ANNUAL REPORT ON EXPLORATION LICENCE

HODGSON DOWNS

13/2/93 to 12/2/94

HODGSON DOWNS 1:250,000 SHEET SD53-14

VOLUME 1 OF 1

Commodities: Zinc, silver, lead

Author: A. T. PRICE

Date: 26/4/94

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Norex, Adelaide (2)
Stockdale Prospecting (1)

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1. Pearson Product-Movement Correlation
Report Number: 11755

Title: ANNUAL REPORT ON EXPLORATION LICENCE 7190 HODGSON DOWNS.

Author: A. T. Price

Date: 26 April, 1994

ABSTRACT

This report details activities for the twelve months ending 12 February, 1994, for EL 7190, which forms the Hodgson Downs Joint Venture between Stockdale Prospecting Limited and Normandy Exploration Limited.

The licence is considered prospective for shale-hosted Zn-Pb-Ag deposits.

The late execution of the Joint Venture document precluded any field work being carried out on the tenement and work was limited to a re-evaluation of the stream assay data collected by Stockdale.

Work planned for the next year will involve regional RAB drilling to test for prospective shale horizons under alluvial cover.
1. INTRODUCTION

This report details activities for the twelve months ending 12 February, 1994 for EL 7190, which forms the Hodgson Downs Joint Venture between Normandy Exploration Limited and Stockdale Prospecting Limited.

The aim of the Joint Venture is for Normandy to assess the prospectivity and undertake exploration for base metals in the licence area.

Analysis of stream sediment sampling taken by Stockdale during routine diamond exploration revealed particulate barite in a number of heavy mineral concentrates, and one occurrence each of particulate galena and gold in separate samples.

Follow-up and infill sampling by Stockdale revealed moderately anomalous base metal values in a major north-south drainage.

2. TENEMENT

Exploration Licence 7190 (Hodgson Downs) was granted to Stockdale Prospecting Limited on 13 February, 1991, for a period of six years. Originally covering 380 blocks, the licence now consists of 56 blocks due to statutory relinquishments (Fig. 1).

Following an unsuccessful diamond search by Stockdale, the tenement was joint ventured out to Normandy Exploration Limited.

The Hodgson Downs Joint Venture was executed on 21 December, 1993.
3. LOCATION, ACCESS AND PHYSIOGRAPHY

EL 7190 is located on the Hodgson Downs (SD53-14) 1:250,000 map sheet, approximately 500 kms SE of Darwin. Vehicle access is gained via station tracks from Hodgson Downs station. The EL has the monsoonal tropical climate typical of northern Australia with vegetation ranging from grass covered alluvial plains adjacent to the major drainages, to open and moderately dense eucalypt forest. The northern portion of the licence area lies within the Gulf Fall physiographic division, whilst southern portions, notably the Arnold River drainage basin, belong to the dissected Tableland (Dunn, 1963 a, b). The EL is drained by the north-west flowing Arnold River, and by north-west and northerly flowing tributaries of the Hodgson River.

4. GEOLOGY

The EL lies on the Bauhinia Shelf within the central south-western part of the McArthur Basin. Outcrop is dominated by sediments of the Middle Proterozoic (Carpentarian) Roper Group, which consist mainly of sequences of sandstone with lesser siltstone and minor shale. Minor exposures of tholeiitic dolerite occur in northern part of the licence area, and have been ascribed an age of 1300Ma (Plumb, 1988). Relatively mild post-Roper Group deformation led to open folding and associated faulting, and was followed by a period of uplift and erosion.

Massive, current-bedded and clean sandstones with intercalated conglomerate horizons of the Lower Cambrian Bukalara Sandstone form a horizontal cap overlying eroded Roper Group sediments, but are limited to restricted exposures in the northern part of the EL.
A hiatus in deposition occurred from Lower Cambrian until Lower Cretaceous times when sediments of the Petrel Formation were deposited. These comprise terrestrial sandstones overlain by marine siltstone, claystone and sandstone and form mesas across the northern and southern portions of the licence area.

A variety of surficial deposits resulting from Cainozoic weathering and including porcellanites, sand spreads and pisolitic ferricrete are widespread throughout the area.

5. **CURRENT EXPLORATION (13/2/93 TO 12/2/94)**

No field work was carried out in the tenement during the report period due to the coincidental timing of the execution of the Joint Venture agreement (December 1993) with the beginning of the Wet season.

Normandy's chief geochemist carried out an analysis of previous Stockdale sampling. Part of his report is included below.

- "In looking through the original Analabs multi element data a number of enhanced associations became apparent. The enclosed Table 1 shows strong correlations between Ni, Cu, Zn, Mo and lesser correlations with As, Sb, Pb and Au.

The enclosed colour plots (Figs. 2-11) show population splits and locational diagrams for all elements. Iron and manganese enhancements do not appear to be of significance. In addition, a sum of Z transformed variables, ascribing equal significance to the above eight elements is presented.
Of particular importance is the location of the NNW trending anomaly that stands out from this data set. The enclosed figures show that the strongly enhanced samples all lie on a major north flowing river system with total catchment well in excess of 100 km². High values are conspicuously absent in the tributary drainages.

The area is composed mostly of alluvium on surface but the quarter million geological sheet shows the area to be underlain by the Upper Roper Group (Corcoran Formation, Bessie Creek Sandstone and Cobanbirini Formation) as well as the lower members of the Maiwok Subgroup, in particular the black shales of the Velkerri Formation. Substantial amounts of Lower Cretaceous sandstones cap the interfluves to the east and west, and are a significant dilutant to the drainage geochemistry. "

6. **EXPENDITURE**

Expenditure by Normandy on the tenement during the report period and since inception of the joint venture, totalled $3,102.50 as detailed below:

- Tenement Costs  
  2,265.00
- Salaries/Wages 
  837.50

**$3,102.50**

The covenant of $29,000 has not been met due to the previously mentioned factors of the coincidental timing of the finalisation of the Joint Venture agreement with the onset of the Wet season, thus restricting access.
7. **FORWARD WORK PROGRAM AND EXPENDITURE**

FOR 13/2/94 TO 12/2/95:

A regional RAB drilling program is planned to test for prospective shale horizons under alluvial cover along the anomalous major N-S drainage.

A track from Hodgson Downs station to Buffalo Hole Yard follows this drainage and will be used to provide rig access.

Program costs are estimated at $28,500 as detailed below:

- RAB Drilling $16,500.00
- Assaying 3,000.00
- Salaries and Wages 4,500.00
- Consumables/Field Living 1,500.00
- Regional Office Costs 3,000.00

**$28,500.00**

It is planned to implement this program during July, 1994.
TABLE 1

HODGSON DOWNS

Pearson Product-Moment Correlation

No Selector

276 total cases of which 23 are missing

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<th></th>
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<th>Cu</th>
<th>Zn</th>
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<th>Mo</th>
<th>Sb</th>
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<td>0.417</td>
<td>0.261</td>
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Lead in ppm.

Red > 22.0  (max 29.9)
Yellow > 17.8 < 22.0
Green > 15.8 < 17.8
Dark Blue > 12.4 < 15.8
Pale Blue < 12.4

Note: All values are low. Subdivisions made above may be more apparent than real.
Fig 4

Zinc in ppm.

Red > 105 (max. 129)
Yellow > 58 < 105
Green > 40 < 58
Dark Blue circles > 27.5 < 40
Dark Blue dots > 16.5 < 27.5
Pale Blue < 16.5
Arsenic in ppm

Red > 14  (max. 19)
Yellow > 9.5 < 14
Pale Blue < 9.5

Note: all values are low, almost a mono modal distribution.
Molybdenum in ppm

Red > 3.0 (max. 14 ppm)
Yellow > 2.0 < 3.0
Green > 1.45 < 2.0
Dark Blue > 1.17 < 1.45
Pale Blue < 1.17

Note: Values below 2.0 ppm are subdued. Population splits below that level may not be of much significance.
Antimony, ppm

Red > 1.5 (max 6.3)
Yellow > 0.95 < 1.5
Dark Blue > 0.7 < 0.95
Pale Blue < 0.7
Gold in ppm

Red .008 and .010
Yellow .006, .005, .004, .003
Dark Blue .001, .002
Pale Blue < detection limit .001
Bismuth ppm

Red = 1.08
Yellow > 0.58 < 1.00
Dark Blue > 0.47 < 0.58
Pale Blue < 0.47

Fig 9
Nickel, in ppm

Red > 40 (max. 69.3)
Yellow > 25 < 40
Green > 20 < 25
Dark Blue > 11.4 < 20
Pale Blue < 11.4

Note: Values are all fairly low. Only minimal significance can be ascribed to lower populations.
Z score sum for Cu, Pb, Zn, As, Mo, Sb, Ni and Au

Red > 25 (max. 40.6)
Yellow > 9 < 25
Green > 6 < 9
Dark Blue > 3.8 < 6
Pale Blue < 3.8

Note: Lowest value is -6.3, therefore green, yellow and red populations probably significant.