

DEPARTMENT OF MINES  
SOUTH AUSTRALIA

GEOLOGICAL SURVEY  
ENVIRONMENT AND RESOURCES DIVISION

FLUORITE IN SOUTH AUSTRALIA

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## CONTENTS

## PAGE

PLUMBAGO	1
MUTOOROO	1
OTHER DEPOSITS	1
REFERENCES	3

## FLUORITE IN SOUTH AUSTRALIA

### PLUMBAGO

Fluorite has been recorded in Precambrian granites and Proterozoic metasediments in the Olary Province.

At Plumbago, 56 kilometres north of Mannahill, veins of quartz and purple fluorite were worked over a distance of 100 metres within Precambrian metasediments. A one metre channel sample assayed 78.3%  $\text{CaF}_2$ , 19.53%  $\text{SiO}_2$  (Pearson, 1933).

About  $1\frac{1}{2}$  kilometres to the west, another vein about 80 metres long, in granite, contained massive purple fluorite. A channel sample at the widest point assayed 97.7%  $\text{CaF}_2$ , 1.5%  $\text{SiO}_2$  (Campana & King, 1958).

### MUTOOROO

At Mutooroo, 50 kilometres south of Cockburn, a swarm of veins containing quartz, fluorite, calcite in varying proportions and barite with associated copper mineralisation has formed along foliation in schists of Adelaidean age. Fluorite bearing veins were less than one metre thick. Selected pieces from the abandoned pit assayed up to 65.4%  $\text{CaF}_2$  (Olliver, 1973).

### OTHER DEPOSITS

Fluorite has been reported elsewhere in the Olary Province at Old Boolcoomata (Peterson, 1955), Ameroo Hill, Walparuta, Mt. Victoria, Outalpa Springs, Crocker Well East and Tietz Dam (Campana & King, 1958). Exploration over intrusive granites and amphibolites covering most of these localities failed to detect significant fluorite mineralisation. A similar programme

searching for replacement deposits in carbonate rocks adjacent to a diapir north of Hawker in the Flinders Ranges was also unsuccessful.

Thin calcite veins in Cambrian limestone at Curramulka contain traces of fluorite sphalerite and galena (Blissett & Conor, 1972).

At Mt. Painter, purple and green fluorite occurs often associated with torbernite or stilbite.

The source of clear white to slightly greenish crystalline fragments on the shores of Pernatty Lagoon (Winton, 1920) and their relationship to copper and barite mineralisation has not been established. Minor fluorite is also found with barite and chalcopyrite at the Corunna Barite Deposit.

Fluorite is an accessory in the copper lodes at Moonta - Wallaroo and the possibility of recovering fluorite from mine dumps has been investigated.

Fluorite is also a minor constituent in most granites in the State. Richer zones may exist obscured by younger sediments, especially in the case of sparsely outcropping granites, such as near Culburra.

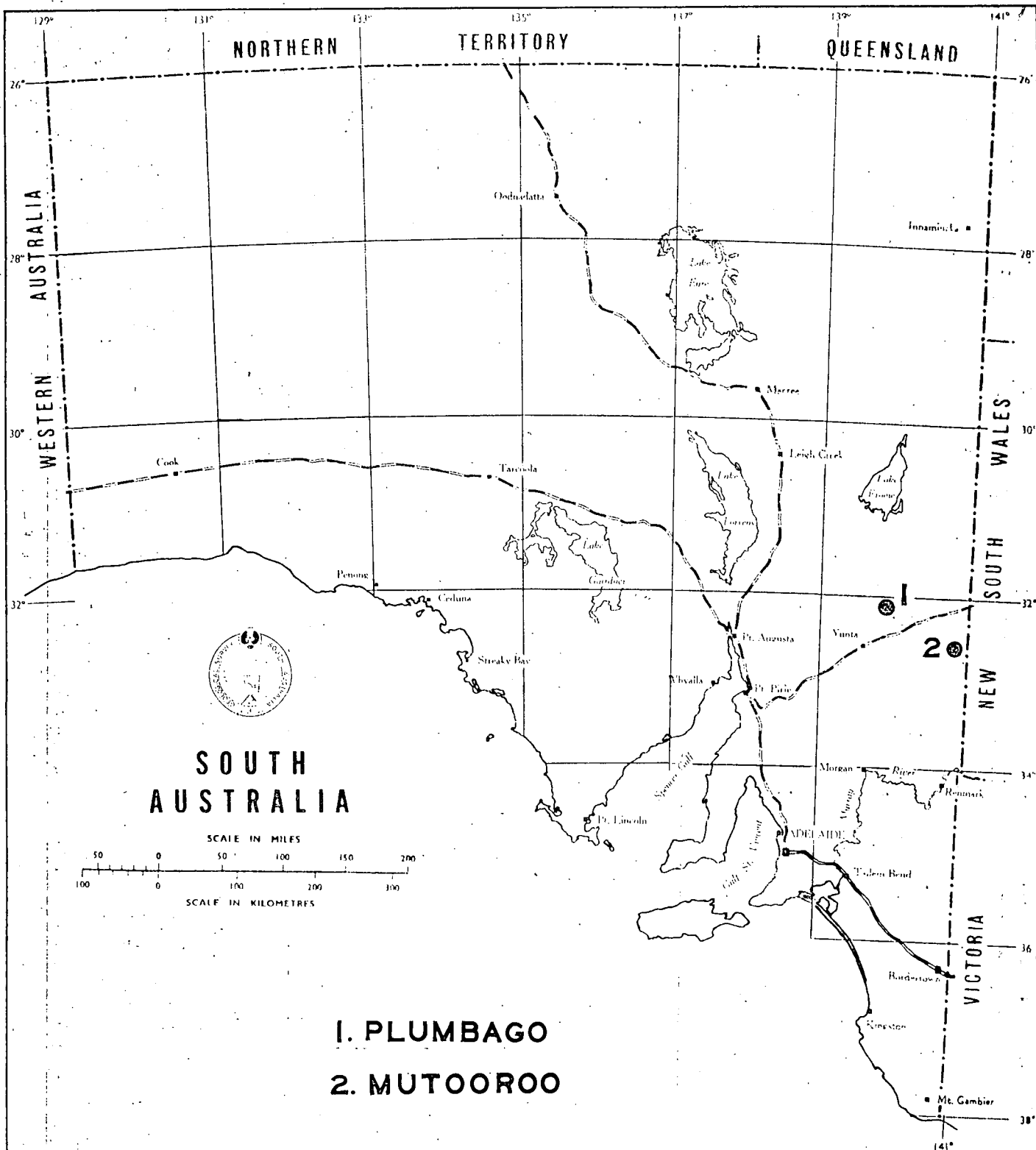
<u>Production</u>	1932-36	Plumbago	581	
	1956-58	Plumbago West	110	
	1970-71	Mutooroo	54	
			<hr/> 745	tonnes

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## REFERENCES

- Blissett, A.H. & Conor, C.H.H., 1972. Curramulka limestone Deposits Yorke Peninsula. Drilling Completion Report - Site One. Mineral Resour. Rev., S. Aust., 132 p. 103-109.
- Campana, B. or King, D., 1958. Regional Geology and Mineral Resources of the Olary Province. Bull. Geol. Surv. S. Aust. 34 p. 114-116.
- Hiern, M.N., 1967. Fluorite Deposits - Olary District. Min. Rev., Adelaide, 120 p. 81-82.
- Olliver, J.G., 1973. Fluorite Deposit - Mutooroo, S.A. Dept. Mines Rept. RB.73/236 unpub.
- Pearson, J.L., 1933. Fluorspar and mineral claim No. 13749, Plumbago Station. Min. Rev., Adelaide, 57, p.80-81.
- Peterson, W.R., 1956. Progress Report on Plumbago Fluorite claim. S.A. Dept. Mines Unpub. Rep. RB.41/49.
- Winton, L.J., 1920. Report on manganese deposits of the Australian Manganese Co. N.L. Min. Rev., Adelaide, 31 p. 90.



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# OCCURRENCE OF FLUORITE

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