

CONTENTS ENVELOPE 4590

TENEMENT: E.L. 955 - Birthday Tank.

TENEMENT HOLDER: Stockdale Prospecting Ltd.

REPORT: Quarterly Report To 7th April 1982. Pgs. 3-9

PLANS: Location Map E.L. 955. Map 1. Pg. 10  
Jumbuck Sample Locations. Map 2. 4590-1

REPORT: Quarterly Report To 7th July 1982. Pgs. 11-16

PLANS: Location Map. Map 1. Pg. 17

REPORT: Quarterly Report To 7th Oct. 1982. Pgs. 18-20

PLANS: Location Map. Pg. 21

REPORT: Quarterly Report For Period Ended 7th Jan. 1983. Pg. 22



SOUTH AUSTRALIA  
DEPARTMENT OF  
MINES AND ENERGY

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO. 955

FIRST QUARTERLY REPORT TO

7TH APRIL, 1982

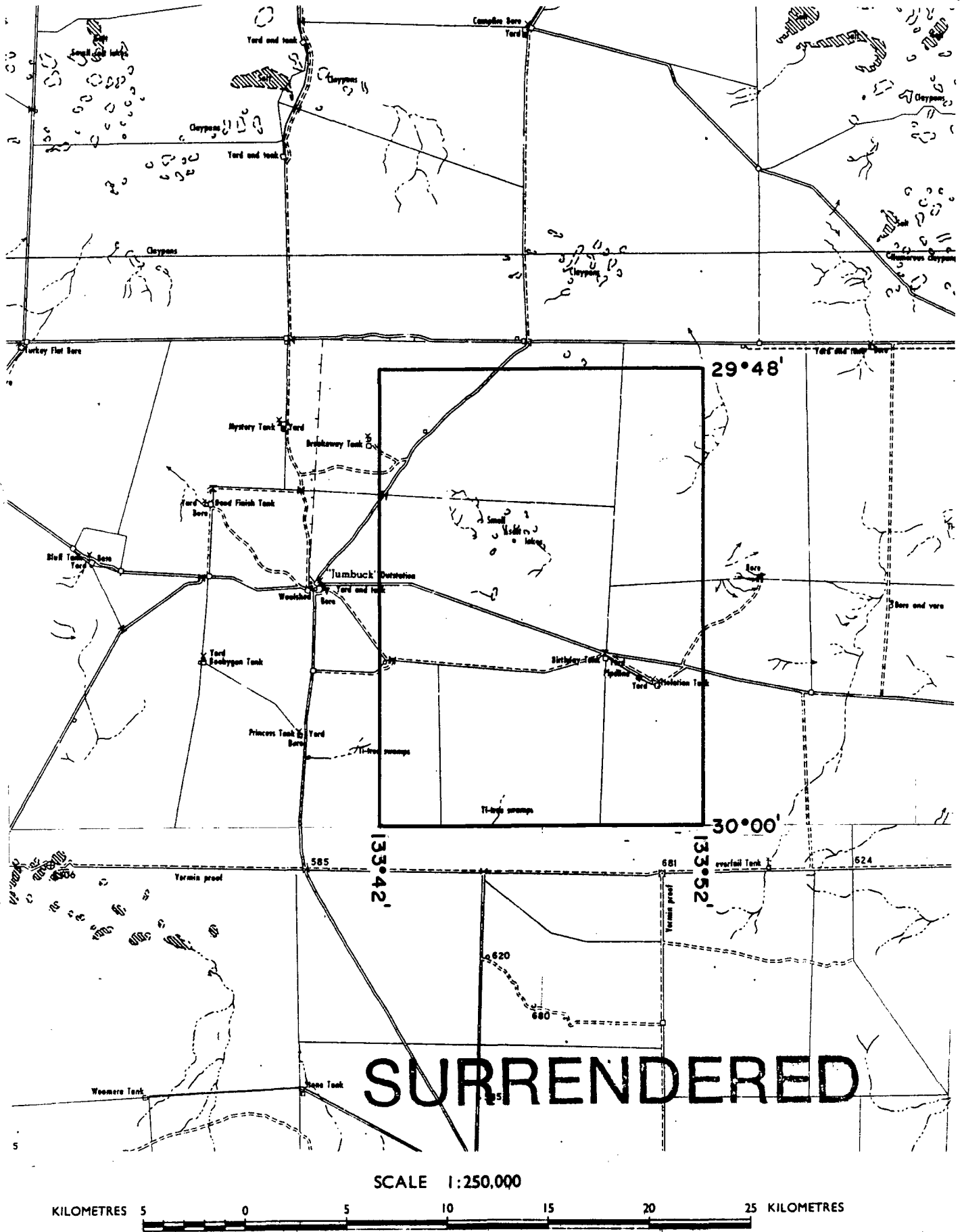
## OPEN FILE ENVELOPE

*ENVELOPE 4590*  
.....

**This report was supplied by a private organisation as part of the requirement to hold a mineral or petroleum exploration tenement in the State of South Australia or work sponsored by the Department of Mines and Energy.**

**The Department accepts no responsibility for statements made, or conclusions drawn, in the report or for the quality of original text or drawings.**

## SCHEDULE A



APPLICANT: STOCKDALE PROSPECTING LIMITED

DM: 413 / 81

**AREA: 357** square kilometres

1: 250 000 PLANS: COOBER PEDY

LOCALITY: BIRTHDAY TANK AREA - Approx. 130km southwest of Coober Pedy

DATE GRANTED: 8-1-82

DATE EXPIRED: 7-1-83 *BA* EL No: 955

955

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO. 955

FIRST QUARTERLY REPORT TO 7TH APRIL, 1982



Registered Office  
581 Little Collins Street  
Melbourne Victoria 3000

004  
STOCKDALE  
PROSPECTING  
LIMITED

Incorporated in the State of Victoria

60 Wilson Street  
South Yarra Victoria 3141  
Australia  
Telephone (03) 241 7522  
~~Telegraph 30728~~  
Telex Stodal AA39546

Project Name: TARCOOLA/BARTON

Title: EXPLORATION LICENCE NO. 955  
FIRST QUARTERLY REPORT TO 7TH APRIL, 1982

Author/s: G.H. FETHERS  
P.R. DAVIES

Keywords: HEAVY MINERAL SAMPLING, RECONNAISSANCE,  
FOLLOW-UP

1 : 250,000 Sheet Name/s & No/s.: COOBER PEDY SH 53- 6

Text Pages No.: 3

Plan Nos.: 2

Table Nos.: 2

Appendices: -

Date: APRIL, 1982

Distribution: SADME, GHF, PRD, HRR, IC.

## CONTENTS

005

	<u>PAGE</u>
1. INTRODUCTION	1
2. PHYSIOGRAPHY	
2.1 Topography	1
2.2 Climate	1
2.3 Access	1
3. GEOLOGY	1
4. EXPLORATION ACTIVITIES	
4.1 First Phase Sampling	2
4.1 Second Phase Sampling	2
5. FUTURE PROGRAMME	2
6. STAFF	2
7. EXPENDITURE	3

## MAPS

Map 1 : SEL 1513 1:2,000,000 Location Map  
Map 2 : 1: 100,000 Jumbuck, Sample Locations

## TABLES

Table I: Sampling Details  
Table II: Sampling Statistics

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO. 955

000

FIRST QUARTERLY REPORT TO 7TH APRIL, 1982

1. INTRODUCTION

Exploration Licence 955 occupies an area of 357 km<sup>2</sup> in the Coober Pedy 1:250,000 map sheet area (Map 1). It is located some 110 km north-west of the small railway township of Tarcoola, and was granted on 8th January, 1982.

This report covers exploration activity in the area to 7th April, 1982, during which time two phases of heavy mineral sampling have been carried out.

2. PHYSIOGRAPHY

2.1 Topography

The area is very subdued, with an elevation varying between approximately 180 and 220 metres above sea level. Surface drainage is poorly developed and limited to numerous small closed systems draining into pans.

2.2 Climate

The climate is arid to semi-arid with rainfall between 150 and 200 mm annually. Summers are hot and dry with temperatures over 50°C being recorded.

2.3 Access

Numerous tracks provide ready access to the licence area. A good station track between Commonwealth Hill H.S. and Jumbuck outstation bisects the licence area.

3. GEOLOGY

The licence area occurs within the Precambrian shield of the Gawler Craton. Basement outcrop (Mulgathing Complex) is restricted with the bulk of the licence area being covered by thin Quaternary sands and remnant Tertiary silcretes and ferruginous duricrusts.

4. EXPLORATION ACTIVITIES

4.1 First Stage Sampling

Following the compilation of drainage and access maps by photo-interpretation of the National Mapping 1:86,500 scale black and white photography, reconnaissance heavy mineral sampling was conducted over the licence area. Fifty-seven heavy mineral sample were collected from sites along vehicle tracks and fence lines.

An additional 38 samples were collected by helicopter from less accessible sites. The total of 95 samples collected (Map 2), gives a sample density of 1 sample/3.8 km<sup>2</sup>. Sampling activity is summarised in Tables 1 and 2.

All samples were transported to Whyalla for treatment, and concentrates were forwarded to Melbourne for examination. All results have been received, and only one "positive" sample, S4850, containing a single grain of ilmeno-rutile, was recorded.

4.2 Second Phase Sampling

In a second phase programme, fifteen samples were collected within the licence area. Ten continuous loam scrape samples were taken as follow-up of the S4850 anomaly, and five additional samples were taken as a check sampling exercise. Again, both vehicles and a helicopter were utilized to gain access to the sampling sites.

No sample results have yet been received.

5. FUTURE PROGRAMME

Assessment of the outstanding results will determine what further work, within the licence area, is required in the licence. No further ground work is anticipated in the immediate future.

6. STAFF

The work described above was carried out by a team comprising a geologist, three prospecting hands, a cook and a mechanic.


The project was supported by the facilities of the Regional Office in Whyalla and Head Office in Melbourne.



7. EXPENDITURE

Expenditure of \$35,339 for the period has been allocated as follows:

Management/Office Services	\$ 3,351
Field Staff - Technical	2,808
- Other	3,625
General Field Expenses	6,200
Transport - Ground	3,040
- Air	3,735
Sample handling - treatment	6,050
- examination	3,230
Specialist Services - drafting	50
Equipment amortisation	3,250
 TOTAL THIS PERIOD	 \$35,339



G.H. Fethers,  
P.R. Davies,  
Whyalla

K. J. STRACKE  
Exploration Manager

April, 1982

:bspgl

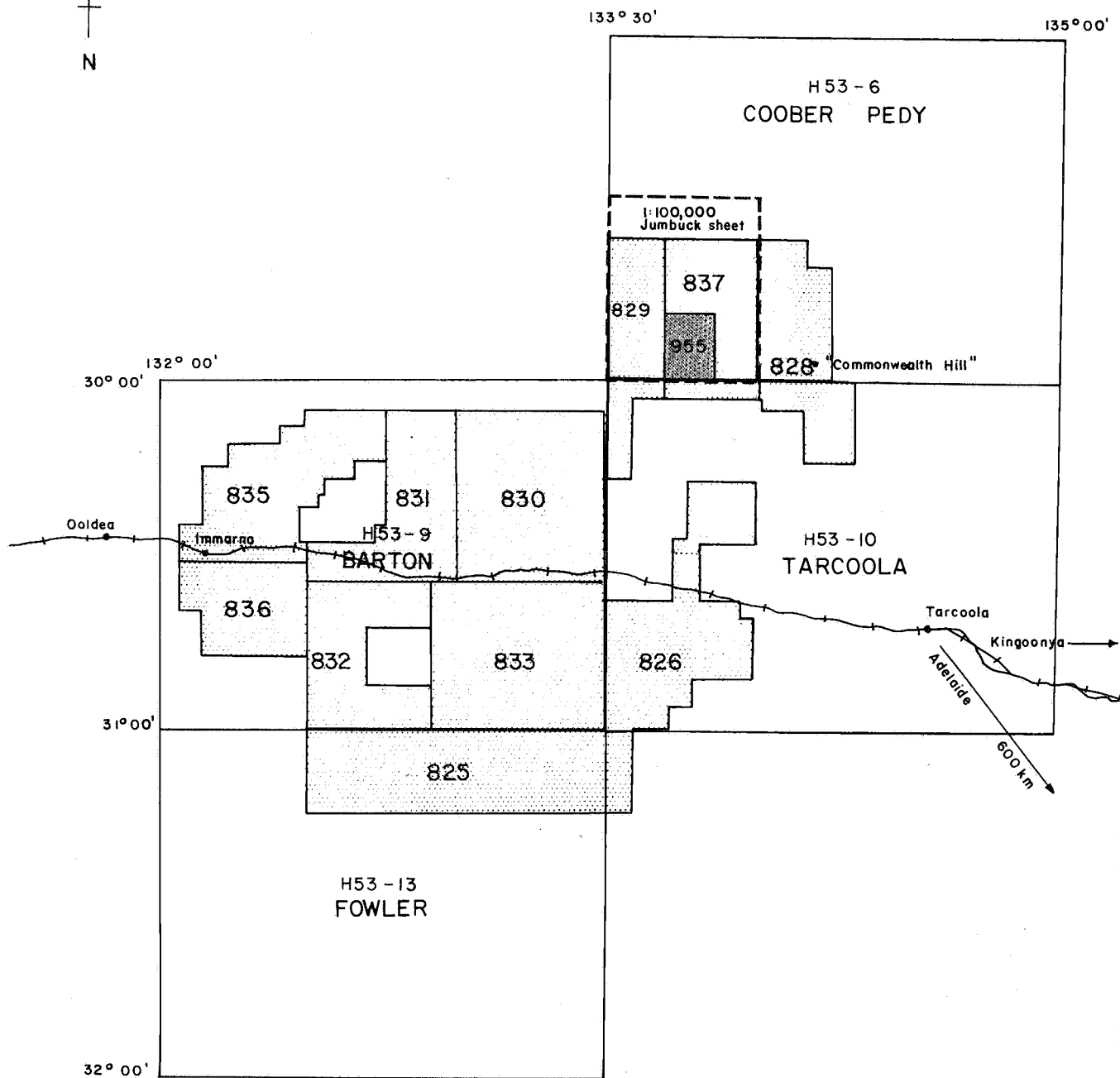
TABLE 1 : SAMPLING DETAILS



<u>FIRST PHASE SAMPLING:</u>	No. of Samples	Type	Transport
	38	Loam Scrape/ stream sediment	Helicopter
	57	Loam Scrape/ stream sediment	Vehicle
<u>SECOND PHASE SAMPLING:</u>	No. of Samples	Type	Transport
	5	Loam Scrape/ stream sediment	Helicopter
	10	Loam Scrape	Vehicle

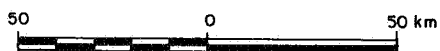
TABLE 2 : SAMPLING STATISTICS

Mandays Geologists	Mandays Others	No. of Samples	Helicopter Hours	Sampling Phase
9	37	95	15.8	I
3	13	15	1.2	II

010



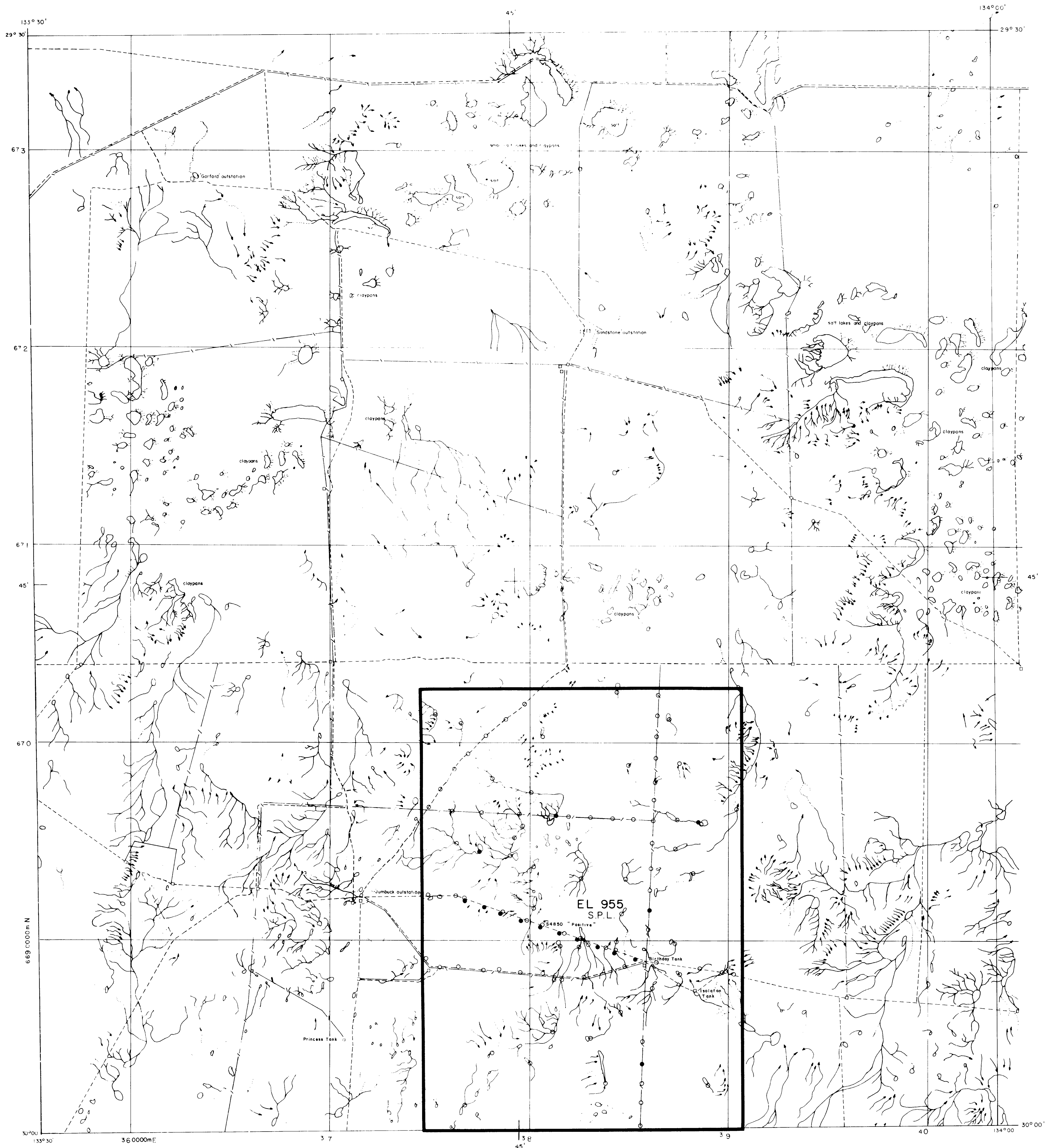
-  1:100,000 Sheet showing current sampling
-  Stockdale Prospecting Limited Exploration Licence



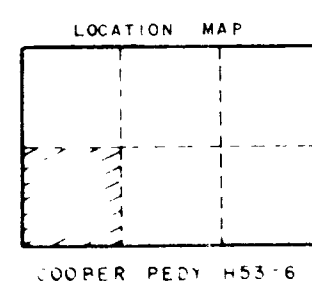
MAP 1

# **STOCKDALE PROSPECTING LIMITED**

COOBER PEDY H53-6  
**TARCOOLA - BARTON AREA**  
 LOCATION MAP SHOWING E.L.955



- Drainage direction
- ▤ Distributory creeks
- Buildings/dams
- Roads
- Fences
- Sample Location (1st phase)
- Sample Location (2nd phase)



4590-1

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO. 955

SECOND QUARTERLY REPORT TO 7TH JULY, 1982



Registered Office  
581 Little Collins Street  
Melbourne Victoria 3000

012

STOCKDALE  
PROSPECTING  
LIMITED

Incorporated in the State of Victoria

60 Wilson Street  
South Yarra Victoria 3141  
Australia  
Telephone (03) 241 7522  
~~Telex 90328~~  
Telex Stodal AA39546

Project Name: TARCOOLA/BARTON

Title: EXPLORATION LICENCE NO. 955  
SECOND QUARTERLY REPORT TO 7TH JULY, 1982

Author/s: P.R. DAVIES

Keywords: HEAVY MINERAL SAMPLING, RECONNAISSANCE,  
FOLLOW-UP

1 : 250,000 Sheet Name/s & No/s.:

COOBER PEDY SH 53 - 06

Text Pages No.: 3

Plan Nos.: 2

Table Nos.:

Appendices:

Date: JULY, 1982

Distribution: SADME, PRD, WHYALLA, IC.

## CONTENTS

013

	<u>Page</u>
1. INTRODUCTION	1
2. EXPLORATION ACTIVITIES	1
2.1 Heavy Mineral Sampling	1
2.2 Literature Search	1
3. FUTURE PROGRAMME	1
4. EXPENDITURE	1
BIBLIOGRAPHY	2

## MAPS

Map 1 :	SEL 1513	1:2,000,000	Location Map
Map 2 :		1: 100,000	Jumbuck - Sample locations

STOCKDALE PROSPECTING LIMITEDEXPLORATION LICENCE NO. 955SECOND QUARTERLY REPORT TO 7TH JULY, 19821. INTRODUCTION

No field work was carried out in the Exploration Licence (Map 1) during the second quarter.

2. EXPLORATION ACTIVITIES2.1 Heavy Mineral Sampling

Results for the fifteen samples collected during the previous quarter (Map 2) were received. No kimberlitic indicators or diamonds were found.

Further heavy mineral sampling is not being considered at this stage.

2.2 Literature Search

The relinquishment report for EL 473 submitted by Carpentaria Exploration Ltd disclosed that the source of a large (10 km x 8 km) magnetic anomaly near Birthday Tank was caused by pre-Cambrian gabbro. Seventeen holes were drilled into the anomaly south-west of Birthday Tank revealing a thin Recent cover (0 - 5 m aeolian sand overlying 2 - 9.5 m of calcrete) on the basement gabbroic and granitic rocks.

3. FUTURE PROGRAMME

No further field work is planned until an assessment of the negative results is completed.



4. EXPENDITURE

Expenditure of \$1,010 for the quarter has been allocated as follows:

Management/Office services	\$ 150
Field Staff - Technical	\$ 350
Sample Handling - Examination	\$ 510
Total This Period	\$ 1,010
Total Previously Reported	\$35,339
Total Expenditure To Date	\$36,349



P.R. DAVIES,  
Whyalla,

K.J. STRACKE  
Exploration Manager

July, 1982

bs:PRD6

BIBLIOGRAPHY

016

1. Relinquishment Report -

Carpentaria Exploration Company Ltd (1980) EL 473  
SADME Env. 3516 Open File.

017



133° 30'

135° 00'

H53-6  
COOBER PEDY1:100,000  
Jumbuck sheet829  
837  
955

828 "Commonwealth Hill"

132° 00'  
30° 00'

Ooldea

835

831

830

H53-9  
BARTON

836

832

833

826

H53-10  
TARCOOLA

Tarcoola

Kingoonya

Adelaide

600 km

31° 00'

825

H53-13  
FOWLER

32° 00'



1:100,000 Sheets showing current sampling



Stockdale Prospecting Limited Exploration Licence

50 0 50 km

MAP 1

**STOCKDALE PROSPECTING LIMITED**

COOBER PEDY H53-6

**TARCOOLA - BARTON AREA****LOCATION MAP SHOWING E.L.955**

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO. 955

THIRD QUARTERLY REPORT TO 7TH OCTOBER 1982





Registered Office  
581 Little Collins Street  
Melbourne Victoria 3000

STOCKDALE  
PROSPECTING  
LIMITED

Incorporated in the State of Victoria

60 Wilson Street  
South Yarra Victoria 3141  
Australia  
Telephone (03) 241 7522  
Telegraph Anmercosa Telex 30728

Project Name: TARCOOLA/BARTON

019

EXPLORATION LICENCE NO. 955

Title: THIRD QUARTERLY REPORT TO 7TH OCTOBER, 1982

Author/s: T. S. BECKETT

Keywords: HEAVY MINERAL SAMPLING

1 : 250,000 Sheet Name/s & No/s.: COOBER PEDY SH53-06

Text Pages No.: 1

Plan Nos.: 1

Table Nos.: -

Appendices: -

Date: NOVEMBER, 1982.

Distribution: SADME, TSB, Whyalla, IC.

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO. 955

THIRD QUARTERLY REPORT TO 7TH OCTOBER, 1982.

020

1. SUMMARY

No field work was carried out in the Exploration Licence (Map 1) during the third quarter, and none is planned until an assessment of the reliability of the negative sample results reported last quarter has been completed.

T. S. Beckett,  
Whyalla,  
November 1982.

021



132°00'  
29°00'

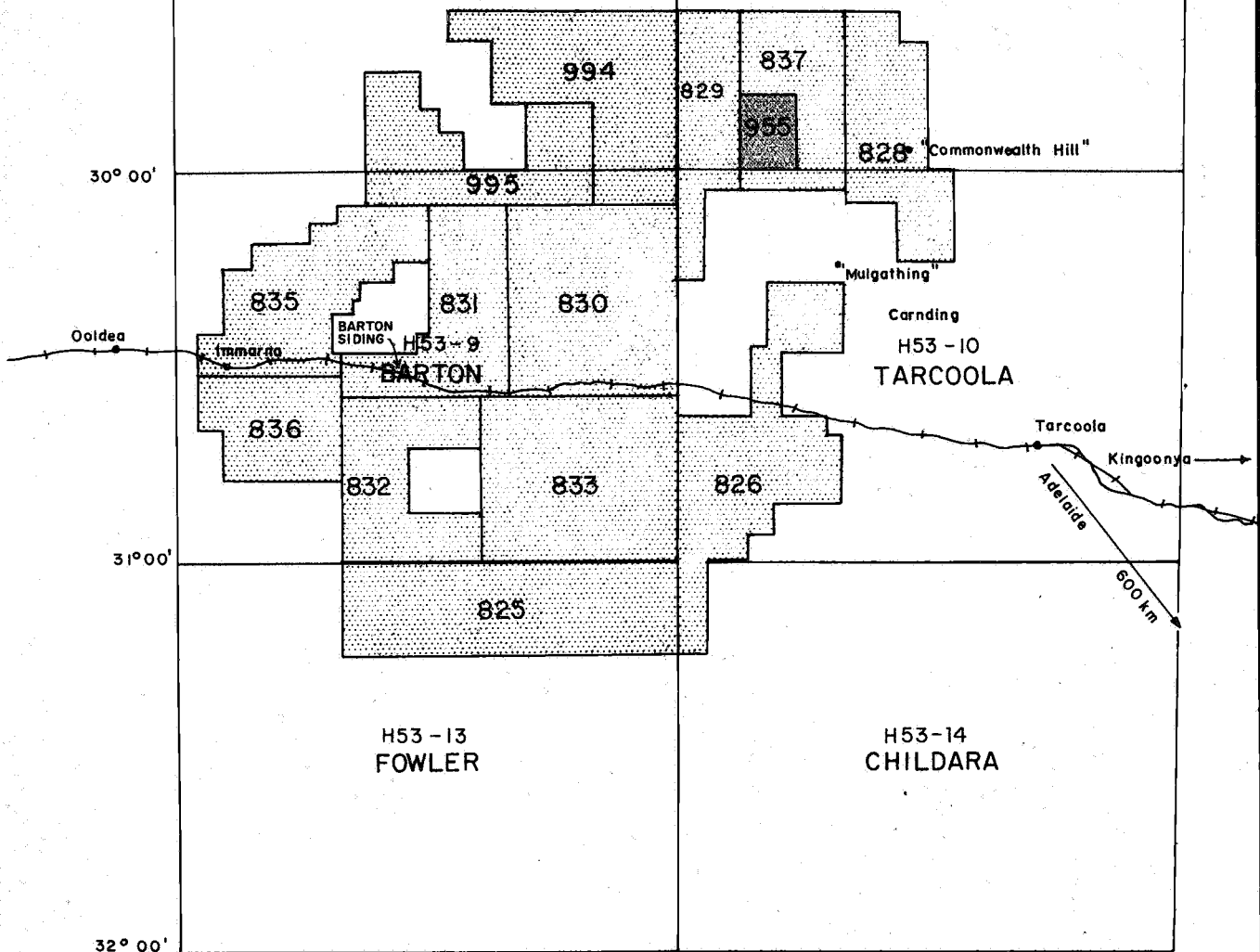
133° 30'

135°00'

H53-5  
TALLARINGA

H53-6  
COOBER PEDY

30° 00'



Stockdale Prospecting Limited Exploration Licence



**STOCKDALE PROSPECTING LIMITED**

H 53-5/6/9/10/13/14

**TARCOOLA - BARTON AREA**

**LOCATION MAP**


**ELs 825-26,828-33,835-37,955,994-95**

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO. 955

FOURTH QUARTERLY REPORT FOR THE PERIOD ENDED 7TH JANUARY 1983

No work has been carried out in this licence area during the current quarter. A final assessment of the reliability of the heavy mineral sampling in the EL will be made next quarter and the outcome of this will determine the future of the licence.



H.R. Robison,  
Whyalla,  
January 1983.

Distribution : SADME, Whyalla, DPE, IC.





STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO. 955

RELINQUISHMENT REPORT



**STOCKDALE PROSPECTING LIMITED**

STOCKDALE PROSPECTING LIMITED

EXPLORATION LICENCE NO. 955

RELINQUISHMENT REPORT



Registered Office  
581 Little Collins Street  
Melbourne Victoria 3000

**STOCKDALE  
PROSPECTING  
LIMITED**

Incorporated in the State of Victoria

60 Wilson Street  
South Yarra Victoria 3141  
Australia  
Telephone (03) 241 7522  
Telegraph Anmercosa Telex 30728

Project Name: TARCOOLA/BARTON

Title: EXPLORATION LICENCE NO. 955  
RELINQUISHMENT REPORT

Author/s: T.S. BECKETT

Keywords: RECONNAISSANCE SAMPLING, CHECK SAMPLING,  
CONCENTRATE WEIGHTS, COMMON GARNET COUNTS.

1:250,000 Sheet Name/s & No/s.: COOBER PEDY SH53-6

Text Pages No.: 3

Plan Nos.: 2

Table Nos.: 1

Appendices: -

Date: FEBRUARY, 1983

Distribution: SADME, TSB, WHYALLA, IC.

## CONTENTS

1. INTRODUCTION
2. PREVIOUS EXPLORATION ACTIVITIES
  - 2.1 Reconnaissance Sampling
  - 2.2 Follow Up Sampling
  - 2.3 Check Sampling
3. ASSESSMENT OF SAMPLING RELIABILITY
4. CONCLUSIONS
5. EXPENDITURE

## MAPS

1. SEL 1513 1:2 000 000 Location Map
2. SEL 1111 1: 100 000 Jumbuck Sample Locations

## TABLES

1. Comparison between check and reconnaissance sample concentrate weights.

# STOCKDALE PROSPECTING LIMITED

## EXPLORATION LICENCE NO. 955

### RELINQUISHMENT REPORT

#### 1. INTRODUCTION

Exploration licence 955 occupies an area of 357km<sup>2</sup> in the south-west of the Coober Pedy 1:250 000 map sheet area (Map 1). A total of 110 heavy mineral samples were collected during early 1982, to test the licence for diamond-bearing rocks. No kimberlitic indicator mineral grains were found. The reliability of these negative results has been confirmed by work conducted in the current quarter, and consequently EL 955 has been relinquished.

#### 2. PREVIOUS EXPLORATION ACTIVITIES

The sampling programmes carried out to the end of the Fourth Quarter are summarised below.

##### 2.1 Reconnaissance Sampling

Following compilation of drainage and access maps by photo-interpretation, ninety five stream sediment and loam samples were collected from the licence area by helicopter and vehicle, to give a sample density of 1 sample/3.8km<sup>2</sup>, (Map 2).

All samples were treated in Whyalla and examined in Melbourne. One sample S4850, contained a single grain of ilmeno-rutile. All other samples were negative

##### 2.2 Follow Up Sampling

Ten continuous loam scrape samples were taken to investigate sample S4850. All were negative.

##### 2.3 Check Sampling

As the reconnaissance sampling gave negative results, five sample sites in EL 955 were resampled under direct geological supervision. It is considered that these check samples are certainly reliable and therefore provide a yardstick against which the results of the reconnaissance sampling can be measured.

Treatment of the check samples in Whyalla and Melbourne was similar to that carried out on the original samples, but common garnet counts and concentrate weights were also recorded. All check samples were negative, but contained on average 41 common garnet grains showing that sites of heavy mineral concentration had been selected.

### 3. ASSESSMENT OF SAMPLING RELIABILITY

Concentrate weights are considered to be the most effective statistical means available of testing the quality of different sample sets, in the absence of positive indicator grains.

Table 1 shows the comparison between individual check sample concentrate weights and the average concentrate weights for reconnaissance samples within a 3km radius of each check sample.

Table 1: Comparison between check and reconnaissance sample concentrate weights

Check Sample No.	Check Sample Conc. Wght, g. (A)	Mean Reconnaissance Sample Conc. Wght.g. (B)	Ratio A : B
S6939	560	940	0.60
S6940	242	729	0.33
S6941	126	1279	0.10
S6976	78.1	317	0.25
S6980	2414	1540	1.57
AVERAGE	684	982	0.70

The ratio of check sample to reconnaissance sample concentrate weight varies from 0.10 to 1.57. Where this ratio exceeds 1, the amount of concentrate collected by the check sample was greater than that collected during the reconnaissance phase. This is only true for one sample, S6980.

On average, the five check samples contained 70% of the concentrate collected during the reconnaissance phase, indicating that the initial sampling was at least as reliable as the check programme. Since the stringent control exercised over the check sampling ensured that the latter was effective, it follows that the reconnaissance sampling was also effective.

### 3. CONCLUSION

Exploration within EL 955 has shown its prospectivity for diamond occurrences is extremely low. Two heavy mineral sampling programmes, comprising reconnaissance and check phases, have yielded 110 negative sample results. Analysis of the reliability of the reconnaissance samples (95) has confirmed that the negative results can be treated with confidence. As a result no further work is justified

3.


and EL 955 has been relinquished.

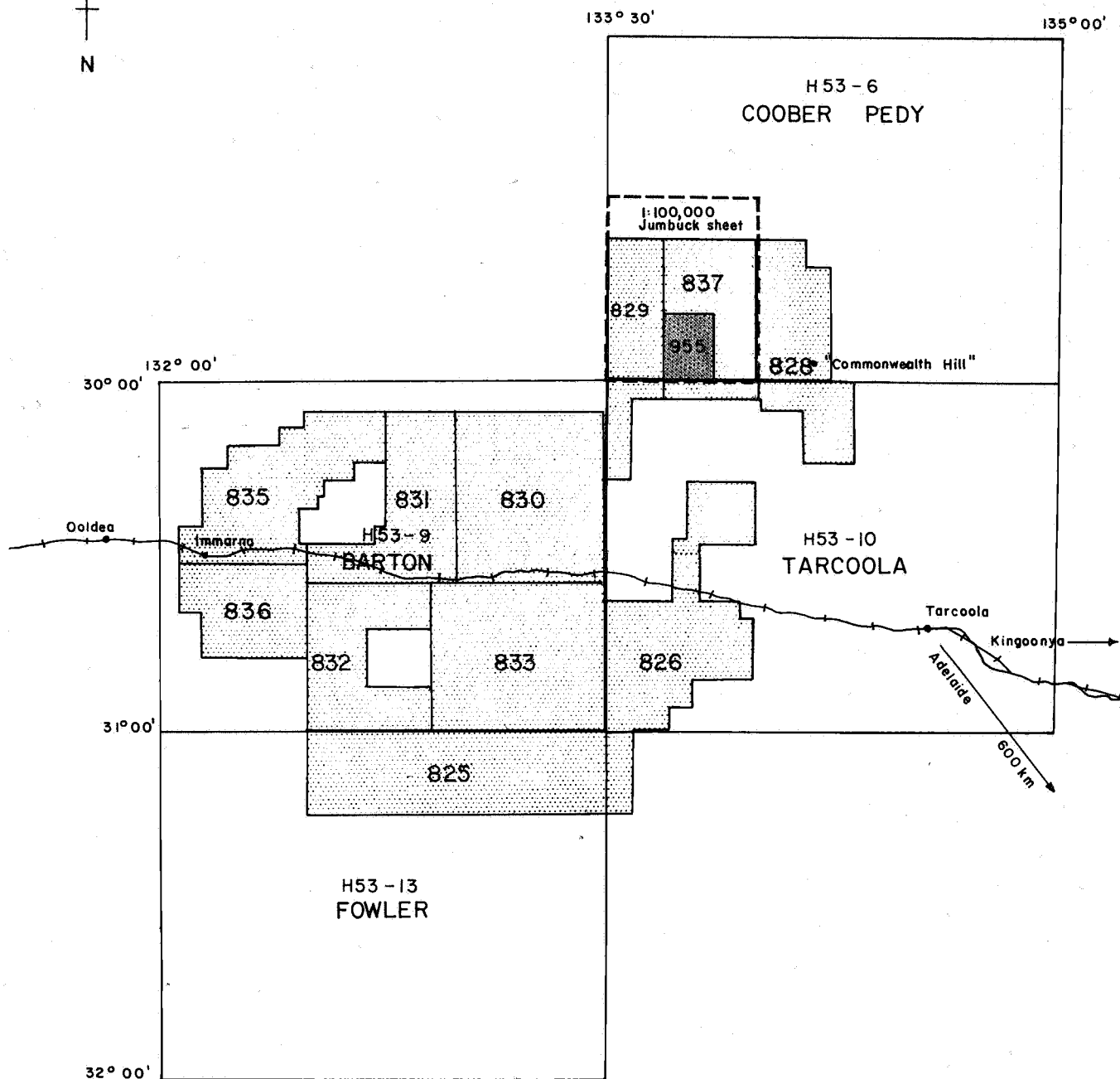
4. EXPENDITURE



Expenditure of \$36,974 during the currency of the Licence has been allocated as follows:

Management/Office Services	\$3,626
Field Staff: Technical	3,608
: Other	3,625
General Field Expenses	6,200
Transport: Ground	3,040
: Air	3,735
Sample Handling: Treatment	6,050
: Examination	3,740
Specialist Services: Drafting	100
Equipment Amortisation	3,250
TOTAL EXPENDITURE	\$36,974

T.S. BECKETT  
Barton  
February, 1983

  
K.J. STRACKE  
Exploration Manager



-  1:100,000 Sheets showing current sampling
-  Stockdale Prospecting Limited Exploration Licence

50 0 50 km

MAP 1

## STOCKDALE PROSPECTING LIMITED

COOBER PEDY H53-6  
**TARCOOLA - BARTON AREA**  
LOCATION MAP SHOWING E.L.955