GEOLOGICAL SURVEY OF THE NORTHERN TERRITORY
DEPARTMENT OF NORTHERN AUSTRALIA.

OPEN FILE

Cleo's Gift Prospect (G.M.L. 2312.)

Tenant Creek

Collation of Data and Recommendations.

by

J.P. Howard.

Tennant Creek, September, 1975.
# CONTENTS

<table>
<thead>
<tr>
<th>1. <strong>INTRODUCTION.</strong></th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Location and Access</td>
<td>1</td>
</tr>
<tr>
<td>(b) Previous Reporting</td>
<td>1</td>
</tr>
<tr>
<td>2. <strong>SUMMARY.</strong></td>
<td>2</td>
</tr>
<tr>
<td>3. <strong>GEOLOGY.</strong></td>
<td>3</td>
</tr>
<tr>
<td>(a) Stratigraphy</td>
<td>4</td>
</tr>
<tr>
<td>(b) Ironstones</td>
<td>5</td>
</tr>
<tr>
<td>(c) Cloo's Gift Lode</td>
<td>5</td>
</tr>
<tr>
<td>4. <strong>GEOCHEMISTRY.</strong></td>
<td>6</td>
</tr>
<tr>
<td>(a) Production</td>
<td>6</td>
</tr>
<tr>
<td>(b) Rock Chip Samples</td>
<td>7</td>
</tr>
<tr>
<td>(c) Auger Samples</td>
<td>7</td>
</tr>
<tr>
<td>5. <strong>GEOPHYSICS.</strong></td>
<td>9</td>
</tr>
<tr>
<td>6. <strong>CONCLUSIONS.</strong></td>
<td>10</td>
</tr>
<tr>
<td>7. <strong>RECOMMENDATIONS.</strong></td>
<td>11</td>
</tr>
<tr>
<td>8. <strong>REFERENCES.</strong></td>
<td>12</td>
</tr>
</tbody>
</table>

**Tables:**
3. Copper Populations for Tennant Creek Ironstone Samples.
4. Populations for Tennant Creek Ironstones.
5. Chip Sample Assays of Cloo's Gift Ironstone and Shaft.
6. Geochemistry of Auger Drill Samples.

**Figures:**
1. Locality Map.
2. Regional Geology Map.
3. Surface Geology.
4. Geochemistry - Copper Contours.
5. Total Aeromagnetic Intensity Contours.
6. Profiles over Figure 5.
7. Sample Locality Map.
8. Lease Plan (Surveyed)
1. INTRODUCTION:
The Clee's Gift Prospect lies on the Tennant Creek Goldfield approximately 22 kilometers on a bearing of 340 degrees True North from the Tennant Creek township.

In response to a request from the lessee, Mr. J. Clark of Tennant Creek, and in accord with recommendations made by J. Watts (1969), the author sampled the shaft and ironstone outcrops near the shaft and obtained assays for gold, copper, bismuth and lead.

Available data on the Prospect has been collated in this report.
Further work is recommended.

(a) Location and access. (See Fig. 1.)
The Clee's Gift is situated in the headwaters of Bishop Creek, approximately 2.5 kilometers to the North West of Mt. Argo.
Access to the Prospect from Tennant Creek is by the Stuart Highway to the Old Telegraph Station at the 7 mile peg, then North West along the Quartz-Hill road for 16 kilometers. A newly graded road to the East is then taken, the turnoff being marked by a red 44 gallon drum; the origin of the Bishop Creek Geochanical Grid. The Iode is reached by following the road for approximately 3.2 kilometers.

(b) Previous reporting.
J.F. Ivanic (1952) and P.W. Grohn with U. Oldershaw (1965) have conducted geological investigations on the Tennant Creek Goldfield. R. McIillian and A.I. Debnar (1955-57) examined methods of geochanical prospecting for copper on the Goldfield.
Regional geological mapping and a geochanical study of stream sediment samples and rock chip samples of the Mt. Woodcock 1 inch to 1 mile sheet area was undertaken by D. Durnett with R.B. Harding (1967). An area around the Bishop Creek Bore was found to be geochanically anomalous.

This area, under Mining Reserve 248, which includes G.P.I. 231B, was investigated by A. Taube (1968) with shallow auger drilling on a grid spacing of approximately 400 foot (120m). A copper contour plan and table of assay values were presented.

J. Watts (1969) geologically examined the Clee's Gift Prospect and recommended systematic sampling.

Mining Reserve 248 was reported on by J. Shideler and J. Willis (1972) An ironstone sample from the Prospect was taken by J. Monkow (1974), who mapped the general area on a scale of 1 inch to 200 feet (1:12,000).

The sample was assayed for gold, copper, lead, zinc, bismuth molybdenum and silver.
2. SUMMARY.
The Clee's Gift quartz-hematite body occurs with the Carraman Formation (unofficial name) of the Lower Proterozoic Warrawunga Group. It occurs on the southern limb of a broad regional anticline, and in close proximity to the major North-West trending Rocky Range-Quartz Hill Fault. Sedimentary slump breccia and a grey shale horizon are associated with the lode, which lies just below a possible hematite shale band. A North-South fault passes through the lode. For comparison, the Clee's Gift and Gecko Mine rock suites are presented in Table 2.

Auger drilling defined significant geochemical anomalies in the vicinity of the Clee's Gift shaft (max. 112ppm copper).

Chip samples of the lode revealed anomalous assays for copper (max. 960 ppm), lead (max. 60 ppm), bismuth (max. 0.75) and molybdenum (max. 110 ppm), but only traces of gold. However, 40 tons of rock from the shaft yielded 4.8 dts of gold per ton.

The Orlando/North Star suite of ironstones is anomalous in copper, cobalt, zinc, lead, molybdenum and bismuth.

Clee's Gift samples have a mean copper value of 406 ppm (standard deviation 246 ppm or 0.66). Samples of Reko ironstone have a mean copper value of 340 ppm (standard deviation 145 ppm or 0.43).

Samples of Orlando and Northern Star ironstone have a mean copper value of 520 ppm (standard deviation 0.31).

An airborne magnetometer survey indicated only a minor response in the Clee's Gift area.

A combined geochemical - geophysical survey is recommended at the Prospect.
3. GEOLOGY. (see fig. 3 and table 1)

(a) Stratigraphy.

Dunnet and Harding (1967) mapped the Mt. Woodcock region, which includes G.M.L. 231E2, on a scale of 1:63,360; part of their map is shown in fig. 2. The Cleo's Gift lode occurs in the Carraman Formation (after Maxlow, 1974 - not official) which conformably overlies the Bernborough Formation; both belong to the Lower Proterozoic Warramunga Group. The lode occurs on the Southern limb of a broad regional anticline.

(i) "Bernborough Formation.

The Bernborough Formation consists of acid lava, tuff and slumped and massive tuffaceous greywackes formed by mudflows or turbidity currents". (Dunnet and Harding, 1967). In the Cleo's Gift area "the volcanic pile is made up of predominantly thick sequences of potassium feldspar rich tuffs with interbedded acid to intermediate lavas. Off-pile sedimentary facies with interbedded tuff units"

to the East of Cleo's Gift Lode, indicate that the source is to the North or Northwest of the Mine, (Maxlow, 1974). "A large pipe or vent... filled with ignimbrite, rhyolite porphyry, and rhyolite...(which) cuts the Bernborough Formation...may be the source of the Bernborough volcanics". (Dunnet and Harding, 1967, after Oldershaw). It occurs North of the Cleo's Gift Mine.

(ii) Carraman Formation.

Maxlow (1974) mapped the transition unit Bernborough - Carraman Formation as follows:

"Over an apparent outcrop width of 200 feet (60m) the sediments grade from medium grained greywackes, through siltstones to shales. Narrow lithic tuff units were also recorded, probably representing reworked tuffaceous material from elsewhere on the field. This unit of sediments is commonly ferruginous in outcrop and (in this area) contains narrow jasper-quartzite beds".

Taubes (1968), who mapped Mining Reserve 243 with the aid of an auger drill, made the following comments on this transition unit: "massive, fine grained cherty rock, believed on field evidence to be of volcanic origin. It is greyish when fresh and weathers yellow and red-brown".

The unit occurs approximately 500m East of the Cleo's Gift Shaft and appears to be approximately 350m stratigraphically below the lode.
Above this unit, and to the South:

"is an apparent stratigraphic thickness of approximately 1,600 – 2,000 feet (500 – 700m) of fine grained argillaceous laminated shales and siltstones. At least one, probably two, grey shale horizons towards the base of the unit were recorded. Minor narrow greywacke beds were also recorded increasing in frequency towards the top of the unit, Massive ironstone, associated with the grey shale, was recorded at the Cleo's Gift Mine", (Maxlow, 1974). Taube (1968) noted a "thin-beded shale member resembling the Hematite Shale of Crohn and Oldershaw (1964)".

approximately 400m Southeast of the Mine, about 50m (?) stratigraphically above the lode.

Stratigraphically

"above this argillaceous sequence, massive fine to medium grained greywackes and siltstones become prevalent, with minor fine grained shales. Pebbles and cobbles were recorded at a number of localities towards the base of this unit". (Maxlow, 1974).

(b) Ironstones (Taube, 1968)

"Ivanac (1952) and Crohn and Oldershaw (1964) have discussed the occurrence and structural control of the ironstone bodies in the Tennant Creek area. Almost all of the economic mineralization in this area has been associated with such bodies".

In the Cleo's Gift area "ironstone occurs mainly in association with linear features" such as quartz reefs.

"The ironstone bodies are generally less dense and massive than the bodies closer to Tennant Creek. Most of them show evidence of having only partially replaced sheared material within Warrawunga Group rocks. They usually occur as small iron-inpregnated shear zones with minor pods of dense hematite; where they are larger and denser, they tend to be composed of jasper-quartz-hematite rather than quartz-hematite".

(c) Cleo's Gift Lode:

J. Watts (1969) described Cleo's Gift as follows:

"The lode consists mainly of quartz and hematite. In parts it is wholly hematite, elsewhere a quartz-hematite breccia".

"The lode lies along a North-South trending photo-linear feature, manifested on the surface by a series of discontinuous quartz veins, believed to be fault infillings. At Cleo's Gift, rounded contorted fragments of country rock are contained in the lode, indicating that it lies along a fault zone. Maximum exposed lode width was estimated to be 12 - 14 feet (3.4m), and the attitude
of the lode is believed to be vertical).

The writer noted sedimentary slump breccia near the Southwest corner of the shaft and in a crook approximately 50m West of North-West from the Mine. It was also traced several hundred meters to the North-West. Angular and subrounded fragments of siltstone occurring in a silty matrix constitute the breccia.

A shaft approximately 4m deep has been sunk on the Southern side of the lode.
4. GEOCHEMISTRY.
(a) Production.
Approximately 40 tons have been treated yielding 9 ozs., 12 dwt., of
gold or 5.9 dwt., per ton. (Rees-Chardon 1974)
Shields & Willis 1972

(b) Rock Chip Sampling:
(i) Maxlew (1975) sampled the Cloo's Gift Ironstone and found
it to be anomalous in copper, bismuth, lead and molybdenum (table 6).
(ii) The writer channel sampled the walls of the shaft underground and took chip samples of surface outcrop near the mine.
Samples were anomalous in copper and bismuth (table 5).
(iii) Dunnet and Harding (1967) statistically analysed the
assay results from 430 samples of quartz-hematite and jasper lodes
from the Mt. Woodcock, Marion Road, Hayward Creek and 5/217 1 inch
to 1 mile Shoot areas. The populations for copper, cobalt, zinc,
lead, molybdenum and bismuth are shown in table 4.
Orlando and North Star lodes were found to contain anomalous
concentrations of all six elements.
"An attempt has been made to analyse statistically the copper
concentrations in the ironstones to check the significance of the
tw'o apparent populations".
"All copper values over 150 ppm in the Northern Star Mine and
Orlando areas have been plotted on a cumulative frequency diagram.
The result is a straight line plot with a mean of 520 ppm and a
standard deviation of 0.31".
It was also found
"by the method of differences...that the cumulative
distribution is made up of two components: the first comprising
95 percent of the total with a mean of 68 ppm, and the second
forming 5 percent of the total with a mean of 300 to 450 ppm".
As a check it was found
"that the cumulative distribution of the
geochemical values for copper, in the areas sampled, can be
reproduced by the addition of two log-normally distributed compon-
ents with means of 42 and 600 ppm with standard deviations of 0.93
and 0.62 respectively. The close agreement of the two independent
determinations supports the validity of two discrete populations".
"Thus, the copper content of the ironstone from the Orlando and
Northern Star Mines is significantly different from the rest of the
suite".
"The Bishop Creek anomaly includes a group of ironstones, some of which contain above-background concentrations of copper and molybdenum". (The Clee's Gift ironstone was not sampled). (iv) McMillan and Debnam (1961) systematically sampled many ironstone bodies on the Tennant Creek 1 inch to 1 mile Shoot Area. The populations resulting from statistical analysis of copper values are shown in table 3. A background value of 30 ppm copper was determined. They concluded

"It is a consistent feature of the field that known copper mineralization at depth is reflected at the surface by high geochemical values. Likewise, areas known to be barren of copper mineralization at depth, show low geochemical values".

c. Chip samples from the outcrop of the Polo ironstone, (which has produced 112, 166 tons of copper), average 340 ppm copper (standard deviation 145 ppm or 0.43); it is assigned to their most significant group of ironstones (Group 5 on table 3).

On comparison of the assay values from the Clee's Gift ironstone with those obtained by Barret and Harding, and McMillan and Debnam, the lode is considered to belong to the former's Orlando - North Star suite of ironstones, and to the latter's Group 5 of ironstones; that is, the most significant populations in their sample assay results.

(c) Auger Samples. (see fig 4 and table 6).

Following up the work of Barret and Harding (see above) in the Bishop Creek area, geochemical work was carried out by Resident Geologists of the Mines Branch, Northern Territory Administration, (Taubes, 1966).

"Auger samples were assayed...for copper, lead, zinc, molybdenum and bismuth. Copper yielded significant dispersion haloes; anomalous copper values followed a "line" of ironstones...in a Northwesterly direction. (The Southeastern anomaly surrounds the Clee's Gift Mine). Anomalous lead values occur, but do not form significant dispersion haloes. Zinc follows a pattern similar to that of copper, but these values are generally low. Values for bismuth are low and have an erratic distribution. Molybdenum assays yielded no significant results".

Statistical Analysis.

(i) Barret and Harding (1967) mention a background range for copper of 0-60 ppm in soils derived from the Warramunga Group and 0-20 ppm for zinc.

(ii) Taubes (1963), using the method of Tennant and White (1959)
"assay values (for Copper) from augor samples... as cumulative frequency curves on logarithmic probability paper". For the sedimentary rocks of the Carraman Formation (host rocks of the Cleo's Gift Lode) the plot of 1, 112 assay results shows a curve which "approaches the ideal curve for log-normally distributed populations, yielding values of 2 and 20 ppm for background and threshold respectively". Contours of copper values have been plotted in Fig. 4.

The threshold for zinc was found to be between 10 and 15 ppm. Lead values are variable. Bismuth values are not sufficiently differentiated for meaningful interpretation. However, as the ironstone is anomalous in bismuth, the values have been plotted in Fig. 4.
5. GEODESY

In 1974 Noblox N.L. contracted Geometrics International Corporation to conduct a low-level geophysical survey over N.L. 96, which included G.M.L. 231B. This data is available (Noblox N.L., 1974) as this section of the report is an Open File.

"The data was collected with a proton magnetometer recorded digitally, and the results were processed and a computer generated contour plan presented". (See Fig. 5). Flight height was 300 feet (90m) MTC and nominal line spacing 1/2 mile". (200m).

The location of the anomaly in relation to the Cleo's Gift Lode is uncertain.

Adjacent profiles (fig. 6), across the strike direction of the Lode, show a small magnetic high and magnetic low, when the regional gradient is considered, indicating that the Lode may extend below the water table level, where the magnetite has not oxidized to hematite.
6. CONCLUSIONS.

1. Geochemically anomalous concentrations of bismuth, copper, molybdenum and lead occur at Clee's Gift Prospect.

2. These anomalous values are present in chip samples of the ironstone, in channel samples of the walls of the shallow shaft, and in auger samples from the near vicinity of the Prospect.

3. The surface expression of the rocks presently known to contain anomalous concentrations of metal is of limited extent.

4. Geochemical characteristics of the lode suggest analogies with the ironstones present at Orlando (gold and copper producer), North Star (gold producer - copper, bismuth and uranium present), and Peto (gold and copper producer).

5. Stratigraphical features of the Prospect suggest a possible analogy with the rock suite with which the Coochie ironstone (copper and bismuth orebody) is associated.

6. It is considered likely that an economic deposit of principally secondary copper, bismuth and perhaps gold, with the possibility of some primary minerals may exist at the Clee's Gift Prospect.

7. If primary minerals are associated with hematite instead of magnetite below the water table, the potential tonnage of the lode is considerably enhanced.
7. RECOMMENDATIONS.

1. Location of the magnetic anomaly on the ground.
2. A grid be established using a theodolite and chain with a baseline parallel to the strike of the lode (320 magnetic) and pegs on a 50mm25m spacing. (See fig. 3 for grid suggested over geochemical anomaly).
3. Magnetics be read over the grid, profiles constructed and an interpretation arrived at on the size and depth of the body.
4. Weathered rock samples collected from auger holes (drilled to approximately 12m-essential to be below "bull-dust") and assayed for copper, zinc, bismuth and uranium (cobalt).
5. In preparation for a mico-in-masse survey (see Parnas 1966 and Gilespie 1971) each hole should be cased with PVC piping and plugged.
6. A mico-in-masse survey should be run, utilizing the auger holes in order that the generally electrically noisy surface zones (mainly at the base of the "bull-dust") are avoided by taking readings at the bottom of the holes.

At this stage, the source electrode could be attached to the ironstone outcropping at the surface or in the shaft.

7. A target for a diamond drill hole should be indicated by these surveys.

COMMENTS.

(i) The advantage of this technique is that the shape and size of a hematite body, not associated with magnetite, should be elucidated; both above and below the water table.

(ii) The plugs should be replaced in the auger holes after the initial survey for use in a possible second survey. If ironstone is intersected by drilling, contact should be made between it and the source electrode and a second mico-in-masse survey conducted.

(iii) This combined geochemical-mico-in-masse survey would serve as a trial for the technique with possible extension to other lodes.

J.P. HOWARD,
Resident Geologist.

J.P. Howard.
8. REFERENCES

(1) CROHN, P.W. & OLDERSHAW, W., 1965 - The Geology of the Tennant Creek 1 Mile Sheet Area. BMR Report 83

(2) DUNNET, D. & HARDING R.R., 1967 - Geology of the Mt. Woodcock 1 mile Sheet Area, Tennant Creek, N.T. BMR Report 114

(3) GILESPIE, P.J., 1971 - Down-hole Induced Polarization & Electric Applied Potential Surveys at Tennant Creek, N.T. BMR Record 1972/30

(4) IVANAG, J.F., 1954 - Geology & Mineral Deposits of the Tennant Creek Goldfield, N.T. BMR Record 1969/92


(9) TENNANT, C.B., & WHITE, N.L., 1959 - Study of the Distribution of some Geochemical Data. Econ. Geol. 54 pp 1281 - 1290

(10) WATTS, J., 1969 - An Appraisal of Cleo's Gift Goldmine, Bishop Creek Area, N.T. BMR Record 1969/22

<table>
<thead>
<tr>
<th>Thickness (m)</th>
<th>Unit</th>
<th>Lithology</th>
</tr>
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<tbody>
<tr>
<td>5-7000'+</td>
<td>Carraman Formation (Maxlow-provisional)</td>
<td>Massive fine and medium grained greywackes and silts, minor shales. Some pebble &amp; cobble conglomerate at the base</td>
</tr>
<tr>
<td>1000'+</td>
<td>Unnamed (good outcrop)</td>
<td>Shales and siltstones, some hematite shales. Minor greywackes more common towards the top. Grey shale horizons towards the base. (contains massive ironstone of Cleo's Gift lode)</td>
</tr>
<tr>
<td>1600-2000'</td>
<td>Unnamed (poor outcrop)</td>
<td></td>
</tr>
<tr>
<td>200'</td>
<td>Transitional Unit</td>
<td></td>
</tr>
<tr>
<td>3-3600'</td>
<td>Barnborough Formation</td>
<td>Acid volcanic flows, greywacke, tuffe and siltstone and shale lenses. Source probably northwest.</td>
</tr>
<tr>
<td>Thickness</td>
<td>CLEO'S GIFT MINE ROCK SUITE</td>
<td>Thickness</td>
</tr>
<tr>
<td>-----------</td>
<td>----------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Unknown</td>
<td>Hematite Shale</td>
<td>Thickness</td>
</tr>
<tr>
<td>Unknown</td>
<td>Grey Shale (?) horizon</td>
<td>(approx. 3m)</td>
</tr>
<tr>
<td></td>
<td>(compare 'transition unit')</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>Sediment slump breccia</td>
<td>(up to 70)</td>
</tr>
<tr>
<td></td>
<td>Shales, siltstone</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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### Copper Populations for Tennant Creek

**Ironstones** (after McMillan & Debnam)

<table>
<thead>
<tr>
<th>Group</th>
<th>Range (ppm)</th>
<th>Background (multiple of)</th>
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<tbody>
<tr>
<td>1</td>
<td>0–6.3</td>
<td>0–0.2x</td>
</tr>
<tr>
<td>2</td>
<td>6.4–31.6</td>
<td>0.2–1</td>
</tr>
<tr>
<td>3</td>
<td>31.7–63.1</td>
<td>1–2</td>
</tr>
<tr>
<td>4</td>
<td>63.2–199.8</td>
<td>2–6</td>
</tr>
<tr>
<td>5</td>
<td>Greater than 199.8</td>
<td>Greater than 6</td>
</tr>
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</table>
### Table 4: Populations for Ternant Creek

**Ironstone Samples** (from Dunnet & Harding, 1967).

<table>
<thead>
<tr>
<th>Element</th>
<th>Lower Population (ppm)</th>
<th>Upper Population (ppm)</th>
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<tbody>
<tr>
<td>Copper</td>
<td>7-500</td>
<td>200-2000</td>
</tr>
<tr>
<td>Cobalt</td>
<td>2-250</td>
<td>30-400</td>
</tr>
<tr>
<td>Zinc</td>
<td>20-200</td>
<td>100-500</td>
</tr>
<tr>
<td>Lead</td>
<td>1-50</td>
<td>8-700</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>1-70</td>
<td>3-150</td>
</tr>
<tr>
<td>Bismuth</td>
<td>1-5000</td>
<td>300-10000</td>
</tr>
</tbody>
</table>
### TABLE 5. CHIP SAMPLE ASSAYS OF CLEO'S GIFT IRONSTONE & SHAFT

<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Au (ppm)</th>
<th>Cu (ppm)</th>
<th>Pb (ppm)</th>
<th>Zo (ppm)</th>
<th>Bi (%)</th>
<th>Mo (ppm)</th>
<th>Ag (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18349 (Maxlow '74)</td>
<td>T</td>
<td>220</td>
<td>60</td>
<td>18</td>
<td>0.07%</td>
<td>110</td>
<td>2</td>
</tr>
<tr>
<td>TC/75/1</td>
<td>L &gt; 2</td>
<td>520</td>
<td>30</td>
<td></td>
<td>0.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>L &gt; 2</td>
<td>200</td>
<td>20</td>
<td></td>
<td>0.16</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>L &gt; 2</td>
<td>900</td>
<td>40</td>
<td></td>
<td>0.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1 &gt; 2</td>
<td>400</td>
<td>30</td>
<td></td>
<td>0.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>L &gt; 2</td>
<td>360</td>
<td>30</td>
<td></td>
<td>0.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>L &gt; 2</td>
<td>230</td>
<td>30</td>
<td></td>
<td>0.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>L &gt; 2</td>
<td>420</td>
<td>40</td>
<td></td>
<td>0.28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>L &gt; 2</td>
<td>110</td>
<td>20</td>
<td></td>
<td>0.00%</td>
<td></td>
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</tr>
<tr>
<td>Average</td>
<td></td>
<td>406</td>
<td></td>
<td></td>
<td>0.25</td>
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</tr>
<tr>
<td>Standard Deviation</td>
<td>246</td>
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<td>0.21</td>
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L means "less than".
<table>
<thead>
<tr>
<th>Co-ordinates</th>
<th>Total Depth (ft.)</th>
<th>Cu (ppm)</th>
<th>Pb (ppm)</th>
<th>Zn</th>
<th>Bt</th>
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</thead>
<tbody>
<tr>
<td>20N/60E</td>
<td>8</td>
<td>26</td>
<td></td>
<td></td>
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Note: -10 means between 5 & 10 ppm
LOCALITY MAP
BISHOP CREEK RESERVE 248
SHOWING 1967 GEOCHEMICAL SURVEY

Scale 1:63,360
---+2050---

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<th>A</th>
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<th>Profile see fig. 7</th>
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<td>C</td>
<td>D</td>
<td>Profile see fig. 3</td>
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</table>

---+2050---

NB Position of contours in relation to Cleo's Gift Mine is uncertain.

FIG. 3.

TOTAL AEROMAGNETIC INTENSITY CONTOURS
Cleo's Gift Mine Area

GEOPHYSICS: Nobles Exploration Report (29/5/75).
SCALE: 1 inch = 200 feet (1: 2400).
DRAWN: JP Howard.
DATE: 12/5/75.
SAMPLE LOCALITY MAP
(refer table 5)
CLEO'S GIFT PROSPECT

FIG. 7

LEGEND
- shaft
- collapse
- approx. rubble & outcrop boundary
- quartz, jasper, hematite
- sample no. & locality
- s.b. sediment breccia
- f.s. ferruginous shale

NB samples 1-4 - channel - shaft wall
samples 5-9 - chip

SComposite from collar.

Ange Hole 1300
49.25°
130
140
49.5
1300/1400/1500/1800
E 1215
710

834.8°
86.3°
0.03% Bi.

SAMPLER: JPHoward
SCALE: 1:500
DRAWN: JPHoward
DATE: 17/10/75
PLAN OF
GOLD MINING LEASE No. 231E
WARRAMUNGA GOLDFIELD

Name of Lease: CLEO'S GIFT
Locality: TENNANT CRE
Date of commencement of Lease: __________
Term: __________
Lessee:

Scale: 2 Chains to an Inch
Datum Peg shown thus: ○
Field Book: PJW 125 (Instr. V.T.O'B.53/59)
File: S. 382

G.M.L. 231E
6 = 3.7

NOTE: All spikes placed at 5 ft. from pegs

Reference to Traverse

Reference to Corners

I hereby certify that the survey was performed by me and under my immediate supervision in strict accordance with the licensed Surveyors Regulations, that I completed the survey and that the plan is in all respects accurate.

Date 29-8-1960
Licensed Surveyor

Surveyor's Notes:

Cat. No. MP 6

INDEX (Argo C.P. 21/3 D.)