(b). HEAD OFFICE LIBRARY
(a) MINING ENGINEER
5 NT/3
FOLIO 69
Copy 3

COMMONWEALTH OF AUSTRALIA.

DEPARTMENT OF NATIONAL DEVELOPMENT.

BUREAU OF MINERAL RESOURCES GEOLOGY AND GEOPHYSICS.

RECORDS.

1959/88

PEGMATITES IN THE HUCKITTA 4-MILE SHEET AREA

by

D.R. Woolley

PEGMATITES IN THE HUCKITTA 4-MILE SHEET AREA

by

D.R. Woolley

RECORDS 1959/88

CONTENTS

		Page
SUMMARY		1
INTRODUCTION		1
FIELD OCCURRENCE		2
RECOMMENDATIONS FOR PROSPECTING		4
REFERENCES		6
TABLE 1	Pegmatites in the Huckitta area	7
TABLE 2	Degrees of Strike	16
FIGURES 1 - 4	Rose Diagrams of Observed Strikes of Pegmatites	
FIGURE 5	Stress Diagram	
PLATE 1	Portion of Entire Creek One-mile Sheet Zone 5/370 - showing pegmatite occurrences.	
PLATE 2	Portion of Plenty River One-mile Sheet Zone 5/371 - showing pegmatite occurrences	
PLATE 3	Portion of One Mile Sheet Zone 5/372 showing pegmatite occurrences	
PLATE 4	Portion of One Mile Sheet Zone 5/362 showing pegmatite occurrences	

PEGMATITES IN THE HUCKITTA 4-MILE SHEET AREA

by

D.R. Woolley

RECORDS 1959/88

SUMMARY

About 350 pegmatite veins have been mapped in the Huckitta 4-mile sheet area and information concerning these is presented in tabular form. Strikes have been recorded for 154 pegmatites, and the distribution of strike directions is shown graphically in rose diagrams. These diagrams indicat a preferred east - west strike over most of the area. Four maps at a scale of one mile to one inch show the location of each pegmatite, eleven of which are considered to be worth prospecting for muscovite.

Introduction

During regional mapping of the Huckitta 4-mile sheet area by a Bureau of Mineral Resources field party (K.G.Smith, J.W.Smith, J.M.Pulley, R.R. Vine, D.R. Woolley) in 1957-58, a large number of pegmatite veins was examined. These veins intrude Precambrian basement consisting of granite and rocks of the Arunta Complex (mainly schists and gneisses) with some basic igneous rocks. Some of the pegmatites contain commercial quantities of muscovite, and a brief summary of details concerning the pegmatites in this area has been compiled as an aid to further prospecting. The pegmatites have been plotted on maps at a scale of one mile to one inch, adapted from base maps provided by the Division of National Mapping. (Plates 1 - 4).

Three of these maps are complete one-mile sheets (sheets 5/371, 5/372, 5/362), while the fourth is a portion of sheet 5/370, and together they cover that part of the Huckitta 4-mile sheet area which contains the great majority of recorded pegmatites. About half a dozen pegmatites have been seen in other parts of the Huckitta 4 - mile area, and approximately another half dozen occur just outside this area, along the southern boundary.

A number has been assigned to each pegmatite, which is the point number of the locality at which the pegmatite was recorded, taken from the field notebooks. These points are recorded on air photographs held by the Bureau of Mineral Resources in Canberra. In two places, several pegmatites have been recorded from within a very small area, and here, instead of a separate dot for each pegmatite, a dotted line has been drawn around the area and the numbers of the pegmatites concerned placed outside. The pegmatites mentioned in the text as being worthy of prospecting are marked by an asterisk. Centre points of the aerial photographs used in compiling the maps are shown by a circle, with the photo number directly underneath.

Location of a point on the ground from maps such as these, which have only a small amount of topographic detail, could be difficult, especially in the flat sandy country so common in this area. In order to alleviate this position as much as possible, topographic features such as quartz ridges and small isolated hills have been added to the maps where feasible.

The scope of this report does not include a description of methods for the production and marketing of mica, which are covered in earlier publications by Owen and Turnbull (1950) and Joklik (1955).

Field Occurrence

Approximately 350 pegmatites have been examined in the field, and these range from a few feet to several hundred yards long, and from a few inches to fifty yards wide. Quartz and feldspar are by far the most abundant minerals, and in many cases compose 100% of the pegmatite. Muscovite and biotite are also common; muscovite has been mined in the Plenty River area for some time. Tourmaline is very widespread and crystals up to two feet long have been seen. Other minerals which occur rarely in the pegmatites are beryl, garnet, and apatite.

Most of the pegmatites recorded here are discordant, although a few appear to be concordant. Of the latter type, all that can be said in many cases is that they strike parallel to the foliation of the country rock. It is possible that in many cases the dip is not the same as that of the country rock, and hence many of these may also be discordant. Some of the pegmatites show zoning, and several have been seen which have a quartz core. Discordance, zoning, and the presence of a quartz core are features regarded by Joklik (1955 p.178) as favourable for the presence of commercial quantities of muscovite.

A list of the pegmatites recorded in the area is given in Table 1 which shows, where known, the strike of the pegmatite and of the enclosing country rock, the dimensions, the minerals present, and whether any mining or prospecting operations have been carried out. The location of these pegmatites is shown on the accompanying maps, plates 1 - 4.

In many cases it has not been possible to measure the strike of a pegmatite body, generally due to the poor outcrop, or to the irregular and ramifying nature of some of them. A tabulation of the strikes of 154 discordant pegmatites is shown in Table 2, and also in the rose diagrams, Figures 1 - 4. For the plotting of these results, a division of the southern part of the Huckitta 4 - mile sheet area has been made as follows, into probable structural units: -

(a) The south-eastern area, occupying that part of the Huckitta sheet which lies south and east of the Jervois Range.

(b) The Bonya area, which extends north and west from the southern tip of the Jervois Range.

(c) The Plenty River area, extending west from areas (a) and (b) to the western boundary. This area includes most of the Plenty River mica field as at present known.

In Tables 1 and 2, the directions shown are magnetic. In the rose diagrams, the directions have been adjusted to true north (declination 5°E). In these diagrams, 10° divisions have been used, starting at 5°.

Fig. 1 represents the 24 discordant pegmatites examined in the south-eastern area, and shows a pronounced maximum in the east - west direction.

Fig.2, for the Plenty River area, also has a strong maximum in the east - west direction, but there is a greater scatter in this diagram, which represents 90 pegmatites. There is also a suggestion of secondary maxima in thenorth - west and in the north - east directions.

Fig.3, for 40 pegmatites in the Bonya area, does not show any strongly favoured direction. Although there are two directions (350° and 325°) in which there is some concentration, there are no pegmatites with strikes in the intermediate direction (340°), and hence it is doubtful if there is any general preference for a north-westerly direction. The most obvious feature of this diagram is the absence of the strong east - west maximum present in Figs.1 and 2.

Fig.4 combines the first three figures, and is a plot of all discordant pegmatites in the Huckitta 4 - mile sheet area whose strikes are known. It shows a strong east - west maximum, with 30% of the pegmatites having a strike between 75° and 105°, symmetrical about the 90° direction. There is also a secondary maximum in the north-west direction.

Joklik (1955, p.135) gives a synthesis of the directions of strike of steeply dipping pegmatites in the Hartz Range area, which occurs to the south-west of the Plenty River field. He divides the pegmatites into four groups, with strikes as follows:-

(a)	95°	-	100°
(b)	140°	-	150°
(c)	50°	-	70°
(d)	About	-	180°

Some of the pegmatites in this synthesis are from the Plenty River area, from relatively large mines (Dinkum mine, Whistleduck mine).

There is thus some similarity in the trends of the pegmatites in the two areas, particularly in the east - west direction, and in the north-west direction. The concentration of strikes with a north-easterly direction is only shown in the south-western part of the Huckitta 4-mile sheet area, and nowhere is there any indication of a preferred north - south orientation.

The reason for the preferred direction of the pegmatites under consideration is not clear, but a possibility is that those having an east- west strike were emplaced in tension joints resulting from a stress field such as that shown in Fig.5. With a shear couple acting in the direction shown, the main tension zones would trend east - west, and emplacement of pegmatites would most likely have occurred in such zones. The main shear direction in this field would be in a northwest direction, parallel to the couple, and this may have formed zones of weakness along which a secondary concentration of pegmatites could have been emplaced. This hypothesis implies that the pegmatites

were emplaced later than the main folding of the Arunta Complex in the area, since the folding formed in this stress field would have north - south axes, perpendicular to the compression. But the field evidence available suggests that the main fold axes in the Precambrian of the Huckitta area have an east - west trend. An alternative possibility is that the east - west pegmatites were emplaced in tension joints resulting from a release of the stress which caused the east-west folding.(Joklik 1955. p.111).

Recommendations for prospecting.

Joklik (1955 p.178) lists several suggestions for prospecting, and observations by the Bureau of Mineral Resources field party on mines opened since that time confirm the validity of these suggestions. They are:-

(1) The pegmatite should be
   (a) Discordant
   (b) Coarse grained
(2) The pegmatite should contain only small amounts of
   (a) Graphic pegmatite
   (b) Biotite
(3) The pegmatite should be well zoned.
(4) The presence of a prominent tabular quartz core is desirable
(5) The predominant feldspar in the pegmatite should be plagioclase, not microcline
(6) The presence of some book mica at the surface is desirable.

Several of the pegmatites examined in the field are considered to be worth prospecting for mica, and a brief description of these is given below. The reference numbers are the point numbers used in the field notebooks of the Bureau of Mineral Resources field party.

2759 Southeast part of sheet 5/372, about two miles north of the Marshall River. Here there is a large quartz vein, containing tourmaline, with soil cover on each side, which is thought to be the quartz core of a large pegmatite.

2687 Southern part of sheet 5/371, about three miles south-south-east of Dead Horse Soak. This is a strongly zoned pegmatite, discordant, with weathered muscovite showing at the surface.

2697 Southern part of sheet 5/371, about one mile south of Dead Horse Soak. This has a good quartz core, and is of very large dimensions (300' x 12'). A few small prospecting pits have been sunk here, but further investigation is considered warranted.

4841 Central southern part of sheet 5/371, about two miles northwest of the Ophir mine. This pegmatite has a rough zoning, with a poorly developed quartz core.

4843 Approximately one mile north-east of 4841. Quartz core, with poor zoning, and a concentration of weathered muscovite flakes at the surface.

2102 Near southern margin of sheet 5/362, just west of the southern tip of the Jervois Range. This is a discordant pegmatite about 30 yards wide, containing large amounts of tourmaline, with weathered flakes of muscovite at the surface. length? QFMT

2104 About one mile north of 2102. Large pegmatite mass, containing books of muscovite up to one inch across and half an inch thick. Very large QFM

2149 In south-west part of sheet 5/362, about three miles north-east of the Bonya copper mine. This pegmatite is several hundred yards long, discordant, with some weathered muscovite at the surface. several ft x hundreds of yd QFM

2150 About two hundred yards north of 2149. Discordant, with a well developed quartz core. Contains tourmaline but no mica seen at the surface. 6 ft wide. length? QFM

1550 Western part of sheet 5/372, about three miles north of the junction of Thring Creek and the Marshall River. Very large mass of pegmatite, about 750 feet long, containing tourmaline and muscovite. Probably discordant, but the country rock is strongly eroded. 750 ft long width? QTMuF

1551 About one mile southwest of 1550. Very large quartz vein, 1000 feet long and up to 30 feet wide, containing small amounts of muscovite and tourmaline. This is probably the quartz core of a large pegmatite and costeaning along the margins, which are soil covered, may reveal muscovite. (2) 30' x 1000' Q

Most of the above mentioned pegmatites occur outside the present Plenty River mica field, and a considerable extension of the field appears to be a possibility. The most encouraging areas for prospecting seem to be:-

(a) An eastward extension of the present field, to about the longitude of the junction of Thring Creek and the Marshall River. Pegmatites are fairly common in this area, and several have been seen which may contain good quantities of muscovite. Further east, in the extreme south-east corner of the Huckitta 4-mile sheet area, pegmatites are badly weathered and do not seem to be so numerous (this area has extensive soil and sand cover). Only one pegmatite has been seen which is regarded as being worth prospecting.

(b) The Bonya area, extending for several miles west from the western end of the Jervois Range, and north from the main road from Alice Springs to Queensland. Pegmatites are very common in this area, and some have been seen which are very promising. Apart from those shown on the map,(plates 3 and 4) there are also numerous large and irregular quartz-tourmaline veins which could be quartz cores of pegmatite veins, which are particularly common just south of the old Queensland road. No mica mines or prospects have been seen in this area. 3" 77

Further prospecting in both the present Plenty River field and in possible extensions to the east, would be considerably aided by the employment of some mechanical device such as a bulldozer. This could be used to remove with reasonable speed and economy the large amounts of soil and sand which obscure many of the pegmatites, and hence allow a quick appraisal of their mica bearing possibilities.

REFERENCES

JOKLIK, G.F., 1955 - The geology and mica fields of the Harts Range, Central Australia. Bur.Min.Res.Aust.Bull. 10.

OWEN, H.B. and TURNBULL, W., 1950 - Production and marketing of mica. Bur.Min.Res.Aust.Pamphlet 1.

TABLE I

PEGMATITES IN THE HUCKITTA AREA

Abbreviations:

Q	-	quartz	T	-	tourmaline
F	-	feldspar	Irreg.	-	irregular
M	-	mica	Ran.	-	random
Mu	-	muscovite	Gran.	-	granite
B	-	biotite	D	-	discordant
Be	-	beryl	C	-	concordant
A	-	apatite			

Number	Photo	Strike of Pegmatite Degrees Magnetic	Strike of Country Rock Degrees Magnetic	Dimensions	Remarks
7	13/5115	340	020		
9	"	285	?		
11	"	320	275		
12	"	330	055		
13	"	310	?		
14	"	320D	?		
15	"	300	020		
16	"	310D			
17	"	320D			
17	"	040C			
23	"	360	310		Paulina Mine
25	"	050	050		Mined
26	"	?	?		Mined
27	13/5113	345	065		Prospected
38	"	340	270	3' wide	
39	"	?	?	Large, irreg.	Prospected
40	"	270	?		Prospected
41	"	270	?	Up.t 10'wide	Prospected
43	"	275	285		
44	"	300	?		Mined
45	"	?	?		Prospected
46	"	?	?		Prospected
47	"	C	270		Mined
48	"	?	?		Prospected
49	"	?	270		Prospected
50	"	270	295	3'wide	Prospected
51	"	D	290		Prospected
52	"	?	290		Mined
53	"	230	?		Prospected
57	"	010	350		Prospected

Number	Photo	Strike of Pegmatite Degrees Magnetic	Strike of Country Rock Degrees Magnetic	Dimensions	Remarks
58	13/5113	?	?		Prospected
59	"	?	?		Mined
60	"	?	?		Prospected
61	"	?	070		Prospected
64	14/5077	070	?	1-6' wide	
66	"	?	?	8' wide	
67	"	?	?		Prospected
69	"	?	?	60' long	
71	"	?	?	6' x 100'	
74	13/5109	300	300		
75	13/5111	270	270		
100	12/5163	090	090		
103	"	?	?		Prospected
104	"	105	105		Prospected
327	13/5117	30	?	20' wide	QFMuB Mined
329	"	?	?		QFMuB
330	"	?	?		
333	14/5073	150-175	?		QFMuB Prospected
334	"	090	065		QFMuBTBc Mined
336	13/5119	095	095		QMuBF
408	13/5119	110	140		QFMuB Mined
409	"	095	?	6' wide	QFMu Mined
410	"	125	?	6' wide	QMu Mined
411	"	080	?		QMu Mined
432	10/5013	?	?		QFT
436	"	?	?		
439	"	?	granite		QFT
440	"	?	"		QFT
472	10/5015	?	"	Small	QT QF
473	"	?	"	Small	QT
563	12/5163	230	230	?	
564	"	C	295	3-4' wide	
621	12/5165	285	275	2-3'wide	QFM Prospected
642	11/5193	290	290	3' wide	
645	"	280	300	3'wide	
719	10/5127	C	360	?	
809	11/5191	C	320	Several feet wide	
816	"	C	280	1' wide	
820	"	C	330	2-3' wide	
821	"	?	granite	Large	QFM

Number	Photo	Strike of Pegmatite Degrees Magnetic	Strike of Country Rock Degrees Magnetic	Dimensions	Remarks
1003	13/5125	010	010	Small	
1008	"	?	granite	?	
1012	"	020	?	?	
1026	10/5009	?	025	?	
1038	"	070	?	?	
1039	"	?	065	Small	
1097	12/5157	ramifying	granite	?	QFMuT
1098	"	"	"	?	QF
1110	12/5161	?	"	?	QFB
1115	"	?	?	?	QF
1121	"	?	?	?	QF
1137	"	?	?	?	QF
1185	13/5115	175	130	?	QFMuB Mined
1187	"	050	?	?	Prospected
1253	"	?	090	?	QFMuB Prospected
1254	"	?	030	?	QFMu Mined
1256	"	315	?	?	QFT Mined
1257	"	020	120	90'x 4-10'	Mined
1258	"	040	?		Mined
1259	"	160	?		Mined
1342	13/5113	?	030		QFM Mined
1344	"	150	?		QFMu Mined
1346	"	020	?		QFMu Mined
1347	"	070	?		Q Mined
1348	"	040D	?		Prospected
1543	13/5127	210	300	1' wide	MuFTQ
1544	"	D	320	1' wide	MuFTQ
1547	"	260	270	1'x 300'	FQ
1548	"	?	300		
1549	"	?	020	Small	QTF
1550	"	170	?	750' long ft	QTMuF
1551	"	330	?	8-30'x1000 yds.	Q
1552	"	015	?	8'x1000 yds.	Q
1554	"	320	15	3'x 200'	QFTMu
1555	"	280	050		QFTMu
1556	"	?	020		
1557	"	Random	340	Small	QTMu
1558	"	055	015	1'x 10'	QFMu
1562	14/5063	290	?		QMu
1573	13/5125	360	?		QMu
1574	"	320	?		

Number	Photo	Strike of Pegmatite Degrees Magnetic	Strike of Country Rock Degrees Magnetic	Dimensions	Remarks	
1577	13/5125	Random	300		QFT	
1580	15/5015	310	?		QMu	
1581	15/5017	Random	?		QF	
1583	"	255	?			
1586	"	285	015		QMuF	Prospected
1593	15/5015	255	?		QMu	
1595	"	?	285		QMu	
1596	"	265	?			
1598	15/5017	?	010			
1604	14/5065	250	250			
1605	"	Random	260		QFT	
1606	"	D	260		QT	
1610	"	Random	240		QT	
2091	11/5209	C	0-20	Several yds. wide	QFMT	
2099	"	C	360	Very large		
2102	"	060	075	30 yds. wide	QFMT	
2104	"	?	360	Very large	QFM	Relation to country rock obscure.
2105	"	360	?	"	QFM	
2113	11/5207	240	?		QFM	
2115	"	C	160	10 yds.wide	QFM	
2116	"	Random	?	Small		Several, varying strikes.
2119	"	"	100	1-2' wide	QFMT	
2121	"	?	010	?	QFM	
2122	"	?	igneous	?	QFM	
2125	"	170	?	50 yds(plus)wide	QFMT	
2126	"	?	080	Small patches		
2149	"	C	020	2-3' wide	QT	
2149	"	140	020	Several ft.x hundreds of yds.	QFM.	
2150	"	150	?	6' wide	QFM	Good quartz core
2151	"	170	igneous	?		
2152	"	55	150	6 yds. wide		
2154	"	180	010	Several yds.wide		Several
2155	"	170	?	8 yds. wide		
2156	"	165	180	6 yds.wide		
2157	"	145	?	Up to 20 yds.wide.		Several
2158	"	Random	granite	Small		
2167	"	110	140	6' wide		
2202	"	Random	080	?		
2207	12/5153	"	100	?		
2208	"	055	100	?		
2235	"	200	igneous	5 yds.wide		

Number	Photo	Strike of Pegmatite Degrees Magnetic	Strike of Country Rock Degrees Megnatic	Dimensions	Remarks
2244	11/5195	C	140	Few feet wide	Several
2251	12/5153	C	195	Small	Several
2251	"	070	195	Large	
2253	"	030	180	?	
2256	"	irreg.	granite	?	
2258	"	100	"	?	
2259	"	Random	"	?	
2260	"	150	"	?	
2260	"	115	"	6'x several hundred yds.	
2288	"	C	130	?	
2294	"	C	?	?	
2297	"	Random	075	?	QFT
2302	"	"	?	?	
2317	12/5155	?	granite	Small	QFT
2363	11/5205	070	130	3'wide	
2365	"	085	130	Several yds. wide.	QFT
2366	"	?	120	Several yds.x several hundred yards.	
2379	"	Irreg.	105	?	
2380	"	C	110	Small	
2381	"	200	090	20 yds. wide	
2394	"	Random	?	?	
2395	"	"	granite	Variable	QFMT
2397	"	C	115	Large	
2418	11/5203	?	granite	?	
2421	"	?	140	Small	
2502	9/5071	010	010	20' wide	QFM
2547	"	110	?		QF
2603	11/5211	040	?		QFMu
2604	"	120	005		Numerous
2620	"	170	065		
2650	15/5019	?	?	"	QFT
2651	"	?	305	?	QF
2652	"	ram.	290	6" x 6'	QFBT
2653	"	335	290	Small	?
2655	"	045	290	1' x 5 yds.	FMuQT
2657	"	330	290	8' x 100 yds.	FQT
2657	"	290D	290	2' x 30 yds.	FQT
2657	"	290	290	Small	QTMu
2657	"	045	290	Small	QT
2658	"	290	040	9' x 40 yds.	QFT
2660	"	340	340	Small	FQT
2661	"	035	330	Variable	FQBT

Number	Photo	Strike of Pegmatite Degrees Magnetic	Strike of Country Rock Degrees Magnetic	Dimensions	Remarks
2663	15/5019	?	?	?	QFT
2669	15/5021	300	?	Medium (2)	QFMu, QBMu
2673	15/5019	?	?	Large	QFM.Quartz core.
2674	"	340	275	?	QFT
2679	"	ram.	270	small	?
2682	"	"	280	clots	QFT
2686	"	"	300	clots	QFT
2687	"	085	320	large	QFT(core), FQTB. Zoned.
2689	"	050	050	small	FQT
2690	"	030	290	small	FQT
2692	"	360	290	small	?
2695	"	320D	320	medium	FQB
2697	"	320	?	12'x 100 yds.	FMuQt Quartz core. Prospected.
2698	"	D	330	small	QMu
2699	"	050	280	150 yds.long	QT
2700	"	045	320	12yds x 25 yds.	FQMuBT Small mine
2700	"	035	320	?	QMuFT
2701	"	010	310	10' x 20 yds.	QMu
2707	"	55D	?	Up to 100yds.long.	QT
2708	"	360	080	Large	FQMuB.Quartz core. Ophir mine.
2711	14/5053	ram.	275	small	QF
2712	14/5053	275	?	small	Q
2718	14/5051	270	280	2' x 4 yds.	QFMu.
2720	14/5051	080	gran.	3'x 6 yds.	Q
2646	15/5021	D	360	?	QT
2648	"	45	340	1'x 8'	QT
2649	"	?	330	small	QMuT
2724	13/5137	280	280	12yds x 40 yds.	QMu
2730	13/5137	280	?	12yds x 250yds.	QMu (core) FQMu(margin)
2732	"	ram.	295	small	
2736	"	350	?	10'x 25 yds.	Q. Quartz core?
2752	14/5055	ram.	080	variable	QF
2753	14/5055	"	340	"	QF
2755	"	"	360	small	QF
2756	"	280	330	variable	QFB
2757	"	ram.	315	?	FQM
2758	"	270	315	6"x 20'	Q. Quartz core?
2759	"	270	285	variable	QT. Quartz core.
2760	"	?	?	large	QMuF
2761	"	?	?	"	QFMu
2762	"	060D	60	18"x 30 yds.	QFM

Number	Photo	Strike of Pegmatite Degrees Magnetic	Strike of Country Rock Degrees Magnetic	Dimensions	Remarks
2763	14/5055	ram.	045	small	
2776	14/5057	355C	355	small	
2777	14/5057	285	?	?	QM
2778	14/5057	ram.	285	small	QFM
2780	"	ram.	gran.	small	
2770	13/5131	ram.	gran.	small	
2775	"	ram.	32[illegible]	small	
2784	12/5151	010	010	5'x 80 yds.	QFM
2785	"	350	010	10'x 40 yds.	QT
2786	"	010	010	variable	QFMuT
2786A	"	010	010	large	QF
2787	"	010	010	medium	QMuT
2792	12/5149	320	gran.	9"x 10'	FQT
2794	"	310	gran.	6'x 20'	FQT
2795	"	?	035	?	QFT
2797	"	270	gran.	?	QMuT
2798	"	270	gran.	?	QT
2799	"	?	070	?	QFMuT
3000	10/5013	020	070		QFMuT
3002	"	?	"		QFT
3115	"	?	"		QFT
3116	"	140	"		
3119	"	105	"		
3122	"	?	"		QF
3123	"	?	"		QF
3124	"	?	"		QFT
3126	"	?	"		
3130	"	D	"		QFT
3135	"	?	Igneous		QFT
3138	"	090	Granite	small	QFT
3140	"	Random	"		QFT
3152	"	?	"		QFMuT
3154	"	?	"		QFT
3159	"	?	"		QFTMu
3168	"	?	"		
3170	"	?	"		QFMu
3172	"	?	"		
3177	"	?	"		
3178	"	?	"		QFT
3185	"	?	105		QF
3188	"	135	?		
3193	"	?	150		

Number	Photo	Strike of Pegmatite Degrees Magnetic	Strike of Country Rock Degrees Magnetic	Dimensions	Remarks
3196	10/5011	?	?		QFT
3197	"	?	Granite		QFT
3199	"	?	160		QFT
3200	"	?	Granite		QF
3202	"	?	"		QFQTMu
3210	10/5011	?	"		QFTMu
3211	"	?	"		
4510	12/5147	ram.	gran.	small	FQMuT
4514	"	ram.	"	"	FQ
4517	11/5123	080	"	"	QT
4633	12/5145	030	"	variable	Q
4647	12/5143	260	"	medium	QMu
4800	14/5077	?	300	"	QMuTF Prospected
4830	15/5017	325	080	?	QFTB
4831	"	?	?	small	QFMu Prospected
4832	"	?	350	medium	QFMuT
4833	"	?	?	?	QFMuT Prospected
4834	"	?	010	medium	QMuF Prospected
4835	"	?	?	?	FQMu Quartz core.
4839	15/5019	D	020	medium	FQ
4840	"	?	?	?	QFMu.Quartz core.
4841	"	ram.	?	large	QBF zoned.
4843	"	?	?	medium	QFMuB.Quartz core, zoned.
4845	"	075	310	variable	QFMu
4847	"	090	315	variable	QF
4847X	15/5019	?	?		QMu Prospected
4848	15/5017	?	?	?	QF
4850	"	280	D	12yds.x 100yds.	QMu(core),QFMu Zoned,Mined.
4851	"	?	?	small	QFMu.Quartz core.
4846X	"	?	D	medium	QFMu
4868	14/5089	080	325	large	QFMuTB Prospected
4873	"	?	?	medium	Q Quartz core?
4882	14/5073	90D	090	25yds x120 yds.	QFMuBTA. Millers Knob mine.
4883	"	90D	090	3'x 400 yds.	QMuB Prospected
4884	"	?	290	?	QFMuBT Prospected
4885	"	280D	?	5'x 25 yds	QMu Prospected
4886	"	Patch	050	Patches	QMu
4887	"	280	?	medium	QFMu prospected
4888	"	?	?	large	QFMuT Mine
4889	"	060	80	7yds.x 20 yds.	QFMu Mine

Number	Photo	Strike of Pegmatite Degree Magnetic	Strike of Country Rock Degrees Magnetic	Dimensions	Remarks
4890	14/5073	?	?	?	QFMuB Prospected
4891	"	?	?	?	QFMuBT Prospected
4892	"	?	?	?	QFMuBT Prospected
4893	"	270D	?	7yds.x 50 yds.	QFMuBTA Mined
4895	"	270	?	medium	Q Quartz core?
4896	"	?	?	medium	FQMuBT Prospected
4858	15/5013	?	?	variable	QMu Mine
4874	14/5077	080	?	medium	QMuFT Prospected
4875	"	080	?	medium	QFMuTB Prospected
4876	"	080	300	6'x 40 yds.	QM
4946	12/5175	080	060	variable	Quartz core

TABLE 2.

STRIKE Degrees Magnetic	010	020	030	040	050	060	070	080	090	100	110	120	130	140	150	160	170	180
SOUTHEAST AREA (24 pegmatites)	1	-	1	1	1	1	1	3	5	4	2	2	-	-	-	-	2	-
BONYA AREA (40 pegmatites	2	4	1	-	-	4	2	1	2	2	2	2	2	4	4	-	6	2
PLENTY AREA (90 pegmatites)	2	3	2	5	8	3	3	10	11	8	7	2	4	8	4	4	1	5
TOTAL (154 pegmatites)	5	7	4	6	9	8	6	14	18	14	11	6	6	12	8	4	9	7

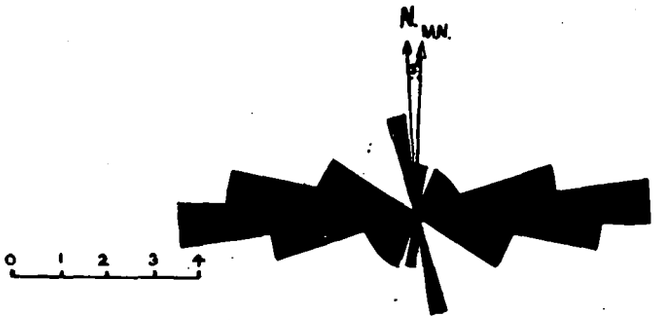


FIG. 1

Southeastern Area
24 pegmatites

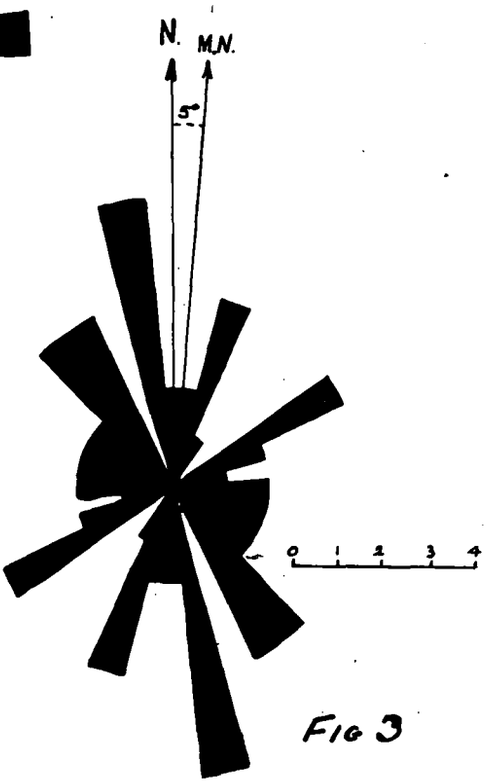


FIG 3

Bonya Area
40 pegmatites

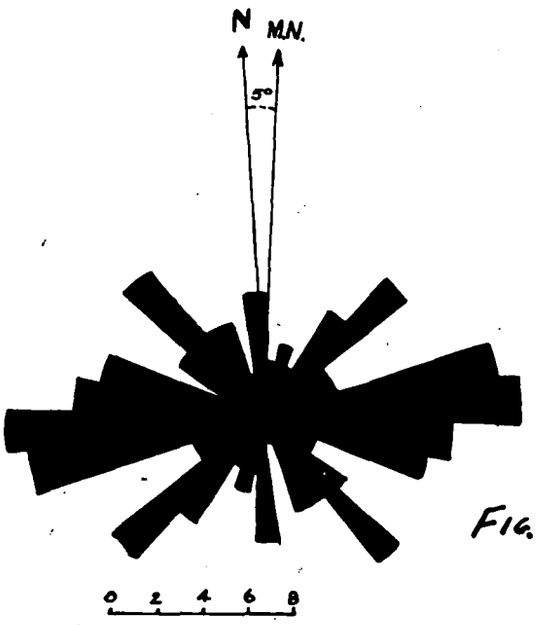


FIG. 2

Plenty River Area
90 pegmatites

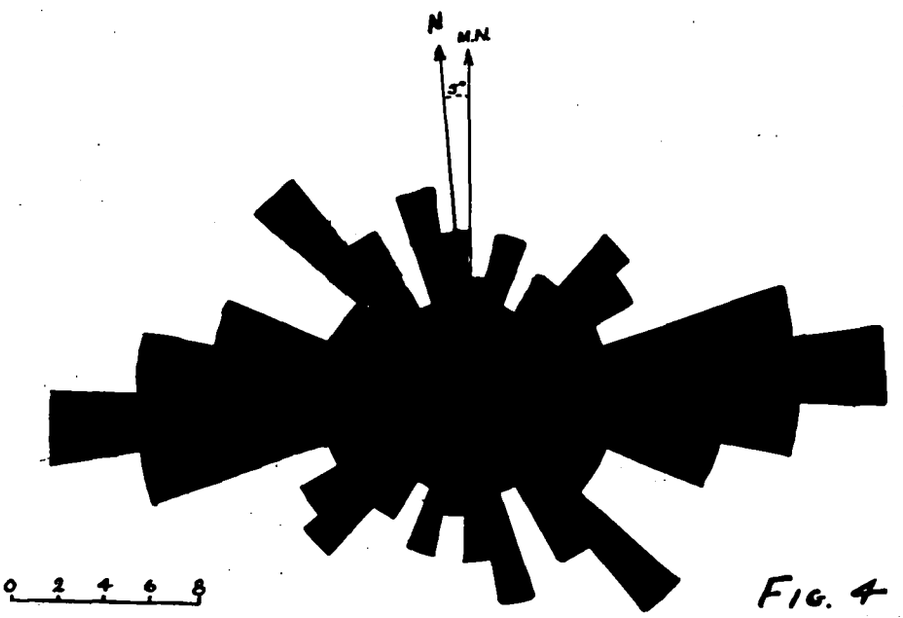


FIG. 4

Huckitta 4-mile Sheet
Aggregate of 154 pegmatites

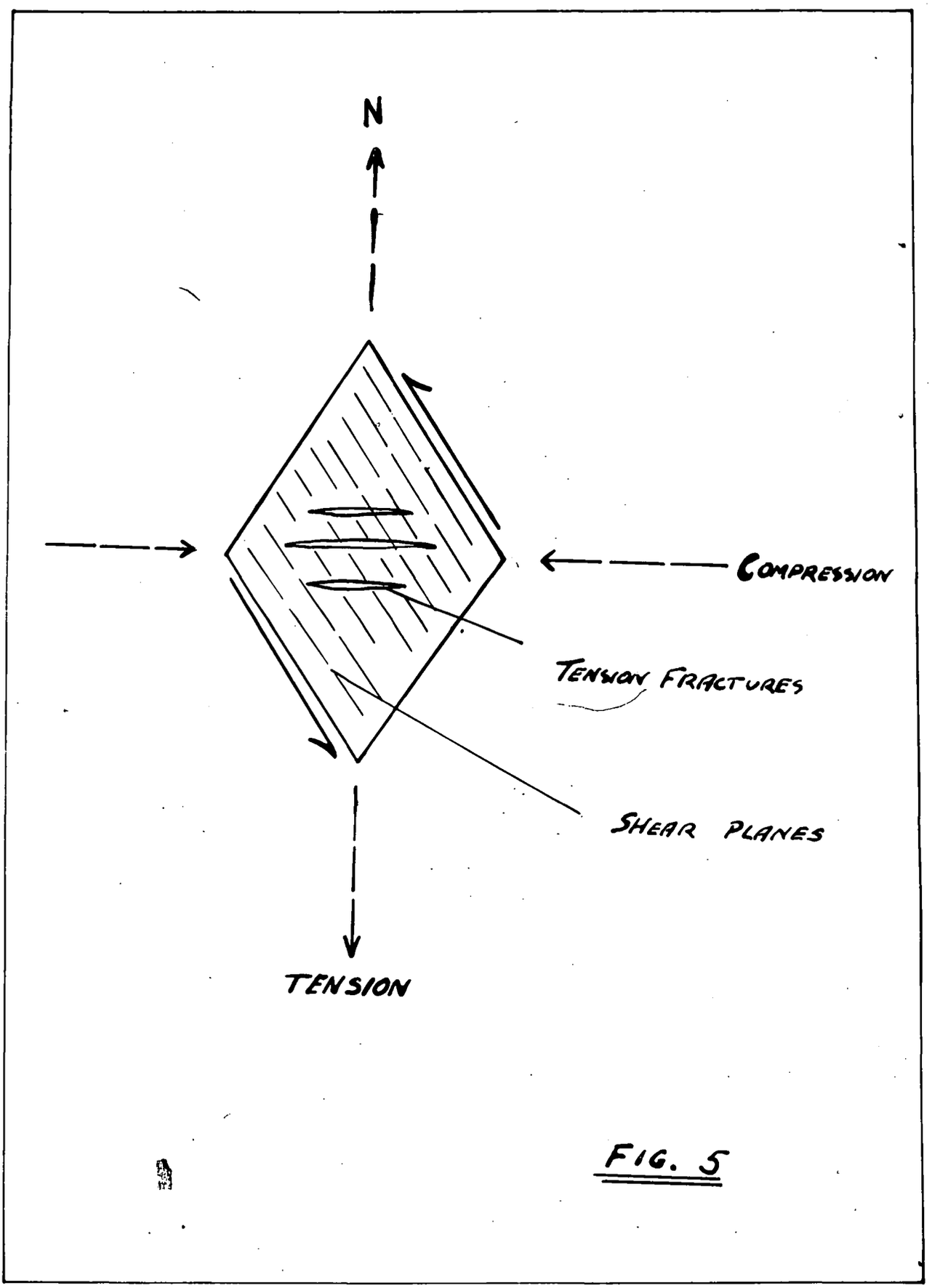
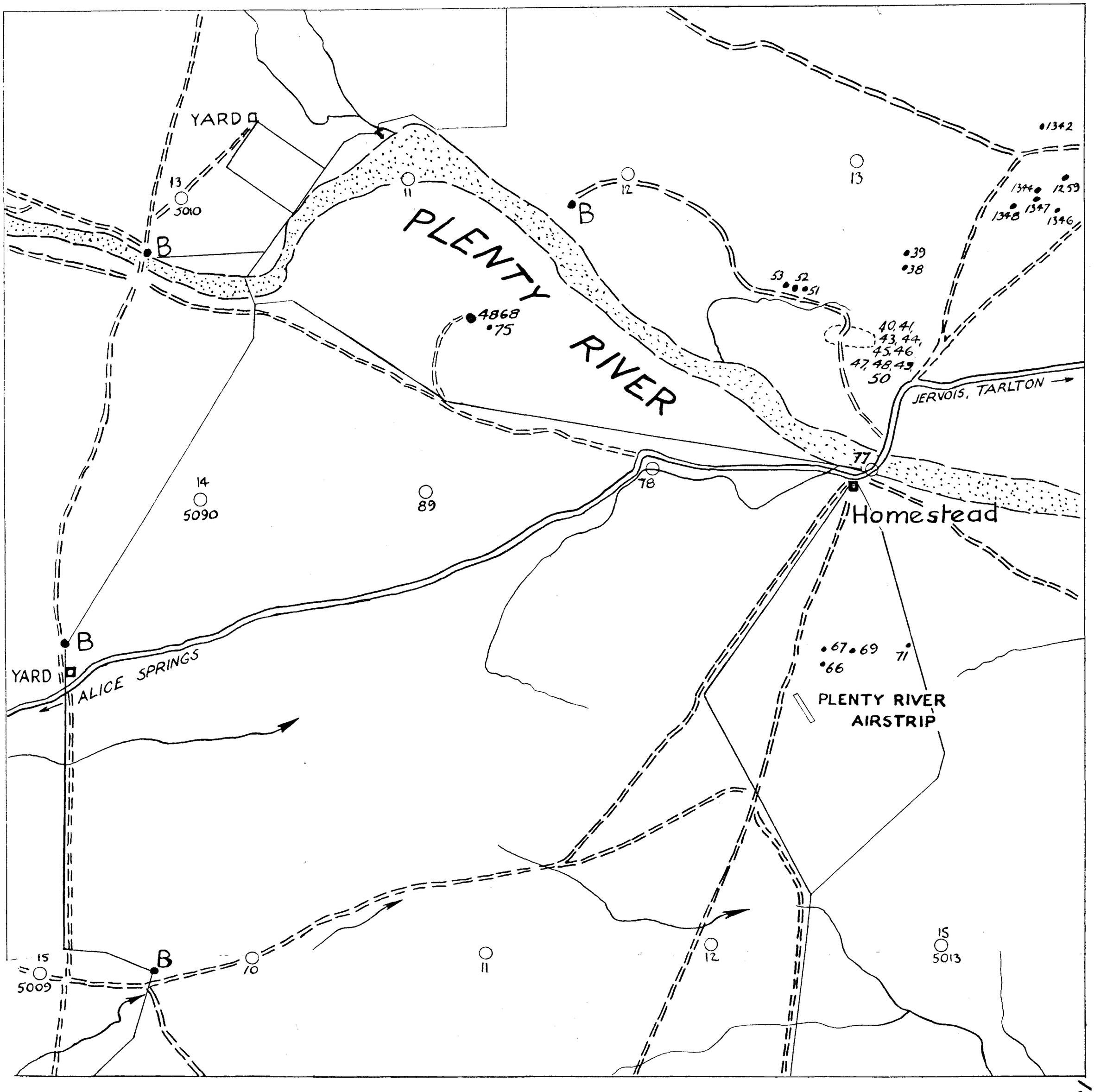


FIG. 5

PLATE 1


YARD
13
5010
B
PLENTY RIVER
4868
75
12
B
13
1342
1344
1259
1348
1347
1346
39
38
53
52
51
40, 41,
43, 44,
45, 46
47, 48, 49,
50
JERVOIS, TARLTON
77
78
14
5090
89
Homestead
B
YARD
ALICE SPRINGS
67
69
71
66
PLENTY RIVER
AIRSTRIP
15
5009
B
10
11
12
15
5013
HUCKITTA F53/11
ENTIRE CREEK 5/370
1 0 1 2 3 4
MILES
SCALE
135 30
NT E

LEGEND

ROAD

VEHICULAR TRACK

FENCE

•B BORE

MINE OR PROSPECT

• 2604 PEGMATITE LOCALITY

✱• 1551 PEGMATITES PARTICULARLY WORTH PROSPECTING.

HILL FEATURE

CLIFF

5215 AIR PHOTO CENTRE POINT, WITH RUN NUMBER AND PHOTO NUMBER

NT 53 B-5

PLATE 2

135° 30'
136° 00'
22° 45'
23° 00'

MARSHALL
BORE
DINKUM MINE
PAULINA MINE
WHISTLEDUCK MINE
ALICE SPRINGS
MILLERS KNOB
KING MINE
AJAX MINE
OPHIR MINE
2 MILE
HSTD
Prossers Soak
Dead Horse Soak
PLENTY
RIVER
Thring
Creek
Oorabra Creek
JERVOIS, TARLTON
B(E)

HUCKITTA F53/11
PLENTY RIVER 5/371

1 0 1 2 3 4 MILES
SCALE

NT 53B-

PLATE 3

136°00'

136°30'

22°45'

23°00'

ALICE SPRINGS

JERVOIS

COPPER

B

Bonya

Creek

MT. CORNISH

Thring C.

MARSHALL RIVER

PLENTY RIVER

HUCKITTA F53/11
SHEET 5/372

1 0 1 2 3 4 MILES
SCALE

NT 53 B -3

PLATE 4

136°00'

136°30'

22°30'

22°45'

Arthur Creek

MARSHALL BORE

LUCY CK. STN

RANGE

•MT. PLAYFORD

SANDSTONE RANGES

APPROXIMATE LIMIT OF BASEMENT ROCK

JERVOIS

OLD QUEENSLAND ROAD

JERVOIS MINES AND COPPER PLANT

FLOODOUT

Unca Creek

TARLTON STN

ALICE SPRINGS

COPPER

COPPER

BONYA COPPER MINE

HUCKITTA F53/11

SHEET 5/362

1 0 1 2 3 4 MILES

SCALE

NT 53B-4