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SML 721

JOHNBURGH

PROGRESS AND FINAL REPORTS TO LICENCE SURRENDER FOR THE PERIOD 22/6/72 TO 20/11/72

Submitted by
Utah Development Co. Ltd
1973

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PRIMARY INDUSTRIES AND RESOURCES SA

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TENEMENT HOLDER: Utah Development Company.

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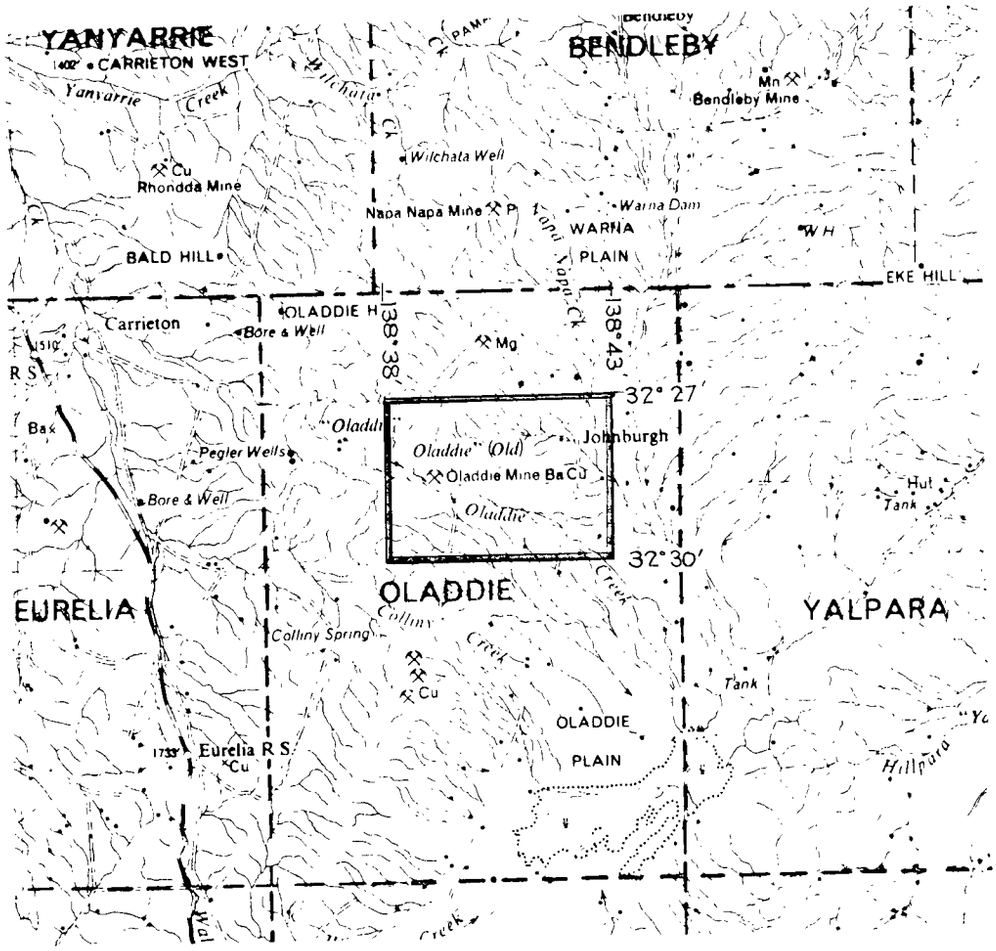


SCALE 1:250000

UTAH DEVELOPMENT COMPANY

DOCKET DM. 630/72 AREA 17 SQ MILES

1:250000 PLANS . ORROROO

LOCALITY 5 MLS E OF CARRIETON

S.M.L. No. 721 EXPIRY DATE 21·6·73.

UTAH DEVELOPMENT COMPANY

QUARTERLY REPORT - SPECIAL MINING LEASE NO. 721

JOHNBURG AREA

PERIOD ENDING SEPTEMBER 22, 1972.

SUMMARY

A geological map of the Oladdie area is in preparation. The mapping has indicated that the prospective horizons recognised in similar successions elsewhere in the Flinders Ranges, do not occur in this S.M.L.

A leucocratic intrusive has been found in the Oladdie Diapir. This occurrence has been investigated petrographically.

TENEMENT SITUATION

The Company was granted tenancy of S.M.L. 721 by the Director of Mines on June 25th, 1972. The period of tenure was for twelve months over an area of approximately 18 square miles.

FIELD WORK

This has involved geological mapping at photoscale (1: 10,000), rock chip geochemical traverses, and stream sediment geochemistry.

(a) Geological Mapping

(i) A regional geological map of S.M.L. 721 at a scale of 1: 25,000 is appended to this report. Results of reconnaissance geological mapping are summarised by the key of this map.

(ii) A geological map at a photoscale of 1: 10,000 has been compiled for the Oladdie area. The geological report and final draft of this map are still in manufacture.

(b) Geochemistry

Three rock chip traverses have been completed over the most likely looking horizons as delineated by the mapping. The results are very unpromising.

A rapid stream survey was carried out to assess areas of poor outcrop where prospective horizons might be concealed. A copy of the assays for this survey is appended.

(c) Petrographics

Five petrographic specimens have been described. They are JB1/37P, JB1/22P, JB1/25P, JB023P, and JB1/26P. Descriptions of these specimens are appended. The interesting one is JB023P, which is tentatively identified as a granite. At this stage it is thought possible this could be basement granite.

LOGISTICS OF FIELD WORK

	This Quarter	To-date
Number of rock chip samples	23	23
Number of petrological samples	5	5
Number of rock chips for spectral scans	4	4
Number of creek sediment samples	46	46
Area sampled regionally (sq. km.)	4.5	4.5

EXPENDITURE

An expenditure statement for the quarter ending September 22, 1972 is appended to this report.

APPENDED MAPS

Progress Summary Map	Scale 1: 25,000
Regional Geology	" 1: 25,000
Petrography	"
Property Boundaries Plan	

APPENDIX I

FIELD AND ASSAY SHEETS - JOHNBURG AREA

Rock Chips	Field Sheet No.
AMDEL Job No. 1037/73	
Batch 1 - JB01R to JB18R	39527
Batch 2 - JB19R	39527

CREEK SEDIMENTS

Field Sheet No.	Lab. Sheet No.	Rack No.	Job No.
44176	5433/1	4668	5433

UTAH DEVELOPMENT COMPANY

RELINQUISHMENT REPORT - SPECIAL MINING LEASE NO. 721

JOHNBURG AREA

PERIOD ENDING NOVEMBER 20, 1972.

SUMMARY

Utah Development Company has completed its investigations in the Johnburg Area, east of Carrieton. The results obtained indicate that the prospective horizons, recognised elsewhere are not in evidence above the economic basement in this SML. The SML is therefore being relinquished after a period of five months.

The Company undertook to spend a minimum of $2,000 during the annual period it was granted tenancy of the lease. Although a detailed expenditure statement for the final two months is not presently available, $1,500 was spent in the first quarter, and it is anticipated that the final expenditure for the five month period of tenancy will exceed the minimum annual expenditure committment suggested by the Director of Mines.

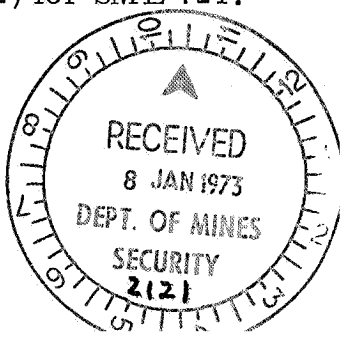
In its application, the Company intended to undertake detailed geological mapping (which has been completed) and a geochemical auger drilling programme over the prospective cupriferous horizons. In fact no prospective horizons were indicated by the mapping programme, hence this latter phase was not initiated. Several geochemical rock chip sample lines were run however, over weakly cupriferous (secondary) mineralisation.

TENEMENT SITUATION

An area of 19 square miles in the Johnburg/Oladdie area, east of Carrieton, was granted to the Company by the Director of Mines on June 25th, 1972. On November 20th, 1972 the Chief Geologist forwarded a notice of intention to relinquish SML 721.

FIELD WORK

This has included geological mapping at photoscale (1: 10,000), rock chip geochemical traverses and stream sediment geochemistry. The geochemical aspects of the exploration programme were discussed in the First Quarterly Report (Period Ending September 22nd, 1972) for SML 721.



(i) Geological Mapping

The geological map at photoscale (1: 10,000) of the Oladdie area will be forwarded under separate cover upon final drafting.

The comments applicable to the field mapping are summarised below :

Mapping Units

(a) Rhynie Sandstone

It is interesting to note here the regular alteration of arenites with siltstones and carbonate rich sediments. Massive dolomites appearing in the latter are apparently lensoidal and probably represent reef facies.

Stradbrooke Formation

Several units in this formation lose their individual identity in the "Structurally Complex Area" in the vicinity and North of the "Oladdie Mine". In all probability, Units S1 and S1a are equivalents as are also S2 and S2a.

Facies variation is present, but in a minor degree when compared to the other areas of outcrop.

The slate sequence is unfamiliar, but however, is probably due to tectonic factors - the structure at Johnburg being quite tightly folded.

Tectonism is probably also responsible for the pinching out north-wards of Units S4 and S5 on the eastern limb of the overturned anticline south of the main road. The non-appearance of S3 in the east could be explained if it was not deposited there, thus allowing S2 to be deposited directly onto S4. Lateral facies variation in this case is considered unlikely. The thickness of the beds on the eastern limb is significantly less than towards the west and this supports the non-depositional view.

Quartzite Breccia Areas

These are situated in the central part of the structure both north and south of the road. The whole central area has been described as a "crush zone" by the Geological Survey of S.A. Certainly the area is structurally "tight", but bedding can be distinguished. The bedrock in this area is predominantly carbonate rich.

The quartzite breccia itself appears to be a cemented, angular, quartzitic rubble derived from the confining quartzite ridges. In several places this material was actually seen lying on, and cemented to, underlying steeply dipping dolomites. South of the main road the quartzite breccia areas have actually protected the underlying softer rock from erosion and are now found to be on topographic highs (but still much lower than the adjacent quartzite ridges).

North of the main road the quartzite breccia often contains very large fragments (several metres long) which have apparently been shed from the overhanging R7 unit to the West. Unit R7 at this point dips 60° West and the softer carbonate rocks, having been eroded away from it along the eastern edge, have given rise to the considerable overhang. Large fallen blocks from the overhang can be observed in various stages of migration down the eastern slope. Only near the base has this material been cemented together to form the breccia.

Structure

(b) North of the main road the structure is basically a tight anticline, overturned to the East in the South and plunging Northerly. Except in the 'Structurally Complex Area' where one minor fault is seen, no other disturbances from the major trend can be observed. In the complex area movement has occurred along the near vertical and northerly striking plane of the bedding. This, in conjunction with the obscuring effect of the quartzite breccia and general colluvium, inhibits more detailed analysis.

The carbonate rich nature of most of the bedrock sediments in the complex area has probably contributed to a far degree of mobility here (? diapirism). However, typical diapiric carbonate matrix and certainly no volcanics were observed.

In the quarry of the 'new' Oladdie mine the barite lodes were seen to be northerly trending and steeply dipping and probably infillshear structures. The sediments at the quarry appear to be dipping northerly and are probably on the nose of the anticline that can be traced South of the road.

South of the main road the structure consists of easterly overturned, steeply dipping, anticlines and synclines (see section on map). These have quite steep plunges both to the North and to the South. This cross folding gives the domal

structures so familiar in other areas of outcrop of River Wakefield Group. Inferred faulting, especially in the West seems to be more prevalent here than North of the road. Reorientation of the bedding of a block of probably Unit S1a between two inferred faults is a notable feature.

Mineralisation

(c) Scattered fine pyrite was found in the R7 fine grained quartzite North of the road and near the small cross fault. Within the same unit and on the eastern limb in the North, a shallow digging was observed. This was probably put down on a thin capping of surface ferruginisation, no other mineralisation being found.

A similar surface scratching was observed in Unit S2 North of the road. No importance is attached to these occurrences.

In the quarry dug out by 'Jedda' several vertically dipping, northerly trending seams of barite are exposed. The thickest seam only being a foot or so wide. Siltstones adjacent to the seams are often chloritic. The barite itself is pinkish in colour and probably rather less than top grade. Occasionally, within the barites small specks of pyrite and chalcopyrite can be observed.

Barite float can be found sparingly immediately south of the road opposite the quarry.

Correlations

(d) The absence of good regional marker beds and the prevalence of facies variation makes correlation on this scale a hazardous undertaking. Perhaps only the Rhynie Sandstone is capable of being used as a stratigraphical marker. Unit S7 appears to be the oldest unit exposed in the Johnburg area and it is also a 'flaggy' arenite which is uncommon elsewhere in the River Wakefield Group sediments.

LOGISTICS OF FIELD WORK

	This Quarter	To-date
Number of rock chip samples	53	76
Number of creek sediment samples	5	51

	This Quarter	To-date
Number of petrological samples	-	5
Number of rock chip samples for spectral scan	-	4
Area regionally sampled (km^2)	1.5	6
Area mapped (at 1: 10,000 in Km)	10	10

EXPENDITURE

An expenditure statement for this SML is appended to this report.

APPENDED MAPS

Progress Summary Map	Scale 1: 10,000
Reconnaissance Geology	" 1: 10,000

These maps will be forwarded under separate cover when they become available.

LIST OF FIELD AND ASSAY SHEETS

A complete list was appended and forwarded with the First Quarterly Report.

UTAH DEVELOPMENT COMPANY SML 721

1. The location of all stream sediment samples is not known.
2. The descriptions of the 5 petrographic specimens (JB1/37P , JB1/22P , JB1/25P , JB1/26P, JB 023P) reported collected in the quarter ending 22nd Sept. 1972 could not be found.
3. The quarterly report for the period ending 20th Nov. 1972 states 76 rock chip samples were collected. The only assays that are present are YB 01R → YB19R , YB1-26R, YB1-25R , JB1-37R , and the location of these could not be determined. (i.e. 22 samples out of 76)

LABTECH PTY. LTD.
ANALYSTS
(Formerly Analytical Division of Sampey Exploration Services)
237 Great Eastern Highway, Midland
G.P.O. Box U1938, Perth, Western Australia, 6001
Telephone: 74 2566 ● Telegrams: "Exserv" Perth

Field Sheet No:— 44176

Line No.:— 0 12

Project/Charge/ Despatch Note No.:—

Date:— 20-SEPT-72

Any queries please quote Lab. Sheet Number:— 5433/1

SAMPLE	CO	CU	NI	PB	ZN
J03C01C	20	35	20	25	30
J03C02C	20	65	25	30	35
J03C03C	15	30	35	30	70
J02C04C	15	35	20	30	60
J02C05C	10	20	20	30	35
J02B06C	15	20	20	25	50
J02B07C	15	30	25	35	85
J01B17C	20	25	30	35	45
J01B18C	15	25	15	30	35
J02B14C	20	20	20	30	40
J01B16C	20	25	30	30	40
J02B13C	20	25	15	25	35
J01B20C	30	40	35	40	50
J01B21C	15	25	20	25	40
J02A22C	15	65	20	55	75
J01A23C	10	25	20	25	40
J01A24C	10	30	25	25	30
J01A25C	15	15	20	25	30
J02A12C	15	15	20	25	40
J02B15C	15	25	25	35	75
J03B29C	15	40	20	30	30
J03B28C	15	55	25	30	60
J03B27C	20	65	35	45	85
J02B26C	15	40	25	35	60
J03B35C	10	40	30	30	60
J03B36C	10	35	30	30	65
J03B37C	10	35	35	35	70
J03B39C	10	65	20	30	60
J03B40C	10	60	25	25	45
J03B41C	15	75	30	25	50
J04B42C	20	110	35	30	45
J04B43C	25	80	35	30	50
J04B38C	25	75	35	30	50
J04B44C	30	110	45	30	45
J04B45C	25	130	25	25	30
J04B46C	20	80	25	25	60
J03B47C	25	75	35	30	40
J03B48C	20	30	40	40	70
J03B49C	20	75	35	50	100
J03B50C	15	25	35	30	80
J03A51C	15	20	30	35	60
J03A52C	10	25	20	35	45
J03A53C	15	55	30	35	55
J03A54C	15	25	35	30	70
J03A55C	15	30	40	30	70
J03A56C	15	25	35	30	70
METHOD	101B	101B	101B	101B	101B

FORM S34 —FOR METHOD DETAILS SEE PRICE LIST

JOB NUMBER 5433 RACK NUMBER 4668

Nº 44176

0 13

FIELD SAMPLE SHEET

FIELD COPY

SAMPEY EXPLORATION SERVICES
237 Gt. Eastern Highway, Midland
Western Australia, 6056
Phone: 74 2566
Cables: Exserv Perth

rk "X" here if data required on Results Sheet.
No. shown above

INE

oject/Charge/ spatch Note/No.

REA SML721

PHOTO RUN No.

BEARING OF LINE

MAP SHEET

SAMPLED BY PMG&GB

SAMPLE TYPE Creek Sed

DATE 05 SEP 72 (DAY MONTH YEAR)

RK'S	SLOPE	WIDTH	O/C				Sample No./Location/Footage
	MOD	.5M					J03C01C
	" "	.5M					J03C02C
	Flat	15M	YES				J03C03C
	MOD	.5M					J02C04C
	MOD	1M					J02C05C
	MOD	1M					J02B06C
	MOD	.5M					J02B07C
	" "	1.5M					J01B17C
	" "	3M					J01B18C
	" "	1M					J02B14C
	" "	1.5M	YES				J01B16C
	" "	1.5M	YES				J02B13C
	" "	1.5M					J01B20C
	" "	.5M					J01B21C
	" "	.5M	YES				J02A22C
	" "	1M	YES				J01A23C
	" "	1M					J01A24C
	" "	1.5M					J01A25C
	" "	1.5M	YES				J02A12C
	" "	1M	YES				J02B15C
	" "	.5M	YES				J03B29C
	" "	.5M	YES				J03B28C
	" "	.5M	YES				J03B27C
	" "	1M					J02B26C
	" "	1.5M	YES				J03B35C
	STEEP	1M	YES				J03B36C
	Flat	1.7M	YES				J03B37C
	MOD	2M	YES				J03B39C
	MOD	1M	YES				J03B40C
	" "	1.5M	" "				J03B41C
	" "	1M	" "				J04B42C
	" "	1M	" "				J04B43C
	" "	1M	" "				J04B38C
	MOD	1M	YES				J04B44C
	MOD	1M	YES				J04B45C
	STEEP	.5M	YES				J04B46C
	MOD	1M	–				J03B47C
	" "	20M	YES				J03B48C
	" "	1M	YES				J03B49C
	" "	20M	YES				J03B50C
	" "	1.5M	YES				J03A51C
	" "	2M	YES				J03A52C
	" "	1M	YES				J03A53C
	" "	20M	YES				J03A54C
	" "	10M	YES				J03A55C
	" "	15M	YES				J03A56C
	" "						

Creek Sed Nos not used 8C–11C 19C, 20C–34C Numbering finished 56C

FOR LAB. USE ONLY

COMPLETE SAMPLE DESPATCH FORM (S24) FOR ANALYTICAL INSTRUCTIONS

USE ONE LINE CONSECUTIVELY FOR EACH SAMPLE

FORM S35

FIELD SAMPLE SHEET

SAMPEY EXPLORATION SERVICES
237 Gt. Eastern Highway, Midland
Western Australia, 6056
Phone: 74 2566
Cables: Exserv Perth.

No 39527
"X" here if data required on Results Sheet.
. shown above

FIELD COPY

0 14

IE
ct/Charge/
atch Note No.
EA

PHOTO RUN No.

BEARING OF LINE

MAP SHEET

SAMPLED BY N JR

SAMPLE TYPE Rock CHIP

DATE 31 AUG 72
DAY MONTH YEAR

MARKS	Sample No./Location/Footage	
onitic/Jaspe on mineralized shear in SML 658 in Rhynie/Skillogallee transition zone.	BY 01R	1 2
Lreous pyroclastic? from central domal area SML 720	MW 02R	2 3 4
scovery" shale SML 721	OJ 1-19R	3 5 6
white pd. from 170' - 235'. Black graphitic shale — SML 671	E449/177 50R	4 7 8
TRAVERSE From E (JB01R) to W. (JB 19R) across "Discovery Shale in Johnburgh SML 721	JB 01R JB 02R	5 9 10
	JB 03R JB 04R	6 11 12
	JB 05R JB 06R	7 13 14
	JB 07R JB 08R	8 15 16
	JB 09R JB 10R	9 17 18
	JB 11R JB 12R	10 19 20
	JB 13R JB 14R	11 21 22
	JB 15R JB 16R	12 23 24
	JB 17R JB 18R	13 25 26
	JB 19R	14 27 28
ck Carbonaceous pyroclastic? Johnburgh SML 721 From immediately above "Discovery" shale.	JB 1-26R	15 29 30
L 721 — Pinkish red Mn/Fe "cap" rock on Discovery shale.	JB 1-25R	16 31 32
L 721 — black carbonaceous rock from within D Shale	JB 1-37R	17 33 34
L 658 — Mn/Fe "cap" rock from diggings in RW 4.	BY 02R	18 35 36
		19 37 38
		20 39 40
		21 41 42
		22 43 44
		23 45 46
		24 47 48
		25 49 50

USE ONLY

FOR LAB.

COMPLETE SAMPLE DESPATCH FORM (S24) FOR ANALYTICAL INSTRUCTIONS

USE ONE LINE CONSECUTIVELY FOR EACH SAMPLE

FORM S35

amdel
The Australian Mineral Development Laboratories
Flemington Street, Frewville, South Australia 5063
Phone 79 1662, telex AA82520

Please address all correspondence to the Director
In reply quote: AN3/25/1/0 - 1037/73

7 September 1972

Mr N.J. Rowlands
Senior Geologist
Utah Development Company
147 Ward Street
NORTH ADELAIDE

REPORT AN1037/73

YOUR REFERENCE:	Letter dated 1/9/72 and Field Sample Sheet No. 39527
MATERIAL:	Rock chip
IDENTIFICATION:	As listed
DATE RECEIVED:	4/9/72

Enquiries quoting AN1037/73 to Officer in Charge please.

Analysis by: A.E. Francis and R.R. Robinson

Officer in Charge, Analytical Section: A.B. Timms

for F.R. Hartley
Director

pkm

FORM 6

JOB 1037/13

AMDEL ANALYTICAL SERVICE

Results in ppm unless otherwise stated

0 16

BATCH No/

TT	Sample No.		Cu	Pb	Zn	Co	Ni	Fe	Cd
1	JB 01 R		70	10	25	15	20	<10	3
2	2		20	5	10	<5	<5	10	1
3	3		15	10	25	<5	5	15	1
4	4		20	20	20	<5	10	15	1
5	Sio 52								
6	5		45	5	15	10	20	10	2
7	6		70	5	15	<5	5	<10	1
8	7		65	5	35	10	10	10	1
9	8		75	<5	25	10	5	<10	1
10	JB -09		15	5	5	<5	5	<10	1
11	JB -10		100	5	20	<5	10	<10	1
12	11		35	10	40	<5	<5	10	1
13	12		5	10	20	<5	<5	10	1
14	13 x		20	20	5	<5	<5	<10	1
15	14		15	<5	25	<5	<5	<10	1
16	15		25	<5	5	<5	5	<10	1
17	16		20	<5	15	<5	5	<10	1
18			200	<5	25	<5	5	<10	1
19	JB 18 R		40	<5	25	10	5	10	1
20	13 x								

FORM 6 JOB 1037/13

AMDEL ANALYTICAL SERVICE

Results in ppm unless otherwise stated

0 17 BATCH Nº

TT	Sample No.		Cu	Pb	Zn	Co	Ni	Ag	Cd
1	JB 194		130	5	5	<5	<5	<10	<1
2	BLANK		—	—	—	—	—	—	—
3									
4									
5									
6									
7							Code C1		
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

JOB: ...10371.73. Semi-Quantitative Spectrographic Analysis Schemes A1,A2,A3,A4,A5 & A6 BATCH .....1.....

Form 60 Results in ppm unless otherwise stated. Detection limits in brackets 0 18

Sample No	BYO 1R	BYO 2R	MW02R	OTI-19R	E449/177 50R	JBI-26R	JBI-25R
A1							
Co (5)	10	1,000	1200	5	30	10	20
Ni (5)	30	1,000	20	5	50	5	10
Cr (20)	80	80	3,000	100	100	100	80
V (10)	100	30	250	150	80	200	1000
W (50)							
Mo (3)	x	x	10	x	x	x	3
Mn (10)	500	>10,000	3500	30	300	100	30
Ta (100)							
Nb (20)	x	x	x	20	x	20	20
Be (1)							
Th (100)							
Pt (10)							
Pd (10)							
Os (10)							
Ir (2)							
Rh (2)							
Ru (2)							
A2							
Cu (0.5)	>10,000	1000	150	20	150	800	80
Pb (1)	3	10	1	5	20	8	30
Zn (20)	20	350	x	20	20	x	x
Sn (1)							
Cd (3)	x	x	x	x	x	x	x
Bi (1)	1	x	x	5	1	1	1
Ag (0.1)	0.3	0.1	0.1	0.1	0.1	0.1	0.3
Au (3)	x	x	x	x	x	x	x
Ga (1)	x	5	1	10	10	15	10

Sample No	BYO 1R	BYO 2R	MW02R	OTI-19R	E449/177 50R	JBI-26R	JBI-25R
A2 Contd.							
Ge (1)	x	x	x	x	1	1	1
As (50)	x	x	x	x	x	x	x
Sb (30)							
A3							
Te (20)							
Tl (1)							
P (100)							
A4							
Na (50)							
Li (1)							
A5							
K (5)							
Rb (10)							
Cs (30)							
A6							
Ba (50)							
Sr (10)							
Y (10)							
La (100)							
Ce (300)							
Nd (300)							
Pr (100)							
Ti (100)							
Er (100)							
Sc (50)							
Eu (50)							

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be redetermined by an appropriate accurate analytical technique. X = Not detected at limit quoted.

JOB: 1037/73

Semi-Quantitative Spectrographic Analysis Schemes A1,A2,A3,A4,A5 & A6

BATCH 2 0 19

Form 60

Results in ppm unless otherwise stated. Detection limits in brackets

Sample No	TBI-37R
A1	
Co (5)	5
Ni (5)	5
Cr (20)	100
V (10)	300
W (50)	
Mo (3)	X
Mn (10)	150
Ta (100)	
Nb (20)	20
Be (1)	
Th (100)	
Pt (10)	
Pd (10)	
Os (10)	
Ir (2)	
Rh (2)	
Ru (2)	
A2	
Cu (0.5)	80
Pb (1)	10
Zn (20)	X
Sn (1)	
Cd (3)	X
Bi (1)	X
Ag (0.1)	0.1
Au (3)	X
Ga (1)	20

Sample No.	TBI-37R
A2 Contd.	
Ge (1)	X
As (50)	X
Sb (30)	
A3	
Te (20)	
Tl (1)	
P (100)	
A4	
Na (50)	
Li (1)	
A5	
K (5)	
Rb (10)	
Cs (30)	
A6	
Ba (50)	
Sr (10)	
Y (10)	
La (100)	
Ce (300)	
Nd (300)	
Pr (100)	
Ti (100)	
Er (100)	
Sc (50)	
Eu (50)	

Results are semi-quantitative. Elements apparently present in concentrations of economic interest should be redetermined by an appropriate accurate analytical technique. X = Not detected at limit quoted.

Geo A1+A2 (2×17) = 136

PROPERTY BOUNDARIES PLAN
SPECIAL MINING LEASE NO. 721
OLADDIE Co. DALHOUSIE – SOUTH AUSTRALIA

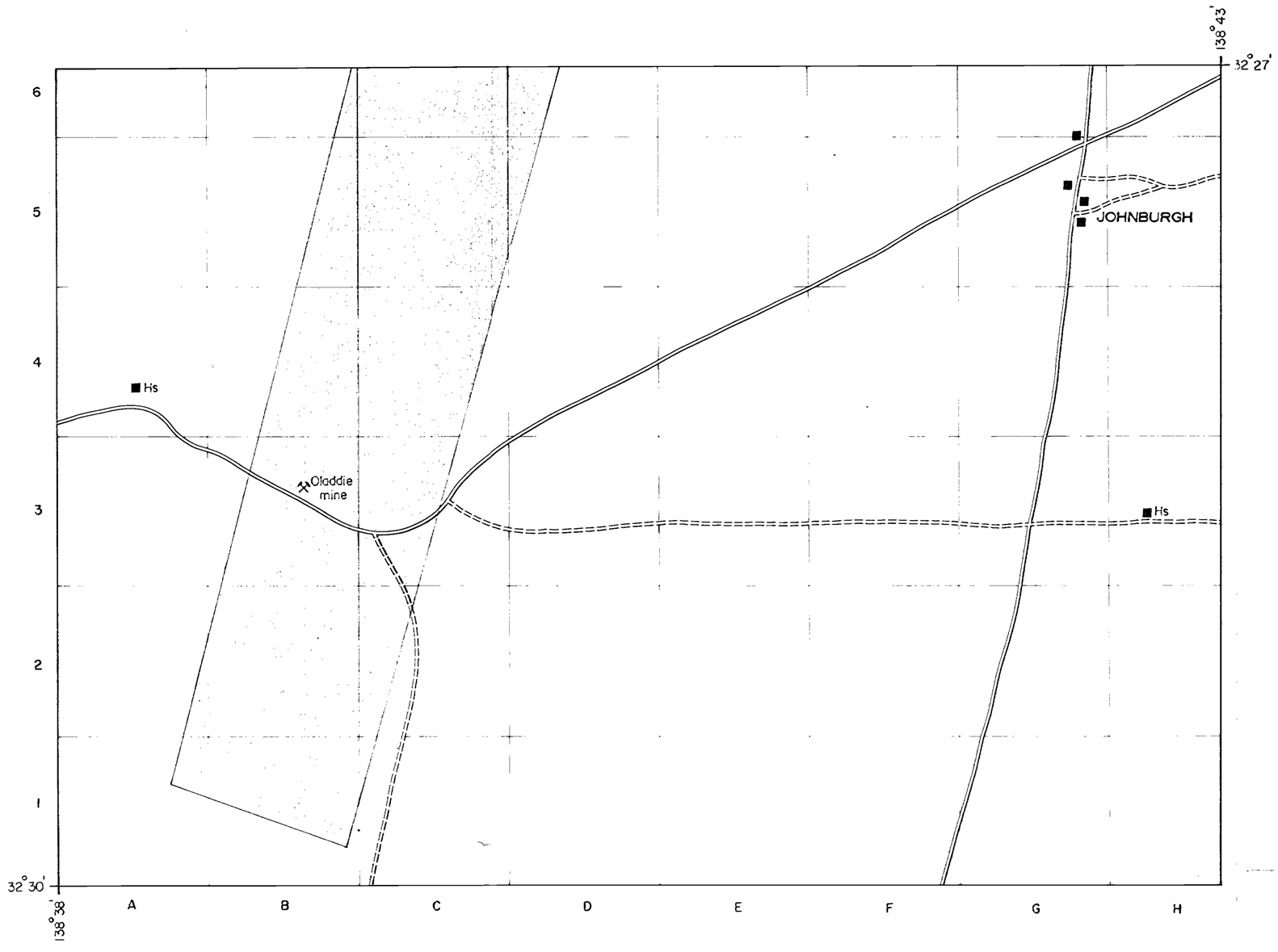
Scale 1: 25,000

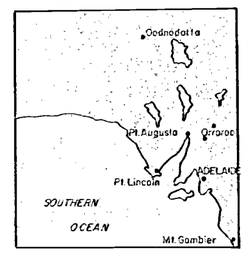
kilometres 1 0 1 kilometres

miles 0·5 0 0·5 miles

Elders Trustee & Executor Co. Ltd. Adelaide	
Messrs M.T & J.S Manning. Eurelia	
G.H. Luckraft. Bendleby via Orroroo	
E.A Tapscott. Oladdie via Orroroo	
M.G Nutt. Johnburgh	
W.F Hombsch. Johnburgh	
J.P Nutt & Mrs. V Nutt. Johnburgh	
R.F Luckraft. Bendleby via Orroroo	

2121-1





SOUTH AUSTRALIA SHOWING
LOCATION OF S.M.L 721

N

Area of S.M.L 721 ..... 18 sq miles
Tenancy ..... 22-6-72 – 20-11-72
Minimum expenditure ..... $ 2,000.

FIELD WORK LOGISTICS

	TOTAL	
	This quarter	To date
NO. OF ROCK CHIP SAMPLES	53	76
NO. OF CREEK SEDIMENT SAMPLES	5	51
NO. OF PETROLOGICAL SAMPLES		5
NO. OF ROCK CHIPS FOR SPECTRAL SCANS		4
AREA SAMPLED REGIONALLY (sq. Kms)	1·5	6
AREA MAPPED (sq. Kms.)	10	10

Area mapped at 1:10,000.

UTAH DEVELOPMENT COMPANY
(MINERAL DEVELOPMENT & GEOLOGY)

PROGRESS SUMMARY MAP
SPECIAL MINING LEASE 721
JOHNBURGH – SOUTH AUSTRALIA
NOVEMBER 1972

Scale 1:25,000

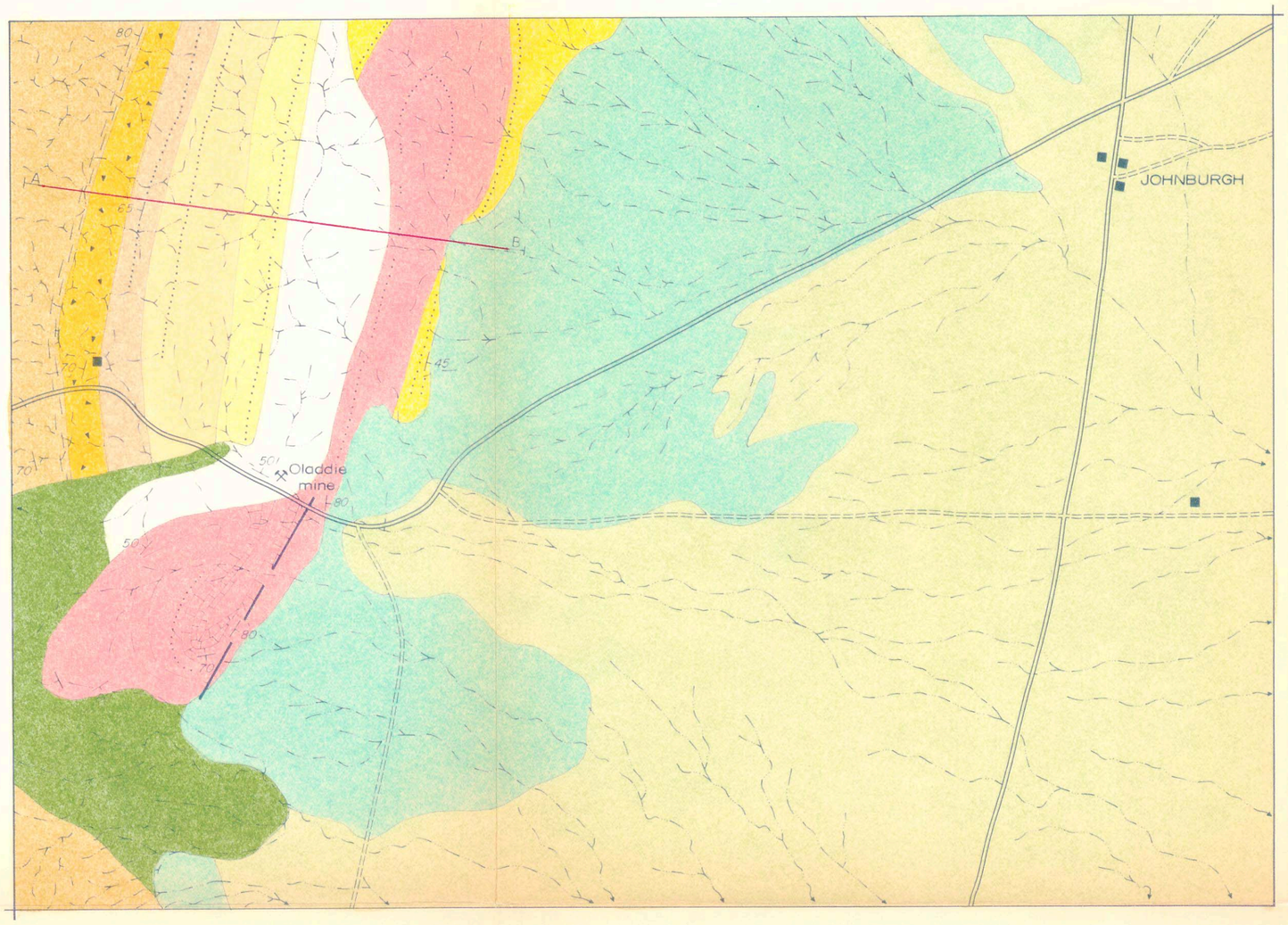
kilometres 1 0 1 2 kilometres

miles 0·5 0 1 miles

2121-2

To accompany report for period ending 20 Nov. 1972, to
THE DIRECTOR OF MINES,
Department of Mines, South Australia.

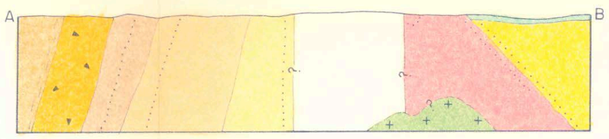
N.J.Rowlands.
Adelaide.



SOUTH AUSTRALIA SHOWING LOCATION OF S.M.L 721

N

Geological Cross Section AB



LEGEND

CAINOZOIC

RECENT
- Alluvium of drainage channels and flood plains.
- Low angle slope deposits.

PROTEROZOIC

STURTIAN
- UMBERATANA GROUP
- Tapley Hill Formation.
- Tindelpina Shale Member.
- YUDNAMUTANA SUB-GROUP
- Appila Tillite.

TORRENSIAN
- BURRA GROUP
- Minburra Quartzite.
- Cradock Quartzite.
- Undalya Quartzite.
- Rhynie Sandstone.

WILLOURAN
- RIVER WAKEFIELD GROUP
- Stradbrook Formation.

- Diapiric breccia.
- Crush zone.
- Pre-Adelaidean basement ? (in section only).

- Geological boundary.
- Fault.
- Bedding dip and strike.
- Strike of vertical bedding.
- Trend of bedding.
- Major road.
- Minor road.
- Creek.
- Cross section.

Reference 1:250,000 SI 54-1 ORROROO by Geological Survey of South Australia.

UTAH DEVELOPMENT COMPANY
(MINERAL DEVELOPMENT & GEOLOGY)

REGIONAL GEOLOGY

SPECIAL MINING LEASE NO. 721

JOHNBURGH – SOUTH AUSTRALIA

Scale 1:25,000

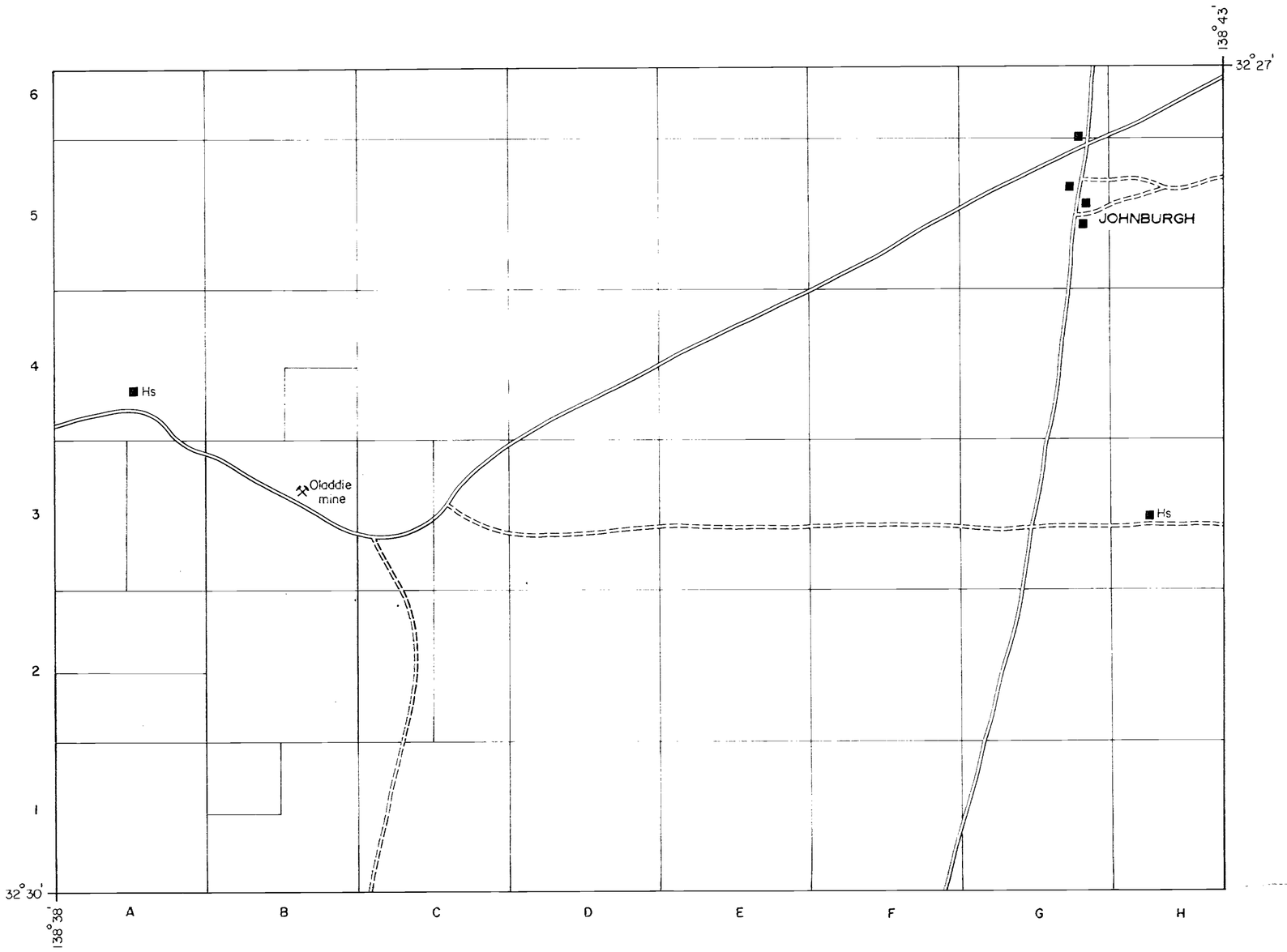
kilometres 1 0 1 2 kilometres

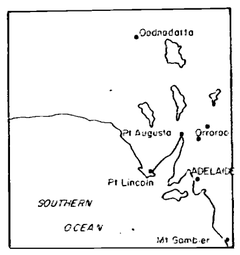
miles 0·5 0 1 miles

2121-3

To accompany report for quarter ending 22 Sept. 1972, to
THE DIRECTOR OF MINES,
Department of Mines, South Australia.

N.J. Rowlands
Adelaide





SOUTH AUSTRALIA SHOWING
LOCATION OF S.M.L 721

N

Area of S.M.L 721. . . . . 18 sq. miles.
Tenancy . . . . . 22·6·72 – 21·6·73.
Minimum expenditure . . . . . $ 2,000.

FIELD WORK LOGISTICS

	TOTAL	
	This quarter	To date
NO. OF CREEK SEDIMENT SAMPLES	46	46
AREA SAMPLED REGIONALLY (sq. Kms.)	4·5	4·5
NO. OF ROCK CHIP SAMPLES	23	23
NO. OF PETROLOGICAL SAMPLES	5	5
NO. OF ROCK CHIPS FOR SPECTRAL SCANS	4	4

Area of regional creek sediment sampling.

UTAH DEVELOPMENT COMPANY
(MINERAL DEVELOPMENT & GEOLOGY)

PROGRESS SUMMARY MAP
SPECIAL MINING LEASE 721
JOHNBURGH – SOUTH AUSTRALIA
SEPTEMBER 1972

Scale 1:25,000

kilometres 1 0 1 2 kilometres

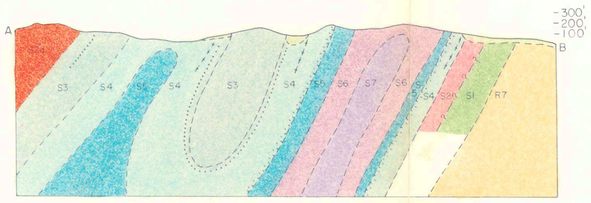
miles 0·5 0 1 miles

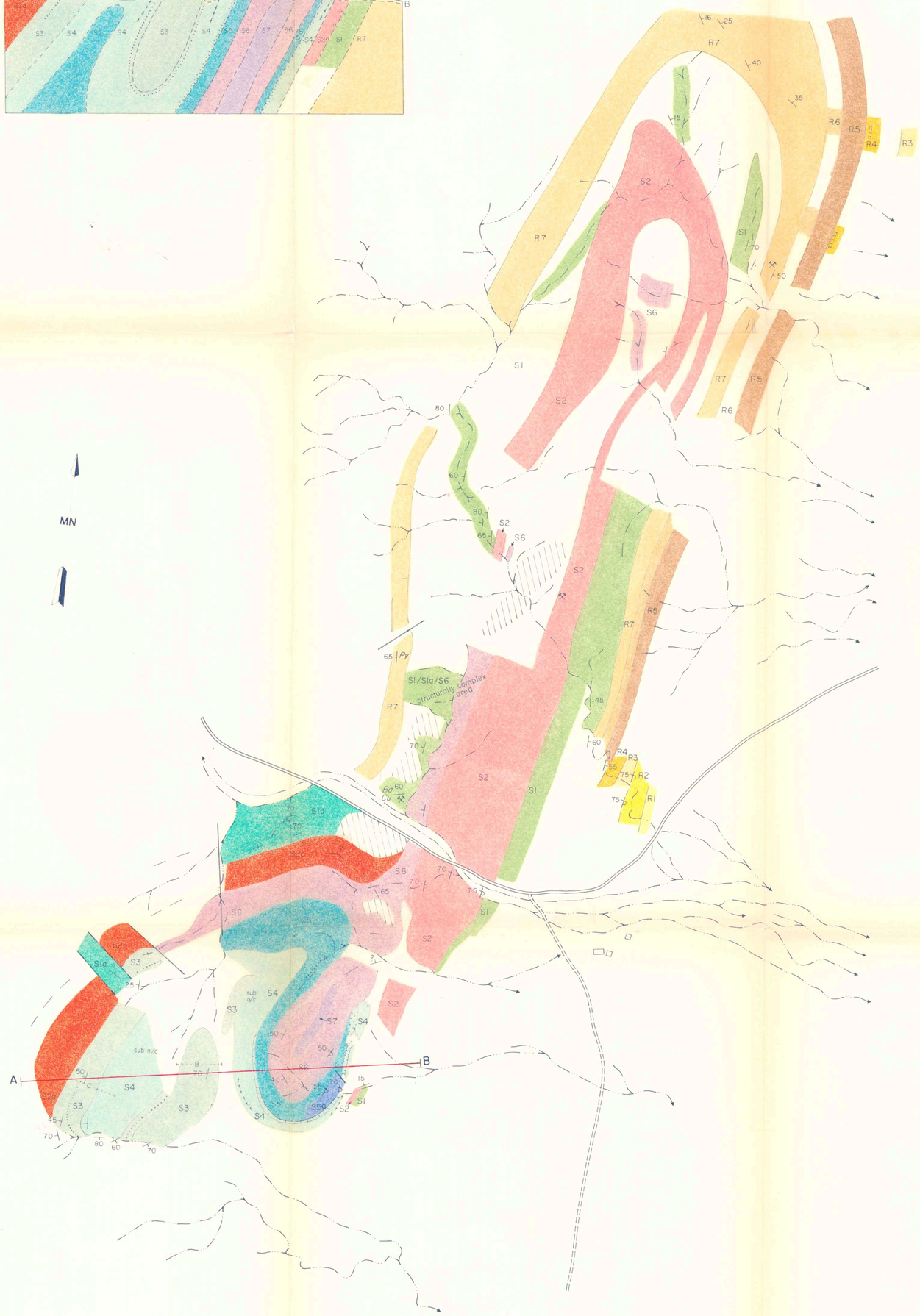
2121-4

To accompany report for quarter ending 22 Sept. 1972, to
THE DIRECTOR OF MINES,
Department of Mines, South Australia.

N. J. Rowlands.
Adelaide.

GEOLOGICAL CROSS SECTION AB





REFERENCE (See text for details)

- Undifferentiated superficial deposits.

PROTEROZOIC

BURRA GROUP

RHYNIE SANDSTONE

- R1 Arenites.
- R2 Siltstones.
- R3 Arenites.
- R4 Siltstones, dolomites, massive yellow dolomites.
- R5 Arenites.
- R6 Fine grained arenites and siltstones.
- R7 Arenites.

RIVER WAKEFIELD GROUP

STRADBROOK FORMATION

- S1 Shales, mudstones, dolomites.
- S1a Arenites, chert.
- S2 Dark slates, siltstones, dolomites. — Upper Siltstones
- S2a Fine grained arenites.
- S3 Dolomites and dolomitic shales.
- S4 Brecciated cherty rock.
- S5 Marble bed.
- S5a Dark slates and dolomite.
- S5b Arenite. — Anesbury Dolomite
- S6 Dolomites.
- S7 Arenite. — Lower Siltstones

- Quartzite breccia areas.

- Main road.
- Minor road.
- Creek.
- Farm buildings.
- Mine or diggings.
- Geological boundary.
- Dip and strike of bedding.
- Strike of vertical bedding.
- Dip and strike of overturned bedding.
- Trend of bedding.
- Fault.
- Rock chip traverse.

Mineral occurrences :

- Ba Barite.
- Cu Copper.
- Py Pyrite.

SOUTH AUSTRALIA SHOWING LOCATION OF S.M.L. 721

UTAH DEVELOPMENT COMPANY
(MINERAL DEVELOPMENT & GEOLOGY)

RECONNAISSANCE GEOLOGY
SPECIAL MINING LEASE NO. 721
JOHNBURGH – SOUTH AUSTRALIA

Scale 1:10,000

METRES 200 0 200 400 600 800 1000 METRES

FEET 500 0 1000 2000 3000 FEET

2121-5

To accompany report for quarter ending 22 Dec. 1972, to
THE DIRECTOR OF MINES,
Department of Mines, South Australia.

N.J. Rowlands
Adelaide

Project Senior Geologist N.J. Rowlands.
Mapped by N.F. Stuart.
Drawn by A.J. Hitchcox.
Date December 1972.
Office Adelaide S.A.

2121