## $86-1036-15515$

## ASSESSMENT REPORT

## REPORT ON DIAMOND DRILLING

## Project <br> 264

TOMMY JACK CREEK
Au 1-4. Tom Mineral Claims Record Numbers 6256-6259, 6726

OMINECA MINING DIVISION BRITISH COLUMBIA

## NTS 94 D/ 4E

$$
\begin{array}{lrl}
\text { Latitude } & 56 \text { deg. } & 07.9^{\prime} \mathrm{N} \\
\text { Longitude } 127 \text { deg. } & 87{ }^{\prime}, \mathrm{w} \\
& & 36.8^{\prime}
\end{array}
$$

Work conducted
August - September 1986

NORANDA EXPLORATION COMPANY, LIMITED (OWner (Operator)
(NO PERSONAL LIABILITY) 3A-1750 Quinn Street Prince George, B.C. V2N $1 \times 3$

Del Myers
Project Geologist Rob Day


## TABLE OF CONTENTS

Page
LIST OF FIGURES ..... 2
LIST OF TABLES ..... 2
SUMMARY ..... 3
INTRODUCTIONPURPOSE. . . . . . . . . . . . 4
LOCATION AND ACCESS. ..... 4
PROPERTY ..... 6
REGIONAL GEOLOGY ..... 6
PREVIOUS WORK ..... 9
WORK UNDERTAKEN ..... 10
RESULTS ..... 11
CONCLUSIONS ..... 16
RECOMMENDATIONS ..... 17
REFERENCES ..... 18
APPENDIX 1. Summary of Field Personnel ..... 19
APPENDIX 2. Statement of Cost ..... 20
APPENDIX 3. Diamond Drill Hole Logs. ..... 21
APPENDIX 4. Statement of Qualifications ..... 57
APPENDIX 5. Analytical Methods ..... 59
APPENDIX 6. Analysia Reports ..... 61

## LIST OF FIGURES

Page

1. Location Map. ..... 5
2. Tommy Jack Claims ..... 7
3. Vertical Section of DDH TJ86-1, -2, -3 pocket
4. Vertical Section of DDH TJ86-4, -5 pocket
5. Vertical Section of DDH TJ86-6, -7 pocket
6. Vertical Section of DDH TJ86-8, -9, -10. pocket
7. Plan of 1986 Diamond Drilling ..... pocket
LIST OF TABLES
8. List of Claims in Tommy Jack Creek Property ..... 8

## SUMMARY

Ten diamond drill holes totalling 762 m (2500') were drilled on four sections to test Ag-Pb soil geochemical anomalies on the Tomm Jack Creek Property. The property is underlain by Bowser Lake Group sandstones, siltstones, and shales.

Subeconomic, mineralized, veinlet stockworks were intersected in most of the holes. The best intersection was in DDH TJ86-5 which averaged 4.3 ppm Au and 83.6 ppm Ag over 6.6 m from 21.6 to 28.2 m . This mineralization is associated with two faults.

Additional drilling is recommended both around this intersection and, more importantly, on additional soil geochemical anomalies.

## INTRODUCTION

## PURPOSE

Diamond drilling was undertaken on the Tommy Jack Creek property to test some of the soil geochemical anomalies outlined in 1985.

## LOCATION AND ACCESS

The Tommy Jack Creek property is located $95 \mathrm{~km} N$ of Hazelton, B.C. (Figure 1). The property liea along Tommy Jack Creek and covers its confluence with the Sicintine River. The Sicintine River is a tributary of the Skeena River.

The Old Camp at $10,000 \mathrm{mN}, 10,000 \mathrm{mE}$ of the property grid is 750 m above sea level. The baseline climbs to almost 1200 m within 2.4 km and the nearby height on land 1 s 1760 m . Tree line in the area is at about 1500 m .

Access to the property is by helicopter from Smithers, B.C., about 1 hour flying time away. In the past, float planes have landed on Sicintine Lake 25 km to the SE. The nearest runway is near Mosque Mountain on the BC Rail right of way some $30 \mathrm{~km} N$ of the property.

The nearest road to the property is a logging road (Salmon River Road) along the east side of the Skeena River. We slung the drill and camp aupplies from a clearcut on the road $48 \mathrm{~km} N$ of the junction with the paved road to kispiox. The distance from the clearcut to the property is about 50 kn.

Basing a helicopter on or near the property and suppling the camp with fixed wing flights to the Mosque airstrip might reduce transportation costs for the project.


Fig. 1

## PROPERTY

The property consists of 11 claims containing 115 units (about 2875 hectares). Five of these claims were acquired by option from Joyce Warren of Smithers, B.C. The remaining aix claima were ataked by Noranda Exploration.

For purposes of filing assessment work, all the claims have been put into one of two groups:
the Tom group and the Tommy Jack group.

The claims are shown in Figure 2 and are listed in Table 1.

REGIONAL GEOLOGY

The Tommy Jack Creek property 1 s underlain by Bowser Lake Group clastic sediment of Middle to Late Jurasaic age (Tipper and Richards, 1976). The sedimenta regionally are flat lying or gently dipping. They fill a sedimentary basin called the Bowser Basin. The property lies near the eastern limit of the Bowser Basin within the Intermontaine Belt of the Canadian Cordillera.

About 10 to 15 km south of the property, these sediments are intruded by Late Cretaceous or Early Tertiary intrusivea known as the Bulkley Intrusives. These rocks, predominantly quartz monzonites, granodiorites, and quartz diorites form the core of the Atna Range.

There are no $1: 250,000$ or more detailed, regional geology mapa for the area of the property.

## LOCATION MAP



Table 1．List of Claims

| Claim Name | Recorrd \＃ | Record Date | Type | Units |
| :---: | :---: | :---: | :---: | :---: |
| Au 1 | 6こ56 | 84／6／1E | ep | 1 |
| Alt ${ }^{\text {a }}$ | 6057 | 94／E／1E | Ep | 1 |
| An 3 | GESE | 04／E／12 | ep | 1. |
| Ald 4 | 6 ESG | 94／6／12 | Ep | 1. |
| Tom | E7E6 | 04／10／E4 | MG | 20 |
| Torn E | 7303 | 85／9／5 | MG | E |
| Tam 3 | 7304 | 85／9／5 | MG | 7 |
| Tom 4 | 7578 | 日6／5／1 | MG | 20 |
| Tom 5 | 7579 | 日6／5／1 | MG | 20 |
| Tom E | 7580 | BE／S／1 | MG | E0 |
| Torn 7 | 7591 | 86／5／1． | MG | e0 |

PREVIOUS WORK
The first showings in the area were probably discovered by an Indian trapper, Tommy Jack, from Hazelton.

Prospectors Bert Goodrich and Bert Lloyd worked on the property in the $1930^{\prime} s$ or 1940 's with the backing of Maynard Kerr of Vanderhoof. The property was relocated by Kerr and Glen Huck in 1962 or 1963 (Thompson, personal comm.)

The only work published on the Tommy Jack Creek property was by Canex Aerial Exploration in 1964. Canex did soil geochemistry over a $4800 \times 5400 \mathrm{ft}$. ( $1460 \times 1650 \mathrm{~m}$ ) area and found extensive $\mathrm{Ag}, \mathrm{Pb}$, and As anomalies (Thompson, 1964). Some trenching was done in 1964 on a massive galena vein somewhere on the mountainside. Placer was looking for Cu or Mo deposits and dropped their option on the property.

In December 1968, 3 short holes were diamond drilled near the Old Camp on Tommy Jack Creek (Thompson, personal comm.). Reaults of the trenching and diamond drilling are not available.

There is no record of other work on the property until 1984 when the property was examined and optioned by Noranda (Myers, 1985) from Joyce Warren of Smithers.

A program of prospecting, geological mapping, and soil and silt geochemistry was conducted in 1985 by Noranda on a grid covering an area $2.0 \times 3.0 \mathrm{~km}$ (Dale and MacArthur, 1985).

This report describes diamond drilling done on the property by Noranda in 1986. This work was financed by Goldcap, Inc. of Calgary under terms of their agreement with Noranda.

## WORK UNDERTAKEN

Work done in 1986 on the Tommy Jack Creek property is based on geological and geochemical work done in 1984 and 1985 by Noranda.

Personnel and contractors employed on the project are listed in Appendix 1.

Phil's Diamond Drilling of 108 Mile House was contracted to drill 2500 feet (762m) of $N$ core on the property. A crew of four men was eventually supplied. They used a Longyear Hydro-core Model 28 drill. Drill moves were done with either a Bell 206B (marginal, at load limit) or a Hughes 500D (better) helicopter.

Work began with mobilization and camp set-up beginning on 18 August. A camp was established at the Old Camp on Tommy Jack Creek ( $10,000 \mathrm{mN}, 10,000 \mathrm{mE}$ ). Several drill sites were cleared and timbers for the drill were laid.

Bad weather delayed the drill move into the property. The drill, driliing equipment and supplies, and the remaining camp gear was slung into the property by helicopter on 24 and 25 August.

In all, ten holes totalling 762 m (2500 ft.) were drilled beginning on 29 August and finishing on 19 September. Production averaged 65.8 feet per shift from 25 August to 20 September. Waiting for parts at the start of the job lowered production, once drilling began production averaged 75.8 feet per shift (29 August to 19 September). Drill moves were done in less than a shift when a helicopter was available.

A shortage of water from nearby sources necessitated that long water lines be laid. Working earlier in gummer would minimize this problem.

Core was logged and split in the field. Core is stored at the drill sites except for two boxes which were taken out to Prince George. One box was loaned to Rob Day of Goldcap Inc. Split samples of core were asaayed in Vancouver for Au and Ag by Bondar-Clegg.

The drill was moved out on 20 September using two helicopters. Ten barrels of diesel fuel were backhauled into camp for use in 1987. Okanagan Helicopters of Smithers also hauled in some jet fuel for use in 1987.

The camp was closed with most of the gear left behind under cover on 23 September.

## RESULTS

Four sections (Figures 3 to 6) show the ten holes drilled. Drill logs are included as Appendix 3. Geochemical analyses and assays of split drill core samples are given in Appendix 6.

DDH TJ86-1 to 3

Holes TJ86-1 to -3 were drilled on section 9250 mN (Figure 3 ) to teat Ag and Pb soil geochemical anomalies as follow:

L $9300 \mathrm{mN} 9620 \mathrm{mE} \quad 13 \mathrm{ppm} \mathrm{Ag} \quad 1300 \mathrm{ppm} \mathrm{Pb}$ $9640 \mathrm{mE} 24 \quad 1200$

The holes were drilled 50 m uphill from the anomalies to compensate for probable, downslope, geochemical dispersion.

These three holes were drilled as a fence starting with DDH TJ86-1 at $9580 E$ and continuing east to the bottom of hole TJ86-2 at 9687 mE . A short -75 degree hole (TJ86-3) was drilled to aid in the interpretation of the section.

Several significant mineralized intersections were made:

| DDH | Interval,m | Width, m | ppm Au | ppm Ag |
| :---: | :---: | :---: | :---: | :---: |
| TJ86-1 | 24.95-25.20 | 0.25 | 1.20 | 9.3 |
|  | 61.6-62.75 | 1.15 | 2.57 | 12.7 |
|  | 64.5-64.95 | 0.45 | 1.58 | 4.5 |
|  | 78. -79. | 1.0 | 3.63 | 23.0 |
| TJ86-2 | 11.8-11.9 | 0.1 | 18.31 | 46.6 |
|  | 42.2-45.5 | 3.3 | 2.01 | 35.3 |
|  | 46.7-47.15 | 0.45 | 9.6 | 121.7 |
|  | 54.6-55.6 | 1.0 | 2.09 | 2.7 |
|  | 75.95-76 | 0.05 | 3.02 | 12.3 |
| TJ86-3 | 11.85-12.15 | 0.3 | 5.01 | 17.8 |

Of these intersections the value of 2.01 ppm Au over 3.3 m in hole TJ86-2 is the most significant. It is correlated on Figure 3 with mineralization in TJ86-1 at 61.6 and 64.5 m .

The mineralization consists of zones of quartz-carbonate (calcite and ankerite) veinleta of several orientations and
usually less than 1 cm wide which carry pyrite, sphalerite, galena, arsenopyrite, pyrrhotite, and tetrahedrite (and
rarely ruby silver). Where mineralization is most intense or where the wallrock is more porous, disseminated grains or blebs of sulfides can be found surrounding the veinlets.

Both mineralized zones are below and close to a shallow west dipping fault. There seems to be an association of mineralization in or below faults.

The major lithologies on this and the other three sections are sandstones, siltatones, and claystones. All are varying shades of grey when fresh. The sandstones consist of a small percentage of dark sand grains with the lighter grains giving rise to a salt and pepper' pattern. No conglomerates were logged. When weathered, the rocks ahow a small percentage of ankeritic carbonate.

A hypabyssal dacite sill high in the three holes on this section appears to have the same apparent dip as the shallow west dipping faults. Two grab samples (34002 and 3) of the sill gave negligible Au and Ag assays (Appendix 5).

Bedding appears to dip more steeply than the faults and sill, but also to the west. It is somewhat problematic what the stratigraphic correlations are from hole to hole. The picture in Figure 3 is oversimplified. For instance, bedding angles with the core axis recorded in hole 1 were:
$70,70,60,60,40,25,70$ degrees, consecutively.

DDH TJ86-4 and -5

Figure 4 shows holes $T J 86-4$ and -5 which were drilled in a fence on section 9155 mN from 9801 mE to 9899 mE . These two holes tested soil geochemical anomalies at:


The anomaly at 9900 mE is only partially tested by hole 5 and an additional hole on the section covering from 9900 to 9930 $m E$ would be necessary to test this anomaly completely. A hole drilled at minus 45 degrees to grid west from about 9930 $\operatorname{mN}$ would adequately test the soil anomaly at $9200 \mathrm{mN}, 9900$ $m E$.

The best mineralization of the program was intersected on this section. The better intersections are:

| DDH | Interval,m | Width,m | ppm Au | ppm Ag |
| :--- | ---: | :--- | :--- | ---: |
| TJ86-4 | $24.1-24.9$ | 0.8 | 8.9 | 189. |
|  | $67.2-68.1$ | 0.9 | 4.12 | 7.6 |
| TJ86-5 | $9.8-11.8$ | 2.0 | 1.95 | 29.6 |
|  | $21.6-28.2$ | 6.6 | 4.3 | 83.6 |
|  | $31.7-32.7$ | 1.0 | 1.75 | 5.5 |
|  | $68.0-69.0$ | 1.0 | 1.34 | 14.1 |

A possible correlation between mineralization at 9.8 m in hole 5 with mineralization at 67.2 m in hole 4 is suggested on Figure 4 . This is strictly a guess and should be tested with a second proposed hole on this section. A hole at minus 75 degree to grid east from the collar of DDH TJ86-5 would do this.

All the mineralization in hole 5 is found at or below interpreted faults but the association is not as straightforward in hole 4.

Dacitic intrusive was intersected by hole 4 but the contact angles are not known because of minor grinding of the drill core and very broken rock. None was found in hole 5.

There are more sandstones on this section and fewer claystones than on the previous section (Figure 3). Bedding angles in hole 4 were as follows:

40, 30, 40, 80-90, 60-70, 60, 45, 70, 65, 70 degrees,
probably indicative of folded beds. Lithological correlations between the two holes have not been attempted because of lack of marker sequences.

DDH TJ86-6 and -7
The next two holes (Figure 5) tested soil anomalies on L9600 mN as follow:
$\begin{array}{lrlll}L & 9600 \mathrm{mN} & 9940 \mathrm{mE} & 13 . \mathrm{ppm} \mathrm{Ag} & 200 \mathrm{ppm} \mathrm{Pb} \\ & 10020 \mathrm{mE} & 5.4 & & 230 \\ & 10040 \mathrm{mE} & 11 . & 120\end{array}$

Hole TJ86-6 was collared at 9920 mE and ended at 9979 mE. Hole TJ86-7 was collared at $10,007 \mathrm{mE}$ and ended at $10,064 \mathrm{mE}$.

Only minor mineralization was intersected. Hole Tj86-6 intersected $1.71 \mathrm{ppm} A u$ and 46.3 ppm Ag over 0.5 m from 26.6 to 27.1 m .

Core assay Ag values higher than soil anomaly values were obtained in both holes and may be the source of the soil anomalies. The soil geochemical anomalies may also result from dispersion downslope from a source further uphill. It is probably significant that Pb soil values here are lower than for either of the two previous, better mineralized, sections.

The better mineralization on hole 6 is associated with a fault. No correlation of structures or stratigraphy between holes 6 and 7 is shown on Figure 5 because of limited data.

Bedding angles with the core observed in hole 6 were:

30, 25, $40-45,45,35,45,30,40,35-40,40-30,25,30,30$, 25, 60, 30, and 30 degrees, consecutively.

DDH TJ86-8 to -10

Holes TJ86-8 to -10 (Figure 6) were drilled on section
9400 mN. They tested soll geochemical anomalies at:

L $9400 \mathrm{mN} 9780 \mathrm{mE} \quad 2.2 \mathrm{ppm} \mathrm{Ag} \quad 130 \mathrm{ppm} \mathrm{Pb}$
9840 mE 5.246

9940 mE 3.658

L 9450 mN 9940 mE 50.92

DDH TJ86-8 was collared at 9757 mE and ended at 9815 mE . Hole TJ86-9 was collared at 9821 mE and ended at 9879 mE . Hole TJ86-10 was collared at 9900 mE and ended at 9960 mE .

The best gold mineralization was in hole 86-8 and the best silver mineralization was in hole 86-10 as follows:

| DDH | Interval,m | Width,m | ppm Au | ppm Ag |
| :---: | :---: | :---: | :---: | :---: |
| TJ86-8 | $33.6-34.2$ | 0.6 | 1.13 | 5.8 |
| TJ86-10 | $57.8-58.3$ | 0.5 | 0.41 | 55.5 |

Note also that the Pb soil anomalies as much weaker on this section than for the first two sections.

No correlations are attempted on Figure 6 because of the wide spaces between drill holes.

Bedding angles with the core axis seen in hole 9 were:
10, 15, 15, 10, 40, 30, 30, 40-60, 30, 30, 25, 30, 40, 20, and 40-50 degrees, consecutively.

A 10 degree angle with the core axis (WCA) implies a moderate apparent easterly dip at the top of hole TJ86-9.

Several holes further south on the grid were not drilled beceuse of cost factors: the cost of moving the camp and the cost of walking time if the camp were not moved. These holea should be drilled in 1987.

Seventeen DDH are proposed for 1987 and include:
14 holes to be drilled on untested soil geochemical anomalies from L 9000 mN south, and

4 holes to be drilled around DDH TJ86-4 and -5 (should be drilled last).

Significant, but subeconomic, mineralization was found on two of the four sections tested in 1986. The better intersections are:

DDH TJ86-2 3.3 m ( $2.01 \mathrm{ppm} \mathrm{Au} \quad 35.3 \mathrm{ppm} \mathrm{Ag}$
DDH TJ86-4 0.8 m © 8.9 ppm Au 189 ppm Ag
DDH TJ86-5 $6.6 \mathrm{~m} \quad 4.3 \mathrm{ppm} \mathrm{Au} \quad 83.6 \mathrm{ppm} \mathrm{Ag}$
Mineralization consists of stockworks of quartzcarbonate veinlets in the hosting sediments and intrusive. These veinlets and sometimes the wall rocks are mineralized with pyrite, sphalerite, galena, arsenopyrite, pyrrhotite, tetrahedrite, and rarely ruby silvers.

Mineralization commonly occurs at or just below zones of broken or clayey rock which are interpreted to be faults. These zones are were probably important permeability controls.

Because of the lack of marker beds, the complex sequences of lithological units, the sparsity of drill holes, and the absence of wide, singular, mineralized structures; correlation between drill holes of mineralization, structure, and stratigraphy is uncertain. Drilling in 1987 should be done from both sides with more holes at different angles where significant mineralization is encountered.

Strong lead ( $>500 \mathrm{ppm}$ ) soil geochemical anomalies are the best indicators of significant bedrock mineralization.

## RECOMMENDATIONS

1. Fourteen DDH should be drilled from L 9000 mN south to test various soil geochemical anomalies.
2. Some of these holes should be drilled from east of west and some from west to east. If significant mineralization is found steeper holes or holes from the other side should be drilled to determine to orientation of the mineralized zone.
3. Four holes could be drilled around DDH TJ86-4 and -5. One hole at -75 degree to the east from the collar of hole 5 should test to orientation of mineralization in hole 5 . A hole collared to the east of hole 5 and drilled -45 degree west would finish testing a soil geochemical anomaly at 9200 $\mathrm{mN}, 9900 \mathrm{mE}$. One hole each 50 m grid N and S of section 9155 mN should be drilled to test along strike.
4. The better 1986 drill intersections should be analysed for additional elements.
5. Sections showing the percentages of sulfides and veinlets in 1986 should be prepared (by computer drafting - this could be an integral part of a computer-aiding logging and plotting system).

## REFERENCES

Dale, A. and MacArthur, R., 1985. Assessment Report: Geochemical Report on Tommy Jack Creek Property. Noranda Exploration Co. Ltd., Prince George, B.C., 5pp.

Myers, D., 1985. Assessment Report: Geology and Geochemistry of the Tommy Jack Creek Property. Noranda Exploration Co., Ltd.. Prince George, B.C., 9 pp.

Thompson, W., 1964. Assessment Report \#574: Soil Geochemistry Report. BCMEMPR, Victoria, B.C.

Tipper, H.W. and Richards, T.A., 1976. Jurassic Stratigraphy and History of North-Central British Columbia. GSC Bulletin 270, Ottawa, Ont., 73 pp.

APPENDIX 1. Summary of 1986 Field Personnel

| : Name <br> : Addresa | Position | Dates worked on project in field | Man Daya |
| :---: | :---: | :---: | :---: |
| Norm Bashor | Field | 19 August - | 31 |
| Box 2349 | Assistant | 18 September |  |
| Smithers, B.C. |  |  |  |
| Simon Bergeron | Cook | 9-18 September | 10 |
| Box 563 |  |  |  |
| Telkwa, B.C. |  |  |  |
| Rob Day | Consulting | 6-24 September | 19 |
| c/o 15630-118 Ave. | Geologist |  |  |
| Edmonton, Alberta |  |  |  |
| Del Myers | Project | 19 August - 8 Sept. | 27 |
| 3A-1750 Quinn St. | Geologist | 20-24 September |  |
| Prince George, B.C. |  |  |  |
| Phil's Diamond Drilling | Drilling <br> Contractor | 17 August 21 September | 96 |
| 108 Mile House, B.C. |  |  |  |
| Van Alphen | Falling | 23-29 August | 7 |
| Exploration | Contractor |  |  |
| Services |  |  |  |
| Smithers, B.C. |  |  |  |
| D.C. Forestry Services | Falling Contractor | 12-14 September | 3 |
| RR 2, Site 75, Comp | 6 |  |  |
| Smithers, B.C. |  |  |  |
| CJL Enterprises | Expediting | 19 August - | - |
| Smithers, B.C. | Contractor | 23 September |  |
| Peter E. Walcott \& Associates Ltd. | Geophysical Contractor | 23-29 August | 7 |
| Coquitlam, B.C. |  |  |  |
|  |  | Total | 200 |



```
APPENDIX 3. Diamond Drill Hole Loga
List of abbreviations used on drill logs:
    ank ankerite
    as arsenopyrite
    carb carbonate
    cc calcite
    deg degrees
    est estimated
    gmt grams per metric ton = ppm
    gn galena
    gy gypsum
    m meters
    med medium
    min mineralization
    no number
    po pyrrhotite
    py pyrite
    rec recovery
    sp sphalerite
    td tetrahedrite
    tr trace
```

DATE COLLARED: 29 August 1986

FIELD COORDINATES


| LAT: | ELEV. | DIP: |
| :--- | :--- | :--- |
| 9E50N | 932.3M | -45 deg. |
| DEP: | LENGTH: | BEARING: |
| 958日E | $84.7 M$ | 51 deg. |

HOLE ND.: TJBG-1
PAGE 2 OF 4




LOGGED: 1-2 SEPTEMBER $1906 /$ DEL MYERS delmen

| DATE COLARED: | DATE COMPLETED: | CORE SIIE: 47 mm | PRDPERTY: TOMMY JACK |  |
| :---: | :---: | :---: | :---: | :---: |
|  | Searer 19 | Cone size 47 m |  |  |

PROJECT \#: 264


| PROPER | RTY: | TOMMY JACK |  |  | HOLE NO.: | TJ86-2 |  |  |  |  |  |  |  |  | AGE |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1 | 1 | \|cisisi |  | 1 | 1 | 1 |  |  | 1 |  | 1 |  | 1 |  | 1 |  |  | Ys | 1 |
| FROM | 1 то | 1 REC | ILIIIAI | description | I STRUCTURE | $1 \times$ | 1 x | 1 | EST. | 1 | SAMPLE |  | INTERVAL | 1 | WIDTH | 1 | 9U | 1 | AG | 1 |
| (m) | 1 (a) | (x) | IAILINI |  | $1 \mathrm{~m} / \mathrm{deg}$. WCA | 1 veinlets | 1 SULPH. |  | GRADE | 1 | No. |  |  | 1 | (m) | 1 | (gmt) | 1 | (gmt) | 1 |
|  |  |  | \|Y|TIDI |  |  |  |  |  |  |  |  |  |  | 1 |  |  |  |  |  |  |
|  |  |  | 1111 |  |  | 1 | 1 |  |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 | 1 | 111 |  | 1 | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
| 13.25 | 113.90 | 1100 | 1111 | 1 Dacitic intrusive | 1 1 | 13, cs-q2 | 11 diss | Pyl | 10w | 1 | 82383 |  | 13.25-13.90 | 1 | 0.65 | 1 | 0.87 | 1 | 1.70 | 1 |
|  | 1 | 1 | 111 | Iw/o pale green spots of | 1 | 1 | $11 / 4 \mathrm{Sp}$ | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 | 1 | 1111 | \|previous intrusive, otherwise |  | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 | 1 | 1111 | Isimilar | 1 | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | , | 1 | 1111 |  | 1 1 | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
| 13.90 | 114.05 | 1100 | $11\|x\|$ | XISandstone | 1 , | 15, az-cc | 12 Py | 1 | med | 1 | 82384 | 1 | 13.90-14.05 | 1 | 0.15 | 1 | 0. 07 | 1 | 1.40 | 1 |
|  | 1 | 1 | 1111 |  | 1 1 | I | 11 Sp | , |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 | 1 | 111 |  | 1 | I |  | , |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
| 14.85 | 114.20 | 1100 | 1111 | \| Dacitic intrusive | Icontact | 15, ce | 11 diss | PyI | low | 1 | 82385 | 1 | 14.25-14.20 | 1 | 0.15 | 1 | 0.51 | 1 | 3.40 | 1 |
|  | 1 | 1 | 111 | ISame as $13.25-13.90$ except.. | 114.2/70 | , | 1 | , |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 | 1 | 111 |  | I | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
| 14.20 | 15.78 | 1100 | \|x|x| | \|Siltstone and claystione | Iveinlets/10 | 14, az-cc |  |  | low | 1 |  |  | 14.20-15.80 | 1 |  | 1 |  | 1 | 16.10 | 1 |
|  | , | 1 | 1111 | ibedded, folded | 140, 70 | $1$ | $\text { iminor } 50$ | $\text { b } 1$ |  | 1 | Be387 | 1 | 15.80-15.70 | 1 | 0. 70 | 1 | 0.17 | 1 | 9. 68 | i |
|  | 1 | 1 | 1111 |  | 1 | 1 |  | 1 |  | , |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 | 1 | 1111 |  | 1 1 | 1 |  | 1 |  | + |  | 1 |  | 1 |  | 1 |  | 1 |  | , |
| 15.70 | \| 17.15 | 1100 | $111 \times$ | xiSandstone | 1 veinlets/5e, | 15, 82-cc | 12 Py | , | med | 1 | $8: 2388$ | 1 | 15.70-16.50 | 1 | 0. 60 | 1 | 0. 89 | 1 | 25.78 | 1 |
|  | 1 | 1 | 1111 |  | 160, 80 | 1 | 1150 | i |  | 1 | 82389 | 1 | 16.50-17.15 | i | 0.65 | 1 | 0.27 | 1 | 9. 90 | 1 |
|  | 1 | 1 | 1111 |  | 1 1 | 1 | $11 / 2 \mathrm{6n}$ | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 | I | 1111 |  | $i$ | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
| 17.15 | 117.90 | 1100 | $\|\|x\|$ | 15iltstone | iveinlet | 15 az-cc | 11 Py | , | low | 1 | 82390 | I | 17.15-17.90 | 1 | 8.75 | 1 | e. 14 | 1 | 5.50 | I |
|  | 1 | 1 | 111 |  | 117.4/50 | 1 | Iminar So |  |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 | 1 | 111 |  | 1 1 | 1 | , | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
| 17.90 | 118.10 | 1100 |  |  |  |  |  |  | nil | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | I | 1 | 1111 | igrayish black (N2) |  | $1$ | i | $i$ |  | ! |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | $1$ | I | 1111 | $i^{1}$ |  |  | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
| 18.10 | 124.10 | 1100 | $1\|x\| x \mid$ | NiSiltstone to sandstone | 1 bed $23.4 / 20$ | 12 cc | Iminor Py |  | nil | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 | 1 | 1111 | Ivery coarse silt or very finel |  | , | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | , |  | 1 |
|  | 1 | 1 | 111 | lorain sand. Mainiy massive | , | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 | 1 | 1111 | lexceot at bottom | 1 1 | 1 | , | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | , | 1 | 1111 |  | , | 1 | , | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | $!$ |  | 1 |
| 24.10 | 124.50 | \| 100 | \|x| | 1 | IClaystone - very broken | iveinlets/70, | $120 a^{2-c e}$ | 11 Py | 1 | low | 1 | Be391 | 1 | 24.10-24.50 | 1 | 0.40 | 1 | (0.017 | , | 1.00 | 1 |
|  | 1 | 1 | 1111 |  | 180 | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 | 1 | 1111 |  |  | 1 | , | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
| 24.50 | 127.70 | 1100 | $1\|x\| 1$ | Siltstone - mainly massive |  |  |  |  | nil | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 | 1 | 1111 | $1$ | 165 | $1$ | i | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | , |  | 1 |
|  | , | 1 | 1111 |  | 1 | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | , |  | 1 |
| 27.70 | 130.55 | 1100 | 11 ix | ISandst one -fine gain sand | iveinlets/15, | 11 cc | 10 | 1 | nil | 1 |  | 1 |  | I |  | 1 |  | 1 |  |  |
|  | 1 | 1 | 1111 | Imassive | 160 | 1 | 1 | 1 |  | 1 |  | I |  | I |  | 1 |  | , |  | 1 |
|  | 1 | 1 | 1111 |  | 1 | I | 1 | 1 |  | 1 |  | 1 |  | 1 |  | I |  | , |  | 1 |
| 38.55 | 1 31.00 | 1100 | $1\|x\| 1$ | ISiltstone - rather broken | Iveinlets/40, | 13 cc | 10 | 1 | nil | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | , | 1 | 1111 | Iveinlets partly as gash | 175 | 1 | 1 | 1 |  | 1 |  | 1 |  | , |  | 1 |  | , |  | 1 |
|  | 1 | 1 | 1111 | Ifillings | 1 I | 1 | 1 | 1 |  | 1 |  | 1 |  | , |  | 1 |  | , |  | 1 |
|  | 1 | 1 | 1111 |  | 1 1 | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | ! |  | 1 |
| 31.00 | 131.80 | 1100 | $1\|\|x\|$ | diSandstone - fine grain sand | Iveinlets/15, |  | 10 | , | nil | 1 |  | , |  | 1 |  | I |  | 1 |  | 1 |
|  | 1 | 1 | 1111 | I with black specks as normal, | $130$ | $1$ | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | , |  | 1 |
|  | 1 | 1 | 1 i 1 | tmassive | 1 | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |





LOGGED: 3 - 5 SEPTEMBER 1986 / DEL MYERS

DATE COLLARED: 05 September 1986

DATE COMPLETED:
06 September 1986

CORE SIZE: 47 mm

PROPERTY: TOMMY JACK
PROJECT *: 264



LOGGED: 5 - 7 SEDTEMBER 1986 / DEL E. MYERS, JR. Dienmen



```
NORANDA EXPLORATIONNGCOMDANY, LINMMITED
```

0.0.... TJ $86-4$

$\begin{array}{ll}\text { DATE COLLARED: } & \text { DATE COMFLETED: } \\ \text { 09 September } 1986 & 10 \text { September } 1986\end{array}$

PROPERTY: TOMN JACK

PROJECT \#: 264

FIELD COORDINATES



|  | STRUCTURE | $x$ |
| :--- | :--- | :--- |
| I | m/deg. WCA | VEINLETS |





NORANDA EXPLORATION COMPANY, LIMITED
NDA EXPLORATION COMPAN
(NO PEMSOMal Liablaty
D.D.H.\#: $] 36-5$


LOGGED: 10 SEPTEMBER 1986 / R. DAY
$\begin{array}{ll}\text { DATE CDLARED: } & \text { DATE COMPLETED: } \\ \text { 10 September } 1986 & 12 \text { September } 1986\end{array}$

CORE SIZE:
47 mm



```
NORANDA EXPLORATION COMPANY, LIMITED
```

s.....: TJ86-3



FiELD COORDINATES

| $\begin{aligned} & \text { LAT: } \\ & 101,007 E \end{aligned}$ |  | $\begin{aligned} & \text { ELEU. } \\ & 835.2 \mathrm{~m} \end{aligned}$ |  |  | DIP: <br> $-45 \mathrm{deg}$. |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DEP: |  | LENGTH: |  |  | bearing: |  |
| 9559.5N |  | 80. 2M |  |  | 60 deg. |  |
|  |  | 1 \|C1515| |  |  |  |  |
| $\underset{(\mathrm{m})}{\mathrm{FROM}}$ | T0 | \| REC | |  | ILIIIAIDESCRIPTION |  |  |
|  | (m) | 1 (x) |  | \|AILIN| |  |  |
| --.--- |  |  |  |  |  |  |
| 0 |  | 1 |  | $1111$ |  |  |
|  | 6.78 | 1 1 |  | 111 | \| iCasing to | 2 feet |
|  | 1 |  |  | 11 | 11 |  |
| 6.70 | 7.50 |  |  | 11 <br> 1 <br> 1 | 1x15aridstone | - massive |
|  | 1 | : 100 |  |  | 11 |  |
| 7.50 | 9. 90 | $\begin{array}{ll}1 & 100 \\ 1 & \\ 1 & \end{array}$ |  | \| $\mathrm{x} \times 1$ | \| ISidtstone | and claystone |
|  |  |  |  | 1 1 : | : isulphide | weathered out |
|  |  |  |  | 111 | \| 15 cm veiril | et at 8.5 m |
|  |  |  |  | 11 : | : 1 |  |
| 9.90 | 12.18 | 1 100 : |  | : 1 | \|x|Sanistone | - massive |
|  |  |  |  | 111 | i isalt arnd | pepper texture |
|  |  | 1 |  | $1:$ | isiltstorie |  |
| 11.10 | 13.62 | \| 100 : $\mathrm{xix}^{\text {a }}$ |  |  |  | and claystone |
|  |  |  |  | $1: 1$ | 1 : |  |
|  |  |  | 111 |  | 11 |  |
|  |  |  |  | 11 | ; 1 |  |
| 12.60 | 13.20 | 100 : 1 1 |  |  | IxISarastone | - massive |
|  |  | 11 |  | 111 | 11 |  |
| 13.20 | 14.18 | 1 | 10.0 | $1 \times 1$ <br> $1: 1$ | ISiltstone | and claystone |
|  |  |  |  |  |  |  |
|  |  | 1 |  |  |  |  |
| 14.:0 | 16.90 | (100 |  |  |  | and sandstone |
|  |  | 1 | 1 | 111 |  | - salt anci pepper |
| 16.90 | 17.40 | 1 | 1001 | 1 1 1 <br> 1 1 1 | \|x|Sandstone |  |
|  |  |  |  |  | 1 Itexture. | Massive to bedded |
|  |  | 1 |  | 11 | 11 |  |
| :7.401 | 20.60 | 100 \|x|x| |  |  | ISiltstone and claystone |  |
|  |  | 1 |  | 11 | 11 |  |
|  |  | 1 |  | 11 | 11 |  |
| 20.601 | 21.50 | $1100 \mid$ |  | 111 | ixisaridstone | - bedded |
|  |  | 1 | 1 | 11 | 1 i |  |
| 21.50 | 25.60 | 1 | 100 | $1\|x\|$  <br> 1 1 | \| ISiltstone |  |
|  |  |  |  |  | - |  |
|  |  | 1 |  | 11 | 11 |  |
| 25.601 | 28. 70 | 1 | 100 | X 1 | ) IClaystone |  |
| 1 |  | 1 |  | 11 | 1 1 |  |
| 1 |  | ; |  | 11 | 11 |  |

PRDJECT \#: 264

PRGE 1 OF 3

HOLE ND: TJ86-7




14 September 1986

PROPERTY: TOMMY JACK

PROJECT \#: 264


| PROPER | RTY |  | TOMMY JACK |  |  |  | HOLE ND.: TJB6-B |  |  |  |  |  |  |  |  |  | Ge |  | OF 4 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\underset{(\mathrm{m})}{\text { FROM }}$ | 1 |  | 1 |  | icisis |  | 1 | I |  | 1 |  | 1 |  | I |  | 1 |  | 1 |  |  |  | 1 |
|  | 1 | T0 | 1 | REC | ILIIA | DESCRIPTION | I Structure | $1 \times$ | $1 \times$ | 1 | EST. | 1 | SAMPL |  | InTERVAL | , | WIDTH | 1 |  | 1 | AG | 1 |
|  |  | (m) | 1 | (x) | IAILIN |  | $1 \mathrm{~m} / \mathrm{deg}$. WCA | 1 veinlets | 1 SULPH. | 1 | GRADE | 1 | No. |  |  | 1 |  | 1 | (gmt) | 1 | (gmt) | 1 |
|  |  |  |  |  | IYITID |  |  | - |  | - |  |  |  |  |  | 1 |  | 1 |  | 1 |  |  |
|  |  |  |  |  | 111 |  |  | , | 1 | 1 |  |  |  | 1 |  | 1 |  | । |  | , |  |  |
| 24.90 | 1 | 26.60 | 1 | 100 | $111 x$ | x\|Sandstone | Bed at 50 | $11.3 \mathrm{qz-ce}$ | Itrace py | 1 | nil | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | I |
|  | 1 |  | 1 |  | 111 |  | Iveinlets at | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 111 |  | 140, 110, 130 |  | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 111 |  |  | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
| 26.60 |  | 27.50 | 1 | 100 | \|x|x| | Siltstone and claystone | \|fault at | 14.5 | 11 py | 1 | med | 1 | 86591 | 1 | 26.60-27.50 | ! | 0.9 | 1 | 0. 21 | ; | 3.1 | 1 |
|  | 1 |  | 1 |  | 111 |  | 127.2 m | 1 | Iminor as | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 111 |  | Iveinlets at | 1 | 1 | 1 |  | 1 |  | 1 |  | , |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 111 |  | $10,30,40,70$ | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | I |
|  | 1 |  | 1 |  | 111 |  |  | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
| 27.50 |  | 29.60 | 1 | 100 | $111 x$ | XISandstone - pale green tinge | ibed at 50 | 11.2 | 1 minor py | 1 | nil | । |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | । |  | 1 |  | 111 | Ito some veinlets and | Iveinlets at | 1 | 1 | , |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | , |
|  | 1 |  | 1 |  | 111 | Iserpentine? in walls of | 115, 20.40 | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 111 | Iveiniets. | , | I | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | , |  | , |  | 111 |  | 1 | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
| 29.60 | 1 | 30.60 | 1 | 100 | \|x|x| | ISiltstone and claystone | Ibed at 10 | $10.5 \mathrm{gz-cc}$ | 1 | 1 | nil | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 111 | 1 | iveirilets at | + | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 111 |  | 110, 20 | 1 | 1 | 1 |  | 1 |  | I |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 111 |  |  | 1 | , | 1 |  | 1 |  | I |  | 1 |  | 1 |  | , |  | , |
| 30.60 |  | 31.70 | 1 | 100 | $111 x$ | (15andstone - massive | Iveinlets at | 12 qz-cc | Itrace sp | 1 | nil | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 111 | 1 | 10, 10, 80 | 1 | 1 l | 1 |  | I |  | 1 |  | , |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 111 |  | 1 | 1 | 1 | 1 |  | , |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
| 31.70 |  | 34.20 | - | 100 | \|x| ! | Claystone | ffault at | $12 \mathrm{gz-cc}$ | 13 | ; | high | 1 | 86592 | ; | 33.60-34.20 | 1 | 0.6 | 1 | 1.13 | 1 | 5.8 | । |
|  | 1 |  | 1 |  | 111 | 11 mm veinlet at 31.7 m (minor | 133.9-34.2n) | 1110 in | lpy,gri,as | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | , |  | 111 | (py, sp) | \|veinlets at | (fault) | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  |  |
|  | 1 |  | 1 |  | 111 |  | 110, 20, 80 | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | $i$ |  | 1 |  |  |
|  | 1 |  | , |  | 111 |  |  | , | 1 | 1 |  | 1 |  | i |  | 1 |  | 1 |  | 1 |  |  |
| 34.20 | 1 | 36.80 | 1 | 102 | \|x|x| | \|Siltstone and claystone | Iveinlets at | 10.5 qz-cc | 1 | 1 | nil | 1 |  | 1 |  | $t$ |  | 1 |  | 1 |  |  |
|  | 1 |  | 1 |  | 1 i 1 |  | 140, 80 | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  |  |
|  | 1 |  | 1 |  | 111 |  |  | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | I |
| 36.80 |  | 38.90 | 1 | 200 | 1 IXIX | Silitstone and sandstone | Iveiniets/70 | 10.3 cz-cc | 1 | 1 | nil | 1 |  | 1 |  | 1 |  | 1 |  | , |  | 1 |
|  | , |  | 1 |  | 111 |  | 1 | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  |  |
| 38.90 | , | 39.10 | , | 100 | $\|x i x\|$ | 15iltstorie and claystone | lbed at 20 | 10.3 qz-ce | , | 1 | ril | 1 |  | 1 |  | 1 |  | , |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 111 |  | iveiniets at | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | ; |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 111 |  | 170, 80 | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 111 |  |  | 1 | , | , |  | 1 |  | 1 |  | 1 |  | , |  | 1 |  |  |
| 39.10 |  | 45.20 | 1 | 100 | $1\|x\|$ | Siltstone | lbed at 20 | 10.1 az-cc | 1 | 1 | nil | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  |  |
|  | 1 |  | 1 |  | 1111 |  | lveinlets at |  | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 1111 |  | 16e, 180 | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | , |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 1111 |  |  | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | , |  |  |
| 45.20 |  | 49.80 | 1 | 100 |  |  | Iveinlets at | 11.2 qz-ce | Itrace py | 1 | nil | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | ; |
|  | 1 |  | 1 |  | 1111 |  | 150, 30 | 1 | 1 | , |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  |  |
|  | 1 |  | 1 |  | 1111 |  | 1 | 1 | 1 | 1 |  | , |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
| 49.80 | 1 | 54.50 | 1 | 100 | \|x|x| | IClaystone and siltstome | 1 bed at 20 | $11 \mathrm{qz-cc}$ | 1 | , | nil | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 1111 |  | lfault at | 1 | 1 | 1 |  | I |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 1111 |  | 15 E .5 m | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 1111 |  | iveinlets at |  | 1 | 1 |  | । |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | 1 |  | 1111 |  | 160, 70, 180, |  | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |
|  | 1 |  | , |  | 1111 |  | 1150 | 1 | 1 | 1 |  | , |  | 1 |  | , |  | 1 |  | 1 |  | 1. |
|  | 1 |  | 1 |  | 1111 |  | , | 1 | 1 | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |  | 1 |




DATE COLLARED: DATE COMPLETED: 18 September 1986

CQRE SIZE: 47 mm 16 September 1986

PROPERTY: TOMMY JACK
N.T.S. \#: 94 D/04E

PROJECT \#: 264

FIELD COORDINATES





PROPERTY: TOMMY JACK

19 September 1986

CDRE SIZE: 47 mm

## 5.,... TJ86-10

N.T.S. \#: 94 D/04E




# APPENDIX 4 <br> Statment of Qualifications 

## Relevant Training

$$
\left.\begin{array}{rl}
\text { B. Sc. (1970) - } & \text { Pennsylvania State University } \\
& \text { Geological Sciences }
\end{array}\right\} \begin{aligned}
& \text { M. Sc. (1973) - University of Toronto } \\
& \text { Geochemistry }
\end{aligned}
$$

Relevant Experience
1973-1980 - Exploration and Mine Geologist Cominco Ltd. Vancouver and Yellowknife

1980 - 1982 - Project Geologist Noranda Exploration Co. Ltd. Yellowknife

1982 - 1983 - District Geologist Noranda Exploration Co. Ltd. Smithers

1984 - present - Project Geologist Noranda Exploration Co. Ltd. Prince George

Professional Affiliations

Fellow, Geological Association of Canada
Founding Member, Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories


Delbert E. Myers, Jr.

## Statement of Qualifications

I, Robin C. Day, of 441 Parkland Village, Spruce Grove, Alberta, do certify that:

1. I am a graduate of the University of Alberta, where I obtained a B. Sc. (Concentration in Geology) in 1976.
2. I have practiced my profession as a geologist, mostly in British Columbia, Yukon, and Northwest Territories, for the last eleven years.
3. I was engaged as a geologist on the Tom claims during the month of September, 1986. My duties were primarily to log core and coordinate drill moves. At this time, a preliminary drill program was operated by Noranda on behalf of Noranda and Goldcap Inc. I am also a director and officer of Goldcap.
4. I have examined and thoroughly reviewed the contents of this report, authored by Del Meyers.


Spruce Grove, Alberta Dated this خO day of Mulct, 1987

The methods listed are preseritly applied to analyse geolagical materials by the Noranda Geochemical Laboratory at Vancouver. (March, 1984)

## Preparation of Samples

Sediments and soils are dried at approximately $80^{\circ} \mathrm{C}$ and sieved with a 80 mesh nylon screer. The -80 mesh ( 0.18 mm ) fraction is used for arialysis.

Rock specimens are pulverized to -120 mesh ( 0.13 mm ). Heavy mineral fractioris (pariried samples) are analysed in its entirety, when it is to be determined for gold without further sample preparation. See addendum.

## Arialysis of Samples.

Decompcsition of a 0.200 g sample is done with conceritrated perchloric and nitric acid (3:1), digested for 5 hours at reflux temperature. pulps of rack or core are weighed out at 0.2 g or less dependirig con the matrix of the rock, and twice as much acid is used for decompositich than that is used for silt or soil.

The coricentrations of $\mathrm{Ag}, \mathrm{Cd}, \mathrm{Co}, \mathrm{Cu}, \mathrm{Fe}, \mathrm{Mn}, \mathrm{Mo}, \mathrm{Ni}, \mathrm{Pb}, \mathrm{V}$ and Zn (all the group $A$ elements of the fee schedule) can be determined directly fram the digest (dissalution) with ar atamic absorption spectrameter (AA). A Variari-Techtror Model AA-S ar Model AA-475 is used to measure elemental concentratiors.

## Elemerits Requiririg Specific Decompositicur Methad

Antimony - Sb: O. $\mathrm{E}_{\mathrm{g}} \mathrm{g}$ sample is attacked with 3.3 mL of $6 \times$ tartaric acid, 1.5 mL coric. hydrochloric acid arid 0.5 mL of coric. nitric acid, then heated ir a water bath for 3 hours at 350 C . $S b$ is determined directly from the acid solution with an AA-475 equipped with electrodeless discharge lamp (EDL).

Arsenic - As: 0. -0.4 g sample is digested with 1.5 mL of 70 \% perchlaric acid and 0.5 mL of conc. ritric acid. A Varian AA-475 equipped with ari As-EDL measures the arseric coriceritration of the digest.

Barium - Baz 0.1 g sample is decompcised with conc. perchioric, nitric and hydrofluoric acid. Atomic absorption using a nitrous oxide-acetylene flame determiries Ea from the aqueous solutior.

Bismuth - Bi: 0.2 $\quad$ - 0.3 g is digested with 2.0 ml of perchloric $70 \%$ and 1. 0 ml of conc. nitric acid. Bismuth is determined directly from the digest into the flame of the $A A$ iristrument $c / w E D L$.

Gold - Au: 10.0 g sample (Pan-concentrates see below) is digested with aqua regia ( 1 part nitric and 3 parts hydrochloric acid). Gold is extracted with Methyl iso-Butyl ketone (MIBK) from the aqueous solution. Gold is determired from the MIBK solution with flame AA.

Magnesium - Mg: 0.05-0.10 g sample is digested with 4 ml perchloric/nitric acid (3:1). An aliquot is taken to reduce the concentration to within the range of atomic absorption. The $A A-475$ with a nitrous oxide flame determines Mg from the aqueous solution.

Tungsten - W: 1.0 g sample sintered with a carbonate flux and thereafter leached with water. The leachate is treated with potassium thiocyanate. The yellow tungsten thiocyanate is extracted into tri-n-butyl phosphate. This permits colourimetric comparison with standards to measure tungsten concentratior.

Uranium - U: An aliquot, taken from a perchlaric-nitric (3:1) decomposition, usually from the multi-element digestion, is diluted with water and a phosphate buffer. This salution is exposed to laser light, and the luminescence of the urariyl ion is quantitatively measured on the UA-3 (Scintrex).

LOWEST VALUES REPQRTED IN PPM

| $A g-0 . E$ | Mn - 20 | $2 r_{1}-1$ | $\mathrm{Au}-0.01$ (10ppe) |
| :---: | :---: | :---: | :---: |
| $\mathrm{Cd}-0 . \mathrm{e}$ | Mo - 1 | 5b-1 | $\omega-\boldsymbol{c}$ |
| $\mathrm{Co}-1$ | $N i-1$ | $A_{5}-1$ | $\pm-0.1$ |
| $C u-1$ | Pb - 1 | Ba-10 |  |
| Fe- 100 | $v-10$ | $\mathrm{Bi}-1$ |  |

APPENDIX 6. Analysis Reports

PROPERTY 264. Tommy Jack
N.T.S.

94 D/04E
DATE
SAMPLE REPORT




Geochemicals Lab Report

|  |  |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |













$$
s_{3} \text { sanoston }
$$

$$
s_{4} \text { conclomerate }
$$

$$
\mathrm{s}_{1} \mathrm{~s}_{2} \text { clar and slutrone }
$$

Sanostone oraolng into slutstone
[H3 hrabyssal dacite intrusive

GEOLOGICALERANCH
15,515

| REVISED | TOMMY Jack creek property |
| :---: | :---: |
| DEMLT, Oct, , 1986 |  |
|  | VERTICAL SECTION OF D.D.H. TJ86-4,5 |
|  |  |
| Prob. No. 264 |  |
| N.T.S. ....94D/4E |  |
| Fig. 4 | NORANDA EXPLORATION |


,
"w




4D,



> VERTICAL SECTION OF D.D.H. TJ $86-8,9,10$


