WOODLEIGH NOMINEES PTY. LTD.

ABN 92 050 120 057

RELINQUISHMENT REPORT ON EL25903

for the period

14/11/2013 to 12/01/2015

Geoff Casey
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1. **Summary:**

Attention was directed to the western corner of the EL which contained a portion of the Saddle Extended iron ore deposit and the application for Mineral Lease No.28573. Recent work was focused on the area of the South West corner.

2. **History:**

In or about June 2007 Woodleigh applied for EL25903 which was subsequently granted in November 2007 for a period of six years. EL25903 was renewed for a further period in 2013.

The Casey Family and later Woodleigh Nominees Pty. Ltd. has been involved with the Francis Creek area for approximately 50 years both in their own right or as a joint venture partner with CSR Limited. An estimated $0.75M was spent collectively on exploration of the area. After CSR Ltd. withdrew from the mining industry the Caseys and/or Woodleigh purchased their interests in the area and proceeded with further exploration. Development work completed on the adjoining group of MLNs. comprising the Francis Creek Gold mine has been valued in excess of $1M in 1991 by Renison personnel. All of this work was completed and funded by the Caseys and/or Woodleigh. Woodleigh entered into an agreement with Territory Resources which provided Territory with access to the iron mineralisation in the Francis Creek areas held by Woodleigh.

3. **Climate**

The Francis Creek area is in general terms typical Top End country comprising open Eucalypt woodland and open savannah grasslands. The Top End enjoys an annual rainfall around 1500mm, most of which falls in the Wet Season, from November to April.

4. **Geology**

In the Dominion EL7487 report dated April 1993, S.J. Pooley described the geology of this area as follows;
3.0 GEOLOGY
3.1 Regional Geology
3.1.1 Regional History

The Pine Creek Inlier is a roughly triangular area of about 66,000km² south and east of Darwin, which contain Early Proterozoic metasedimentary rocks resting on a gneissic and granitic Archaean basement. The metasediments represent fluviatile, shallow water, intertidal basin and flyschoid sequence up to 14km thick within an intracratonic basin setting (Needham et al, 1980).

During the Top End Orogeny (1870–1780Ma) rocks within the Pine Creek Inlier were metamorphosed to mainly greenschist facies, however, amphibolite facies metamorphic mineral assemblages dominate in the Alligator Rivers region. Known Archaean rocks are restricted to granite–gneiss of the Rum Jungle, Waterhouse and Nanambu complexes which form mantled gneiss domes near the exposed eastern and western margins of the inlier. (Page, et al, 1980).

The sedimentary rocks are mainly shale, siltstone, sandstone, conglomerate, carbonate rocks and iron formations. Felsic to mafic volcanism and associated tuffaceous sediments are also present. The sedimentary sequence is intruded by transitional igneous rocks including pre-tectonic dolerite sills and syn to post tectonic granitoid plutons and dolerite lopoliths and dykes. Largely undeformed platform covers of Middle Proterozoic to Mesozoic strata rest on these with marked unconformity. (Figure 3).

Since the Cretaceous the area has generally remained above sea level. The dominant forces which moulded today’s landscape were chemical weathering to produce laterite and “cut and fill” modification of the land surface by repeated erosional and aggradational cycles.

3.1.2 Structure

During the Top End Orogeny, the Early Proterozoic sediments, volcanics and dolerite were intensely deformed and regionally metamorphosed, resulting in tight to isoclinal folding and extensive faulting. Two phases of folding have been recognised. The older F₁ folds are tight to isoclinal folds with northwest to northeast trending axial planes. A penetrative slaty cleavage is present in pelitic rocks and a less prominent spaced fracture cleavage in sandstone. The younger F₂ folds are widely spaced, open types with east to west trending axial planes. Both folding events pre date granitoid intrusions. (Figure 4).
STRATIGRAPHIC COLUMN

UNDIFFERENTIATED LATERITISED SEDIMENTS

CRETACEOUS

DALY RIVER GROUP
- Oollo Dolostone
- Jinduckin Formation
- Tindal Limestone
- Jindale Formation

CAMBRIAN-ORDOVICIAN

TOLMER GROUP
- Hinde Dolomite
- Stroy Creek Sandstone
- Depot Creek Sandstone

MIDDLE PROTEROZOIC

CULLEN GRANITOIDS
Composite I-type Batholith (1640-1760 Ma)
- Mc Menas Bluff Granite
- Fenton Granite
- Shoobridge Granite

ZAMU DOLERITE (z? Maude)

EARLY PROTEROZOIC

FINNIS RIVER GROUP
- Burrell Creek Formation

SOUTH ALLIGATOR GROUP
- Mt. Bonnie Formation
- Gerowie Tuff
- Koolpin Formation

MT. PARTRIDGE GROUP
- Wildman Siltstone
- Mundagle Sandstone

NAMOONA GROUP
- Masson Formation
FIGURE 4
3.1.2 Structure (Cont'd)

Regional folding is locally modified by the major SE trending Noonamah – Katherine lineament zone, which consists of a 20 to 25km wide zone of shearing and folding with coincident gravity and magnetic anomalies. In the Pine Creek area the lineament is represented by the Pine Creek shear zone, which contains numerous aligned tight folds and shears and which hosts a concentration of gold occurrences. (Needham and Stuart-Smith, 1984a).

3.1.3 Metamorphism

All the Early Proterozoic rocks have been both regionally metamorphosed to greenschist facies and contact metamorphosed by the syn orogenic to post orogenitic granitoids. The regional metamorphic grade ranges from predominantly lower greenschist to amphibolite facies in the NE of Pine Creek Inlier. Table 1 shows the characteristic metamorphic mineral assemblages for various rock types. Regional metamorphism is contemporaneous with regional deformation of the sedimentary pile during the Top End Orogeny. Throughout most of the area, regional metamorphism of pelitic rocks produced fine grained sericite and quartz. Sandstones usually exhibited fractured and/or strained quartz grains and minor sericite, chlorite and muscovite. (Figure 5).

Contact metamorphism largely overprints regional metamorphism indicating syn- post deformation. The contact metamorphic aureole is primarily albite–epidote hornfels with a narrower inner continuous zone of hornblende hornfels. K-feldspar–cordierite hornfels is present immediately adjacent to the granitoids. The contact metamorphic aureole varies in width from a minimum distance of 500m to up to 15km – 20km. In general, granitoids with steeply dipping margins will produce a narrower contact aureole whilst relatively shallow, flat lying granitoids will produce a more extensive contact aureole, although the extent of a contact aureole can be significantly wider or narrower under different temperature – pressure regimes.
3.2 Local Geology

The stratigraphy of the Frances Creek area comprises Early Proterozoic metasediments including Mundogie Formation and Wildman Siltstone. Mapping by the BMR indicates significant outcrop of underlying Masson Formation mapped in structural highs and lows and always in valleys. Nowhere in the mapped area did distinct lithologies of Masson Formation outcrop. In broad terms, the Frances Creek stratigraphy consist of uppermost carbonaceous metasiltstones intruded by dolerite sills which corresponds to the Wildman Siltstone. Underlying this sequence are carbonaceous metasiltstones which contain quartzite beds of various thickness. Lower most are carbonaceous sand/siltstones containing coarse ferruginous conglomeratic quartzite units. These underlying units correspond to the Mundogie Formation. The occurrence of the first quartzite horizon in the upper part of the sequence marks the transition from Wildman Siltstone to Mundogie Formation.

This Early Proterozoic metasedimentary sequence is bounded on the southern and eastern side of EL7487 by Early Proterozoic granite intrusives which include the Allamber Springs Granite and the Minglo Granites. (Figure 6).

Regional 1:25,000 scale mapping has defined sheared/faulted and folded metadolerites and schist of the Wildman Siltstone trending NW/SE. Quartz veining is common within localised faults and shears. Mundogie Formation metasediments outcrop along the eastern boundary of the licence area. These comprise NW/SE trending strike ridges of predominantly quartzites interbedded with lesser shale units. Contact of these metasediments and granite occurs within the south eastern graticular block. The contact is faulted and sheared and often contain gossanous haematite/limonite quartz veining within a hornfelsed metasiltstone.
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5. **Exploration for the term of EL25903:**

Time was spent in the north eastern part of the original Francis Creek Iron Ore lease which contained the “Saddle Extended” deposit. Further time was spent researching the history of this deposit. Based on this information and the large amount of Iron Ore available on the surface it is estimated that there could be as much as 1M. tonnes of ore available from within the area available on EL25903 and the adjoining ML(A)27155. Earlier work performed by FIMCO estimated the deposit to contain 41,000 tonnes of ore per vertical foot (30cm.) although the drilling work done is understood to have only been shallow due to the equipment being used at the time.

The author considers the possibility exists for further reserves to exist given that the country appears to follow the trend of dipping to the east which has been displayed in the nearby Francis Creek Gold mine. This train of thought is further confirmed by the additional mineral lease applications having been made by Territory Resources along their eastern boundaries.

The Saddle Extended deposit appears to contain iron ore with grades in the order of 40-50% Fe and varying amounts of Phosphorous which is an undesirable contaminant. The Fe grades may improve at depth. There is a lot of research work currently underway by the CSIRO and others into possible ways to remove phosphorous from iron ore. To date the author is unaware of a commercially viable process having been achieved. There is always the option of blending this lesser grade ore with high grade material prior to smelting. Additional ore may be available via gravity concentration of the surrounding alluvial material although this aspect has not yet been explored at any length. Further exploration work completed comprised a re-assessment of past exploration data and field assessments of these results.

The 2013/14 field season saw attention focused on the South West corner of the Exploration Licence. Four two hundred litre samples were collected from the area of the “Misses mine” two were from within the old shaft, one at three metres, one from the bottom at approx. twelve metres. These samples were taken across the width of the exposed quartz vein and about a metre vertically. They were in essence large chip samples. A further sample was sourced from the remnant nearby ore dump. This was considered to be a comprehensive sample of the vein material. These samples were weighed, crushed, ground to minus one hundred mesh and gravity concentrated. A portion of the tailings of this exercise was ground further to minus two hundred mesh. The object of the exercise was to test the viability of treating ore by gravity concentration. It is estimated that a recovery of approx. eighty percent could be achieved by grinding to one hundred mesh, further grinding did improve the recovery but not a great deal. Over all the ore showed a recovery of two to two and one half grams per tonne. The alluvial sample was washed and screened to minus one hundred mesh and subject to gravity concentration. The plus one hundred mesh material was crushed, ground and gravity concentrated. The alluvial fraction showed no unusual tendencies and a low grade. The stone fraction also showed a low grade. Given the uncertain gold price and the narrow vein system involved the area may be worthy of consideration at a later date.
7. **Expenditure:**
Expenditure on the relinquished area has been reported in the previously lodged annual report on EL 25903
Second Schedule
(Plan of Area)

EL25903
5 Blocks
6.992 Sq Kms