EL6845 SHOOBIDGE NW
MT. SHOOBIDGE AREA, NT
FINAL REPORT TO 8 NOVEMBER 1991

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EL6845

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1. SUMMARY

This report details the 1990/91 exploration activities completed on EL6845 during tenure ending 8 November 1991. This licence, comprising twelve (12) blocks, was granted to Dominion Gold Operations Pty Ltd on 21 June 1990 for a period of four (4) years. Following consolidation of tenements held by Dominion, EL6845 is now held under SEL7565 granted 8 November 1991 for a period ending 12 November 1994.

Exploration activities during the 1990/91 tenure consisted of literature review, acquisition of airborne geophysical data, aerial photography interpretation, stream sediment sampling and regional mapping at 1:25,000 scale.

Airesearch Pty Ltd under contract to Dominion Gold, completed an aerial photography programme (at 1:25000 scale) in April 1991 which covers this licence.

Exploration within EL6845, now held under SEL7565, has indicated the presence of:

(i) favourable lithological and structural settings, and
(ii) above background Au and basemetal stream sediment anomalies
2. LOCATION AND TENURE

EL6845 is located 130km south of Darwin, approximately 20km S of Adelaide River, and is located on the Burrell Creek 1:50000 (14/2 – 111) sheet. See Figs. 1 and 2.

Access is via the Stuart Highway, Dorat Road and station tracks. Climatically EL6845 experiences a wet season (November to April) and a dry season (May to October). Average annual rainfall is 1249mm and the mean temperature is approximately 28°C.

Local relief is generally flat-lying to rugged, ranging from 80 to 270m above sea level with a NNW trending escarpment of Cretaceous Petrel Formation.

The licence was granted to Dominion Gold Operations on 21 June 1990 for four (4) years. Consolidation of Dominion tenements in 1991 resulted in EL6845 now forming part of SEL7565 granted on 8 November 1991. Cessation of EL6845 was effective 9 November 1991.
3. GEOMETRY

3.1 Regional Geology

The geology of the Pine Creek Basin has been well documented by the BMR [Wallace et al (1985), Needham, et al (1980)].

The Early Proterozoic sequence was deposited by alternating shallow marine and continental environments in an intracratonic basin setting. Following intrusion by conformable sills, a major period of deformation and regional metamorphism, related to granite intrusion, produced a series of tight, upright folds.

Early Proterozoic stratigraphy of the Pine Creek/Adelaide River area is listed in Table 1.

3.2 Local Geology

Review of the NTGS mapping and preliminary inspection shows outcrop is generally good with Burrell Creek Formation, Tolmer Group and Cretaceous Petrel Formation sediments covering most of the licence.

A series of NNW trending fold axes within the Burrell Creek phylites, siltstones, sandstones, quartz pebble conglomerates and calcareous greywackes form a distinct escarpment with overlying Tolmer Group sandstones and flat lying cretaceous lateritised sandstones forming cap rocks. To the north, George Creek Uranium mine lies on a prominent N trending anticline. See Fig 3 for tenement geology.
4. 1990/91 WORK PROGRAM

4.1 Aerial Photography

During April 1991, Dominion commissioned Airesearch Mapping Pty Ltd of Darwin to fly the Shoobridge–Fenton tenement area held by Dominion and produce sets of 1:25,000 scale colour air photos.

The relevant air photo runs are AM529 Runs 1, (No. 07–11), 2 (021–25) and 3 (35–38).

4.2 Geophysics

Acquisition of airborne magnetic and radiometric data flown by Aerodata (1990) will be used to determine favourable structural targets for further intensive exploration.

Preliminary review of data indicates a two broad distinct regions probably related to lithological differences between Tolmer Group and Burrell Creek Formation sediments (see Fig. 4).

4.3 Field Exploration

A regional stream sediment sampling programme was conducted over the Shoobridge–Fenton tenements held by Dominion.

Stream sediment samples were collected from selected sites within drainages averaging 4km². Two sample sizes were collected:

i) -20# silt fraction, 2–3kg, sieved to -200# in the laboratory
ii) pan concentrate, approx. 100g.

Samples were despatched to Classics, Darwin where they were analysed by the following methods;

Au: solvent extraction, graphite furnace AAS
Cu,Pb,Zn,As,Ag,Ni,Mn,Fe: low detection flame AAS
U,Th: ICP-MS.

Sample location and assay results are shown in Fig. 5.

Compilation of 1:25000 scale regional mapping is in progress with preliminary maps concurring with previous NTGS/BMR mapping.
5. CONCLUSIONS AND RECOMMENDATIONS

Review of government open files and the Dominion data base indicate the tenement area is a relatively unexplored region of the Pine Creek Basin with the potential for gold and basemetal mineralization.

During 1990/91, review of literature and Aerodata geophysical data, regional mapping at 1:25,000 scale and stream sediment sampling has indicated the presence of favourable structural targets and above background Au and basemetal anomalies.

Follow up field exploration of these anomalies, now held within SEL7565 is required.
6. EXPENDITURE

Expenditure covenants for EL6845 are as listed below:

Year 1 (ending 21 June 1991) $40,000
Year 2 (ending 21 June 1992) $40,000

Expenditure for EL6845 during Dominion's tenure, as given below is $64,718.

EL 6845 YEAR 1 EXPENDITURE TO 8 NOVEMBER 1991

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TOTAL $64,718
7. REFERENCES

"Regional Geology of the Pine Creek Geosyncline" in proceedings of the International

"The Geology of the McKinlay River Area, Northern Territory, Australia". Bureau of Mineral
Resources. 1:100,000 Geological Sheet 5271.