DEPARTMENT OF MINES AND ENERGY
SOUTH AUSTRALIA

Rept. Bk. No. 79/86

STUART HIGHWAY - Bookaloo to Mt. Gunson Section, Drilling for construction water.

GEOLOGICAL SURVEY

By

R. READ

GEOLOGIST

D.M. No. 364/75

AUGUST 1979

CONTENTS

Tables

Figures

DEPARTMENT OF MINES AND ENERGY
SOUTH AUSTRALIA

Rept. Bk. No. 79/86
D.M. No. 364/75

STUART HIGHWAY - Bookaloo to Mt. Gunson Section, Drilling for construction water

ABSTRACT

Six holes totalling 659 metres were drilled at 4 locations on the Bookaloo-Mt. Gunson section of the Stuart Highway.

Supplies of construction water were obtained at 3 of the locations.

There is some evidence to suggest that the optimum depth for water wells in this environment is of the order of 150 metres.

INTRODUCTION

In November and December 1978 a rotary drilling programme was undertaken for the Highways Department to provide water wells for the reconstruction of the Bookaloo to Mount Gunson section of the Stuart Highway.

Supplies of a minimum of 100 kl/day and preferrably 200 kl/day were required. Water quality was unimportant.

TOPOGRAPHY AND CLIMATE

The area is arid, Bookaloo having a mean annual rainfall of 210 mm. Surface drainage is poorly developed and drains into salt lakes. The topography is subdued with barren stony tablelands rising 30 to 50 metres above low lying areas of mulga and myall woodland, chenopod shrublands and salt lakes.

RESULTS

Successful wells were drilled at three of the locations where water was required (Hole Nos. 51, 52, 54, Fig. 2).

At the fourth three holes were drilled (Nos. 48, 49, 50) but no useful supply was obtained.

Drilling results are summarized below.

Table 1. Results of Drilling

Unit No.	Depth metres	Yield kl/day	Formation/Remarks
6334 WW 48	85	0.16	Pandurra Formation
6334 WW 49	150	38	" "
6334 WW 50	150	40	" "
6334 WW 51	58	510	" "
6334 WW 52	97	370	In Tapley Hill Slate sited adjacent to abandoned exploration bore.
6334 WW 54	119	430	Pandurra Formation, sited adjacent to abandoned exploration bore.

It can be seen that the Tapley Hill Slate proved to be a surprisingly good aquifer in 6334 WW 52, but it must be remembered that this bore was sited adjacent to an exploration well known to have yielded a good supply.

The other holes were in hard red brown arkosic sandstone belonging to the Pandurra Formation. The sandstone is well lithified and has a silty micaceous matrix. All permeability must be of the fissure type, due to jointing or minor faults.

The development of joints in the region is uneven and it seems that in some areas such as the northern part of the section it is difficult to obtain useful supplies of water. These large scale effects are apparently due to differences in structural setting.

DEPTH OF DRILLING

In regions like this where it is not possible to select favourable sites for drilling the chief decision facing the hydrogeologist is the depth at which drilling should be abandoned if no water is struck. In this project holes were abandoned at a depth of 150 metres - this depth being partly determined by the capability of the rig used, and partly by experience with

hard jointed sandstones in other regions.

To test the wisdom of this policy a graphical plot (Fig. 3) of the logarithum of one minus the cumulative probability of striking 100 kl/day or more at a given depth was drawn up using drilling results supplied by Pacminex (18 holes of 49 metres or more) as well as 4 of the 6 wells drilled in this programme. (The two wells adjacent to Pacminex holes were omitted).

The optimum depth of drilling is given by the point on the graph where a tangent to the curve plotted above passes through the origin.

A plot constructed using such a relatively small number of wells, particularly over 120 metres deep, is of course subject to random variation and not reliable. However the graph shows that on the evidence available the optimum depth of drilling is about 150 metres.

The results should be treated with caution for the following reasons:

1. The wells are scattered over a large area and include aquifers in at least two distinct rock types. Ideally results should be broken down into different rock types, but this is not possible with the data available.
2. Classification as a 'success' or 'failure' is based on driller's estimates of airlift discharges. They could be influenced both by bias in the driller's 'eyeball' estimates and by physical factors such as hole diameter, drill column diameter, air pressure, air flow rate, depth at which water was cut and standing water level.
3. The cost of casing has been neglected. Depending on the practice used this may have a considerable effect, since the cost of casing per metre is about half the cost of drilling per metre. If all successful wells were cased to full depth this would reduce the optimum depth of drilling.

On the other hand if casing is only run to the base of the weathered zone, regardless of total depth, the cost of casing will not influence the optimum depth.

4. The graph drawn only takes account of metres drilled. If shifting and setting up costs are considered the origin of the graph will be moved to the left and the optimum depth will be increased. Likewise the optimum depth will be increased if a successful well at a particular location is of more value than wells at alternative locations.

PUMP TESTING

To date none of the wells has been pump tested. 6334 WW 52 is equipped with a helical rotor pump and already in use. Unfortunately it is not possible to measure water levels in this bore, nor could the pump be run at the fork and a constant head test carried out.

The other two successful wells will be pump tested at the same time as wells to be drilled on the Pimba to Baker's Well section.

CONCLUSIONS

1. A success rate of 50% to 70% can be expected when drilling for construction water in this area.
2. Wells should be drilled to at least 150 metres before being abandoned as failures.

R. READ
GEOLOGIST

RR:NK

APPENDIX I

Water Well Logs

PROJECT: Bookaloo - Mt. Gunson Road

DEPARTMENT OF MINES AND ENERGY—SOUTH AUSTRALIA
ENGINEERING DIVISION

WATER WELL LOG

HOLE NO: 4

UNIT / STATE NO. 6334 WW00048

DM

LOCATION OR COORDS:

El. Surface m

SEC. HD. El. Ref. Point m Datum

AQUIFER SUMMARY:	DEPTH TO WATER CUT (m)	DEPTH TO STANDING WATER (m)	INTERVAL TESTED From:	INTERVAL TESTED To:	SUPPLY kilolitres/day*	SUPPLY Test Length (hrs)	SUPPLY Method	TOTAL DISSOLVED SOLIDS milligrammes/litre	TOTAL DISSOLVED SOLIDS Analysis No:
	65	-	65	70	0.16		Air lift	salt	W —

DEPTH (m) From	DEPTH (m) To	GRAPHIC LOG	ROCK / SEDIMENT NAME	GEOLOGICAL DESCRIPTION	FORMATION / AGE	DEPTH CORE SAMPLE	CASING Dia(mm)	CASING From(m)	CASING To(m)
0	2		Soil	Red-brown soil,	Recent		200	0	2
2	12		Sandstone	Hard, partly silicified medium-grained poorly sorted light brown sandstone					
12	33		Sandstone	White to red brown sandstone. Minor mica					
33	75		Sandstone	Very coarse to very fine hard dark red brown sandstone with silty micaceous matrix. Minor very fine conglomerate	Upper Protinozoic Pandurra Formation				
75	85		Sandstone	Similar to the above but finer-grained					

REMARKS:

Unsuccessful Well

* NOTE: 110 kl / day = 1000gals / hr.

DRILL TYPE: Rotary Hammer

CIRCULATION: Air foam

SHEET 1 OF 1

COMPLETED: 4/11/78

LOGGED BY: R.E. Read

DATE: 6/3/79

1-1

PROJECT: Stuart Highway- Bookaloo to Mount Gunson

DEPARTMENT OF MINES AND ENERGY—SOUTH AUSTRALIA
ENGINEERING DIVISION

WATER WELL LOG

HOLE NO: 4B

UNIT / STATE NO. 6334 WW 49

DM

LOCATION OR COORDS:

SEC. HD.

El. Surface m

EL Ref. Point m Datum

AQUIFER SUMMARY:	DEPTH TO WATER CUT (m)	DEPTH TO STANDING WATER (m)	INTERVAL TESTED From:	INTERVAL TESTED To:	SUPPLY kilolitres/day*	SUPPLY Test Length (hrs)	SUPPLY Method	TOTAL DISSOLVED SOLIDS milligrammes/litre	TOTAL DISSOLVED SOLIDS Analysis No:
	57		57	58	3		Air lift		W —
	138		57	138	38		Air lift		

DEPTH (m) From	DEPTH (m) To	GRAPHIC LOG	ROCK / SEDIMENT NAME	GEOLOGICAL DESCRIPTION	FORMATION / AGE	DEPTH CORE SAMPLE	CASING Dia(mm)	CASING From(m)	CASING To(m)
0	3		Soil & Rubble	Orange brown soil and Fragments of sandstone	Recent				
3	9		Sandstone	Weathered coarse orange brown poorly sorted sandstone.	Pandurra Formation				
9	18		Sandstone	Medium to very coarse poorly storted brown sandstone					
18	24			Very coarse to medium grained moderate brown poorly sorted quartz sandstone with silty matrix.					
24	27			As above but light brown					
27	60			As for 18-24m					
60	150		Sandstone	Similar to above ~~...~~, Coarse to fine ~~...~~ but matrix noticeably micaceous (This maybe due to weathering)					

REMARKS:

Unsuccessful Well

*NOTE: 110 kl / day = 1000gals / hr.

DRILL TYPE: Rotary/hammer

CIRCULATION: Air

SHEET 1 OF 1

COMPLETED: 6/12/78

LOGGED BY: R.E.READ

DATE: 8/3/79

PROJECT: Stuart Highway, Bookaloo to Mount Gunson

DEPARTMENT OF MINES AND ENERGY—SOUTH AUSTRALIA
ENGINEERING DIVISION

WATER WELL LOG

HOLE NO: 4A

LOCATION OR COORDS:

6334 UNIT / STATE NO. WW 30

El. Surface m

SEC. HD. El. Ref. Point m Datum

DM

AQUIFER SUMMARY:	DEPTH TO WATER CUT (m)	DEPTH TO STANDING WATER (m)	INTERVAL TESTED From:	INTERVAL TESTED To:	SUPPLY kilolitres/day*	SUPPLY Test Length (hrs)	SUPPLY Method	TOTAL DISSOLVED SOLIDS milligrammes/litre	TOTAL DISSOLVED SOLIDS Analysis No:
	45		45	50	40kl/day		Air lift	18 000	W—

DEPTH (m) From	DEPTH (m) To	GRAPHIC LOG	ROCK / SEDIMENT NAME	GEOLOGICAL DESCRIPTION	FORMATION / AGE	DEPTH CORE SAMPLE	CASING Dia(mm)	CASING From(m)	CASING To(m)
0	3		Soil	Brown Soil and chips of sandstone	1* Recent		200	0	3.5
3	18		Sandstone	Moderate brown sandstone with coarse rounded quartz grains in fine sandy silt matrix. Weathered to 12m, then red brown below 12m.					
18	36		Sandstone	As above but more silicified					
36	42		Sandstone	White silicified medium-grained quartz sandstone in silty matrix					
42	87		Sandstone	Coarse to Medium-grained quartz sandstones in silty micaceous matrix. Moderate brown					
87	99		Sandstone	Coarse to medium grained sandstone, pale brown. Very hard&silicified. White silty matrix					

1-3

REMARKS:

* Depth from driller's log

* NOTE: 110 kl / day = 1000gals / hr.

DRILL TYPE: Rotary Hammer

CIRCULATION: Air

SHEET..... OF.....

COMPLETED: 21/12/78

LOGGED BY: R.E. READ

DATE: 8/3/79

PROJECT:

DEPARTMENT OF MINES AND ENERGY—SOUTH AUSTRALIA
ENGINEERING DIVISION

WATER WELL LOG

HOLE NO: 4A

LOCATION OR COORDS:

UNIT / STATE NO.

SEC. HD. El. Surface m El. Ref. Point m Datum

DM

AQUIFER SUMMARY:	DEPTH TO WATER CUT (m)	DEPTH TO STANDING WATER (m)	INTERVAL TESTED From:	INTERVAL TESTED To:	SUPPLY kilolitres/day*	SUPPLY Test Length (hrs)	SUPPLY Method	TOTAL DISSOLVED SOLIDS milligrammes/litre	Analysis No:
									W —

DEPTH (m) From	DEPTH (m) To	GRAPHIC LOG	ROCK / SEDIMENT NAME	GEOLOGICAL DESCRIPTION	FORMATION / AGE	DEPTH CORE SAMPLE	CASING Dia(mm)	CASING From(m)	CASING To(m)
99	102		Sandstone	As for 42-87m					
102	150		Sandstone	As for 87-99m					

REMARKS:

*NOTE: 110 kl / day = 1000gals / hr.

DRILL TYPE:

COMPLETED:

CIRCULATION:

LOGGED BY:

SHEET 2 OF 2

DATE:

14

PROJECT: Stuart Highway, Bookaloo - Mount Gunson

DEPARTMENT OF MINES AND ENERGY—SOUTH AUSTRALIA
ENGINEERING DIVISION

WATER WELL LOG

HOLE NO: 3

LOCATION OR COORDS:

UNIT / STATE NO. 6334 WW 51

SEC. HD. El. Surface m El. Ref. Point m Datum

DM

AQUIFER SUMMARY:	DEPTH TO WATER CUT (m)	DEPTH TO STANDING WATER (m)	INTERVAL TESTED From:	INTERVAL TESTED To:	SUPPLY kilolitres/day*	SUPPLY Test Length (hrs)	SUPPLY Method	TOTAL DISSOLVED SOLIDS milligrammes/litre	TOTAL DISSOLVED SOLIDS Analysis No:
	48	8	52	58	510		Air Lift	Salt	W —

DEPTH (m) From	DEPTH (m) To	GRAPHIC LOG	ROCK / SEDIMENT NAME	GEOLOGICAL DESCRIPTION	FORMATION / AGE	DEPTH CORE SAMPLE	CASING Dia(mm)	CASING From(m)	CASING To(m)
0	9		Dolomite	Yellow brown dolomite with abundant manganese oxide	Woocalla Dolomite Member		200	0	3.5
9	12			20% Dolomite as above 20% Light grey siltstone 30% Hard white silicified sandstone 30% Red brown silty micaceous sandstone			150	0	52
12	10		Sandstone	50% Hard silicified white sandstone, medium quartz grains in silty matrix 50% Weathered brown micacceous sandstone					
18	33		Sandstone	White to light brown silty poorly sorted hard siliveous sandstone. Some mica - silty matrix Minor pyrite 21-24m Coarse to medium grained.					
33	36		Lithic Sandstone	Coarse white poorly sorted sandstone containing pebbles of silicified dolomite and other lithic fragments					

REMARKS:

* NOTE: 110 kl / day = 1000gals / hr.

DRILL TYPE: Rotary/Hammer

COMPLETED: 25/11/78

CIRCULATION: Air

LOGGED BY: R.E.READ

SHEET....1.... OF.....2...

DATE: 8/3/79

1-5

PROJECT:

DEPARTMENT OF MINES AND ENERGY—SOUTH AUSTRALIA
ENGINEERING DIVISION

WATER WELL LOG

HOLE NO:

LOCATION OR COORDS:

6334 UNIT / STATE NO. WW 51

SEC. HD. El. Surface m

El. Ref. Point m Datum

DM

AQUIFER SUMMARY:	DEPTH TO WATER CUT (m)	DEPTH TO STANDING WATER (m)	INTERVAL TESTED From:	INTERVAL TESTED To:	SUPPLY kilolitres/day*	SUPPLY Test Length (hrs)	SUPPLY Method	TOTAL DISSOLVED SOLIDS milligrammes/litre	TOTAL DISSOLVED SOLIDS Analysis No:
									W —

DEPTH (m) From	DEPTH (m) To	GRAPHIC LOG	ROCK / SEDIMENT NAME	GEOLOGICAL DESCRIPTION	FORMATION / AGE	DEPTH CORE SAMPLE	CASING Dia(mm)	CASING From(m)	CASING To(m)
36	48		Sandstone	Medium grained moderate brown poorly sorted sandstone with micaceous silty matrix. Hard and siliceous.					
48	57		Sandstone	Samples consist of large fragments of sandstone as above. Some of the outer surfaces show signs of weathering and solution of the matrix, such as would result from circulation of groundwater through joint planes.					

REMARKS:

*NOTE: 110 kl / day = 1000gals / hr.

DRILL TYPE:

COMPLETED:

CIRCULATION:

LOGGED BY:

SHEET 2 OF 2

DATE:

PROJECT: Stuart Highway- Bookaloo to Mount Gunson

DEPARTMENT OF MINES AND ENERGY—SOUTH AUSTRALIA
ENGINEERING DIVISION

WATER WELL LOG

HOLE NO: 1

UNIT / STATE NO. 6334 WW 52

DM

LOCATION OR COORDS:

SEC. HD. El. Surface m El. Ref. Point m Datum

AQUIFER SUMMARY:	DEPTH TO WATER CUT (m)	DEPTH TO STANDING WATER (m)	INTERVAL TESTED From:	INTERVAL TESTED To:	SUPPLY kilolitres/day*	SUPPLY Test Length (hrs)	SUPPLY Method	TOTAL DISSOLVED SOLIDS milligrammes/litre	TOTAL DISSOLVED SOLIDS Analysis No:
	29		29	33	3		Air lift		W —
	32		57	97	370		Air lift		

DEPTH (m) From	DEPTH (m) To	GRAPHIC LOG	ROCK / SEDIMENT NAME	GEOLOGICAL DESCRIPTION	FORMATION / AGE	DEPTH CORE SAMPLE	CASING Dia(mm)	CASING From(m)	CASING To(m)
0	3		Soil	Light brown calcarcous sandy soil	Recent?		200 150	0 0	57.6
3	6		Sand	Orange brown silty poorly sorted sand	Quaternary				
6	24		Sandstone	Weathered poorly sorted silty sandstone, brown near top grading down to grey.	12m*				
24	45		Clay	Light grey sandy clay sand, may be contaminated from up-hole	Weathered				
45	51		Clay	Dark grey clay with fine sand.	Tapley Hill Slate				
51	57		Shale	Dark grey shale, weathered	Tapley Hill Slate				
57	96		Shale	Dark grey laminated shale with fine mica. Some pyrite.					

1-7

REMARKS:

* Depth from driller's log

* NOTE: 110 kl / day = 1000gals / hr.

DRILL TYPE: Rotary/hammer

CIRCULATION: Air

SHEET 1 OF 1

COMPLETED: 22/11/78

LOGGED BY: R.E.READ

DATE: 7/3/79

PROJECT: Stuart Highway-Bookaloo to Mount Gunson

DEPARTMENT OF MINES AND ENERGY—SOUTH AUSTRALIA
ENGINEERING DIVISION

WATER WELL LOG

HOLE NO: 2

UNIT / STATE NO. 6334 WW 54

DM

LOCATION OR COORDS:

SEC. HD. El. Surface m El. Ref. Point m Datum

AQUIFER SUMMARY:	DEPTH TO WATER CUT (m)	DEPTH TO STANDING WATER (m)	INTERVAL TESTED From:	INTERVAL TESTED To:	SUPPLY kilolitres/day*	SUPPLY Test Length (hrs)	SUPPLY Method	TOTAL DISSOLVED SOLIDS milligrammes/litre	TOTAL DISSOLVED SOLIDS Analysis No:
	107.5	36	107.5	108	130	1hr	Air lift		W—
	119	36	107.5	119.5	430	1hr	Air lift		

DEPTH (m) From	DEPTH (m) To	GRAPHIC LOG	ROCK / SEDIMENT NAME	GEOLOGICAL DESCRIPTION	FORMATION / AGE	DEPTH CORE SAMPLE	CASING Dia(mm)	CASING From(m)	CASING To(m)
0	3		0-3 Sandstone	Soft weathered yellow - brown sandstone			200	0	4.5
3	9		Sandstone	Hard yellow brown coarse poorly sorted dirty sandstone			150	0	71
9	18		Sandstone	Light grey coarse poorly sorted well rounded quartz grains in fine silty sand matrix					
18	21		Sandstone	light brown, less well-indurated					
21	33		Sandstone	Light grey, as for 9-18 m but medium grained					
33	36		Sandstone	Similar to the above but fine grained and silty.					
36	51		Sandstone	Coarse quartz grains in fine silty sand matrix.					
51	66		Sandstone	Fine grained medium grey silty poorly sorted sandstone with same coarse grains. Heavily contaminated by cavingsfrom above.					

REMARKS:

*NOTE: 110 kl / day = 1000gals / hr.

DRILL TYPE: Rotary/hammer

CIRCULATION: Air foam

SHEET 1 OF 2

COMPLETED: 16/11/78

LOGGED BY: R.E.READ

DATE: 7/3/79

1-8

PROJECT:

DEPARTMENT OF MINES AND ENERGY—SOUTH AUSTRALIA
ENGINEERING DIVISION

WATER WELL LOG

HOLE NO: 2

LOCATION OR COORDS:

UNIT / STATE NO.

SEC. HD. El. Surface m El. Ref. Point m Datum

DM

AQUIFER SUMMARY:	DEPTH TO WATER CUT (m)	DEPTH TO STANDING WATER (m)	INTERVAL TESTED From:	INTERVAL TESTED To:	SUPPLY kilolitres/day*	SUPPLY Test Length (hrs)	SUPPLY Method	TOTAL DISSOLVED SOLIDS milligrammes/litre	TOTAL DISSOLVED SOLIDS Analysis No:
									W —

DEPTH (m) From	DEPTH (m) To	GRAPHIC LOG	ROCK / SEDIMENT NAME	GEOLOGICAL DESCRIPTION	FORMATION / AGE	DEPTH CORE SAMPLE	CASING Dia(mm)	CASING From(m)	CASING To(m)
66	78		Sandstone	Medium grey medium grained poorly sorted quartz sandstone. Minor pyrite.					
78	105		Sandstone	Red-brown coarse poorly sorted quartz sandstone with silty micaceous matrix. Sub rounded to sub anzular grains.					
105	117		Sandstone	As above but medium grained					

REMARKS:

*NOTE: 110 kl / day = 1000gals / hr.

DRILL TYPE:

COMPLETED:

CIRCULATION:

LOGGED BY:

SHEET 1 OF 2

DATE:

APPENDIX

Listing of Results

Notes

Samples taken at 12.5M and 25 m intervals.

All analyses were carried out by AMDEL.

Analytical Method for Cu, Pb, Zn, Co, Ni, Mn, Fe - Atomic Absorption Spectroscopy.

Analysis scheme C1: Upper detection limit 10 000 p.p.m. Lower detection limit in brackets (p.p.m.)

Co(5), Cu(2), Mn(5), Ni(5), Pb(5), Zn(1)

0.5 gm sample digested in hot perchloric acid.

Analysis scheme F1:1

Fe (0.01% to 20%)

Analytical Method for Ba, Cr, Mo, V, W, La, Y, Ag, As, Bi, Sb, Sn, Au, P - (Rock samples only)

Emission Spectroscopy. Detection limits as shown to 10 000 p.p.m.

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* Soil Samples BATCH NO. 1/2

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	17 1546/78	CT 1-00M	25	12	50	10	20	2·8	260
2	7		22	10	55	8	22	2·9	270
3	8	Pft	22	15	55	12	22	2·8	290
4	9		22	12	50	8	25	2·9	270
5	50 x	50 M	22	15	60	8	22	2·8	310
6	1		20	12	48	10	18	2·6	250
7	2	*	20	10	48	8	18	2·5	200
8	3		22	15	45	8	18	2·6	200
9	4	100M	22	18	48	12	18	2·8	300
10	5		18	12	48	8	12	2·6	320
11	6		20	20	55	15	15	3·1	310
12	7	Pyi	20	18	55	12	15	2·6	320
13	8	150M	20	18	100	8	15	2·5	320
14	9		30	10	45	8	10	2·4	270
15	60		20	12	55	12	15	2·8	350
16	STD.								
17	61		18	12	60	10	15	2·5	240
18	2	200M	22	18	80	12	16	2·6	240
19	A 1563/78		20	28	110	10	15	2·6	280
20	50 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 2

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1564/78	Pyi	22	32	150	8	15	2·8	320
2	5	*	20	32	100	8	18	2·5	260
3	6	250 M	18	20	50	8	15	2·3	250
4	7		18	15	42	8	15	2·2	280
5	8		18	12	38	8	15	2·5	280
6	9		18	12	38	8	15	2·3	260
7	STD.								
8	70	300 M	22	5	38	12	15	2·2	240
9	1		18	5	40	10	15	2·5	280
10	2	Pb	18	8	38	8	15	2·4	240
11	3		20	8	42	8	15	2·6	230
12	4	350 M	20	10	35	10	18	2·4	240
13	5		22	10	40	10	18	2·5	270
14	6		20	10	45	10	15	2·6	320
15	7		18	8	48	10	18	2·5	380
16	78 x	400 M	15	8	42	10	15	2·4	300
17	80	CT2-00M	25	12	55	12	25	3·1	310
18	1		28	10	70	10	25	2·8	230
19	A 1582/78	Pft	22	12	65	10	25	3·0	410
20	78 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 3/4

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1583/78	*	18	15	55	8	18	2·4	270
2	4	100M	22	15	85	12	20	2·9	270
3	5		20	18	60	10	18	2·6	230
4	STD.								
5	6		15	25	50	10	15	2·4	300
6	7		15	25	90	8	15	2·5	270
7	8	200M	18	20	50	10	15	2·5	280
8	9		18	18	50	10	15	2·6	340
9	90	Pyi	18	12	45	10	18	2·3	270
10	1		25	15	50	10	20	2·9	290
11	2	300 M	22	15	55	12	15	2·8	350
12	3		15	10	40	8	15	2·3	330
13	4		18	15	42	8	18	2·5	330
14	95 x		18	12	42	10	18	2·6	300
15	6	400M	20	15	48	10	18	3·0	300
16	7		20	10	40	8	18	2·5	250
17	8		20	12	50	15	15	3·0	440
18	9		20	12	42	10	15	2·6	300
19	A 1600/78	500M	20	15	55	10	18	2·6	360
20	95x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 Results in ppm unless otherwise stated BATCH NO. 4

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1622/78	CT3-00M	15	15	55	8	18	2·5	260
2	3		15	10	55	10	20	2·5	220
3	4		15	10	48	10	18	2·5	210
4	5		15	15	55	15	22	2·6	220
5	STD.	Pyi?							
6	6	50 M	15	12	48	8	18	2·3	220
7	7		12	8	50	12	18	2·5	230
8	8		15	10	50	12	25	2·4	200
9	9		15	8	55	15	28	2·5	220
10	30	100 M	12	15	38	8	15	2·0	290
11	1		12	8	35	5	15	2·2	250
12	2	CT4-00M	25	15	55	10	25	3·0	280
13	33 x		22	12	50	8	20	2·8	270
14	4		20	15	55	8	18	2·8	340
15	5		18	12	45	5	15	2·5	270
16	6	50 M	15	12	42	5	15	2·4	310
17	7		15	12	35	5	12	2·1	210
18	8	Pft	15	12	42	5	15	2·5	310
19	A 1639/78		18	15	48	8	18	2·6	300
20	33 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 Results in ppm unless otherwise stated BATCH NO. 5/6.

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1640/78	* 100M	18	12	55	10	18	2·6	250
2	1		22	15	55	5	15	2·8	210
3	2		22	22	75	8	18	3·1	240
4	3		22	8	45	< 5	15	2·1	120
5	44 x	150M	18	12	50	5	15	2·3	190
6	5		28	15	40	5	15	2·0	130
7	6		22	8	48	8	15	2·7	210
8	7	Pyi	25	8	40	5	18	2·3	180
9	8	200M	25	8	42	5	15	2·5	210
10	9		30	12	40	5	15	2·3	180
11	50		25	10	38	5	15	2·3	210
12	1		10	< 5	8	< 5	5	0·35	35
13	2	250 M	20	10	45	5	15	2·6	230
14	3		22	12	45	10	18	2·6	270
15	STD.								
16	4		20	15	45	8	15	2·5	240
17	5	*	22	10	50	10	15	2·5	200
18	6	* 300 M	18	12	50	10	15	2·3	210
19	A 1657/78	Pb	20	8	40	8	15	2·4	320
20	44 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 6

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1658/78		18	5	40	10	18	2·5	260
2	9		25	8	40	8	18	2·5	240
3	60	350M	18	8	35	8	18	2·0	170
4	STD.								
5	61	Pb	22	20	35	8	15	2·2	200
6	2		20	8	35	8	15	2·4	220
7	3		22	8	38	8	18	2·9	190
8	4	400M	18	15	38	8	18	2·4	250
9	5		20	8	35	8	18	2·3	210
10	6	CT5-00M	20	12	55	8	22	2·7	300
11	7		25	8	60	12	28	2·9	240
12	8		22	10	50	5	22	2·7	240
13	9	Pft	25	10	60	8	25	3·1	300
14	70 x	50M	28	12	60	8	25	3·1	320
	1	*	22	12	55	10	25	2·8	350
16	2		18	22	60	12	18	2·5	260
17	3		20	25	75	10	18	2·6	320
18	4	100M	20	22	65	15	20	2·9	420
19	A 1675/78		18	15	60	10	20	2·6	350
20	70 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 7/8

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1676/78		18	18	60	8	15	2·5	360
2	7		22	15	80	8	18	2·8	320
3	8	150 M	20	10	48	8	15	2·6	260
	9	Pyi	22	10	45	8	15	2·5	270
5	80 x		18	15	42	8	15	2·5	260
6	1		22	12	40	8	15	2·4	250
7	2	200M	18	8	35	10	10	2·2	210
8	3		25	10	35	8	12	2·1	190
9	4		18	10	42	8	12	2·4	270
10	5		18	12	42	8	15	2·9	280
11	6	* 250M	18	15	42	8	15	2·4	280
12	7		20	8	38	8	15	2·1	200
13	8		18	15	48	8	15	2·8	320
14	9		22	15	40	10	18	2·6	260
15	STD.	Pb							
16	90	300M	22	10	45	15	18	2·6	310
17	1		18	10	42	10	15	2·4	270
18	2		18	12	40	12	15	2·2	260
19	A 1693/78		22	8	35	8	18	2·1	200
20	80 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 8

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1694/78	350M	18	15	40	5	18	2·3	280
2	5		20	10	35	8	15	2·0	210
3	6	Pb	18	12	40	8	18	2·3	270
4	7		15	18	45	5	18	2·3	270
5	1698	400M	22	12	40	8	15	2·4	230
6	STD.								
7	1719	CT6-00M	20	15	55	8	25	2·8	270
8	20		22	15	60	8	20	2·9	320
9	1		20	15	55	10	20	2·8	330
10	2	Pft	22	15	60	10	20	2·9	320
11	3	50M	20	18	60	8	22	2·8	320
12	4		22	15	65	8	22	3·0	280
13	5	*	20	20	65	12	22	2·9	230
14	26 x		28	18	55	10	22	2·6	190
15	7	100M	22	18	55	8	20	2·5	210
16	8		28	20	60	10	25	2·5	200
17	9		25	12	80	15	20	2·8	280
18	30		28	15	80	25	22	2·8	320
19	A 1731/78	150M	42	20	65	8	18	2·6	260
20	26 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 9/10

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1732/78	Pyi	30	18	65	15	18	2·2	230
2	3		28	18	65	8	18	2·4	250
3	4		32	15	60	8	18	2·3	270
4	STD.								
5	5	200M	22	15	50	8	20	3·0	240
6	6		25	15	50	10	18	3·0	260
7	7		40	12	60	12	18	2·9	280
8	8		18	12	48	10	15	2·9	280
9	9	250M	23	15	48	12	18	3·0	230
10	40		25	15	50	12	18	2·8	280
11	1		15	12	40	12	15	2·4	210
12	2		18	12	42	10	15	2·4	220
13	3	300M	15	10	40	8	15	2·4	250
14	34 x		20	8	42	8	15	2·1	120
15	5		28	18	50	12	25	3·0	220
16	6		22	15	50	12	18	3·0	210
17	7		25	10	48	10	15	2·5	220
18	8	362·5M	20	10	55	10	18	2·4	230
19	A 1749/78	CT7-00M	28	15	65	12	25	3·2	320
20	34 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 10

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1750/78	·	28	8	70	8	25	3·0	420'
2	1	Pft	25	12	65	12	25	3·0	340'
3	2		25	10	70	8	25	2·9	370'
4	3	* 50 M	25	15	65	12	25	3·0	340'
5	4	*	25	25	120	12	18	2·8	340'
6	55 x		20	28	140	12	15	2·8	340'
7	6		20	35	160	12	15	3·1	340'
8	7	100 M	18	18	85	12	18	2·8	360'
9	8		22	15	100	12	18	3·0	330'
10	9		20	15	55	10	18	2·5	370'
11	60		25	20	55	8	18	2·8	390'
12	1	150 M	20	10	45	10	15	2·6	240'
13	2		20	12	50	8	15	2·6	310'
14	3		28	12	48	10	18	2·5	310'
	4		22	10	42	8	15	2·4	250'
16	STD.	Pyi							
17	5	200 M	20	10	45	10	15	2·4	260'
18	6		20	8	42	10	16	2·5	320'
19	A 1767/78		22	8	42	10	15	2·3	240'
20	55 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 11/12

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1768/78		32	8	45	12	22	2·4	290'
2	9	250 M	20	10	45	8	15	2·4	290'
3	70		18	18	48	10	12	2·3	350'
4	STD.								
5	71		25	20	50	12	18	2·8	450'
6	2		25	32	60	10	18	2·8	350'
7	3	300 M	30	20	60	8	12	2·6	380'
8	4	*	20	38	80	8	15	2·9	380'
9	5		18	12	45	8	18	2·7	330'
10	6		22	12	48	8	15	2·8	290'
11	7	360 M	20	15	50	10	15	3·1	320'
12	8	Pb	28	18	50	12	18	3·0	340'
13	9		20	10	48	12	15	2·9	420'
14	80		22	15	50	15	18	3·0	370'
15	81	400 M	25	18	50	15	18	2·9	470'
16	83 x	CT8-00M	22	15	55	8	18	2·6	230'
17	4		25	12	50	10	20	2·6	200'
18	5	Pyi ?	30	10	48	8	18	2·2	160'
19	A 1786/78		32	18	70	10	28	2·9	220'
20	83 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* Soil Samples BATCH NO. 12

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1787/78	100M	22	15	60	12	18	2·8	270
2	8		30	12	70	8	18	2·7	220
3	9		30	12	48	8	18	2·4	210
4	90		28	8	45	8	18	2·5	170
5	STD.								
6	91	200M	22	8	40	8	15	2·5	240
7	2		20	5	42	8	15	2·5	260
8	3		22	10	40	8	15	2·4	200
9	4		20	10	42	8	15	2·4	250
10	5	300M	20	8	35	5	12	1·9	190
11	6		15	10	32	5	10	1·8	200
12	7		18	15	40	5	15	2·2	240
13	8		10	5	30	5	8	1·5	170
14	9	400M	15	8	35	5	8	1·7	210
15	1800 x		25	12	45	8	12	2·1	220
16	1	Pyi	18	12	40	5	15	1·9	270
17	2		15	5	15	5	5	0·6	65
18	3	500M	22	8	35	5	10	2·0	200
19	A 1804/78		35	10	40	10	15	2·0	220
20	1500x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 13/14

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	17 1805/78		15	10	35	8	15	2·1	280
2	6		20	15	40	8	15	2·3	230
3	7	600M	22	5	40	8	15	2·3	230
4	8		22	5	38	8	15	2·2	230
5	9		28	8	50	8	18	2·5	250
6	10 x		20	8	45	8	15	2·5	320
7	11	700M	25	10	50	12	18	2·9	360
8	12		28	10	55	12	22	3·2	350
9	13		22	8	50	10	18	3·0	400
10	14	775M	25	8	55	10	22	3·0	420
11	15	CT9-00M	22	10	60	8	18	2·6	290
12	16		20	10	65	5	18	2·8	270
13	17	Pft?	20	8	60	5	20	2·7	260
14	18	*	22	12	55	8	18	2·8	300
15	19	100M	22	12	55	8	18	2·8	340
16	STD.								
17	20		18	10	48	8	18	2·4	400
18	1	Pyi	20	15	55	8	18	2·7	500
19	A 1822/78		20	10	48	8	18	2·5	400
20	10 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 14

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1823/78	200 M	15	10	42	8	15	2·3	370
2	4		20	10	48	8	18	2·7	360
3	5		18	10	42	8	18	2·3	430
4	STD.								
5	6		15	12	38	8	15	2·1	400
6	7	300 M	15	15	40	8	12	2·3	430
7	8		15	15	38	5	10	2·1	350
8	9		18	12	38	8	15	2·2	380
9	30		15	15	40	8	12	2·2	360
10	1	400 M	18	15	40	8	15	2·2	320
11	2		15	15	40	8	15	2·3	380
12	33 x		15	12	38	8	15	2·1	380
13	4		20	12	48	8	18	2·7	430
14	5	500 M	28	12	48	8	18	3·0	300
15	6		22	12	50	8	18	2·8	400
16	7	Pyi	25	10	45	8	18	2·8	270
17	8		22	12	48	8	12	2·5	240
18	9	600 M	28	15	50	8	20	3·0	400
19	A 1840/78		22	15	50	10	20	3·0	420
20	33x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 15/16

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1841/78		28	12	48	8	18	3·0	420
2	2		20	12	45	10	15	2·6	360
3	3	700 M	30	15	55	12	20	3·3	330
4	44 x		22	12	48	12	18	3·0	390
5	5		20	8	48	12	20	2·8	350
6	6		20	8	48	10	18	2·6	350
7	7	800 M	18	10	48	8	15	2·5	320
8	8		22	10	50	8	18	2·9	330
9	9		22	15	55	10	15	2·9	340
10	50		20	12	50	10	15	2·8	300
11	1	900 M	18	15	48	8	15	2·5	330
12	2		20	12	55	8	18	3·0	360
13	3		15	15	50	8	15	2·6	360
14	4		18	15	50	8	15	2·6	340
15	STD.								
16	5	1000 M	20	15	60	10	15	3·0	320
17	6	CT 10-00M	25	18	60	8	20	2·8	320
18	7		20	12	55	10	18	2·8	290
19	A 1858/78	Pft ?	25	15	55	8	18	2·8	270
20	44 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 Results in ppm unless otherwise stated BATCH NO. 16

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1859/78		25	12	55	10	18	2·8	250'
2	60	100 M	20	12	55	8	15	2·8	300'
3	STD.								
4	61	"	20	12	65	8	15	2·7	260'
5	2		22	12	42	8	12	2·3	210'
6	3		20	15	50	10	18	2·8	270'
7	4	200 M	22	15	48	10	18	3·0	280'
8	5		25	18	48	12	18	2·8	340'
9	6		20	15	42	12	15	2·6	340'
10	7		25	15	48	12	18	2·9	340'
11	8	300 M	22	10	38	8	18	2·3	220'
12	9		28	18	45	10	18	2·5	250'
13	70 x	Pyi	25	12	40	8	18	2·6	240'
14	1		18	16	45	10	18	2·6	280'
15	2	400 M	22	15	48	8	15	2·9	260'
16	3		20	12	48	8	18	2·8	250'
17	4		18	12	45	8	18	2·3	430'
18	5		25	12	50	8	15	2·6	290'
19	A 1876/78	500 M	15	8	40	8	15	2·1	360'
20	70 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 Results in ppm unless otherwise stated BATCH NO. 17/18

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1877/78		22	8	55	10	15	2·8	350'
2	8		25	10	48	10	15	2·8	280'
3	9		28	8	48	10	18	2·8	380'
4	80	600 M	20	10	50	8	15	2·5	310'
5	STD.								
6	81		18	8	42	8	15	2·5	280'
7	2	Pyi	25	12	45	8	12	2·9	260'
8	3		25	12	42	5	15	2·6	280'
9	4	700 M	20	15	45	8	15	2·6	290'
10	5		22	15	42	5	15	2·9	250'
11	6		25	8	35	5	8	2·0	130'
12	7		18	10	42	8	12	2·4	270'
13	88 x	800M	22	10	35	10	8	2·1	140'
14	9		22	8	40	8	15	2·5	210'
15	90		15	10	40	8	12	2·4	250'
16	1		20	12	48	8	15	2·8	270
17	2		15	8	40	8	12	2·4	270
18	93	925M	20	10	55	12	18	2·9	390'
19	A 1895/78	CT11-00M	18	5	25	12	20	2·7	330'
20	88 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 18

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1896/78		18	8	35	10	22	2·6	430
2	7		20	12	38	12	25	3·0	430
3	8		22	12	35	10	18	2·8	380
4	9	50 M	20	12	45	15	20	2·9	420
5	1900	Pft	22	12	42	18	25	3·0	500
6	STD.								
7	1901		22	15	45	15	25	3·1	430
8	2	* 100M	22	12	42	8	15	2·4	260
9	3		28	18	45	10	18	2·6	260
10	4		28	12	48	10	18	2·6	300
11	5		22	10	48	8	18	2·6	280
12	6	150 M	32	8	45	10	18	2·6	220
13	7		22	12	45	5	15	2·5	300
14	8		22	15	45	5	18	2·5	280
15	9		25	8	45	10	18	2·5	230
16	10 x	200 M	20	10	48	8	15	2·5	280
17	11		25	10	45	5	18	2·6	250
18	12	Pyi	20	10	42	5	15	2·4	270
19	A 1913/78		20	12	48	5	18	2·6	300
20	10 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 19/20

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1914/78	250 M	20	12	42	8	15	2·5	230
2	15		25	12	42	8	15	2·6	240
3	16		20	12	45	8	12	2·5	280
4	17		20	12	40	8	15	2·4	260
5	18 x		20	10	40	8	15	2·3	230
6	19	312·5M	18	10	45	5	15	2·6	310
7	20	CT12-00M	18	8	48	8	15	2·7	400
8	1		15	5	35	8	15	2·2	340
9	2		15	12	45	10	18	2·4	460
10	3		22	10	60	8	18	3·0	440
11	4	100 M	20	12	55	10	15	2·7	400
12	5		18	12	45	8	15	2·5	340
13	6	Pyi	20	12	55	8	18	2·9	330
14	7		22	10	50	8	18	2·9	340
15	8	200 M	22	15	50	8	15	3·0	320
16	STD.								
17	9		22	15	55	10	18	2·9	360
18	30		25	8	45	5	18	2·8	270
19	A 1931/78		25	12	48	8	18	2·6	330
20	15 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 Results in ppm unless otherwise stated BATCH NO. 20

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1932/78	300 M	25	12	48	12	15	2·6	320
2	3		22	25	70	10	18	3·0	430
3	4		22	15	50	10	20	2·9	370
4	STD.								
5	5		22	8	45	10	18	2·6	340
6	6	400 M	28	12	55	8	20	3·2	260
7	7		25	22	70	10	18	3·1	470
8	8		25	20	48	12	18	2·6	490
9	9		20	18	50	10	18	2·9	460
10	40	500 M	25	18	55	10	18	2·9	300
11	1		22	25	70	8	18	2·6	290
12	2	Pyj	25	15	55	8	15	2·8	340
13	3		30	70	110	10	18	2·6	330
14	44 x	600 M	42	8	48	10	18	2·7	450
15	5		22	10	40	12	20	2·7	460
16	6		20	10	38	12	15	2·6	370
17	7		20	10	35	10	15	2·6	380
18	8	700 M	32	8	38	8	18	2·9	440
19	A 1949/78		48	12	32	8	15	2·6	310
20	44 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 Results in ppm unless otherwise stated BATCH NO. 21/22

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1950/78		35	10	32	8	12	2·4	290
2	1		28	12	38	8	15	2·6	290
3	2	800 M	22	12	40	10	15	2·6	380
4	3	CT 13-00 M	32	10	35	12	22	2·8	940
5	4		32	12	40	10	20	3·2	800
6	55 x	Pft	30	10	45	15	22	2·8	660
7	6		32	8	48	10	25	3·2	460
8	7	* 100 M	32	12	38	15	28	3·1	390
9	8		32	15	38	10	22	3·2	210
10	9		28	15	55	18	20	3·2	780
11	60		28	18	48	15	22	3·2	540
12	1	200 M	25	18	55	18	18	3·2	680
13	2		28	15	40	18	20	2·9	900
14	3	Pyj	30	18	48	18	25	3·5	820
15	4		30	18	48	18	20	3·2	740
16	STD.								
17	5	300 M	35	18	50	28	28	3·6	1100
18	6		28	18	50	18	28	3·3	680
19	A 1967 A	2 pkts. rec'd. now A+B	20	12	38	15	15	2·8	640
20	55 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 22

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1967B/78	2 Pkts. red	22	12	48	12	22	2·9	580
2	8	400 M	20	12	42	12	18	3·0	410
3	9		25	12	45	8	12	2·8	300
4	70	Pyj	22	10	50	12	18	3·2	380
5	STD.								
6	71		18	10	35	12	15	2·4	400
7	2	500 M	25	10	55	10	18	3·2	360
8	3	*	15	12	38	10	10	2·3	380
9	4		22	15	50	12	18	3·0	470
10	5		25	10	50	12	15	2·9	390
11	6	600 M	20	15	50	10	15	2·9	380
12	7	Pb	25	15	50	10	15	2·6	260
13	78 x		22	15	48	10	12	2·7	370
14	9	675 M	25	15	55	10	15	3·1	620
15	80	CT 14-00M	28	15	45	10	15	2·8	250
16	1		28	15	48	12	18	2·8	220
17	2		25	10	48	10	18	2·8	280
18	3		28	15	48	10	15	2·9	260
19	A 1984/78	50 M	28	18	45	10	15	2·9	220
20	78 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 23/24

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1985/78	Eft	28	18	45	8	20	2·6	230
2	6		32	18	42	8	20	2·4	210
3	7		22	22	48	8	20	2·6	310
4	8	100 M	32	18	48	8	18	2·8	210
5	9		32	18	45	8	20	2·6	220
6	90 x	*	30	20	45	8	20	2·6	230
7	1		30	20	50	10	20	2·7	260
8	2	150 M	28	18	50	10	20	3·0	400
9	3		30	18	48	12	20	2·8	420
10	4		25	18	50	10	22	3·0	460
11	5		18	18	48	8	18	2·5	410
12	6	200 M	25	12	50	8	20	3·0	560
13	7	Pyj	20	15	45	12	20	2·8	660
14	8		22	12	48	12	18	2·9	600
15	STD.								
16	99		25	15	48	12	22	2·7	450
17	2000	250 M	20	15	45	10	20	2·5	490
18	1		25	15	50	12	22	3·0	360
19	A 2002/78		30	15	48	12	20	3·1	320
20	90 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 24

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 2003/78		25	12	42	5	18	2·5	240
2	4	300 M	22	8	42	5	18	2·5	200
3	5	CT 15-00 M	32	18	45	12	28	2·9	700
4	STD.								
5	6	Pft.	22	18	45	12	20	2·7	280
6	7		22	20	45	10	18	2·6	330
7	8	*	28	15	42	10	15	2·5	290
8	9	100 M	28	22	48	8	20	3·0	400
9	10		28	12	55	10	18	3·1	680
10	11		28	18	45	10	18	3·1	580
11	12		32	10	50	10	18	3·3	600
12	13 x	200 M	28	18	45	10	15	3·0	450
13	14		25	15	38	10	12	2·2	360
14	15		20	18	55	8	15	2·6	260
	16		25	18	38	10	15	2·5	560
16	17	300 M	22	22	40	10	12	2·6	420
17	18		28	25	50	10	12	3·0	500
18	19		22	28	42	8	15	2·7	430
19	A 2020/78	Pyi	28	25	35	8	12	2·4	540
20	13 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 25/26

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 2021/78	400 M	55	15	35	10	18	2·8	420
2	2		55	8	28	8	18	2·5	400
3	23 x		30	12	40	10	18	2·8	410
4	4		35	10	40	10	18	2·8	380
5	5	500 M	35	15	45	10	20	3·1	400
6	6		32	12	38	10	15	2·7	480
7	7		28	12	35	10	12	2·4	450
8	8		32	15	28	8	10	2·1	400
9	9	600 M	55	15	55	10	15	3·0	440
10	30		75	18	35	10	12	2·7	370
11	1		48	15	38	8	18	2·8	270
12	2		40	18	38	8	15	2·9	240
13	3	700 M	90	18	38	8	15	2·9	290
14	4		80	12	35	10	15	2·6	310
15	5		55	15	38	10	18	2·6	320
16	STD.								
17	6		28	12	38	10	15	2·2	360
18	7	800 M	32	12	30	10	12	2·4	290
19	A 2038/78		38	15	32	8	15	2·4	330
20	23 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 26

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 2039/78		28	10	30	10	15	2·3	100
2	40		28	15	30	12	15	2·5	340
3	41	900 M	28	15	35	12	18	2·5	360
4	STD.								
5	1-8		32	12	42	12	18	2·7	440
6	9		25	8	30	12	12	2·1	420
7	70	Pyj	25	12	30	10	10	2·1	370
8	1	1000 M	28	8	30	8	10	2·1	420
9	2		22	12	45	12	15	2·4	540
10	3		48	15	32	10	12	2·4	560
11	4		55	12	40	10	12	2·7	440
12	5	1100 M	38	8	30	8	10	2·2	420
13	6		28	8	30	8	10	2·3	580
14	77 x	1150 M	32	12	32	8	10	2·3	390
15	8	CT 16-00 M	30	8	25	8	15	3·1	330
16	9		28	15	30	8	25	3·1	400
17	80	Pft	35	15	48	18	30	3·7	880
18	1		32	15	45	18	32	3·5	700
19	A 2082/78	100 M	30	18	35	12	28	3·5	680
20	77 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 27/28

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 2083/78		40	12	40	15	28	4·1	1000
2	4		25	12	38	15	18	3·3	760
3	85 x		20	10	38	15	20	2·6	700
4	6	200 M	20	10	48	8	18	2·8	400
5	7		28	15	42	10	22	3·5	500
6	8	Pyj	32	15	38	12	25	3·8	600
7	9		28	8	30	10	20	3·0	440
8	90	300 M	25	15	32	10	20	3·2	620
9	1		25	18	38	10	22	3·0	480
10	2		28	15	35	10	18	2·6	330
11	3		28	15	38	18	20	2·8	1050
12	4	400 M	35	20	50	15	22	3·9	820
13	STD.								
14	5		28	18	42	12	20	3·0	430
15	6	500 M	35	18	40	15	25	3·7	560
16	7		32	12	42	15	25	3·6	600
17	8		28	15	55	12	20	3·2	580
18	9		28	25	70	10	20	3·0	560
19	A 2100/78		38	45	100	15	20	3·1	680
20	85 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 98

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 2101/78	625 M	28	50	130	10	15	3·0	600
2	2	CT17-00 M	42	16	42	22	35	3·5	1250
3	3		32	15	38	18	28	2·9	1100
4	4	Pft	35	12	35	12	28	3·3	540
5	5		38	15	35	15	25	3·4	470
6	6 x	* 100 M	32	15	38	12	25	3·3	450
7	7		48	8	25	8	18	2·3	190
8	8		25	12	28	15	25	3·1	840
9	9		20	10	25	15	18	2·2	640
10	10	200 M	20	12	38	10	15	2·3	740
11	11		22	15	25	10	20	2·4	490
12	12	Pyi	20	15	28	15	18	2·3	400
13	13		35	15	25	18	20	2·5	520
14	14	300 M	32	15	40	12	20	2·8	500
	15		48	15	32	15	25	3·1	540
16	STD.								
17	16		28	10	35	12	20	2·7	390
18	17		32	20	35	15	18	3·0	240
19	A 2118/78	400 M	48	18	35	18	22	3·0	1150
20	6 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3753/78 *Results in ppm unless otherwise stated* BATCH NO. 29

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 2119/78		48	18	35	15	20	2·9	1100
2	20		28	22	35	15	15	2·0	400
3	STD.	Pyi							
	21		32	15	48	15	18	2·6	900
5	2	500 M	35	15	40	25	20	2·6	600
6	3		38	15	32	15	18	2·5	380
7	4		45	12	40	18	28	3·4	840
8	5		55	10	40	18	30	4·2	960
9	6	600 M	50	15	40	20	25	4·0	1100
10	7		42	15	38	18	25	4·2	1350
11	28 x		65	15	48	15	18	3·1	1000
12	9	*	85	12	42	12	15	3·3	1400
13	30	Pb	20	15	35	8	15	2·2	370
14	A 2131/78	725 M	18	15	35	8	15	2·3	310
15	28 x								
16	Blk.		—	—	—	—	—	—	—
17	Code		C1	C1	C1	C1	C1	F1	C1
18									
19									
20									

4665/78
JOB 19/79

AMDEL ANALYTICAL SERVICE

Results in ppm unless otherwise stated

BATCH NO. 1

FORM 6

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	Mn	Fe%
1	A 3016/78	CT18-00M	30	15	80	10	25	445	3.5
2	3017		25	15	70	10	25	325	3.3
3	3018		25	15	70	10	25	440	3.2
4	3019		20	15	75	10	20	330	3.0
5	3020	100M	25	20	90	15	25	410	3.5
6	A3021/78		25	20	80	10	20	415	3.4
7	STD								
8	A3022/78		25	15	100	15	20	390	3.7
9	3023		25	20	80	15	25	495	4.1
10	3024	Pft 200M	20	15	75	10	20	495	3.0
11	3025x		30	10	70	15	30	305	3.8
12	3026		30	15	70	15	25	500	3.4
13	3027		25	15	75	15	20	580	3.2
14	3028	300M	30	10	85	15	20	520	3.7
15	3029		25	15	80	15	20	530	3.2
16	3030		25	25	90	15	25	475	3.0
17	3031		25	25	75	15	25	510	3.3
18	3032	400M	25	25	75	10	20	440	3.1
19	3033		30	30	145	15	20	525	3.3
20	A 3025/78								

4665/78
JOB 19/79

AMDEL ANALYTICAL SERVICE

Results in ppm unless otherwise stated

BATCH NO. 2

FORM 6

TT	Sample No.	Cu	Pb	Zn	Co	Ni	Mn	Fe%
1	A 3034/78	30	40	320	10	10	640	3.0
2	3035 *	25	40	110	10	10	565	2.9
3	3036 500M	20	30	85	10	15	575	2.5
4	3037	20	15	70	10	10	360	3.0
5	3038	25	15	60	5	5	330	3.1
6	3039 Pyi	35	40	45	10	10	360	2.4
7	3040 600M	12	10	30	5	10	335	1.9
8	3041	25	20	35	5	10	455	2.0
9	3042	20	10	35	5	10	335	2.2
10	3043	25	25	75	10	15	430	2.9
11	A 3044/78 700M	25	10	35	5	10	260	3.1
12	STD							
13	A 3045/78	50	10	35	5	15	380	3.0
14	3046	20	10	50	5	15	390	2.8
15	3047	18	15	85	5	5	310	3.0
16	3048 800M	18	10	40	5	5	290	2.9
17	3049	25	10	50	10	10	365	3.3
18	3050	18	10	40	5	5	435	2.9
19	3051	25	15	50	10	15	645	3.1
20	A 3035/78							

4665/78
JOB 19/78

AMDEL ANALYTICAL SERVICE

Results in ppm unless otherwise stated

BATCH NO. 3

FORM 6

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	Mn	Fe%
1	A 3052/78	900M	20	5	45	10	20	595	3.1
2	3053		15	10	40	5	10	535	2.6
3	3054	Pyj	12	10	40	5	15	515	2.4
4	3055		15	5	40	5	10	385	2.6
5	3056	1000M	18	5	45	5	15	400	2.7
6	3057	CT19-00M	20	20	85	10	25	360	3.0
7	3058		25	25	120	15	25	390	3.5
8	3059		25	20	90	10	30	415	3.4
9	3060x		20	20	65	10	30	400	3.1
10	3061	100M	30	20	55	10	20	310	2.8
11	3062	Pft	18	10	50	10	15	430	3.4
12	A 3063/78		25	10	60	10	15	460	2.9
13	STD	?*							
14	A 3064/78		18	10	45	10	10	290	2.9
15	3065	200M	18	10	55	10	20	295	3.1
16	3066		20	10	60	10	15	355	3.6
17	3067	Pyj	18	15	55	5	15	310	3.0
18	3068		20	10	60	10	15	320	3.1
19	3069	300M	25	15	55	10	20	315	3.6
20	A 3060/78								

4665/78
JOB 19/78

AMDEL ANALYTICAL SERVICE

Results in ppm unless otherwise stated

BATCH NO. 4

FORM 6

TT	Sample No.	Cu	Pb	Zn	Co	Ni	Mn	Fe%
1	A 3070/78	18	10	50	5	5	235	2.7
2	3071	25	10	65	5	5	500	3.3
3	A 3072/78	20	10	60	5	5	295	2.9
4	STD							
5	A 3073/78	400M 18	15	45	5	5	240	2.7
6	3074	15	15	50	5	10	260	2.6
7	3075	Pyj 18	5	70	5	5	225	2.5
8	3076	20	15	90	10	10	365	2.8
9	3077	500M 20	10	70	10	10	360	2.8
10	3078	20	5	55	5	15	330	2.7
11	3079	20	10	55	5	10	310	3.0
12	3080	18	15	45	5	10	190	3.0
13	3081	600M 15	15	55	5	10	360	2.8
14	3082	CT20-00M 25	25	55	15	20	455	3.2
15	3083	30	30	55	15	30	500	3.2
16	3084	25	25	55	10	20	455	3.1
17	3085	Pft 25	30	45	10	25	485	3.3
18	3086x	100M 25	25	50	10	20	670	3.1
19	3087	* 25	10	50	10	10	595	3.1
20	A 3086/78x							

4665/78
JOB 19/79

AMDEL ANALYTICAL SERVICE

Results in ppm unless otherwise stated

BATCH NO. 5

FORM 6

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	Mn	Fe%
1	A 3088/78		15	10	40	5	10	250	2.6
2	3089		18	5	40	5	15	350	2.9
3	3090	200M	25	10	50	5	15	375	3.6
4	3091		20	10	50	10	10	640	3.4
5	3092 x		30	10	45	10	15	795	3.5
6	A3093/78		20	10	45	5	10	250	3.1
7	STD								
8	A3094/78	300M	18	10	55	5	15	260	2.8
9	3095		18	15	45	5	15	255	2.8
10	3096	Pyj	18	5	40	5	10	185	3.0
11	3097		18	10	40	5	15	270	3.0
12	3098	400M	25	10	50	5	15	320	3.3
13	3099		20	10	55	5	15	320	2.9
14	3100		12	10	50	5	15	315	2.8
15	3101		10	5	40	5	15	355	2.9
16	3102	500M	12	5	45	10	15	435	3.1
17	3103		20	10	45	5	20	320	3.0
18	3104		40	10	70	15	20	650	4.0
19	3105		50	10	50	10	20	580	3.5
20	A 3092/78 x								

4665/78
JOB 19/79

AMDEL ANALYTICAL SERVICE

Results in ppm unless otherwise stated

BATCH NO. 6

FORM 6

TT	Sample No.	Cu	Pb	Zn	Co	Ni	Mn	Fe%
1	A 3106/78 x	600M	25	15	45	5	15	445	3.4
2	3107	Pyj	30	15	50	5	15	715	4.1
3	3108		20	10	45	5	15	270	3.2
4	3109		20	10	45	5	15	205	3.3
5	3110	700M	25	10	55	5	20	260	3.4
6	3111	CT21-00M	25	5	40	10	25	330	3.4
7	3112		25	10	40	10	25	365	3.2
8	3113		25	10	40	10	20	345	3.2
9	3114		25	10	40	10	25	340	3.3
10	A 3115/78	100M	25	10	40	5	25	380	3.1
11	STD								
12	A 3116/78		25	10	40	10	25	310	3.7
13	3117	Pft	30	10	45	10	15	340	3.2
14	3118		35	20	55	20	25	380	3.5
15	3119	200M	25	15	50	15	30	335	3.1
16	3120		60	15	55	15	20	435	3.1
17	3121		75	15	45	20	20	300	2.8
18	3122		125	20	50	20	25	245	3.3
19	3123	300M	55	15	45	10	15	240	2.8
20	A 3106/78 x								

4665/78
JOB#19/79

AMDEL ANALYTICAL SERVICE

FORM 6

Results in ppm unless otherwise stated

Soil Samples

BATCH NO. 7

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	Mn	Fe %	
1	A 3124/78		80	15	50	10	15	255	2.7	
2	3125	Pft	155	15	60	10	15	275	3.2	
3	3126	*	105	25	75	25	15	375	2.9	
4	3127	400M	155	20	65	20	15	370	3.3	
5	3128		175	25	65	25	15	335	2.4	
6	3129	x	105	20	70	15	20	205	3.0	
7	3130		40	20	70	10	15	300	2.9	
8	3131	500M	30	15	60	5	15	235	2.6	
9	3132		35	20	50	5	10	160	2.9	
10	3133		40	15	40	10	15	180	3.0	
11	3134		25	10	35	5	10	355	2.8	
12	3135	600M	25	10	50	5	10	275	2.8	
13	3136	CT22-00M	30	10	45	10	20	710	3.3	
14	3137		30	15	45	10	20	735	3.4	
15	3138	Pft	30	15	45	10	30	690	3.5	
16	3139		35	15	40	10	25	710	3.5	
17	A 3140/78	100M	95	25	55	15	20	650	3.1	
18	STD									
19	A 3141/78		185	20	65	23	25	815	3.1	
20	A 3129/78x									

4665/78
JOB#19/79

AMDEL ANALYTICAL SERVICE

FORM 6

Results in ppm unless otherwise stated

BATCH NO. 8

TT	Sample No.	Cu	Pb	Zn	Co	Ni	Mn	Fe %	Cu %
1	A 3142/78	160	20	80	15	20	565	3.1	
2	3143 Pft	1200	25	90	35	45	540	3.9	
3	3144 * 200M	>10.000	110	100	135	65	880	3.8	1.2
4	A 3145/78	80	10	45	10	15	185	2.7	
5	STD								
6	A 3146/78	120	15	50	15	15	275	2.5	
7	3147x Pyi	105	10	60	20	25	355	2.7	
8	3148 300M	110	5	50	15	25	330	2.6	
9	3149	55	10	45	10	20	345	2.6	
10	3150	60	15	50	10	15	380	2.7	
11	3151	70	10	55	20	25	385	2.9	
12	3152 400M	185	10	45	10	20	380	2.4	
13	3153 CT23-00M	30	20	85	15	35	485	4.1	
14	3154	25	15	70	15	30	470	3.7	
15	3155 Pft	25	65	100	10	20	420	3.4	
16	3156 *	25	30	70	10	20	440	3.2	
17	3157 100M	25	20	65	10	20	420	3.4	
18	3158 Pyi	25	15	65	10	15	545	3.3	
19	3159	18	15	55	5	15	365	3.0	
20	A 3147/78x								

4665/78
JOB#19/79

FORM 6

AMDEL ANALYTICAL SERVICE

Results in ppm unless otherwise stated

BATCH NO. 9

Soil Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	Mn	Fe %	
1	A 3160/78		25	10	65	10	20	495	3.4	
2	3161	200M	25	10	70	10	15	445	3.2	
3	3162		20	10	65	10	20	445	2.9	
4	3163		25	10	110	10	20	475	3.2	
5	3164		20	15	70	10	15	490	3.1	
6	3165	300M	18	15	60	5	15	310	2.8	
7	3166		20	15	60	10	15	300	3.1	
8	3167	Pyi	20	15	60	10	15	465	2.8	
9	A 3165/78x		18	15	75	10	15	325	2.8	
10	STD									
11	A 3169/78	400M	20	15	50	10	20	500	3.2	
12	3170		25	15	80	15	25	725	3.2	
13	3171		25	15	65	10	20	525	2.8	
14	3172 *	475M	18	10	55	10	15	415	2.8	
	3173	Pft -25M	30	20	80	15	30	535	3.9	
16	3174	-50M	35	25	90	20	35	815	4.2	
17	3175	CT24-00M	30	10	75	10	30	520	3.5	
18	3176		30	15	130	15	40	525	3.8	
19	3177	Pft	30	10	80	15	40	510	3.9	
20	A 3168/78x									

4665/78
JOB#19/79

FORM 6

AMDEL ANALYTICAL SERVICE

Results in ppm unless otherwise stated

BATCH NO. 10

TT	Sample No.	Cu	Pb	Zn	Co	Ni	Mn	Fe %	
1	A 3178/78	30	15	80	15	30	465	3.9	
2	STD								
3	A 3179/78 100M	30	10	70	15	30	465	3.9	
4	3180 Pft	40	20	75	15	40	550	4.5	
5	3181	45	20	95	20	40	615	5.1	
6	3182	35	25	95	15	35	545	4.1	
7	3183 * 200M	35	25	105	15	35	615	3.9	
8	3184	35	10	45	10	15	370	3.6	
9	3185	30	5	35	10	15	420	3.4	
10	3186	30	10	35	10	5	495	3.3	
11	3187 300M	40	5	40	5	15	445	3.2	
12	3188	40	15	50	5	20	500	3.4	
13	3189 Pyi	30	5	35	5	15	390	3.2	
14	3190	40	10	35	5	10	400	3.6	
15	3191 400M	40	10	35	10	15	380	3.9	
16	3192	25	10	40	5	10	410	3.9	
17	3193	18	10	45	5	15	305	3.5	
18	3194	15	10	30	5	10	285	3.8	
19	3195x 500M	15	10	35	10	10	275	4.2	
20	A 3195/78x								

FORM 6

JOB 4665/78 19/79

AMDEL ANALYTICAL SERVICE

Results in ppm unless otherwise stated

BATCH NO. 11

Soil Samples

TT	Sample No.	Cu	Pb	Zn	Co	Ni	Mn	Fe%	
1	A 3196/78	18	10	35	10	5	245	4.1	
2	3197 Pyi	20	10	40	10	10	315	3.9	
3	3198×	20	10	50	10	10	280	3.6	
4	A 3199/78 600M	30	10	55	10	10	255	4.3	
5	STD								
6	A 3198/78×								
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20	METHOD	C1	C1	C1	C1	C1	C1	F1	

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

DATA LAYOUT FOR METALSCAN

METALLIC RESOURCES
FORM DP 29

AMDEL PROJECT NO . . . . . SADM PROJECT NO . . . . . SHEET 1 OF . . . . .

AMDEL REPORT NO 3864/78 SADM PROJECT NAME Sturt Tillite & Basal Tapley Hill Formation - Geochem. Sampling DATE . . . . . .

Rock Chip Samples

	Detection Limit	200	5	20	10	3	5	100	50	100	10	0.1	50	1	1	1	30	1	20	3	100		
	A-G NUMBER	Ba	Co	Cr	Mn	Mo	Ni	V	W	La	Y	Ag	As	Bi	Cu	Pb	Sb	Sn	Zn	Au	P		
CT2-500M	A16011/78	X		50		X		70	X	X	30	X	X	X			X	X		X	500		
475	2	500		50		X		200	X	150	150	0.4	X	X			X	2		X	500		
450	3	300		70		X		80	X	50	50	0.1	X	X			X	1		X	1000		
425	4	400		60		X		60	X	X	60	0.1	X	X			X	10		X	500		
400	5	600		80		X		50	X	X	50	0.2	X	X			X	X		X	1000		
375	6	700		50		X		70	X	50	60	0.2	X	X			X	X		X	2000		
350	7	1500		100		X		100	X	70	70	0.3	X	X			X	X		X	1000		
Pyi 325	8	600		80		X		60	X	70	70	0.3	X	X			X	X		X	2000		
300	9	400		50		X		100	X	X	80	0.3	X	X			X	2		X	300		
275	10	800		100		X		100	X	70	80	0.4	X	X			X	1		X	1000		
250	1	600		80		X		80	X	70	80	0.2	X	X			X	1		X	1000		
225	2	300		70		X		70	X	70	80	X	X	X			X	X		X	3000		
200	3	800		100		X		300	X	100	100	0.1	X	X			X	1		X	300		
175	4	X		20		X		30	X	X	20	0.2	X	X			X	X		X	2000		
150	5	1500		80		X		80	X	70	80	0.2	X	X			X	1		X	1000		
125	6	500		30		X		40	X	X	50	0.2	X	X			X	X		X	2000		
100	7	800		60		X		100	X	100	100	0.4	X	X			X	X		X	2000		
75	8	X		40		10		50	X	X	40	0.1	X	X			X	1		X	5000		
Pft 50	9	300		100		3		200	X	50	100	0.3	X	X			X	2		X	5000		
25	20	200		20		20		80	X	X	40	0.1	X	X			X	X		X	500		
CT2-00M	16211	200		60		X		50	X	X	70	0.1	X	X			X	X		X	7000		
CT5-00M	16999	600		100		X		300	X	100	100	0.2	X	X			X	2		X	2000		
12.5	7001	X		70		X		40	X	X	50	0.1	X	X			X	X		X	7000		
Pft 25	1	600		60		X		80	X	70	60	X	X	X			X	1		X	3000		
50	2	X		70		X		60	X	50	50	0.2	X	X			X	2		X	7000		
87.5	3	500		100		X		100	X	80	70	0.2	X	X			X	1		X	2000		
100	4	500		100		X		150	X	80	80	0.4	X	X			X	1		X	2000		
112.5	5	500		150		X		200	X	150	100	0.4	X	X			X	2		X	1000		
125	6	200		100		X		100	X	X	80	0.3	X	X			X	2		X	500		
Pyi 137.5	7	200		X		X		80	X	X	10	0.5	X	X			X	X		X	1000		
162.5	8	600		60		X		50	X	50	60	0.4	X	X			X	2		X	500		
187.5	9	200		30		X		50	X	X	50	0.3	X	X			X	X		X	500		
212.5	1710	700		80		X		100	X	70	70	0.2	X	X			X	1		X	300		

NOTE: 9997 : 10000 ppm 9998 : > 10000 ppm 9999 : >> 10000 ppm

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

DATA LAYOUT FOR METALSCAN

METALLIC RESOURCES
FORM DP 29

AMDEL PROJECT NO . . . . . SADM PROJECT NO . . . . . SHEET 2 OF . . . .

AMDEL REPORT NO 3864/78 . . . SADM PROJECT NAME . . . . . DATE . . . . . .

Rock Chip Samples

	Detection Limit	200	5	20	10	3	5	100	50	100	10	0.1	50	1	1	1	30	1	20	3	100		
	A-G NUMBER	Ba	Co	Cr	Mn	Mo	Ni	V	W	La	Y	Ag	As	Bi	Cu	Pb	Sb	Sn	Zn	Au	P		
Pyi 225	A17118	200		30		X		40	X	X	40	.05	X	X			X	2		X	300		
237.5	2	300		60		X		60	X	50	60	.02	X	X			X	1		X	300		
CT5- 250M	3	600		70		X		100	X	80	100	.04	X	X			X	2		X	1000		
CT5 275	4	X		40		X		50	X	50	50	.02	X	X			X	3		X	1000		
300	5	X		50		X		60	X	X	50	X	X	X			X	1		X	1000		
Pb 325	6	X		50		X		60	X	X	60	.01	X	X			X	X		X	300		
337.5	7	400		100		X		150	X	X	70	.01	X	X			X	X		X	1000		
CT5- 362.5	17118	X		50		X		50	X	X	30	X	X	X			X	X		X	200		
CT15- 100M	2042	300		150		X		200	X	80	80	.10	X	X			X	1		X	1000		
125	3	400		150		X		100	X	80	100	.02	X	X			X	3		X	1000		
150	4	X		60		X		60	X	80	70	.01	X	X			X	1		X	500		
175	5	X		60		X		60	X	X	60	.02	X	X			X	X		X	1000		
200	6	X		20		X		60	X	80	60	.01	X	X			X	X		X	1000		
225	7	X		20		X		20	X	X	20	.03	X	X			X	X		X	3000		
250	8	X		30		X		20	X	X	30	.02	100	X			X	X		X	3000		
275	9	X		20		X		40	X	50	20	.02	X	X			X	X		X	1000		
1 300	50	X		60		X		70	X	50	60	.03	X	X			X	1		X	1000		
2 325	1	400		60		X		150	X	50	60	.01	X	X			X	X		X	1000		
375	2	400		80		X		100	X	70	70	.01	X	X			X	X		X	300		
400	3	600		30		X		80	X	50	40	.03	X	X			X	X		X	2000		
Pyi 450	4	500		50		X		80	X	80	80	.04	X	X			X	X		X	1000		
500	5	400		30		X		50	X	70	30	.03	X	X			X	X		X	500		
600	6	400		60		X		70	X	70	40	.05	X	X			X	1		X	1000		
625	7	600		100		X		150	X	50	40	.03	X	X			X	X		X	200		
650	8	500		40		X		70	X	70	40	.03	X	X			X	X		X	3000		
675	9	600		100		X		200	X	100	60	.10	X	X			X	1		X	500		
700	60	400		80		X		100	X	50	40	.07	X	X			X	X		X	3000		
750	1	500		70		X		70	X	70	20	.10	X	1			X	1		X	1000		
775	2	800		150		X		150	X	100	70	.03	X	1			X	1		X	5000		
800	3	700		80		X		150	X	100	80	.10	X	2			X	1		X	5000		
825	4	700		150		X		300	X	100	100	.02	X	1			X	X		X	2000		
850	5	300		100		X		200	X	80	30	.05	X	X			X	X		X	7000		
875	2066	500		40		X		70	X	80	60	.08	X	8			X	1		X	7000		

NOTE: 9997 : 10000 ppm 9998 : > 10000 ppm 9999 : >> 10000 ppm

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

DATA LAYOUT FOR METALSCAN

METALLIC RESOURCES
FORM DP 29

AMDEL PROJECT NO . . . . . SADM PROJECT NO . . . . . SHEET 3 OF . . . .

AMDEL REPORT NO 3864/78 . . . SADM PROJECT NAME . . . . . DATE . . . . . .

Rock Chip Samples

Detection Limit	200	5	20	10	3	5	100	50	100	10	0.1	50	1	1	1	30	1	20	3	100		
A-G NUMBER	Ba	Co	Cr	Mn	Mo	Ni	V	W	La	Y	Ag	As	Bi	Cu	Pb	Sb	Sn	Zn	Au	P		
CT15-900M A20671/78	500		40		x		80	x	80	80	0.7	x	2			x	1		x	3000		
CT7-350M 1782	800		50		x		300	x	x	50	0.1	x	x			x	2		x	x		
CT10-625M 1894	400		70		x		150	x	50	40	x	x	x			x	1		x	2000		
CT17-50M 2132	200		100		80		200	x	6000	100	x	x	25			x	1		x	x		
CT1-175M 1579	1500		30		x		50	x	200	200	0.1	x	x			x	x		x	1000		

NOTE: 9997 : 10000 ppm 9998 : > 10000 ppm 9999 : >> 10000 ppm

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3864/78 *Results in ppm unless otherwise stated* BATCH NO. 1/2

Rock Chip Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1601/78	CT2-500M	22	12	45	5	18	3.5	1250
2	2		40	15	35	5	25	4.0	75
3	3		30	12	28	<5	18	2.8	640
4	4		8	5	32	5	8	2.8	520
5	5 x	400M	8	5	20	<5	8	2.1	1250
6	6		5	15	18	<5	8	1.8	1200
7	7		8	10	25	5	8	1.9	660
8	8		12	15	18	<5	8	1.4	560
9	9	300M	140	42	120	12	55	5.2	330
10	10	Pyj	140	30	90	12	25	3.1	600
11	11		30	32	70	10	18	3.2	720
12	12		18	40	45	10	15	3.7	1200
13	13	200M	48	20	45	8	15	2.8	70
14	14		12	25	150	<5	5	0.8	180
15	15		28	70	100	5	18	3.6	420
16	STD.								
17	16		12	38	140	5	8	1.5	370
18	17	100M	20	32	140	8	10	2.3	360
19	A 1618/78		22	35	80	8	18	2.9	840
20	5x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3864/78 *Results in ppm unless otherwise stated* BATCH NO. 2

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1619/78	Eft	38	22	90	15	42	4.4	390
2	20		15	18	50	5	20	3.7	1750
3	1621	CT2-00M	20	12	70	15	25	2.9	1500
4	STD.								
5	1699	CT5-00M	28	25	85	12	40	4.4	310
6	1700	12.5M	30	18	70	5	25	2.9	840
7	1	Eft 25M	22	20	65	5	25	4.4	1600
8	2	50M	28	15	55	10	25	2.7	1050
9	3	87.5	25	15	160	5	30	2.7	190
10	4	100	32	15	48	5	20	3.4	370
11	5	112.5	20	18	50	8	20	3.2	120
12	6	125	45	8	60	15	32	4.5	230
13	7	Pyj 137.5	8	20	150	<5	5	1.1	370
14	8 x	162.5	25	15	60	12	25	3.4	720
15	9	187.5	40	15	70	10	15	3.8	1150
16	10	212.5	20	18	45	12	18	3.0	640
17	11	225	28	12	42	10	18	2.8	600
18	12	237.5	20	15	50	8	18	2.8	370
19	A 1713/78	250	18	15	45	8	15	3.0	840
20	08 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3864/78 Results in ppm unless otherwise stated BATCH NO. 3/4

Rock Chip Samples

TT	Sample No.	Line No. Metreage Rock Unit	Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 1714/78	275M	15	18	48	10	15	4·7	960
2	15	300	5	5	45	5	15	2·8	860
3	16	Pb 325	15	10	45	10	15	2·5	580
4	17	337·5	18	18	22	20	18	2·0	560
5	1718	CT5-362·5	18	15	30	8	10	1·8	400
6	STD.								
7	2042	CT15-400M	25	42	20	5	15	2·5	160
8	3	125	60	12	22	10	25	4·2	490
9	4	150	48	25	20	5	18	5·0	520
10	5	175	55	12	20	10	15	3·5	920
11	6	200	20	15	8	5	5	2·0	160
12	7	225	15	8	5	<5	5	1·0	95
13	8	Pyi 250	25	8	18	5	8	4·3	230
14	9	275	30	8	8	5	10	1·5	1600
15	50 x	300	15	10	15	15	20	3·6	400
16	1	325	20	15	25	10	15	3·0	560
17	2	375	25	10	8	<5	5	1·3	86
18	3	400	250	12	95	50	100	8·0	2700
19	A 2054/78	450	15	15	15	5	10	1·2	220
20	50 x								

AMDEL ANALYTICAL SERVICE

FORM 6 JOB 3864/78 Results in ppm unless otherwise stated BATCH NO. 4

TT	Sample No.		Cu	Pb	Zn	Co	Ni	%Fe	Mn
1	A 2055/78	500	10	5	5	<5	<5	0·5	110
2	6	600	95	28	180	15	15	3·2	860
3	7	625	200	12	8	8	12	2·0	1150
4	58 x	650	30	10	18	8	8	1·2	410
5	9	675	38	18	15	8	12	2·2	370
6	60	Pyi 700	310	15	12	10	12	2·6	660
7	1	750	85	10	8	10	10	2·0	540
8	2	775	110	15	18	12	8	2·0	560
9	3	800	60	18	18	12	15	2·0	660
10	4	825	130	18	15	15	15	3·7	390
11	5	850	42	20	28	15	15	1·8	1100
12	6	875	190	20	50	28	30	4·3	1300
13	2067	CT15-900	95	15	25	18	15	3·2	1650
14	STD.								
15	1782	CT7-350M	Pb? 28	15	55	10	8	5·4	2·05%
16	1894	CT10-625M	Pyi 28	10	5	<5	5	0·45	140
17	2132	CT17-50M	Pft 55	28	75	48	190	23·5	5000
18	A 1579/78	CT1-175M	Pyi 65	10	210	<5	8	1·8	180
19	58 x								
20	BLK.		—	—	—	—	—	—	—

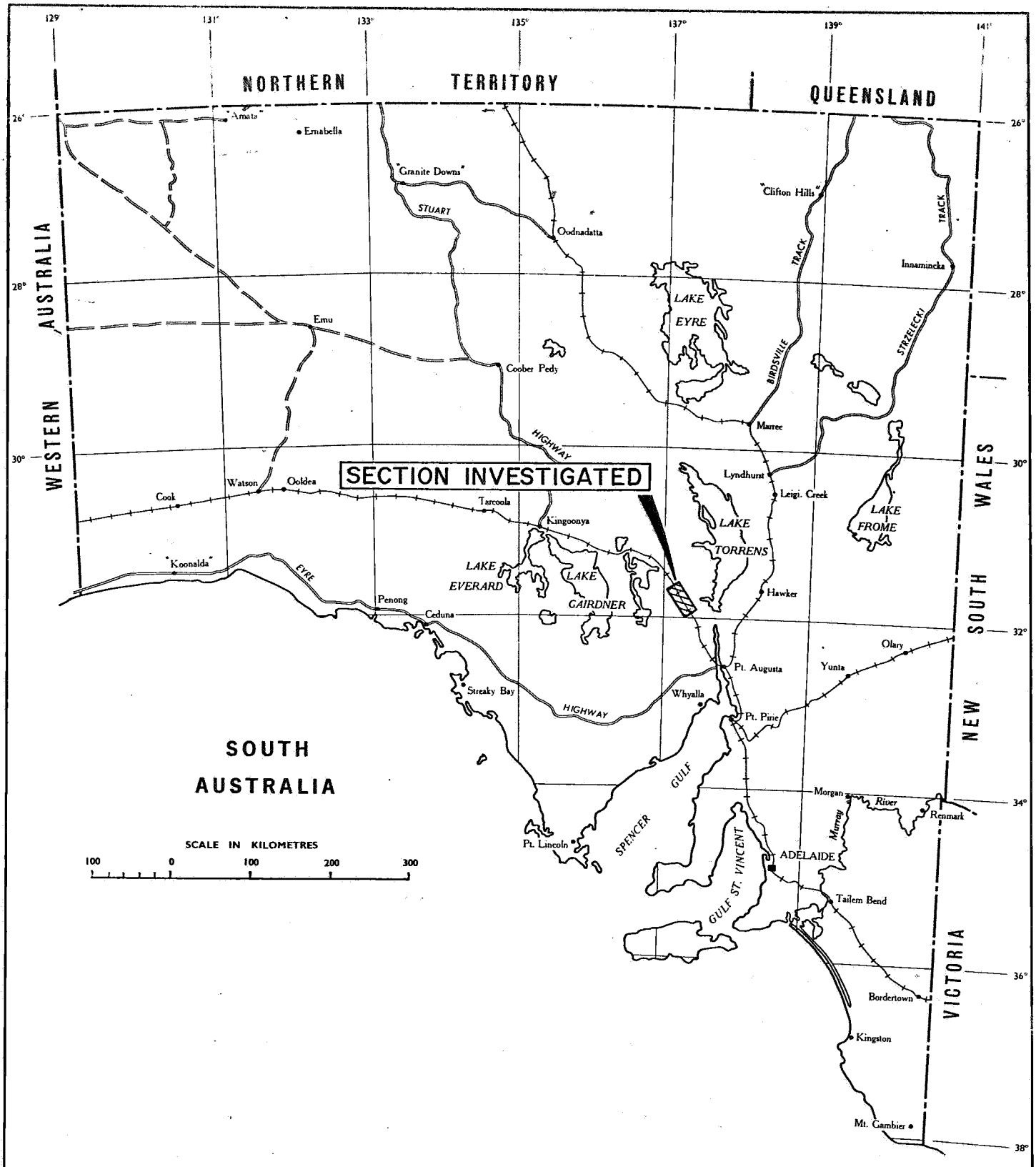

Fig. 1

DEPARTMENT OF MINES AND ENERGY
SOUTH AUSTRALIA

Compiled. R.E. Read	STUART HIGHWAY BOOKALOO – MT. GUNSON SECTION LOCALITY PLAN	Date: 9/7/79
Drn. M.R. Ckd.		Drg. No. S 14149

1495

P.F. No. 55850 9942

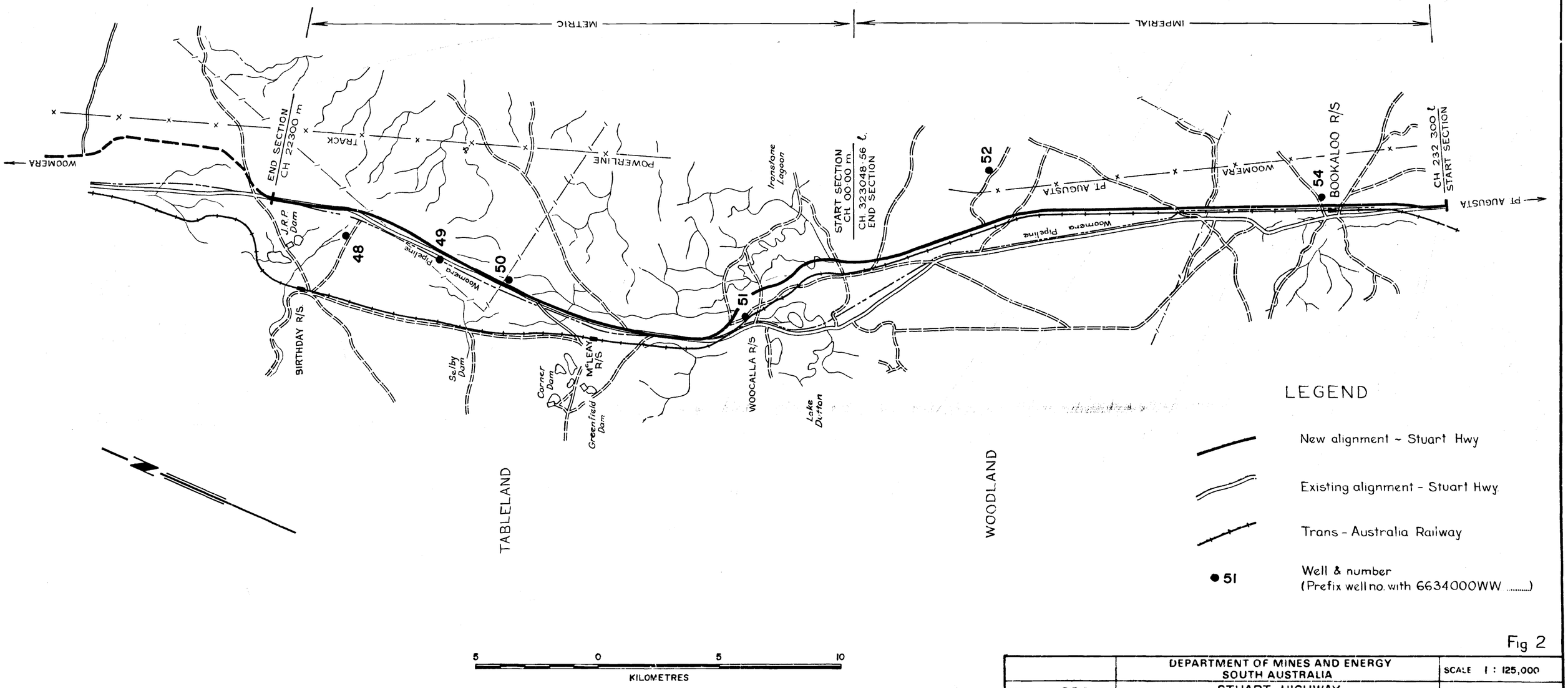

Fig 2

	DEPARTMENT OF MINES AND ENERGY SOUTH AUSTRALIA	SCALE 1 : 125,000
COMPILED R E Read	STUART HIGHWAY BOOKALOO – MT. GUNSON SECTION	DATE JULY 1979
DRN M.R. CKD	LOCATION OF WELLS	PLAN NUMBER 79-539

1495

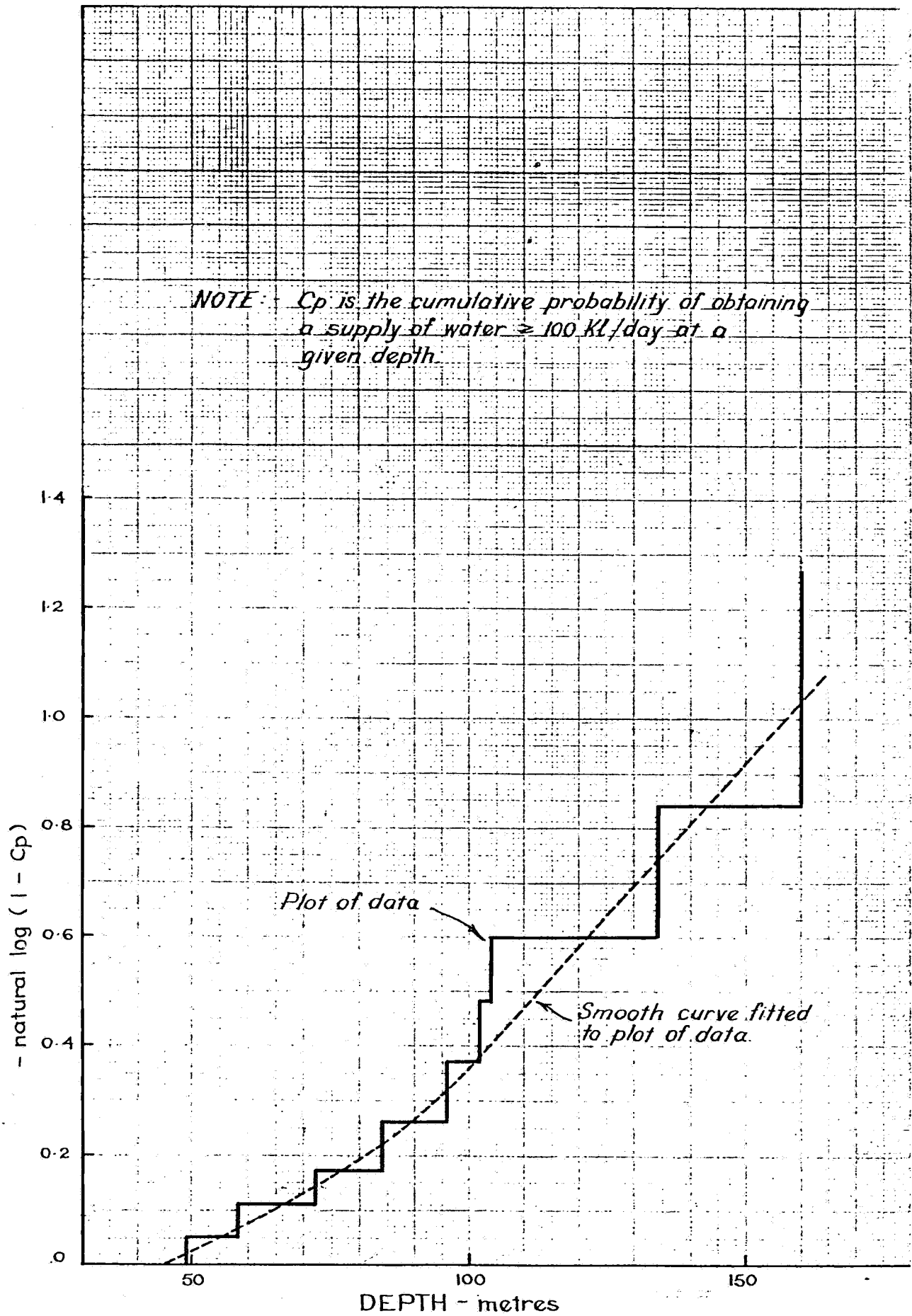

Fig. 3

	DEPARTMENT OF MINES AND ENERGY SOUTH AUSTRALIA	SCALE Graphical
COMPILED R.E. Read	STUART HIGHWAY	DATE Sept. 1979
DRN M.R. CKD	BOOKALOO – MT. GUNSON SECTION	PLAN NUMBER
E.J.R.	RELATIONSHIP BETWEEN PROBABILITY OF SUCCESS & DEPTH DRILLED	S 14150