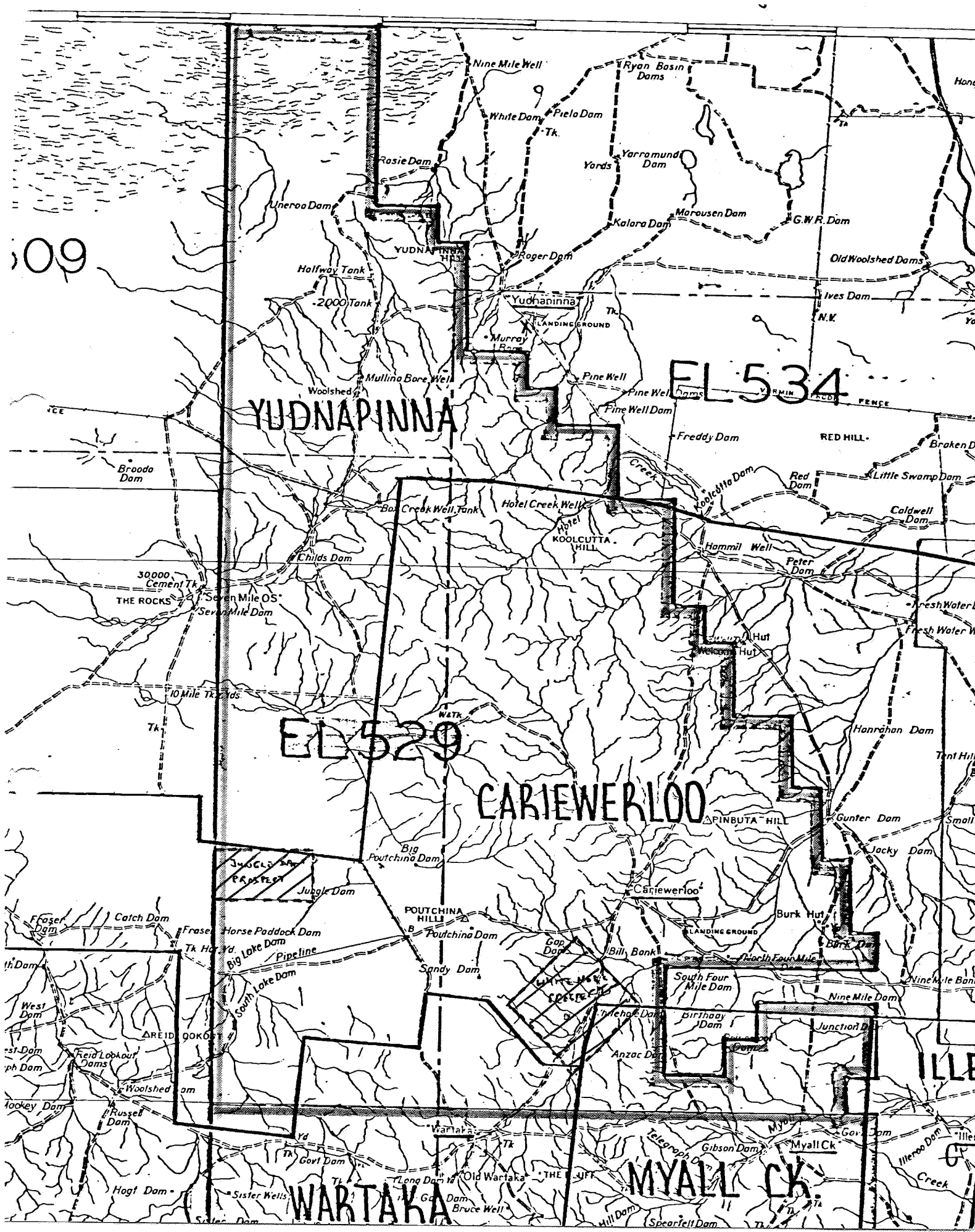
A second potential target was the small, low amplitude regional gravity high in the centre of the E.L. This was covered by a more detailed gravity - and magnetic - survey on 2000 x 400 m spacing, totalling 38 line kilometres.

CURRENT EXPLORATION

The results of the gravity survey are enclosed as an appendix. As the attached profiles show, no significant anomaly was detected, suggesting that the published regional anomaly is probably illusionary, being based on only one station. As noted in the attached report, conditions for ground surveying were extremely arduous.

FUTURE PROGRAMME

Following the demise of the gravity anomaly as a target, attention has now turned to the possibility of Roopena Sequence volcanics and sediments extending into the area. Based on earlier aeromagnetic interpretations, two zones of possible Roopena Sequence rocks have been selected for follow-up by ground magnetics and E.M. (Geoprobe) depth soundings. The most promising area will then be tested by drilling during the coming quarter.


Nine Mile Well
Ryan Basin Dams
White Dam
Piela Dam
Tk.
Rosie Dam
Yards
Yarramund Dam
Uneroo Dam
Kalora Dam
Marousen Dam
G.W.R. Dam
YUDNAPINNA HILL
Roger Dam
Old Woolshed Dams
Halfway Tank
2000 Tank
Yudnapinna
LANDING GROUND
Ives Dam
N.V.
Murray Bore
Mullina Bore Well
Pine Well
Woolshed
Pine Well Dams
EL534
YUDNAPINNA
VERMIN PROOF FENCE
Pine Well Dam
Freddy Dam
RED HILL
Broken D
Brooda Dam
Creek
Koolcutta Dam
Red Dam
Little Swamp Dam
Box Creek Well Tank
Hotel Creek Well
Hotel
KOOLCUTTA HILL
Caldwell Dam
Childs Dam
Hammil Well
Peter Dam
30,000 Cement Tk
THE ROCKS
Seven Mile OS
Seven Mile Dam
Fresh Water L
Fresh Water W
Hut
Welcome Hut
10 Mile Tk Yards
W&Tk
Tk
EL529
Honrahan Dam
Tent Hill
CARIEWERLOO
PINBUTA HILL
Gunter Dam
Small
Jacky Dam
Big Poutchina Dam
Jungle Dam
Cariewerloo
Fraser Dam
Catch Dam
Fraser Horse Paddock Dam
POUTCHINA HILL
Burk Hut
LANDING GROUND
Tk Hor Yd
Big Lake Dam
Pipeline
Poutchina Dam
Gap Dam
Bill Bank
Burk Dam
North Four Mile
Sandy Dam
South Four Mile Dam
Nine Mile Bank
West Dam
South Lake Dam
Nine Mile Dam
Birthday Dam
Junction D
AREID LOOKOUT
Reid Lookout Dams
Anzac Dam
Woolshed Dam
Hookey Dam
Russel Dam
Wartaka
Tk
Govt Dam
Telegraph Dam
Gibson Dam
Myall Ck
Govt Dam
Illeroo Dam
Creek
Old Wartaka
THE CLIFF
Long Dam
Hogt Dam
Sister Wells
Gov Dam
Bruce Well
WARTAKA
MYALL CK.
Mill Dam
Spearfelt Dam

SOLO GEOPHYSICS AND CO.

YUDNAPINNA, VIA PT. AUGUSTA, S.A.

GRID: POUTCHINA

DECEMBER, 1980

PHASE I

C O N T E N T S

FIELD REPORT - Poutchina, S.A.

NETTLETON PROFILES - Lines 36000N - 42000N
Interleaved with gravity line files and multiple density listings.

CATALOG OF RAW FIELD DATA.

LOOPS 1 to 21 - Including Base Ties.

BOUGOUR GRAVITY PLOTS - Lines 36000N - 42000N
Scale: 1:50000
Density: 2.67 gms/cc

MAGNETICS DATA LINE FILES - and Raw Field Data in Loop format.

A COMBINED GRIDDING GRAVITY, MAGNETICS & BAROMETRIC & OPTICAL LEVELLING SURVEY.

FOR: ESSO AUSTRALIA (COAL & MINERALS DIVISION)
153 GREENHILL ROAD,
PARKSIDE, S.A., 5063

AREA: YUDNAPINNA, via PT.AUGUSTA, S.A.

GRID: POUTCHINA

DATE: DECEMBER, 1980

PHASE I.

This survey was completed by one crew from Solo Geophysics stationed at an out-station on Yudnapinna Station.

The area is located approximately southwest of Yudnapinna Station and north of the Eyre Highway, alternative access is via Pandurra Station.

GENERAL CONDITIONS IN THE AREA.

Both Station Manager and Fencer agreed the survey area was in some of the roughest country they had encountered in South Australia.

Terrain varied only slightly, a few salt bush flats were the exception. The entire area was rock strewn, ranging in size from golf ball to basket ball size. Hills were steep with sharp creek bottoms. Vegetation ranged from salt bush with sparse trees and dead timber to thick scrub, where visibility was down to 10 metres. The country was extremely hard on equipment. Travel time was high over short distances and long hours were necessary to achieve as little as 6 kms. Loop time was kept between 2 and 2½ hours. But often this allowed only 5 gravity stations or 2 kms. to be covered. Both maps enclosed (one supplied by Station Manager) are inaccurate and should be used as a guide only.

Rough going made fast access with delicate instruments impractical. Numerous fences crossed the survey area. Many fences are unmarked on the maps.

Gravity measurements were taken at 400 m. spacings along the traverses, 500 m. stations along the base line. Magnetic stations were half that interval. The traverses mainly put in with compass and topofill cotton chain. The vehicle followed on a path of least resistance.

Grid origin is gravity Base 1. Located at 40000N/40000E Elevation 164.81 metres, which is in fence corner east of Box Hill Dam, marked with white painted star dropper.

Gravity Base 2 - 38000N/40000E, Elevation 163.85 metres, Gravity Base 3 - 36000N/40000E, Elevation 153.68 metres.

Barometric level repeats showed that the accuracy was generally better than 2 metres with one metre to 50 cms. common. Gridding gravity and magnetics was done simultaneously.

Cont...

The level datum for the grid was 42000N/40000E and was given an arbitary height of 200 metres. All gravity calculations are relative to gravity Base 1, as no recoverable gravity stations were found in the area.

The survey consisted of approximately;

38 kms. Gravity
6 kms. Optical Levelling
32 kms. Barometric Levelling
32 kms. Magentics

Station interval 400 m. and 500 m. gravity. Magnetics - half gravity spacing.

Approximates 130 gravity stations plus base ties.
" 260 magnetics " " " "

The base line 40000E has a magnetic bearing of 359° and follows a main fence. A star picket and dumpy peg were placed at 1.0 kms. intervals along the base line. A wooden 1 metre peg and dumpy indicate gravity stations and gravity dish height should optical recovery be required at a later date.

INSTRUMENTATION SUPPLIED FOR SURVEY.

One LaCoste & Romberg temperature compensated gravity meter G#37

One Scintrex MP-2 Proton Magnetometer.

Two Microbarometers.

One F.W.D. vehicle fitted with specially calibrated odo-meter.

The equipment used on this survey is either owned or maintained by Solo.

VEHICLE DAMAGE SUSTAINED ON THE SURVEY.

One completely broken front spring and one bent and sheared tail shaft and one disintegrated front hub.

COMMENTS.

Station Manager assisted with the loan of a vehicle to get spare parts.

SOLO GEOPHYSICS & CO.

Graham L. Rau

for: M. Burdorf
Graham L. Rau
(DIRECTOR)

GR:df

COMMENTS ON BAROMETRIC LEVELLING

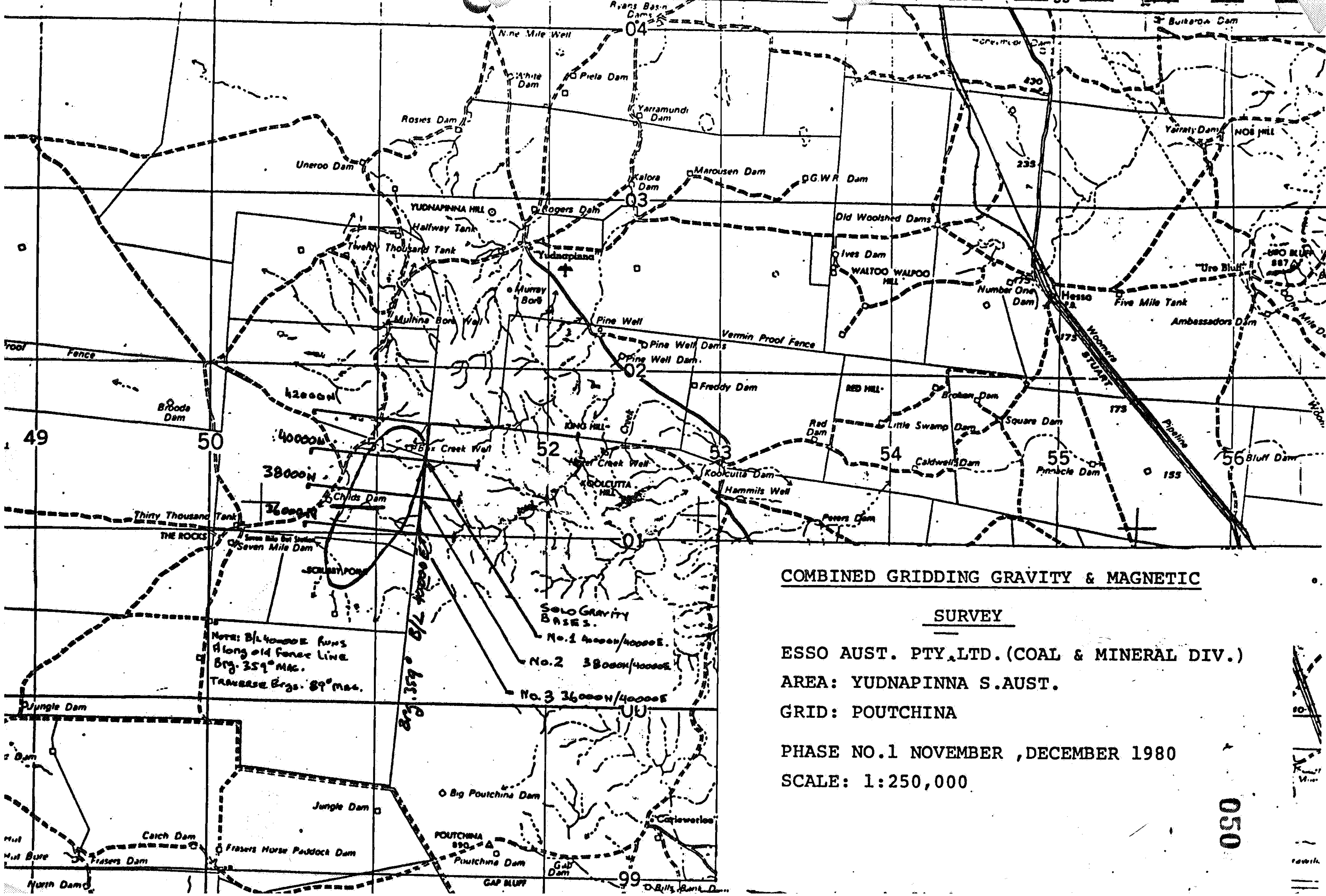
Barometric levels are dependant on local conditions surrounding each individual station. Physical changes in say hills, cause varying pressure fluctuations dependant on wind direction and surface materials on hills. i.e. Bare hills with numerous rocks or sand can cause hot spots and thermals. Depending on where the barometer is placed it could be in a high pressure eddy or a low pressure eddy. A bank of barometers would not indicate an error under such conditions.

In rough terrain it is economically impractical to re-occupy each station as alternative paths are usually taken to get back to base. The repeats in this case are restricted to one or two stations plus the loop lead in reliability stations near the base.

In non tropical regions, rapid fluctuatuions in wind pressure and weather conditions occur. This is most noticeable in periods of hot weather, storm conditions, cold fronts and the proximity to the coastal regions. Salt lakes and large clay pans can also influence barometric measurements.

Generally the minor local conditions have a more drastic effect on barometric levelling because they are more subtle and therefore more difficult to recognise. Also such occurrences can be localised to either the roving barometer or base barometer independantly.

Note: Such occurrences include small cyclonic wind disturbances ("whirly-whirly")
Pressure disturbances caused by temperature, wind velocity and wind directional changes around cultural features near either the base barometer or roving barometer.



COMBINED GRIDDING GRAVITY & MAGNETIC

SURVEY

ESSO AUST. PTY.LTD.(COAL & MINERAL DIV.)

AREA: YUDNAPINNA S.AUST.

GRID: POUTCHINA

PHASE NO.1 NOVEMBER ,DECEMBER 1980

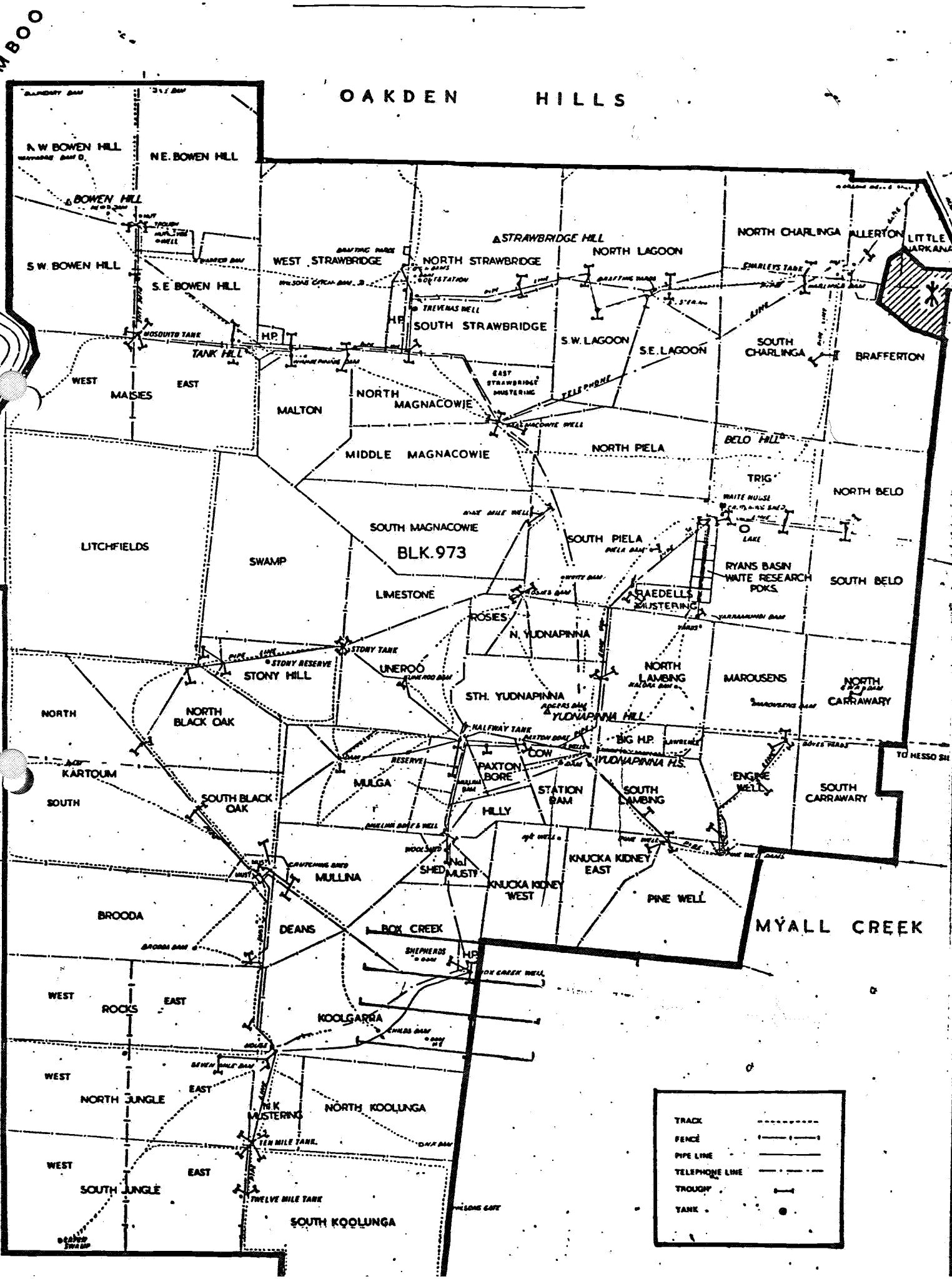
SCALE: 1:250,000

050

YUDNAPINNA

2243 KM² PASTORAL LEASE 2243

051

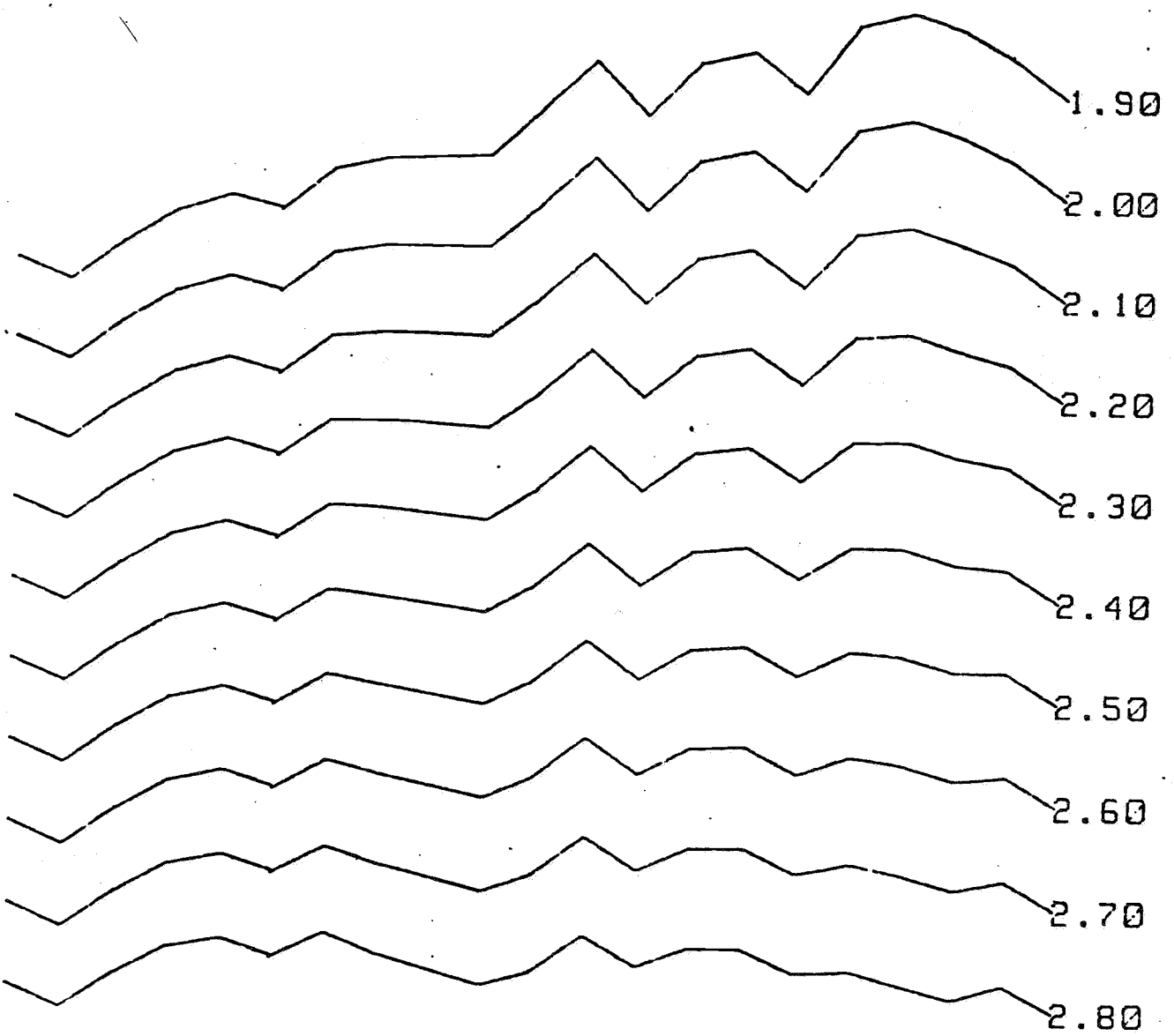


CLIENT: ESSO AUSTRALIA LTD

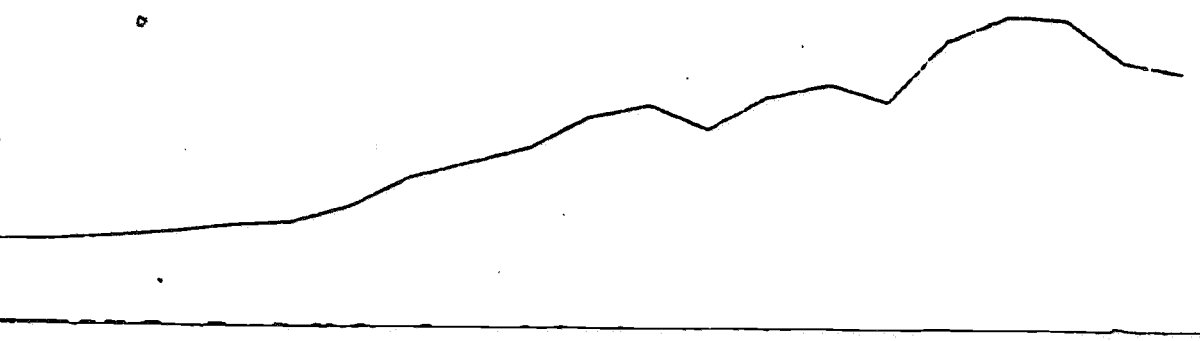
LOCATION: POUTCHINA GRID Sth Australia

NETTLETON PROFILES . LINE 36000:N

052



TOPOGRAPHY (Not to scale)



****
*** LINE L36000 ***
****

row #		STATION NUMBER	ELEVATION (meters)	BOUGUER GRAVITY ANOMALY (mgals)		Loop #
1		34000	81.88	22.06		18
2		34400	82.56	21.68		18
3		34800	84.46	22.36		18
4		35200	86.83	22.93		18
5		35600	90.16	23.21		18
6		36000	91.80	22.97		18
7	RPT	36000	91.80	22.94	*	17
8	RPT	36000	91.80	22.95	*	18
9		36400	99.86	23.68		17
10		36800	114.59	23.88		17
11		37600	129.75	23.94		17
12		38000	145.10	24.77		16
13	RPT	38000	145.10	24.78	*	17
14		38400	151.30	25.63		16
15		38800	139.48	24.67		16
16		39200	156.06	25.62		16
17		39600	162.20	25.83		16
18	RPT	39600	162.20	25.83	*	16
19		40000	153.68	25.11		18
20	RPT	40000	153.68	25.11	*	19
21	RPT	40000	153.68	25.12	*	1
22	RPT	40000	153.68	25.11	*	16
23	RPT	40000	153.68	25.10	*	14
24	RPT	40000	153.68	25.11	*	14
25	RPT	40000	153.68	25.11	*	19
26		40400	184.47	26.32		19
27		40800	196.84	26.54		19
28		41200	194.89	26.23		19
29		41600	174.44	25.73		19
30		42000	169.38	25.05		19

BOUGUER DENSITIES FOR p= 1.8 TO 2.8 gms/c.c. LINE 36000N

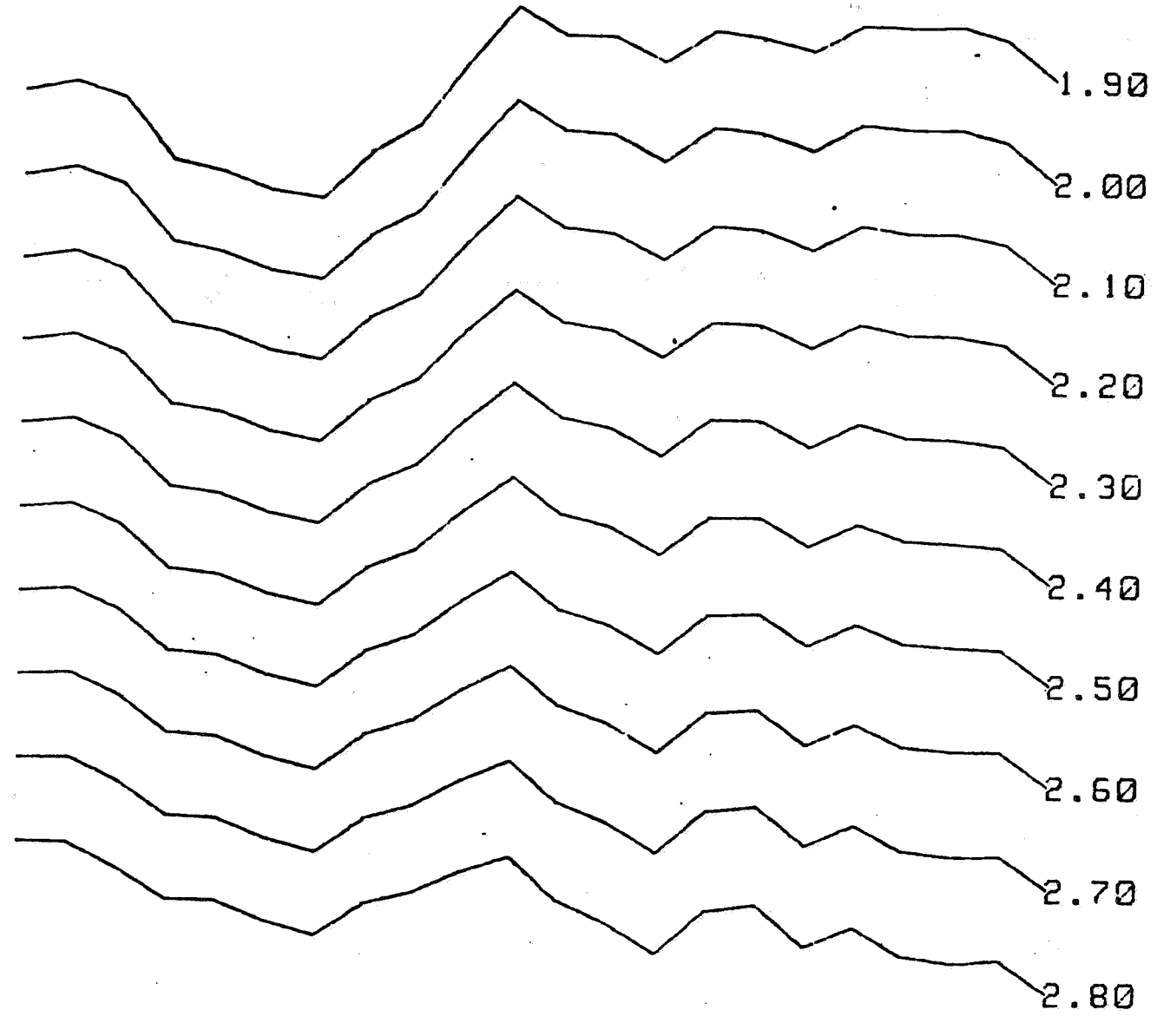
ROW No.	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70
1	22.06	21.71	21.37	21.03	20.68	20.34	20.00	19.65	19.31	18.97
2	21.68	21.33	20.99	20.64	20.29	19.95	19.60	19.26	18.91	18.56
3	22.36	22.00	21.65	21.30	20.94	20.59	20.23	19.88	19.53	19.17
4	22.93	22.56	22.20	21.84	21.47	21.11	20.75	20.38	20.02	19.65
5	23.21	22.83	22.45	22.08	21.70	21.32	20.94	20.56	20.19	19.81
6	22.97	22.59	22.20	21.82	21.43	21.05	20.66	20.28	19.89	19.51
7	22.94	22.55	22.17	21.78	21.40	21.01	20.63	20.25	19.86	19.48
8	22.95	22.57	22.19	21.80	21.42	21.03	20.65	20.26	19.88	19.49
9	23.68	23.27	22.85	22.43	22.01	21.59	21.17	20.75	20.34	19.92
10	23.88	23.40	22.92	22.44	21.96	21.48	21.00	20.52	20.04	19.56
11	23.94	23.40	22.86	22.31	21.77	21.22	20.68	20.14	19.59	19.05
12	24.77	24.16	23.55	22.94	22.33	21.72	21.12	20.51	19.90	19.29
13	24.78	24.17	23.56	22.95	22.34	21.74	21.13	20.52	19.91	19.30
14	25.63	25.00	24.37	23.73	23.10	22.46	21.83	21.20	20.56	19.93
15	24.67	24.08	23.50	22.91	22.33	21.74	21.16	20.58	19.99	19.41
16	25.62	24.97	24.31	23.66	23.00	22.35	21.70	21.04	20.39	19.73
17	25.83	25.15	24.47	23.79	23.12	22.44	21.76	21.08	20.40	19.72
18	25.83	25.15	24.47	23.79	23.11	22.43	21.75	21.07	20.39	19.71
19	25.11	24.46	23.82	23.17	22.53	21.88	21.24	20.60	19.95	19.31
20	25.11	24.46	23.82	23.17	22.53	21.88	21.24	20.60	19.95	19.31
21	25.12	24.47	23.83	23.18	22.54	21.90	21.25	20.61	19.96	19.32
22	25.11	24.46	23.82	23.17	22.53	21.88	21.24	20.60	19.95	19.31
23	25.10	24.46	23.82	23.17	22.53	21.88	21.24	20.60	19.95	19.31
24	25.11	24.46	23.82	23.17	22.53	21.88	21.24	20.60	19.95	19.31
25	25.11	24.46	23.82	23.17	22.53	21.88	21.24	20.60	19.95	19.31
26	26.32	25.54	24.77	24.00	23.22	22.45	21.68	20.90	20.13	19.36
27	26.54	25.71	24.89	24.06	23.24	22.41	21.59	20.76	19.94	19.11
28	26.23	25.41	24.60	23.78	22.96	22.15	21.33	20.51	19.70	18.88
29	25.73	25.00	24.26	23.53	22.80	22.07	21.34	20.61	19.88	19.15
30	25.05	24.34	23.63	22.92	22.21	21.50	20.79	20.08	19.37	18.66

CLIENT: ESSO AUSTRALIA LTD

LOCATION: POUTCHINA GRID Sth Australia

NETTLETON PROFILES LINE 38000:N

055



TOPOGRAPHY (Not to scale)

****
*** LINE L38000 ***
****

row #		STATION NUMBER	ELEVATION (meters)	BOUGUER GRAVITY ANOMALY (mgals)		Loop #
1		34000	106.46	23.77		13
2		34400	111.71	23.95		13
3		34800	115.71	23.63		13
4		35200	100.23	22.48		13
5		35600	95.25	22.27		13
6	RPT	35600	95.25	22.27	*	13
7		36000	95.74	21.92		13
8		36400	98.78	21.78		13
9		36800	106.07	22.64		13
10	RPT	36800	106.07	22.66	*	12
11		37200	113.86	23.16		12
12		37600	135.00	24.35		12
13		38000	155.81	25.42		12
14		38400	163.10	24.89		12
15		38800	173.59	24.87		12
16		39200	176.09	24.41		12
17		39600	170.59	25.01		12
18	RPT	39600	170.59	25.01	*	12
19		40000	163.85	24.88		12
20	RPT	40000	163.85	24.87	*	12
21	RPT	40000	163.85	24.87	*	11
22	RPT	40000	163.85	24.87	*	11
23	RPT	40000	163.85	24.88	*	20
24	RPT	40000	163.85	24.84	*	1
25	RPT	40000	163.85	24.88	*	20
26	RPT	40000	163.85	24.88	*	14
27		40400	177.71	24.62		20
28		40800	181.57	25.13		20
29		41200	194.40	25.08		20
30		41600	198.63	25.13		20
31		42000	189.33	24.86		20
32		42400	185.80	24.11		20

BOUGUER DENSITIES FOR p= 1.8 TO 2.8 gms/c.c. LINE 38000N

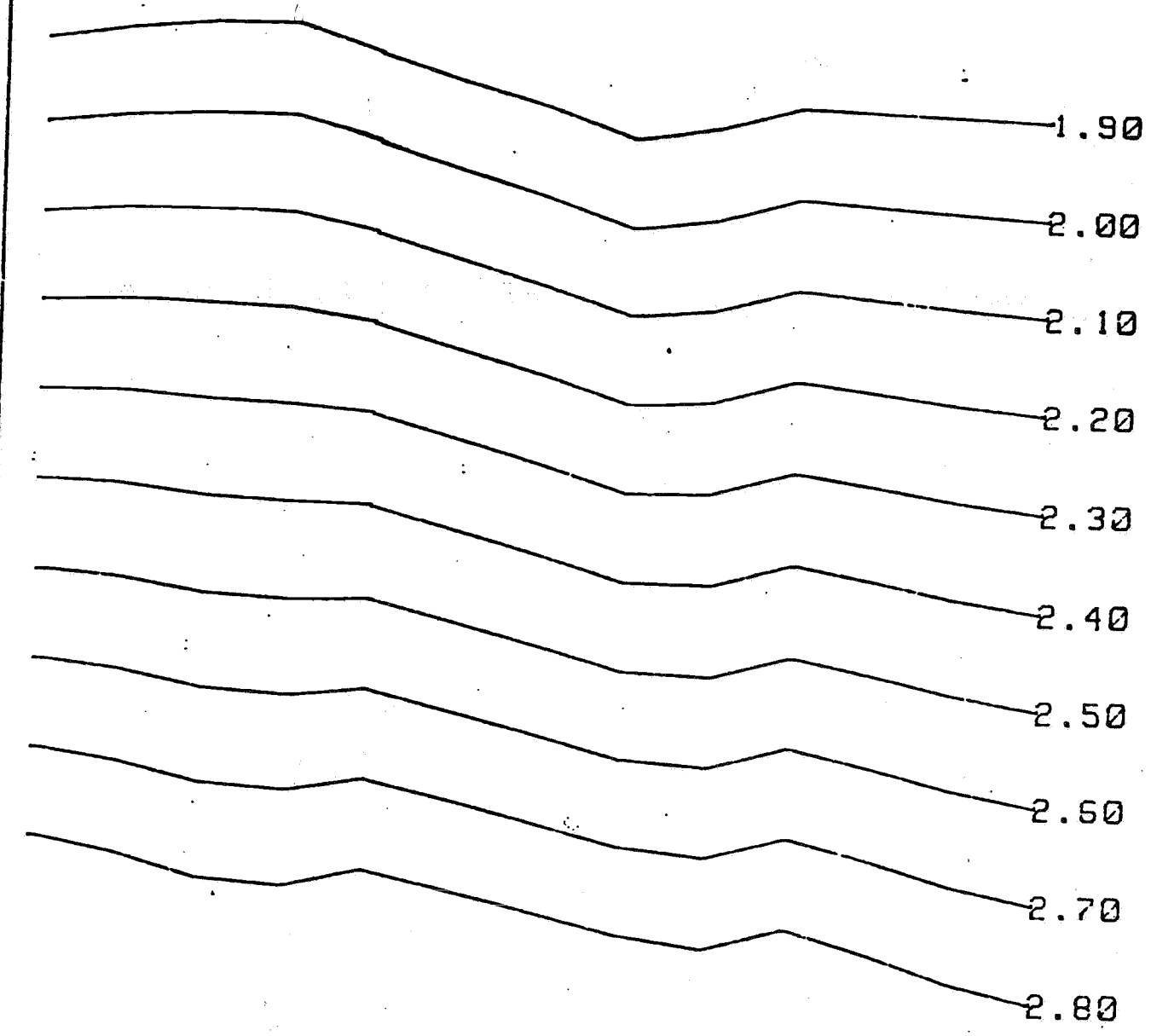
ROW No.	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70
1	23.77	23.33	22.88	22.44	21.99	21.54	21.10	20.65	20.20	19.76
2	23.95	23.48	23.01	22.54	22.08	21.61	21.14	20.67	20.20	19.73
3	23.63	23.15	22.66	22.18	21.69	21.21	20.72	20.24	19.75	19.27
4	22.48	22.06	21.64	21.22	20.80	20.38	19.96	19.54	19.12	18.70
5	22.27	21.87	21.47	21.07	20.67	20.27	19.87	19.48	19.08	18.68
6	22.27	21.87	21.47	21.07	20.68	20.28	19.88	19.48	19.08	18.68
7	21.92	21.52	21.12	20.72	20.32	19.92	19.52	19.11	18.71	18.31
8	21.78	21.37	20.95	20.54	20.13	19.71	19.30	18.88	18.47	18.06
9	22.64	22.20	21.75	21.31	20.86	20.42	19.97	19.53	19.08	18.64
10	22.66	22.22	21.77	21.33	20.88	20.44	19.99	19.55	19.10	18.66
11	23.16	22.69	22.21	21.73	21.26	20.78	20.30	19.82	19.35	18.87
12	24.35	23.79	23.22	22.65	22.09	21.52	20.96	20.39	19.83	19.26
13	25.42	24.77	24.11	23.46	22.81	22.16	21.50	20.85	20.20	19.54
14	24.89	24.20	23.52	22.84	22.15	21.47	20.79	20.10	19.42	18.73
15	24.87	24.14	23.41	22.69	21.96	21.23	20.50	19.78	19.05	18.32
16	24.41	23.67	22.94	22.20	21.46	20.72	19.98	19.25	18.51	17.77
17	25.01	24.29	23.58	22.86	22.15	21.43	20.72	20.00	19.29	18.57
18	25.01	24.30	23.58	22.87	22.15	21.44	20.72	20.01	19.29	18.58
19	24.88	24.19	23.50	22.82	22.13	21.44	20.76	20.07	19.38	18.70
20	24.87	24.18	23.49	22.81	22.12	21.43	20.75	20.06	19.37	18.69
21	24.87	24.18	23.50	22.81	22.12	21.44	20.75	20.06	19.38	18.69
22	24.87	24.19	23.50	22.81	22.13	21.44	20.75	20.07	19.38	18.69
23	24.88	24.19	23.50	22.82	22.13	21.44	20.76	20.07	19.38	18.70
24	24.84	24.16	23.47	22.78	22.10	21.41	20.72	20.04	19.35	18.66
25	24.88	24.19	23.50	22.82	22.13	21.44	20.76	20.07	19.38	18.70
26	24.88	24.19	23.50	22.82	22.13	21.44	20.76	20.07	19.38	18.70
27	24.62	23.88	23.13	22.39	21.64	20.90	20.15	19.41	18.66	17.92
28	25.13	24.37	23.61	22.85	22.08	21.32	20.56	19.80	19.04	18.28
29	25.08	24.27	23.45	22.64	21.82	21.01	20.20	19.38	18.57	17.75
30	25.13	24.30	23.46	22.63	21.80	20.97	20.13	19.30	18.47	17.64
31	24.86	24.06	23.27	22.48	21.68	20.89	20.10	19.30	18.51	17.71
32	24.11	23.33	22.55	21.77	20.99	20.21	19.44	18.66	17.88	17.10

CLIENT: ESSO AUSTRALIA LTD

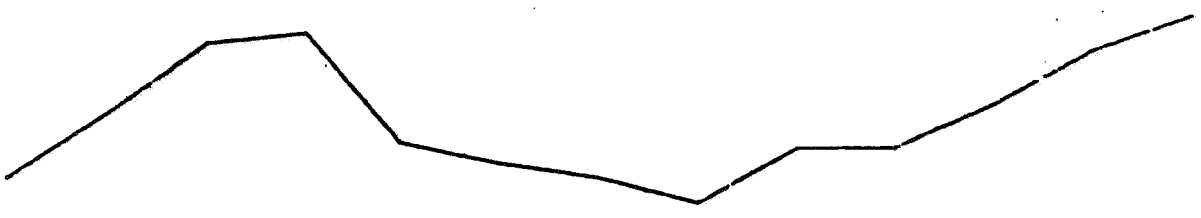
LOCATION: POUTCHINA GRID Sth Australia

NETTLETON PROFILES LINE 40000:E

058



TOPOGRAPHY (Not to scale)



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*** LINE B40000 ***
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row #		STATION NUMBER	ELEVATION (meters)	BOUGUER GRAVITY ANOMALY (mgals)		Loop #
1		36000	153.68	25.11		19
2	RPT	36000	153.68	25.10	*	14
3	RPT	36000	153.68	25.11	*	14
4	RPT	36000	153.68	25.11	*	16
5	RPT	36000	153.68	25.11	*	18
6	RPT	36000	153.68	25.11	*	19
7	RPT	36000	153.68	25.12	*	1
8		36500	170.05	25.37		1
9		37000	187.57	25.52		1
10		37500	190.44	25.48		1
11		38000	163.85	24.88		14
12	RPT	38000	163.85	24.88	*	12
13	RPT	38000	163.85	24.87	*	12
14	RPT	38000	163.85	24.87	*	11
15	RPT	38000	163.85	24.88	*	20
16	RPT	38000	163.85	24.87	*	11
17	RPT	38000	163.85	24.88	*	20
18	RPT	38000	163.85	24.84	*	1
19		38500	159.20	24.25		1
20		39000	156.21	23.70		1
21		39500	150.90	23.05		1
22	RPT	39500	150.90	23.05	*	1
23		40000	164.83	23.32		15
24	RPT	40000	164.83	23.32	*	21
25	RPT	40000	164.81	23.32	*	1
26	RPT	40000	164.81	23.31	*	11
27	RPT	40000	164.83	23.32	*	8
28	RPT	40000	164.83	23.32	*	8
29	RPT	40000	164.81	23.32	*	7
30	RPT	40000	164.83	23.32	*	21
31	RPT	40000	164.81	23.32	*	1
32	RPT	40000	164.81	23.32	*	7
33		40500	165.57	23.80		7
34		41000	176.87	23.72		7
35		41500	190.61	23.66		7
36		42000	200.00	23.59		5
37	RPT	42000	200.00	23.61	*	5
38	RPT	42000	200.00	23.64	*	2
39	RPT	42000	200.00	23.66	*	2
40	RPT	42000	200.00	23.60	*	7

BOUGUER DENSITIES FOR p= 1.8 TO 2.8 gms/c.c. LINE 40000E

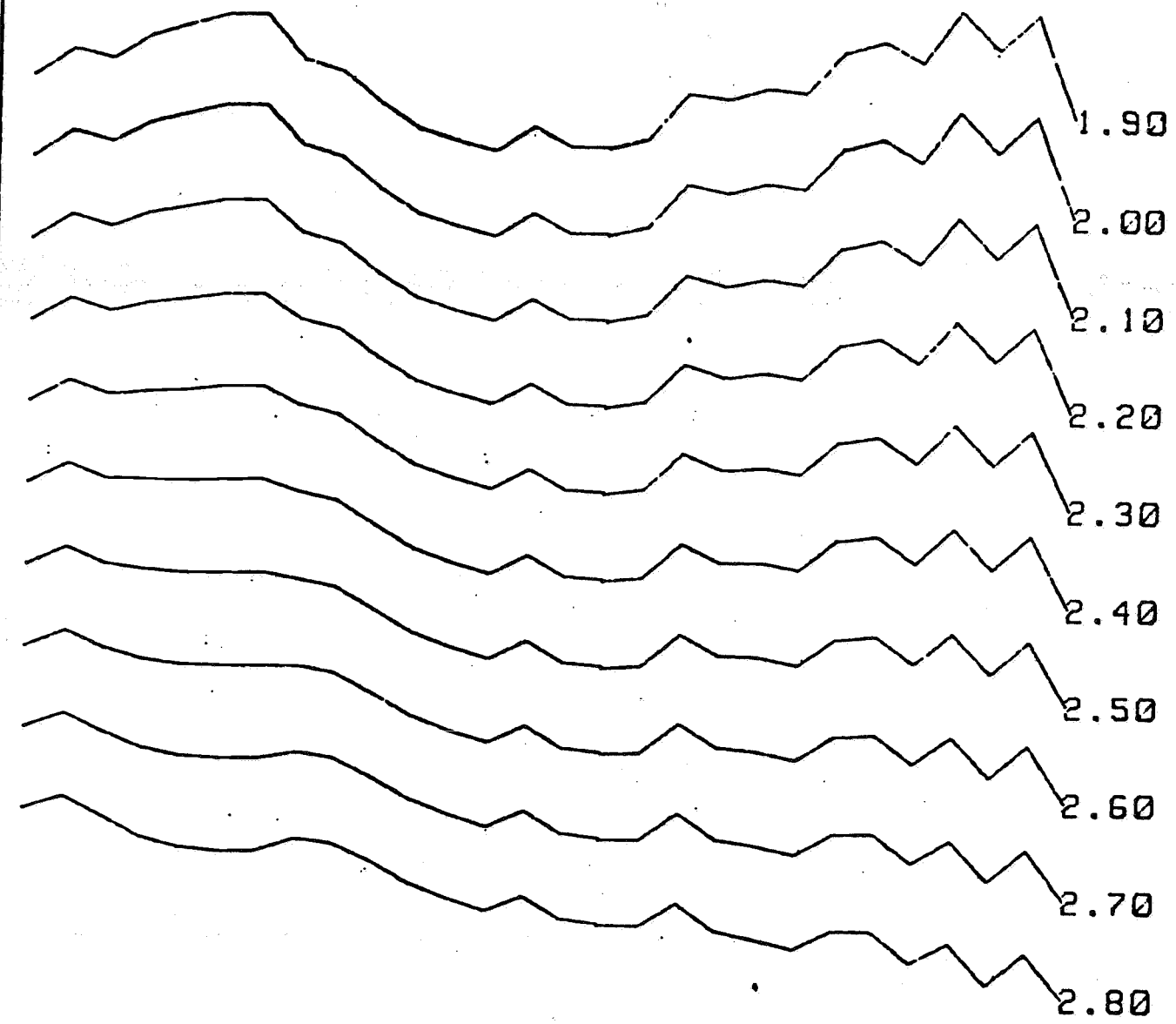
ROW No.	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70
1	25.11	24.46	23.82	23.17	22.53	21.88	21.24	20.60	19.95	19.31
2	25.10	24.46	23.82	23.17	22.53	21.88	21.24	20.60	19.95	19.31
3	25.11	24.46	23.82	23.17	22.53	21.88	21.24	20.60	19.95	19.31
4	25.11	24.46	23.82	23.17	22.53	21.88	21.24	20.60	19.95	19.31
5	25.11	24.46	23.82	23.17	22.53	21.88	21.24	20.60	19.95	19.31
6	25.11	24.46	23.82	23.17	22.53	21.88	21.24	20.60	19.95	19.31
7	25.12	24.47	23.83	23.18	22.54	21.90	21.25	20.61	19.96	19.32
8	25.37	24.66	23.95	23.23	22.52	21.81	21.09	20.38	19.67	18.96
9	25.52	24.73	23.94	23.16	22.37	21.59	20.80	20.01	19.23	18.44
10	25.48	24.68	23.88	23.09	22.29	21.49	20.69	19.89	19.10	18.30
11	24.88	24.19	23.50	22.82	22.13	21.44	20.76	20.07	19.38	18.70
12	24.88	24.19	23.50	22.82	22.13	21.44	20.76	20.07	19.38	18.70
13	24.87	24.18	23.49	22.81	22.12	21.43	20.75	20.06	19.37	18.69
14	24.87	24.19	23.50	22.81	22.13	21.44	20.75	20.07	19.38	18.69
15	24.88	24.19	23.50	22.82	22.13	21.44	20.76	20.07	19.38	18.70
16	24.87	24.18	23.50	22.81	22.12	21.44	20.75	20.06	19.38	18.69
17	24.88	24.19	23.50	22.82	22.13	21.44	20.76	20.07	19.38	18.70
18	24.84	24.16	23.47	22.78	22.10	21.41	20.72	20.04	19.35	18.66
19	24.25	23.59	22.92	22.25	21.58	20.92	20.25	19.58	18.92	18.25
20	23.70	23.05	22.39	21.74	21.08	20.43	19.77	19.12	18.47	17.81
21	23.05	22.42	21.78	21.15	20.52	19.89	19.25	18.62	17.99	17.36
22	23.05	22.42	21.79	21.15	20.52	19.89	19.26	18.62	17.99	17.36
23	23.32	22.63	21.94	21.25	20.56	19.87	19.18	18.49	17.80	17.10
24	23.32	22.63	21.94	21.25	20.56	19.87	19.18	18.49	17.80	17.10
25	23.32	22.63	21.94	21.25	20.55	19.86	19.17	18.48	17.79	17.10
26	23.31	22.62	21.93	21.24	20.55	19.86	19.17	18.48	17.79	17.10
27	23.32	22.63	21.94	21.25	20.56	19.87	19.18	18.49	17.80	17.10
28	23.32	22.63	21.94	21.25	20.56	19.87	19.18	18.49	17.80	17.10
29	23.32	22.63	21.94	21.25	20.55	19.86	19.17	18.48	17.79	17.10
30	23.32	22.63	21.94	21.25	20.56	19.87	19.18	18.49	17.80	17.10
31	23.32	22.63	21.94	21.25	20.55	19.86	19.17	18.48	17.79	17.10
32	23.32	22.63	21.94	21.25	20.55	19.86	19.17	18.48	17.79	17.10
33	23.80	23.11	22.41	21.72	21.03	20.33	19.64	18.95	18.25	17.56
34	23.72	22.98	22.23	21.49	20.75	20.01	19.27	18.53	17.79	17.05
35	23.66	22.86	22.06	21.26	20.46	19.66	18.86	18.06	17.27	16.47
36	23.59	22.75	21.91	21.07	20.24	19.40	18.56	17.72	16.88	16.04
37	23.61	22.77	21.93	21.10	20.26	19.42	18.58	17.74	16.91	16.07
38	23.64	22.81	21.97	21.13	20.29	19.45	18.62	17.78	16.94	16.10
39	23.66	22.82	21.99	21.15	20.31	19.47	18.63	17.79	16.96	16.12
40	23.60	22.76	21.92	21.08	20.25	19.41	18.57	17.73	16.89	16.05

CLIENT: ESSO AUSTRALIA LTD

LOCATION: POUTCHINA GRID Sth Australia

NETTLETON PROFILES LINE 40000:N

061



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*** LINE L40000 ***
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row #		STATION NUMBER	ELEVATION (meters)	BOUGUER GRAVITY ANOMALY (mgals)		Loop #
1		32000	99.76	23.56		21
2		32400	107.30	24.08		21
3		32800	113.10	23.90		21
4		33200	136.29	24.37		21
5		33600	147.55	24.60		21
6		34000	155.00	24.80		21
7	RPT	34000	155.00	24.80	*	21
8	RPT	34000	155.00	24.80	*	10
9		34400	154.43	24.80		10
10		34800	123.97	23.91		10
11		35200	120.24	23.66		10
12		35600	112.16	23.01		10
13		36000	110.45	22.53		10
14	RPT	36000	110.45	22.53	*	10
15	RPT	36000	110.45	22.53	*	9
16		36400	112.50	22.31		9
17		36800	113.97	22.13		9
18		37200	118.62	22.60		9
19		37600	120.78	22.23		9
20		38000	123.57	22.23		9
21	RPT	38000	123.57	22.20	*	9
22	RPT	38000	123.57	22.23	*	8
23		38400	129.42	22.42		8
24		38800	139.73	23.29		8
25		39200	152.12	23.18		8
26		39600	162.97	23.43		8
27		40000	164.83	23.32		21
28	RPT	40000	164.83	23.32	*	15
29	RPT	40000	164.81	23.32	*	1
30	RPT	40000	164.81	23.32	*	7
31	RPT	40000	164.81	23.32	*	7
32	RPT	40000	164.83	23.32	*	8
33	RPT	40000	164.83	23.32	*	8
34	RPT	40000	164.81	23.32	*	1
35	RPT	40000	164.81	23.31	*	11
36	RPT	40000	164.83	23.32	*	21
37		40400	177.88	24.18		15
38	RPT	40400	177.88	24.18	*	15
39		40800	183.95	24.41		15
40		41200	188.61	23.98		15
41		41600	206.68	25.04		15
42		42000	207.36	24.27		15
43		42400	210.16	24.99		15
44		42800	177.27	22.87		15

BOUGUER DENSITIES FOR p= 1.8 TO 2.8 gms/c.c. LINE 40000N

ROW No.	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70
1	23.56	23.14	22.73	22.31	21.89	21.47	21.05	20.64	20.22	19.80
2	24.08	23.63	23.18	22.73	22.28	21.83	21.38	20.93	20.48	20.03
3	23.90	23.43	22.95	22.48	22.01	21.53	21.06	20.58	20.11	19.64
4	24.37	23.80	23.23	22.66	22.09	21.52	20.95	20.38	19.80	19.23
5	24.60	23.98	23.36	22.74	22.13	21.51	20.89	20.27	19.65	19.03
6	24.80	24.15	23.50	22.86	22.21	21.56	20.91	20.26	19.61	18.96
7	24.80	24.15	23.50	22.85	22.20	21.55	20.90	20.25	19.60	18.95
8	24.80	24.15	23.50	22.85	22.20	21.55	20.90	20.25	19.60	18.95
9	24.80	24.16	23.51	22.86	22.22	21.57	20.92	20.27	19.63	18.98
10	23.91	23.39	22.87	22.35	21.83	21.31	20.79	20.27	19.75	19.23
11	23.66	23.15	22.65	22.15	21.64	21.14	20.63	20.13	19.63	19.12
12	23.01	22.54	22.07	21.60	21.13	20.66	20.19	19.72	19.25	18.78
13	22.53	22.06	21.60	21.14	20.67	20.21	19.75	19.29	18.82	18.36
14	22.53	22.07	21.61	21.15	20.68	20.22	19.76	19.29	18.83	18.37
15	22.53	22.07	21.60	21.14	20.68	20.22	19.75	19.29	18.83	18.36
16	22.31	21.84	21.36	20.89	20.42	19.95	19.48	19.01	18.54	18.06
17	22.13	21.65	21.17	20.69	20.22	19.74	19.26	18.78	18.31	17.83
18	22.60	22.11	21.61	21.11	20.61	20.12	19.62	19.12	18.63	18.13
19	22.23	21.72	21.22	20.71	20.20	19.70	19.19	18.68	18.18	17.67
20	22.23	21.72	21.20	20.68	20.16	19.64	19.13	18.61	18.09	17.57
21	22.20	21.68	21.16	20.65	20.13	19.61	19.09	18.57	18.06	17.54
22	22.23	21.71	21.19	20.67	20.15	19.64	19.12	18.60	18.08	17.56
23	22.42	21.87	21.33	20.79	20.25	19.70	19.16	18.62	18.08	17.53
24	23.29	22.70	22.12	21.53	20.95	20.36	19.78	19.19	18.60	18.02
25	23.18	22.54	21.91	21.27	20.63	19.99	19.36	18.72	18.08	17.44
26	23.43	22.74	22.06	21.38	20.70	20.01	19.33	18.65	17.96	17.28
27	23.32	22.63	21.94	21.25	20.56	19.87	19.18	18.49	17.80	17.10
28	23.32	22.63	21.94	21.25	20.56	19.87	19.18	18.49	17.80	17.10
29	23.32	22.63	21.94	21.25	20.55	19.86	19.17	18.48	17.79	17.10
30	23.32	22.63	21.94	21.25	20.55	19.86	19.17	18.48	17.79	17.10
31	23.32	22.63	21.94	21.25	20.55	19.86	19.17	18.48	17.79	17.10
32	23.32	22.63	21.94	21.25	20.56	19.87	19.18	18.49	17.80	17.10
33	23.32	22.63	21.94	21.25	20.56	19.87	19.18	18.49	17.80	17.10
34	23.32	22.63	21.94	21.25	20.55	19.86	19.17	18.48	17.79	17.10
35	23.31	22.62	21.93	21.24	20.55	19.86	19.17	18.48	17.79	17.10
36	23.32	22.63	21.94	21.25	20.56	19.87	19.18	18.49	17.80	17.10
37	24.18	23.44	22.69	21.95	21.20	20.46	19.71	18.97	18.22	17.47
38	24.18	23.43	22.69	21.94	21.20	20.45	19.71	18.96	18.22	17.47
39	24.41	23.63	22.86	22.09	21.32	20.55	19.78	19.01	18.24	17.47
40	23.98	23.19	22.40	21.61	20.82	20.02	19.23	18.44	17.65	16.86
41	25.04	24.18	23.31	22.44	21.58	20.71	19.84	18.98	18.11	17.25
42	24.27	23.40	22.53	21.67	20.80	19.93	19.06	18.19	17.32	16.45
43	24.99	24.11	23.23	22.35	21.47	20.59	19.71	18.83	17.95	17.07
44	22.87	22.13	21.38	20.64	19.90	19.15	18.41	17.67	16.93	16.18

CLIENT: ESSO AUSTRALIA LTD

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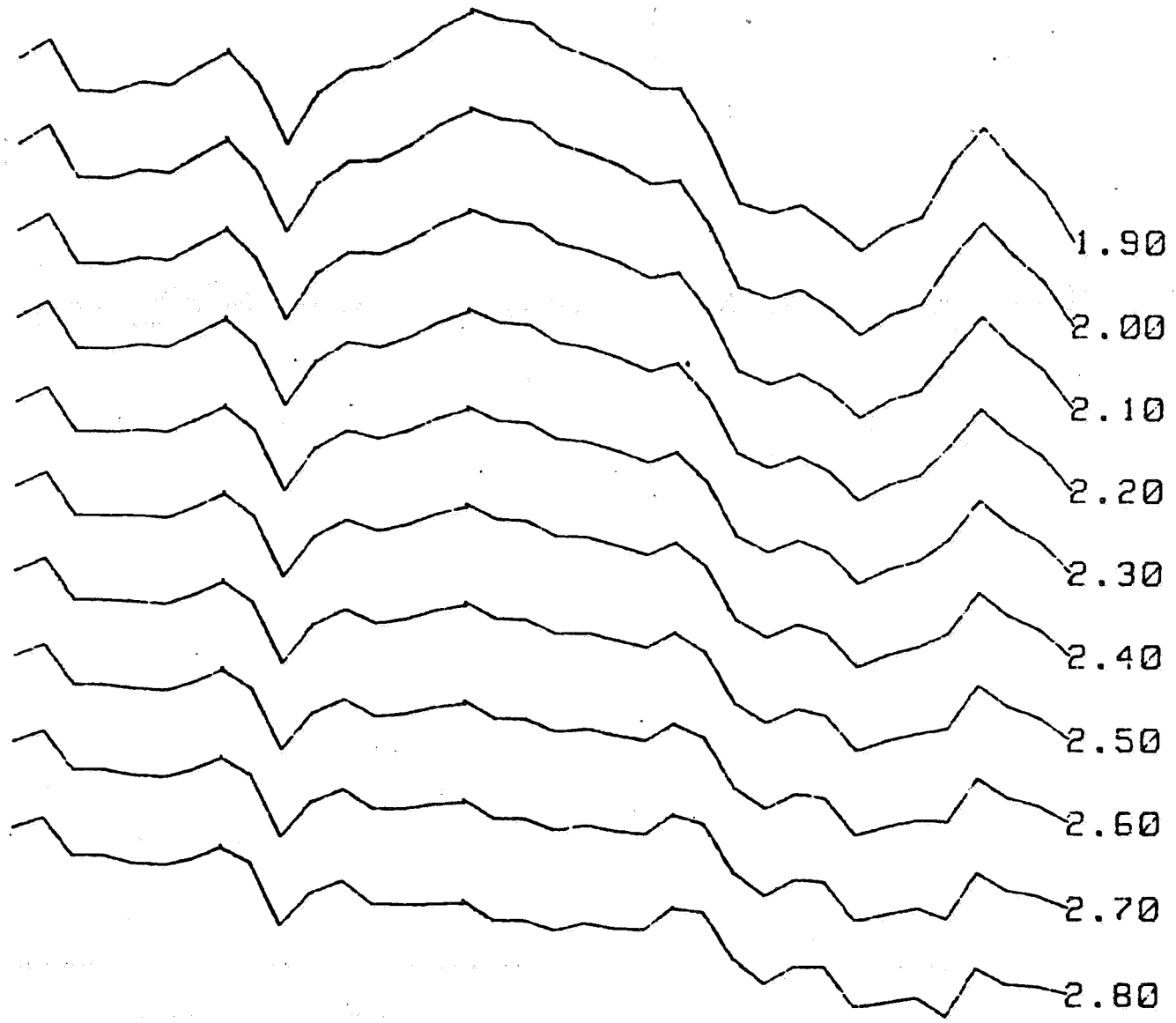
LOCATION: POUTCHINA GRID Sth Australia

NETTLETON PROFILES LINE 42000:N



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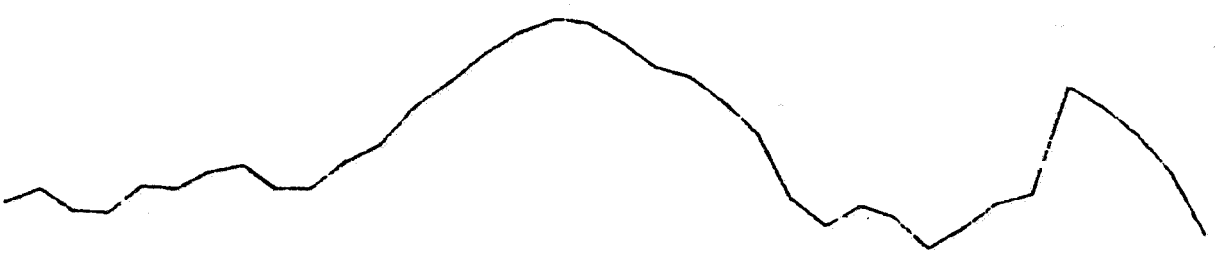

*** LINE L42000 ***

row #		STATION NUMBER	ELEVATION (meters)	BOUGUER GRAVITY ANOMALY (mgals)		Loop #
1		34000	130.45	22.59		6
2		34400	135.72	22.99		6
3		34800	126.95	21.85		6
4		35200	126.22	21.81		6
5		35600	137.16	22.06		6
6		36000	135.93	21.98		6
7		36400	142.92	22.38		6
8		36800	145.63	22.73		5
9	RPT	36800	145.63	22.77	*	6
10	RPT	36800	145.63	22.71	*	6
11		37200	136.09	22.03		5
12		37600	136.33	20.71		5
13		38000	146.88	21.82		5
14		38400	153.81	22.33		5
15		38800	169.29	22.41		5
16		39200	179.62	22.78		5
17		39600	191.27	23.27		5
18		40000	200.00	23.61		5
19	RPT	40000	200.00	23.66	*	2
20	RPT	40000	200.00	23.59	*	5
21	RPT	40000	200.00	23.60	*	7
22	RPT	40000	200.00	23.64	*	2
23		40400	205.34	23.43		2
24		40800	203.30	23.35		2
25		41200	195.37	22.86		2
26		41600	185.28	22.63		2
27		42000	181.42	22.37		2
28		42400	171.13	21.96		2
29		42800	158.66	21.99		2
30	RPT	42800	158.66	21.94	*	3
31		43200	132.73	20.89		3
32		43600	122.12	19.49		3
33		44000	130.11	19.28		3
34		44400	125.55	19.47		3
35		44800	113.23	19.00		3
36		45200	121.54	18.47		3
37		45600	131.84	18.95		3
38	RPT	45600	131.84	18.93	*	4
39	RPT	45600	131.84	18.96	*	4
40		46000	135.43	19.20		4
41		46400	178.39	20.41		4
42		46800	170.37	21.14		4
43		47200	159.86	20.40		4
44		47600	144.42	19.78		4
45		48000	119.54	18.69		4

BOUGUER DENSITIES FOR p= 1.8 TO 2.8 gms/c.c. LINE 42000N

ROW No.	1.80	1.90	2.00	2.10	2.20	2.30	2.40	2.50	2.60	2.70
1	22.59	22.04	21.49	20.95	20.40	19.85	19.31	18.76	18.21	17.67
2	22.99	22.42	21.85	21.28	20.71	20.14	19.57	19.00	18.44	17.87
3	21.85	21.32	20.79	20.25	19.72	19.19	18.66	18.13	17.59	17.06
4	21.81	21.28	20.75	20.23	19.70	19.17	18.64	18.11	17.58	17.05
5	22.06	21.48	20.91	20.33	19.76	19.18	18.61	18.03	17.46	16.88
6	21.98	21.41	20.84	20.27	19.70	19.13	18.56	17.99	17.42	16.85
7	22.38	21.78	21.18	20.58	19.98	19.38	18.78	18.18	17.58	16.99
8	22.73	22.12	21.51	20.90	20.29	19.68	19.07	18.46	17.85	17.24
9	22.77	22.16	21.55	20.94	20.33	19.72	19.11	18.50	17.89	17.28
10	22.71	22.10	21.49	20.88	20.27	19.66	19.05	18.44	17.83	17.22
11	22.03	21.46	20.89	20.32	19.75	19.18	18.61	18.04	17.47	16.90
12	20.71	20.14	19.57	18.99	18.42	17.85	17.28	16.71	16.14	15.57
13	21.82	21.20	20.59	19.97	19.36	18.74	18.13	17.51	16.90	16.28
14	22.33	21.68	21.04	20.40	19.75	19.11	18.46	17.82	17.17	16.53
15	22.41	21.70	20.99	20.28	19.57	18.86	18.16	17.45	16.74	16.03
16	22.78	22.03	21.28	20.52	19.77	19.02	18.26	17.51	16.76	16.01
17	23.27	22.47	21.67	20.87	20.06	19.26	18.46	17.66	16.86	16.06
18	23.61	22.77	21.93	21.10	20.26	19.42	18.58	17.74	16.91	16.07
19	23.66	22.82	21.99	21.15	20.31	19.47	18.63	17.79	16.96	16.12
20	23.59	22.75	21.91	21.07	20.24	19.40	18.56	17.72	16.88	16.04
21	23.60	22.76	21.92	21.08	20.25	19.41	18.57	17.73	16.89	16.05
22	23.64	22.81	21.97	21.13	20.29	19.45	18.62	17.78	16.94	16.10
23	23.43	22.57	21.71	20.85	19.99	19.13	18.27	17.40	16.54	15.68
24	23.35	22.50	21.64	20.79	19.94	19.09	18.24	17.38	16.53	15.68
25	22.86	22.04	21.22	20.40	19.58	18.76	17.95	17.13	16.31	15.49
26	22.63	21.85	21.08	20.30	19.52	18.75	17.97	17.19	16.42	15.64
27	22.37	21.61	20.85	20.09	19.33	18.56	17.80	17.04	16.28	15.52
28	21.96	21.24	20.52	19.80	19.09	18.37	17.65	16.94	16.22	15.50
29	21.99	21.32	20.66	19.99	19.33	18.66	18.00	17.33	16.67	16.00
30	21.94	21.28	20.61	19.95	19.28	18.62	17.95	17.29	16.62	15.96
31	20.89	20.33	19.77	19.22	18.66	18.11	17.55	16.99	16.44	15.88
32	19.49	18.98	18.47	17.96	17.45	16.93	16.42	15.91	15.40	14.89
33	19.28	18.74	18.19	17.65	17.10	16.56	16.01	15.47	14.92	14.38
34	19.47	18.94	18.42	17.89	17.36	16.84	16.31	15.79	15.26	14.73
35	19.00	18.52	18.05	17.57	17.10	16.62	16.15	15.68	15.20	14.73
36	18.47	17.96	17.45	16.94	16.43	15.92	15.41	14.90	14.39	13.88
37	18.95	18.40	17.85	17.30	16.74	16.19	15.64	15.09	14.53	13.98
38	18.93	18.38	17.83	17.28	16.72	16.17	15.62	15.07	14.51	13.96
39	18.96	18.41	17.85	17.30	16.75	16.20	15.64	15.09	14.54	13.98
40	19.20	18.64	18.07	17.50	16.93	16.37	15.80	15.23	14.66	14.10
41	20.41	19.66	18.91	18.17	17.42	16.67	15.92	15.18	14.43	13.68
42	21.14	20.43	19.71	19.00	18.28	17.57	16.86	16.14	15.43	14.71
43	20.40	19.73	19.06	18.39	17.72	17.05	16.38	15.71	15.04	14.37
44	19.78	19.17	18.57	17.96	17.36	16.75	16.15	15.54	14.94	14.33
45	18.69	18.19	17.69	17.19	16.69	16.19	15.69	15.19	14.69	14.18

********** DATA REDUCTION PARAMETERS **********

CLIENT: ESSO AUSTRALIA LTD
LOCATION: POUTCHINA GRID Sth Australia

Bouguer Reduction Density is 1.8 gm/cc

Base Line Bearing is 9 degrees EAST

The Known Point of 32.2302 degrees Latitude is located
at Line Number 40000 and Station Number 40000

The Base Station Observed Gravity Values are:

BASE #	OBSERVED GRAVITY (mgals)
1	3099.83
2	3103.06
3	3107.11

****

******** CATALOG OF RAW FIELD DATA ********

LOOP# 1	BASELINE	FROM 40000N TO 36000N
LOOP# 2	LINE 42000N	FROM 4000E TO 42800E
LOOP# 3	LINE 42000N	LINE 42800E TO 45600E
LOOP# 4	LINE 42000N	FROM 45600E TO 48000E
LOOP# 5	LINE 42000N	FROM 40000E TO 36800E
LOOP# 6	LINE 42000N	FROM 36800E TO 34000E
LOOP# 7	BASELINE	FROM 40000N TO 42000N
LOOP# 8	LINE 40000N	FROM 40000E TO 38000E
LOOP# 9	LINE 40000N	FROM 38000E TO 36000E
LOOP# 10	LINE 40000N	FROM 36000E TO 34000E
LOOP# 11	BASE TIE	FROM BASE 1 TO BASE 2
LOOP# 12	LINE 38000N	FROM 40000E TO 36800E
LOOP# 13	LINE 38000N	FROM 36800E TO 34000E
LOOP# 14	BASE TIE	FROM BASE 2 TO BASE 3
LOOP# 15	LINE 40000N	FROM 40000E TO 42800E
LOOP# 16	LINE 36000N	FROM 40000E TO 38000E
LOOP# 17	LINE 36000N	FROM 38000E TO 36000E
LOOP# 18	LINE 36000N	FROM 36000E TO 34000E
LOOP# 19	LINE 36000N	FROM 40000E TO 42000E
LOOP# 20	LINE 38000N	FROM 40000E TO 42400E
LOOP# 21	LINE 40000N	FROM 34000E TO 32000E

****
* SOLO *
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****
LOOP NUMBER 1
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: BASELINE
FROM 40000N TO 36000N

Loop Time: 1.95 Hours
Loop Drift: -.084 Mgals
Drift Rate: -.043 Mgals/Hour

Operator: M.BURDORF
Gravimeter: Lacoste G#037
Date: 27/11/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 01		2959.950	1201		3099.83			
40000	40000	2959.950	1201	0164.81	3099.83	32.23020	979515.47	23.32
39500	40000	2963.130	1212	0150.90	3103.17	32.23464	979515.83	23.05
39000	40000	2962.910	1220	0156.21	3102.94	32.23909	979516.19	23.70
38500	40000	2963.110	1229	0159.20	3103.16	32.24353	979516.56	24.25
38000	40000	2962.980	1234	0163.85	3103.03	32.24798	979516.92	24.84
37500	40000	2958.010	1243	0190.44	3097.83	32.25242	979517.28	25.48
37000	40000	2959.020	1255	0187.57	3098.89	32.25687	979517.64	25.52
36500	40000	2963.120	1305	0170.05	3103.20	32.26131	979518.00	25.37
36000	40000	2966.860	1315	0153.68	3107.12	32.26576	979518.36	25.12
39500	40000	2963.060	1352	0150.90	3103.17	32.23464	979515.83	23.05
40000	40000	2959.870	1358	0164.81	3099.83	32.23020	979515.47	23.32
BASE # 01		2959.870	1358		3099.83			

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* SOLO *
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****
LOOP NUMBER 2
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 42000N
FROM 4000E TO 42800E

Loop Time: 2.42 Hours
Loop Drift: -.021 Mgals
Drift Rate: -.009 Mgals/Hour

Operator: M.BURDURF
Gravimeter: Lacoste G#037
Date: 28/11/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 01		2959.930	0705		3099.83			
42000	40000	2951.040	0738	0200.00	3090.52	32.21242	979514.03	23.66
42000	40400	2949.670	0754	0205.34	3089.09	32.21298	979514.07	23.43
42000	40800	2950.090	0804	0203.30	3089.53	32.21355	979514.12	23.35
42000	41200	2951.430	0811	0195.37	3090.94	32.21411	979514.16	22.86
42000	41600	2953.500	0819	0185.28	3093.10	32.21467	979514.21	22.63
42000	42000	2954.150	0831	0181.42	3093.79	32.21524	979514.26	22.37
42000	42400	2956.090	0846	0171.13	3095.82	32.21580	979514.30	21.96
42000	42800	2958.940	0857	0158.66	3098.81	32.21636	979514.35	21.99
42000	40000	2951.010	0912	0200.00	3090.50	32.21242	979514.03	23.64
BASE # 01		2959.910	0930		3099.83			

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* SOLO *
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****
LOOP NUMBER 3
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Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 42000N
LINE 42800E TO 45600E

Loop Time: 2.83 Hours
Loop Drift: .052 Mgals
Drift Rate: .018 Mgals/Hour

Operator: M.BURDORF
Gravimeter: Lacoste G#037
Date: 28/11/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 01		2959.910	0930		3099.83			
42000	42800	2958.900	0959	0158.66	3098.76	32.21636	979514.35	21.94
42000	43200	2963.710	1009	0132.73	3103.80	32.21693	979514.39	20.89
42000	43600	2964.790	1027	0122.12	3104.92	32.21749	979514.44	19.49
42000	44000	2962.860	1040	0130.11	3102.90	32.21805	979514.48	19.28
42000	44400	2964.100	1059	0125.55	3104.19	32.21862	979514.53	19.47
42000	44800	2966.440	1113	0113.23	3106.64	32.21918	979514.58	19.00
42000	45200	2964.130	1124	0121.54	3104.22	32.21974	979514.62	18.47
42000	45600	2962.350	1137	0131.84	3102.35	32.22031	979514.67	18.95
BASE # 01		2959.960	1220		3099.83			

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* SOLO *
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****
LOOP NUMBER 4
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 42000N
FROM 45600E TO 48000E

Loop Time: 3.40 Hours
Loop Drift: -.147 Mgals
Drift Rate: -.043 Mgals/Hour

Operator: M.BURDORF
Gravimeter: Lacoste G#037
Date: 28/11/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 01		2959.970	1308		3099.83			
42000	45600	2962.320	1357	0131.84	3102.33	32.22031	979514.67	18.93
42000	46000	2961.810	1418	0135.43	3101.81	32.22087	979514.71	19.20
42000	46400	2953.430	1434	0178.39	3093.04	32.22143	979514.76	20.41
42000	46800	2955.950	1445	0170.37	3095.69	32.22200	979514.80	21.14
42000	47200	2957.620	1500	0159.86	3097.45	32.22256	979514.85	20.40
42000	47600	2960.490	1517	0144.42	3100.47	32.22312	979514.90	19.78
42000	48000	2965.030	1527	0119.54	3105.23	32.22368	979514.94	18.69
42000	45600	2962.260	1559	0131.84	3102.35	32.22031	979514.67	18.96
BASE # 01		2959.830	1632		3099.83			

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* SOLO *
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****
LOOP NUMBER 5
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Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 42000N
FROM 40000E TO 36800E

Loop Time: 2.40 Hours
Loop Drift: -.042 Mgals
Drift Rate: -.017 Mgals/Hour

Operator: M.BURDORF
Gravimeter: Lacoste G#037
Date: 29/11/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 01		2959.970	0741		3099.83			
42000	40000	2951.030	0802	0200.00	3090.47	32.21242	979514.03	23.61
42000	39600	2952.600	0816	0191.27	3092.12	32.21186	979513.98	23.27
42000	39200	2954.680	0825	0179.62	3094.30	32.21130	979513.93	22.78
42000	38800	2956.580	0835	0169.29	3096.29	32.21073	979513.89	22.41
42000	38400	2959.900	0844	0153.81	3099.78	32.21017	979513.84	22.33
42000	38000	2960.910	0854	0146.88	3100.84	32.20961	979513.80	21.82
42000	37600	2962.150	0904	0138.33	3102.14	32.20904	979513.75	21.17
42000	37200	2963.420	0912	0136.09	3103.47	32.20848	979513.71	22.03
42000	36800	2961.920	0920	0145.63	3101.90	32.20792	979513.66	22.73
42000	40000	2950.980	0943	0200.00	3090.45	32.21242	979514.03	23.59
BASE # 01		2959.930	1005		3099.83			

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* SOLO *
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****
LOOP NUMBER 6
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Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 42000N
FROM 36800E TO 34000E

Loop Time: 2.13 Hours
Loop Drift: .010 Mgals
Drift Rate: .005 Mgals/Hour

Operator: M.BURDORF
Gravimeter: Lacoste G#037
Date: 29/11/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 01		2959.930	1005		3099.83			
42000	36800	2961.950	1026	0145.63	3101.94	32.20792	979513.66	22.77
42000	36400	2962.130	1034	0142.92	3102.13	32.20735	979513.61	22.38
42000	36000	2963.260	1045	0135.93	3103.32	32.20679	979513.57	21.98
42000	35600	2963.020	1053	0137.16	3103.06	32.20623	979513.52	22.06
42000	35200	2965.180	1101	0126.22	3105.33	32.20566	979513.48	21.81
42000	34800	2965.010	1109	0126.95	3105.15	32.20510	979513.43	21.85
42000	34400	2964.100	1123	0135.72	3104.19	32.20454	979513.39	22.99
42000	34000	2964.850	1135	0130.45	3104.98	32.20397	979513.34	22.59
42000	36800	2961.900	1157	0145.63	3101.88	32.20792	979513.66	22.71
BASE # 01		2959.940	1213		3099.83			

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* SOLO *
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****
LOOP NUMBER 8
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 40000N
FROM 40000E TO 38000E

Loop Time: 1.70 Hours
Loop Drift: -.052 Mgals
Drift Rate: -.031 Mgals/Hour

Operator: J.PIERCEY
Gravimeter: Lacoste G#037
Date: 29/11/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 01		2959.940	1410		3099.83			
40000	40000	2959.940	1410	0164.83	3099.83	32.23020	979515.47	23.32
40000	39600	2960.400	1432	0162.97	3100.32	32.22964	979515.43	23.43
40000	39200	2962.530	1447	0152.12	3102.56	32.22907	979515.38	23.18
40000	38800	2965.340	1458	0139.73	3105.51	32.22851	979515.33	23.29
40000	38400	2966.750	1514	0129.42	3107.00	32.22795	979515.29	22.42
40000	38000	2967.820	1527	0123.57	3108.12	32.22738	979515.24	22.23
40000	40000	2959.890	1552	0164.83	3099.83	32.23020	979515.47	23.32
BASE # 01		2959.890	1552		3099.83			

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* SOLO *
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****
LOOP NUMBER 9
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 40000N
FROM 38000E TO 36000E

Loop Time: 1.68 Hours
Loop Drift: .042 Mgals
Drift Rate: .025 Mgals/Hour

Operator: J.PIERCEY
Gravimeter: Lacoste G#037
Date: 29/11/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 01		2959.890	1552		3099.83			
40000	38000	2967.790	1610	0123.57	3108.10	32.22738	979515.24	22.20
40000	37600	2968.400	1623	0120.78	3108.73	32.22682	979515.20	22.23
40000	37200	2969.200	1636	0118.62	3109.56	32.22626	979515.15	22.60
40000	36800	2969.740	1644	0113.97	3110.13	32.22569	979515.11	22.13
40000	36400	2970.200	1655	0112.50	3110.60	32.22513	979515.06	22.31
40000	36000	2970.760	1706	0110.45	3111.19	32.22457	979515.01	22.46
40000	38000	2967.850	1719	0123.57	3108.13	32.22738	979515.24	22.23
BASE # 01		2959.930	1733		3099.83			

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* SOLO *
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****
LOOP NUMBER 10
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 40000N
FROM 36000E TO 34000E

Loop Time: 1.92 Hours
Loop Drift: -.031 Mgals
Drift Rate: -.016 Mgals/Hour

Operator: M.BURDORF
Gravimeter: Lacoste G#037
Date: 30/11/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 01		2959.930	0718		3099.83			
40000	36000	2970.840	0732	0110.45	3111.26	32.22457	979515.01	22.53
40000	35600	2970.870	0741	0112.16	3111.30	32.22401	979514.97	23.01
40000	35200	2969.640	0756	0120.24	3110.01	32.22344	979514.92	23.66
40000	34800	2969.000	0807	0123.97	3109.34	32.22288	979514.88	23.91
40000	34400	2963.030	0824	0154.43	3103.10	32.22232	979514.83	24.80
40000	34000	2962.850	0839	0155.00	3102.91	32.22175	979514.78	24.80
40000	36000	2970.810	0858	0110.45	3111.25	32.22457	979515.01	22.53
BASE # 01		2959.900	0913		3099.83			

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* SOLO *
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****
LOOP NUMBER 11
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: BASE TIE
FROM BASE 1 TO BASE 2

Loop Time: .75 Hours
Loop Drift: -.010 Mgals
Drift Rate: -.014 Mgals/Hour

Operator: M.BURDORF
Gravimeter: Lacoste G#037
Date: 30/11/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 01		2959.900	0913		3099.83			
38000	40000	2962.980	0926	0163.85	3103.06	32.24798	979516.92	24.87
40000	40000	2959.890	0936	0164.81	3099.82	32.23020	979515.47	23.31
38000	40000	2962.970	0947	0163.85	3103.05	32.24798	979516.92	24.87
BASE # 01		2959.890	0958		3099.83			

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* SOLO *
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****
LOOP NUMBER 12
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 38000N
FROM 40000E TO 36800E

Loop Time: 2.07 Hours
Loop Drift: .021 Mgals
Drift Rate: .010 Mgals/Hour

Operator: M.BURDORF
Gravimeter: Lacoste G#037
Date: 30/11/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 02		2962.970	1008		3103.06			
38000	40000	2962.970	1058	0163.85	3103.05	32.24798	979516.92	24.87
38000	39600	2961.560	1021	0170.59	3101.58	32.24742	979516.87	25.01
38000	39200	2959.720	1034	0176.09	3099.65	32.24685	979516.83	24.41
38000	38800	2960.670	1045	0173.59	3100.64	32.24629	979516.78	24.87
38000	38400	2962.980	1054	0163.10	3103.06	32.24573	979516.73	24.89
38000	38000	2965.070	1105	0155.81	3105.25	32.24516	979516.69	25.42
38000	37600	2968.640	1120	0135.00	3108.99	32.24460	979516.64	24.35
38000	37200	2972.170	1131	0113.86	3112.68	32.24404	979516.60	23.16
38000	36800	2973.380	1140	0106.07	3113.95	32.24347	979516.55	22.66
38000	39600	2961.570	1206	0170.59	3101.57	32.24742	979516.87	25.01
38000	40000	2962.990	1212	0163.85	3103.06	32.24798	979516.92	24.88
BASE # 02		2962.990	1212		3103.06			

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* SOLO *
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****
LOOP NUMBER 13
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Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 38000N
FROM 36800E TO 34000E

Loop Time: 2.10 Hours
Loop Drift: .021 Mgals
Drift Rate: .010 Mgals/Hour

Operator: M.BURDORF
Gravimeter: Lacoste G#037
Date: 30/11/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 02		2963.020	1339		3103.06			
38000	36800	2973.400	1400	0106.07	3113.93	32.24347	979516.55	22.64
38000	36400	2974.160	1408	0098.78	3114.72	32.24291	979516.50	21.78
38000	36000	2974.930	1419	0095.74	3115.53	32.24235	979516.46	21.92
38000	35600	2975.330	1429	0095.25	3115.95	32.24178	979516.41	22.27
38000	35200	2974.380	1440	0100.23	3114.95	32.24122	979516.37	22.48
38000	34800	2971.990	1450	0115.71	3112.44	32.24066	979516.32	23.63
38000	34400	2973.140	1502	0111.71	3113.65	32.24009	979516.28	23.95
38000	34000	2974.100	1513	0106.46	3114.65	32.23953	979516.23	23.77
38000	35600	2975.350	1526	0095.25	3115.96	32.24178	979516.41	22.28
BASE # 02		2963.040	1545		3103.06			

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****
* SOLO *
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****
LOOP NUMBER 14
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: BASE TIE
FROM BASE 2 TO BASE 3

Loop Time: 1.62 Hours
Loop Drift: -.021 Mgals
Drift Rate: -.013 Mgals/Hour

Operator: M.BURDORF
Gravimeter: Lacoste G#037
Date: 01/12/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 02		2962.980	0832		3103.06			
36000	40000	2966.840	0901	0153.68	3107.11	32.26576	979518.36	25.11
38000	40000	2962.970	0924	0163.85	3103.06	32.24798	979516.92	24.88
36000	40000	2966.830	0948	0153.68	3107.11	32.26576	979518.36	25.10
BASE # 02		2962.960	1009		3103.06			

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****
* SOLO *
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****
LOOP NUMBER 15
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 40000N
FROM 40000E TO 42800E

Loop Time: 1.92 Hours
Loop Drift: .021 Mgals
Drift Rate: .011 Mgals/Hour

Operator: M.BURDORF
Gravimeter: Lacoste G#037
Date: 01/12/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 01		2959.910	1032		3099.83			
40000	40000	2959.910	1032	0164.83	3099.83	32.23020	979515.47	23.32
40000	40400	2957.870	1045	0177.88	3097.69	32.23076	979515.52	24.18
40000	40800	2956.780	1055	0183.95	3096.55	32.23133	979515.56	24.41
40000	41200	2955.380	1108	0188.61	3095.08	32.23189	979515.61	23.98
40000	41600	2952.420	1118	0206.68	3091.98	32.23245	979515.65	25.04
40000	42000	2951.580	1127	0207.36	3091.09	32.23302	979515.70	24.27
40000	42400	2951.690	1144	0210.16	3091.21	32.23358	979515.75	24.99
40000	42800	2957.030	1159	0177.27	3096.80	32.23414	979515.79	22.87
40000	40400	2957.890	1215	0177.88	3097.70	32.23076	979515.52	24.18
BASE # 01		2959.930	1227		3099.83			

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****
* SOLO *
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****
LOOP NUMBER 16
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 36000N
FROM 40000E TO 38000E

Loop Time: 2.38 Hours
Loop Drift: .021 Mgals
Drift Rate: .009 Mgals/Hour

Operator: J.PIERCEY
Gravimeter: Lacoste G#037
Date: 02/12/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 03		2966.840	1114		3107.11			
36000	40000	2966.840	1114	0153.68	3107.11	32.26576	979518.36	25.11
36000	39600	2965.600	1145	0162.20	3105.81	32.26519	979518.32	25.83
36000	39200	2966.720	1159	0156.06	3106.98	32.26463	979518.27	25.62
36000	38800	2969.460	1218	0139.48	3109.85	32.26407	979518.23	24.67
36000	38400	2967.710	1231	0151.30	3108.01	32.26350	979518.18	25.63
36000	38000	2968.220	1252	0145.10	3108.54	32.26294	979518.13	24.77
36000	39600	2965.610	1320	0162.20	3105.80	32.26519	979518.32	25.83
BASE # 03		2966.860	1337		3107.11			

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* SOLO *
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****
LOOP NUMBER 17
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 36000N
FROM 38000E TO 36000E

Loop Time: 2.35 Hours
Loop Drift: .021 Mgals
Drift Rate: .009 Mgals/Hour

Operator: J.PIERCEY
Gravimeter: Lacoste G#037
Date: 02/12/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 03		2966.860	1337		3107.11			
36000	38000	2968.240	1403	0145.10	3108.55	32.26294	979518.13	24.78
36000	37600	2970.820	1419	0129.75	3111.25	32.26238	979518.09	23.94
30000	37200	2970.720	1432	0132.40	3111.15	32.31515	979522.38	20.15
36000	36800	2974.050	1445	0114.59	3114.63	32.26125	979518.00	23.88
36000	36400	2977.100	1459	0099.86	3117.82	32.26069	979517.95	23.68
36000	36000	2978.140	1511	0091.80	3118.91	32.26013	979517.90	22.94
BASE # 03		2966.880	1558		3107.11			

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* SOLO *
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****
LOOP NUMBER 18
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 36000N
FROM 36000E TO 34000E

Loop Time: 2.30 Hours
Loop Drift: .010 Mgals
Drift Rate: .005 Mgals/Hour

Operator: J.PIERCEY
Gravimeter: Lacoste G#037
Date: 02/12/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 03		2966.880	1558		3107.11			
36000	36000	2978.180	1633	0091.80	3118.94	32.26013	979517.90	22.97
36000	35600	2978.730	1646	0090.16	3119.52	32.25956	979517.86	23.21
36000	35200	2979.160	1659	0086.83	3119.97	32.25900	979517.81	22.93
36000	34800	2979.100	1708	0084.46	3119.91	32.25844	979517.77	22.36
36000	34400	2978.830	1720	0082.56	3119.62	32.25787	979517.72	21.68
36000	34000	2979.300	1730	0081.88	3120.11	32.25731	979517.68	22.06
36000	36000	2978.170	1747	0091.80	3118.93	32.26013	979517.90	22.95
36000	40000	2966.890	1816	0153.68	3107.11	32.26576	979518.36	25.11
BASE # 03		2966.890	1816		3107.11			

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****
* SOLO *
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****
LOOP NUMBER 19
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 36000N
FROM 40000E TO 42000E

Loop Time: 2.62 Hours
Loop Drift: -.031 Mgals
Drift Rate: -.012 Mgals/Hour

Operator: D.McARDLE
Gravimeter: Lacoste G#037
Date: 03/12/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
B	# 03	2966.830	0852		3107.11			
36000	40000	2966.830	0852	0153.68	3107.11	32.26576	979518.36	25.11
36000	40400	2961.170	0921	0184.47	3101.19	32.26632	979518.41	26.32
36000	40800	2958.670	0943	0196.84	3098.57	32.26688	979518.45	26.54
36000	41200	2958.850	1007	0194.89	3098.77	32.26745	979518.50	26.23
36000	41600	2962.960	1026	0174.44	3103.07	32.26801	979518.55	25.73
36000	42000	2963.480	1042	0169.38	3103.62	32.26857	979518.59	25.05
36000	40000	2966.800	1129	0153.68	3107.11	32.26576	979518.36	25.11
BASE	# 03	2966.800	1129		3107.11			

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* SOLO *
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****
LOOP NUMBER 20
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 38000N
FROM 40000E TO 42400E

Loop Time: 1.75 Hours
Loop Drift: -.052 Mgals
Drift Rate: -.030 Mgals/Hour

Operator: M.BURDORF
Gravimeter: Lacoste G#037
Date: 04/12/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 02		2962.950	0837		3103.06			
38000	40000	2962.950	0837	0163.85	3103.06	32.24798	979516.92	24.88
38000	40400	2959.660	0852	0177.71	3099.62	32.24854	979516.96	24.62
38000	40800	2959.320	0908	0181.57	3099.27	32.24910	979517.01	25.13
38000	41200	2956.460	0920	0194.40	3096.28	32.24967	979517.05	25.08
38000	41600	2955.600	0929	0198.63	3095.39	32.25023	979517.10	25.13
38000	42000	2957.450	0939	0189.33	3097.33	32.25079	979517.15	24.86
38000	42400	2957.560	0950	0185.80	3097.45	32.25136	979517.19	24.11
38000	40000	2962.900	1022	0163.85	3103.06	32.24798	979516.92	24.88
BASE # 02		2962.900	1022		3103.06			

****
* SOLO *
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****
LOOP NUMBER 21
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA GRID Sth Australia

Coverage: LINE 40000N
FROM 34000E TO 32000E

Loop Time: 2.07 Hours
Loop Drift: .021 Mgals
Drift Rate: .010 Mgals/Hour

Operator: M.BURDORF
Gravimeter: Lacoste G#037
Date: 04/12/80

LINE No.	STATION No.	METER READING	TIME	ELVN (meters)	OBSGRAV (mgals)	LATITUDE (degrees)	THGRAV (mgals)	BOUGUER D= 1.8
BASE # 01		2959.830	1104		3099.83			
40000	40000	2959.830	1104	0164.83	3099.83	32.23020	979515.47	23.32
40000	34000	2962.780	1131	0155.00	3102.92	32.22175	979514.78	24.80
40000	33600	2964.200	1140	0147.55	3104.40	32.22119	979514.74	24.60
40000	33200	2966.450	1155	0136.29	3106.76	32.22063	979514.69	24.37
40000	32800	2971.120	1207	0113.10	3111.65	32.22006	979514.65	23.90
40000	32400	2972.540	1218	0107.30	3113.13	32.21950	979514.60	24.08
40000	32000	2973.680	1229	0099.76	3114.32	32.21894	979514.56	23.56
40000	34000	2962.790	1248	0155.00	3102.91	32.22175	979514.78	24.80
40000	40000	2959.850	1308	0164.83	3099.83	32.23020	979515.47	23.32
BASE # 01		2959.850	1308		3099.83			

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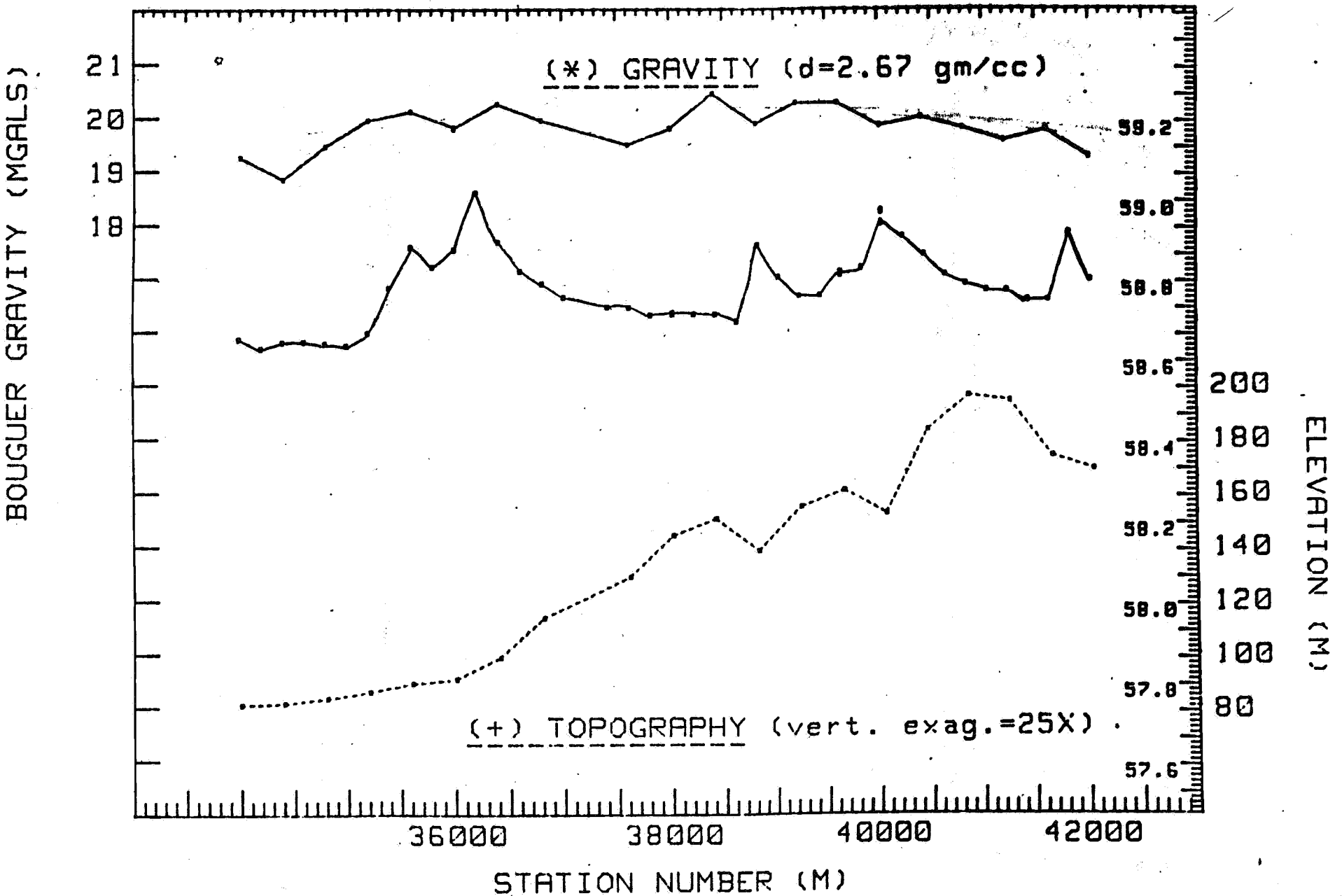
CLIENT: ESSO AUSTRALIA LTD

LOCATION: POUTCHINA GRID Sth Australia

LINE 36000N
SCALE 1:50000



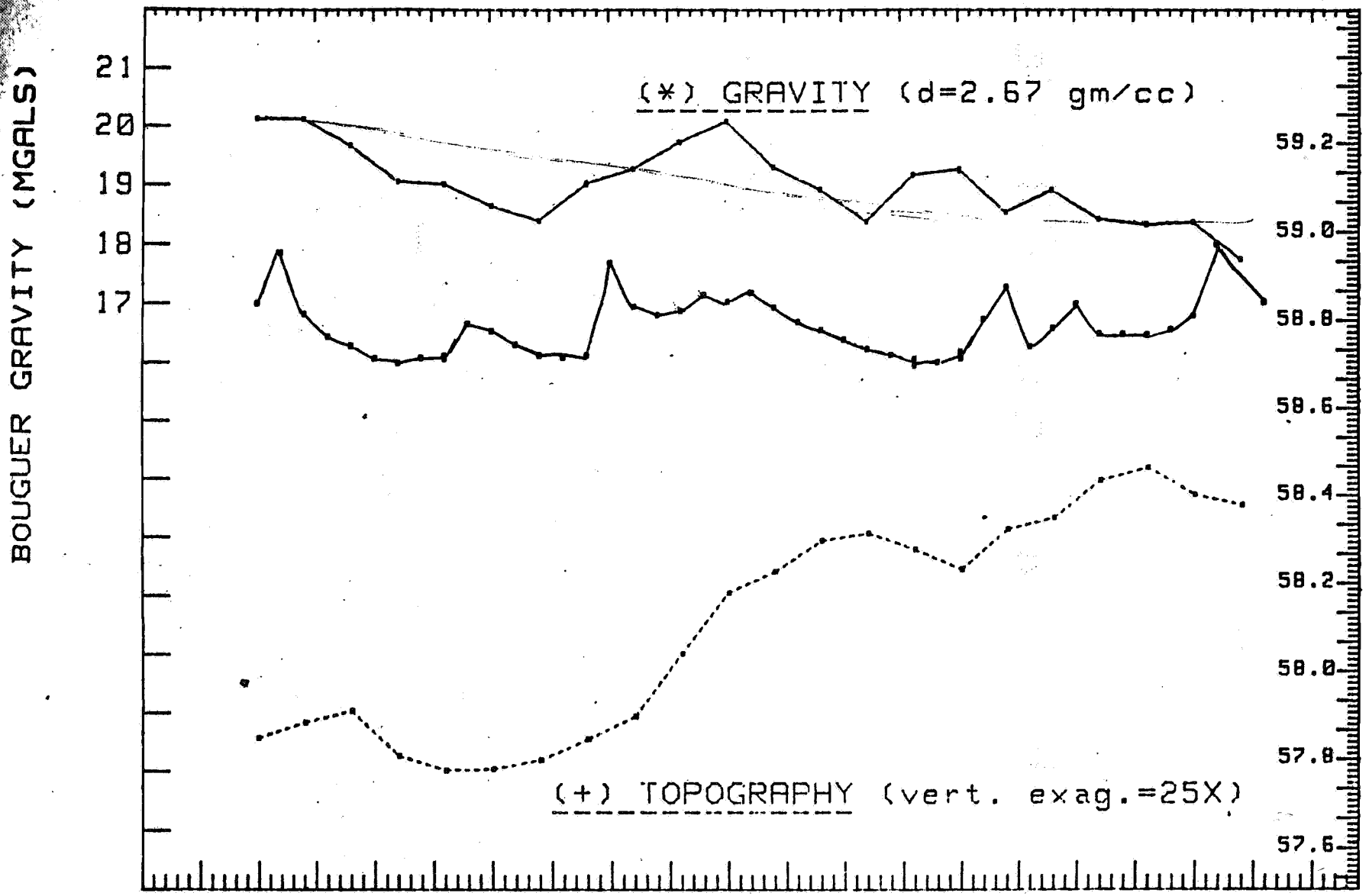
SOLO GEOPHYSICS & CO.

680

CLIENT: ESSO AUSTRALIA LTD

LOCATION: POUTCHINA GRID 5th Australia

LINE 38000N
SCALE 1:50000



SOLO GEOPHYSICS & CO.

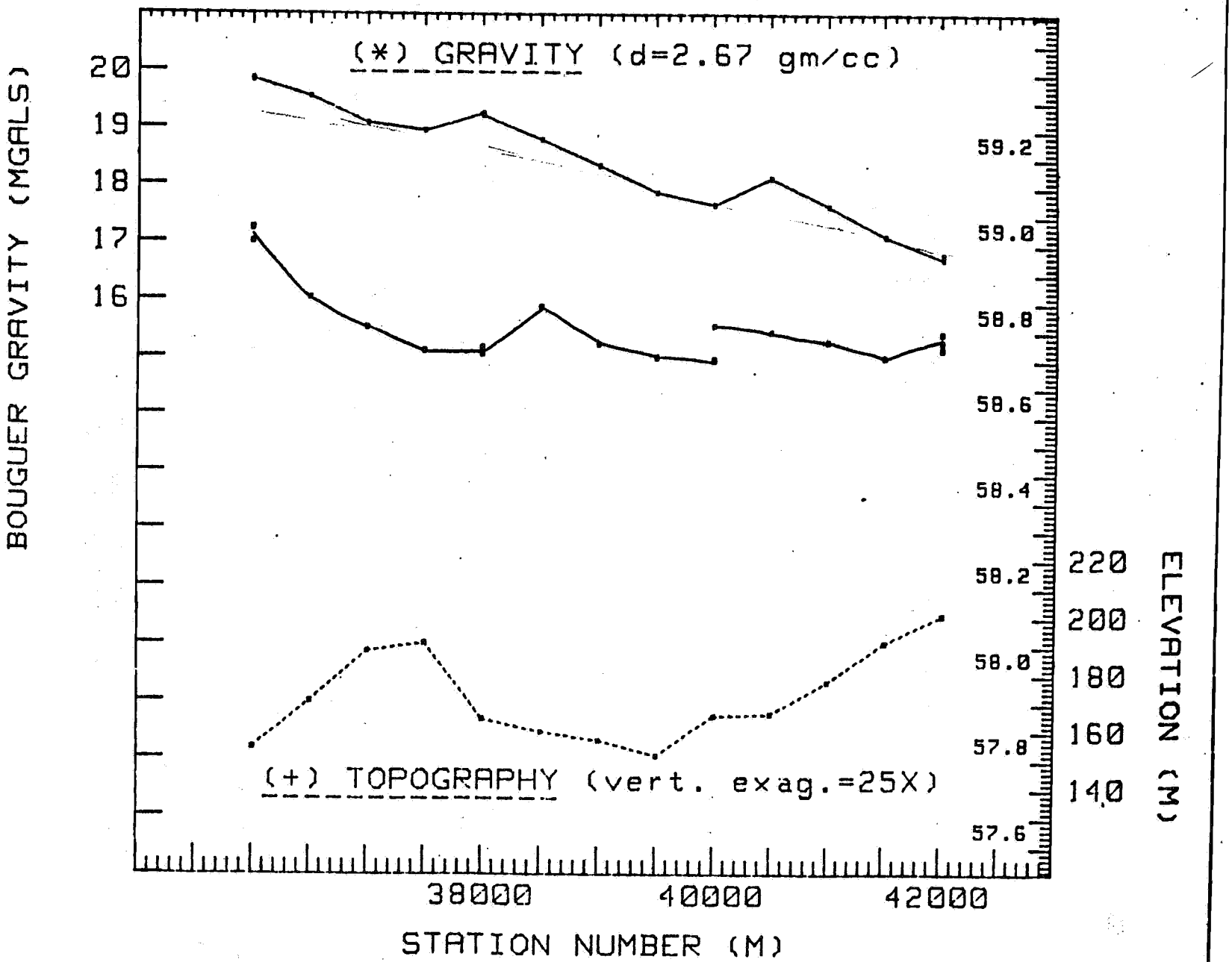
090

CLIENT: ESSO AUSTRALIA LTD

LOCATION: POUTCHINA GRID Sth Australia

BASELINE 40000E

SCALE 1:50000



SOLO GEOPHYSICS & CO.

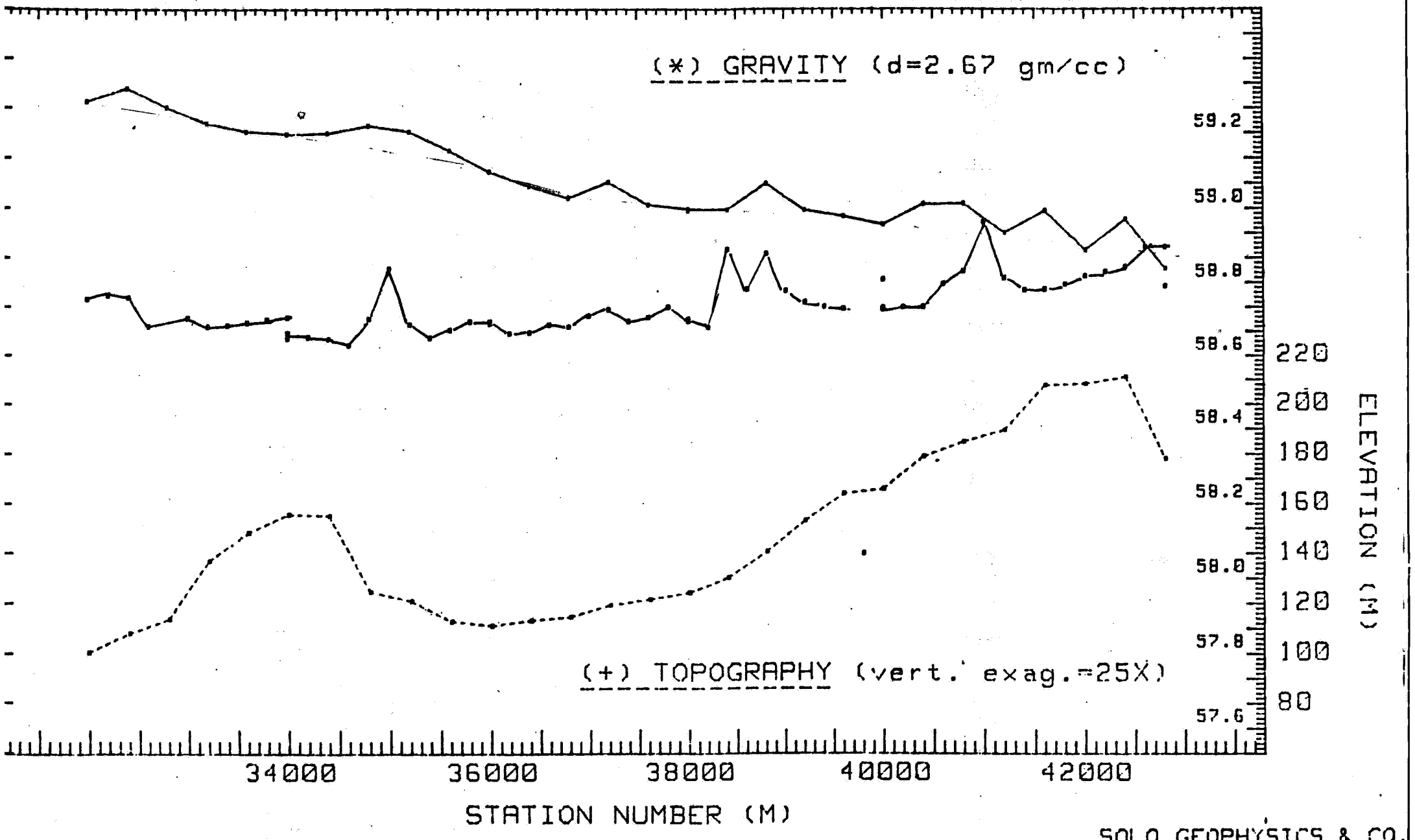
091

CLIENT: ESSO AUSTRALIA LTD

LOCATION: POUTCHINA GRID Sth Australia

LINE 40000N

SCALE 1:50000



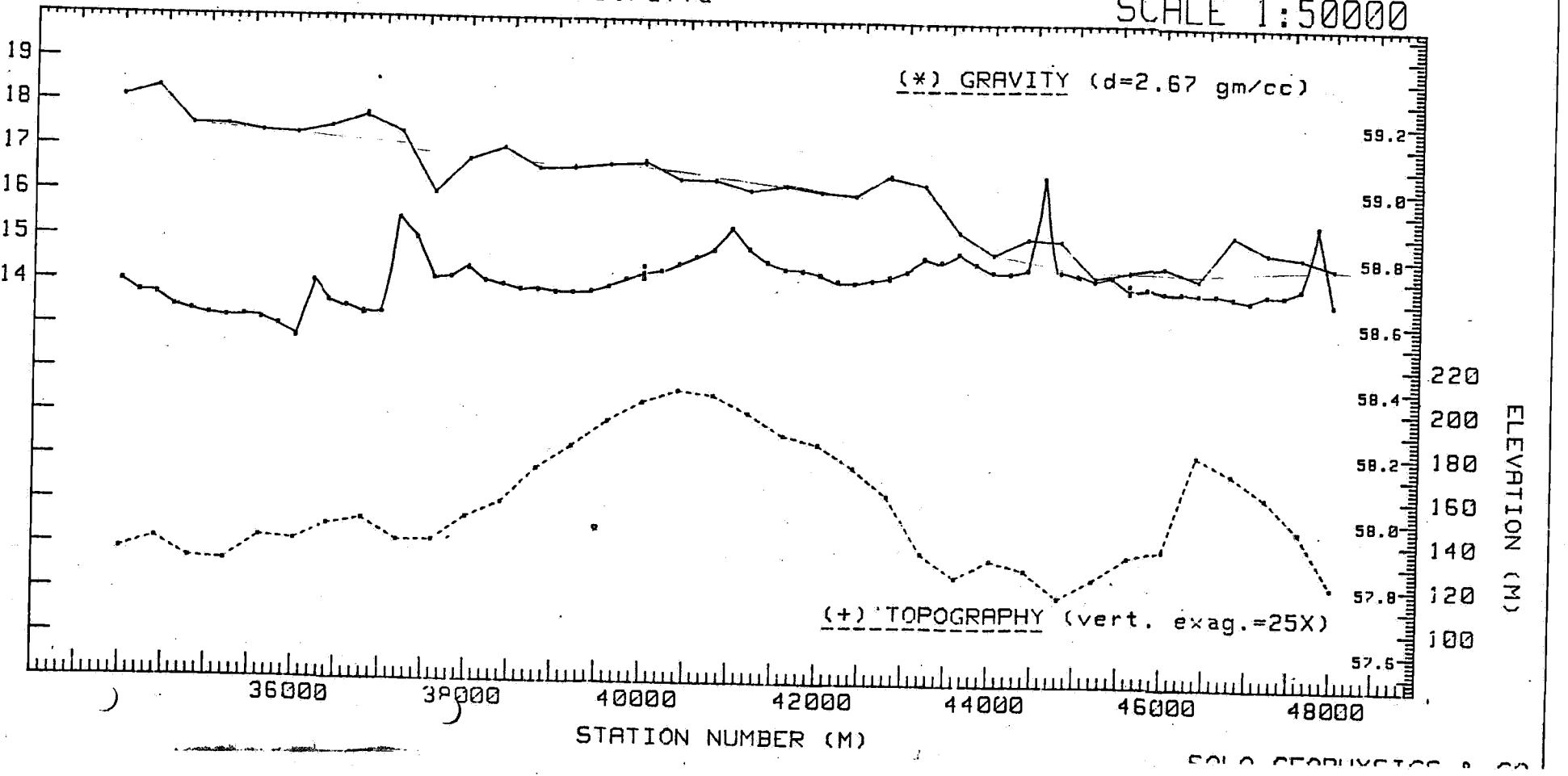
SOLO GEOPHYSICS & CO.

CLIENT: ESSO AUSTRALIA LTD

LOCATION: POUTCHINA GRID Sth Australia

LINE 42000N

SCALE 1:50000



********** DATA REDUCTION PARAMETERS **********

CLIENT: ESSO AUSTRALIA LTD
LOCATION: POUTCHINA Grid Sth.Australia

BASE #	OBSERVED MAGNETICS (nTs)
1	58697
2	58717
3	59003

****

********** CATALOG OF RAW FIELD DATA **********

LOOP# 1	LINE 40000	FROM 40000N TO 36000N
LOOP# 2	LINE 42000N	FROM 40000E TO 42800E
LOOP# 3	LINE 42000N	FROM 42800E TO 45600E
LOOP# 4	LINE 42000N	FROM 45600E TO 48000E
LOOP# 5	LINE 42000N	FROM 40000E TO 36800E
LOOP# 6	LINE 42000N	FROM 36800E TO 34000E
LOOP# 7	BASELINE	FROM 40000N TO 42000N
LOOP# 8	LINE 40000N	FROM 40000E TO 38000E
LOOP# 9	LINE 40000N	FROM 38000E TO 36000E
LOOP# 10	LINE 40000N	FROM 36000E TO 34000E
LOOP# 11	BASETIE	FROM BASE 1 TO BASE 2
LOOP# 12	LINE 38000N	FROM 40000E TO 36800E
LOOP# 13	LINE 38000N	FROM 36800E TO 34000E
LOOP# 14	BASE TIE	FROM BASE 2 TO BASE 3
LOOP# 15	LINE 40000N	FROM 40000E TO 42800E
LOOP# 16	LINE 36000N	FROM 40000E TO 38000E
LOOP# 17	LINE 36000N	FROM 38000E TO 36000E
LOOP# 18	LINE 36000	FROM 36000E TO 34000E
LOOP# 19	LINE 36000N	FROM 40000E TO 42000E
LOOP# 20	LINE 38000N	FROM 40000E TO 42400E
LOOP# 21	LINE 40000N	FROM 34000E TO 32000E

****
*** LINE M36000 ***
****

row #		STATION NUMBER	READING nTESLAS	Loop #
1		34000	58683	18
2		34200	58661	18
3		34400	58676	18
4		34600	58678	18
5		34800	58673	18
6		35000	58668	18
7		35200	58700	18
8		35400	58814	18
9		35600	58916	18
10		35800	58866	18
11		36000	58910	18
12	RPT	36000	58909 *	17
13	RPT	36000	58910 *	18
14		36200	59050	17
15		36400	58928	17
16		36600	58855	17
17		36800	58824	17
18		37000	58790	17
19		37400	58765	17
20		37600	58764	17
21		37800	58744	17
22		38000	58750	17
23	RPT	38000	58746 *	16
24		38200	58746	16
25		38400	58746	16
26		38600	58728	16
27		38800	58919	16
28		39000	58839	16
29		39200	58793	16
30		39400	58794	16
31		39600	58844	16
32	RPT	39600	58853 *	16
33		39800	58862	16
34		40000	59003	18
35	RPT	40000	59003 *	19
36	RPT	40000	58971 *	1
37	RPT	40000	59003 *	19
38	RPT	40000	59003 *	14
39	RPT	40000	59001 *	14
40	RPT	40000	59003 *	16
41		40200	58940	19
42		40400	58894	19
43		40600	58845	19
44		40800	58822	19
45		41000	58805	19
46		41200	58803	19
47		41400	58779	19
48		41600	58780	19
49		41800	58946	19
50		42000	58829	19

****
*** LINE M38000 ***
****

row #		STATION NUMBER	READING nTESLAS		Loop #
1		34000	58837		13
2		34200	58950		13
3		34400	58812		13
4		34600	58761		13
5		34800	58741		13
6		35000	58711		13
7		35200	58700		13
8		35400	58712		13
9		35600	58718		13
10	RPT	35600	58711	*	13
11		35800	58790		13
12		36000	58773		13
13		36200	58743		13
14		36400	58719		13
15		36600	58714		13
16		36800	58719		13
17	RPT	36800	58719	*	12
18		37000	58927		12
19		37200	58829		12
20		37400	58809		12
21		37600	58818		12
22		37800	58854		12
23		38000	58839		12
24		38200	58859		12
25		38400	58827		12
26		38600	58794		12
27		38800	58776		12
28		39000	58754		12
29		39200	58732		12
30		39400	58719		12
31		39600	58710		12
32	RPT	39600	58695	*	12
33		39800	58703		12
34		40000	58717		14
35	RPT	40000	58717	*	20
36	RPT	40000	58711	*	1
37	RPT	40000	58727	*	20
38	RPT	40000	58718	*	11
39	RPT	40000	58716	*	11
40	RPT	40000	58724	*	12
41	RPT	40000	58717	*	12
42		40200	58801		20
43		40400	58872		20
44	RPT	40400	58871	*	20
45		40600	58738		20
46		40800	58780		20
47		41000	58834		20
48		41200	58767		20
49		41400	58766		20
50		41600	58765		20
51		41800	58776		20
52		42000	58808		20
53		42200	58967		20
54		42600	58838		20

****
*** LINE F40000 ***
****

row #		STATION NUMBER	READING nTESLAS		Loop #
1		36000	59003		19
2	RPT	36000	59001	*	14
3	RPT	36000	59003	*	14
4	RPT	36000	59003	*	16
5	RPT	36000	59003	*	18
6	RPT	36000	59003	*	19
7	RPT	36000	58971	*	1
8		36500	58841		1
9		37000	58772		1
10		37500	58719		1
11		38000	58717		14
12	RPT	38000	58717	*	12
13	RPT	38000	58724	*	12
14	RPT	38000	58718	*	11
15	RPT	38000	58717	*	20
16	RPT	38000	58716	*	11
17	RPT	38000	58727	*	20
18	RPT	38000	58711	*	1
19		38500	58821		1
20		39000	58735		1
21		39500	58705		1
22	RPT	39500	58703	*	1
23		40000	58697		15
24	RPT	40000	58777	*	21
25	RPT	40000	58697	*	1
26	RPT	40000	58700	*	11
27	RPT	40000	58697	*	8
28	RPT	40000	58696	*	8
29	RPT	40000	58697	*	7
30	RPT	40000	58697	*	21
31	RPT	40000	58697	*	1
32	RPT	40000	58697	*	7
33		40500	58763		7
34		41000	58740		7
35		41500	58704		7
36		42000	58725		5
37	RPT	42000	58725	*	5
38	RPT	42000	58760	*	2
39	RPT	42000	58740	*	2
40	RPT	42000	58723	*	7

****
*** LINE M40000 ***
****

row #		STATION NUMBER	READING nTESLAS	Loop #
1		32000	58726	21
2		32200	58736	21
3		32400	58731	21
4		32600	58651	21
5		33000	58674	21
6		33200	58650	21
7		33400	58654	21
8		33600	58661	21
9		33800	58670	21
10		34000	58676	21
11	RPT	34000	58633 *	21
12	RPT	34000	58618 *	10
13		34200	58621	10
14		34400	58617	10
15		34600	58600	10
16		34800	58672	10
17		35000	58808	10
18		35200	58657	10
19		35400	58620	10
20		35600	58642	10
21		35800	58664	10
22		36000	58659	10
23	RPT	36000	58662 *	10
24	RPT	36000	58664 *	9
25		36200	58632	9
26		36400	58634	9
27		36600	58656	9
28		36800	58651	9
29		37000	58681	9
30		37200	58697	9
31		37400	58665	9
32		37600	58676	9
33		37800	58704	9
34		38000	58671	9
35	RPT	38000	58667 *	9
36	RPT	38000	58666 *	8
37		38200	58650	8
38		38400	58860	8
39		38600	58753	8
40		38800	58848	8
41		39000	58748	8
42		39200	58716	8
43		39400	58704	8
44		39600	58698	8
45		39800	58035	8
46		40000	58777	21
47	RPT	40000	58697 *	21
48	RPT	40000	58697 *	15
49	RPT	40000	58700 *	11
50	RPT	40000	58697 *	1
51	RPT	40000	58697 *	8
52	RPT	40000	58696 *	8
53	RPT	40000	58697 *	7
54	RPT	40000	58697 *	7
55	RPT	40000	58697 *	1
56		40200	58701	15
57		40400	58702	15
58	RPT	40400	58703 *	15
59		40600	58765	15
60		40800	58800	15

61		41000	58935	15
62		41200	58782	15
63		41400	58749	15
64		41600	58751	15
65		41800	58765	15
66		42000	58788	15
67		42200	58800	15
68		42400	58812	15
69		42600	58867	15
70		42800	58866	15
71	RPT	42800	58760 *	21

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****
*** LINE M42000 ***
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row #		STATION NUMBER	READING nTESLAS		Loop #
1		34000	58701		6
2		34200	58668		6
3		34400	58663		6
4		34600	58626		6
5		34800	58616		6
6		35000	58604		6
7		35200	58598		6
8		35400	58602		6
9		35600	58593		6
10		35800	58575		6
11		36000	58538		6
12		36200	58707		6
13		36400	58645		6
14		36600	58630		6
15		36800	58608		5
16	RPT	36800	58609	*	6
17	RPT	36800	58613	*	6
18		37000	58613		5
19		37200	58896		5
20		37400	58839		5
21		37600	58719		5
22		37800	58722		5
23		38000	58749		5
24		38200	58711		5
25		38400	58701		5
26		38600	58688		5
27		38800	58688		5
28		39000	58680		5
29		39200	58680		5
30		39400	58685		5
31		39600	58698		5
32		39800	58722		5
33		40000	58725		5
34	RPT	40000	58740	*	2
35	RPT	40000	58725	*	5
36	RPT	40000	58723	*	7
37	RPT	40000	58760	*	2
38		40200	58748		2
39		40400	58769		2
40		40600	58792		2
41		40800	58813		2
42		41000	58878		2
43		41200	58817		2
44		41400	58777		2
45		41600	58756		2
46		41800	58752		2
47		42000	58742		2
48		42200	58722		2
49		42400	58718		2
50		42600	58726		2
51		42800	58733		2
52	RPT	42800	58740	*	3
53		43000	58756		3
54		43200	58797		3
55		43400	58788		3
56		43600	58813		3
57		43800	58782		3
58		44000	58759		3
59		44200	58754		3
60		44400	58766		3

61		44600	59040	3
62		44800	58759	3
63		45000	58749	3
64		45200	58733	3
65		45400	58743	3
66		45600	58696	4
67	RPT	45600	58701 *	4
68	RPT	45600	58720 *	3
69		45800	58708	4
70		46000	58702	4
71		46200	58702	4
72		46400	58698	4
73		46600	58698	4
74		46800	58690	4
75		47000	58679	4
76		47200	58699	4
77		47400	58697	4
78		47600	58718	4
79		47800	58908	4
80		48000	58671	4

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* SOLO *
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****
LOOP NUMBER 1
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 40000
FROM 40000N TO 36000N

Loop Time: 1.95 Hours
Loop Drift: 25.000 nTs
Drift Rate: -12.821 nTs/Hour

Operator: J.PIERCEY
Meter: Scintrex MP-2
Date: 27/11/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 01		58662	1201	
40000	40000	58662	1201	58697
39500	40000	58670	1212	58703
39000	40000	58704	1220	58735
38500	40000	58792	1229	58821
38000	40000	58683	1234	58711
37500	40000	58693	1243	58719
37000	40000	58749	1255	58772
36500	40000	58820	1305	58841
36000	40000	58952	1315	58971
39500	40000	58694	1352	58705
40000	40000	58687	1358	58697
BASE # 01		58687	1358	

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* SOLO *
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****
LOOP NUMBER 2
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 42000N
FROM 40000E TO 42800E

Loop Time: 2.42 Hours
Loop Drift: -64.000 nTs
Drift Rate: 26.483 nTs/Hour

Operator: J.PIERCEY
Meter: Scintrex MP-2
Date: 28/11/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 01		58708	0705	
42000	40000	58736	0738	58740
42000	40200	58742	0743	58748
42000	40400	58758	0754	58769
42000	40600	58780	0756	58792
42000	40800	58798	0804	58813
42000	41000	58862	0806	58878
42000	41200	58799	0811	58817
42000	41400	58758	0814	58777
42000	41600	58734	0819	58756
42000	41800	58728	0824	58752
42000	42000	58715	0831	58742
42000	42200	58692	0838	58722
42000	42400	58684	0846	58718
42000	42600	58690	0851	58726
42000	42800	58695	0857	58733
42000	40000	58715	0912	58760
BASE # 01		58644	0930	

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* SOLO *
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****
LOOP NUMBER 3
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 42000N
FROM 42800E TO 45600E

Loop Time: 2.83 Hours
Loop Drift: 20.000 nTs
Drift Rate: -7.059 nTs/Hour

Operator: J.PIERCEY
Meter: Scintrex MP-2
Date: 28/11/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 01		58644	0930	
42000	42800	58690	0959	58740
42000	43000	58707	1005	58756
42000	43200	58749	1009	58797
42000	43400	58740	1015	58788
42000	43600	58767	1027	58813
42000	43800	58737	1034	58782
42000	44000	58714	1040	58759
42000	44200	58710	1046	58754
42000	44400	58723	1059	58766
42000	44600	58998	1104	59040
42000	44800	58718	1113	58759
42000	45000	58709	1118	58749
42000	45200	58693	1124	58733
42000	45400	58704	1129	58743
42000	45600	58682	1137	58720
BASE # 01		58664	1220	

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* SOLO *
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****
LOOP NUMBER 4
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 42000N
FROM 45600E TO 48000E

Loop Time: 3.40 Hours
Loop Drift: 45.000 nTs
Drift Rate: -13.235 nTs/Hour

Operator: J.PIERCEY
Meter: Scintrex MP-2
Date: 28/11/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 01		58673	1308	
42000	45600	58683	1357	58696
42000	45800	58697	1406	58708
42000	46000	58693	1418	58702
42000	46200	58695	1427	58702
42000	46400	58693	1434	58698
42000	46600	58694	1439	58698
42000	46800	58687	1445	58690
42000	47000	58678	1453	58679
42000	47200	58700	1500	58699
42000	47400	58700	1510	58697
42000	47600	58722	1517	58718
42000	47800	58913	1521	58908
42000	48000	58678	1527	58671
42000	45600	58715	1559	58701
BASE # 01		58718	1632	

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* SOLO *
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****
LOOP NUMBER 5
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 42000N
FROM 40000E TO 36800E

Loop Time: 2.40 Hours
Loop Drift: -10.000 nTs
Drift Rate: 4.167 nTs/Hour

Operator: J.PIERCEY
Meter: Scintrex MP-2
Date: 29/11/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 01		58710	0741	
42000	40000	58737	0802	58725
42000	39800	58733	0810	58722
42000	39600	58709	0816	58698
42000	39400	58695	0820	58685
42000	39200	58690	0825	58680
42000	39000	58690	0829	58680
42000	38800	58697	0835	58688
42000	38600	58697	0838	58688
42000	38400	58710	0844	58701
42000	38200	58719	0849	58711
42000	38000	58757	0854	58749
42000	37800	58730	0858	58722
42000	37600	58726	0904	58719
42000	37400	58846	0906	58839
42000	37200	58903	0912	58896
42000	37000	58619	0916	58613
42000	36800	58614	0920	58608
42000	40000	58730	0943	58725
BASE # 01		58700	1005	

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* SOLO *
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****
LOOP NUMBER 6
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 42000N
FROM 36800E TO 34000E

Loop Time: 2.13 Hours
Loop Drift: -31.000 nTs
Drift Rate: 14.531 nTs/Hour

Operator: J.PIERCEY
Meter: Scintrex MP-2
Date: 29/11/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 01		58700	1005	
42000	36800	58607	1026	58609
42000	36600	58627	1028	58630
42000	36400	58641	1034	58645
42000	36200	58702	1039	58707
42000	36000	58531	1045	58538
42000	35800	58568	1048	58575
42000	35600	58584	1053	58593
42000	35400	58592	1057	58602
42000	35200	58587	1101	58598
42000	35000	58593	1104	58604
42000	34800	58603	1109	58616
42000	34600	58613	1113	58626
42000	34400	58647	1123	58663
42000	34200	58651	1129	58668
42000	34000	58682	1135	58701
42000	36800	58589	1157	58613
BASE # 01		58669	1213	

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* SOLO *
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****
LOOP NUMBER 7
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: BASELINE
FROM 40000N TO 42000N

Loop Time: .75 Hours
Loop Drift: 0.000 nTs
Drift Rate: 0.000 nTs/Hour

Operator: J.PIERCEY
Meter: Scintrex MP-2
Date: 29/11/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 01		58669	1213	
40000	40000	58669	1213	58697
40500	40000	58735	1220	58763
41000	40000	58712	1230	58740
41500	40000	58676	1237	58704
42000	40000	58695	1243	58723
40000	40000	58669	1258	58697
BASE # 01		58669	1258	

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* SOLO *
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****
LOOP NUMBER 8
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 40000N
FROM 40000E TO 38000E

Loop Time: 1.70 Hours
Loop Drift: 16.000 nTs
Drift Rate: -9.412 nTs/Hour

Operator: M.BURDORF
Meter: Scintrex MP-2
Date: 29/11/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 01		58661	1410	
40000	40000	08660	1410	8696
40000	39800	58000	1418	58035
40000	39600	58665	1432	58698
40000	39400	58672	1436	58704
40000	39200	58686	1447	58716
40000	39000	58718	1450	58748
40000	38800	58820	1458	58848
40000	38600	58725	1503	58753
40000	38400	58834	1514	58860
40000	38200	58625	1520	58650
40000	38000	58642	1527	58666
40000	40000	58677	1552	58697
BASE # 01		58677	1552	

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* SOLO *
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****
LOOP NUMBER 9
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 40000N
FROM 38000E TO 36000E

Loop Time: 1.68 Hours
Loop Drift: 22.000 nTs
Drift Rate: -13.069 nTs/Hour

Operator: M.BURDORF
Meter: Scintrex MP-2
Date: 29/11/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 01		58677	1552	
40000	38000	58651	1610	58667
40000	37800	58689	1615	58704
40000	37600	58663	1623	58676
40000	37400	58653	1627	58665
40000	37200	58687	1636	58697
40000	37000	58671	1639	58681
40000	36800	58642	1644	58651
40000	36600	58648	1648	58656
40000	36400	58628	1655	58634
40000	36200	58627	1700	58632
40000	36000	58660	1706	58664
40000	38000	58670	1719	58671
BASE # 01		58699	1733	

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* SOLO *
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****
LOOP NUMBER 10
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 40000N
FROM 36000E TO 34000E

Loop Time: 1.92 Hours
Loop Drift: -8.000 nTs
Drift Rate: 4.174 nTs/Hour

Operator: J.PIERCEY
Meter: Scintrex MP-2
Date: 30/11/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 01		58705	0718	
40000	36000	58669	0732	58662
40000	35800	58671	0736	58664
40000	35600	58648	0741	58642
40000	35400	58626	0749	58620
40000	35200	58662	0756	58657
40000	35000	58813	0801	58808
40000	34800	58677	0807	58672
40000	34600	58604	0812	58600
40000	34400	58620	0824	58617
40000	34200	58624	0833	58621
40000	34000	58620	0839	58618
40000	36000	58660	0858	58659
BASE # 01		58697	0913	

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* SOLO *
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****
LOOP NUMBER 11
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: BASETIE
FROM BASE 1 TO BASE 2

Loop Time: .75 Hours
Loop Drift: -1.000 nTs
Drift Rate: 1.333 nTs/Hour

Operator: J.PIERCEY
Meter: Scintrex MP-2
Date: 30/11/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 01		58697	0913	
38000	40000	58718	0926	58718
40000	40000	58699	0936	58700
38000	40000	58715	0947	58716
BASE # 01		58696	0958	

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* SOLO *
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****
LOOP NUMBER 12
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 38000N
FROM 40000E TO 36800E

Loop Time: 2.07 Hours
Loop Drift: -40.000 nTs
Drift Rate: 19.355 nTs/Hour

Operator: J.PIERCEY
Meter: Scintrex MP-2
Date: 30/11/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 02		58710	1008	
38000	40000	58701	1058	58724
38000	39800	58694	1014	58703
38000	39600	58684	1021	58695
38000	39400	58706	1027	58719
38000	39200	58717	1034	58732
38000	39000	58737	1040	58754
38000	38800	58757	1045	58776
38000	38600	58774	1048	58794
38000	38400	58805	1054	58827
38000	38200	58836	1058	58859
38000	38000	58814	1105	58839
38000	37800	58826	1113	58854
38000	37600	58788	1120	58818
38000	37400	58777	1126	58809
38000	37200	58795	1131	58829
38000	37000	58892	1134	58927
38000	36800	58682	1140	58719
38000	39600	58665	1206	58710
38000	40000	58670	1212	58717
BASE # 02		58670	1212	

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****
* SOLO *
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****
LOOP NUMBER 13
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 38000N
FROM 36800E TO 34000E

Loop Time: 2.10 Hours
Loop Drift: 27.000 nTs
Drift Rate: -12.857 nTs/Hour

Operator: J.PIERCEY
Meter: Scintrex MP-2
Date: 30/11/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 02		58668	1339	
38000	36800	58674	1400	58719
38000	36600	58670	1403	58714
38000	36400	58676	1408	58719
38000	36200	58701	1411	58743
38000	36000	58733	1419	58773
38000	35800	58750	1422	58790
38000	35600	58680	1429	58718
38000	35400	58675	1433	58712
38000	35200	58664	1440	58700
38000	35000	58676	1443	58711
38000	34800	58707	1450	58741
38000	34600	58728	1455	58761
38000	34400	58781	1502	58812
38000	34200	58920	1506	58950
38000	34000	58808	1513	58837
38000	35600	58685	1526	58711
BASE # 02		58695	1545	

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* SOLO *
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****
LOOP NUMBER 14
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: BASE TIE
FROM BASE 2 TO BASE 3

Loop Time: 1.62 Hours
Loop Drift: -6.000 nTs
Drift Rate: 3.711 nTs/Hour

Operator: J.PIERCEY
Meter: Scintrex MP-2
Date: 01/12/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 02		58704	0832	
[illegible]000	40000	58988	0901	59003
38000	40000	58701	0924	58717
36000	40000	58983	0948	59001
BASE # 02		58698	1009	

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* SOLO *
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****
LOOP NUMBER 15
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 40000N
FROM 40000E TO 42800E

Loop Time: 1.92 Hours
Loop Drift: -7.000 nTs
Drift Rate: 3.652 nTs/Hour

Operator: J.PIERCEY
Meter: Scintrex MP-2
Date: 01/12/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 01		58688	1032	
40000	40000	58688	1032	58697
40000	40200	58692	1039	58701
40000	40400	58693	1045	58703
40000	40600	58755	1049	58765
40000	40800	58790	1055	58800
40000	41000	58924	1101	58935
40000	41200	58771	1108	58782
40000	41400	58738	1111	58749
40000	41600	58739	1118	58751
40000	41800	58753	1121	58765
40000	42000	58776	1127	58788
40000	42200	58787	1135	58800
40000	42400	58799	1144	58812
40000	42600	58853	1154	58867
40000	42800	58852	1159	58866
40000	40400	58687	1215	58702
BASE # 01		58681	1227	

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* SOLO *
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****
LOOP NUMBER 16
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 36000N
FROM 40000E TO 38000E

Loop Time: 2.38 Hours
Loop Drift: -9.000 nTs
Drift Rate: 3.776 nTs/Hour

Operator: M.BURDORF
Meter: Scintrex MP-2
Date: 02/12/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 03		58988	1114	
360	40000	58988	1114	59003
36000	39800	58846	1137	58862
36000	39600	58827	1145	58844
36000	39400	58777	1150	58794
36000	39200	58775	1159	58793
36000	39000	58821	1209	58839
36000	38800	58900	1218	58919
36000	38600	58709	1224	58728
36000	38400	58726	1231	58746
36000	38200	58726	1241	58746
36000	38000	58725	1252	58746
36000	39600	58830	1320	58853
BASE # 03		58979	1337	

****

****
* SOLO *
****

****
LOOP NUMBER 1
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 36000N
FROM 38000E TO 36000E

Loop Time: 2.35 Hours
Loop Drift: 15.000 nTs
Drift Rate: -6.383 nTs/Hour

Operator: M.BURDORF
Meter: Scintrex MP-2
Date: 02/12/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 03		58979	1337	
36000	38000	58729	1403	58750
36000	37800	58723	1408	58744
36000	37600	58744	1419	58764
36000	37400	58746	1425	58765
30000	37200	58751	1432	58769
36000	37000	58772	1437	58790
36000	36800	58807	1445	58824
36000	36600	58839	1452	58855
36000	36400	58913	1459	58928
36000	36200	59035	1505	59050
36000	36000	58895	1511	58909
BASE # 03		58994	1558	

****
* SOLO *
****

****
LOOP NUMBER 18
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 36000
FROM 36000E TO 34000E

Loop Time: 2.30 Hours
Loop Drift: 10.000 nTs
Drift Rate: -4.348 nTs/Hour

Operator: M.BURDORF
Meter: Scintrex MP-2
Date: 02/12/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 03		58994	1558	
36000	36000	58904	1633	58910
36000	35800	58860	1639	58866
36000	35600	58910	1646	58916
36000	35400	58809	1652	58814
36000	35200	58695	1659	58700
36000	35000	58664	1702	58668
36000	34800	58669	1708	58673
36000	34600	58674	1712	58678
36000	34400	58673	1720	58676
36000	34200	58658	1724	58661
36000	34000	58681	1730	58683
36000	36000	58909	1747	58910
36000	40000	59004	1816	59003
BASE # 03		59004	1816	

****

****
* SOLO *
****

****
LOOP NUMBER 19
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 36000N
FROM 40000E TO 42000E

Loop Time: 2.62 Hours
Loop Drift: -11.000 nTs
Drift Rate: 4.204 nTs/Hour

Operator: M.BURDORF
Meter: Scintrex MP-2
Date: 03/12/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 03		59008	0852	
36000	40000	59008	0852	59003
36000	40200	58944	0907	58940
36000	40400	58897	0921	58894
36000	40600	58847	0930	58845
36000	40800	58823	0943	58822
36000	41000	58805	0957	58805
36000	41200	58803	1007	58803
36000	41400	58778	1014	58779
36000	41600	58778	1026	58780
36000	41800	58944	1032	58946
36000	42000	58826	1042	58829
36000	40000	58997	1129	59003
BASE # 03		58997	1129	

****

****
* SOLO *
****

****
LOOP NUMBER 20
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 38000N
FROM 40000E TO 42400E

Loop Time: 1.75 Hours
Loop Drift: -10.000 nTs
Drift Rate: 5.714 nTs/Hour

Operator: J.PIERCEY
Meter: Scintrex MP-2
Date: 04/12/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 02		58717	0837	
38000	40000	58717	0837	58717
38000	40200	58800	0845	58801
38000	40400	58871	0852	58872
38000	40600	58736	0858	58738
38000	40800	58777	0908	58780
38000	41000	58830	0914	58834
38000	41200	58763	0920	58767
38000	41400	58762	0923	58766
38000	41600	58760	0929	58765
38000	41800	58771	0932	58776
38000	42000	58802	0939	58808
38000	42200	58961	0944	58967
38000	42600	58831	0950	58838
38000	40400	58862	1013	58871
38000	40000	58717	1022	58727
BASE # 02		58707	1022	

****

****
* SOLO *
****

****
LOOP NUMBER 21
****

Client: ESSO AUSTRALIA LTD
Location: POUTCHINA Grid Sth.Australia

Coverage: LINE 40000N
FROM 34000E TO 32000E

Loop Time: 2.07 Hours
Loop Drift: 66.000 nTs
Drift Rate: -31.935 nTs/Hour

Operator: J.PIERCEY
Meter: Scintrex MP-2
Date: 04/12/80

LINE No.	STATION No.	READING nT	TIME	REDUCED VALUE
BASE # 01		58602	1104	
40000	40000	58682	1104	58777
40000	34000	58595	1131	58676
40000	33800	58591	1134	58670
40000	33600	58585	1140	58661
40000	33400	58583	1149	58654
40000	33200	58582	1155	58650
40000	33000	58610	1202	58674
40000	42800	58699	1207	58760
40000	32600	58592	1212	58651
40000	32400	58675	1218	58731
40000	32200	58683	1223	58736
40000	32000	58676	1229	58726
40000	34000	58593	1248	58633
40000	40000	58668	1308	58697
BASE # 01		58668	1308	

ESSO AUSTRALIA LIMITED - MINERALS DEPARTMENT

EXPLORATION LICENCE 529 - POUTCHINA

QUARTERLY REPORT FOR THE PERIOD ENDING 11TH JUNE, 1981

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Line 1200N.

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FIGURE 3 Drawing No. 581-14 Ground Magnetic Profiles Jungle Dam.

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FIGURE 8 Drawing No. 581-19 Geological Map Sheet 1 1:40,000.

FIGURE 9 Drawing No. 581-20 Geological Map Sheet 2 1:40,000.

INTRODUCTION

Extensive geophysical work, including airborne magnetic and radiometric surveys, ground magnetic profiling, gravity surveys (see Fig.2) and electromagnetic soundings enabled two drill sites to be selected at Jungle Dam and Burk Dam Prospects.

PRESENT EXPLORATION

1. Geophysics

(a) Electromagnetic Soundings

Three electromagnetic soundings were completed within a licence area. (See Fig.1). Two surveys were completed at Jungle Dam Prospect (See Plate 1 and 2) and one at the Burk Dam Prospect (See Plate 3). Refer to Appendix I for technical aspects of the Maxiprobe EMR 16 system.

At the station 1200N 750E at Jungle Dam Prospect, good agreement was obtained with a major interface at 177m depth. Drilling logs indicated a major increase in magnetic susceptibility at this depth and the geoprobe indicated an increasing resistivity. However for shallower depths correlation between drill hole data and geoprobe data was not good. The interface between the Pandurra Formation and the Gawler Range Sequence was not identifiable at either station using the electromagnetic sounding.

At Burk Dam Prospect the interface at 200m and 230m was detected however interpretation of data would be assisted with a longer vertical scale for depths.

(b) Magnetic Surveys

Ground magnetic surveys were conducted at Jungle Dam, White Dam and Burk Dam Prospects. (See Figs.3,4, & 5). These were follow-up surveys to locate airborne anomalies and to aid the modelling of the magnetic features and to determine depths to upper surfaces. Agreement between lithologies and magnetic modelling was useful at Jungle Dam. The magnetic interface is a gradational zone beginning at 150m (700-900 $X10^{-5}$S.I.) and increasing to 187m (1500x 2000 $X10^{-5}$S.I.)

Modelling the ground magnetic results suggested that the interface would occur at approximately 168m. (Refer to Appendix II).

2. Geology

(a) Geological Mapping

Regional mapping by Mark Foy (consultant geologist) has been completed on a scale 1:40,000 using aerial photograph

Cont/d.

interpretations with detailed ground traverses. The dominant rock types were the basal Pandurra Formation and the Carpentarian Gawler Range Volcanics. A basic to intermediate volcanic sequence corresponding to that sequence intersected in the stratigraphic hole Myall Creek RC 1 was recognised within a massive sequence of acid rhyolitic to dacitic volcanic tuffs and flows. (See Fig. 6-9).

(b) Drilling Programme

Two zones of possible Roopena Sequence rocks have been outlined and two holes were subsequently drilled, using a Schramm T64 Deep Percussion drilling rig. (See Fig.1). A summary of the drilling results is as follows:

Burk Dam Prospect

BD-1 was drilled to test a magnetic target. 108 metres of non-magnetic Gawler Range Acid Volcanics overly 120 metres of magnetic basic volcanics with no sediments being present. The hole terminated in a massive crystal tuff which is non magnetic.

Burk Dam BD-1 1300N 000E:

Mag.Sus. ($X10^{-5}SI$)	m	
200	0-108	Reddish fine grain porphyritic (fld-qtz) acid volcanic (Dacite).
	108-120	Lithic-crystal chloritic tuff or flow breccia.
	120-122	Laminated f.g. tuff.
	122-132	Amygdaloidal grey green basalt becoming coarse grained with less amygdules towards base.
2600	132-146	Amygdaloidal basalt.
1500-2000	147-204	Dark grey green amygdaloidal basalt.
	204-213	Flow breccia of amygdaloidal trachyandesite basalt?
2500-4500	214-232	Dark grey black crystal lithic tuff.
250	232-240	Pale brown to greenish laminated to massive crystal (lithic) tuff.

Jungle Dam Prospect

A magnetic target was drilled to test for the presence of basic volcanics and subsequent underlying sediments. The magnetic interface occurred at 150-170 metres whereafter the Gawler Range acid volcanic rocks were moderately magnetic. No basic volcanics nor sediments were intersected.

Cont/d.

Jungle Dam JD-1 12000N 750E:

Mag.Sus ($X10^{-5}SI$)	m	
	0-40	Coarse feldspathic sandstone.
	40-50	Tan, green sandy siltstone and mudstones.
15	50-67	Haematitic micaceous fine grain maroon sst, siltstone and mudstones. (55-67) Dominantly siltstones and mudstones. Minor pale grn mdst.
10	68-106	Haematitic silty sandstones with coarse to gritty bands. Some specularite cemented bands.
15	106-112	Flow top breccia.
100	112-146	Reddish orange fld porphyritic acid volcanic (Rhyodacite?)
700-900	146-177	+Visible magnetite.
800-1000	177-187	
1500-2000	187-245	Brownish porphyritic acid volcanic (Dacite). (Possibly a tuff).

Based on field mapping by Mark Foy, geophysics and these drilling results it is apparent that no easily accessible sediments are present.

Assay results have not been received and fourteen samples have been submitted for petrological description.

A final assessment will be made after the above data has been received.

APPENDIX I

ELECTROMAGNETIC SOUNDING TECHNIQUE.

ELECTROMAGNETIC SOUNDING TECHNIQUE

The system employed for these soundings was the Maxi-Probe EMR 16 developed by Geoprobe Ltd. and operated by Geoterrex Pty. Ltd. The system consists of a wideband multifrequency transmitter and a receiver that measures the horizontal and vertical components of the resultant magnetic field. The receiver-transmitter separation is dependent on the desired depth of investigation.

A total of 123 frequencies in the range 1 Hz to 40 KHz are available though in normal circumstances the full range of frequencies is not used. The transmitting coil consists of a simple loop or number of loops of 10 turns placed on the ground surface. A sinusoidal current is driven into this loop by a 2.5 KW motor generator.

The receiving antenna system consists of two parallel identical pairs of vertical and horizontal ferrite cored coils housed in a fibreglass ball designed to minimize noise due to wind vibrations. The antenna is connected to a low noise wide band (0.5 Hz to 50 KHz) preamplifier. Reference to the transmitter is achieved via an internal crystal clock.

For each sounding (i.e. each transmitter receiver set up) the vertical and horizontal magnetic field amplitudes and phases are measured for the desired range of frequencies. Based on theoretical considerations developed by Geoprobe, an apparent resistivity and depth is calculated for each frequency from the amplitude ratio and phase difference. This calculated resistivity and depth data is used to plot a sounding curve from which subsurface resistivity discontinuities can be interpreted. In general the high frequency range is used for shallow penetration and the low frequency range for deeper penetration.

APPENDIX II

JUNGLE DAM PROSPECT

Ground Magnetics Modelling Programme Line 1200N.

2-D GRAVITY/MAGNETIC MODELING PROGRAM

LINE 12000 GROUND MAGNETICS JUNGLE DAM POUTCHINA SA
THIS MODEL CONTAINS 4 BODIES

THE BACKGROUND SUSCEPTIBILITY IS 0 MICRO CGS UNITS
THE MAGNETIC INCLINATION IS -65 DEGREES
THE PROFILE DIRECTION MAKES A 90 DEGREE ANGLE WITH MAGNETIC NORTH
THE MAGNETIC TOTAL FIELD STRENGTH IS 59500 GAMMAS
THE MEAN TERRAIN CLEARANCE IS 6 FEET or 1.82926829268 METRES

BODY NUMBER 1 HAS 6 VERTICES
SUSCEPTIBILITY: 4200 MICRO CGS UNITS

X-COORD(FT)	Z-COORD(FT)	X-COORD(M)	Z-COORD(M)
1543	643	470	196
2470	552	753	168
2719	552	829	168
3146	604	959	184
3146	1493	959	455
1543	1500	470	457

BODY NUMBER 2 HAS 4 VERTICES
SUSCEPTIBILITY: 3000 MICRO CGS UNITS

X-COORD(FT)	Z-COORD(FT)	X-COORD(M	Z-COORD(M)
6946	198	2118	60
7402	198	2257	60
7402	2356	2257	719
6946	2358	2118	719

BODY NUMBER 3 HAS 4 VERTICES
SUSCEPTIBILITY: 3500 MICRO CGS UNITS

X-COORD(FT)	Z-COORD(FT)	X-COORD( )	Z-COORD(M)
5035	546	1535	166
6936	546	2114	166
6936	1493	2114	455
5035	1493	1535	455

BODY NUMBER 4 HAS 5 VERTICES
SUSCEPTIBILITY: 4300 MICRO CGS UNITS

X-COORD(FT)	Z-COORD(FT)	X-COORD(M)	Z-COORD(M)
3149	602	960	184
3506	544	1069	166
5037	537	1536	164
5037	1507	1536	459
3149	1507	960	459

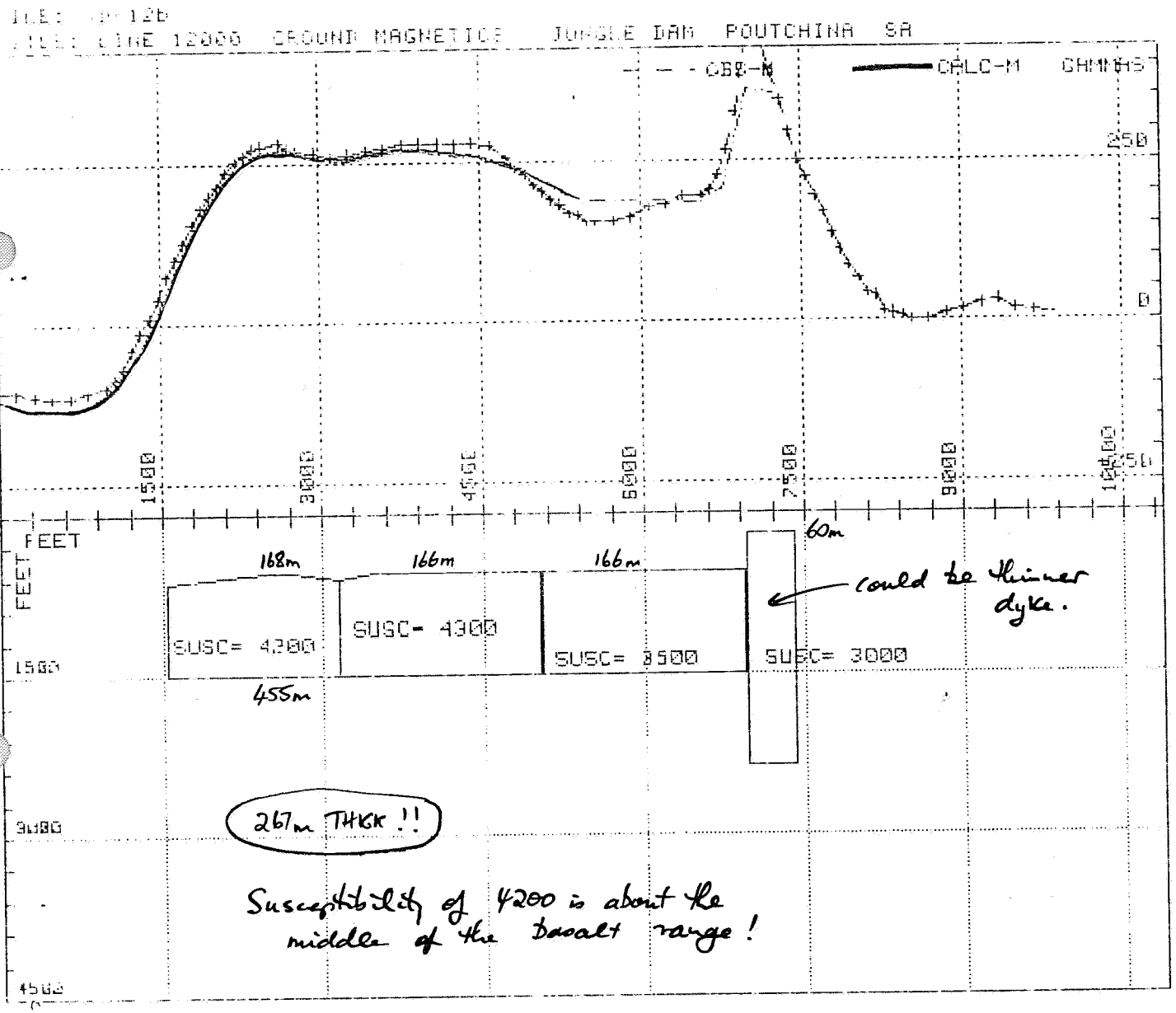
HE FOLLOWING IS OBSERVED MAGNETIC DATA

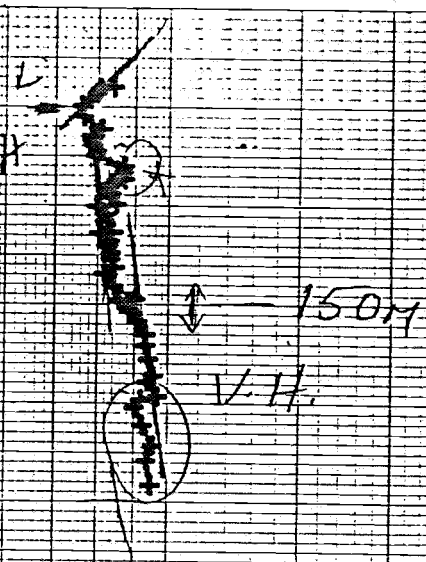
X-COORD(FT)	GAMMAS	X-COORD(M)
0	-105.0	0
164	-106.0	50
328	-110.0	100
492	-113.0	150
656	-113.0	200
820	-106.0	250
984	-97.0	300
1066	-84.0	325
1148	-70.0	350
1230	-41.0	375
1312	-15.0	400
1394	8.0	425
1476	38.0	450
1558	73.0	475
1640	99.0	500
1722	125.0	525
1804	156.0	550
1886	180.0	575
1968	199.0	600
2050	213.0	625
2132	236.0	650
2214	253.0	675
2296	263.0	700
2378	274.0	725
2460	277.0	750
2624	281.0	800
2706	274.0	825
2788	270.0	850
2952	267.0	900
3116	259.0	950
3280	264.0	1000
3444	270.0	1050
3608	271.0	1100
3772	279.0	1150
3936	280.0	1200
4100	280.0	1250
4264	278.0	1300
4428	280.0	1350
4592	275.0	1400
4756	255.0	1450
4838	241.0	1475
4920	230.0	1500
5002	214.0	1525
5084	203.0	1550
5166	190.0	1575
5248	183.0	1600
5330	170.0	1625
5412	165.0	1650
5494	156.0	1675
5576	155.0	1700
5740	155.0	1750
5904	161.0	1800
6068	179.0	1850
6232	183.0	1900
6396	193.0	1950
6560	193.0	2000
6642	203.0	2025
6724	227.0	2050
6806	266.0	2075
6888	326.0	2100
6970	424.0	2125
7052	455.0	2150
7134	432.0	2175
7216	388.0	2200
7298	343.0	2225
7380	294.0	2250
7462	251.0	2275
7544	223.0	2300
7626	193.0	2325

7708	169.0	2350
7790	135.0	2375
7872	109.0	2400
7954	84.0	2425
8036	64.0	2450
8118	42.0	2475
8200	37.0	2500
8282	13.0	2525
8364	10.0	2550
8446	5.0	2575
8528	-1.0	2600
8692	0.0	2650
8856	9.0	2700
9020	15.0	2750
9184	24.0	2800
9348	30.0	2850
9512	17.0	2900
9676	13.0	2950
9840	9.0	3000

HE FOLLOWING IS THE CALCULATED MAG DATA

X-COORD(FT)	GAMMAS	X-COORD(M)
0	-118.8	0
250	-127.5	76
500	-132.9	152
750	-130.0	229
1000	-110.0	305
1250	-60.1	381
1500	25.0	457
1750	123.1	534
2000	201.0	610
2250	248.5	686
2500	268.9	762
2750	266.5	838
3000	254.6	915
3250	252.6	991
3500	262.1	1067
3750	269.1	1143
4000	269.5	1220
4250	266.5	1296
4500	260.2	1372
4750	247.4	1448
5000	225.5	1524
5250	202.3	1601
5500	189.5	1677
5750	186.5	1753
6000	187.7	1829
6250	187.7	1905
6500	184.1	1982
6750	204.0	2058
7000	359.2	2134
7250	353.2	2210


LINE 12000 GROUND MAGNETICS JUNGLE DAM POUTCHINA SA
OBS-M
CALC-M
GAMMAS
250
0
1500
3000
4500
6000
7500
9000
10500
FEET
168m
166m
166m
60m
SUSC= 4200
SUSC= 4300
SUSC= 3500
SUSC= 3000
455m
could be thinner dyke.
267m THICK !!
Susceptibility of 4200 is about the middle of the basalt range!



100

200

300m

JUNGLE DAM

1200 N / 650

L = 300m

1 OHM-M.

TSN ESSO#16A650E

3.75 IN./CYC

PLATE 1

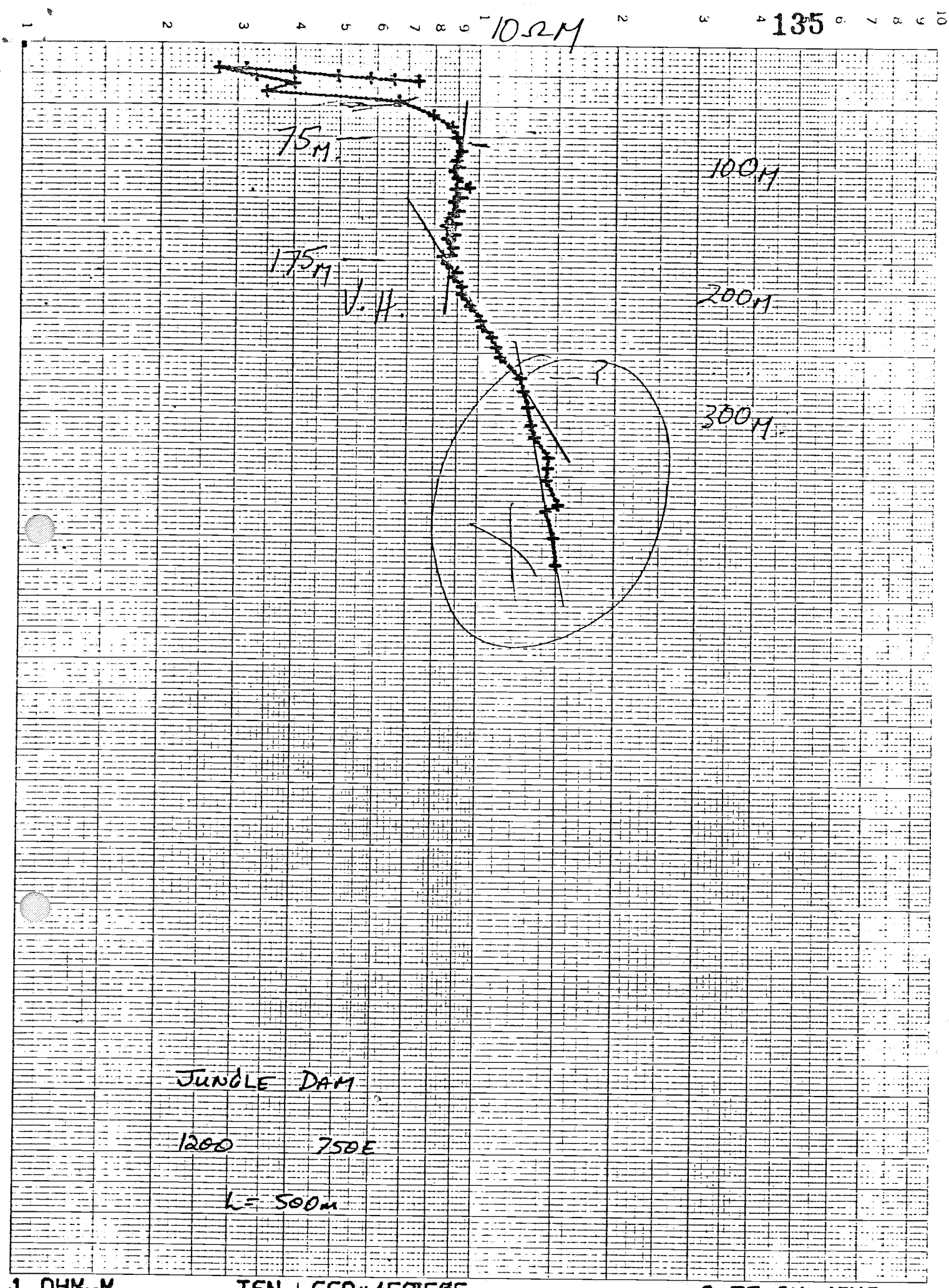
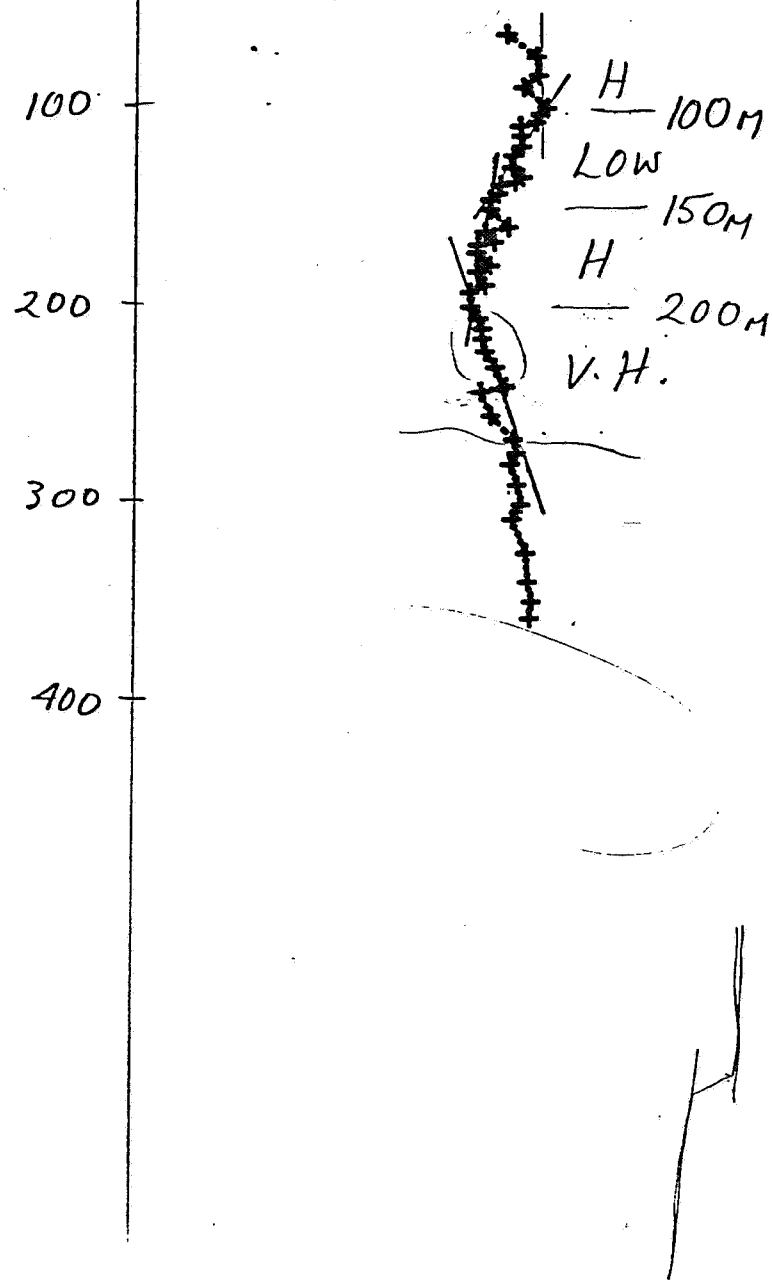
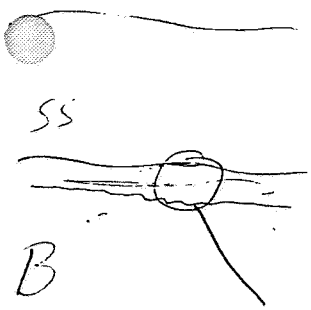

10 Ω M
135
75M.
100M
175M
V. H.
200M
300M.
JUNGLE DAM
1200 750E
L= 500m
1 OHM-M.
TSN LSSO=45A50E
3.75 IN./CYC

PLATE 2





BURK

Line 00 / 1250N

L = 500 ~~800~~? check

OHM-M. TSN ESSO#47A 250N 3.75 IN./CYC

PLATE 3

MINERALS DEPARTMENT EGGO AUSTRALIA LTD.

POULTCHINA - 581

3613-1(2)

LOCATION DIAGRAM - BURK DAM & JUNGLE DAM PROSPECTS (WATER WELLS & DRILL HOLES)

Scale 1:50,000
0 1 2 3 4 5 km

Author: B. Craven
Date: 6-1-81

Dwg. No 581-12
Revised:

BOUNDARY OF E.L. 523

32°00'

157°00'

157°05'

32°10'

157°15'

157°20'

157°22'

32°30'

N

Nine Mile Well
White Dam
Rosie Dam
Uneroo Dam
Roger's Dam
Half Way Tank
Twenty Thousand Tank
Yudnapinna Hotd.
Landing Ground
Murray Bore
Mullina Bore & Well
Woolshed
YUDNAPINNA
Pine Well Rams
Freddy Dam
Box Creek Well
Hotel Creek Well
Koolcutta Pam
Hammil's Well
Childs Ram
Seven Mile Dutchation
Seven Mile Ram
Welcome Hut & Well
Hanrahan Ram
Gunter Ram
Jacky Ram
CARIEWERLOO
Big Poultchina Ram
Jungle Ram
Cariewerloo Hotd.
Poultchina Pam. approx.
Gap Ram
Landing Ground
Burke Hut & Yard
(Reserve around Burke Hut Geological Monument)
Burke Pam
BURKS DAM PROSPECT
Fraser Horse Paddock Ram
Hut. tank. yard
pipeline
Big Lake Ram
Sandy Pam
Bill Bank
North Four Mile Pam
South Four Mile Ram
Nine Mile Bank
Nine Mile Ram
Birthday Pam
Whitehole Ram
Junction Pam
Princefoot Pam
Anzac Pam
South Lake Pam
Lake. approx. only
WARTAKA
MYALL CREEK
ILLEROO
Woolshed Pam
Wartaka Hotd.
Myall Creek Hotd.

JUNGLE PAM PROSPECT
JP1
11500N
11000N
10500N
10000N
000E 500E 1000E 2000E 3000E 4000E 5000E 5900E

YP4 T.D. 36m Pw 9m Pp 31m
YP10 T.D. 14m PcV 5m Pp 9m
YP3 T.D. 30m Pw 15?m Pp 17m
YP9 T.D. 34m Pw 9m Pp 29m
YP6 T.D. 50m Pw 6m. Pp ?30m+
YP1 T.D. 25m Pw 7m. Pp 21m
YP2 T.D. 26m Pw 13m Pp 18m
YP8 T.D. 34m Pw 5m Pp 34+m
YP1 T.D. 26m Pw 10m Pp 19m
YP11 T.D. 6m Pp 1m
YP5 T.D. 18m Pw 5m Pp 15m
W T.D. 92m
W T.D. 61m Pp 16m
W T.D. 78m ? Pp 18m
W T.D. 98m Pp 2m
W T.D. 65m? Pp 9m?
W T.D. ?69m Pp
W T.D. 44m (Granite & porphyry)
W T.D. 48m Pp 9m
W T.D. ? Pp -9m? (granite 122m)
Ex 109 T.D. 77m Pp 3m
Ex 110 T.D. 72m Pp 4m
Ex 52 T.D. 64·9m Pp 5m ? PcV 95·6m
Ex 108 T.D. 33m ? PcV 15m
Ex 30 T.D. 24·4m Pp 19m
Ex 106 T.D. 18m ? PcV 9m
Ex 107 T.D. 33 PcV 12
Ex 99 T.D. 42·7m Yb 6m PcV 18m
Ex 102 T.D. 18m Pp 16m
Ex 101 T.D. 46·54m Pp 3m
Ex 109 T.D. 18m PcV 18m
Ex 100 T.D. 9m PcV 9m
Ex 29 T.D. 47·1m Pp 10·9m

- Approximate property boundary
- YP4 ABMINCO Percussion Drill Hole
- Ex 109 PACMINEX " " "
- Water bore
- T.D. 63m Total depth - metres
- Pw 3m Depth to Winyalla Gst.
- Pp 9m " " Pandurra Fm.
- PcV 7m " " Gawler Range Volcanics
- Yb 9m " " Yudnapinna Beds

N.B. Information transferred from ABMINCO E.L. 352 maps - locations not accurate

Other sources of information
1. PACMINEX PTY. LTD. E.L. 186 Relinquishment Report
2. B.H.P. S.M.L. 204 (Anzac Dam Area)

● JP1 Deep Percussion Hole (1981)

10 N / 00E — 1000E Grid line

Track

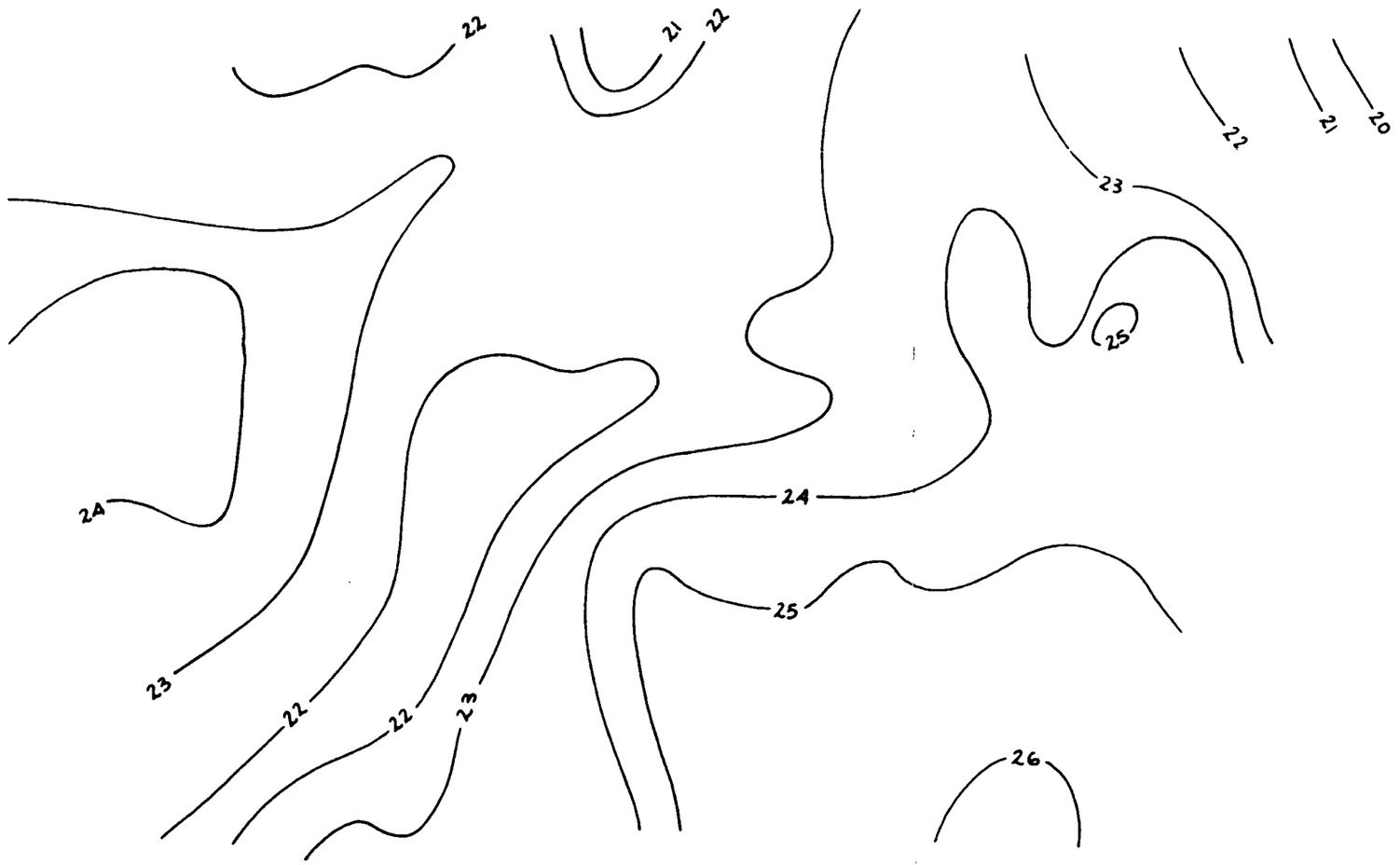
40000E
Baseline

42000N

40000N

38000N

36000N



3613-2 (III)

N

Contour interval 1 mgal
Bouger Density 1·8 gm/cc

MINERALS DEPARTMENT ESSO AUSTRALIA LTD

POUTCHINA_581 E.L. 529
GRAVITY SURVEY _ POUTCHINA HILL

Scale 1:50 000

0 1 2 3 4 5 KM

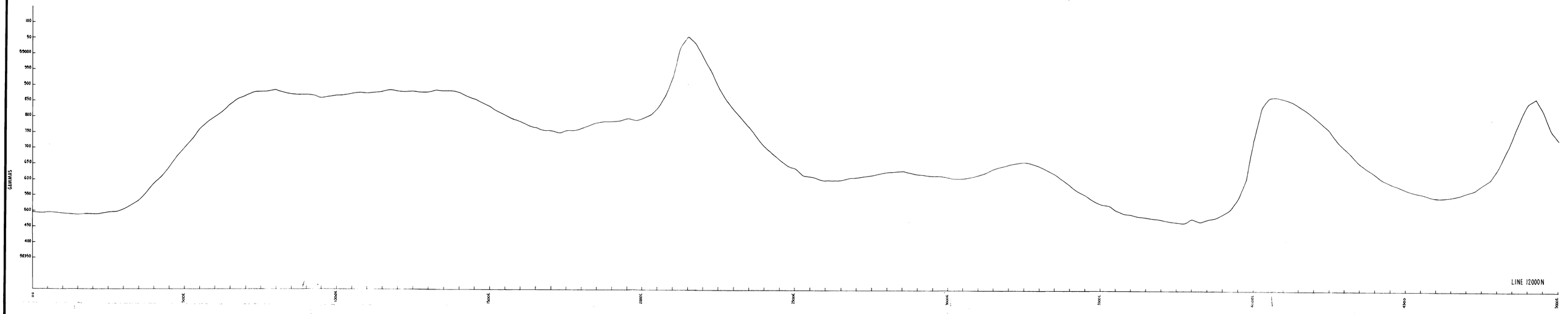
Author Soto Geophysics

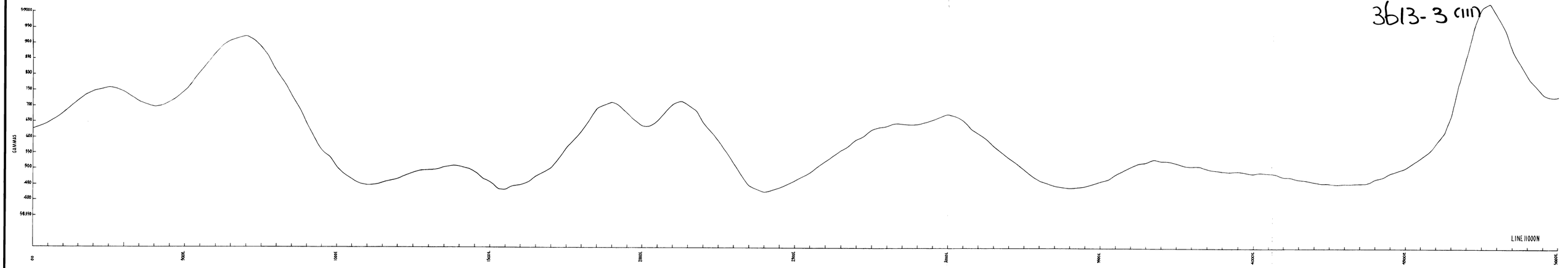
Dwg N° 581-13

Date 26·3·81

Revised

FIG 2





3613-3 (111)

MINERALS DEPARTMENT EEGO AUSTRALIA LTD

POUTCHINA_581

GROUND MAGNETIC PROFILES JUNGLE DAM AREA

SCALE 1:5000

0 100 200 300 400 500M

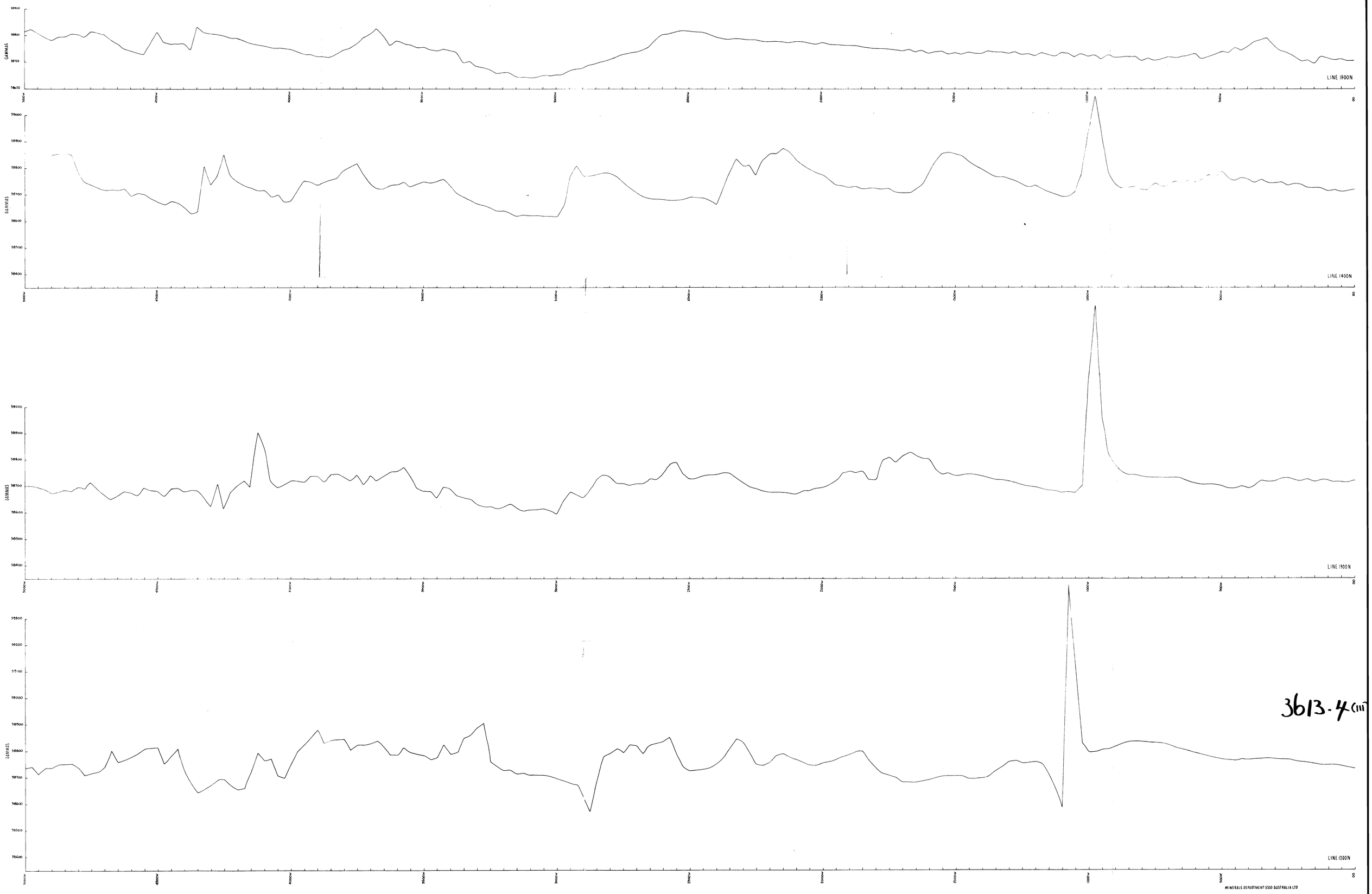
AUTHOR: B Graham

DRAWN: 15 5 81

DWG Nº 581-14

REVISED:

FIG 3



3613-4(11)

POULTCHINA _ 581

GROUND MAGNETIC PROFILES WHITE HOLE DAM AREA

SCALE 1 9000

0 100 200 300 400 900M

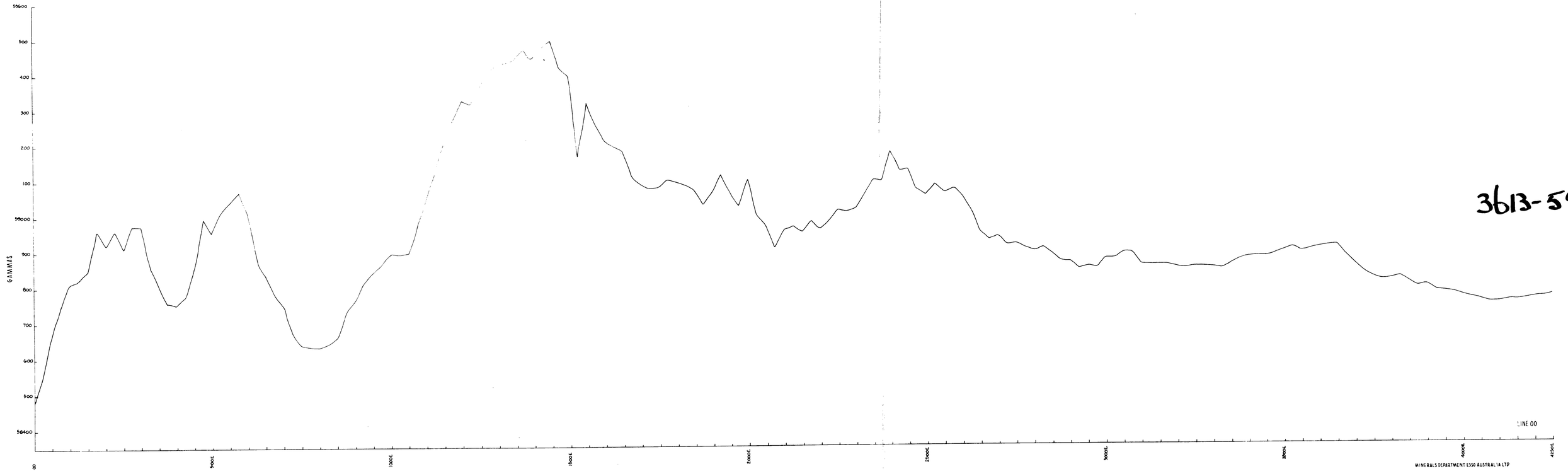
AUTHOR B Gessner

DWG N° 581-19

DRAWN 26 9 81

REVISED

FIG 4



3613-5(m)

MINERALS DEPARTMENT ESSO AUSTRALIA LTD

POUTCHINA _ 581

GROUND MAGNETIC PROFILE BURK DAM AREA

SCALE 1:5000

0 100 200 300 400 500 M.

AUTHOR B Cranwell

DRAWN 24 5 81

DWG N°581-16

REVISED

FIG 5

FIG 6

MINERALS DEPARTMENT ESSO AUSTRALIA LTD.

POUTCHINA _ 581
GEOLOGICAL MAP

scale 1:40,000 ~ ? 1 : 100 000

0 1 2 3KM

Author: M. FOY DWG. Nº 581-17

Date: 3.4.81 Revised:

CAINOZOIC

Cz — Undifferentiated soils_alluvium. elluvium & sand

Cze — Eolian sand _ Dune axis

Te — Silcrete

Tcg — Conglomerate

ADELAIDEAN

Whyalla Sandstone. Cobble gravel of Gawler Range Volcanics & Pandurra Sandstone probably representing sub outcrop of Whyalla Sandstone but could be a Tertiary gravel.

Pd? — Dolerite dyke

Pup — Pandurra Sandstone. Undifferentiated gritty argillaceous sandstone with pebble beds & occasional siltstones_often hematitic

- s — sandstone
- g — grit
- si — siltstone
- c — conglomerate
- h — hematite

} suffixes used to qualify Pup

CARPENTARIAN

Pmv — Gawler Range Volcanics. Acid volcanics

- pr — Porphyritic rhyolite to rhyodacite
- ab — Amygdaloidal basalt or andesite?
- f — Fine grained weakly porphyritic trachyandesite?
- ct — Crystal tuff?
- t — Tuff or tuffite?

suffixes used to qualify Pmv

- Geological boundary
- Inferred geological boundary _boundary of subcrop
- Inferred fault
- Photo linear
- 10/ Strike & dip of bedding
- ⊙ D.D.H. Diamond drill hole
- ⊙ R.P.D.H. Rotary percussion drill hole
- Major track
- Photo centre & number
- 157 Sample number

3613-6

Yudnapinna

Carriewerloo

INTERPERATIVE PROTEROZOIC GEOLOGY OF THE POUTCHINA AREA

LEGEND

ADELAIDEAN

- Puw — Whyalla sandstone, gravel of Pandurra formation and Gawler Range volcanics
- Pup — Pandurra formation, partly arkosic coarse sandstone with some conglomerate and minor fine grained hematitic siltstone

CARPENTARIAN

- Pmv — Gawler Range volcanics, porphyritic rhyolite with some 'tuff' suffixed -t and amygdaloidal basalt, suffixed -a

- Geological boundary
- Unconformity
- Fault
- Photo-linear (probable fault) trending 'Adelaidean'
- 5° Strike and dip

Scale 1:100 000

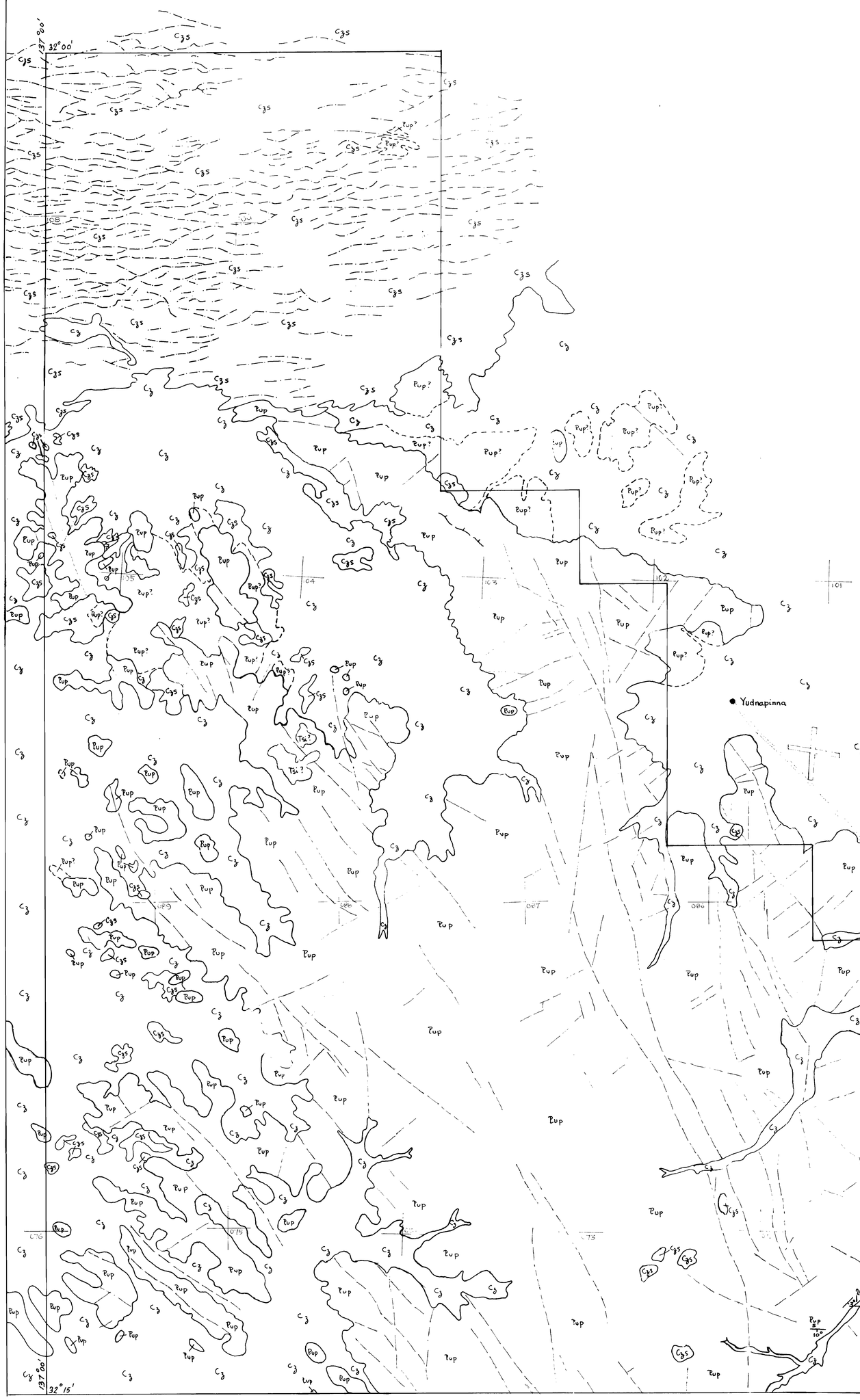
0 1 2 3 4 5 6 7 8 9 10 km.

N

(111)
3643-7

DWG. No 581-18

FIG 7



LEGEND

CAINOZOIC

- Cz — Undifferentiated soils, alluvium, eluvium and sand.
- Czs — Eolian sand. Dune axes
- Tsi — Silcrete
- Tcg — Conglomerate.

ADELAIDEAN

- Whyalla Sandstone. Cobble gravel of Gawler Range Volcanics and Pandurra Sandstone probably representing sub-outcrop of Whyalla Sandstone but could be a Tertiary gravel.
- Ra — Dolerite dyke?
- Pup — Pandurra Sandstone. Undifferentiated gritty argillaceous sandstone with pebble beds and occassional siltstones. Often hematitic.

s	Sandstone
g	Grit
l	Siltstone
c	Conglomerate
h	Hematite

} Suffixes use to qualify Pup.

CARPENTARIAN

- Pmv — Gawler Range Volcanics. Acid volcanics

pr	Porphyritic rhyolite to rhyodacite
a	Amygdaloidal basalt or andesite?
f	Fine grained weakly porphyritic trachyandesite?
.t	Crystal tuff?
.t	Tuff or tuffite?

} Suffixes used to qualify Pmv

- Geological boundary
- Inferred geological boundary. Boundary of sub-outcrop.
- Inferred Fault
- Photo-linear
- 10° — Strike and dip of bedding
- ⊙DDH — Diamond drill hole
- ⊙RPDH — Rotary-percussion drill hole.
- Major track
- Station
- Photo-centre and number
- 157 — Sample Number.

3613-8(III)

Prepared by Mark F. Foy and Assoc. Pty. Ltd. for ESSO AUSTRALIA LTD.

GEOLOGICAL MAP POUTCHINA AREA E.L.
SOUTH AUSTRALIA SCALE 1:40 000
SHEET 1 of two

GEOLOGY Mark F. Foy | DRAWN M. Faud H. M. Foy | DATE 30-4-81

DWG Nº 581-10

FIG 8

SHEET 2

32°15'

32°30'

137°30'

Cariewerloo

Wartaka

Myall Creek

R.P.D.H.

DDH

Fe-chert

Prepared by Mark F. Foy and Assoc. Pty. Ltd. for ESSO AUSTRALIA LTD.

GEOLOGICAL MAP POUTCHINA AREA E.L.
SOUTH AUSTRALIA SCALE 1:40 000
SHEET 2 of two

GEOLOGY Mark F. Foy | Drawn M. Foy & H. M. Foy | DATE 30-4-81

DWG No 581-20

3613-9

FIG 9