West Gibbet lies 1000m west of the Aquitaine TC8 prospect where apparently high gold values have been reported.

Since 1961, five (5) diamond drill holes have been drilled into the West Gibbet magnetic anomaly, (Ref., plan sections and long projection). Of these holes, the most significant was DDH 1 where:

639' - 651' 3.7 g/mt Au
and 790' - 803' 38.7 g/mt Au (approximately 900E).

A value of 2.9 g/mt Au has been encountered low in the body in DDH 4A (approximately 1080E).

Further to the west in DDH 3 (850E) no value over 1.2g/mt Au was encountered, however this hole passed below and west of DDH 1 whereas any values that could be anticipated would be above DDH 1 if to the west.

3 metres of 0.780Bi (including 2 metres with 4.0 g/mt Au) was encountered relatively high in the body in DDH 5.

It is anticipated that if there is an ore body it lies below and to the east of the DDR 1 intersection which is only a small upper part of the main body.

The basic dykes above the ironstone are definitely conformable with bedding, and are very flat dipping. The ironstone appears conformable, however all the relevant information could be pointed towards a steep north dipping body along cleavage.
On the reasoning that mobilisation of an ironstone concentrate ore minerals the most likely economic body would therefore be steeply dipping. However, this does not preclude a conformable body which would appear to be the case at West Gibbat.

If the body is flat, then it is at least 400' long, 200' thick and dips north at an estimated 25°. It plunges erratically along strike although the eastern extremity appears to plunge at about 20°-25° whereas the western edge appears flat.

If the body dips steeply (estimated 70° north) it is thickest on 900E, and between that and 850E there is possibly a fault displacing the body - western side to the north and down. However, this is only based on the ironstone outline whereas the continuity of the dykes above disagree with this.

Using the assumption that the body is flat and considering the sections, projection and model a body of dimensions. 200' (along strike) 200' (down dip) and 15' thick could be envisaged. With a tonnage factor of 9 cub.ft/tonne this gives a body of 66,000 tonnes.

As the only intersection is 38.7 g/t and we allow an overall grade of 20 g/t then with a gold value of $4.0/g, we would have ore worth $80/t, or $5,280,000.

A model on perspex has been sketched of both possible bodys and a drilling target formulated on these.
ESTIMATED COSTS OF MINING THIS ORE BODY.

Shaft: $2,000/metre for sinking.

The lower limit of the body would be expected to be approx., 700' (213m)

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shaft say 240m</td>
<td>$480,000</td>
</tr>
<tr>
<td>Equipping shaft</td>
<td>$250,000</td>
</tr>
<tr>
<td>Surface installations power, water etc allow</td>
<td>$250,000</td>
</tr>
<tr>
<td>Development allow 400m @ $125/metre</td>
<td>$50,000</td>
</tr>
<tr>
<td>Mining and milling 66,000t at say $33/ton</td>
<td>$23,178,000</td>
</tr>
</tbody>
</table>

**TOTAL COSTS**: $3,208,000

**INCOME**: $5,280,000

**PROFIT**: $2,072,000

At a value of $80/tonne a break-even tonnage would be 40,000t.

Thus, anything bigger than 40,000t is profitable.

TF=9 ie Size of: 15'x160'x150'.

If 20% profit margin required: minimum - 48,000t.

A steeply dipping body would give a slightly deeper body and therefore higher costs of the order of $40,000-$50,000.
Conclusions.

1. Only one major ore intersection occurs in the drilling of the West Gibbet anomaly.

2. This intersection has not been followed by drilling that could have tested an economic orebody.

3. A profitable ore body is possible and the only way to test it is to drill the geological target as set out below.

4. The ironstone limits have not yet been defined.

5. Tenure is insufficient.

Recommendations.

1. Lease to the east and south of MC 126E with three GML's.

2. Diamond drill south with target at 680RL 980E 460N and estimated hole depth of 830' and total of 930'.
   (If ironstone is steeply dipping the same hole can strike the target 725RL 415N 980E at 900' for a total hole depth of 1000' - 305m).
Notes:

Sections have been sketched for 740E, 850E, 900E and 1080E as well as a long projection to 450N. A model has been constructed for both ironstones.

All work has been done on a scale of 1"=40' because the grid is footage and four of the five holes have been drilled with footage.

No drawing has been drafted to final stage.

B.H. DUCK.
Memo to: Mr. B. T. Williams,
P.O. Box 74,
TENANT CREEK, N.T.

from: L. A. Richardson

September 4, 1967.

Dear Brian,

WEST GIBBET PROSPECT

The contents of your memo dated 28th August have been studied.

I do not think we know too much about the geometry of the ironstone body yet because the intersections made appear to be near the top and also because there could be some uncertainty in the plotted positions of the intersections due to ironstone influence on the Tropari readings.

Therefore, I would compromise on the direction for D.D.H. No. 4 by choosing 200° grid instead of 225° grid to reach your target position. I see nothing in the geophysical evidence yet in favour of a 315° "strike".

I would be inclined to place your target position 50-75 feet to the east of and a little deeper than the 32.8 dwt intersection in D.D.H. No. 1.

We seem to have an asymmetry in the magnetic anomaly character which resembles that present at Explorer 13 where we have a wide band of magnetic rock present on the south side of the ironstone body. I will test the drill core on hand at earliest opportunity.

I will see what can be done about pitch.

Your plans and other papers are being returned to you under separate cover.

Kindest regards,

L. A. Richardson
Director
MEMORANDUM

To: L.A. Richardson
From: B.T. Williams.

28th August, 1967

West Gibbet Prospect

Dear Lew,

Enclosed is my work sheet on the West Gibbet Prospect showing the results of the geochemical assays for Selenium. A copy of Kim's original memo and gold-selenium plots is also enclosed. As you can see there is a small Se anomaly over the 32 dwt section in Hole 1 but the most spectacular anomalies are in zones, usually of chloritic ironstone, with very low gold values. Kim has previously pointed out that there was a significant Selenium high (60 ppm) in one of the non-ore holes of Juno and has suggested that such Se highs may be indicators of rich gold bodies nearby.

In May, the Board were most enthusiastic that this idea be tested out on other prospects showing anomalously high Se associated with low gold values. Since then I have had all of the Tennant Creek surface holes with core still stored (excluding Warrego) sampled and assayed for Se. Two of these (Eldorado Anomaly 2 Hole 3 and Explorer 45 (Town Hill) Hole 2) showed what may be significant Se highs but West Gibbet still remains the prime prospect with respect to the magnitude of the Se anomalies. We would therefore like to drill this prospect again as soon as possible. A drill for this project should be available in about two weeks, -- Explorer 15 and Quat Bowl taking precedence with the two drills which will become available in a few days.

From the plan of the holes so far drilled it appears that the body has a strike of about 315°. Interpreted cross and long sections have been constructed on the plan and the position of the Se anomalies noted. From the limited data I would tend to put another hole through the body slightly to the east of and 50' to 75' below Hole 1, inferring that the trend in mineralization may be from Se highs in Hole 3 through Se highs and some high grade gold in Hole 1 to a gold ore body on the eastern side. I would be pleased if you could comment on

1. my interpretation of the strike of the body.
2. the possible pitch of the body and
3. the probable limit of ironstone on the eastern side of Hole 1.

If you agree with the strike direction, I think it would be preferable
to drill in a direction about 225° grid and hence get a better cross-section of the body.

Keeping Juno in mind, it will, of course, be wise to contemplate drilling towards the western end of the body as well. Any comments on this will be very welcome.

Kind regards,

[Signature]

P.S. Could I have the plan back at some later date please?

[Signature]
GEOLOGICAL SURVEY - TENNANT CREEK AREA

TESTING OF MAJOR ANOMALIES

Some aspects of interpretation are submitted below for consideration in planning the testing by drilling of particular major-type anomalies present on Company areas.

WEST circuit ANOMALY

The geophysical results recorded on Plan No. 69 reveal that the principal anomaly feature present is well within the "Major-type" class. An adjacent "Minor-type" anomaly is also present which is presumably due to a subsidiary case. There is also some evidence of regional-type anomaly affecting the area but it is not well-defined by the limited coverage completed to date.

It is considered that, for an initial test of this anomaly feature, it would be reasonable to be guided by the results of "Sphere-analysis" which gives a depth of about 700 feet to the centre of the assumed anomaly body located at the plan position 830E/440N, approximately.

It is recommended that the drilling be planned for use of the normal-type angle hole to intersect the point 650 feet vertically below the plan position 830E/440N, the hole being collared on the north side of the anomaly centre and drilling to be in the direction 160° (Geophysical Grid).

WEST PERD ANOMALY

The geophysical survey results recorded on Plan No. 69 reveal that this anomaly feature has proportions which permit it to be placed in the "Major-type" class if it is attributed to a deep-seated intrusion. It is clear that any such single anomaly body present would have great east-west length and it would be positioned near the Pikes "Line" of ironstone occurrence.

Because of the indicated great length of the anomaly feature, analysis considerations in progress are being concentrated on "Ellipsoidal-analysis", rather than on "Sphere-analysis", for the case where an intrusion body of average Tennant Creek type is assumed to be responsible. Consideration has also been given to other cases.

The primary aim of the analysis work has been to endeavour to determine a drill-hole configuration which will successfully take care of a wide range of possibilities in making a deep and high-cost test of this potentially very important anomaly feature. Particulars of this configuration are yet to be supplied.

20K

L. A. Richardson,
Our Ref.: JSP/DR

Your Ref.: 

From: Sydney Office, G.P.O. Box 3351, Sydney, N.S.W.

To: Mine Office, P.O. Box 41, Tennant Creek, N.T.

SUBJECT: GIBBET ANOMALY.

Attention Mr. R. E. White:

We attach herewith copy of Mr. Richardson's comment on your memo dated 2nd June, 1958 on this matter.

Without having before us a plan showing the relationship of Mr. King's 10 acre lease and the A.G.S.S. N.A. grid, we think that if an appreciable portion of the anomaly #43 on Mr. King's lease you should proceed with an Option Agreement as outlined in your memo.

J.S. Proud.

M.M. | NOTE | REMARKS
---|---|---
U.G. SUP. | ✔ | 
MILL SUP. | | 
CHIEF ACC. | | 
ARCH. ENG. | | 
ELEC. ENG. | | 
PURCH. Q.F. | | 
CHIEF GEO. | | 
WELFARE Q.F. | | 
FILE | |
653 Pacific Highway, Killara, N.S.W.

11th June, 1958.

Memorandum to: The Technical Director,
Peko Mines N.L.

From: L.A. Richardson.

GIBBET AREA - TENNANT CREEK.

Receipt is acknowledged of your letter dated 9th June and the copy of inter-office memo, dated 2nd June, referring to the matter of a lease agreement involving the Gibbet 10 acre lease.

The A.G.G.S.N.A. vertical force anomaly No.5 of the Wheal Doria area has complex form and is not amenable to reliable interpretation in terms of a single ironstone mass. The possibility exists that anomaly contribution comes from both ironstone effect and regional effect. The former could have source centred at depth of the order 800 feet. No reliable estimate of the probable depth to the top of a presumed ironstone anomaly body can be supplied.

Presumably, the importance of the 10 acre lease would depend somewhat on its position relative to the anomaly centre. If it is close there could be some form of continuity extending from the near-surface ironstone on the lease towards the presumed anomaly ironstone.

L.A. Richardson.
<table>
<thead>
<tr>
<th>Location</th>
<th>Volumes</th>
<th>Grades</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Gibbet</td>
<td>2.28 m³</td>
<td>650g/t Au</td>
<td>1,708,720g</td>
</tr>
<tr>
<td></td>
<td>40 m³</td>
<td>650g/t Cu</td>
<td>26,000,000g</td>
</tr>
<tr>
<td></td>
<td>50 m³</td>
<td>550g/t Cu</td>
<td>26,000,000g</td>
</tr>
<tr>
<td></td>
<td>22 m³</td>
<td>250g/t Cu</td>
<td>5,500,000g</td>
</tr>
<tr>
<td>315°E</td>
<td>10 m³</td>
<td>250g/t</td>
<td>2,500,000g</td>
</tr>
</tbody>
</table>

- **Area**: 50 x 87.5 = 4,375 m²
- **Total Volume**: 442,275 m³
- **Total Gold**: 1,769,100 troy ounces
- **Total Copper**: 52,800 troy ounces

**Calculation**:
- $V_1 = 31 \times 2600 = 80,600 \text{ m}^3$
- $V_2 = 40 \times (2600 + 4872)$
- $V_3 = 50 \times 3288 = 164,400$
- $V_4 = 42 \times 24 + 4872$

**Total Gold**:
- $2,112,000 + 31,680 = 2,143,680 \text{ g}$
- $2,143,680 \times 31.1035 = 67,383,649 \text{ g}$

**Total Copper**:
- $550,000 + (1.35 \times 153,300) = 139,500$
- $677,500 + (1.16 \times 78,2512) = 782,512$

**Cost**:
- **Grades**: $845 \text{ g/t Cu}$
- **Cost**: $704,037$
WEST GIBBET AND T.C.8 TOTAL FORCE MAGNETIC ANOMALIES

Contours were sketched from Vehicle Magnetometer Chart Records and the WEST GIBBET Gradiometer Survey (Central Traverses)

GEOPEKO LIMITED
TENNANT CREEK

DRAWN
SCALE
DATE
Owg. No.

Hor. 1:5000
C.S. 5071
scale: 200 gammas to an inch

WEST GIBBET EXTENSION AREA
Contour interval: 50 gammas