FINAL REPORT
FOR EXPLORATION LICENCE 7491
FOR THE PERIOD 15/10/91 TO 14/8/95
TENNANT CREEK DISTRICT, NORTHERN TERRITORY

ELDORADO PROSPECT

VOLUME 1 OF 1

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DATE: NOVEMBER 1995

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COMMODITIES: Gold, Copper
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1. SUMMARY

This report details work completed by PosGold Limited (PosGold) on EL 7491 (Eldorado) for the period 15/10/91 to 14/8/95.

EL 7491 was granted to North Broken Hill - Peko Limited (Peko) on 15/10/91 for a period of four years. PosGold has explored the licence for Tennant Creek style Au-Cu-Bi ironstone related mineralisation. The licence is located six kilometres SSE of Tennant Creek.

Work completed by PosGold on EL 7491 for the period includes:
- a ground magnetic survey;
- photogeological mapping;
- RC drilling of three holes for 223 metres;
- Eldorado Mine resource modelling and mining; and
- vacuum drilling of 686 holes for 1309 metres.

Total expenditure incurred by PosGold for the period 15/10/91 to 14/8/95 totals $135,416. Exploration completed suggests the licence area outside established mineral leases and claims hold limited potential for economic Tennant Creek style mineralisation and as such the licence was surrendered on 14/8/95.
2. **INTRODUCTION**

2.1 **Location and Access**

Exploration Licence 7491 (Eldorado) is located approximately six kilometres SSE of Tennant Creek, refer Figure 1. Access is gained by an all-weather track leading east from the Stuart Highway, four kilometres south of Tennant Creek, or via a poorly formed track leading west from the abandoned Juno Mine.

2.2 **Physiography**

In the south and south-east of the licence, mesas and undulating topography trending WNW are present with alluvial and aeolian deposits located to the south and to the north. The mesas are spinifex covered with scattered ghost gums, while dense mulga scrub is ubiquitous to the flat areas.

2.3 **Tenure**

EL 7491 was granted to Peko on 15/10/91 for a period of four years and comprised four graticular blocks. The licence was transferred to PosGold as part of the purchase of all Peko's Tennant Creek assets by the Company. ML's C15-16, C498-503, C523, C528-529, C535, C546, C581-583, C683 and HLD's C23-24 form a group of tenements which fall within EL 7491 and cover the Eldorado, Mount, Cats Whiskers, Ellen and Dingo Mines and historical workings, while ML's C197-209, C630-631 and MC's C21-23 cover the Argo Mine. ML C52 covers the Explorer 38 magnetic anomaly and is held under the PosGold - Camelot Resources NL Joint Venture. MC's C5-8, and C634 cover the Dolomite and Pup Mines and are held by prospectors. MC's C358-361 cover eastern extensions to the Eldorado line east of Dingo and are held under the Camelot Resources NL - Roebuck Resources NL Joint Venture.

On 16 September 1993, application for deferral in reduction of EL 7491 for 12 months was submitted to the NT Department of Mines and Energy. On 16 November 1993 the deferral in reduction of EL 7491 was granted enabling PosGold to retain the four graticular blocks until 14 October 1994.

On 15 September 1994 two blocks were relinquished from EL 7491, and on 14/8/95 the remaining two blocks were surrendered.

3. **LOCAL GEOLOGY**

Campbell (1953 and 1957), Ivanac (1954), Ryan (1958), Norris (1980) and Skirrow (1993) have given comprehensive descriptions of the geology of the Eldorado area.

The rocks of the Eldorado area comprise Warramunga Group siltstone, greywacke, sandstone, haematite shale and ironstone. Quartz porphyry is intersected in drilling 500 metres south and 1km north of Eldorado. A haematite shale unit has been used successfully as a marker horizon.

The Eldorado area is characterised by a broad WNW trending line of sediment-ironstone hills rising up to 80 metres (Mt Samuel) above the alluvial and
aeolian Quaternary peneplain. The line of ironstones disappears under the peneplain
east of Dingo and west of Mt Samuel.

The dominant structure of the Eldorado area is a series of open anticlines and synclines
plunging 20° east with local westerly plunges. Fold wavelengths vary from 100 to 500
metres. Cleavage generally strikes 100° with subvertical dip, however immediately
west of Eldorado and in the Cats Whiskers and Dingo vicinity cleavage strikes 90°.

North of the Eldorado line of ironstones, numerous porphyry lenses occur within
Warramunga Group sedimentary rocks. NE and NW trending regional faults transect
the northern portion of the licence in the vicinity of the Argo Mine. In the extreme
north, east-west striking Warramunga Group sediments host the Dolomite and Pup
gold mines which are sheared porphyry-quartz hosted deposits, and the Explorer 38
Prospect.

4. EXPLORATION AND MINING IN THE EL 7491 VICINITY PRIOR
to 15/10/91

The Eldorado orebody was discovered by prospectors in 1932 and after unsuccessful
attempts to exploit it, Eldorado Central Australia Limited acquired the mine in 1934
under GL 789.

Eldorado Tennant Creek Pty Ltd, a subsidiary of the abovementioned company,
undertook all underground mining operations for the period 1938-1958 producing
91,341 tonnes @ 22.17 g/t Au (Ryan, 1958).

During the 1930's the Cats Whiskers, Ellen, Dingo, Mount, Patties, Enterprise and
Estralita orebodies were discovered and mined.

In 1935 the Aerial Geological and Geophysical Survey of Northern Australia
(AGGSNA) conducted a ground magnetic survey over the Eldorado area and
identified five magnetic anomalies referred to as Anomaly 1 to 5.

In 1966 Peko Mines NL (Peko) acquired GL 789, which upon renewal became GML's

During the early 1980's Australian Development Limited (ADL) held tribute over the
Eldorado Mine and conducted shallow RC drilling in an attempt to define a shallow
open pittable resource. Results were negative and the tribute option was allowed to
expire.

In 1989 Peko defined a low grade Au halo enveloping the exploited underground
orebody and commenced production of the Eldorado shallow open pit resource. Peko
produced 25,800 tonnes @ 5.49 g/t Au from Eldorado before PosGold purchased
Peko's Tennant Creek assets in 1991 including the Eldorado leases. PosGold
continued the mining operation in 1992 and produced 66,370 tonnes @ 5.54 g/t Au.

Over the Argo Mine group of tenements, Peko conducted ground magnetic surveying
during the early 1960's to locate an aeromagnetic anomaly. The survey located the
Argo (Explorer 46) and Explorer 38 magnetic anomalies.
Drilling at both anomalies was intermittent and spanned over 20 years. During the late 1980's the Argo deposit was mined by underground methods and produced 309,945 tonnes @ 8.3 g/t Au (Meade and Love, 1989).

At Explorer 38 exploration drilling defined a sub-economic Au-Cu-Bi-Pb-Zn mineralised ironstone located 150 metres vertically below surface.

5. EXPLORATION OVER EL 7491 FOR THE PERIOD 15/10/91 TO 14/8/95

5.1 Ground Magnetics

A high definition ground magnetic survey was conducted for PosGold in 1992 by the Geological Research Institute of the University of New England. The survey covered the entire strike length of the Nobles Nob to Mt Samuel line of ironstones within EL 7491. Survey specifications are as follows:

- Survey Instrument: TM-4 Cs Vapour Magnetometer
- Sample Interval: 0.5m
- Line Interval: 25m
- Base Station: Geometrics G856 PPM
- Sample Rate: 5 sec
- Collected By: M K Cattach

The ground magnetic data clearly redefines the AGGSNA magnetic anomalies and defined magnetic features associated with known ironstone bodies.

Refer to Figures 5 and 6 in Edwards (1992) for contoured total magnetic field and reduced to pole magnetics plots respectively.

5.2 Photogeological Mapping

In 1992, PosGold contracted Australian Photogeological Consultants Pty Ltd to undertake detailed photogeological mapping of the Tennant Creek district. The project was completed using a combination of 1:25,000 scale colour aerial photographs, low-level aerial magnetic survey data and regional field traverses.

The area within EL 7491 consists of Warramunga Group rocks with a general east-west trend, intersected by sub-parallel porphyry lenses. The rocks are deformed by WNW trending faults associated with tight folding as well as WNW trending thrusts and NW and NE trending transform faults, refer Figure 2 in Worland (1993).

5.3 RC Drilling

A reassessment of the Eldorado Mine database granted by Peko was undertaken in 1992 and it was found that potential for mineralisation existed down plunge of the surface resource.
Three RC drillholes (ELRC-001 to 003) were completed to test for orebody extensions in the down plunge position. A total of 223 metres were completed by Gomex Drilling Pty Ltd. Significant results included:

<table>
<thead>
<tr>
<th>Drillhole</th>
<th>Depth (m)</th>
<th>Rock Type</th>
<th>Gold Grade (g/t)</th>
</tr>
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<tbody>
<tr>
<td>ELRC-001</td>
<td>36-72m</td>
<td>haematite-quartz ironstone</td>
<td>2m @ 13.9 g/t Au</td>
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<tr>
<td></td>
<td>37-39m</td>
<td></td>
<td>3m @ 11.4 g/t Au</td>
</tr>
<tr>
<td></td>
<td>54-57m</td>
<td></td>
<td>2m @ 13.9 g/t Au</td>
</tr>
<tr>
<td></td>
<td>70-72m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ELRC-003</td>
<td>47-81m</td>
<td>haematite-quartz ironstone</td>
<td>3m @ 4.4 g/t Au</td>
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<tr>
<td></td>
<td>47-50m</td>
<td></td>
<td>3m @ 21.3 g/t Au</td>
</tr>
<tr>
<td></td>
<td>62-65m</td>
<td></td>
<td>2m @ 27.5 g/t Au</td>
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<tr>
<td></td>
<td>71-73m</td>
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Refer to Appendix 2 for RC drillhole data and Figures 7 to 11 for Au/Lithology cross sections for ELRC-001 to 003, in Edwards (1992).

5.4 Eldorado Resource Modelling and Mining

Subsequent to the RC drilling programme a complete reappraisal of the geological and orebody interpretation was completed using Datamine software on an Apollo 3500 computer and an orebody model was constructed taking into account such parameters as cut-off grade, minimum mining widths, geological contacts, specific gravity determinations and geostatistics. The final model gave an estimate of the minable ore reserve of 55,000 tonnes grading 5.5 g/t Au. This was to be compared with the estimate of the remnants by Peko of 31,200 tonnes grading 4.5 g/t Au. Production from Eldorado exceeded the estimated figure with the extraction of 66,370 tonnes grading 5.54 g/t Au.

5.5 Vacuum Drilling

Geochemical vacuum drilling was completed over EL 7491 and involved two separate programmes outlined in Edwards (1992) and Worland (1993).

In summary, a total of 686 drillholes for 1309 metres were completed targeting strike extensions and repetitions of ironstones structurally located within the Nobles Nob to Mt Samuel corridor.

Drilling was undertaken by Tracey's Drilling Pty Ltd of Tennant Creek using a tractor mounted Edson rig. Drilling was completed on 100m spaced N-S traverses with 25m spaced centres closing to 50 x 25m over the Eldorado hills.

Geological logging of all holes recorded details of cover, overburden and bedrock to aid the interpretation of results. Drillholes intersected haematite-altered siltstone and greywacke of the Warramunga Group intruded by lenticular porphyry bodies.
A total of 370 two kilogram bedrock samples were collected and analysed for Au, Cu, Bi, Fe and Mn by AAS using an aqua regia digest by Australian Laboratory Services (Alice Springs). Bedrock geochemical results defined a WNW trending Cu anomalous zone coincident with the Eldorado hills. Spot Au-Bi anomalies were defined in the Cats Whiskers and Dingo vicinity. Broad anomalous geochemical features were also outlined south of the Eldorado hills. Peak geochemical assays were 145 ppm Cu, 15 ppm Bi and 11 ppb Au.

Refer to Appendix 1 in Edwards (1992) and Appendices 1 and 2 in Worland (1993) for vacuum drillhole data. Refer to Plans 2 to 4 for vacuum drillhole locality, bedrock lithology and depth to bedrock plots respectively, and Plans 5 to 8 for bedrock geochemical plots for Au, Cu, Bi and Fe respectively in Worland (1993).

5.6 Conclusions

Work completed by PosGold over EL 7491 includes ground magnetic surveying, photogeological studies and RC drilling which culminated with the mining of the near surface Eldorado oxide gold resource. Subsequent activities included vacuum bedrock geochemical drilling.

Exploration suggests the mineral claims and leases held by PosGold covering the Eldorado line of ironstones hold considerable potential for economic Tennant Creek style Au-Cu-Bi mineralisation. These tenements will collectively be part of a detailed geophysical and geological review during late 1995 and 1996.

However the areas outside the mineral leases and claims hold limited potential for an economic discovery and hence EL 7491 was surrendered on 14/8/95.

6. EXPENDITURE INCURRED OVER EL 7491 FOR THE PERIOD 15/10/91 TO 14/8/95

The exploration expenditure incurred on EL 7491 for the period 15/10/91 to 14/8/95 totals $135,416. A yearly breakdown of this is as follows:

<table>
<thead>
<tr>
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<th>Year of Tenure</th>
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<tr>
<td></td>
<td>1</td>
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<tr>
<td>Employee Costs</td>
<td>26,828</td>
</tr>
<tr>
<td>Tenement Costs</td>
<td>50</td>
</tr>
<tr>
<td>Specialist Services</td>
<td>20,245</td>
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<tr>
<td>Drilling</td>
<td>16,054</td>
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<tr>
<td>Assays</td>
<td>1,442</td>
</tr>
<tr>
<td>Operating Costs</td>
<td>7,815</td>
</tr>
<tr>
<td>Overheads</td>
<td>2,378</td>
</tr>
<tr>
<td>Research</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL</td>
<td>74,812</td>
</tr>
</tbody>
</table>
ENVIRONMENTAL AND REHABILITATION FACTORS

PosGold has commenced an active rehabilitation programme over much of the Tennant Creek field. This commitment has been reinforced within the Normandy Group with the appointment of a Group Environmental Engineer to oversee and implement the Group's guidelines and objectives. In addition to this an Environmental Superintendent has been engaged at Tennant Creek to design and implement the Group's objectives throughout the Tennant Creek area.

As an example of the Group's commitment to environmental issues several active rehabilitation programmes are currently being undertaken in the Tennant Creek field. These include programmes at Nobles Nob, Eldorado, White Devil and Warrego.

An Environmental Management Plan for the Company's Tennant Creek Operations (Fowler, 1993) has been submitted to the Department of Mines and Energy under separate cover (March 1993). This plan details the strategies to be implemented over various areas following completion of exploration programmes and mining operations.

Exploration over EL 7491 which caused substantial surface disturbance included vacuum and RC drilling.

All vacuum drilling line clearance was carried out 'blade up' and no current evidence exists of these lines, following seasonal rainfall and regrowth.

RC drilling was completed in the immediate mine vicinity and as such no drillhole pads or access roads were required. All holes were capped and sample bags removed.
8. REFERENCES


APPENDIX ONE

BIBLIOGRAPHIC DATA SHEET
BIBLIOGRAPHIC DATA SHEET

REPORT NUMBER 19966

REPORT NAME FINAL REPORT FOR EXPLORATION LICENCE 7491 FOR THE PERIOD 15/10/91 TO 14/8/95, TENNANT CREEK DISTRICT, NORTHERN TERRITORY, ELDORADO PROSPECT

PROSPECT NAME(S) DOLOMITE ARGO
ELDORADO MOUNT
EXPLORER 38 ANOMALIES 1 TO 6
CATS WHISKERS EXPLORER 46
THE ELLEN EXPLORER 32
DINGO PUP

OWNER/JV PARTNERS POSGOLD LIMITED

KEYWORDS VACUUM DRILLING
RC DRILLING
OPEN CUT MINING
PHOTOGEOLOGICAL MAPPING
GROUND MAGNETICS
GEOCHEMISTRY
RESOURCE MODELLING

COMMODITIES GOLD, COPPER

TECTONIC UNIT TENNANT CREEK INLIER
WARRAMUNGA GROUP

1:250,000 MAP SHEET TENNANT CREEK SE 53-14
(52)

1:100,000 MAP SHEET TENNANT CREEK
(52/5)