GEOLOGICAL AND GEOCHEMICAL REPORT

TAM CLAIM GROUP

Watson Lake Mining District
Yukon Territory

Latitude : 62°34'N
Longitude : 129°45'W

N.T.S. 105-1-12

Field Work covering the period
July 5th - August 24, 1973

Report and Interpretation
November 1973

By:

Colin I. Godwin, P. Eng. (B.C.)

DYNASTY EXPLORATIONS LIMITED

November, 1973
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<td>Index Map Claim Group (1&quot;= 16 mi.)</td>
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<td>2</td>
<td>2</td>
<td>Tam Group Claim Sketch (1&quot;= ¼ mi.)</td>
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**IN POCKETS BACK OF REPORT**

<table>
<thead>
<tr>
<th>Map</th>
<th>Description</th>
<th>Scale</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Tam Group Airphoto and Claim Group (1&quot;= ¼ mi.)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Regional Geology (1&quot;= ¼ mi.)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Geochemistry, Sample Name, Value, pH (1&quot;= ¼ mi.)</td>
<td></td>
</tr>
<tr>
<td>3a</td>
<td>Geochemistry, Value Worm Diagrams &amp; Contours (1&quot;=¼ mi.)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Geochemistry, ppm Cu, Pb, Zn, (1&quot;=¼ mi.)</td>
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</tr>
<tr>
<td>4a</td>
<td>Geochemistry, Cu Worm Diagrams &amp; Contours (1&quot;=¼ mi.)</td>
<td></td>
</tr>
<tr>
<td>4b</td>
<td>Geochemistry, Pb Worm Diagrams &amp; Contours (1&quot;=¼ mi.)</td>
<td></td>
</tr>
<tr>
<td>4c</td>
<td>Geochemistry, Zn Worm Diagrams &amp; Contours (1&quot;=¼ mi.)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Locations of Detailed Geochemistry Follow-up (1&quot;=¼ mi.)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Follow-up Outcrop Rock Geochemistry (1&quot;= 10')</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Follow-up Pit Rock Geochemistry (1&quot;= 10&quot;)</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE I
**LIST OF CLAIMS**

<table>
<thead>
<tr>
<th>Claim</th>
<th>Claim Number</th>
<th>Grant Number</th>
<th>Recording Date</th>
</tr>
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<tbody>
<tr>
<td>TAM</td>
<td>1-48 inclusive</td>
<td>Y71437-Y71484</td>
<td>December 18, 1972</td>
</tr>
</tbody>
</table>

### TABLE II
**PERSONS INVOLVED IN WORK PROGRAM**

- **John D. Curry**  
  B.Sc., P.Geol.  
  Apt. 904, 9909-104th St., Edmonton, Alberta

- **Colin Godwin**  
  B.A.Sc., P.Eng.  
  330-355 Burrard Street, Vancouver, B.C.

- **D. McCune**  
  Geological Assistant  
  4021 W.13th Avenue, Vancouver, B.C.

- **S. Earle**  
  Geological Assistant  
  2058 W.8th Avenue, Vancouver 9, B.C.

- **L. Dellow**  
  Assistant  
  1620 E.36th Avenue, Vancouver 15, B.C.

- **S. Morris**  
  Cook  
  c/o Tom Stokie, P.O. Box 92, Fernie, B.C.
INTRODUCTION

Location and Access

The 48 claim Tam Group is located approximately 96 miles east-northeast of Ross River (see Figure 1) in Yukon Territory on N.T.S. sheet 105-I-12 near 62°34'N, 129°45'W (see Figure 2 and Table I). Map 1 is a blow-up print of air photo A12245-381 on a scale of 1 inch to ¼ mile with the actual locations of claims superimposed on the photo. The property spans the tree-line and is at an average elevation of approximately 4,500 feet.

Access to the property in 1973 was by helicopter from either Summit Lake or Cominco Lake, the only lakes in the immediate area that can be utilized by float planes.

A winter road to within 20 miles of the property, originating at Tungsten, N.W.T., was used by Placer Development Ltd. during the winter of 1972-73 and construction of an all-weather road between Tungsten and the Placer Howard's Pass property is likely.

GENERAL

Claims Tam 1 to Tam 48 were staked by Welcome North Mines Ltd. during the winter of 1972-73 in response to the Placer lead-zinc discoveries in Howard's Pass area (see Table I: List of Claims). In the spring of 1973 the claims were optioned by Dynasty Explorations Limited who undertook the 1973 exploration program.
CLAIM GROUPS:
A: Prevo
B: Pas
C: Gull and Dyn
D: Dea
E: Tam
F: Joy and Ajax
G: Tap
H: Ms
I: Sand
J: Gun
K: Kee

FIGURE 1:
Index Map
Claim Groups
Reconnaissance geochemical samples were collected over the 21 days from July 5th to 25th, 1973, and the group was mapped on a scale of 1 inch to \( \frac{1}{4} \) mile. For the 5 days from August 20th to 24th, 1973, follow-up work consisting of rock sampling of 17 outcrops and 8 pits was done to test anomalous sections and for geochemical orientation.

Table II is a list of persons involved in the work program.
GEOLOGY

Reconnaissance Geology

Map 2 is a print of an overlay for Map 1 photograph and shows the general geology of the Tam Group and a sketched cross-section. Table III illustrates geological units on the group.

The section is similar to the one encountered at Prevo Group. Units above the Unit 4 argillite have not proved to be of interest elsewhere. Unit 4 here, however, is very thin and may be incorrectly identified. The overlying units are chert and shales (Unit 5), chert pebble conglomerate with a facies equivalent sandstone (Units 6 and 7) and an uppermost siltstone (Unit 8). The conglomerate being more resistant to weathering is ridge-forming.

Units below Unit 4 are potentially of more interest and may correspond to the shales and mudstones that hosts lead-zinc mineralization and lies above the 'wavy-banded' limestone in the Howard's Pass area. Since no limestone or 'transitional rock' of the type seen in the Howard's Pass region was noted, the section exposed on the Tam Group is not particularly favourable because it appears to be distant from the 'shale-out' zone.

Several tentative faults are shown on Map 2. The section illustrates the main east-west trending synclinal structure, but shale and chert units are very complexly folded.
TABLE III: Geological Units, Tam Group

| 8 | Siltstone: brown, maroon, grey siltstone |
| 7 | Sandstone: maroon yellowish-white, quartz rich sandstone |
| 6 | Chert Pebble Conglomerate, chert greywacke |
| 5 a b | Shale and Chert:  
5a, mainly shale;  
5b, mainly chert;  
5, undifferentiated |
| 4 | Argillite: calcareous, and/or dolomitic buff weathering, pyritic argillite |
| 3 | Undifferentiated 1 & 2: chert and shale of Units 1, 2 and black, siliceous, thinly bedded mudstone |
| 2 | Shale: black shale |
| 1 | Chert: grey, rarely black, chert; up to 1 foot thick |
GEOCHEMISTRY

General

Table IV classifies the type and number of samples taken on Tam Group. Analyses for copper, lead and zinc were performed by Acme Analytical Laboratories Ltd., 6455 Laurel Street, Burnaby 2, B.C. Analysis was by atomic absorption on perchloric acid digestion of minus 80 mesh samples.

TABLE IV: Classification of Tam Samples

<table>
<thead>
<tr>
<th>Type</th>
<th>Approx. Area</th>
<th>Geochem: Cu, Pb, Zn.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Soil</td>
</tr>
<tr>
<td>Regional</td>
<td>3.5 sq. mi.</td>
<td>378</td>
</tr>
<tr>
<td>Detail</td>
<td>8 pits</td>
<td>9</td>
</tr>
<tr>
<td>Detail</td>
<td>16 outcrops</td>
<td>0</td>
</tr>
<tr>
<td>TOTALS</td>
<td></td>
<td>387</td>
</tr>
</tbody>
</table>

Integrated Value

An even number called here the integrated value for copper, lead and zinc is plotted on each sample site with a letter (C for copper, P for lead and Z for zinc) that defines the abundant metal(s) or metal characteristic(s) at the site.

Table V shows how to calculate an integrated metal value for a site. The purpose of this scheme is to provide a summary map that will ensure that no anomalies from a single or additive geochemical result are lost. Zoning of metals should become apparent from progressions in metal characteristics.
TABLE V: CALCULATION OF INTEGRATED VALUE AND METAL CHARACTERISTIC

A geochemical interpretation scheme for a total value representing copper + lead + zinc with pH taken into account.

RANGE (PPM) AND COLOUR

<table>
<thead>
<tr>
<th>Metal</th>
<th>Red (925)</th>
<th>Green (909)</th>
<th>Blue (903)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>≥ 120</td>
<td>90 - 119</td>
<td>70 - 89</td>
</tr>
<tr>
<td>Lead</td>
<td>≥ 50</td>
<td>40 - 49</td>
<td>30 - 39</td>
</tr>
<tr>
<td>Zinc</td>
<td>≥ 1000</td>
<td>600 - 999</td>
<td>300 - 599</td>
</tr>
<tr>
<td>Value</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

Notes:
(a) Adjustment for pH
   if pH ≤ 5.0:
   Copper, multiply ppm by 2
   Lead, do not change
   Zinc, multiply ppm by 5

(b) Bonus for High Results

<table>
<thead>
<tr>
<th>Bonus</th>
<th>Copper</th>
<th>Lead</th>
<th>Zinc</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>240-359</td>
<td>100-149</td>
<td>2000-2999</td>
</tr>
<tr>
<td>4</td>
<td>360-479</td>
<td>150-199</td>
<td>3000-3999</td>
</tr>
<tr>
<td>6</td>
<td>≥ 480</td>
<td>≥ 200</td>
<td>≥ 4000</td>
</tr>
</tbody>
</table>

(c) Colour code for total value: Copper + Lead + Zinc

<table>
<thead>
<tr>
<th>Value</th>
<th>Colour</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥ 18</td>
<td>Red (925)</td>
<td>High anomaly</td>
</tr>
<tr>
<td>12 to 16</td>
<td>Orange (918)</td>
<td>Intermediate anomaly</td>
</tr>
<tr>
<td>8 &amp; 10</td>
<td>Green (909)</td>
<td>Low anomaly</td>
</tr>
<tr>
<td>6</td>
<td>Blue (903)</td>
<td>High threshold</td>
</tr>
<tr>
<td>4</td>
<td>Purple (931)</td>
<td>Low threshold</td>
</tr>
<tr>
<td>2 &amp; 0</td>
<td>Blank</td>
<td>Background</td>
</tr>
</tbody>
</table>

(d) Metal character noted for copper, lead and zinc by: C, P, Z, respectively, only if value for each metal is ≥ 6.
Reconnaissance Geochemistry

Map 3 (scale 1 inch to 1/4 mile) is a print of an overlay of Map 1 or Map 2. Sample locations for all reconnaissance samples are shown with sample name, type, pH (where applicable) and an integrated value for the combination of copper, lead, zinc and pH. Map 3a shows stream worm diagrams and soil contours based on the values noted on Map 3. Anomalies on this map are erratically distributed and consist mainly of spot highs. Few anomalies show direct correlation to stream worms. The strongest value anomaly on the group occurs on claim Tam 4.

Map 4, shows the same site locations as Map 3 but results in ppm. for copper, lead and zinc are plotted beside each site.

Map 4a, shows stream worm diagrams and soil contours based on copper results noted on Map 4. Copper background is considerably higher than claim groups such as Gull, Dyn, Dea and Pas. This high background in copper is probably reflecting copper-rich (non-economic) black shale. Anomalies are, as in Map 3a, erratic and correlate poorly to stream worms. The two better anomalies occur on claims Tam 22 and Tam 5, and on Tam 4.

Map 4b, shows stream worm diagrams and soil contours based on lead results noted on Map 4. From this map, Tam Group is not anomalous with respect to lead. Values rarely exceed 50 ppm lead. The one spot high on the southeastern border of Tam 18 is only 166 ppm lead.

Map 4c, shows stream worm diagrams and soil contours based on zinc results noted on Map 4. Streams are generally enriched to at least several thousand ppm. of zinc. The larger streams are most anomalous. Smaller streams, especially those at higher elevations, contain noticeably less zinc. Soil anomalies are erratically distributed and generally spot highs. These
anomalies are frequently concentrated at the break-in-slope adjacent to anomalous streams. Metals, probably from the black shales, are concentrating in the streams suggesting that the dynamic agents are aqueous solutions. The soil anomalies, therefore, are probably hydromorphic in character.

The regional (1 inch to ¼ mile) patterns displayed on Map 3a and 4a to 4c are locally anomalous. These anomalies are lead poor, have a high copper background, are hydromorphic in zinc, and are erratic in distribution.

Claim Tam 4 is anomalous in value, copper and zinc, and is slightly higher than background in lead. The best soil results are: ppm Cu, 210; ppm Pb, 34; ppm Zn, 5500 (near a stream, therefore, possibly hydromorphic); value and metal characteristic, 18 Z. This is not an outstanding anomaly.

Detail Geochemistry

Map 5 shows areas where follow-up rock geochemistry was undertaken. Maps 6 and 7 show outcrop and pit rock geochemistry details. Metal and value averages, from this work, plotted on Map 5 show that although anomalous areas exist they have nowhere been shown to approach economic grades.

Particular attention was directed to a gossanous area on the northern side of claim Tam 8 (pits: P-1 to P-8, and outcrops: 0-3 to 0-6) (see Map 5 in vicinity of baseline: B/L). The anomalous copper and zinc in claim Tam 8 is a result of hydromorphic dispersion originating, perhaps, from an area near 0-4 marked by high lead. It is suggested that the area of P-6 is not anomalous due to low pH conditions while the precipitation of copper and zinc in the P-1 to P-3 area coincides with a down-stream pH increase.

No areas examined by the follow-up appear to merit further work. Claim Tam 4 was not investigated in detail.
SUMMARY

The northeast quarter of Tam Group may be underlain by the generally favourable shale-mudstone unit that occurs at Howard's Pass. Close proximity to limestone or occurrence of the highly favourable 'transitional unit' is not likely.

Geochemical anomalies are erratic and often are only 'spot' highs. Lead is essentially absent; copper has a high background; zinc anomalies are generally explainable by hydromorphic dispersion.

RECOMMENDATIONS

No coherent, strong targets on the basis of geology and geochemistry were found. The lead geochemistry, in particular, is not inspiring and the very highly anomalous zinc geochemistry is hydromorphic. Claims Tam 2 to Tam 5 and Tam 22 should receive $500.00 of work next year to check this anomalous region. This would fulfill assessment work on the Tam Group to December 18, 1975. If nothing of consequence comes from this, the Tam Group should be returned to Welcome North Mines Ltd.

Respectfully submitted,

C. I. GODWIN

Colin Godwin, P. Eng. (B.C.)

November 1973
<table>
<thead>
<tr>
<th>Schedule Number</th>
<th>Wages</th>
<th>Expenditures</th>
<th>Total</th>
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<td>Geology &quot;B&quot;</td>
<td>$1,429.43</td>
<td>$</td>
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<tr>
<td>Geochem &quot;C&quot;</td>
<td>317.77</td>
<td>1,653.54</td>
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<tr>
<td>Assays &quot;C&quot;</td>
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<td>317.77</td>
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<tr>
<td>Camp &amp; Field Costs &quot;D&quot;</td>
<td>72.26</td>
<td>814.42</td>
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<td>Miscellaneous Transport. &quot;E&quot;</td>
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<td>3,148.88</td>
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<td>$1,819.46</td>
<td>$6,064.86</td>
<td>$7,884.32</td>
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District Expense 6%

Administration 10%

TOTAL COSTS $9,193.12
AFFIDAVIT SUPPORTING SUMMARY OF COSTS

I, COLIN GODWIN, Geologist, Dynasty Explorations Limited, of Vancouver, British Columbia, do hereby state that, to the best of my knowledge and belief, the statement of costs presented in this report (Geological and Geochemical Report - Tam Claim Group, Y.T.) is both correct and true.

Colin Godwin

28 Nov 1973

Date

Notary Public in and for the Province of British Columbia.
GEOLOGICAL UNITS

6. CHERT PEBBLE CONGLOMERATE, CHERT GREYWACKE
5. SHALE and CHERT:
   5a, mainly shale
   5b, mainly chert
   5, undifferentiated
4. ARGILLITE: calcareous and/or dolomitic buff weathering, pyritic argillite
3. UNDIFFERENTIATED 1 & 2: chert and shale of units 1, 2 and black, siliceous, thinly bedded mudstone
2. SHALE: black shale
1. CHERT grey, rarely black chert; up to 1 foot thick.

LEGEND

claim outline
claim line, post, name
bedding: vert., dipping, hor.
axial cleavage: vert., dipping
lineation
joint (AC): vert., dipping
horizontal trace of anticlinal, synclinal axes, plunging
outcrop
talus float
contact
fault
drag fold, plunge

MAP: 2  photo no.: A12245-381

GEOLoGY
Geology by John D. Curry

DYNASTY EXPLORATIONS LTD.
TAM GROUP
NTS: 1051-12
Scale: 1in. = 1/4mi.
0 1/4 1/2 1mi.

GENERALIZED CROSS-SECTION TANG GROUP (no scale)
LEGEND

- Claim outline
- Claim line: post name

Sample type:
- x: rock
- .: soil
- o: silt
- #: other

- Sample name: S3C132
- pH: 6.5
- Integrated metal value: 12
- Metal characteristic: C = Cu, P = Pb, Z = Zn

MAP: 3
photo no.: A12245-381

DYNASTY EXPLORATIONS LTD
TAM GROUP
R.T.S. 1051-12
Scale: 1 in = 1/4 mi

GEOCHEMISTRY
LEGEND

claim line, post, name

<table>
<thead>
<tr>
<th>Silt worms</th>
<th>Interval</th>
<th>ppm Cu</th>
<th>Contours</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>≤ 150</td>
<td></td>
<td>≤ 150 ppm Cu</td>
</tr>
<tr>
<td></td>
<td>100 - 149</td>
<td></td>
<td>≥ 100 ppm Cu</td>
</tr>
<tr>
<td></td>
<td>50 - 99</td>
<td></td>
<td>≥ 50 ppm Cu</td>
</tr>
<tr>
<td></td>
<td>25 - 49</td>
<td></td>
<td>≥ 25 ppm Cu</td>
</tr>
</tbody>
</table>

photo no.: A12245-381

DYNASTY EXPLORATIONS LTD.
TAM GROUP
NTS: 1051-12
Scale: 1in. 1/4 mi.

MAP: 4 a.
GEOCHEMISTRY
CONTOURS, ppm Pb

LEGEND

claim line, post, name

<table>
<thead>
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<th>Silt worms</th>
<th>Interval</th>
<th>ppm Pb</th>
<th>Contours</th>
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<tbody>
<tr>
<td></td>
<td>0 - 150</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>100 - 149</td>
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</tr>
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<td>25 - 49</td>
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photo no.: A12245-381

DYNASTY EXPLORATIONS LTD.

TAM GROUP

NTS: 1051-12

Scale: 1 in. 1/4 mi.

MAP: 4 b.
GEOCHEMISTRY
CONTOURS, ppm Zn

LEGEND
± claim line, post, name

<table>
<thead>
<tr>
<th>Silt worms</th>
<th>Interval ppm Zn</th>
<th>Contours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>± 1500</td>
<td>± 1500 ppm Zn</td>
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<tr>
<td></td>
<td>1200 - 1499</td>
<td>± 1200</td>
</tr>
<tr>
<td></td>
<td>900 - 1199</td>
<td>± 900</td>
</tr>
<tr>
<td></td>
<td>300 - 699</td>
<td></td>
</tr>
</tbody>
</table>

photo no. A12245-381

DYNASTY EXPLORATIONS LTD.
TAM GROUP
N.T.S.: 105 J-12

Scale: 1in. 1/4 mi.

MAP: 4 c.