FINAL REPORT

EXPLORATION LICENCE 1339

COOLIBAH N.T.

T. M. BARR

February 1978

C O N T E N T S

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TABLES

ENCLOSURES

APPENDICES

INTRODUCTION

AAR Limited entered a joint venture with Otter Exploration N.L. of St Leonards New South Wales in EL 1339 (Coolibah) on 27 June 1977. The exploration licence was granted to Otter Exploration N.L. on the 2 November 1976 for a period of twelve months.

OBJECTIVES

The Coolibah area consists of Quaternary plains adjacent to the Benmara metamorphics and water sampling carried out by a previous holder of this licence area obtained highly anomalous uranium values from these water samples. Follow-up work was designed to test the aquifers in this area for uranium values again and conduct a limited drilling programme. The drilling programme was aimed at locating roll-front type uranium deposits in channelling within the sedimentary section to the east of the Benmara metamorphic block.

WATER SAMPLING

Operations

Four 500 ml samples were taken from each available water bore in this area and the adjoining area held by Mines Administration Pty Limited, EL 1427 (Bowgan Creek). The sample was taken either from the well head of a producing bore or, in the cases of bores which were not equipped, water samples were obtained using a wireline sampling device.

Two samples were treated with HNO_3 to acidify the sample to a pH of 2. Two samples remained untreated.

Field measurements were made using an Orion Research Specific Ion Meter (Model 407A) and Sensorex electrodes.

Measurements of pH and Eh were read direct, while H_2S determination was made using two or three standard solutions. Dissolved oxygen was determined following the measurement of air temperature, humidity and applying an altitude correction. Resistivity was measured using a capillary tube-type meter.

Sample Distribution

One acidified sample was consigned to ACS Laboratories, South Australia, for U_3O_8 determination. One acidified and one untreated sample were sent to CSIRO in Sydney. One untreated sample is stored in the Mines Administration Brisbane office.

Results

The water sampling data is presented on Table 1, in Appendix 1 and Enclosure 1. The analytical work carried out by ACS Laboratories is present as Appendix 2.

Discussion

The U_3O_8 values obtained from this work were anomalous at only two locations, Benmara 12 and Benmara 3. This was quite different from results obtained from the previous Licence holder where a number of sample points were anomalous and of an order of 300 times background. An explanation for this discrepancy is not known at this time.

DRILLING PROGRAMME

A limited drilling programme to test the potential of the sediments to the east of the Benmara metamorphics was mounted. This consisted of 13 holes for a total meterage of 868.7 m of open hole. The drill hole logs are presented as Appendix 3 and the location of these holes as Enclosure 1.

Operations

Drilling

The drilling programme was contracted to C and W Drilling Services of Goondiwindi, Queensland who used a truck-mounted Mayhew 1500 drilling rig. Ancillary equipment included a 1600 gallon water truck.

Logging

The logging programme was contracted to Geoscience and Associates (Australia) Pty Ltd of South Australia who ran a composite probe for Gamma Ray, Spontaneous Potential, and Single Point Resistivity logs. These curves were presented in analog format at a scale of 1 cm. to 1 m and at a reduced scale in Appendix 3.

Calibration of the gamma ray probes used during the project was made using the two-pit method following logging of the Minad-Teton Australia test pits located at Yarramba, South Australia.

Supervision

On site supervision for the drilling programme was provided by T.M. Barr, a Mines Administration Pty Limited geologist. Mines Administration Pty Limited are operators for the AAR Limited and Otter Exploration N.L. joint venture.

GEOLOGY

Stratigraphy

Precambrian

In three holes (C09, 10 and 13) Lower Proterozoic Murphy Metamorphics were intersected and sampled. These holes are located in the south-western corner of the area and are thought to be associated with the possible extension of the Benmara Fault, a prominent structural feature in the outcrop area to the east of this area.

In the other holes in this area, the basement rocks sampled were the weathered products of a granitic rock type. Generally, they consisted of sand, light brown to grey, clayey, medium to very coarse grained, subangular to angular, with sub equal amounts of quartz and felspar. Varying amounts of limonitic and hematitic staining were evident.

The weathered horizon persisted almost to the surface with the addition of kaolinitic material.

Quaternary

A shallow section (0 - 10 m) of clays and clayey sands forming characteristic 'black soil' of the area was deposited on the weathered basement profile.

Structure

No channelling or other structural features were determined due to the nature of the section encountered.

ALTERATION AND MINERALIZATION

The weathered basement profile was strongly oxidized generally to a yellow limonitic sand.

CONCLUSION AND RECOMMENDATIONS

The lack of a suitable sedimentary environment of deposition means the area has poor prospects to host any sedimentary uranium mineralization, and it is recommended that the joint venture be terminated.

TABLE 1

WATER SAMPLE DATA

TABLE 1

WATER SAMPLE DATA

Sampling Point	Sample Number	pH	EH mv	Dissolved Oxygen ppm	H_2S ppm	Resistivity ohm-m @ °C	U_3O_8 ppb	Sample Type
Benmara 8A	001	7.3	+190	5.3	0.4	4.9 @ 25	2	Windmill
Benmara 1 (original)	002	6.7	+ 95	6.2	0.11	41.2 @ 28	< 2	Windmill
Benmara 12	003	8.2	+110	6.8	0.24	1.27 @ 26.5	97	Mono
Benmara 15A	004	7.4	+195	5.0	0.04	14.2 @ 28	< 2	Windmill
Benmara 14	005	7.1	+235	5.2	1.2	14.2 @ 32	< 2	Windmill
Benmara 2B	006	6.98	+195	5.0	0.011	27.6 @ 30	< 2	Windmill
Benmara 3	007	7.0	+190	7.95	3.0	5.12 @ 24	12	Windmill
Cresswell 57	008	7.3	+105	8.8	1.8	20.0 @ 31.5	< 2	Mono
Benmara 5C	009	7.2	+180	6.8	2.7	43.5 @ 28	< 2	Windmill
Benmara Homestead	010	7.2	+210	7.7	2.3	21.8 @ 26	2	Windmill
Cresswell 41	011	6.5	+ 85	7.05	4.7	22.8 @ 28	< 2	Mono
Cresswell 13	012	6.6	+105	5.8	5.2	10.78 @ 29	< 2	Southern Cross
Cresswell 16	013	6.7	+105	6.0	6.8	14.0 @ 29	< 2	Mono
Cresswell 44	014	6.1	+140	6.2	6.0	20.2 @ 30	< 2	Windmill
Benmara 1E	015	6.7	+110	6.2	14.0	32.9 @ 25.5	< 2	Windmill
Brunette D5	016	7.0	+140	5.6	15.0	6.04 @ -	< 2	Windmill
Brunette K18	017	7.0	+115	5.0	7.4	6.0 @ -	< 2	Mono
Brunette D9	018	7.1	+120	6.0	9.5	2.3 @ 30	< 2	Windmill
Benmara 7C	019	6.6	- 70	3.0	29.0	0.84 @ 32	3	Wireline
Benmara 13A	020	6.4	+ 30	2.95	19.0	26.2 @ -	< 2	Wireline
Benmara 33	021	7.6	+160	4.25	28.0	23.2 @ -	< 2	Wireline
Benmara 44	022	6.7	+140	4.9	27.0	54.0 @ 29	< 2	Wireline
Benmara 7D	023	7.6	+140	3.85	18.5	1.85 @ 35	< 2	Wireline
Benmara 38	024	7.2	- 45	4.5	36.0	8.9 @ -	< 2	Wireline

Sampling Point	Sample Number	pH	EH mv	Dissolved Oxygen ppm	H_2S ppm	Resistivity ohm-m @ °C	U_3O_8 ppb	Sample Type
Benmara 9	025	6.9	+115	5.3	44.0	28.0 @ 30	< 2	Wireline
Bermara 20	026	7.1	+160	4.8	34.0	34.0 @ 28	< 2	Wireline
Cresswell 37	027	7.9	+130	6.2	57.0	9.6 @ 33	2	Mono
Cresswell 38	028	8.2	+120	4.2	33.0	38.8 @ 33	< 2	Wireline
Cresswell Downs	029	8.3	+125	4.6	30.0	8.75 @ 34	< 2	Wireline
Cresswell 54	030	8.1	+120	2.4	18.0	54.0 @ -	< 2	Wireline
Cresswell Gardiners	031	7.3	+140	4.4	16.5	1.7 @ 30	< 2	Wireline
Benmara 19	032	5.5	+140	4.8	50.0	85.2 @ -	< 2	Wireline
Benmara 19A	033	5.7	+ 20	4.8	92.0	24.0 @ 27	< 2	Wireline
Benmara 8A	034	Check Sample					4	----

APPENDIX No 1

WATER SAMPLING DATA

No data in FR 78/1382
80/11P

WATER SAMPLING DATA

BORE NO. Benmara 8A

SAMPLE NO: 001

PROPERTY: Benmara

SAMPLE TYPE : Flowing windmill

AIR TEMP: 19 °C

HUMIDTY 39 %

RESISTIVITY 4.90 ohm-m @ 25 °C

WATER TEMP. 28.5 °C

H_2S

pH 7.3 @ 27 °C

Standard Readings

EH* +190 mv

0.01 ppm -360 mv

1.00 ppm -385 mv

100.00 ppm -492 mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP 20 °C factor 9.2

-380 mv

ALT. ~~750~~ ft. factor 0.97

HUMIDITY 39 % factor 0.132

Calculated H_2S 0.4 ppm

Temp. factor x alt. factor + humidity factor = 9.056

Direct Reading 5.3 ppm

SAMPLE TREATMENT: 2 samples acified to pH 2, 2 untreated

REMARKS: Some galvanized fittings at wellhead

SAMPLER: JGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Benmara NO 1 (original) SAMPLE NO: 002

PROPERTY: Benmara SAMPLE TYPE : Windmill

AIR TEMP: 30.0 °C

HUMIDTY 34 %

WATER TEMP. 29 °C

pH 6.7 @ ..... °C

EH* +95 mv

RESISTIVITY 41.2 ohm-m @ 28 °C

H_2S

Standard Readings

0.01 ppm -410 mv

1.00 ppm -475 mv

100.00 ppm ..... mv

DISSOLVED OXYGEN

METER CALIBARATION

TEMP 30 °C factor 7.6

ALT. 750 ft. factor 0.97

HUMIDITY 34 % factor 0.225

SAMPLE READING

-445 mv

Calculated H_2S 0.11 ppm

Temp. factor x alt. factor + humidity factor = 7.59

Direct Reading 6.2 ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2, 2 untreated

REMARKS: Sampled from polythene pipe 10 m from well head

SAMPLER: JGC/KRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Benmara No. 12 SAMPLE NO: 003

PROPERTY: Benmara SAMPLE TYPE : Mono pump

AIR TEMP: 29.0 °C

HUMIDTY 31.5 %

RESISTIVITY 1.27 ohm-m @ 26.5 °C

WATER TEMP. 26.5 °C

H_2S

pH 8.2 @ 26.5 °C

Standard Readings

EH* +110 mv

0.01 ppm -432 mv

1.00 ppm -500 mv

100.00 ppm ..... mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP 29 °C factor 7.8

-480 mv

ALT. 750 ft. factor 0.97

HUMIDITY 31.5 % factor 0.23

Calculated H_2S 0.24 ppm

Temp. factor x alt. factor + humidity factor =

Direct Reading 6.8 ppm

SAMPLE TREATMENT: 2 Samples acidified to pH 2, 2 untreated

REMARKS: Sampled at turkeys nest outlet, 100 m from wellhead

SAMPLER: TGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Benmara No. 15A

SAMPLE NO: 004

PROPERTY: Benmara

SAMPLE TYPE: Windmill

AIR TEMP: 28 °C

HUMIDTY 33 %

RESISTIVITY 14.2 ohm-m @ 28 °C

WATER TEMP. 28 °C

H_2S

pH 7.4 @ ..... °C

Standard Readings

EH* +195 mv

0.01 ppm -405 mv

1.00 ppm -440 mv

100.00 ppm ..... mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP 28 °C factor 7.9

-415 mv

ALT. 750 ft. factor 0.97

HUMIDITY 33 % factor 0.23

Calculated H_2S 0.04 ppm

Temp. factor x alt. factor + humidity factor = 7.89

Direct Reading 5.0 ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2, 2 samples untreated

REMARKS: Sampled at galvanized standpipe 50 m from bore

SAMPLER: JGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Bernara No 14 SAMPLE NO: 005

PROPERTY: Bernara SAMPLE TYPE : Windmill

AIR TEMP: ..32..... °C

HUMIDTY ..34..... %

WATER TEMP. ...32..... °C

pH 7.1 ..... @ ..... °C

EH* +235... mv

RESISTIVITY ..14.2..... ohm-m @32..°C

H_2S

Standard Readings

0.01 ppm ....-395..... mv

1.00 ppm ....-400..... mv

100.00 ppm ....-520..... mv

DISSOLVED OXYGEN

METER CALIBARATION

TEMP ..32.....°C factor ..7.4.....

ALT. ..750..... ft. factor ..0.97...

HUMIDITY ..34...% factor 0.23..

SAMPLE READING

-405..... mv

Calculated H_2S ..1.2..... ppm

Temp. factor x alt. factor + humidity factor = 7.4

Direct Reading ..5.2..... ppm

SAMPLE TREATMENT: 2 samples acid-fed, 2 samples untreated

REMARKS: Sampled at borehead, some galvanised pipe

SAMPLER: JGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Bernara 2B

SAMPLE NO: 006

PROPERTY: Bernara

SAMPLE TYPE : Windmill

AIR TEMP: ..29..... °C

HUMIDTY .40..... %

RESISTIVITY 27.6..... ohm-m @30.°C

WATER TEMP. ...30.... °C

H_2S

pH 6.98 @ .30.. °C

Standard Readings

EH* +195... mv

0.01 ppm ....-380..... mv

1.00 ppm ..... mv

100.00 ppm ..... mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP ..29.....°C factor 7.5.....

-385... mv

ALT. ..750.. ft. factor 0.97..

HUMIDITY ..40....% factor 0.20..

Calculated H_2S ..0.1... ppm

Temp. factor x alt. factor + humidity factor = 7.475

Direct Reading ..5.0.... ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2, 2 untreated

REMARKS: Sampled at casing head from polythene pipe

SAMPLER: JLC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Benmara No.3 SAMPLE NO: 007

PROPERTY: Benmara SAMPLE TYPE : Windmill

AIR TEMP: 23.0 °C

HUMIDTY 40 %

RESISTIVITY 5.12 ohm-m @ 24 °C

WATER TEMP. 24 °C

H_2S

pH 7.0 @ 24 °C

Standard Readings

EH* +190 mv

0.01 ppm -340 mv

1.00 ppm -370 mv

100.00 ppm -510 mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP 23.0 °C factor 8.5

-405 mv

ALT. 750 ft. factor 0.97

HUMIDITY 40 % factor 0.158

Calculated H_2S 3 ppm

Temp. factor x alt. factor + humidity factor = 8.4

Direct Reading 7.95 ppm

SAMPLE TREATMENT: 2 samples acidfied to pH 2
2 sample untreated

REMARKS: Sampled at tank from 10m of polythene pipe

SAMPLER: JGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Cresswell No57 SAMPLE NO: 008

PROPERTY: Cresswell Downs SAMPLE TYPE : Monopump

AIR TEMP: 31.5 °C

HUMIDTY 34 %

RESISTIVITY 20.0 ohm-m @ 31.5 °C

WATER TEMP. 31 °C

H_2S

pH 7.3 @ 31 °C

Standard Readings

EH* 1105 mv

0.01 ppm -355 mv

1.00 ppm -390 mv

100.00 ppm -505 mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP 31.5 °C factor 7.5

-410 mv

ALT. 750 ft. factor 0.97

HUMIDITY 34 % factor 0.23

Calculated H_2S 1.8 ppm

Temp. factor x alt. factor + humidity factor = 7.5

Direct Reading 8.8 ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2
2 samples untreated

REMARKS: Readings doubtful because of poor samples.

SAMPLER: JGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Benmara No. 5C

SAMPLE NO: 009

PROPERTY: Benmara

SAMPLE TYPE: Windmill

AIR TEMP: 27 °C

HUMIDTY 38 %

RESISTIVITY 43.5 ohm-m @ 28 °C

WATER TEMP. 28 °C

H_2S

pH 7.2 @ 28 °C

Standard Readings

EH* +180 mv

0.01 ppm -330 mv

1.00 ppm -360 mv

100.00 ppm -520 mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP 27 °C factor 0.1

-395 mv

ALT. 780 ft. factor 0.97

HUMIDITY 38 % factor 0.1836

Calculated H_2S 2.7 ppm

Temp. factor x alt. factor + humidity factor = 8.04

Direct Reading 6.8 ppm

SAMPLE TREATMENT: 2 Samples acidified to pH 2,
2 Samples untreated

REMARKS: Sampled at well head, from galvanized stand pipe

SAMPLER: JCC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Bennara Homestead

SAMPLE NO: 010

PROPERTY: Bennara

SAMPLE TYPE : Windmill

AIR TEMP: 25 °C

HUMIDTY 35 %

RESISTIVITY 21.8 ohm-m @ 26 °C

WATER TEMP. 26 °C

H_2S

pH 7.2 @ 26 °C

Standard Readings

EH* +210 mv

0.01 ppm -320 mv

1.00 ppm -360 mv

100.00 ppm -530 mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP 25 °C factor 8.4

-390 mv

ALT. 750 ft. factor 0.97

HUMIDITY 35 % factor 0.172

Calculated H_2S 2.3 ppm

Temp. factor x alt. factor + humidity factor = 8.32

Direct Reading 7.7 ppm

SAMPLE TREATMENT:

2 samples acidified to pH 2

2 samples untreated

REMARKS: Sampled at well head

SAMPLER: JGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Cresswell No. 41 SAMPLE NO: 011

PROPERTY: Cresswell Downs SAMPLE TYPE: Monopump

AIR TEMP: 28 °C

HUMIDTY 38 %

RESISTIVITY 22.8 ohm-m @ 28 °C

WATER TEMP. 28 °C

H_2S

pH 6.5 @ 28 °C

Standard Readings

EH* 185 mv

0.01 ppm ..... mv

1.00 ppm -340 mv

100.00 ppm -530 mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP 28 °C factor 7.9

-405 mv

ALT. 750 ft. factor 0.97

HUMIDITY 38 % factor 0.1884

Calculated H_2S 4.7 ppm

Temp. factor x alt. factor + humidity factor =

Direct Reading 7.05 ppm

SAMPLE TREATMENT: 2 samples acidified to pH2
2 samples untreated

REMARKS: Sampled at turbeys west, 40m from well head, from galvanized pipe

SAMPLER: JCC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Cresswell No. 13 SAMPLE NO: 012

PROPERTY: Cresswell Downs SAMPLE TYPE : Southern Cross Down Hole

AIR TEMP: ...30.... °C

HUMIDTY ...37.... %

WATER TEMP. ...29.... °C

pH ..6.6.. @ ..... °C

EH* ..+105.. mv

RESISTIVITY ..10.78... ohm-m @ 29 °C

H_2S

Standard Readings

0.01 ppm ..... mv

1.00 ppm ...-320..... mv

100.00 ppm ...-540..... mv

DISSOLVED OXYGEN

METER CALIBARATION

TEMP ..30...°C factor ..7.6.....

ALT. 750.... ft. factor 0.97..

HUMIDITY ..37....% factor 0.2164

SAMPLE READING

-400 mv

Calculated H_2S ..5.2.... ppm

Temp. factor x alt. factor + humidity factor = 7.588

Direct Reading ..5.8.... ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2, 2 samples untreated

REMARKS: Sampled 10 m from bore from galvanized pipe, sample cloudy

SAMPLER: JCC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Cressnell No 16 SAMPLE NO: 013

PROPERTY: Cressnell Downs SAMPLE TYPE : Monopump

AIR TEMP: 30 °C

HUMIDTY 37 %

WATER TEMP. 29 °C

pH 6.7 @ 29 °C

EH* +105 mv

RESISTIVITY 14.0 ohm-m @ 29 °C

H_2S

Standard Readings

0.01 ppm ..... mv

1.00 ppm -330 mv

100.00 ppm -545 mv

DISSOLVED OXYGEN

METER CALIBARATION

TEMP 30 °C factor 7.6

ALT. 750 ft. factor 0.97

HUMIDITY 37 % factor 0.2164

SAMPLE READING

-420 mv

Calculated H_2S 6.8 ppm

Temp. factor x alt. factor + humidity factor = 7.588

Direct Reading 6.0 ppm

SAMPLE TREATMENT: 2 samples acidified to pH2, 2 samples untreated

REMARKS:

SAMPLER: JGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Cresswell No 44 (Policemans Plain Bore)

SAMPLE NO: 014

PROPERTY: Cresswell Downs

SAMPLE TYPE : Windmill

AIR TEMP: ...31..... °C

HUMIDTY ...36.... %

WATER TEMP. ...30.... °C

pH 6.1 @ 30 °C

EH* ..+140 mv

RESISTIVITY 20.2 ohm-m @ 30 °C

H_2S

Standard Readings

0.01 ppm ..... mv

1.00 ppm -330 mv

100.00 ppm -535 mv

DISSOLVED OXYGEN

METER CALIBARATION

TEMP ..31.... °C factor 7.5

ALT. ..750.. ft. factor 0.97

HUMIDITY .36....% factor 0.2152

SAMPLE READING

-410 mv

Calculated H_2S ...6.0... ppm

Temp. factor x alt. factor + humidity factor = 7.48

Direct Reading .6.2.... ppm

SAMPLE TREATMENT:

2 samples acidified to pH 2
2 Samples untreated

REMARKS: Sampled at turbine rest inlet from galvanized pipe, 50 m from well head

SAMPLER: JGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Bennara No. 1E

SAMPLE NO: 015

PROPERTY: Bennara

SAMPLE TYPE : Windmill

AIR TEMP: 25 °C

HUMIDTY 43 %

RESISTIVITY 32.9 ohm-m @ 25.5 °C

WATER TEMP. 25.5 °C

H_2S

pH 6.7 @ 25.5 °C

Standard Readings

EH* +110 mv

0.01 ppm ..... mv

1.00 ppm -290 mv

100.00 ppm -540 mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP 25 °C factor 8.4

-435 mv

ALT. 750 ft. factor 0.97

HUMIDITY 43 % factor 0.1496

Calculated H_2S 14 ppm

Temp. factor x alt. factor + humidity factor = 8.29

Direct Reading 6.2 ppm

SAMPLE TREATMENT: 2 Samples acid-fied to pH2, 5 samples untreated

REMARKS: Sampled at well head

SAMPLER: JGC / GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Brunette No. DS

SAMPLE NO: 016

PROPERTY: Brunette Downs

SAMPLE TYPE : Windmill

AIR TEMP: ..28.... °C

HUMIDTY ...38... %

RESISTIVITY ..6.04.. ohm-m @ ... °C

WATER TEMP. ..... °C

H_2S

pH ..7.0.. @ ... °C

Standard Readings

EH* ..+140.. mv

0.01 ppm ..... mv

1.00 ppm ..-265..... mv

DISSOLVED OXYGEN

100.00 ppm ..-460..... mv

METER CALIBARATION

SAMPLE READING

TEMP ..28... °C factor ..7.9.....

..-380.. mv

ALT. ..750... ft. factor ..0.97..

HUMIDITY ..38.....% factor ..0.1936..

Calculated H_2S ..15..... ppm

Temp. factor x alt. factor + humidity factor = 7.85

Direct Reading ..5.6..... ppm

SAMPLE TREATMENT: 2 samples acidified to pH<2, 2 samples untreated

REMARKS: Sampled at turbine rest, 35m from bore with galvanized pipe

SAMPLER: JGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Brunette K-18 SAMPLE NO: 017

PROPERTY: Brunette SAMPLE TYPE : Mono pump

AIR TEMP: 31 °C

HUMIDTY 35 %

WATER TEMP. – °C

pH 7.0 @ ..... °C

EH* +115 mv

RESISTIVITY 6.6 ohm-m @ ..... °C

H_2S

Standard Readings

0.01 ppm ..... mv

1.00 ppm -250 mv

100.00 ppm -515 mv

DISSOLVED OXYGEN

METER CALIBARATION

TEMP 31 °C factor 7.5

ALT. 750 ft. factor 0.97

HUMIDITY 35 % factor 0.228

SAMPLE READING

-365 mv

Calculated H_2S 7.4 ppm

Temp. factor x alt. factor + humidity factor = 7.503

Direct Reading 5.0 ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2, 2 samples untreated

REMARKS: Sampled at turbays rest, 30 m from well head

SAMPLER: JGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Brunette D9 SAMPLE NO: 018

PROPERTY: Brunette Downs SAMPLE TYPE : windmill

AIR TEMP: 31 °C

HUMIDTY 34 %

WATER TEMP. 30 °C

pH 7.1 @ 30 °C

EH* +120 mv

RESISTIVITY 2.3 ohm-m @ 30 °C

H_2S

Standard Readings

0.01 ppm ..... mv

1.00 ppm -260 mv

100.00 ppm -525 mv

DISSOLVED OXYGEN

METER CALIBARATION

TEMP 31 °C factor 7.5

ALT. 750 ft. factor 0.97

HUMIDITY 34 % factor 0.2312

SAMPLE READING

-390 mv

Calculated H_2S 9.5 ppm

Temp. factor x alt. factor + humidity factor = 7.5

Direct Reading 6.0 ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2
2 samples untreated

REMARKS: Sampled at turkeys nest, 30 m from bore by galvanized pipe

SAMPLER: JGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Benmara 7c

SAMPLE NO: 019

PROPERTY: Benmara

SAMPLE TYPE : Wireline

AIR TEMP: 32 °C

HUMIDTY 37 %

RESISTIVITY 0.84 ohm-m @ 32 °C

WATER TEMP. 32 °C

H_2S

pH 6.6 @ 32 °C

Standard Readings

EH* -70 mv

0.01 ppm ..... mv

1.00 ppm -210 mv

100.00 ppm -500 mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP 32 °C factor 7.4

-425 mv

ALT. 750 ft. factor 0.97

HUMIDITY 35 % factor 0.2316

Calculated H_2S 29 ppm

Temp. factor x alt. factor + humidity factor = 7.4096

Direct Reading 30 ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2, 2 samples untreated

REMARKS: Bore not producing, sampled down hole with wire line device, results doubtful

SAMPLER: JGC / GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Bonmera No. 13A SAMPLE NO: 020

PROPERTY: Bonmera SAMPLE TYPE : Volume

AIR TEMP: 31 °C

HUMIDTY 37 %

WATER TEMP. - °C

pH 6.4 @ - °C

EH* +30 mv

RESISTIVITY 26.2 ohm-m @ °C

H_2S

Standard Readings

0.01 ppm ..... mv

1.00 ppm -230 mv

100.00 ppm -525 mv

DISSOLVED OXYGEN

METER CALIBARATION

TEMP 31 °C factor 7.5

ALT. 750 ft. factor 0.97

HUMIDITY 37 % factor 0.2216

SAMPLE READING

-420 mv

Calculated H_2S 19 ppm

Temp. factor x alt. factor + humidity factor = 7.4966

Direct Reading 2.95 ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2, 2 samples untreated

REMARKS: Bore not producing, sampled down hole with volume device, results doubtful

SAMPLER: JCC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Benmara No. 33

SAMPLE NO: 021

PROPERTY: Benmara

SAMPLE TYPE : Wireline

AIR TEMP: 23 °C

HUMIDTY 55 %

RESISTIVITY 23.2 ohm-m @ .... °C

WATER TEMP. .... °C

H_2S

pH 7.6 @ .... °C

Standard Readings

EH* +160 mv

0.01 ppm .... mv

1.00 ppm -120 mv

100.00 ppm -465 mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP 23 °C factor 8.7

-370 mv

ALT. 750 ft. factor 0.97

HUMIDITY 55 % factor 0.118

Calculated H_2S 28 ppm

Temp. factor x alt. factor + humidity factor = 8.55

Direct Reading 4.25 ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2, 2 samples untreated

REMARKS: Bore not producing, sampled with wireline device, results doubtful

SAMPLER: JDC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Barnara No. 44 SAMPLE NO: 022

PROPERTY: Barnara SAMPLE TYPE : Wireline

AIR TEMP: 29 °C

HUMIDTY 47 % RESISTIVITY 54.0 ohm-m @ 29 °C

WATER TEMP. 29 °C H_2S

pH 6.7 @ 29 °C Standard Readings

EH* +140 mv 0.01 ppm ..... mv

1.00 ppm -180 mv

DISSOLVED OXYGEN 100.00 ppm -460 mv

METER CALIBARATION SAMPLE READING

TEMP 29 °C factor 7.8 -380 mv

ALT. 750 ft. factor 0.97

HUMIDITY 47 % factor 0.1696 Calculated H_2S 27 ppm

Temp. factor x alt. factor + humidity factor = 7.735

Direct Reading 4.9 ppm

SAMPLE TREATMENT:

2 samples acidified to pH 2,
2 samples untreated.

REMARKS: Bore not producing, sampled with wireline device, results doubtful

SAMPLER: JGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Bennara No.7D

SAMPLE NO: 023

PROPERTY: Bennara

SAMPLE TYPE : Wireline

AIR TEMP: 34 °C

HUMIDTY 38 %

RESISTIVITY 1.85 ohm-m @ 35 °C

WATER TEMP. 35 °C

H_2S

pH 7.6 @ 35 °C

Standard Readings

EH* +140 mv

0.01 ppm ..... mv

1.00 ppm -190 mv

100.00 ppm -490 mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP 34 °C factor 7.2

-380 mv

ALT. 750 ft. factor 0.97

HUMIDITY 38 % factor 0.248

Calculated H_2S 18.5 ppm

Temp. factor x alt. factor + humidity factor = 7.232

Direct Reading 3.85 ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2, 2 samples untreated

REMARKS: Bore not producing, sampled with wireline device, results doubtful

SAMPLER: JGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Benmara No 38 SAMPLE NO: 024

PROPERTY: Benmara SAMPLE TYPE: Wireline

AIR TEMP: 32 °C

HUMIDTY 37 %

WATER TEMP. ---- °C

pH 7.2 @ ---- °C

EH* -45 mv

RESISTIVITY 8.90 ohm-m @ ---- °C

H_2S

Standard Readings

0.01 ppm ---- mv

1.00 ppm -190 mv

100.00 ppm -460 mv

DISSOLVED OXYGEN

METER CALIBARATION

TEMP 32 °C factor 7.4

ALT. 750 ft. factor 0.97

HUMIDITY 37 % factor 0.2316

SAMPLE READING

-400 mv

Calculated H_2S 36 ppm

Temp. factor x alt. factor + humidity factor = 7.409

Direct Reading 4.5 ppm

SAMPLE TREATMENT:

2 samples acidified to pH 2,
2 samples untreated

REMARKS: Bore not producing, sampled with wireline device, results doubtful

SAMPLER: JZG/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Banmara No. 9 SAMPLE NO: 025

PROPERTY: Banmara SAMPLE TYPE: Wireline

AIR TEMP: 30 °C

HUMIDTY 37 %

RESISTIVITY 28.0 ohm-m @ 30 °C

WATER TEMP. 30 °C

H_2S

pH 6.9 @ ..... °C

Standard Readings

EH* +115 mv

0.01 ppm ..... mv

1.00 ppm -205 mv

DISSOLVED OXYGEN

100.00 ppm -430 mv

METER CALIBARATION

SAMPLE READING

TEMP 30 °C factor 7.6

-390 mv

ALT. 750 ft. factor 0.97

HUMIDITY 37 % factor 0.216

Calculated H_2S 44 ppm

Temp. factor x alt. factor + humidity factor = 7.583

Direct Reading 5.3 ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2
2 samples untreated

REMARKS: Bore not producing, sampled with wireline device, results doubtful

SAMPLER: JTC / GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Barmera No. 20 SAMPLE NO: 026

PROPERTY: Barmera SAMPLE TYPE : Wireline

AIR TEMP: 29 °C

HUMIDTY 43 %

WATER TEMP. 28 °C

pH 7.1 @ 28 °C

EH* +160 mv

RESISTIVITY 34.6 ohm-m @ 28 °C

H_2S

Standard Readings

0.01 ppm ..... mv

1.00 ppm −155 mv

100.00 ppm −480 mv

DISSOLVED OXYGEN

METER CALIBARATION

TEMP 29 °C factor 7.8

ALT. 750 ft. factor 0.97

HUMIDITY 43 % factor 0.18224

SAMPLE READING

−380 mv

Calculated H_2S 34 ppm

Temp. factor x alt. factor + humidity factor = 7.748

Direct Reading 4.8 ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2, 2 samples untreated

REMARKS: Bore not producing, sampled with wireline device, results doubtful

SAMPLER: JGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Cresswell No.37 SAMPLE NO: 027

PROPERTY: Cresswell Downs SAMPLE TYPE : Mono

AIR TEMP: 33 °C

HUMIDTY 39 %

WATER TEMP. 33 °C

pH 7.9 @ 33 °C

EH* +130 mv

RESISTIVITY 9.6 ohm-m @ 33 °C

H_2S

Standard Readings

0.01 ppm ..... mv

1.00 ppm -190 mv

100.00 ppm -430 mv

DISSOLVED OXYGEN

METER CALIBARATION

TEMP 33 °C factor 7.3

ALT. 750 ft. factor 0.97

HUMIDITY 39 % factor 0.2352

SAMPLE READING

-400 mv

Calculated H_2S 57 ppm

Temp. factor x alt. factor + humidity factor = 7.316

Direct Reading 6.2 ppm

SAMPLE TREATMENT:

2 samples acidified to pH 2,
2 Samples untreated.

REMARKS: Sampled at well head from galvanized pipe, well appears to silted up, sample decanted to remove some of the solids

SAMPLER: JCC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Cresswell No. 38 SAMPLE NO: 028

PROPERTY: Cresswell Downs SAMPLE TYPE : Wireline

AIR TEMP: 33 °C

HUMIDTY 39 %

WATER TEMP. 33 °C

pH 8.2 @ 33 °C

EH* +120 mv

RESISTIVITY 38.8 ohm-m @ 33 °C

H_2S

Standard Readings

0.01 ppm ..... mv

1.00 ppm -200 mv

100.00 ppm -450 mv

DISSOLVED OXYGEN

METER CALIBARATION

TEMP 33 °C factor 7.3

ALT. 750 ft. factor 0.97

HUMIDITY 39 % factor 0.2352

SAMPLE READING

..... mv

Calculated H_2S 33 ppm

Temp. factor x alt. factor + humidity factor = 7.316

Direct Reading 42 ppm

SAMPLE TREATMENT: 2 Samples acidified to pH 2,
2 samples

REMARKS: Bore not producing, sampled with wireline device, results doubtful

SAMPLER: JLC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Cresswell Duo

SAMPLE NO: 029

PROPERTY: Cresswell Downs

SAMPLE TYPE : Wireline

AIR TEMP: 33 °C

HUMIDTY 37 %

RESISTIVITY 8.75 ohm-m @ 34.°C

WATER TEMP. 34 °C

H_2S

pH 8.3 @ 34 °C

Standard Readings

EH* +125 mv

0.01 ppm ..... mv

1.00 ppm -220 mv

100.00 ppm -440 mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP 33 °C factor 7.3

-385 mv

ALT. 750 ft. factor 0.97

HUMIDITY 37 % factor 0.2416

Calculated H_2S 30 ppm

Temp. factor x alt. factor + humidity factor = 7.32

Direct Reading 4.6 ppm

SAMPLE TREATMENT:

2 samples acidified to pH 2,
2 samples untreated

REMARKS:

Bore not producing, sampled with wireline device, results doubtful

SAMPLER: JBC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Cresswell 54 SAMPLE NO: 080

PROPERTY: Cresswell Downs SAMPLE TYPE: W.reline

AIR TEMP: 32 °C

HUMIDTY 38 %

WATER TEMP. — °C

pH 8.1 @ — °C

EH* +120 mv

RESISTIVITY 54.0 ohm-m @ — °C

H_2S

Standard Readings

0.01 ppm ..... mv

1.00 ppm -255 mv

100.00 ppm -500 mv

DISSOLVED OXYGEN

METER CALIBARATION

TEMP 32 °C factor 7.4

ALT. 750 ft. factor 0.97

HUMIDITY 38 % factor 0.2284

SAMPLE READING

-410 mv

Calculated H_2S 18 ppm

Temp. factor x alt. factor + humidity factor = 7.406

Direct Reading 2.4 ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2, 2 samples untreated

REMARKS: Bore not producing. sampled with w.relne device, results doubtful

SAMPLER: JGC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Gardiners waterhole

SAMPLE NO: 031

PROPERTY: Cresswell Downs

SAMPLE TYPE : wireline

AIR TEMP: 32 °C

HUMIDTY 39 %

RESISTIVITY 1.7 ohm-m @ 30°C

WATER TEMP. 30 °C

H_2S

pH 7.3 @ 30 °C

Standard Readings

EH* +140 mv

0.01 ppm ..... mv

1.00 ppm -220 mv

100.00 ppm -520 mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP 32 °C factor 7.4

-405 mv

ALT. 750 ft. factor 0.97

HUMIDITY 39 % factor 0.2252

Calculated H_2S 16.5 ppm

Temp. factor x alt. factor + humidity factor = 7.4

Direct Reading 4.4 ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2, 2 samples untreated

REMARKS: Bore not producing, sampled with wireline device, results doubtful

SAMPLER: JCC/CRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Benmara No19 SAMPLE NO: 032

PROPERTY: Benmara SAMPLE TYPE : W. volume

AIR TEMP: 26 °C

HUMIDTY 40 %

RESISTIVITY 85.2 ohm-m @ - °C

WATER TEMP. - °C

H_2S

pH 5.5 @ - °C

Standard Readings

EH* +140 mv

0.01 ppm ..... mv

1.00 ppm -150 mv

100.00 ppm -410 mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP 26 °C factor 8.2

-370 mv

ALT. 750 ft. factor 0.97

HUMIDITY 40 % factor 0.172

Calculated H_2S 50 ppm

Temp. factor x alt. factor + humidity factor = 8.126

Direct Reading 4.8 ppm

SAMPLE TREATMENT: 2 samples acidified to PH 2, 2 samples unheated

REMARKS: Bore not producing, sampled with volume device, result doubtful

SAMPLER: JRC/GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Benmara No 19A

SAMPLE NO: 033

PROPERTY: Benmara

SAMPLE TYPE : W. volume

AIR TEMP: ..27..... °C

HUMIDTY ..37..... %

RESISTIVITY ..24:0.. ohm-m @ 27°

WATER TEMP. ..27..... °C

H_2S

pH ..5:7.. @ ..27.. °C

Standard Readings

EH* ..+20.. mv

0.01 ppm ..... mv

1.00 ppm ..-190..... mv

100.00 ppm ..-530..... mv

DISSOLVED OXYGEN

METER CALIBARATION

SAMPLE READING

TEMP ..27.... °C factor ..8:1.....

..-525.. mv

ALT. ..750.. ft. factor ..0:97..

HUMIDITY ..37.... % factor ..0:1816..

Calculated H_2S ..92.. ppm

Temp. factor x alt. factor + humidity factor = 8.088

Direct Reading ..4:8.. ppm

SAMPLE TREATMENT: 2 samples * acidified to pH 2, 2 samples untreated

REMARKS: Bore not producing / sampled with wire line device, results doubtful

SAMPLER: JCK / GRE

* ORP electrode reading

WATER SAMPLING DATA

BORE NO. Bonnera 8A

SAMPLE NO: 034

PROPERTY: Bonnera

SAMPLE TYPE :

AIR TEMP: .....°C

HUMIDTY ..... %

RESISTIVITY ..... ohm-m @.....°

WATER TEMP. .....°C

H_2S

pH ..... @ .....°C

Standard Readings

EH* ..... mv

0.01 ppm ..... mv

1.00 ppm ..... mv

DISSOLVED OXYGEN

100.00 ppm ..... mv

METER CALIBARATION

SAMPLE READING

TEMP .....°C factor .....

..... mv

ALT. ..... ft. factor .....

HUMIDITY .....% factor .....

Calculated H_2S ..... ppm

Temp. factor x alt. factor + humidity factor =

Direct Reading ..... ppm

SAMPLE TREATMENT: 2 samples acidified to pH 2, 2 samples unheated.

REMARKS: Check sample, same sampling point as sample 001

SAMPLER: JCK/KRE

* ORP electrode reading

APPENDIX No 2

WATER SAMPLE ANALYSIS

Rec'd 1.6.77

A.C.S. Laboratories Pty. Ltd.
50 MARY STREET
UNLEY, S.A. 5061
P.O. BOX 3
UNLEY, S.A. 5061
PHONE: 272 5733

ANALYTICAL RESULTS

Samples from: Mines Administration Pty. Ltd.

Area:

Samples of: Waters.

Preparation:

Sheet No.: 1.

Batch No.: A 2079

Date: 31.8.77

SAMPLES WILL BE DISPOSED OF AFTER TWO MONTHS UNLESS WE ARE OTHERWISE ADVISED

Sample Description		U_3O_8 ppb
Nos.	1	2
	2	<2
	3	97
	4	<2
	5	<2
	6	<2
	7	12
	8	<2
	9	<2
	10	2
	1	<2
	2	<2
	3	<2
	4	<2
	5	<2
	6	<2
	7	<2
	8	<2
	9	3
	20	<2
	1	<2
	2	<2
	3	<2
	4	<2
	5	<2
	6	<2
	7	2
	8	<2
	9	<2
	30	<2
	1	<2
	2	<2
	3	<2
Nos.	34	4

ANALYTICAL METHODS: U_3O_8 by Fluorimetry following ten times concentration of water.

DISTRIBUTION: Mines Administration Pty. Ltd.
BRISBANE. (QLD.

Signed

APPENDIX No 3

DRILL HOLE LOGS

C01 to C013

MINAD TETON — AUSTRALIA

PROJECT COOLIBAH HOLE SIZE 4 3/4 ☒ AIR ☐ WATER HOLE NO. CO 1

ELEVATION _____ LOCATION: BENMARRA STATION LOGGED BY TMR DATE 26·10·77

MAP _____ SCALE _____ T.D. 70.0 m P.D. 68.6 m

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
CO-1	10		0-3 Sand, clayey, med. grey, med grained, poorly sorted, sub rnd, quartzose, bxl-gel.
	20		3-33.6 Sandstone, med white - white, med - V coarse grained, sub ang - sub rnd, moderate sorting, quartzose, with radiomatic matrix
	30		clayey
	40		33.6-59.0 Sand n, light brown, cre-verse sub angular, quartzose, feldspathic, micaceous kaolinitic. poorly sorted. Probably granitic weathering profile, oxidized, red brown stn
	50		
CO-1 T.D. 68.6m	60		59.0-68.0 Sand, light brown - grey, less clay than above, med - verse, angular, quartzose, feldspathic, micaceous flakes, ~ mica in some cases interbedded with feldspar, oxidized
	70		68.0-68.6 Cement, drill contact penetrated
	80		
	90		
	100		
	110		
	120		

MINAD TETON — AUSTRALIA

PROJECT COOLGARDIE HOLE SIZE 4 3/4 ☐AIR ☐WATER HOLE NO. CO-2

ELEVATION _____ LOCATION: BERMAGUI _____ LOGGED BY TMB DATE 26.10.77

MAP _____ SCALE _____ T.D. 72.0 m P.D. 69.0 m

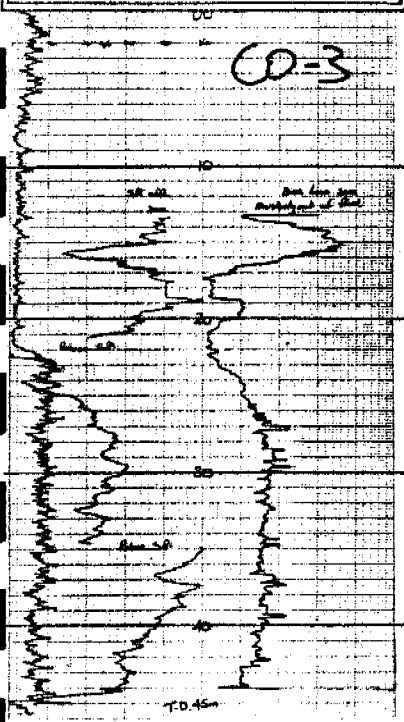
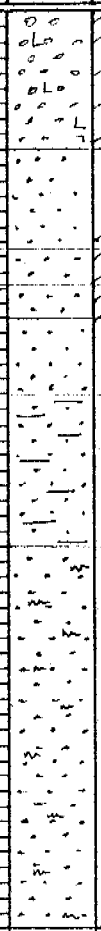
ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
CO-2	10		0-1.5 Laterite, red brown, yellowish 1.5-13.5 Sand, reddish white, coarse - very coarse ang quartzose, kaolinitic, hematitic
	20		13.5-43.4 Sand, light buff brown, mod - coarse grained, mainly mod rounded - sub-angular, mod sorting, quartzose, sub equal kaolin, abundant mica, hematite stained
	30		
	40		
	50		43.4-57.6 Sand, khaki brown, mod - very grained, mainly coarse grained, equal amts quartzose, mod feldspathic, v abundant mica, angular, mod sorting, hematite stained
	60		57.6-62.6 Sand as (5) - clay fraction giving over - gamma loop
CO-2	70		62.6-68.1 Sand, reddish brown, v coarse grained angular, well sorted, mainly quartzose (5) abundant feldspar and mica, hematite stained throughout. 68.1-69.0 m Basement not sampled, from drill rate and log response.
	80		
	90		
	100		
	110		
	120		

MINAD TETON — AUSTRALIA

PROJECT COOLIBAH HOLE SIZE 4 3/4 ☐AIR ☐WATER HOLE NO. CO-3

ELEVATION _____ LOCATION: Boundarra LOGGED BY TMB DATE 26-10-77

MAP _____ SCALE _____ T.D. 60.0m P.D. 45.0m

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
	10 20 30 40 50 60 70 80 90 100 110 120		0-9 laterite, red brown and off white, sub equal amounts of kaolinite 9-15.5 Sandstone, off white, v fine grained, hard, cemented with kaolin?, well sorted, rounded, no porosity. 15.5-17.8 Sandstone, reddish white, med - v coarse grained, sub ang - angular, mod sorting quartzose, remarkable stained, kaolinitic 17.8-20.0 Sandstone, reddish white, coarse - v coarse grained sub rnd, mod - well sorted, quartzose, remarkable stained, minor kaolin, less than abund whitish-grey 20.0-25.0 Sandstone, ^granular (5mm) to very coarse grained, sub rounded, quartzose with minor kaolinitic matrix 25.0-35.0 Sandstone, slightly clayey, orange brown, med - v coarse, angular, poorly sorted, quartzose, muscovite, felspathic. 35.0-60.0m Sandstone, brownish grey, med - v coarse grained, angular, poorly sorted, quartzose, subangular felspar, abundant mica

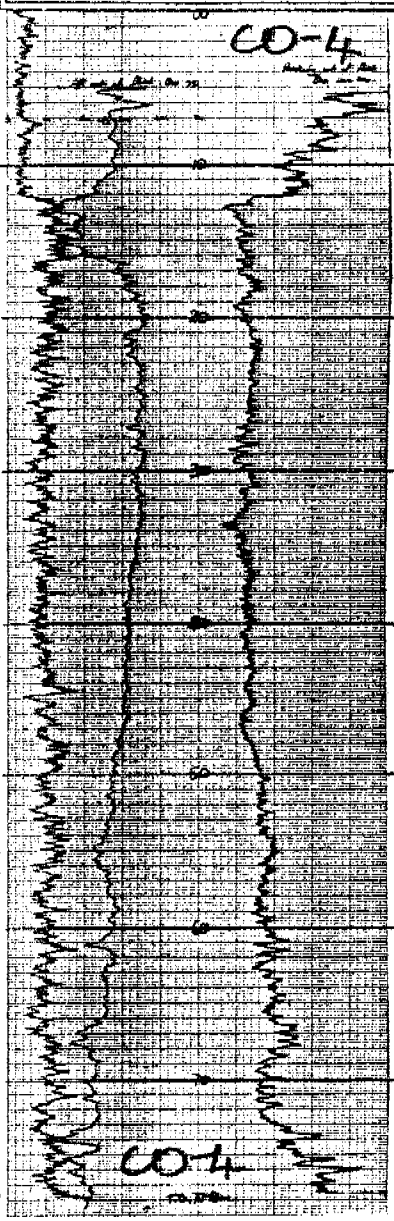
50 60 70 80 90 100 110 120

MINAD TETON — AUSTRALIA

PROJECT Coxs River | HOLE SIZE 4 3/4 ☐ AIR ☑ WATER | HOLE NO. CO-4

ELEVATION _____ | LOCATION: _____ | LOGGED BY TMB | DATE 27-10-77

MAP _____ | SCALE _____ | T.D. 78.0 m | P.D. 77.8 m

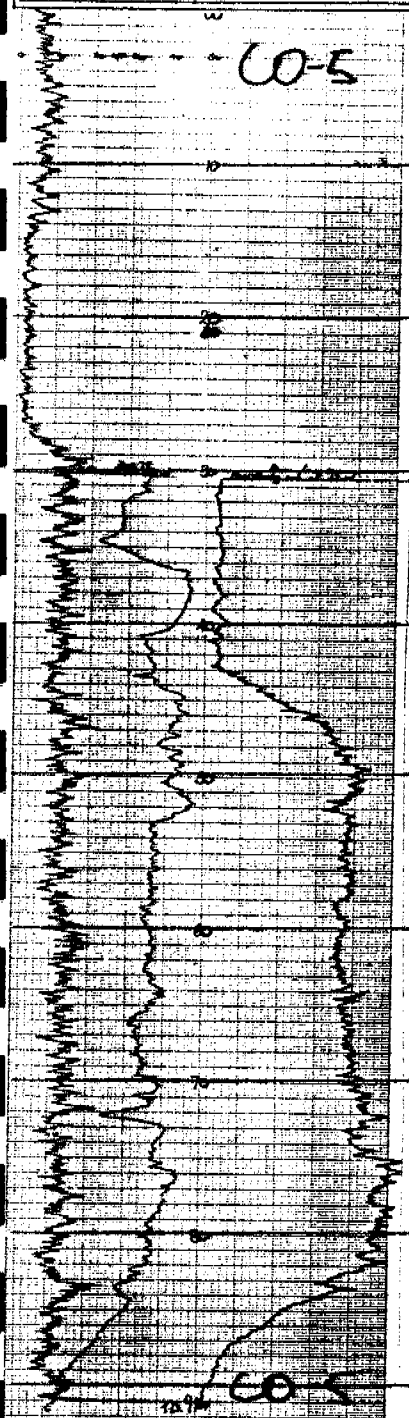
ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
			0-1.5 Sand clayey, dark grey, fine grained, 1.5-4.5 Sand stab. white to orange red fine grained, hard, well sorted, cemented. 4.5-7.2 Sand, orange brown, v crse. grained subangular, limonitic, quartzose. 7.2-12.0 Sand, v light grey, minor orange red grained, subrounded well sorted unconsolidated; quartzose, minor limonite 12.0-16.4 Sand, whitish grey, v coarse to 5mm granules, subangular, quartzose, minor limonitic staining, kaolinitic. 16.4-18.6. Sand whitish grey, coarse grained, subangular, well sorted, quartzose, limonite stained in part 18.6-77.8 Sand, v crse to 5mm granules angular, mod sorting, equal amts of felspar and quartzose, abundant mica, hematite stained, limonite stained

MINAD TETON — AUSTRALIA

PROJECT COOLIBAH HOLE SIZE 4 3/4 ☒ AIR ☐ WATER HOLE NO. CO-5

ELEVATION _____ LOCATION: Benmarra Station LOGGED BY TMB DATE 27-10-77

MAP _____ SCALE _____ T.D. 90 P.D. 91m

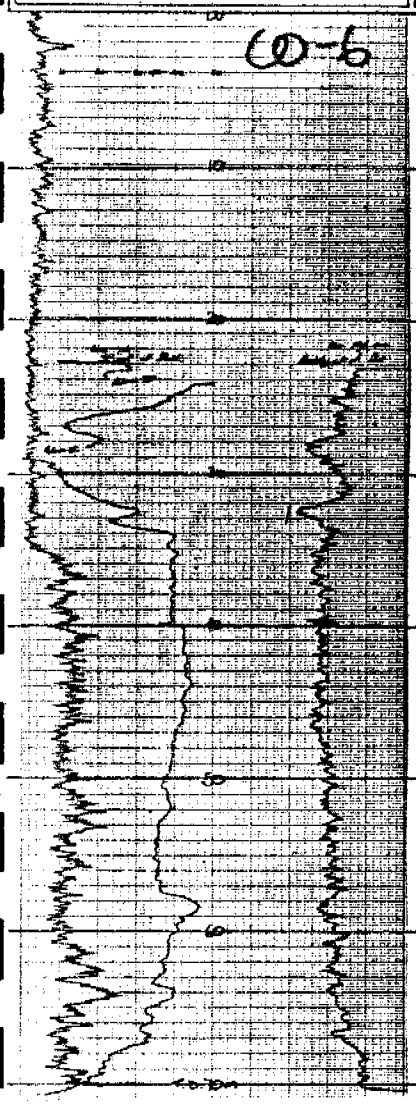
ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
	10		0-3 Clay, dark grey, kaolinitic in part
	20		3-6 Clay, off white, kaolinitic
	30		6-29.2 Sandstone, white, v. fine grained, rounded, well sorted, hard, mainly quartz some minor limonitic, kaolinitic
	40		29.2-29.6, Sandstone m/a SI- granular 4mm subangular quartz and felspar, and slight green clay mineral?
	50		29.6-91.0m Sandstone, red brown, 2mm granules, mod sorting, subangular-angular subequal amts SI felspar mod quartz with minor to abundant mica, kaolinitic stain
	60		
	70		
	80		
	90		
	100		
	110		
	120		

MINAD TETON — AUSTRALIA

PROJECT COOLIBAH HOLE SIZE 4 3/4" ☐AIR ☐WATER HOLE NO. CO-6

ELEVATION _____ LOCATION: _____ LOGGED BY TMR DATE 27.10.77

MAP _____ SCALE _____ T.D. 70.5m P.D. 70.0m



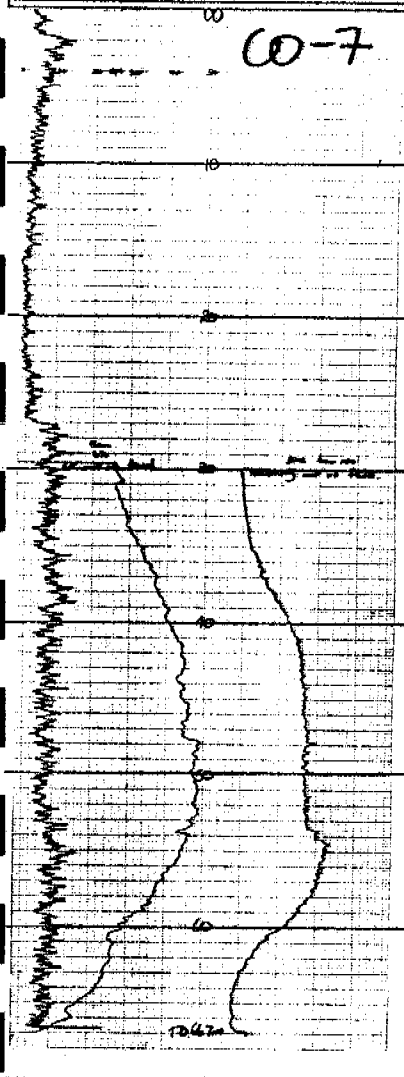
ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
	10		0-1.5 Sand, clayey, med grey, fine grained poorly sorted 1.5-14.5 Clay light brown, slightly sticky
	20		14.5-35.2 Sand, white, v fine grained, micaceous, shaley, quartzose, kaolinitic.
	30		
	40		35.2-46.2 Sand, off white, granular, sm, angular - subangular, mod sorting, wholly quartzose, sl kaolinitic
	50		46.2-70.0 Sand, red brown, granular, 2-5mm granules, angular, poorly sorted, minor quartz, almost wholly feldspar, limonite stained.
	60		
	70		
	80		
	90		
	100		
	110		
	120		

MINAD TETON — AUSTRALIA

PROJECT COOLIBAH HOLE SIZE 4 3/4 ☐AIR ☐WATER HOLE NO. CO-7

ELEVATION _____ LOCATION: Cresswell Downs LOGGED BY TMB DATE 27.10.77

MAP _____ SCALE _____ T.D. 67.5m P.D. 66.7

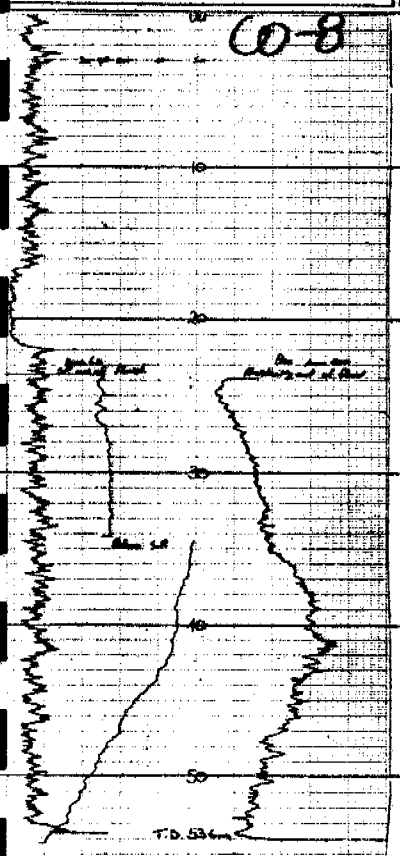
ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
			0-1.5 clay, clay grey, mod. hard 1.5-4.5 Silt, white to orange brown, v fine grained laterized in part 4.5-28 Sandstone, white, v fine grained, sub rnd-rnd, well sorted, hard-fine cemented chips, grading to unconsolidated at base. quartzose. 28.0-33.8 Sandstone, white to light pink 3-5mm granules, angular, poorly sorted, sub equal feldspathic and quartzose, minor micaceous and light green clay minerals. 33.8-66.7 Sandstone, red brown, granules 2-5mm, subangular, angular, sub equal feldspar/quartzose, micaceous, limonitic and hematitic staining.

MINAD TETON — AUSTRALIA

PROJECT COOLIBAH HOLE SIZE 4 3/4 ☐AIR ☐WATER HOLE NO. CO8

ELEVATION _____ LOCATION: Cresswell Downs LOGGED BY TMB DATE 29.10.77

MAP _____ SCALE _____ T.D. 54.0m P.D. 53.6

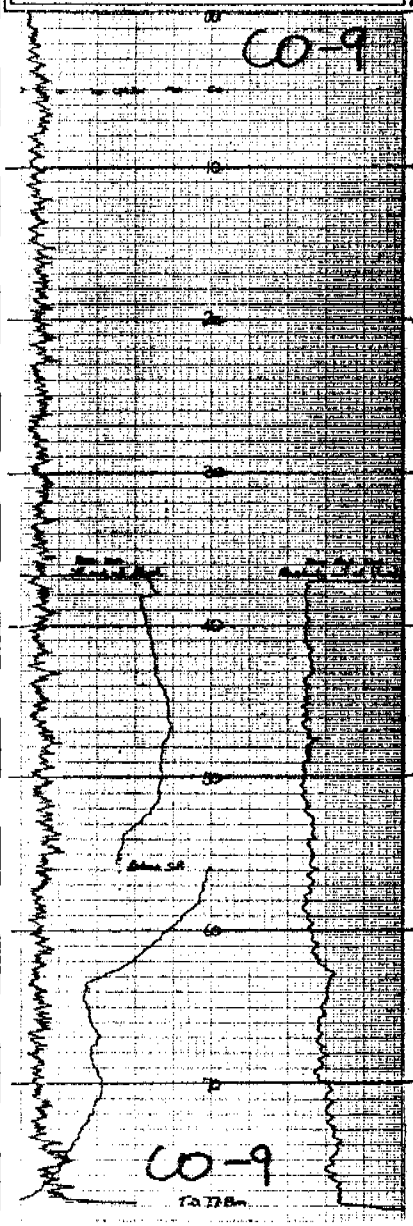
ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
	10 20 30 40 50 60 70 80 90 100 110 120		0-1.5 Clay, dark-mod grey, slightly sandy 1.5-4.5 Clay, off white, kaolinitic. 4.5-9.0 Laterite, red brown - light brown, hard 9.0-22.0 Sandstone, white, v/fine grained, subrounded, well sorted, cemented in first 3m, unconsolidated below 22.0-25.0 Sandstone, white to orange brown, granular - 4mm, subrnd - subangular, mod. sorting, limonitic, gnarkose 25.0-53.6 Sandstone, red brown, yellowish, granular 4mm, subang - angular, poorly sorted, sub equal amt. of felspar and quartz, limonitic, kaolinitic stained

MINAD TETON — AUSTRALIA

PROJECT Coolibah HOLE SIZE ☑AIR ☑WATER HOLE NO. CO·9

ELEVATION LOCATION: Cressmont Downs LOGGED BY TMS DATE 2-11-77

MAP SCALE T.D. 76·5 P.D. 77-8

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
	10 20 30 40 50 60 70 80 90 100 110 120		0-3 Clay, black, friable 3-6 Clay, orange brown, friable 6-10.5 Sst, orange brown, v f-m grained, well sorted quartzose, hematite, limonite 10.5-18.0 Clay, off white with red mottle to reddish white 18.0-21.0 Clay, off white to orange, limonite 21.0-43.5 Clay, brick red friable 43.5-77.8 Schist, partly weathered, red brown, and orange with dark green blue

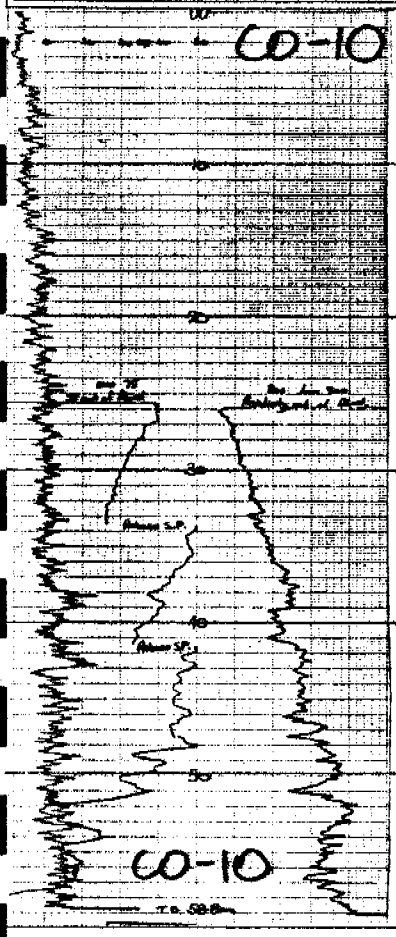
Tot. T.D. 77.8m

MINAD TETON — AUSTRALIA

PROJECT COOLIBAH HOLE SIZE 4 3/4 ☐AIR ☒WATER HOLE NO. CO 10

ELEVATION _____ LOCATION: Cressnock _____ LOGGED BY TMB DATE 2-11-77

MAP _____ SCALE _____ T.D. 58.5 P.B. 58.8



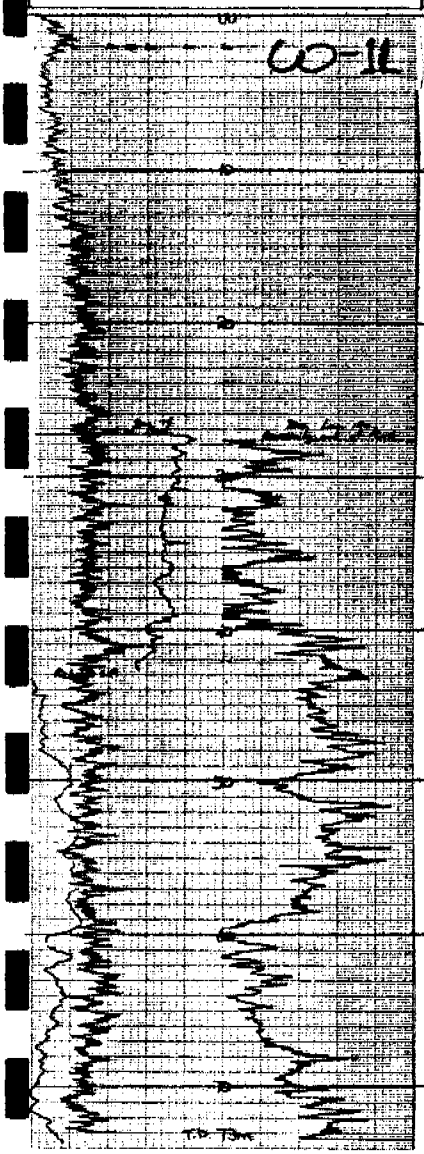
ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
	0		0-1.5. Clay, black, friable
			1.5-6.0 Clay Shale with black mottle, v hard.
	10		6.0-13.5 Clay Shale, brown with limonite and hematite.
			13.5-18.0 Silst. red brown, laterized. v hard
	20		18.0-38.0 Sst, orange brown v/fine-fine grained, sub rnd well sorted qtz 20%, limonite grading to dark brown at base
	30		
			38.0-43.0 Schist, sl. weathered, dark green blue
	40		43.0-58.8m Ferro mag, dark green blackish.
	50		
	60		
	70		
	80		
	90		
	100		
	110		
	120		

MINAD TETON — AUSTRALIA

PROJECT COOLIBAH HOLE SIZE 4 3/4 ☒ AIR ☐ WATER HOLE NO. CO-11

ELEVATION _____ LOCATION: Benmara Station LOGGED BY TMB DATE 30·10·77

MAP _____ SCALE _____ T.D. 72.0m P.D. _____

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
	10 20 30 40 50 60 70 80 90 100 110 120		0-3 Gravel, red brown, lateritic 3-9 Sand, white, sl. reddish, v/fine grained, sub rnd, well sorted, mainly quartzose, kaolinitic, ~~sl~~ l. manitic / unconsolidated 9-40 Sand, reddish white, v/fine - v coarse grained, subang, poorly sorted hematite stained throughout - laterized 40-72.0 Sandstone, grad brown, granular, 5mm gravel, angular, subangular ants of quartz and feldspar, minor schistose, and mica hematite stained throughout. (decomposed basement)

MINAD TETON — AUSTRALIA

PROJECT ~~CORE~~ COOLIBAH HOLE SIZE 4 3/4 ☒ AIR ☐ WATER HOLE NO. CO-12

ELEVATION _____ LOCATION: Bennetts Station LOGGED BY TMS DATE 30.10.97

MAP _____ SCALE _____ T.D. 71.5 P.D. 71.5

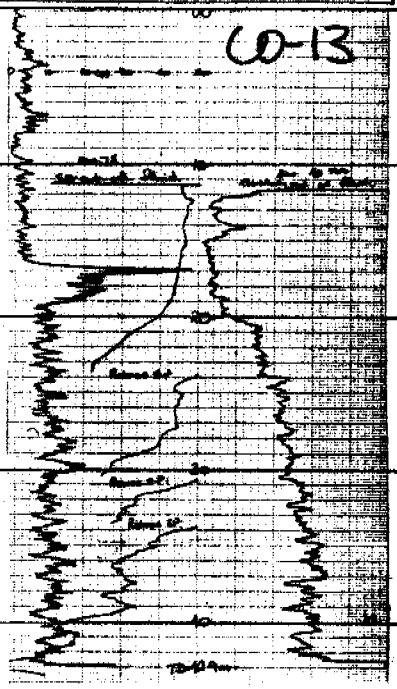
ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
CO-12			0-4.5 Clay, dark grey, sl. sandy,
	10		4.5-15 Kaolinite, white, hard, subconchoidal massive, sl. sandy, fine grained
	20		15-27.4 Clay, white, firm, talc feel, platy, very soft
	30		27.4-51.6 Clay, light orange, firm platy chips, limonitic?
	40		
	50		51.6-61.5 Gravel, orange, red brown, angular, poorly sorted, wholly quartzose, kaolinite stained
TD 61.5m	60		
	70		
	80		
	90		
	100		
	110		
	120		

MINAD TETON — AUSTRALIA

PROJECT COOLIBAH HOLE SIZE 3¼ ☐AIR ☐WATER HOLE NO. CO-13

ELEVATION _____ LOCATION: Benmara Station LOGGED BY TMB DATE 3.10.77

MAP _____ SCALE _____ T.D. 43.5 P.D. 42.9

ANALYSIS OR RADIOACTIVITY	DEPTH	STRIP LOG	LITHOLOGY LOG
	10		0-1.5 Clay, dark grey, sandy, fine grained sub rnd to angular 1.5-6.7 Sandstone, light orange, fine grained angular, p mod sorting, grainstone, radiometric 6.7-19.2 Sandstone, white, v fine-fine grained, well sorted, cemented with calcrete? white, hard, forming chips on impact; limonitic stained in part, radiometric throughout. 19.2-30.2 Clay, hard, light green, platy, weathered and hematitic in part. 30.2-42.9 Dolerite? - black fresh basement, bit broken to small chips.
	20		
	30		
	40		
	50		
	60		
	70		
	80		
	90		
	100		
	110		
	120		

136°20' 136°30' 136°45' 137°00'

17°35'

17°45'

18°00'

18°15'

18°20'

E.L. 1339

E.L. 1427

E.L. 1235

MINES ADMINISTRATION PTY. LIMITED

E.L. 1427 Bowgan Creek & E.L. 1339 Coolibah

WATER ANALYSIS DATA

UNITS
Eh mV
O_2 ppm (dissolved oxygen)
H_2S ppm
R ohm.m (Resistivity uncorrected for temperature)
U_3O_8 ppb

Scale 1: 83 520

ENCLOSURE 1

9928 - V6