



KENNECOTT EXPLORATIONS (AUSTRALIA) PTY. LTD.

FINAL REPORT ON AUTHORITIES NOS. 1354 TO 1359
FOR THE 3-MONTHLY PERIOD ENDING 9TH SEPTEMBER,
1965.

A.L. HALLIDAY.

October, 1965.

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LIST OF PLANS AND GEOLOGICAL SKETCH MAPS.

Plate No.

- ✓ 1. Plan showing Location of Prospecting Authorities
1354-1359, and geochem. sample locations.
- ✓ 2. Locality Plan of Reconnaissance Mapping on Alcoota
and Huckitta Sheets.
- ✓ 3. Stratigraphic legend.
- ✓ 4. Reconnaissance Geological Plan Utopia - MacDonald
Downs Area.
- ✓ 5. " " " Mopunga Range Area.
- ✓ 6. " " " Elyuah Range Area.
- ✓ 7. " " " Jervois Range Area.
- ✓ 8. " " " Area South of Mt.
Skinner.
- ✓ 9. Locality Plan of Reconnaissance Mapping Mt. Peake Sheet.
- ✓ 10. Geological Sketch Map Mt. Peake Area.
- ✓ 11. Diagrammatic cross-sections of North Central Mt. Stuart
Area.

INTRODUCTION:

Prospecting of Authorities Nos. 1354, 1355, 1356, 1357, 1358 and 1359, which cover a total area of 3,574 square miles in the Central Mount Stuart, Barrow Creek, Dulcie and Jervois Range region was carried out in conjunction with the examination of Authorities Nos. 1325 and 1347 (J. Nelson) and 1346 (S. Griffiths) where copper mineralisation occurs in Upper Proterozoic-Lower Cambrian arkosic sandstones. These latter Authorities are at present held under option to the Company.

Examination of these Authorities was conducted along two lines of investigation, namely:-

- (a) Detailed study of Authorities Nos. 1325, 1347 and 1346 so that knowledge gained from these areas of known mineralisation could be used in furthering our investigation of the remaining Authorities.

The examination at Mt. Skinner included mapping, and measuring of sedimentary sections across the mineralised zones and collection of character samples for thin section study and identification. Bulldozer trenches were made across the strike of the mineralised zones and 3000 feet of chip sampling was carried out along the bottom of the trenches. The samples were analysed by atomic absorption methods for Cu, Ag, Pb, Zn, Co and Mn.

A definitive geochemical survey was carried out on stream sediments, pediments and soils and a Geochemical Consultant spent several days in the Mt. Skinner area advising the Company's technical staff on this phase of the program.

Work is continuing on these Authorities and complete details of the results will be forwarded on completion of the examination.

- (b) Reconnaissance work on Authorities Nos. 1354 to 1359 including air-photo interpretation, fixed-wing aerial reconnaissance and ground traverses to determine the possible existence of further Mt. Skinner type sediments within the Upper Proterozoic-Lower Cambrian succession which outcrops to the north-west and south-east of the Mt. Skinner area.

This report deals only with the examination of these Authorities. (1354-1359).

MAPPING:

The area covered by the Authorities has been mapped by the Bureau of Mineral Resources on a scale of 1:250,000 except for approximately 450 square miles on the Mt. Peake sheet in the vicinity of Central Mount Stuart.

Several days of fixed-wing aerial reconnaissance was carried out to assist with geological interpretation and the selection of the most favourable sections for later examination by ground parties.

Reconnaissance mapping was mainly confined to examining the more critical stratigraphic sections within the Authorities. This consisted in checking the Bureau of Mineral Resources geological field maps with our own observations using aerial photos. (Scale 1:47,000 approx.). Geological sketch plans of the areas examined accompany this report.

SAMPLING:

Following an analysis of a definitive geochemical orientation survey in the vicinity of the mineralised outcrops at Mt. Skinner a further 373 geochemical stream sediment, pediment and soil samples were taken over the remaining Authorities.

The sampling was carried out in conjunction with the reconnaissance mapping program and was generally concentrated in areas close to outcrops which were considered to be geologically favourable for copper mineralisation.

The sample locations are shown on Plate I and sample results are shown on the accompanying reports AN 2583/65, AN 67/66, AN 359/66, AN 426/66, and AN 492/66. Generally values were of the order of 10-30 ppm Cu with a few values of 40 and 50 ppm Cu. One value of 60 ppm Cu was recorded.

Some chip samples from water borehole No. F.53/11-68 Jervois Range Homestead No. 3 were made available for analysis by the Mines Department, Alice Springs. The best sample gave a result of 70 ppm Cu. The results are shown on the accompanying report AN 441/66.

GEOLOGY:

Copper mineralisation occurs near Mt. Skinner within gently dipping red arkosic sandstones and siltstones of the Central Mount Stuart Beds which outcrop extensively in the Barrow Creek, Mt. Peake and northern half of the Alcoota Sheet areas. Maps published by the Bureau of Mineral Resources have indicated that no outcrops of the Central Mount Stuart Beds were observed east of Utopia homestead on the Alcoota Sheet or further south-east on the Huckitta Sheet.

Milligan (1964) has suggested an Upper Proterozoic age for these rocks based on the discovery of a Lower Cambrian fossil in the Barrow Creek Sheet area in glauconitic sandstone overlying the Central Mount Stuart Beds. This sandstone has been correlated lithologically with the Grant Bluff Formation on the Alcoota and Huckitta Sheets to the south and south-east. However in other areas the relationship between the Grant Bluff Formation and the Central Mount Stuart Beds is obscure. Milligan (1964) has suggested that the Grant Bluff Formation of the Huckitta and Alcoota Sheet areas may be a time equivalent of both the Central Mount Stuart Beds and the overlying Grant Bluff Formation in the Barrow Creek Sheet area. He also suggests it is possible that both these Formations may be synchronous in part with arkose, shale and siltstone of the Elyuah Formation which are known to underlie the Grant Bluff Formation in the Huckitta Sheet area.

It is clear from our reconnaissance mapping of selected areas in this region that the lack of diagnostic fossils and the presence of broad lithological similarities within the Upper Proterozoic-Lower Cambrian succession will necessitate a considerable amount of detailed mapping being done before any serious stratigraphic interpretation can be attempted.

The object of the reconnaissance mapping to the north-west and south-east of Mt. Skinner was mainly to check for:-

- (a) Extensions to the north and west of the mineralised zones which occur at Mt. Skinner within the Central Mount Stuart Beds.
- (b) The possible existence of Mt. Skinner type lithology in the Upper Proterozoic-Lower Cambrian Succession to the south-east, particularly within the Grant Bluff and Elyuah Formations.

Results from this work appear to indicate that the copper mineralised zones at Mt. Skinner do not extend further to the north and west and are in fact confined to that area covered by Authorities to Prospect 1325, 1347 and 1346. Although some lithological similarities to the Mt. Skinner type beds were

noted to the south-east in the Alcoota and Huckitta Sheet areas and in the vicinity of Central Mount Stuart, there were no signs of any interesting mineralisation.

The following geological notes refer to the attached reconnaissance plans and geological sketch maps.

Reconnaissance mapping south-east of Mt. Skinner in the Alcoota and Huckitta Sheet areas (Plates Nos. 4-8) has indicated that the Grant Bluff Formation is probably younger than the Central Mount Stuart Beds outcropping at Mt. Skinner. On the Alcoota Sheet area no contact between the Central Mount Stuart Beds and the Grant Bluff Formation was observed but, near Prince Henry Gap (Plate 8) a few miles south of Mt. Skinner, quartzites and white to grey arkosic grits of the Grant Bluff Formation form relatively tight folds, whereas the Central Mount Stuart Beds near Mt. Skinner form shallow dips to the south-west. A number of hematite and quartz-hematite outcrops occur in this locality and they are interpreted as a strong indication that major faulting has taken place along an arcuate zone which separates these two Formations. Although there is some structural evidence for suggesting a younger age for the Grant Bluff Formation in this locality, it is by no means conclusive, however it tends to support the palaeontological evidence noted by Milligan (1964) further north in the Barrow Creek Sheet area.

In the Barrow Creek Sheet area the Central Mount Stuart Beds generally dip gently to the south-west and tend to be less arkosic and slightly coarser grained than the beds outcropping in the vicinity of Mt. Skinner. They lie unconformably in basement rocks and the contact is well exposed for several miles along the Watt Range north-east of Barrow Creek. There were no indications of any mineralisation of interest and it is possible that the beds in this area are lower in the succession than those outcropping near Mt. Skinner.

In the Mt. Peak Sheet area near Central Mount Stuart (Plate Nos. 10-12) a succession of interbedded sandstones and shales rests unconformably on basement rocks. These beds reach a maximum thickness of about 300 ft. at Central Mount Stuart but thin out to the north and south. The whole succession appears to have been block faulted by north-west trending faults and the stratigraphic relationship between the various rock types is often obscure. Although these beds are lithologically similar in many respects to the Mt. Skinner beds there were no indications of any copper mineralisation.

CONCLUSIONS AND RECOMMENDATIONS:

Reconnaissance geological mapping and geochemical sampling on Authorities to Prospect Nos. 1354 to 1359 has indicated that the copper mineralisation at Mt. Skinner does not appear to extend beyond that area covered by Authorities Nos. 1325, 1347 and 1346, and results would not appear to warrant holding of these Authorities for a further period.

It is recommended therefore that Authorities to Prospect Nos. 1354 to 1359 granted on the 9th of June 1965 for a period of 3 months be relinquished.

AN359/66

1.

SEMI-QUANTITATIVE ANALYSIS
BY EMISSION SPECTROSCOPY
parts per million

Sample Mark	Copper Cu
A201	30
202	20
203	12
204	20
205	15
206	25
207	10
208	20
209	15
210	12
211	20
212	30
213	50
214	25
215	25

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SEMI-QUANTITATIVE SPECTROGRAPHIC ANALYSIS

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Sample No.	Cu		Cu		Cu
740-20		740-20		740-20	
A 2614	12	A 2641	12	A 2668	15
5	12	2	10	9	15
6	10	3	12	70	10
7	30	4	25	1	12
8	15	5	12	2	25
9	30	6	20	3	12
20	20	7	10	4	12
1	15	8	15	5	12
2	12	9	12	6	15
3	25	50	12	7	12
4	20	1	30	8	20
5	20	2	50	9	10
6	30	3	70	80	12
7	40	4	60	1	12
8	15	5	10	2	15
9	15	6	15	3	10
30	20	7	15	4	12
1	25	8	30	5	12
2	15	9	12	6	12
3	15	60	10	7	12
4	15	1	10	8	12
5	15	2	12	9	12
6	40	3	12	90	15
7	30	4	10	1	12
8	15	5	15	2	12
9	15	6	30	3	10
A 2640	12	A 2667	25	A 2694	12

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Sample No.	+40-20	Cu	+40-20	Cu	+40-20	Cu
A 2695	20	20	A 2722	15	A 2749	25
6	10	3	10	50	10	10
7	20	4	15	1	30	30
8	12	5	12	2	12	12
9	12	6	5	3	15	15
2700	12	7	10	4	15	15
1	15	8	10	5	10	10
2	12	9	15	6	15	15
3	10	30	10	7	25	25
4	12	1	12	8	15	15
5	10	2	10	9	20	20
6	12	3	15	60	12	12
7	15	4	20	7	30	30
8	15	5	12	2	10	10
9	12	6	15	3	25	25
10	12	7	20	4	20	20
1	12	8	10	5	30	30
2	10	3	12	6	50	50
3	10	40	10	7	15	15
4	12	1	12	8	25	25
5	10	2	10	9	50	50
6	10	3	15	70	10	10
7	10	4	20	1	30	30
8	10	5	10	2	20	20
9	10	6	12	3	15	15
20	10	7	15	4	25	25
A 2721	10	A 2748	12	A 2775	10	

SEMI-QUANTITATIVE SPECTROGRAPHIC ANALYSIS

Sample
No.

40-20

Cu

A 2776 30

7 40

8 15

9 12

A 2780 40

SPECIAL SIEVING.

8hrs @ 1.3/Lr.

RESULTS IN P.P.M.

GEO - HI.

827 7.9.65.

AN441/66

1.

SEMI-QUANTITATIVE ANALYSIS
BY EMISSION SPECTROSCOPY
parts per million

Sample Mark	Copper Cu	Lead Pb	Zinc Zn	Cobalt Co	Silver Ag
A2781	25	12	25	12	0.3
2782	70	10	40	12	0.2
2783	40	12	50	15	0.1
2784	25	7	25	3	±0.1
2785	40	60	30	30	0.1
2786	40	40	40	12	0.1
2787	20	10	20	10	0.2

Note: ± indicates less than

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SEMI-QUANTITATIVE SPECTROGRAPHIC ANALYSIS

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Sample No.	Cu	SAMPLE No	Cu
A2788	25	A230	20
9	20	1	15
90	3	2	20
1	15	3	20
2	15	4	20
3	15	5	15
4	12	6	20
5	20	7	12
6	15	8	12
7	10	9	20
8	20	40	10
9	20	1	20
800	15	2	20
A217	12	3	15
8	12	A244	30
9	20	5	30
20	12	6	25
1	15	7	30
2	15	8	30
3	15	9	60
4	20	50.	20
5	15		
6	15		
7	20		
8	20		
9	25		

GCAI Results in p.p.m

+40-20 Fraction.

1 hr @ £3

30M 31.8-65

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Sample No.	+40-20 Cu	SAMPLE NO.	+40-20 Cu	SAMPLE NO.	+40-20 Cu
SF53-10/A3961	25	SF53-10/A3744	25	SF53-6/A3866	15
2	25	5	20	7	10
3	30	6	25	8	8
A 3964	25	7	30	9	15
A 3730	20	8	~~20~~ 20	70	3
1	25	9	20	1	25
2	25	A 3750	20	2	20
3	20	SF53-6/A3851	8	3	10
4	25	2	8	4	12
5	25	3	12	5	12
6	20	4	20	6	10
7	25	5	20	7	15
8	40	6	20	8	20
9	25	7	12	9	20
40	12	8	15	80	10
1	25	9	15	1	15
2	20	60	25	2	20
A 3743	20	1	20	3	20
		2	15	4	15
		3	12	A3885	15
		4	20		
		A3865	12		

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Sample No.	+40-20 Cu	SAMPLE No.	+40-20 Cu	SAMPLE No.	+40-20 Cu
SF53-6/A3895	40	SF53-6/A3977	5	SF53-6/A3702	10
6	3	8	12	3	10
7	2	9	6	4	10
8	12	80	15	5	7
9	10	1	6	6	12
A3900	2	2	12	7	5
A3965	25	3	12	8	15
6	20	4	7	9	12
7	15	5	12	10	7
8	20	6	10	1	8
9	2	7	3	2	10
70	10	8	10	3	10
1	10	9	12	4	8
2	20	90	4	5	4
3	25	1	12	6	6
4	4	2	10	7	10
5	3	3	3	8	7
A3976	6	4	15	9	10
		5	10	20	8
		6	12	1	10
		7	2	2	8
		8	12	3	12
		9	12	4	10
A4000		2		5	6
A3701		12		A3726	12

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Sample No.	+40-20 Cu	SAMPLE No.	+40-20 Cu	SAMPLE No.	+40-20 Cu
SF 53-6 / A3727	8	A 3823	7	A 3848	25
8	10	4	3	9	12
SF 53-6 / A3728	8	5	12	A 3850	12
A 3801	12	6	10	A 3901	12
2	10	7	10	2	10
3	12	8	7	3	20
4	12	9	20	4	12
5	12	30	4	5	10
6	5	1	15	6	12
7	25	2	10	7	15
8	10	3	12	8	12
9	10	4	10	9	12
10	4	5	6	10	15
1	15	6	12	1	20
2	12	7	12	2	10
3	10	8	15	3	8
4	8	9	10	4	20
5	7	40	12	5	25
6	5	1	7	6	20
7	12	2	12	7	12
8	8	3	20	8	30
9	10	4	3	9	5
20	8	5	10	20	6
1	10	6	20	1	25
2	15	7	4	2	5

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Sample No.		+40-20 Cu	SAMPLE No.	+40-20 Cu
A 3923	6		A 3948	12
4	15		9	20
5	12		50	15
6	20		1	15
7	8		2	10
8	20		3	20
9	15		4	15
30	20		5	12
1	10		A 3956	10
2	20			
3	15			
4	15			
5	20			
6	15			
7	20			
8	15			
9	12			
40	10			
1	20			
2	20			
3	20			
4	12			
5	12			
6	12			
A 3947	10			

SIEVING 23 per hour 20 hours.
GC-A1

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Sample No.	Cu	Pb	Zn	Co	Ag	Mo
SF 53-10/A 3961	20	10	30	8	"	1
2	20	10	20	4	"	<1
3	15	8	25	4	0.1	"
3964	12	10	30	5	<0.1	1
3730	10	6	20	2	"	<1
1	12	7	20	3	"	"
2	12	6	25	5	"	"
3	10	6	20	2	"	"
4	10	6	20	5	"	"
5	10	6	20	3	"	"
6	8	3	<20	3	0.1	"
7	8	3	"	3	<0.1	"
8	10	6	20	5	"	"
9	15	5	<20	4	0.2	"
40	25	12	40	10	0.1	1
1	10	7	20	3	<0.1	1
2	8	3	<20	2	"	<1
3	25	15	25	4	0.3	1
4	15	7	25	3	<0.1	<1
5	15	8	20	3	"	1
6	12	8	20	3	0.1	<1
7	30	20	25	5	0.1	1
8	20	7	30	6	<0.1	<1
2749	10	7	20	3	"	"

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Sample No.	Cu	Pb	Zn	Co	Ag	Mo
SF53-10/A3750	12	6	20	5	<0.1	<1
SF53-6/A3851	10	7	<20	2	0.1	1
2	12	7	20	3	<0.1	<1
3	12	5	<20	1	"	"
4	10	6	"	3	"	"
5	10	6	"	2	"	1
6	10	5	"	2	"	<1
7	12	6	"	2	"	"
8	10	5	"	2	"	"
9	10	7	"	3	0.1	1
60	10	5	"	3	<0.1	<1
1	10	5	"	2	"	1
2	12	4	"	3	0.1	<1
3	10	6	"	2	<0.1	1
4	12	7	"	3	"	1
5	12	7	20	3	"	<1
6	12	7	20	3	"	1
7	10	5	<20	2	"	<1
8	12	10	20	4	0.1	1
9	12	8	<20	3	0.1	<1
70	15	10	25	4	<0.1	1
1	15	8	25	5	0.2	1
2	12	8	<20	2	0.1	<1
3	8	2	"	3	<0.1	"
4	10	4	"	2	"	"
5	10	4	"	3	"	"
6	12	6	20	5	0.2	"
3877	10	5	<20	2	<0.1	"

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Sample No.	Cu	Pb	Zn	Co	Ag	Mo		
SF53-6/A3878	12	5	<20	2	<0.1	<1		
9	15	8	20	5	0.2	1		
80	8	5	<20	1	<0.1	<1		
1	10	5	"	2	0.1	"		
2	12	6	20	3	<0.1	"		
3	8	5	<20	3	"	"		
4	10	6	"	3	0.2	1		
5	8	3	"	2	<0.1	<1		
3895	15	5	20	6	0.1	1		
6	12	5	20	3	0.1	<1		
7	10	5	<20	2	0.1	"		
8	12	5	"	3	0.1	1		
9	20	5	"	2	<0.1	1		
3900	8	4	"	1	"	1		
3965	15	7	20	3	"	<1		
6	15	7	20	4	"	"		
X 7	12	6	20	5	<0.1	"		
X 8	15	20	30	8	0.1	"		
3969	8	3	20	4	"	"		

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Sample No.	Cu	Pb	Zn	Co	Ag	Mo			
SF53-6/A3970	8	4	<20	3	<0.1	<1			
1	8	3	"	3	"	"			
2	10	6	20	4	"	"			
3	7	5	<20	2	"	"			
4	10	5	"	3	"	"			
5	8	3	"	2	"	"			
6	8	4	"	1	"	"			
7	10	4	20	2	0.1	"			
8	8	6	<20	3	0.1	1			
9	8	3	"	3	<0.1	<1			
80	10	5	20	2	"	"			
1	10	4	<20	3	"	"			
2	10	5	"	2	"	"			
3	12	5	20	3	"	"			
4	10	4	<20	2	"	"			
5	12	5	20	5	"	"			
6	10	6	20	3	"	"			
x 7	8	5	<20	2	0.1	"			
8	10	5	20	2	<0.1	"			
9	10	3	<20	2	"	"			
90	12	6	"	2	0.1	1			
1	12	6	"	2	0.1	<1			
2	12	3	20	4	0.1	"			
3	10	7	<20	1	<0.1	"			
4	12	6	"	3	"	1			
5	12	6	"	2	"	<1			
6	10	6	20	3	"	"			
3997	10	6	<20	2	0.1	1			

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Sample No.		Cu	Pb	Zn	Co	Ag	Mo		
SF53-6/A3998		10	4	<20	2	<0.1	<1		
	9	10	7	"	2	"	"		
	4000	10	5	"	2	"	3		
	3701	12	4	"	3	"	<1		
	2	8	4	"	1	"	"		
	3	10	4	"	2	"	"		
	4	12	4	"	2	"	"		
	5	12	6	"	3	"	"		
	6	12	5	"	3	"	"		
	7	10	3	"	1	"	"		
	8	12	6	20	3	"	"		
	9	10	3	<20	1	"	"		
	10	12	6	20	3	0.2	"		
	1	12	5	<20	2	<0.1	"		
	2	10	5	"	3	"	"		
	3	8	4	"	3	"	"		
	4	10	4	"	1	"	"		
	5	10	5	"	1	"	"		
	6	10	6	"	3	"	"		
	7	10	4	"	3	"	"		
	8	10	5	"	3	"	"		
	9	12	4	20	4	"	"		
	20	10	6	<20	3	"	"		
	1	12	5	20	4	"	"		
	2	15	8	20	4	0.1	1		
	3	12	4	20	4	<0.1	<1		
	4	20	10	25	12	0.1	2		
	3725	10	4	20	3	<0.1	<1		

THE AUSTRALIAN MINERAL DEVELOPMENT LABORATORIES

REPORT AN. 2573/65

SEMI-QUANTITATIVE SPECTROGRAPHIC ANALYSIS

Page 6

SM-11.04 1491

Sample No.	Cu	Pb	Zn	Co	Ag	Mo		
SF53-6/A3726	12	6	<20	2	<0.1	<1		
7	10	5	"	2	"	"		
8	12	5	20	3	"	"		
3729	12	4	20	3	"	"		

G/C-A1 RESULTS IN P.P.M.

BPA

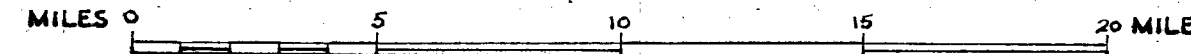
30-6-65

CR 65/12

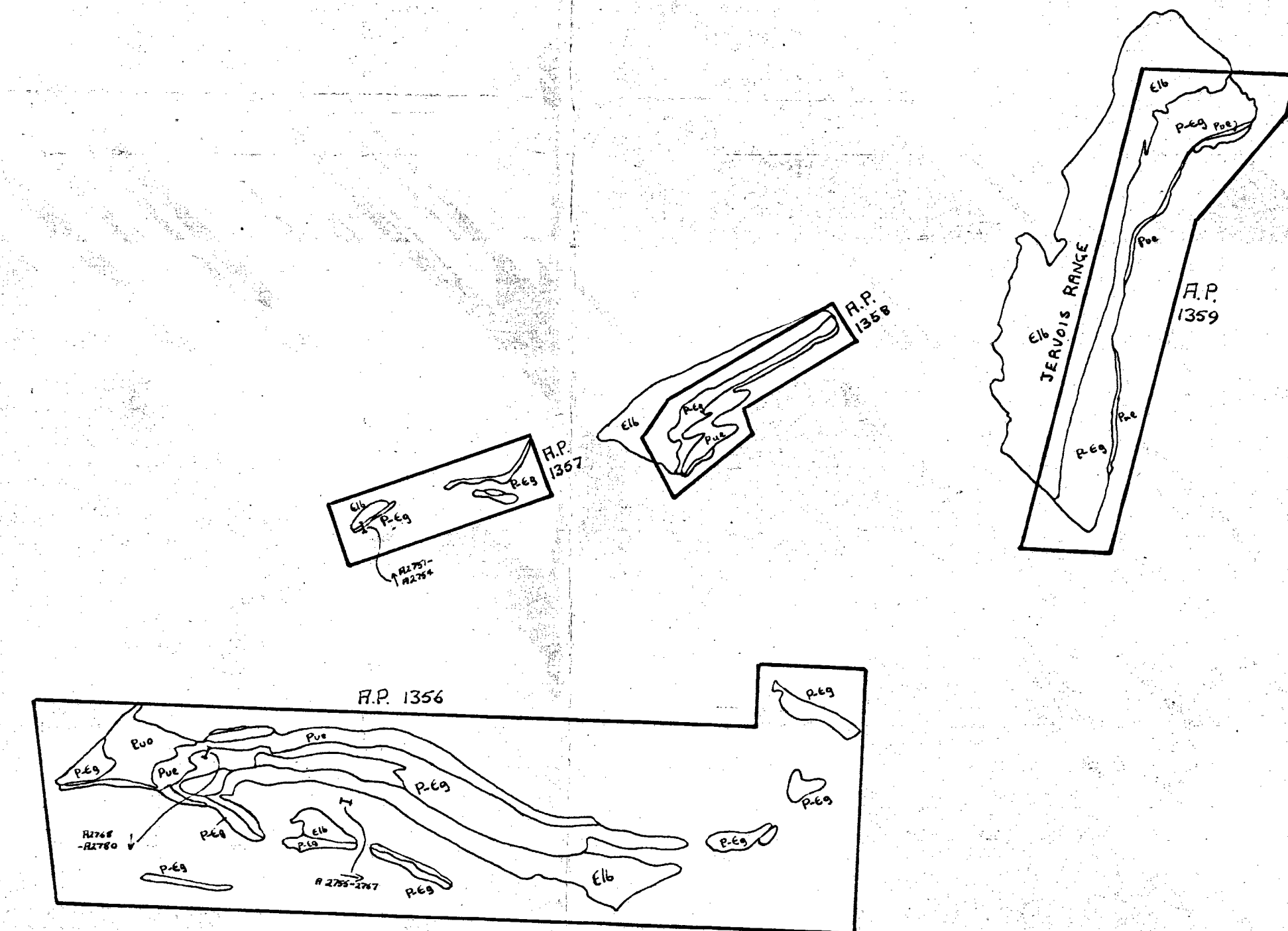
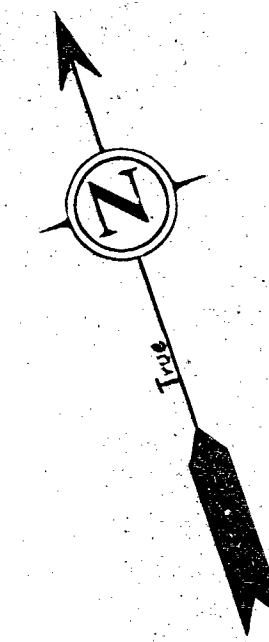
(RELINQUISHED 9-9-65)

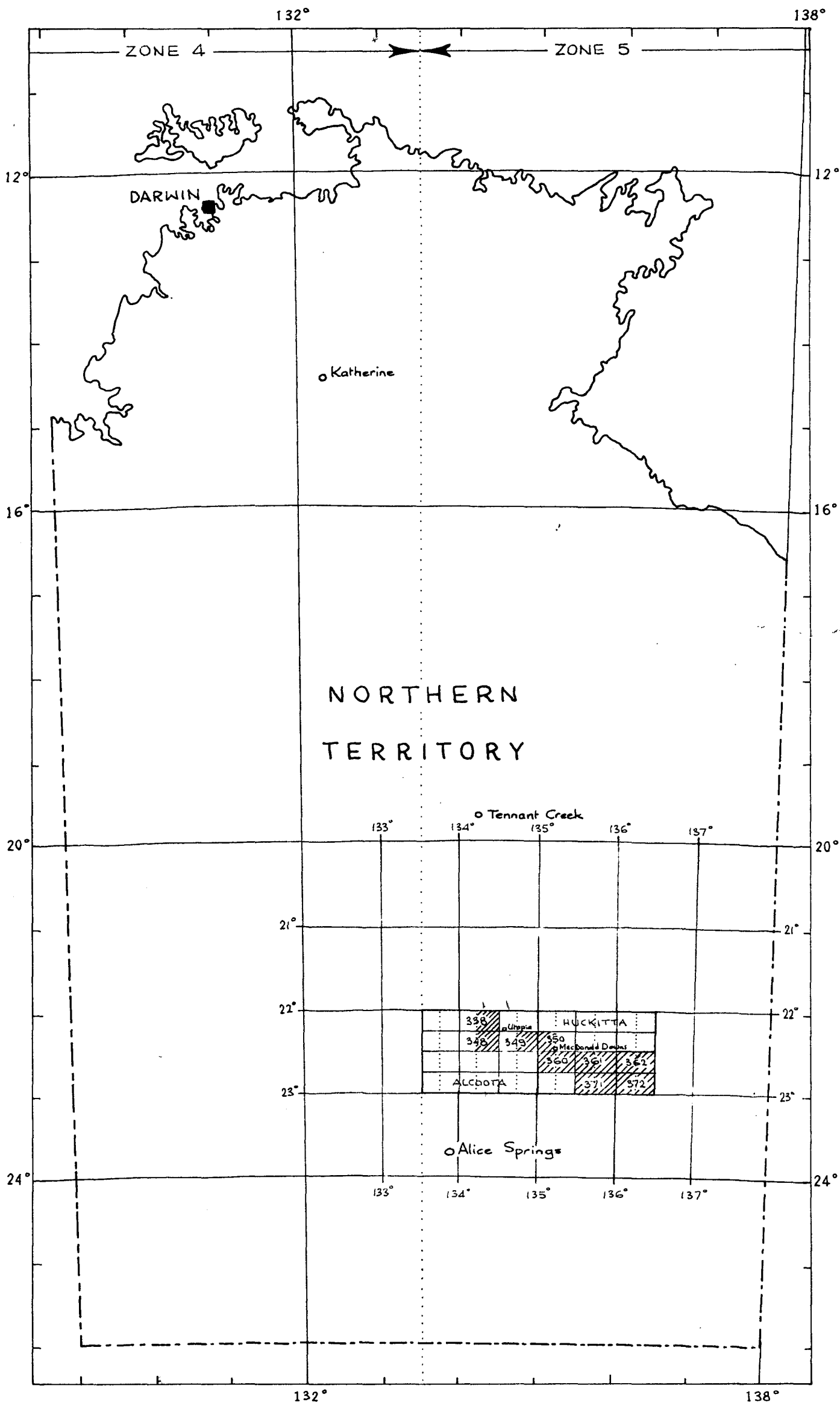
PLATE NO. **I**

DATE: 26th Sept 196



Pue ELYUAH FORMATION





LOCALITY PLAN

Scale 1:6,000,000 approx.

Plate No 2

AK

Length of Count 1920

Legend

CAINOZOIC

QUATERNARY

Qs

Sand, soil and alluvium

TERTIARY

Arltunga Beds

Tr

Silicified limestone, sandstone, siltstone

UPPER DEVONIAN

Dulcie Sandstone

Dud

Quartz sandstone with interbedded silty calcareous sandstone, pebble conglomerate

MIDDLE ORDOVICIAN

Nora Formation

Omn

Siltstone, dolomite, ironstone, sandstone

LOWER ORDOVICIAN
TO UPPER CAMBRIAN

Tomahawk Beds

E-Qt

Calcareous sandstone, green siltstone, brown dolomite, grey limestone, sandy dolomite, glauconitic sandstone

UPPER CAMBRIAN

Arrinthrunga Formation

Eua

Brown massive dolomite, yellow flaggy dolomite, blue and purple oolitic limestone. Thin interbeds of siltstone and sandstone

MIDDLE CAMBRIAN

Arthur Creek Beds

Ema

Buff shale, laminated blue-black limestone with lenses of calcareous sandstone; ferruginous shale, brown and purple dolomite, yellow siltstone

LOWER CAMBRIAN TO
UPPER PROTEROZOIC

Mr Baldwin Formation

Eib

Red glauconitic quartz sandstone, red and grey quartz greywacke, red dolomitic siltstone, dolomite

Grant Bluff Formation

P-Eg

Grey quartz sandstone, gypsiferous siltstone, dolomite

Elyuah Formation

Pue

Arkose, green and red shale

Oorabra Arkose
Member

Puo

Arkose

UPPER PROTEROZOIC

Mt Cornish Formation

Puc

Boulder beds, green siltstone with "hillitic" texture, cyclic green siltstone and fine sandstone

LOWER PROTEROZOIC

Dneiper Granite

Egd

Quartz-feldspar-muscovite granite

Jervois Granite

Pge

Quartz-feldspar-muscovite granite

Jinka Granite

Pgj

Quartz-feldspar-muscovite granite

Mt Swan Granite

Egs

Quartz-feldspar-biotite granite,

Undifferentiated Granite

Eg

ARCHAEOAN

Arunta Complex
Undifferentiated

Ad

Basic intrusives

Aa

Gneiss, schist, metaquartzite

- Geological boundary
- Anticline, showing plunge
- Syncline
- Fault

Where location of boundaries, folds and faults is approximate, line is broken; where inferred or indefinite, queried; where concealed, boundaries and folds are dotted, faults are shown by short dashes

- Strike and dip of strata
- Overtured strata
- Quartz reef
- Mine
- Copper

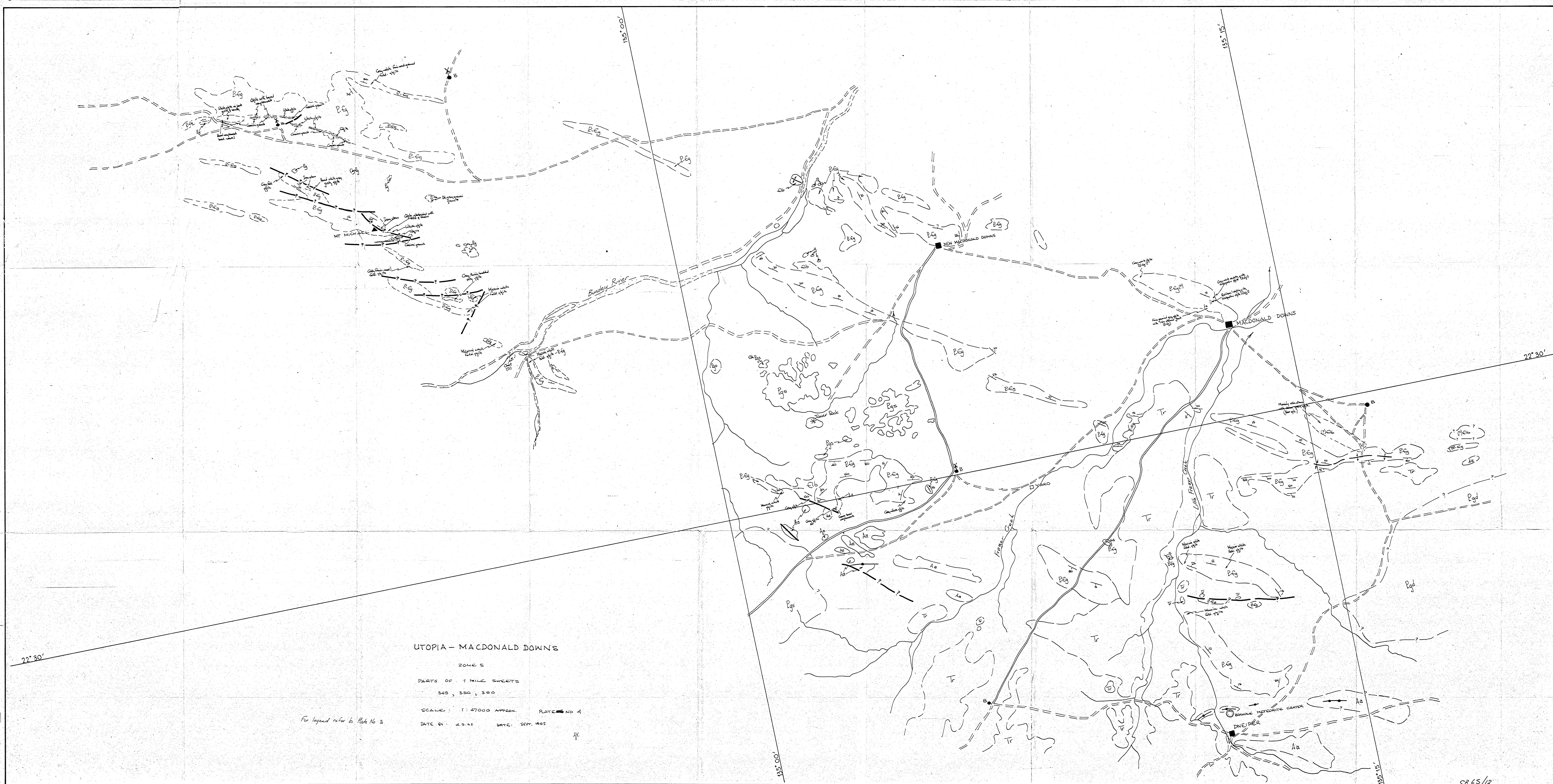
- B Bore
- S Spring
- X Windpump

- == Road
- ==== Vehicle track
- Homestead
- Yd Yard

Plate No 3

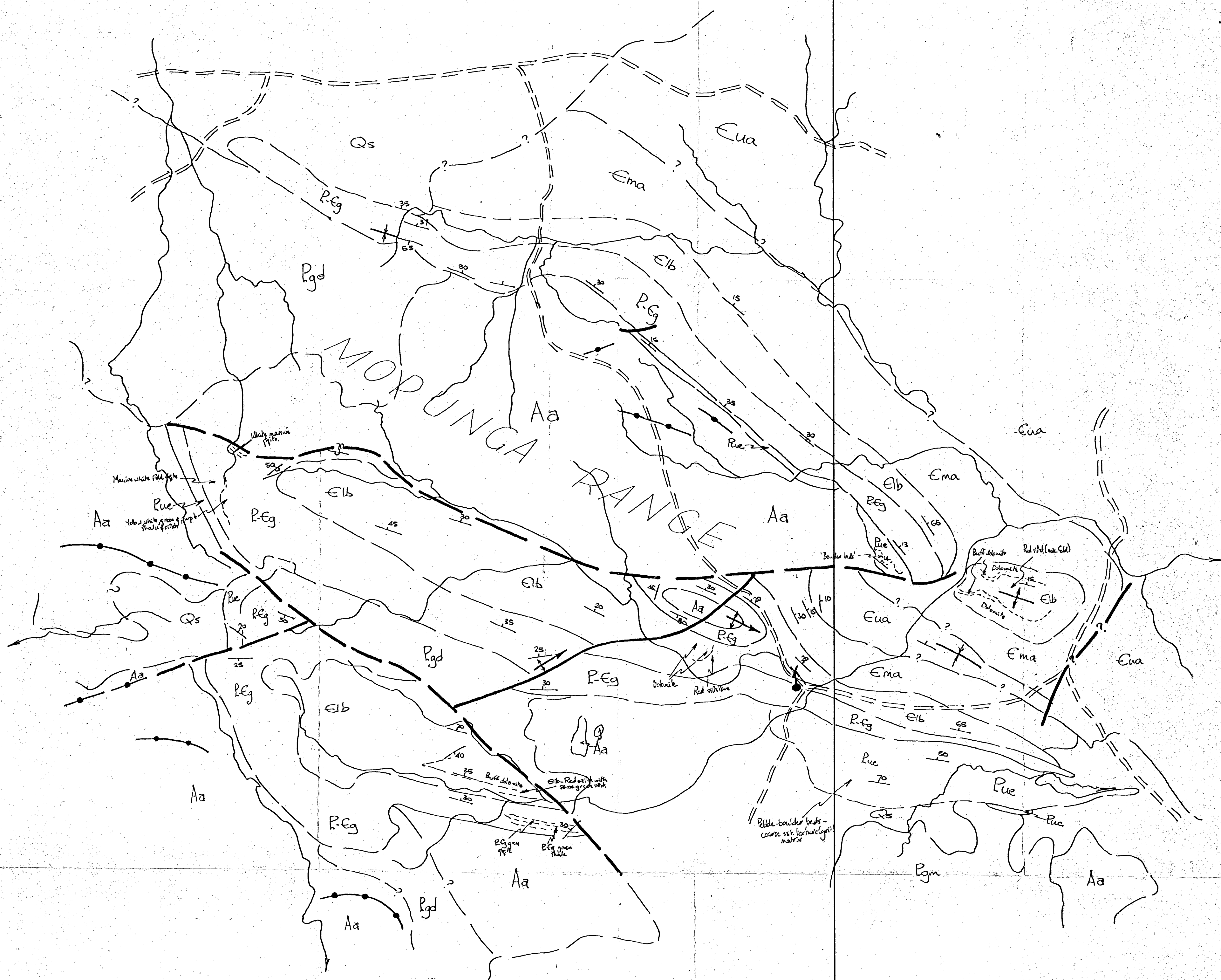
To accompany Plates 3-7

AK



135° 30'

Length of Quarto Sheet

 $125^{\circ}30'$ $22^{\circ}45'$

202 E 5

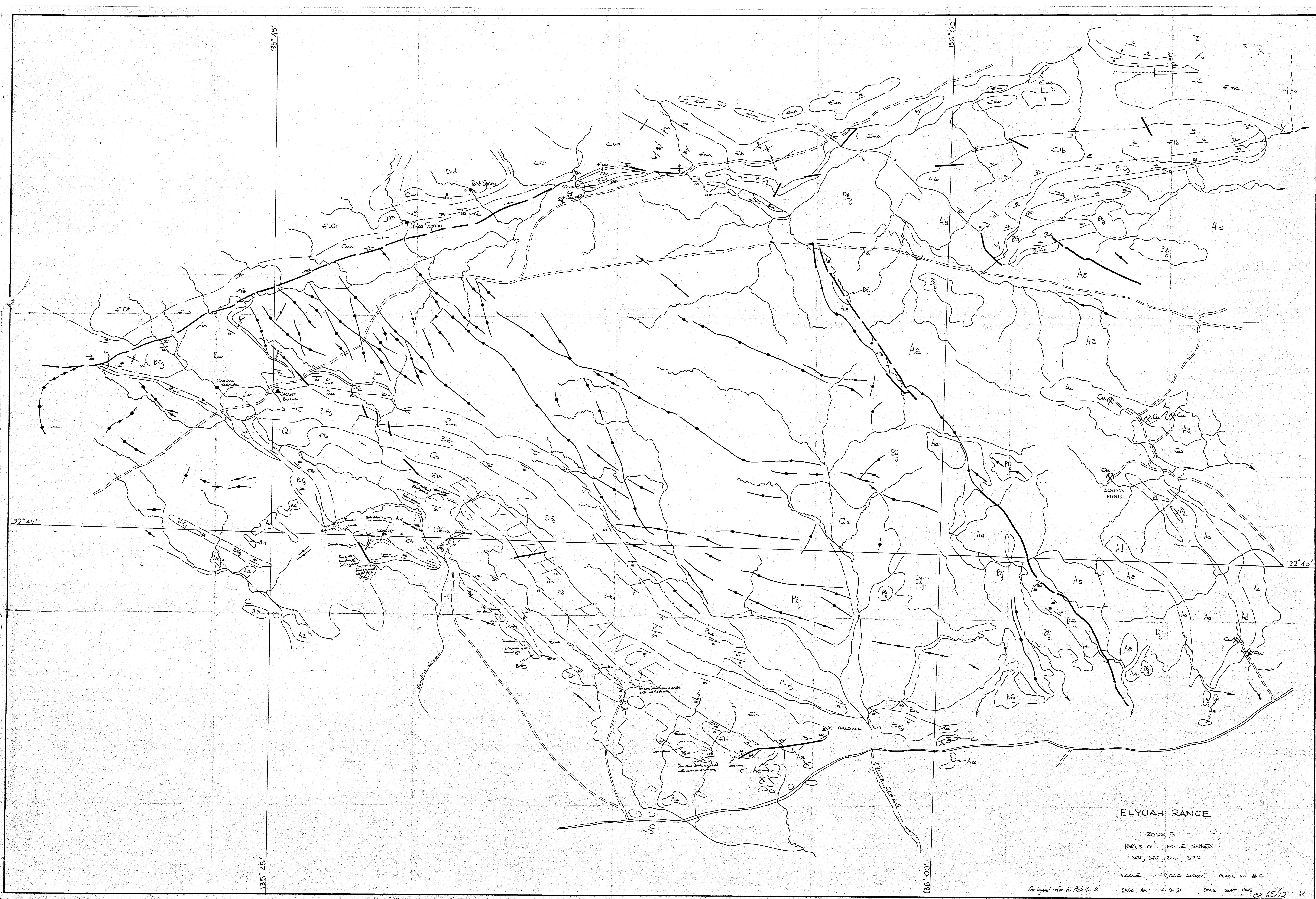
SCALE: 1:47000 APPROX. PLATE NO 45

DATE BY: 14-9-65

DATE : SEPT. 1965

CR 65/12

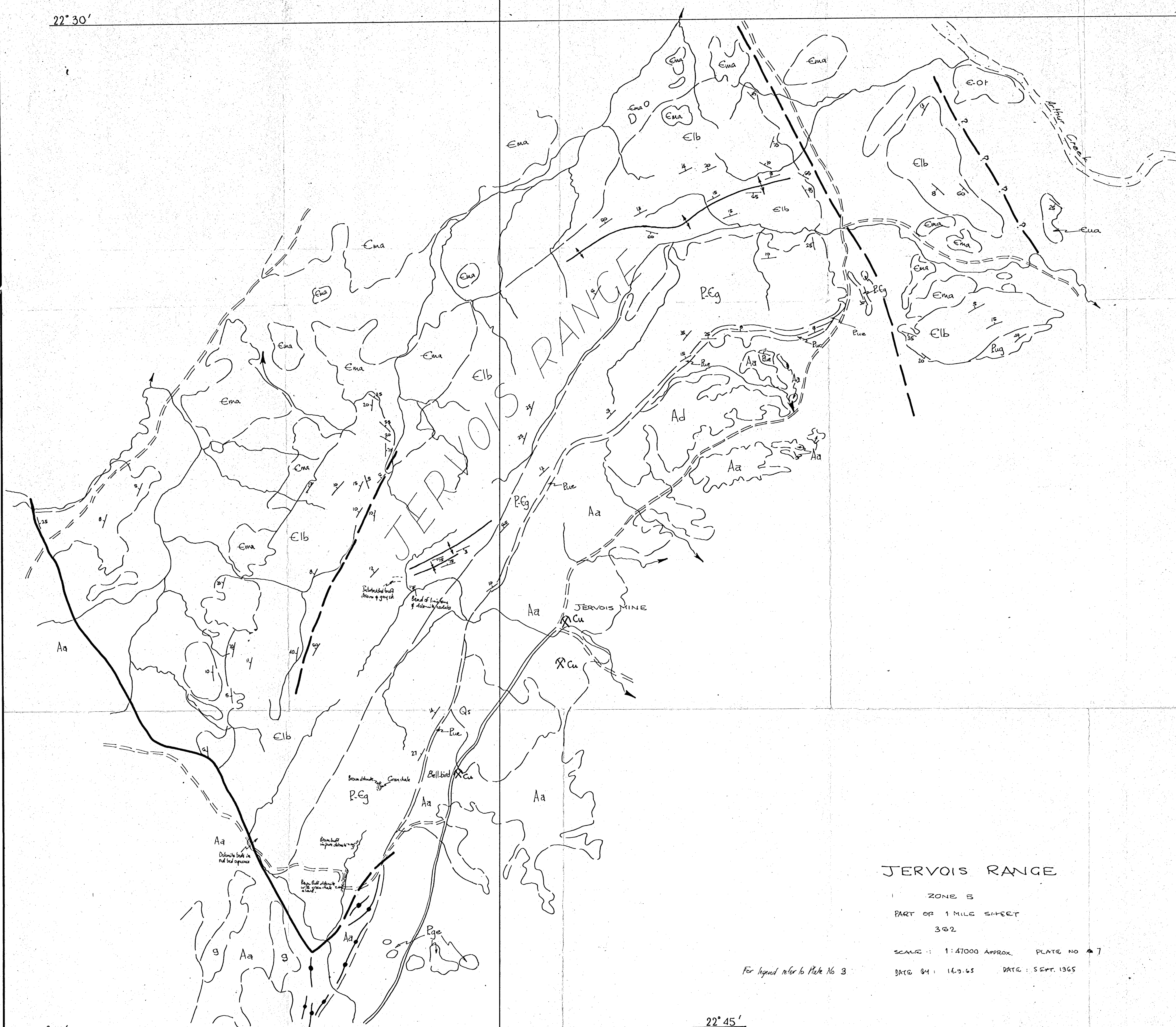
A



22° 30'

22° 30'

136° 15'



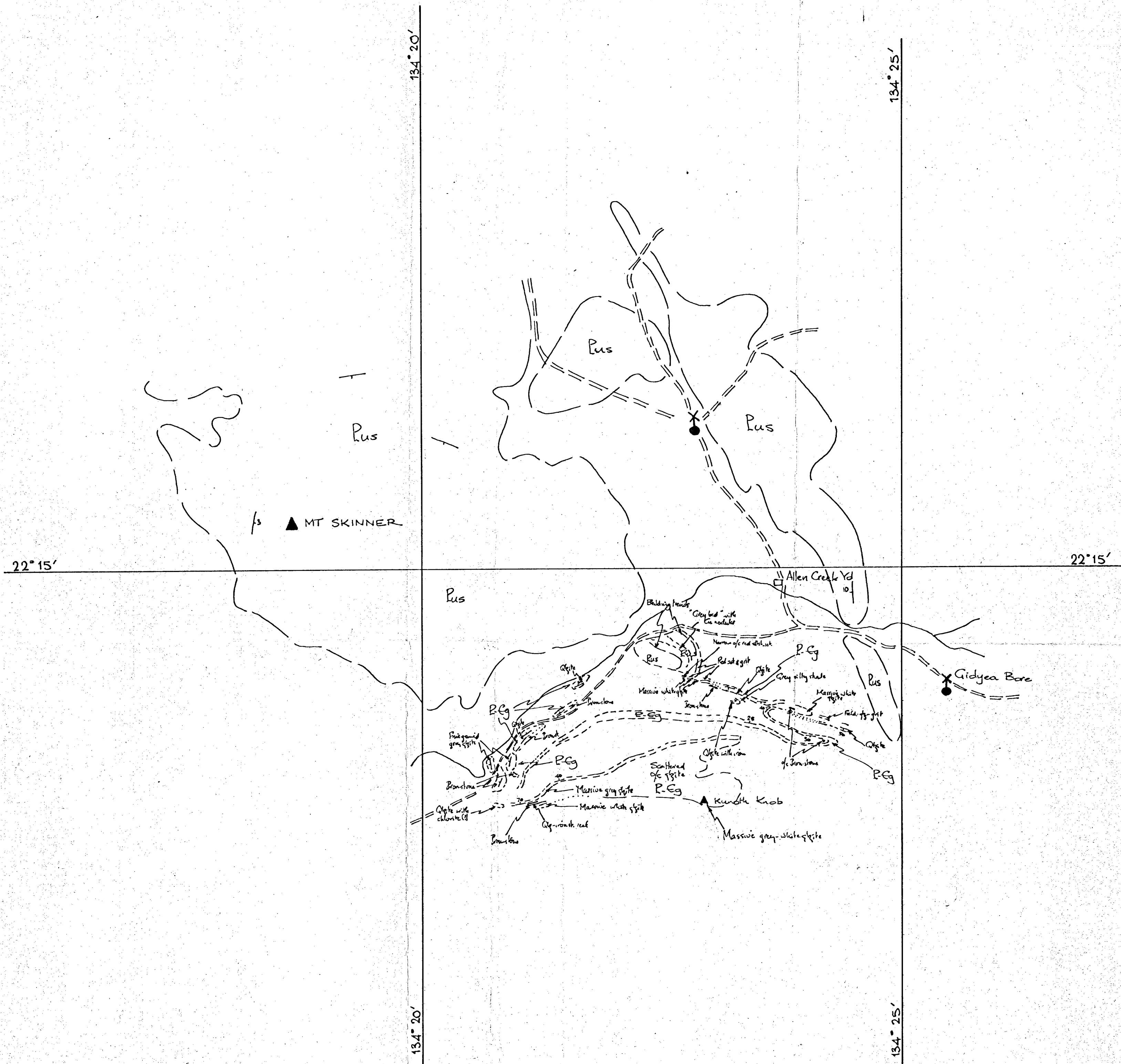
22° 45'

22° 45'

136° 15'

CR65/12

AK

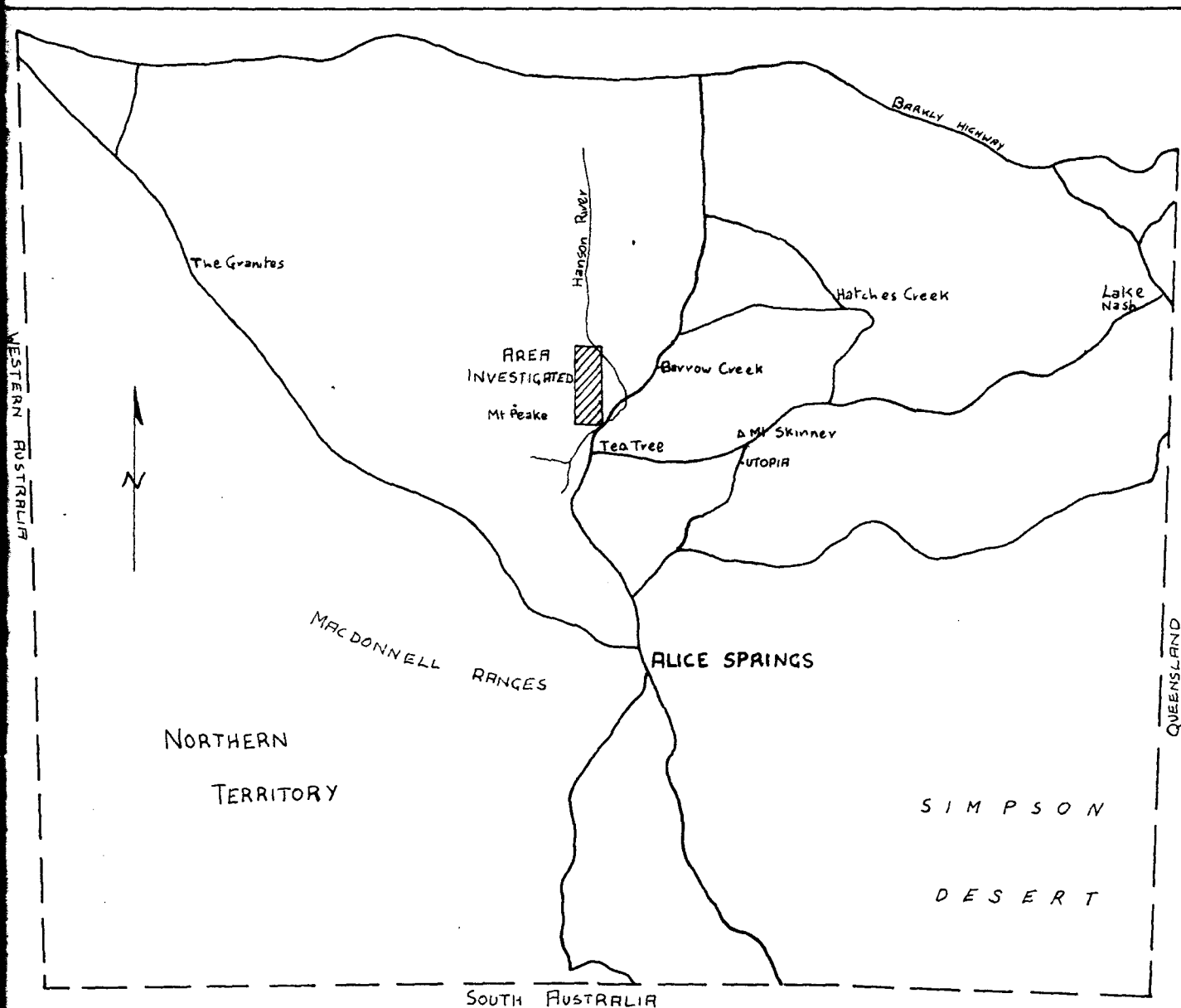


CR65/12

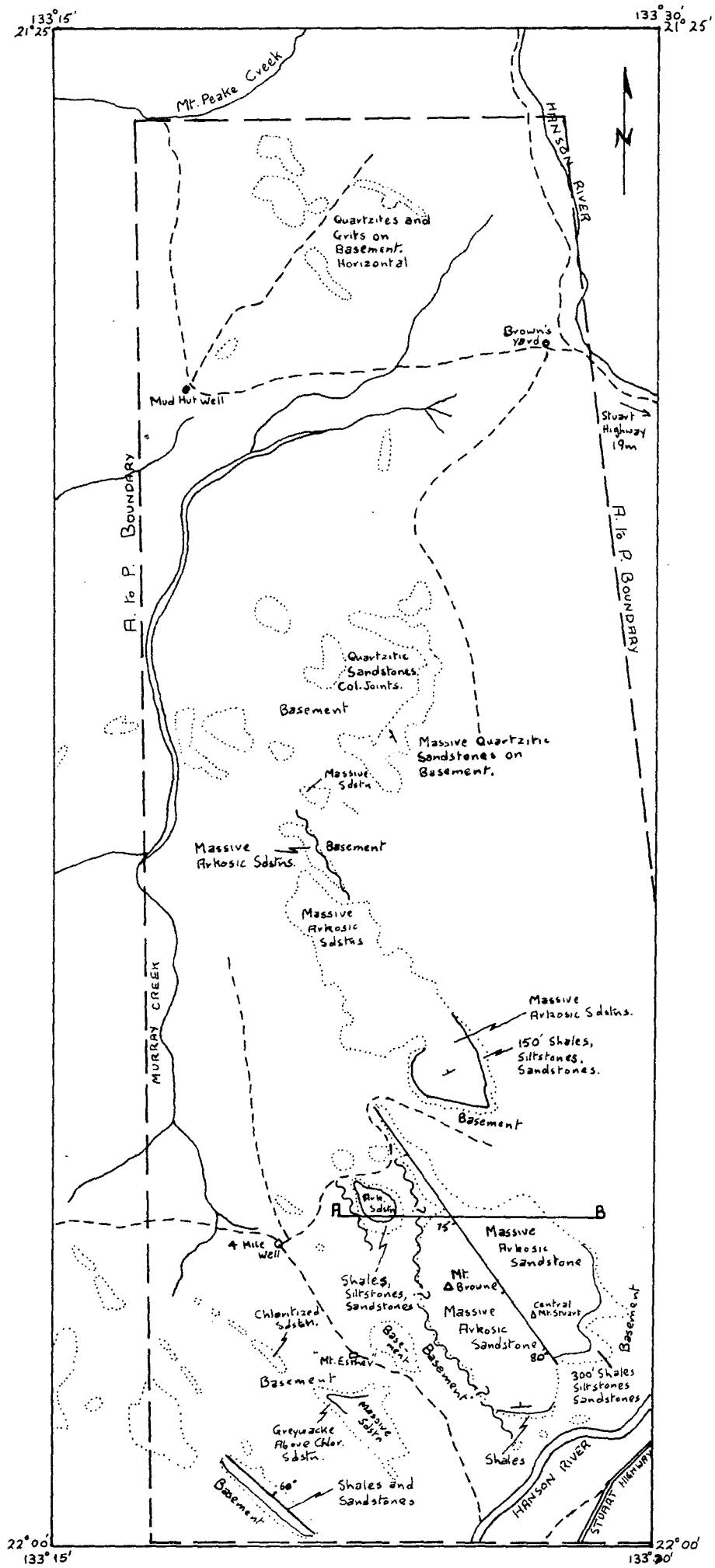
For legend refer to Plate 3

KENNECOTT EXPLORATIONS (AUSTRALIA) PTY. LTD.	
MT SKINNER	
ZONE 3	
PARTS OF 1 MILE SHEETS	
338, 348	
SCALE: 1:47000 APPROX.	PLATE NO. 8
DATE BY: 14.9.63	DATE: SEPT. 1968

PLATE No. 9



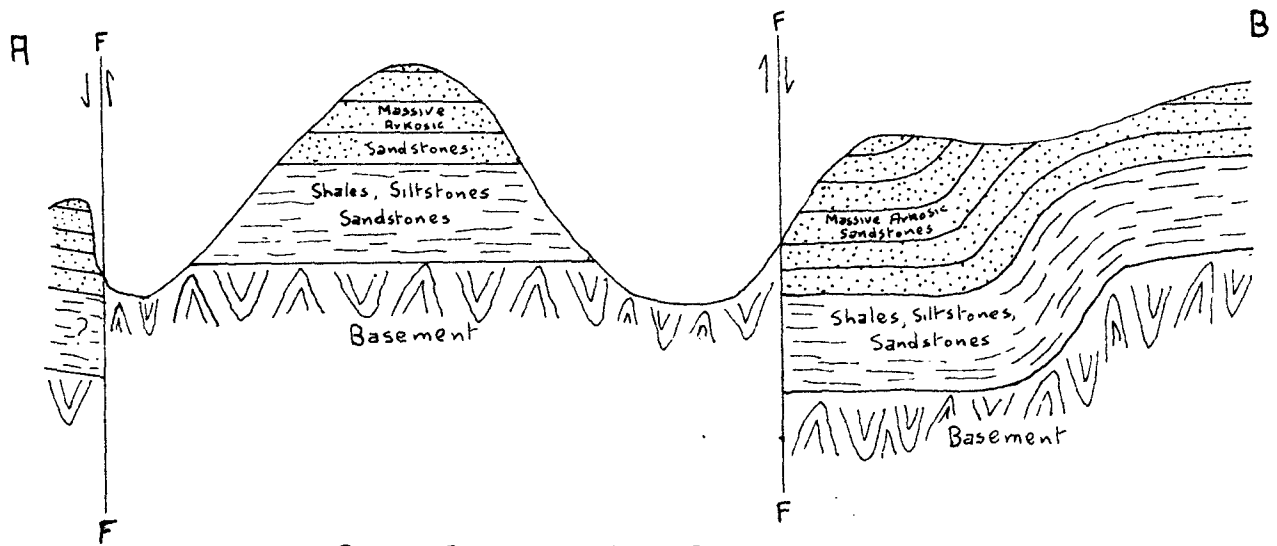
SKETCH MAP OF PART OF NORTHERN TERRITORY SHOWING LOCATION OF MT. PEAKE AREA
SCALE 1:5,000,000



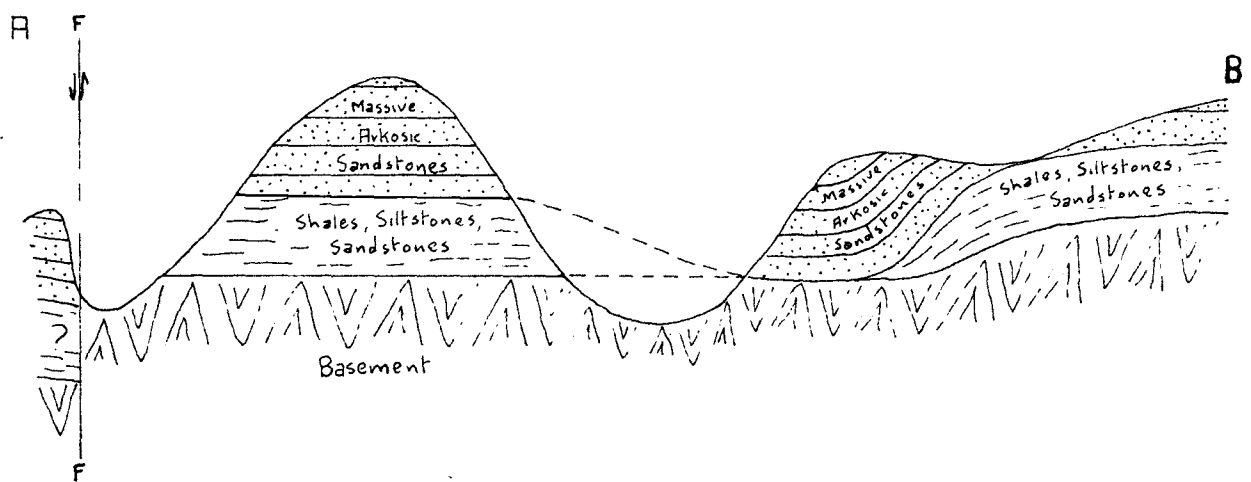
SKETCH GEOLOGICAL MAP OF MT PEAKE AREA
NORTHERN TERRITORY

Sections Pl. 3
Track
Monoclinial Axis
Fault
Outcrop Boundaries
Dip

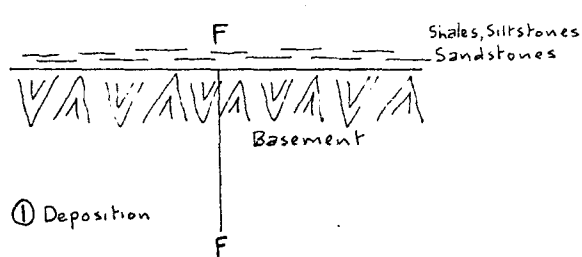
SCALE
Miles 0 1 2 3 4 5 Miles



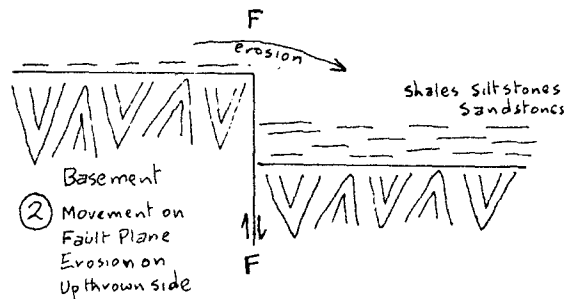
A. BLOCK FAULTING AFTER DEPOSITION



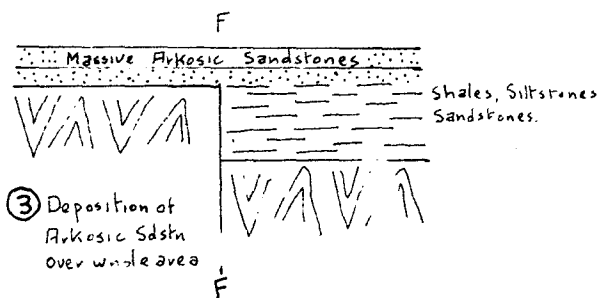
B. SHALES, SILTSTONES AND SANDSTONES OF VARIABLE THICKNESS



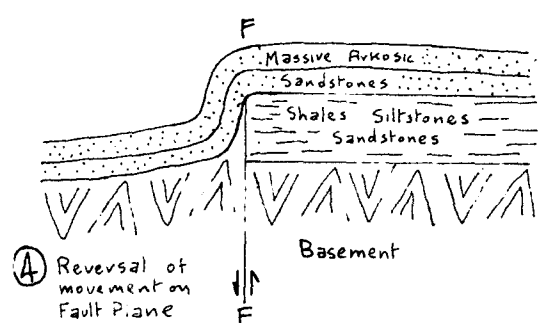
① Deposition



② Movement on Fault Plane
Erosion on Upthrown side



③ Deposition of Arkosic Sdshn over whole area



④ Reversal of movement on Fault Plane

C. FAULTING DURING DEPOSITION