Asarco Australia Ltd.

Tennant Creek Project

EL 6196 (Jubilee)

Annual Report for the Year Ended October 3, 1992

by
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1. Introduction

EL 6196 'Jubilee' is centred 10 kilometres north west of Tennant Creek. The exploration licence covers a sequence of lower Proterozoic sediments and porphyries considered prospective for gold (-copper-bismuth) mineralisation. Refer to Figure 1.

The exploration licence was granted on October 4, 1988 to Asarco Gold Pty. Ltd. a wholly owned subsidiary of Asarco Australia Ltd. over 13 sub-blocks. Several MCC's which mostly cover areas of known mineralisation are excluded from the exploration licence. Six (6) sub-blocks were relinquished at the end of the second year of tenure, and a further three blocks surrendered at the end of the third year.

This report details the work carried out during the year ended October 3, 1992 within the exploration licence. Two (2) sub-blocks were relinquished at the end of this period.

.../2.

2. Exploration Objectives

Several situations with potential for economic gold mineralisation are present within the tenement, viz;

- typical magnetite-hematite-quartz (ironstone) lodes,
- 'contact' jasper-hematite-quartz ironstone developed in sediments close to or abutting acid porphyries,
- shear zones (±ironstone lodes).

It is considered a possibility that near surface oxidised ironstone type mineralisation and any shear hosted mineralisation may not have a strong magnetic signature hence could have been overlooked by previous explorers.

In addition, exploration in the previous year of tenure identified a lamprophyric dyke which may be prospective for diamond mineralisation.

Reconnaissance soil and lag geochemical sampling was selected as a suitable first-pass technique with the follow up of anomalies by infill lag, rock chipping, vacuum drilling, ground magnetics and RAB drilling.

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3. Geology and Mineralisation

About 60% of EL 6196 is covered by Cainozoic sediments. Within the licence, bedrock exposure through the superficial covering of sand, soil, and colluvium takes the form of low gentle hills (in the south west), scattered mesas (in the north east) and razor back ridges of quartz, jasper and ironstone.

Interbedded greywacke, siltstone and minor shale of the Warramunga Group are intruded in the southern portion of the licence by domal bodies of quartz feldspar porphyry up to 4 kilometres in length. Relationships between the sediments and porphyry range from shear and fault contacts near the (excised) Jubilee mine site through to concordant gently dipping contacts 400 metres south of this mine site. A lamprophyric sill(s) runs parallel to and within the Mary Lane Shear, north and east of the Mascot mine.

The common jasperoidal-ironstones and quartz-hematite ironstones in the southern area can be assigned to two groups;

Type 1 - occurring in sediments on or up to 70 metres distal from the porphyry contact as conformable lenticular bodies to 6 metres width of iron and/or silica enrichment, sometimes displaying cubic casts after pyrite ("contact" ironstones).

Type 2 - ferruginous silicified bodies parallel with, and hosted by east west trending shear zones.

The Mary Lane shear, a major structure in the Tennant Creek goldfield, transects the north eastern corner of the licence on a trend of 105°. To the north of this shear, shale dominated sediments of the Warramunga group are intruded by lamprophyrie sills and dykes. South of the shear near the Mascot mine (excised) two quartz-feldspar porphyry plugs intrude a sedimentary sequence dominated by greywacke and siltstone.

Historically worked mines within the boundaries of the exploration licence comprise;

- Jubilee (excised) recorded production 620 oz Au, >500 lb Bi
- Mary Lane (excised) recorded production 2 oz Au
- Mascot (excised) recorded production 22 oz Au
- Mt. Otto (excised) no recorded production.

Other unnamed pits and shafts have also been observed within the licence.

At Jubilee, sheared and ferruginised sediments within an east trending shear host the gold and bismuth ore, while at Mary Lane and Mascot Mines massive ironstone and sheared iron rich sediments within or adjacent to the Mary Lane shear have been exploited.

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4. Work Done and Conclusions

Work during the current year of tenure has entailed a full reassessment of exploration results obtained to date from the Tennant Creek project, including Jubilee E 6196. As a result of this review it was decided to seek joint venture partners to accelerate exploration of the area. Discussions and negotiations have been held with a number of companies, and should be finalised by early in the new tenement year.

C. Paterson

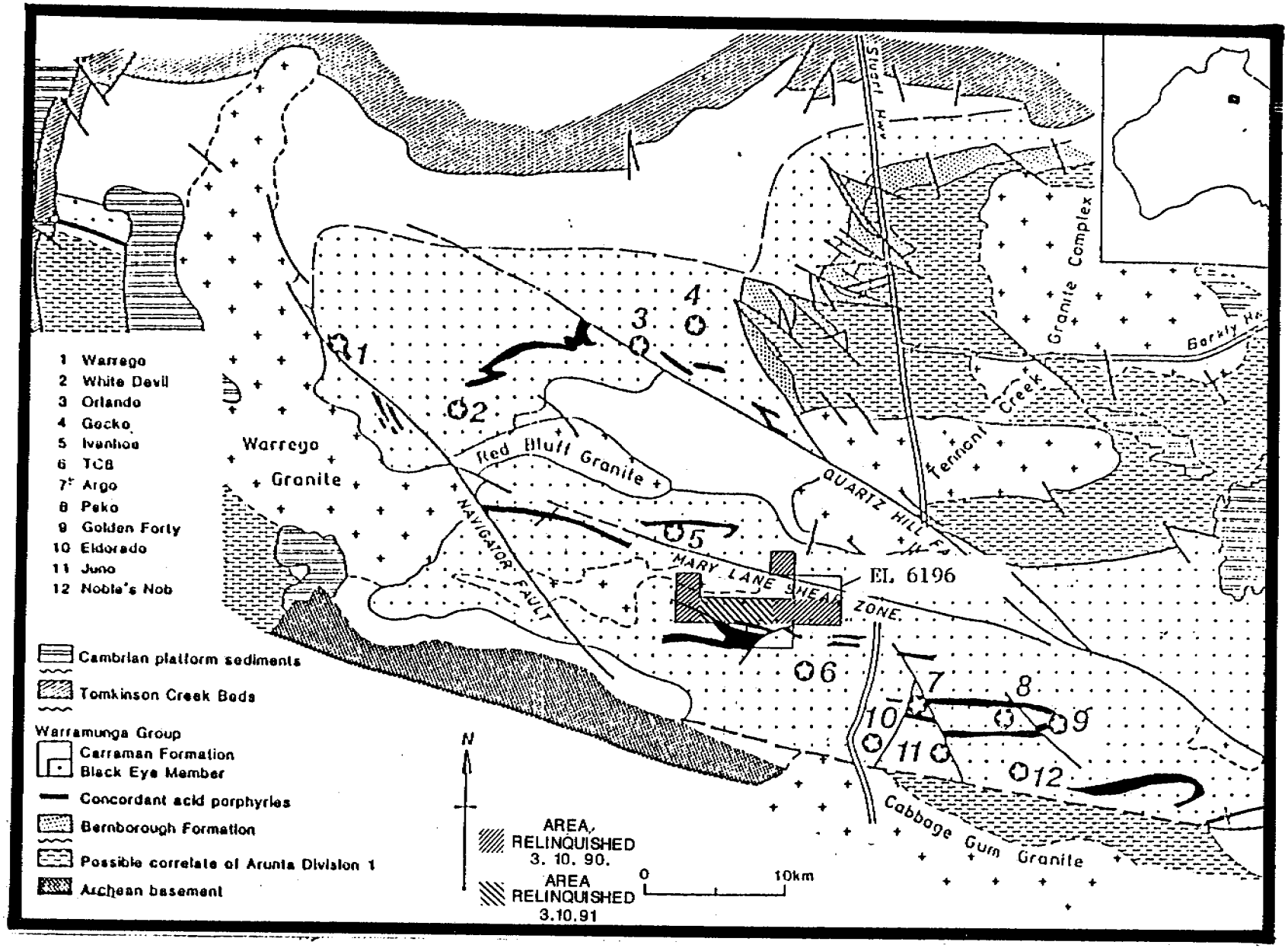

Figure 1
Regional Geology
(after Wedekind et al, 1989)

134°03' 134°04' 134°05' 134°06' 134°07' 134°08' 134°09' 134°10' 134°11'

19°34' 19°35' 19°36' 19°37' 19°38' 19°39'

TN
MN
5°

EL6196

WARREGO

9 000E

10 000N

JUBILEE NORTH BASELINE

MASCOT

MARY LANE

MCC 867

MCC866

MARY LANE CLAIM BLOCK (ASARCO)

MCC 869

MCC 868

JACQUELINE

CAROLINE

MT. OTTO CLAIM BLOCK (ASARCO)

MCC874

Explorer 220

12 000N

MCC 873

MCC 870

MCC 872

MCC 871

PEKO Explorer 104

EL6196 JUBILEE

Quartz haematite (Jasper) ironstones adjacent to porphyry minor boxworks after pyrite

TCIV Anomaly 16

Explorer 105

MCC875

10 900N

MCC876

10 500N

Explorer 219

JUBILEE

MCC877

10 100N

JUBILEE CLAIM BLOCK (ASARCO)

Quartz haematite ironstone in shales at porphyry contact some boxworks after pyrite

PEKO Explorer 106

Quartz haematite ironstones flanking a porphyry

TENNANT CREEK

CR93/022

Rock Chip Geochemistry
(all results in ppm)

Sample Number	Au	Cu	Bi	Rock Type
420901	0.02	37	190	ironstone
420902	0.02	57	100	ironstone
420903	0.06	48	>200	ironstone
420904	<0.02	75	44	ironstone
420905	0.06	98	88	ironstone
420906	0.08	71	>200	ironstone
420907	<0.02	27	130	ironstone
420908	<0.02	33	154	ironstone
420909	0.06	132	>200	ironstone
420910	<0.02	175	35	ironstone
420911	0.04	112	164	ironstone
420912	0.04	163	200	ironstone
420913	0.02	49	>200	ironstone
420914	0.02	10	70	ironstone
420915	0.04	11	102	ironstone
420923	<0.02	9	<1	ironstone
420924	<0.02	16	<1	ironstone
420925	0.04	32	8	Quartz & Siltstone
420926	8.75	49	>200	Chlorite schist & lamprophyre
420927	0.04	30	10	Quartz & Siltstone
420928	<0.02	7	1	Chloritic-Siltstone
420929	0.20	26	118	ironstone
420931	0.10	222	133	ironstone
420932	0.06	95	19	ironstone
420933	0.08	236	94	ironstone
420934	0.02	63	1	ironstone
420935	0.02	134	35	ironstone
420936	0.04	96	66	ironstone
420937	0.02	150	19	ironstone
420938	0.06	208	25	ironstone
420939	0.04	150	200	ironstone
420940	0.04	35	40	ironstone
420941	0.04	53	40	ironstone
420942	<0.02	7	<1	ironstone
420943	<0.02	13	2	ironstone
420944	0.02	9	1	ironstone
420945	0.02	4	2	ironstone
420946	<0.02	17	>200	ironstone
420947	<0.02	8	2	ironstone
420948	<0.02	4	<1	ironstone
420949	0.02	60	7	ironstone

Sub-blocks relinquished 3. 10. 1990

Sub-blocks relinquished 3.10.1991

LEGEND

- Bitumen Road
- 4WD track
- Fence and gate
- Tenements held by others within EL6196
- Explorer 106 — Geopeko magnetic anomaly
- Ironstone
- x 935 — Rock chip sample number and location (prefixed by 420)
- Old Workings

0 0.5 1.0 1.5 2.0Km

ASARCO AUSTRALIA LTD.

TENNANT CREEK

EL6196 JUBILEE

Tenement, Grid Locations and Rock Chip Geochemistry

Compiled: R.J.D.		PLAN No.
Drawn: V.L.P.		7068
Checked:		
Scale: 1 : 25 000	Date: 1992	