CENTREX RESOURCES N.L.

EXPLORATION LICENCE 9324
COMPASS CREEK

Pine Creek 1:250,000 map sheet area, SD-52-8
Pine Creek 1:100,000 map sheet area, 5270

ANNUAL REPORT
FOR THE PERIOD ENDING 23 NOVEMBER, 1997

November, 1997
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1.0 SUMMARY

The database has previously been collected for Compass Creek and reviewed and data relating to gold mineralisation extracted. Following this an initial field programme of 1:10,000 geological mapping together with rock chip sampling and prospecting was carried out in the 1996 year.

Several interesting areas were identified and initial prospecting and sampling carried out. A significant shear zone trending NNW on which MCN 4571, Kamas Cauldron is found, passes through the eastern portion of the licence. Past prospecting activity at Hewsons Hill involved a dozer bench exposing a manganese rich quartz breccia in andesitic tuff’s. Assay results from 2m radius rock chip samples or near continuous channel samples were disappointing.

2.0 TENURE

Exploration Licence 9324 was granted to Corporate Developments on 12 September, 1995 for a period of six years. The Licence was transferred to Centrex Resources NL in 1996.

The Licence covers an area of four blocks namely,

Ban Ban Sheet  22/70, 23/70, 24/70, 25/70

Excluded from the licence are two current MCN’s located over two prospects known as Kamas Cauldron (MCN4571) and Jasons Peak (MCN4570) currently held by Centrex Resources NL.

3.0 PREVIOUS EXPLORATION

An examination of the open file reports on exploration in the Compass Creek area indicates that limited exploration has been performed since the lifting of the Mt. Wells Mineral Policy Resource.

Previous workers have recognised that the Mt. Wells mineralised system is strongly metal zoned and the literature review found that erratic gold values had been reported towards the outer limits of the system. The Compass Creek area is 10 kms NE of Mt. Wells tin mine (7935700E, 85505400N).
Apparently, Kamas Cauldron and Hewsons Peak were found by Mr. D. Langley during a stream sediment survey in September, 1987 for Freeport Australia, the results of which have not been located.

4.0 REGIONAL GEOLOGY

The Compass Creek area of Mt. Wells district lies in the central portion of the Paleo-proterozoic Pine Creek Geosyncline, a macroscopic structure of 66,000 sq. km in the Katherine to Darwin region.

This province consists essentially of Early Proterozoic fluviatile and basinal sediments (with minor bimodal volcanics) that on lapped small exposures of Archaean inliers. Ongoing sedimentation changed to flyschoid sedimentation. The regional stratigraphy is shown in Table One.

During the waning stages of the deposition, igneous dykes and sills were intruded. The sediments were then folded and metamorphosed to Lower greenschist facies grade metamorphism in the central part of the basin.

This led to the development of the Top End Orogeny (1870-1855 Ma), when syn to post tectonic granitoid plutons and dolerite lopoliths were emplaced. Extensive granite emplacement (1850-1800 Ma) took place after the main deformation event as evident by the superposition of contact over regional metamorphic fabrics.

The tectonic history suggests four phases of deformation;

\( D_1 \) and \( D_2 \) are related to metamorphic development

\( D_2 \) developed low angle shear zones in response to over-thrusting and crustal shortening during basinal compression.

\( D_3 \) and the development of \( F_3 \) folds that are tight to isoclinal N-S trending folds.

\( D_4 \), a final folding episode that refolded \( F_3 \) folds along an E-W axis.

The basin is unconformably overlain by flat Mesozoic and younger strata.
4.1 STRATIGRAPHY

The Licence area is underlain by sediments of the Lower Proterozoic BURRELL Creek Formation.

The sediments are comprised predominantly of greywacke with minor thin bedded siltstones and grits.

The Licence lies towards the eastern margin of the Katherine - Pine Creek - Darwin Shear Zone Structure is dominated by open north plunging folds with younger north-east trending cross folds and faults.

The BURRELL Creek Formation consists of inter-bedded greywacke-sandstone and siltstones, phyllite and slate.

The greywacke sandstone and sometimes quartzite vary between 1 to several metres thick. They contain fine to coarse angular to sub-angular felspathic sandstones with occasional lenses of grit and conglomerates.

Siltstone intervals can by up to hundreds of metres thick. They are massive to banded with occasional haematite and pyrite rich horizons.

Forming the highest range of hills is an andesitic tuff horizon, that in past has agglomerates and andesitic breccia. Carbonate rich sediments are rare.

These Early Proterozoic rocks have been subjected to regional greenschist metamorphism (Map 1).

4.2 STRUCTURE

Structural mapping suggests four separate deformations have occurred. The first deformation (D₁) resulted in the Lithology’s being tightly to isoclinally folded about sub-horizontal N to NE trending fold axes (F₁). The folds are asymmetric, verge to the W, and in part may be overturned. These folds are associated with a steeply E dipping penetrative regional cleavage (S₁). Cleavage bedding relationships suggest these folds are widespread in the tenement (Map 1). This even produced strong later parallel or sub-parallel S₁ cleavage (schistosity) of axial plane origin.

F₁ folds are deformed by two later shearing events. D₂ shear zones trend NNE and are steeply E dipping and layer parallel. They are up to 100m wide being defined by a mylonitic foliation (S₂) of C-S fabrics.
The $S_2$ foliation contain a dominant near vertical mineral lineation perpendicular to boudin necks observed in quartz veins.

Field evidence of asymmetric boudins, C-S fabrics, and pressure shadows suggest E block up that is consistent with reverse slip shearing along F1 fold limbs.

$D_3$ shear zones are up to 500m wide, have a well developed N-S mylonitic foliation ($S_3$) defined by C-S fabrics with a sub horizontal mineral lineation ($L_2$). These features indicate dextral movement of a wrench shear system.

5.0 EXPLORATION MODELS

The metal zonation of the mineralisation about the Mt. Wells tin deposits has been recognised by a number of workers and is documented in publication by the NT DME. The existence of a postulated 'gold halo' down the physio-chemical gradients away from the centre of the tin mineralising system is indicated by the existence of alluvial gold workings on the north side of Mt. Wells.

Exploration has been directed towards confirming the existence of gold mineralisation distal to the Mt. Wells tin mineralisation.

6.0 FIELD WORK COMPLETED

A review of the previous work indicated a number of unexplained BLEC anomalies and an interesting case where a creek that has been Blegged contains interesting gold when panned but no anomaly is demonstrated in sampling.

The licence area is dominated by a E-W structure characterised by massive quartz veining a zones of brecciaed meta-sediments.

The breccias contain sub-economic 0.1 - 0.5% Sn in two locations in the valley occupied by the major W-E creek a small micro granite, quartz actinolite dyke outcrops and is stained with Malachite in places, no Sn or gold was obtained where sampled by panning and dolying.
A zone of chloride alteration about 3m wide extends west from the main Sn breccia and contains small quartz veins to about 50 cm, samples of weathered detritus were panned and concentrates examined through a hand lens.

7.0 EXPENDITURE

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<td>Geological advice etc.</td>
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<td>Prospecting &amp; Field expenses</td>
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<td>Admin. &amp; reporting</td>
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<td><strong>Total</strong></td>
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8.0 MINIMUM PROPOSED PROGRAMME FOR 1998

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<td>Stream Sediment sampling</td>
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<td>Mapping</td>
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EXPLORATION LICENCE 9324, COMPASS CREEK

TENURE LOCATION MAP

SCALE 1:2 500 000
STRATIGRAPHY OF THE PINE CREEK GEOSYNCLINE
Mt. Hewson

13° 25' 18", 131° 40' 32"

Mt. Hewson

SKETCH GEOLOGY AND GEOCHEMICAL SAMPLES

SAMPLES

CC6 < 0.01 1.5m Qtz + Mn
CC17 < 0.01 2m old andesite with stringy Mg-Cr
CC 18 < 0.01 2m Qtz + Mn
CC 19 < 0.01 2m Qtz + Mn
CC 20 < 0.01 Qtz + pyrite + boxwork + Mn
CC 21 < 0.01 quartz breccia stockpile
CC 22 < 0.01 altered + siliceous andesite + Mn
CC 23 < 0.01 Qtz + Mn

Mt. Hewson

S. Cartlen Aug 96