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### FIGURES:

1: Locality Map
2: Survey Plan, MLs 77-86.
1. **INTRODUCTION**

Mining Leases 77-86 are held by Central Pacific Minerals N.L. on behalf of a Joint Venture consisting of itself (93.75%) and Magellan Petroleum Australia Ltd (6.25%). The leases are located in the Jinka Plains vicinity, about 340kms by road, northeast of Alice Springs, Northern Territory (Figure 1). Drilling and mapping were largely carried out during the period 1970-73 and have been reported previously. In the period since then the leases have been retained, pending the development of a suitable marketing opportunity.

This report is a summary of both the past work and the 1996 programme.

2. **INVESTIGATIONS UNDERTAKEN 1970-73**

Central Pacific Minerals N.L. undertook a range of investigations during the period including:

- Regional geological mapping on the Huckitta 1:250,000 sheet area which led to the discovery of the fluorite mineralisation.

- 1:250 scale mapping of eight reefs (labelled A to H).

- Channel sampling of the three largest reefs (A, C and E).

- Costeaming of reefs A, C and E.

- Percussion drilling of reef E.

- Diamond drilling of reef E.

This work has been previously reported to the Department of Mines by Ransom (1970), Hill (1972) and Pietsch (1972). Details of the fluorite deposits were given in a paper by Ivanac and Pietsch (1975). Hill (1972) gave the inferred resources contained in Reefs A, C and E, to a depth of 30 metres, as 250,000 short tons of 37% calcium fluoride. The estimate is regarded as conservative since Hill based his calculations on 853 metres aggregate length of reef while a further 600 metres of fluorite reef remained to be tested on Reefs A, C and E from which comparable grades and tonnages could be expected.

Markets for fluorite in Australia are felt to occur in the following areas:

1. As a flux in the steel-making process.

2. For the manufacture of artificial cryolite used in aluminium production.

3. As a source of fluorine for uranium hexafluoride.

4. In the dental industry and as a component of toothpaste.
5. As a component in welding fluxes.

Preliminary studies were made of the price and source of fluorite used in the steel-making process in Australia and preliminary negotiations were commenced with a previous South Australian Government with respect to the third option but these lapsed.

The price of fluorite in the 1970s was found to be insufficient to support economic mining, due principally to the component of transportation costs, given the location of the resource and the distance from markets.

3. INVESTIGATIONS UNDERTAKEN 1985-1995

During 1985 Claude Lupis & Associates Pty Ltd, mining and metallurgical consultants, prepared an assessment of the Jinka Plains fluorite prospect. This was forwarded as an addendum to the 1985 Annual Report for MLs 77-86.

During 1986 the mineral lease corner posts and name plates were renewed to the current Mining Act specifications. The prospect area was visited in 1994 and the lease datum and corner pegs were located and maintenance undertaken where required. GPS readings were recorded at the datum post sites for most of the leases.

The feasibility of establishing a mine at the prospect was periodically reviewed and not found to be economically feasible at the prevailing market prices for fluorite products.

4. 1996 PROGRAMME

4.1 Mining Lease Survey

Following an application to the NTDME for renewal of MLs 77-86 in September 1994, notification was received in October 1995 granting renewal for a period ending 30 December 2004 subject to the completion of a registered survey of the leases being completed before the end of 1996.

Brian Blakeman & Associates were engaged to survey the leases at Jinka. The survey was undertaken in November 1996 and the survey plan was lodged by the surveyor with the NT Department of Lands on the 3 January 1997. A preliminary copy of the survey plan for MLs 77-86 is shown in Figure 2.

4.2 Market Review

Fluorite prices remained static during 1996-97, with Mexican and South African acid-spar quoted prices ranging between US$115/t and US$135/t F.O.B. over the year (Industrial Minerals Annual Review, 1996; Industrial Minerals, July 1996 to April 1997). These levels are comparable with the corresponding 1995-96 period. Based on a study in 1985, the prices...
necessary to support a mining operation at Jinka Plains were estimated at A$300/tonne (US$238/t). The current world prices remain below this threshold. China continues to be a major supplier to the fluorite market with Chinese acidspar costing US$135-155/t CIF Rotterdam. Similar prices were experienced for the corresponding period in 1994-95.

The use of fluorite in the production of CFCs is expected to diminish as the rate of CFC production phase-out increases under the Montreal Protocol. However, this will largely be offset by an increase in demand for manufacture of replacement HCFC and HFC which requires larger amounts of fluorite. The demand for the new products had initially been depressed by the stockpiling of CFCs and use of illegal CFCs smuggled from Eastern Europe and the CIS.

New applications of fluorite such as in high performance cable insulation and growth in fluoropolymers provide some potential for an increase in the demand for fluorite.

5. CONCLUSION

The development of a fluorite mining and/or processing operation at Jinka Plains is not feasible given the present prices available for the potential fluorite products. A major price increase or a local market is required before this will change.

Both the resource and its potential for development will continue to be kept under review.
6. REFERENCES

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