

ANNUAL REPORT FOR EXPLORATION LICENCE

E.L.2657

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BY

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OPEN FILE

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1. Introduction

Exploration Licence 2657 covering an area of 237.26 miles was granted on the 15th June 1981. The ground was selected primarily to explore for gemstones with further consideration to investigate the potentials for gold and basemetal mineralizations.

Field activities were principally oriented toward detailed prospectings for corundum mineralizations with the object of locating potential areas for gem quality stone. This work was successful in locating six(6) areas of corundum mineralizations associated with discontinued zones of the conformable metasedimentary rock sequence.

Modifications to the field programme were necessary when difficulties were experienced in obtaining contract workers and machinery. This prompted both Parks and Athanasiou to independently explore other avenues to provide a continuity to the programme.

An approach by Western Mining Corporation to undertake a stream sediment programme to test for kemberlitic and base metal indications on EL's 2657, 2656 and 2672 has been considered. Verbal approval was given in November 1981 on the understanding that the work and results were to assist the commitments of the E.L's. This prompted Western Mining to compile and forward Joint Venture Agreement for joint signature and to undertake a helicopter assisted stream sediment sampling programme of the region concerned and more recently to collect bulk samples for analyses.

Although the agreement has not yet been jointly signed, Western Mining has confirmed with investigation while the agreement has been examined and negotiated. A copy of the agreement is appended to this report.

2. Location and Access

The exploration licence covers a rectangular parcel of ground bounded to the north by latitude $23^{\circ}01'W$, to the south by latitude $23^{\circ}16'S$ to the east by longitude $135^{\circ}23'E$ and to the west by longitude $135^{\circ}10'E$. It is located in the north western sector of the Illogwa Creek 1:250,000 Geological Map Series, approximately 150 km north-east Alice Springs. Bush tracks branching southward from the gravelled graded section of the Plenty Highway, provide access to the exploration area. A beef road linking Ambalindum Station with Plenty Highway traverses the area from south to north.

The rugged nature of the hilly terrain is not amenable to vehicular travel in some parts. All existing tracks and roads are subject to rapid deterioration after rains exceeding 15mm.

3. Physiography

The selected area includes the eastern margin of Harts Range which is represented by a roughly circular zone of steep rugged mountainous terrain centred about granitic rocks of the Huckitta Dome and flanked to the north, east and south by flat lying sandy flats.

The most prominent feature in the area is Mount Mary, which rises over 300m above the level of the surrounding plains.

The area is drained to the south and east by the Harding Springs, Entire Armata, Stanovos and Huckitta Creek systems which eventually dissipate in the sand plains. The Inkamulla creek system, a tributary to Entire Creek is the main drainage towards the south.

Vegetation in the hilly country is comprised of stunted isolated eucalypts and mulga with frequent clumps of cassia and witchetty bush. All creeks and drainages are flanked by stands of red river gum with paperbark (*Melaleuce* species). The sandy flats are dominated by patchy clumps of caasia, mulga and witchetty bush and support a growth of grass.

4. Regional Geology

The geology of the area is dominated by medium to high grade metamorphic rocks of the Precambrian Arunta Complex represented by a metasedimentary sequence of metaquartzites, gneisses, schists and altered calcaneous sediments interbanded with metamorphosed basic rock. The majority of the rocks have been subjected to amphibolite grade metamorphism. These rocks have been folded and buckled about slightly younger intrusive igneous rocks of the Huckitta and Inkamulla granodiorites, so that the overall structural trend is dominated by the warped circular traces produced by the Huckitta and Inkamulla domal structures. Metasediments dip away from the domal areas at angles ranging from 20°-70°. These rocks are traversed intermittently by coarse-grained pegmatitic dykes, trending easterly to north easterly, and which have previously been explored and exploited for mica production.

5. Exploration Programme

Initial field activities comprised of detailed prospectings by vehicle and foot traversing in search for corundum and possible associated gemstone within the metasedimentary sequence. A search of alluvial and scree covered areas by shallow pittings using pick and shovel techniques was successful in locating six extensive zones of rock containing corundum with some indications of gem quality. Kyanite and iolite mineralisation are shown on the accompanying map, Fig 1. All six areas were selected for continued testing employing backhoe trenchings to test continuity and quality of corundum mineralisation and to further gauge the potentials of corundum, kyanite and iolite for gemstone.

When contract personnel and machinery were not available the partners independently explored alternative avenues to continue investigations. An approach by Western Mining Corporation to gain entry to EL's 2656 2657 and 2672 to conduct a stream sediment sampling programme to test for the presence of kimberlitic affinities and base metal potentials, was accepted in November 1981. This work was immediately carried out during November 1981 concurrent with the issue of an offer of Joint Venture Agreement between Parks and Athanasiou and Western Mining Corporation for negotiation and joint signature.

Work conducted by Western Mining Corporation is outlined under separate cover. A total of 52 sediment samples, each approximately of 20 kg, were collected from the exploration areas and transferred to Perth for testing. Heavy mineral concentrates were prepared and examined for kimberlite indicator minerals. Aliquots for multi element analyses were also prepared to determine base metal associations: Result from this work stimulated Western Mining to collect a 2 tonne bulk sample of stream sediment for detailed analysis.

The bulk sample was collected in June 1983 and results of all work is understood to have been forwarded to the N.T. Department of Mines and Energy under separate cover.

Meanwhile the prolonged negotiations to finalise the Joint Venture Agreement are doggedly continuing.

6. Description of Corundum Locations

Location 1.

Approximately 5 km west of Mount Mary, on the eastern slope of a rounded hill, blue/grey corundum was identified in association with a 2 m wide band of flaky weathered biolite schist, flanked by bands of white/grey amphibolite rock.

Detailed prospecting determined the host biotite schist to extend as a discontinuous centricular zone, to the south-east, over a strike length of 1km with an average width of 2m. The corundum is partially weathered occurring in massive habit in chunks up to 0.75m in diameter. Most of the massive corundum was found in broken scree country downslope from the biotite schist. Rocks in the area tend to dip about 50° to the north east. Isolated pockets of iolite or broken fractured exposures were identified within biotite schist and yield potential for further exploration. All prospecting pits were backfilled.

Location 2.

About 4-5km south of Mount Mary industrial grade blue and blue/grey corundum was identified by prospecting an area of 1/2km x 1/4km of broken scree and alluvium on flat country. The corundum occurred in tabular crystalline form and also in massive habit. A series of shallow pittings indicated the host rock to be black biolite schist. The extent of the host rock is not known and further exploratory trenching and pitting is required to determine the dimension and persistence of the biolite schist and to determine the concentration and grade of corundum mineralisation.

Location 3.

On the slope of a rounded hill about 4km southerly from Mount Mary a broad zone of biolite schist, flanked by white/grey amphibolite was prospected to investigate the persistence of the zone and the

contained pink corundum. Prospective pittings confirmed the metasediments persisted as a discontinuous centricular bodies over a total strike length of 3km and an average width of 1/2km. The biolite schist was determined to be host to a pink corundum mineralisation with high blue/grey kyanite content and isolated pockets of iolite. Shallow pittings dug to about 0.5m confirmed the persistent distribution of pink corundum, occurring as weathered tabular aggregates varying in size from 2.5cm in diameter. The edges of the corundum were weathered to a soft friable constituency, surrounded a harder core of pink/red corundum. The shallow pittings have confirmed the corundum and is fresher and harder at depth and consequently the zone is prospective for possible gem stone ruby mineralisation.

This gem has been selected as a priority for further testing by trenching. The rock is relatively soft and it is considered that excavation employing backhoe machinery would be applicable to test the zone at regular intervals about 100m apart to depths of 3-4m depending on the hardness of the rock. Closer spacings are envisaged in some areas.

Location 4

An examination of scree and alluvial materials in rough, steep, hilly terrain about 5.5km east of Inkamulla Bore resulted in identifying large massive platy blue/grey commercial grade corundum associated with "calcareous" material on a zone persisting over a distance of 2-3km. The attitude and dimension of the last material is marked by calcareous cappings, scree and alluvial. Further prospecting by pitting and trenching is required to clarify the characteristics and mode of mineralisation. Access to the area is difficult and hand tools are initially considered to continue evaluation.

Location 5.

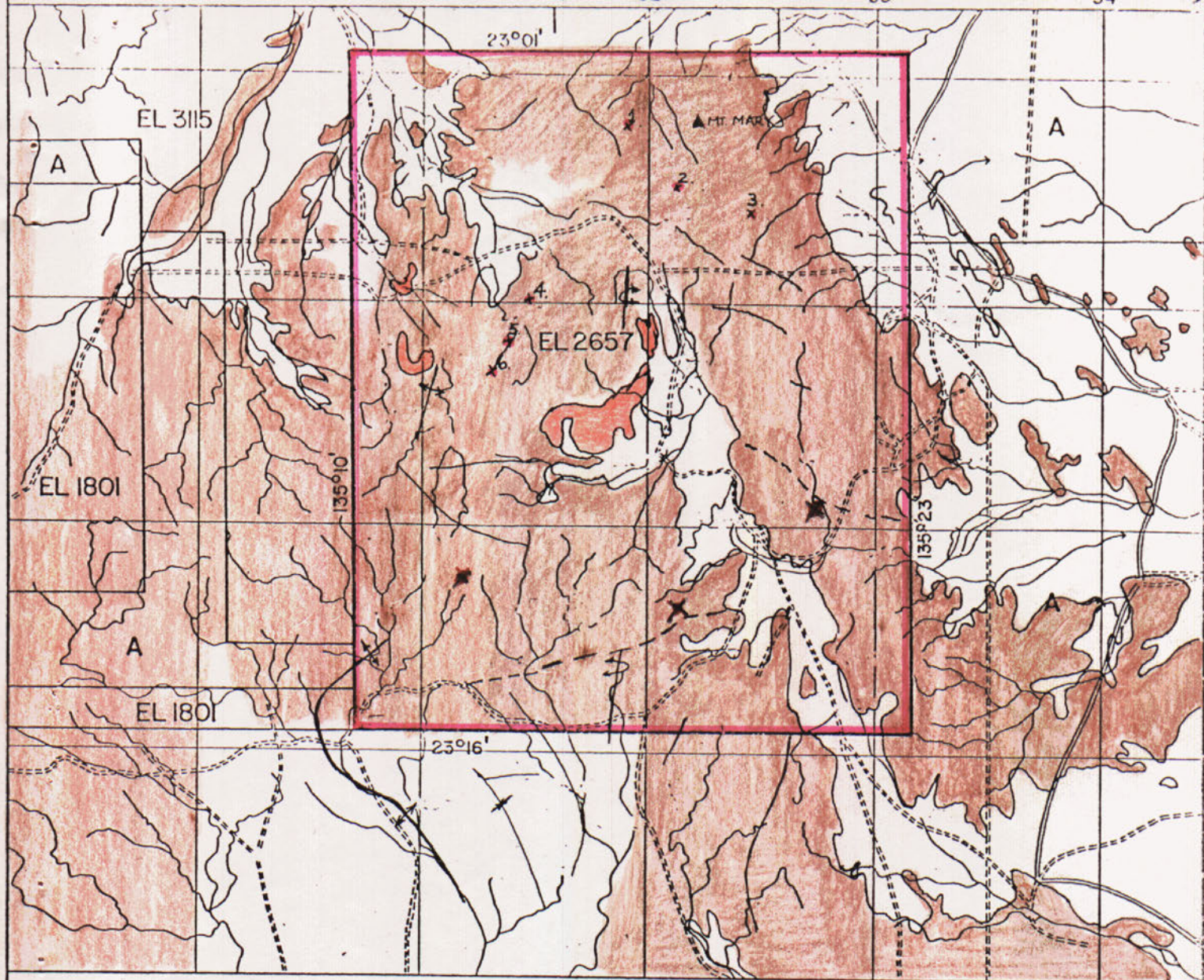
A probable extension of the zone outlined at Location 4.

A platy grey corundum mineralisation, with minor blue colouration was determined to be in association with a poorly exposed calcareous host rock over a length of 100m extending north south and a width of 20m. This locality is on a hill in rugged terrain approximately 5km east south east of Inkamulla Bore. Access to the prospect difficult.

Location 6.

Approximately 6km south east of Inkamulla Bore, an area of 40m by 15m of scree/alluvial was prospected by irregular pittings, resulting in identification of blue and grey corundum occurring in massive and platy form. The exposure is poor but the mineralisation is believed to be associated with a calcareous rock and/or biotite schist. A sample collected from this locality included a hard pink corundum

surrounded by green alteration. Other samples indicated corundum to occur in massive platy form measuring 12-15cm in diameter. Further prospecting is required to test the area and for possible strike extensions.



HARTS RANGE

EL 2657

Prospect Locations.

✕ Corundum Occurrence
2

SCALE 1:250000

REF. ILLOGWA CREEK SF53-15

EXPENDITURES FOR EXPLORATION LICENCES NO'S

2656, 2657, 2672

- 1) 15 June 1981 - 14 June 1982
- 2) 15 June 1982 - 14 June 1983

1. Expenditures on EL's 2656, 2657, 2672 by
W.M.D. PARK & V. ATHANASIOU

1981 - 1982

Wages:		11520
Commissary Supplies:		10280
Camp Equipment:	Tents.	2100
	Swags.	480
	Generator.	540
	Beds/Tables/Chairs	225
	Cutlery/Crockery Utensils	245
	Mobile Refrigerators	1140
Vehicle Hire		9600
Fuel		9600
Vehicle repairs & Servicing		2400
Tyres & Tubes		440
Office Communications		280
Maps & Plans		<u>30</u>
		48880
Expenditure by Western Mining Corporation		<u>32000</u>
Total Expenditure 1981-82		<u>\$ 80880</u>

Personnel and Equipment

Exploration activities were undertaken by a senior prospector and four assistants over a total period of 6 months using 4 vehicles.

The exploration effort was dominantly carried out on EL.2656

EL.2657

EL.2672

10%

65%

25%

Expenditures on EL's 2656, 2657, 2672 by W.M.D.Park & V.Athanasou.

1982-1983

Wages:	3600
Commisary Supplies:	3600
Vehicle Hire	3200
Vehicle repairs/Servicing	1750
Fuel	2600
Communications	250
	<hr/>
	\$15000
Expenditure Western Mining Corp	<hr/>
	20000
Total Expenditure 1982-1983	\$35000

Personnel & Equipment

The exploration activities were carried out by a senior prospector and 2 assistants over a period of 2 $\frac{1}{2}$ months using 2 vehicles. Activities were restricted to consider and negotiate a joint venture agreement offered/proposed by Western Mining Corporation.

Prospecting activities were apportioned EL. 2656	20%	\$7000.00
EL. 2657	40%	\$14,000.00
EL. 2672	40%	\$14,000.00

Proposed Programme 1983-84


With most of the preliminary prospecting work completed on the exploration licences the holders now intend to investigate the zones of known mineralization using contract professional services to assess and guide the exploration activities.

It is planned to continue investigations with the guidance of a professional geologist and contract earthmoving equipment. Initially the greater part of the licence areas are to be geologically mapped using aerial photography and to map each zone of mineralisation in detail within a defined graded area. Preliminary use of earthmoving equipment will be required to provide access to the prospect sites with restricted use to prospect the defined mineralisations by (costeening).

The aim of this work is to rapidly define areas suited by conversion to mineral claim or mining tenement. Work will initially be concentrated on EL 2657 to explore the potentials for gemstone and wolfram mineralisations where the potential targets are reasonably clear.

On EL's 2656 and 2672 the mineralisations of copper and lead are more obscure and the geology diverse requiring a more detailed geological appraisal. In the areas prospecting of the mineralisations is planned using costeens to trace the trend of mineralisation, to gain samples for assay and to determine the geology.

The work is planned to use the services of a contract geologist, a contract surveyor and draughting for plan preparation. Earthmoving requirements will be forwarded for the Departments consideration prior to its intended use and following geological ground assessment. All activities will be carried out independent of Western Mining Corporation. The anticipated cost including costeening will be \$120,000 to \$130,000 spread over the three EL's.


R. Attanasio