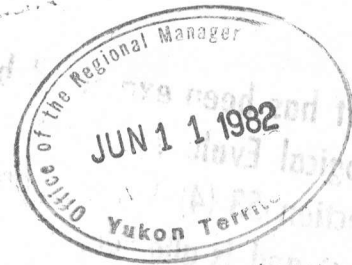


# ARCHER, CATHRO

& ASSOCIATES (1981) LIMITED

CONSULTING GEOLOGICAL ENGINEERS

1016-510 WEST HASTINGS STREET  
VANCOUVER, B. C. V6B 1L8



(604) 688-2568

REPORT ON  
EXCAVATOR PITTING PROGRAM  
JUNE 5 TO JULY 5, 1981



TJOP 21-24 CLAIMS  
36-42       "  
45-47       "  
140-141     "  
158-160     "  
170         "

TESLIN JOINT VENTURE  
DAWSON MINING DISTRICT, Y.T.  
CLAIM SHEETS 116B/5 AND 116C/8

LATITUDE 64°22'N       LONGITUDE 140°00'W

R.J. CATHRO, B.Sc., P.Eng.

J. SCOTT MURRAY

MAY 20. 1982

091059

This report has been examined by  
the Geological Evaluation  
Section 53 (4) and is approved  
for work to the amount

45,000

*P. Watson*

*for*

Geological Services for Commission and  
of Yukon Territory.



091059

TABLE OF CONTENTS

	<u>PAGE</u>
Introduction .....	1
Property, Location and Access .....	1
History and Previous Work .....	2
Geology and Geomorphology .....	4
Pitting Results .....	5
Summary and Recommendations .....	7

APPENDIX 1

Tjop Excavator Pits 1-60

FIGURES

<u>No.</u>		<u>Following Page</u>
1	Tjop, Main Showings .....	5
2	Budinski Showing .....	5
3	Excavator Pits - Tjop Claims .....	In Pocket

## INTRODUCTION

The Tjop (pronounced "chop") property was initially staked in June, 1979 and June, 1980 by Teslin Joint Venture (Cassiar Resources Ltd., Cominco Ltd. and Exploram Minerals Ltd.). The 1979, 1980 and 1981 programs were managed by J. Scott Murray of Archer, Cathro & Associates (1981) Limited, under the general supervision of R.J. Cathro.

The 1981 field work consisted mainly of excavator pitting with some grid soil sampling, linecutting and geological mapping. Work was conducted from the Clinton Creek townsite near the former Clinton Mine and daily transportation to the property was by helicopter. Contract pitting was performed with a Caterpillar 225 excavator operated by IBEX Construction Ltd. of Whitehorse. Barging of the excavator and fuel across the Yukon River was conducted by Goldmark Minerals Ltd. of Calgary, Alberta.

The Archer, Cathro crew consisted of party chief J.S. Murray, geologist J. Ryan, senior assistant B. Johnston, linecutters S. Beckman and G. Stewart and samplers M. Luxmoore and M. Penner.

## PROPERTY, LOCATION AND ACCESS

This property is situated on the north bank of the Yukon River, approximately midway between Dawson City and Clinton Creek, at 64°22'N, 140°00'W, straddling claim sheets 116B/5 and 116C/8. It consists of 30 contiguous mineral claims that were recorded in the name of Archer, Cathro & Associates (1981) Limited in the Dawson Mining District as follows:

<u>Claim Name</u>	<u>No. Claims</u>	<u>Record Numbers</u>	<u>Expiry Date</u>
Tjop 21-34	14	YA32702-715	26 March, 1986
36-42	7	YA32171-723	"
45-46	2	YA50037-038	"
47	1	YA50017	19 March, 1986
140-141	2	YA52610-611	"
158-159	2	YA52628-629	"
160	1	YA52630	"
170	1	YA52640	"
	<u>30</u>		

Helicopters were chartered from Shirley Air of Edmonton, Alberta (Bell 206C) from 15 May to 15 June and Trans North Turbo Air Ltd. of Whitehorse (Bell 47 G3/B2) from 15 June to the end of the program. Other helicopters were casually chartered from Trans North Turbo Air Ltd. at Dawson and included a Bell 47 G3/B2, a Bell 206B and a Bell 204B. A barge landing site at the mouth of DeWolf Creek and numerous helicopter pads are the only access points.

### HISTORY AND PREVIOUS WORK

The earliest exploration on the property was associated with a sulphide occurrence that is located on the southeast boundary of the Tjop claims, low on the hillside near the riverbank. Known as the Roal occurrence, it was first staked in March, 1927 by F. Envoldsen, L. Roal and P. Rost, who drove a short adit later in the year. The showing was examined by W.E. Cockfield of the GSC, who reported in the 1927 Summary Report that two areas were explored. The uppermost showing consists of weakly disseminated galena and sphalerite in a limestone bed about eight inches thick that is part of the enclosing schist sequence. It occurs close to a porphyry dyke and is apparently a skarn showing. The porphyry dyke is probably Tertiary in age and is apparently quite local in extent. The adit was driven at a lower elevation in quartz-carbonate alteration

of the schist walls. No sulphides are present at the old workings and it is possible that the prospectors may have mistaken green mariposite in the quartz-carbonate alteration for malachite.

The details of the subsequent history are incomplete, in spite of a fairly thorough search of old files. Old hand pits have been found at two locations on the property but it is not known who did the work.

The fibre occurrence was apparently first staked in June, 1964 by Willy and Robert DeWolfe as the Esther 1-2 and Edith 1-2 claims. The prospect was examined by Cassiar Asbestos Corp. Ltd. a few days later and rejected. The visit was prompted by a report from a company geologist at the Clinton property that fibre up to 3/8 inch grading 8% was present. The claims were optioned in 1965 to Topazios Mining Co. but no work was filed and they were allowed to lapse.

A Cassiar Asbestos Corp. crew led by J. Scott Murray returned to the target in 1978 and grid sampled it at a wide spacing. Initial soil sampling results were inconclusive due to the crude laboratory methods used, but a weak fibre occurrence was located in outcrop at the eastern end of the main ridge. Also, the large extent of the host ultramafite was first indicated at that time. Follow-up work by Murray during 1979 led to a staking decision by Teslin Joint Venture.

GEOLOGY AND GEOMORPHOLOGY

The Tjop property is mainly underlain by rocks of the Anvil Allochthon assemblage. The ultramafites consist of several medium to large bodies surrounding a larger diorite stock. The diorites are probably slightly younger than the ultramafites since small, dyke-like bodies of diorite intrude the ultramafites, although they were probably emplaced almost simultaneously and both show signs of extreme tectonic stress. Most ultramafites have been altered to serpentinite and many of the contact areas of these have undergone later alteration to quartz-carbonate and soapstone. Surrounding rocks are mainly chlorite and graphite schists.

Outcrop is virtually absent except on the ridge crest, in scattered small exposures near the ridge, and in extensive cliffs near the base of the south-facing, north bank of the Yukon River. The river has cut a distinct canyon approximately 300 m deep through the Yukon Plateau between Dawson and the Alaska border, probably caused by regional uplift since the Pleistocene glaciation. This has resulted in sharp changes in slope from the subdued, mature topography of the unglaciated plateau to the rejuvenated, V-shaped stream valleys related to the downcutting of the Yukon River. These contrasts are well displayed on the Tjop claims.

### PITTING RESULTS

Fibre dispersion Anomaly A, from the 1980 sampling, is centered over the Main and Budinski showings and extends uphill toward the ridge for nearly 500 m. A total of 47 excavator pits were dug across the area at 50 m by 100 m intervals to test the best 1980 soil values.

When first discovered in 1980, the Main showing consisted of several large patches of mineralization up to 3 m across, separated by grassy soil, that were interpreted as outcrop. Pitting showed that these were actually large talus fragments of blocky serpentinite that originated as more competent lenses within fish-scale zones. Differential erosion of the more recessive fish-scale gradually concentrated the better mineralization at surface. Pitting at the Main showing uncovered a similar lens still enclosed by fish-scale (see photograph on the following page).

At the Budinski showing, pitting revealed that the mineralized zone is a lens similar to those at the Main showing but much larger. It is at least 30 m by 20 m and is surrounded by highly sheared serpentinite.

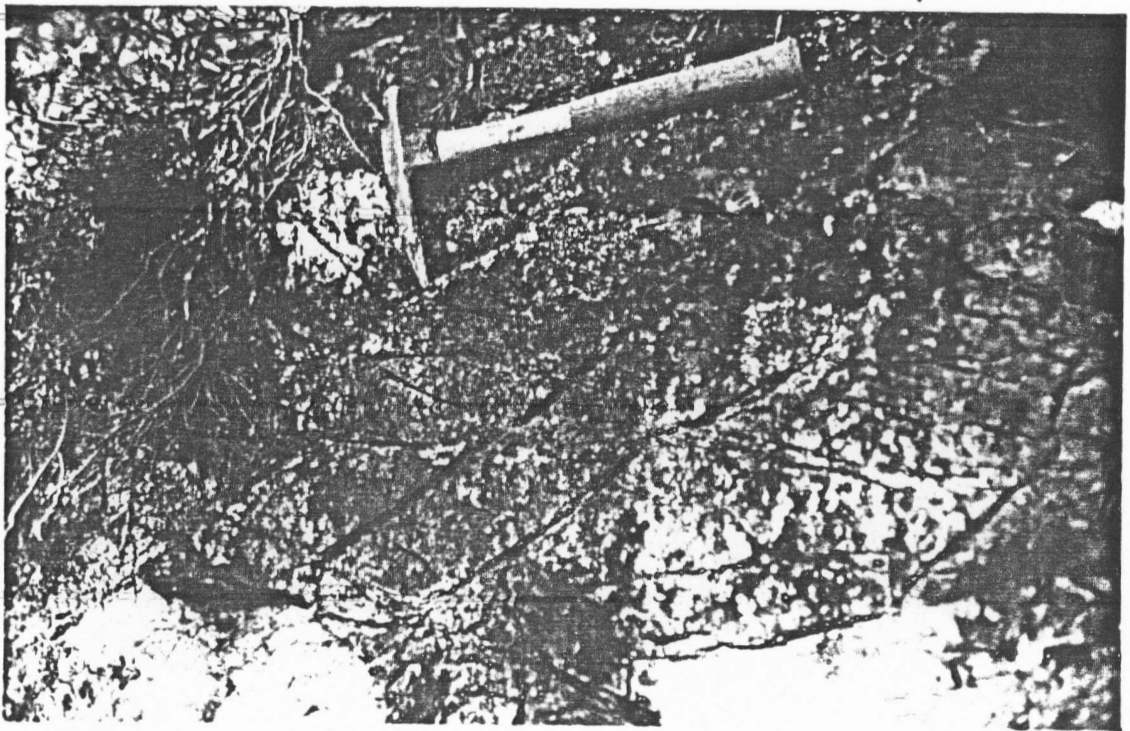
Mineralization is similar in all lenses. At the Budinski showing, for example, fibre up to 7 mm long occurs in compound veins up to 20 mm wide that are spaced about 20 cm apart. The veins form a classical blocky pattern near the center of the body but are usually curved and drawn out by post-fibre movement along the edges. The highest grade seen is about 4% across a length of a few metres near the core of the lens. However, it is only a low Group 5 fibre (see Figure 2).



LENS OF BLOCKY SERPENTINITE IN FISH SCALE SERPENTINITE

TJOP, MAIN SHOWING

FIGURE 1



BLOCKY JOINTED SERPENTINITE  
BUDINSKI SHOWING

Higher on the hillside, excavating uncovered only sheared serpentinites with some long slip-fibre development. Diorite dykes were found at several locations and these have probably produced some associated black pod mineralization, although none was seen. The serpentinites in contact with the large diorite body to the west are mainly altered to quartz-carbonate.

Anomaly B (1980), nearest the Yukon River was explored with 16 pits and was found to consist of sheared and fish-scale serpentinite with sporadic, small lenses of massive serpentinite. Individual veins containing chrysotile fibre up to 6 mm long with a maximum grade of 1% were seen and small black pods were found within the fish-scale. This ultramafite is bounded by chlorite schists to the east, west and south, while a small zone of soapstone occurs along the southwest contact. A quartz-feldspar porphyry was found that cuts the ultramafite.

Anomaly C (1980), on the west side of the property, is underlain by sheared serpentinite and quartz-carbonate alteration products. Fourteen pits revealed that the fibre dispersion anomaly and fibre mat found in 1980 were derived from slip-fibre development in fish-scale serpentinite and from mineralized black pods surrounded by fish-scale serpentinite.

SUMMARY AND RECOMMENDATIONS

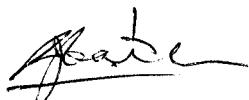
The Tjop property was staked to cover several new asbestos showings that were discovered in 1978-1980 by Teslin Joint Venture. Nine showings were discovered by careful prospecting of soil anomalies obtained using a pioneering exploration technique that measures the dispersion of chrysotile fibre in soils near buried asbestos deposits.

The 1981 program used a Caterpillar 225 excavator to dig pits near the showings and beneath the three largest anomalies on the claims. Pits were dug up to 5 m deep and spaced at approximately 50 m intervals across the target areas.

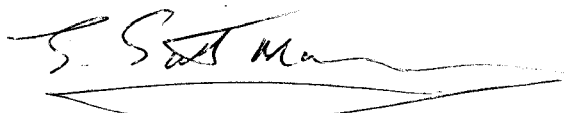
Chrysotile mineralization grading up to 4% Group 5 fibre occurs at both the Budinski and Main showings (see Figure 3 in pocket) but the best fibre is confined to lenses of blocky serpentinite less than 25 m across. Surrounding rocks are mainly barren, fish-scale serpentinite with some slip fibre. These resemble lenses that occurred at the Clinton Mine in the sheared footwall serpentinites of the Porcupine Orebody but were generally too small and erratically spaced to be included in ore planning. The lenses on the Tjop claims have low economic potential by themselves but could be associated with better mineralization at depth. No further work is recommended at the present time.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED



R.J. Cathro, B.Sc., P.Eng.



J. Scott Murray

APPENDIX 1

Tjop Pit #: 1 Date: June 5, 1981

Profile: 0 to 0.25 m organic soil;  
0.25 to 0.75 m grey-brown silty clay;  
0.75 to 1.75 m yellow-brown frozen clay.

Pit Dimensions: 1.75 m deep, 4 m long, 1 m wide

Volume: 7 m<sup>3</sup>

Condition of Pit: dry, left open

Rock Types: chlorite schist fragments in pit

Comments: - about 100 m from Yukon River  
- did not reach bedrock

Tjop Pit #: 2 Date: June 10, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.35 m brown silty clay;  
0.35 to 0.75 m as above, with small fragments of quartz-  
feldspar porphyry;  
0.75 to 2.5 m bedrock quartz-feldspar porphyry.

Pit Dimensions: 2.5 m deep, 3.5 m long, 1 m wide

Volume: 12 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: quartz-feldspar porphyry

Comments: - some carbonate on fracture surfaces

Tjop Pit #: 3 Date: June 16, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.5 m grey-brown clay;  
0.5 to 5 m as above, with fragments of quartz-chlorite  
schist.

Pit Dimensions: 5 m deep, 4.5 m long, 1 m wide

Volume: 23 m<sup>3</sup>

Condition of Pit: left open

Rock Types: quartz-carbonate fragments only

Comments: - did not reach bedrock

Tjop Pit #: 4 Date: June 16, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.25 m brown silt with fragments of grey limy  
argillite;  
0.25 to 5 m grey-brown clay with lots of argillite and  
chlorite schist fragments .

Pit Dimensions: 5 m deep, 4 m long, 1 m wide

Volume: 20 m<sup>3</sup>

Condition of Pit: left open

Rock Types: argillite and chlorite schist - fragments only

Comments: - did not reach bedrock

Tjop Pit #: 5 Date: June 16, 1981

Profile: 0 to 0.25 m organic soil;  
0.25 to 3 m yellow-brown sandy silty clay

Pit Dimensions: 3 m deep, 3 m long, 1.5 m wide

Volume: 10 m<sup>3</sup>

Condition of Pit: left open

Rock Types: fragments of limy chlorite schist & limy grey argillite

Comments: - did not reach bedrock  
- ground frozen

Tjop Pit #: 6 Date: June 16, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.25 m grey-brown clay;  
0.25 to 2 m grey clay with fragments of quartz-graphite schist  
2 m to 2.5 m fragments of quartz-graphite schist -  
possible subcrop.

Pit Dimensions: 2.5 m deep, 3 m long, 1 m wide

Volume: 8 m<sup>3</sup>

Condition of Pit: left open

Rock Types: quartz-graphite schist

Comments: - possible bedrock at 2.5 m  
- in draw of DeWolfe Creek

Tjop Pit #: 7 Date: June 16, 1981Profile: 0 to 0.1 m organic soil; 0.1 to 0.25 m brown silt;  
0.25 to 2 m grey-brown clay w/ small fragments of quartz-chlorite  
schist (quartz-carbonate); 1 to 2 m - 2 thin layers of black  
graphitic argillite silt & fragments interfingered w/ red-brown  
sand w/ fragments of limy quartz schist (quartz-carbonate?);Pit Dimensions: 2 to 3 m large angular fragments of quartz-carbonate - poss. subcrop  
3 m deep, 4 m long, 1 m wideVolume: 12 m<sup>3</sup>Condition of Pit: left openRock Types: quartz-chlorite schistComments: - possible bedrock at 3 mTjop Pit #: 8 Date: June 18, 1981Profile: 0 to 0.1 m red-brown silty clay with fragments of green  
to black soapstone;1 to 5.5 m green gouge - probably weathered soapstone  
- has two thin layers of quartz-carbonate fragments  
at 4.5 m and 5.5 m deepPit Dimensions: 5.5 m deep, 5 m long, 1 m wideVolume: 27 m<sup>3</sup>Condition of Pit: left openRock Types: soapstone and quartz-carbonateComments: - did not reach bedrock

Tjop Pit #: 9 Date: June 21, 1981Profile: 0 to 0.25 m organic soil;  
0.25 to 2 m grey-brown silty clay with boulders of  
chlorite schistPit Dimensions: 25 m deep, 3 m long, 1 m wideVolume: 8 m<sup>3</sup>Condition of Pit: left openRock Types: chlorite schistComments: - did not reach bedrockTjop Pit #: 10 Date: June 21, 1981Profile: 0 to 0.25 m organic soil;  
0.25 to 1 m brown-black silty clay with fragments of dark  
massive well serpentinized slightly sheared serpentinite;  
1 to 2.5 m brown sandy silt with serpentinite fragments;  
2.5 to 4 m green serpentinite gouge (highly weathered serpentinite)  
with serpentinite fragmentsPit Dimensions: 4 m deep, 4.5 m long, 1 m wideVolume: 22 m<sup>3</sup>Condition of Pit: left openRock Types: serpentiniteComments: - some fragments of serpentinite had thin ribbon fibre veins and  
others had veins running in 3 directions with fibre to 1/8 " long  
- did not reach bedrock

Tjop Pit #: 11 Date: June 21, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.75 m grey-brown silty clay with boulders of  
chlorite schist and fragments of serpentinite  
(similar to that found in pit 10);  
0.75 to 1.5 m bedrock: chlorite schist

Pit Dimensions: 4 m long, 1.5 m deep, 1 m wide

Volume: 6 m<sup>3</sup>

Condition of Pit: left open

Rock Types: chlorite schist

Comments: - no fibre seen in serpentinite float

Tjop Pit #: 12 Date: June 21, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 1.5 m brown sandy silt with lots of fragments  
of chlorite schist;  
1.5 - 2 m grey-brown silty clay with chlorite schist fragments;  
2 to 4 m green silty clay with fragments of chlorite schist

Pit Dimensions: 4 m deep, 5 m long, 1 m wide

Volume: 15 m<sup>3</sup>

Condition of Pit: left open

Rock Types: chlorite schist

Comments: - probably talus float

Tjop Pit #: 13 Date: June 21, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.4 m brown silty clay;  
0.4 to 2.5 m bedrock: chlorite schist - altered to quartz-carbonate  
- some quartz-carbonate (with mariposite) alteration

Pit Dimensions: 2.5 m deep, 3.5 m long, 1 m wide

Volume: 10 m<sup>3</sup>

Condition of Pit: left open

Rock Types: chlorite schist and quartz-carbonate

Comments: in roadcut on both sides of pit is serpentinite gouge with  
lots of small highly sheared fragments of serpentinite

Tjop Pit #: 14 Date: June 21, 1981

Profile: 0 to 0.1 m organic soil; 0.1 to 0.3 m brown silty clay;  
0.3 to 2.5 m serpentinite gouge with fragments of moderately  
sheared dark serpentinite;  
2.5 to 3 m bedrock: white and green soapstone

Pit Dimensions: 3 m deep, 5 m long, 1 m wide

Volume: 15 m<sup>3</sup>

Condition of Pit: left open

Rock Types: soapstone

Comments: no fibre seen

Tjop Pit #: 15 Date: June 21, 1981

Profile: 0 to 0.25 m organic soil ;  
0.25 to 3.5 m yellow-brown silty clay with fragments of  
chlorite schist

Pit Dimensions: 3.5 m deep, 3.5 m long, 1 m wide

Volume: 12 m<sup>3</sup>

Condition of Pit: left open

Rock Types: chlorite schist

Comments: - did not reach bedrock

Tjop Pit #: 16 Date: June 21, 1981

Profile: 0 to 0.1 m organic soil ;  
0.1 to 0.3 m grey-brown silty clay ;  
0.3 to 1 m fragments of moderately sheared, medium-dark  
serpentinite ;  
1 to 3.5 m bedrock: serpentinite

Pit Dimensions: 3.5 m deep, 3 m long, 1.5 m wide

Volume: 15 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - no fibre seen

Tjop Pit #: 17 Date: June 21, 1981

Profile: 0 to 0.1 m organic soil ;  
0.1 to 5.5 m grey-brown silty clay with fragments of  
massive, moderately sheared, medium-dark serpentinite

Pit Dimensions: 5.5 m deep, 4.5 m long, 1 m wide

Volume: 27 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - some serpentinite fragments had fibre up to 1/8 "  
- did not reach bedrock

Tjop Pit #: 18 Date: June 21, 1981

Profile: 0 to 0.1 m organic soil ;  
0.1 to 0.5 m brown silty clay ;  
0.5 to 6.5 m green highly-weathered serpentinite with  
fragments of moderately-sheared massive medium to  
dark serpentinite

Pit Dimensions: 6.5 m deep, 4.5 m long, 1 m wide

Volume: 32 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - some fragments had weathered out magnetite crystal-voids  
- did not reach bedrock

Tjop Pit #: 19 Date: June 21, 1981

Profile: 0 to 0.1 m organic soil ;  
0.1 to 1 m grey-brown silty clay ;  
1 to 2 m weathered serpentinite, some red-brown  
(quartz-carbonate?) weathering ;  
2 to 4 m bedrock serpentinite

Pit Dimensions: 4 m deep, 4.5 m long, 1.5 m wide

Volume: 22 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - some hairline ribbon fibre seen

Tjop Pit #: 20 Date: June 21, 1981

Profile: 0 to 0.1 m organic soil ;  
0.1 to 1 m grey-brown silty clay ;  
1 to 2 m red-brown silt with small fragments of fish-scale  
serpentinite ;  
2 to 4 m bedrock: weathered serpentinite

Pit Dimensions: 4 m deep, 4.5 m long, 1.5 m wide

Volume: 22 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - no fibre seen

Tjop Pit #: 21 Date: June 21, 1981

Profile: 0 to 0.1 m organic soil ;  
0.1 to 0.75 m brown silty clay;  
0.75 m about 5 cm thick layer red sand (probably from  
weathered diorite );  
2.75 to 5 m grey-banded silty clay with fragments of mostly  
fish-scale serpentinite

Pit Dimensions: 5 m deep, 4 m long, 1 m wide

Volume: 20 m<sup>3</sup>

Condition of Pit: left open

Rock Types: diorite and grey-green, altered diorite, serpentinite float

Comments: - did not reach bedrock

Tjop Pit #: 22 Date: June 21, 1981

Profile: 0 to 0.1 m organic soil ;  
0.1 to 0.3 m brown silty clay ;  
0.3 to 3 m yellow-brown coarse sand with fragments of red  
weathered diorite ;  
3 to 5 m bedrock: diorite

Pit Dimensions: 5.5 m deep, 4 m long, 1 m wide

Volume: 18 m<sup>3</sup>

Condition of Pit: left open

Rock Types: diorite

Comments:

Tjop Pit #: 23 Date: June 21, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.3 m brown silty clay with fragments of chlorite  
schist and fish-scale serpentinite;  
0.3 to 1.3 m green weathered serpentinite fragments;  
1.3 to 2.5 m boulders of green talcy schist, chlorite schist  
and quartz-graphite schist - some red staining

Pit Dimensions: 2.5 m deep, 4 m long, 1 m wide

Volume: 10 m<sup>3</sup>

Condition of Pit: left open

Rock Types: schist float

Comments: - did not reach bedrock

Tjop Pit #: 24 Date: June 21, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 1 m yellow-grey clay with fragments of various schist types;  
1 to 3 m interlayers of grey sericite schist  
fragments and sand, and black graphitic schist. Each layer about  
6" thick - also fragments of quartz-carbonate throughout;  
3 to 3.5 m bedrock(?) grey sericite schist

Pit Dimensions: 3.5 m deep, 4 m long, 1 m wide

Volume: 14 m<sup>3</sup>

Condition of Pit: left open

Rock Types: schist

Comments:

Tjop Pit #: 25 Date: June 21, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 5.5 m grey-brown clay with fragments of chlorite  
schist, black graphitic-quartz schist and grey sericite  
schist, quartz-carbonate and some small serpentinite  
fragments

Pit Dimensions: 5.5 m deep, 4 m long, 1 m wide

Volume: 22 m<sup>3</sup>

Condition of Pit: left open

Rock Types: schist and serpentinite float

Comments: - did not reach bedrock

Tjop Pit #: 26 Date: June 23, 1981

Profile: 0 to 0.1 m organic soil; 0.1 to 0.3 m brown silt with serpentinite  
fragments; 0.3 to 1 m green serpentinite gouge with fragments of  
highly weathered fish-scale serpentinite; 1 to 1.5 m very fine  
weathered serpentinite with some fish-scale fragments to 1 cm in  
diameter - also some quartz-carbonate float; 1.5 to 5.5 m bedrock:  
weathered mod. sheared massive med-dark serpentinite w/ lots of antigorite

Pit Dimensions: 5.5 m deep, 4.5 m long, 1.5 m wide

Volume: 30 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: some fragments had ribbon fibre veins with fibre to 1/16"  
long

Tjop Pit #: 27 Date: June 23, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.6 m brown silty clay;  
0.6 to 1 m brown silt with serpentinite fragments;  
1 to 2 m weathered serpentinite talus;  
2 to 6 m bedrock: serpentinite - lots of magnesite

Pit Dimensions: 6 m deep, 5 m long, 1 m wide

Volume: 30 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite talus

Comments: - bedrock had fibre veins running in 2 directions about 6 inches  
apart. Longest fibres were about 1/16 ".

Tjop Pit #: 28 Date: June 24, 1981

Profile: 0 to 0.1 m organic soil; 0.1 to 1 m weathered fish-scale  
serpentinite fragments up to 20 cm across; 1 to 1.5 m  
fine serpentinite fragments; 1.5 to 4.5 m sheared serpentinite  
probably talus - includes larger blocks of unshered serpentinite  
about 1 m in diameter with 2 vein directions - partings 8-10"  
with fibre 3/16"

Pit Dimensions: 4.5 m deep, 4 m long, 1.5 m wide

Volume: 23 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - did not reach bedrock  
- total fibre less than 1%

Tjop Pit #: 29 Date: June 24, 1981

Profile: 0 to 0.1 m organic soil; 0.1 to 0.75 m brown silty clay  
with serpentinite fragments; 0.75 to 1.5 m highly weathered  
fish-scale serpentinite talus, fragments to 6 cm across;  
1.5 to 4.5 m bedrock: semi-sheared serpentinite

Pit Dimensions: 4.5 m deep, 4 m long, 1 m wide

Volume: 18 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite talus

Comments: - veins in 2 directions about 8 cm apart, fibre to 1/8 "  
long lots of brucite

Tjop Pit #: 30 Date: June 24, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 1.5 m brown silty clay with fragments of gabbro;  
1.5 to 4.5 m bedrock: coarsely crystalline slightly  
serpentinized gabbro

Pit Dimensions: 4.5 m deep, 4.5 m long, 1 m wide

Volume: 20 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinized gabbro

Comments: - red staining 1.5 to 2.5 m  
- yellow staining beneath this

Tjop Pit #: 31 Date: June 23, 1981

Profile: 0 to 0.1 m organic; 0.1 to 0.4 m brown silty clay;  
0.4 to 1 m brown silty clay with weathered fish-scale  
serpentinite fragments;  
1 to 5.5 m highly weathered serpentinite fragments in  
silt/sand sized particles - probably talus

Pit Dimensions: 5.5 m deep, 4.5 m long, 1 m wide

Volume: 28 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - did not reach bedrock  
- some ribbon fibre less than 1/16" in serpentinite fragments

Tjop Pit #: 32 Date: June 23, 1981

Profile: 0 to 0.1 m organic soil; 0.1 to 2 m highly weathered  
massive medium-dark serpentinite - probably talus; 2 to 3 m  
massive, blocky serpentinite with 2 sets of veins about 10-12" apart  
fibre to 3/8" maximum length; 3 to 8 m highly weathered  
serpentinite - probably bedrock

Pit Dimensions: 8 m deep, 4 m long, 1 m wide

Volume: 30 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - fibre content less than 1%

Tjop Pit #: 33 Date: June 24, 1981

Profile: serpentinite occasionally on surface ;  
0 to 3 m bedrock: blocky serpentinite lens with fibre to  
3/16" in 2 veins - directions about 12" apart;  
3 to 7 m small fragments (up to 10 cm) of fish-scale  
serpentinite

Pit Dimensions: 7 m deep, 4 m long, 1.5 m wide

Volume: 32 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - fibre on surface

Tjop Pit #: 34 Date: June 24, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.2 m brown silty clay;  
0.2 to 2.75 m brown silty clay with fragments of fish scale  
serpentinite (3 cm diameter);  
2.75 to 5 m serpentinite talus

Pit Dimensions: 5 m deep, 4 m long, 1 m wide

Volume: 20 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - did not reach bedrock  
- 2 vein directions about 4" apart, fibre to 1/16" (in talus blocks)

Tjop Pit #: 35 Date: June 24, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.75 m brown silty clay;  
0.75 to 1.25 m very fine fragments (about 1 cm) of chlorite  
schist;  
1.25 to 3.5 m bedrock: pale green chlorite schist

Pit Dimensions: 3.5 m deep, 4 m long, 1.5 m wide

Volume: 16 m<sup>3</sup>

Condition of Pit: left open

Rock Types: chlorite schist

Comments: \_\_\_\_\_  
\_\_\_\_\_

Tjop Pit #: 36 Date: June 24, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.75 m brown silty clay with serpentinite, chlorite  
schist, and quartz-carbonate fragments;  
0.75 to 1.5 m bedrock: chlorite schist

Pit Dimensions: 1.5 m deep, 3 m long, 1 m wide

Volume: 6 m<sup>3</sup>

Condition of Pit: left open

Rock Types: chlorite schist

Comments: \_\_\_\_\_  
\_\_\_\_\_

Tjop Pit #: 37 Date: June 24, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.2 m brown silt;  
0.2 to 0.5 m yellow-grey silty clay with fragments of  
black graphite-quartz schist;  
0.5 m to 1.5 m bedrock: black graphite-quartz schist

Pit Dimensions: 1.5 m deep, 3 m long, 1 m wide

Volume: 6 m<sup>3</sup>

Condition of Pit: left open

Rock Types: graphite-quartz schist

Comments: \_\_\_\_\_  
\_\_\_\_\_

Tjop Pit #: 38 Date: June 24, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.5 m grey-brown clay with chlorite-schist fragments;  
0.5 to 3 m bedrock: chlorite schist

Pit Dimensions: 3 m deep, 3.5 m long, 1.5 m wide

Volume: 14 m<sup>3</sup>

Condition of Pit: left open

Rock Types: chlorite-schist

Comments: \_\_\_\_\_  
\_\_\_\_\_

Tjop Pit #: 39 Date: June 24, 1981

Profile: 0 to 0.1 m organic soil; 0.1 to 0.2 m brown silty clay;  
0.2 to 0.6 m small fragments ( 3 cm) of grey sericite  
chlorite schist;  
0.6 to 1.25 m bedrock: sericite-chlorite schist with some  
Iron staining

Pit Dimensions: 1.25 m deep, 3 m long, 1 m wide

Volume: 5 m<sup>3</sup>

Condition of Pit: left open

Rock Types: sericite-chlorite schist

Comments: \_\_\_\_\_  
\_\_\_\_\_

Tjop Pit #: 40 Date: June 24, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.2 m red-brown silty clay;  
0.2 to 0.75 m grey-brown clay with lots of chlorite-schist fragments;  
0.75 to 1.25 m bedrock: Iron stained chlorite schist;  
1.25 m bedrock: black graphitic schist

Pit Dimensions: 1.25 m deep, 3.5 m long, 1 m wide

Volume: 6 m<sup>3</sup>

Condition of Pit: left open

Rock Types: chlorite schist and graphitic schist

Comments: \_\_\_\_\_  
\_\_\_\_\_

Tjop Pit #: 41 Date: June 24, 1981

Profile: 0 to 6 m bedrock: moderately sheared, serpentinite with  
some slip fibre. Also ribbon veins with 1/16" fibre  
lots of antigorite and brucite

Pit Dimensions: 6 m deep, 5 m long, 1.5 m wide

Volume: 36 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite, antigorite and brucite

Comments: - pit within 10 m of schist outcrop

Tjop Pit #: 42 Date: June 25, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.4 m brown silty clay;  
0.4 to 1 m red-brown silty clay with fragments of red  
weathering quartz-carbonate;  
1 to 2.5 m bedrock: hard, red coloured quartz-carbonate

Pit Dimensions: 2.5 m deep, 4 m long, 1.5 m wide

Volume: 15 m<sup>3</sup>

Condition of Pit: left open

Rock Types: quartz-carbonate

Comments: \_\_\_\_\_

Tjop Pit #: 43 Date: June 25, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.4 m brown silty clay  
0.4 to 0.75 m brown silty clay with quartz-carbonate fragments  
0.75 to 2 m bedrock: quartz-carbonate

Pit Dimensions: 2 m deep, 3.5 m long, 1 m wide

Volume: 8 m<sup>3</sup>

Condition of Pit: left open

Rock Types: quartz-carbonate

Comments: -similar to pit number 42

Tjop Pit #: 44 Date: June 25, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.2 m brown silty clay  
0.2 to 1 m brown silty clay with fragments of massive  
serpentinite  
1 to 1.5 m bedrock: serpentinite

Pit Dimensions: 1.5 m deep, 3.5 m long, 1.5 m wide

Volume: 12 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - no fibre seen

Tjop Pit #: 45 Date: June 25, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.75 m brown silty clay with sheared medium to dark  
serpentinite fragments  
0.75 to 2.5 m bedrock: sheared serpentinite

Pit Dimensions: 2.5 m deep, 3 m long, 1.5 m wide

Volume: 10 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - some slip fibre seen

Tjop Pit #: 46 Date: June 25, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.5 m brown silty clay  
0.5 to 1.25 m red-brown silty clay with fragments of  
red weathered quartz-carbonate  
1.25 to 1.75 m bedrock: altered chlorite schist

Pit Dimensions: 1.75 m deep, 2.5 m long, 1 m wide

Volume: 6 m<sup>3</sup>

Condition of Pit: left open

Rock Types: quartz carbonate, chlorite schist

Comments: - near serpentinite contact

Tjop Pit #: 47 Date: June 25, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 1.25 m brown silty clay with fragments of medium-dark  
slightly sheared serpentinite, serpentinite has lots of magnetite;  
also some fragments of chlorite schist  
1.25 to 4 m as above, but fragments bigger and more abundant

Pit Dimensions: 4 m deep, 4.5 m long, 1 m wideVolume: 18 m<sup>3</sup>Condition of Pit: left openRock Types: serpentinite, chlorite schist

Comments: - did not reach bedrock  
- no fibre seen

Tjop Pit #: 48 Date: June 25, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 5.5 m brown silty clay with fragments of chlorite  
schist and serpentinite

Pit Dimensions: 5.5 m deep, 3 m long, 1 m wideVolume: 18 m<sup>3</sup>Condition of Pit: left openRock Types: chlorite schist, serpentinite

Comments: - did not reach bedrock

Tjop Pit #: 49 Date: June 25, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.75 m grey-brown silty clay with chlorite schist  
fragments  
0.75 m to 1 m silt and sand sized fragments of green and red  
weathered schist 1 to 3 m bedrock: red weathered chlorite schist

Pit Dimensions: 3 m deep, 3 m long, 1.5 m wide

Volume: 12 m<sup>3</sup>

Condition of Pit: left open

Rock Types: chlorite schist

Comments:

Tjop Pit #: 50 Date: June 25, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 1 m brown silty clay with serpentinite and chlorite  
schist fragments  
1 to 1.1 m small (about 2 cm) fragments of green and red chlorite  
schist 1.1 to 1.5 m bedrock: chlorite schist

Pit Dimensions: 1.5 m deep, 3 m long, 1.5 m wide

Volume: 8 m<sup>3</sup>

Condition of Pit: left open

Rock Types: chlorite schist

Comments:

Tjop Pit #: 51 Date: June 25, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.3 m brown silty clear with fragments of highly  
sheared dark serpentinite 2 vein directions about 20 cm apart  
maximum fibre lengths about 1/8"  
2.3 to 3 m bedrock: serpentinite

Pit Dimensions: 3 m deep, 4 m long, 2 m wideVolume: 20 m<sup>3</sup>Condition of Pit: left openRock Types: serpentiniteComments: - total fibre less than 1%Tjop Pit #: 52 Date: June 25, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.3 m brown silty clay with serpentinite fragments  
0.3 to 3 m bedrock: weathered sheared massive serpentinite  
not as sheared as pit 51

Pit Dimensions: 3 m deep, 3 m long, 1.5 m wideVolume: 15 m<sup>3</sup>Condition of Pit: left openRock Types: serpentiniteComments: - some hairline ribbon fibre up to 1/16"

Tjop Pit #: 53 Date: June 25, 1981Profile: 0 to 0.1 m organic soil  
0.1 to 0.3 m brown silty clay  
0.3 to 1 m brown silty clay with fragments of diorite  
1 to 1.5 m bedrock: diorite, very talcyPit Dimensions: 1.5 m deep, 3 m long, 1 m wideVolume: 5 m<sup>3</sup>Condition of Pit: left openRock Types: dioriteComments: - probably lens of diorite in serpentiniteTjop Pit #: 54 Date: June 26, 1981Profile: 0 to 0.1 m organic soil  
1 to 1m brown silty clay with serpentinite fragments - larger  
fragments (5 cm) at bottom  
1 to 1.3 m green fine highly weathered serpentinite  
1.3 to 5 m bedrock: quartz carbonatePit Dimensions: 5.5 m deep, 3.5 m long, 1.5 m wideVolume: 28 m<sup>3</sup>Condition of Pit: left openRock Types: serpentinite, quartz carbonateComments: - lots of slip fibre and magnetite

Tjop Pit #: 55 Date: June 26, 1981Profile: 0 to 0.1 m organic soil  
0.1 to 1 m brown silty clay with serpentinite fragments  
1 to 2.5 m serpentinite talus - highly sheared dark fish-scale  
2.5 to 3 m bedrock: weathered dioritePit Dimensions: 3 m deep, 3 m long, 1.5 m wideVolume: 12 m<sup>3</sup>Condition of Pit: left openRock Types: diorite and serpentiniteComments: - diorite has thin blackwall alteration zone (chlorite)  
and is probably a small lens in serpentiniteTjop Pit #: 56 Date: June 26, 1981Profile: 0 to 0.1 m organic soil; 0.1 to 0.4 m: brown silty clay  
with fragments of dark fish-scale serpentinite; 0.4 to 1.25 m  
layered fish-scale fragments (2 cm) - well banded as to size and colour  
1.25 - 5 m: dark fish-scale serpentinite with some weathering blocks of  
unsheared serpentinite about 2 m across with fibre up to 3/16", compound  
in directions about 30 cm apartPit Dimensions: 5 m deep, 4 m long, 3 m wideVolume: 40 m<sup>3</sup>Condition of Pit: left openRock Types: serpentiniteComments: - lenses of blocky serpentinite in fish-scale serpentinite. Total  
fibre in lenses about 3%. Surrounding sheared serpentinite barren.

Tjop Pit #: 57 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.6 m brown silty clay with fine (1 cm) fragments of  
serpentinite 0.6 to 1.25 m serpentinite talus (about banding)  
fragments up to 6 cm 1.25 to 4 m bedrock: highly sheared  
dark fish-scale serpentinite

Pit Dimensions: 4 m deep, 3 m long, 1.5 m wide

Volume: 18 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: serpentinite

Comments: - at picket 96E/96N  
- no fibre seen

Tjop Pit #: 58 Date: June 28, 1981

Profile: 0 to 0.75 m brown silty clay with dark fish-scale serpentinite  
fragments  
0.75 to 5.5 m bedrock: sheared serpentinite

Pit Dimensions: 5.5 m deep, 3 m long, 2 m wide

Volume: 30 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: serpentinite

Comments: - pit is 30 m east of Budwiski showing  
- no fibre seen

Tjop Pit #: 59 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.75 m brown silty clay with fragments of dark  
fish-scale serpentinite  
0.75 to 2 m bedrock: highly sheared serpentinite

Pit Dimensions: 2 m deep, 3 m long, 1.5 m wide

Volume: 10 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: serpentinite

Comments: - no fibre seen

Tjop Pit #: 60 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.2 m brown silty clay with dark fish-scale serpentinite  
0.2 to 5.5 m bedrock: highly sheared serpentinite

Pit Dimensions: 5.5 m deep, 3 m long, 1.5 m wide

Volume: 27 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: serpentinite

Comments: - no fibre seen

Tjop Pit #: 61 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.3 m brown silty clay with small dark fish-scale  
serpentinite fragments  
0.3 to 2 m bedrock: serpentinite - less sheared than  
previous pits

Pit Dimensions: 2 m deep, 3 m long, 1.5 m wide

Volume: 9 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - lots of magnetite

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Tjop Pit #: 62 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.2 m brown silty clay with serpentinite fragments (sos)  
0.2 to 0.75 m dark fish-scale serpentinite fragments (up to 10 cm)  
0.75 to 5 m bedrock: moderately sheared dark serpentinite with  
no fisible fibre

Pit Dimensions: 5 m deep, 3 m long, 2 m wide

Volume: 30 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - pit is in Budinski draw

Tjop Pit #: 63 Date: June 30, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.25 m brown silty clay with serpentinite fragments  
0.25 to 1 m highly weathered yellow fish-scale serpentinite fragments  
1 to 1.25 m bedrock: dark moderately sheared serpentinite  
- some quartz-carbonate alteration

Pit Dimensions: 3 m deep, 3 m long, 2 m wide

Volume: 20 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite, quartz-carbonate

Comments: - some slip fibre

Tjop Pit #: 64 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil 0.1 to 0.3 m brown silty clay  
0.3 to 1 m fine green weathered fish-scale serpentinite  
fragments containing about 2% sheet fibre  
1 to 3 m bedrock: dark massive slightly sheared serpentinite with  
some slip fibre

Pit Dimensions: 3 m deep, 3 m long, 1.5 m wide

Volume: 12 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - fibre lengths less than 1/8"

Tjop Pit #: 65 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil

0.1 to 0.75 m brown silty clay

0.75 to 1.25 m bedrock: diorite

Pit Dimensions: 1.25 m deep, 3 m long, 1.5 m wide

Volume: 6 m<sup>3</sup>

Condition of Pit: left open

Rock Types: fine to medium grained, dark green to grey diorite

Comments: - major diorite body

Tjop Pit #: 66 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil

0.1 to 0.5 m brown silty clay with diorite fragments

0.5 to 2 m bedrock: diorite

Pit Dimensions: 2 m deep, 3.5 m long, 1.5 m wide

Volume: 10 m<sup>3</sup>

Condition of Pit: left open

Rock Types: diorite

Comments: - as above

Tjop Pit #: 67 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 1 m brown sandy silt with diorite and serpentinite  
fragments  
1 to 1.5 m bedrock: diorite

Pit Dimensions: 1.5 m deep, 4 m long, 1.5 m wide

Volume: 9 m<sup>3</sup>

Condition of Pit: left open

Rock Types: diorite and serpentinite

Comments: \_\_\_\_\_  
\_\_\_\_\_

Tjop Pit #: 68 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.4 m brown silty clay  
0.4 to 1 m brown silty clay with serpentinite fragments  
1 to 2.5 m bedrock: massive medium-dark serpentinite

Pit Dimensions: 2.5 m deep, 3 m long, 2 m wide

Volume: 10 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - some shearing with lots of antigorite  
- some slip fibre seen

Tjop Pit #: 69 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 1 m brown silty clay with serpentinite fragments  
1 to 2 m bedrock: serpentinite slightly more sheared than  
in pit 68

Pit Dimensions: 2 m deep, 3.5 m long, 1.5 m wide

Volume: 10 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - no slip fibre seen

Tjop Pit #: 70 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 1.5 m brown silty clay with lots of dark fish-scale  
serpentinite fragments  
1.5 to 3 m bedrock: dark highly sheared serpentinite

Pit Dimensions: 3 m deep, 3 m long, 1.5 m wide

Volume: 13 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - no fibre visible

Tjop Pit #: 71 Date: June 28, 1981Profile: 0 to 0.1 m organic soil  
0.1 to 1 m brown silty clay with fragments (up to 10 cm)  
of massive black serpentinite  
1 to 3 m fine (2 cm) fish-scale serpentinite medium-dark  
with some rounded (sheared) massive blocksPit Dimensions: 3 m deep, 4 m long, 2 m wideVolume: 24 m<sup>3</sup>Condition of Pit: left openRock Types: serpentiniteComments: - erratic fibre veins to 1/8" wide  
Tjop Pit #: 72 Date: June 28, 1981Profile: 0 to 0.1 m organic soil  
0.1 to 0.4 m brown silty clay  
0.4 to 1.25 m very fine weathered fish-scale serpentinite  
fragments (about 1 cm)  
1.25 to 2 m bedrock: serpentinite highly shearedPit Dimensions: 2 m deep, 3 m long, 1.5 m wideVolume: 9 m<sup>3</sup>Condition of Pit: left openRock Types: serpentiniteComments: - some slip fibre

Tjop Pit #: 73 Date: June 28, 1981Profile: 0 to 0.1 m organic soil  
0.1 to 1 m brown silty clay with fragments of dark massive  
serpentinite  
1 to 1.5 m bedrock: massive serpentinitePit Dimensions: 1.5 m deep, 3 m long, 1.5 m wideVolume: 7 m<sup>3</sup>Condition of Pit: left openRock Types: serpentiniteComments: - no fibre seenTjop Pit #: 74 Date: June 28, 1981Profile: 0 to 0.1 m organic soil  
0.1 to 1 m brown silty clay with fragments of massive  
serpentinite and diorite  
1 to 1.5 m bedrock: small diorite lens in serpentinitePit Dimensions: 1.5 m deep, 3 m long, 1.5 m wideVolume: 7 m<sup>3</sup>Condition of Pit: left openRock Types: serpentinite, dioriteComments: - no fibre seen

Tjop Pit #: 75 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 1 m brown silty clay with serpentinite fragments  
1 to 1.5 m bedrock: dark massive slightly-sheared serpentinite

Pit Dimensions: 1.5 m deep, 3 m long, 1 m wide

Volume: 5 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - some hairline fibre

Tjop Pit #: 76 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.75 m brown silty clay with dark moderately sheared  
serpentinite fragments - also diorite fragments  
0.75 to 2 m bedrock: serpentinite

Pit Dimensions: 2 m deep, 3 m long, 1.5 m wide

Volume: 9 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite, diorite

Comments: - no fibre seen

Tjop Pit #: 77 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 1 m brown silty clay with fragments of serpentinite,  
diorite and quartz-carbonate  
1 to 2.5 m bedrock: diorite

Pit Dimensions: 2.5 m deep, 3 m long, 1.5 m wide

Volume: 12 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite, diorite, quartz-carbonate

Comments: \_\_\_\_\_  
\_\_\_\_\_

Tjop Pit #: 78 Date: June 28, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 1 m brown silty clay with diorite fragments  
1 to 1.5 m bedrock: diorite

Pit Dimensions: 1.5 m deep, 3 m long, 1.5 m wide

Volume: 8 m<sup>3</sup>

Condition of Pit: left open

Rock Types: diorite

Comments: \_\_\_\_\_  
\_\_\_\_\_

Tjop Pit #: 79 Date: June 29, 1981

Profile: 0 to 0.1 m organic soil 0.1 to 0.2 m dark brown silty clay  
0.2 to 1 m light brown silty clay with fragments of massive  
medium-dark serpentinite  
1 to 3.5 m bedrock: serpentinite - weathered at top into small  
fish scales

Pit Dimensions: 3.5 m deep, 3.5 m long, 1.5 m wide

Volume: 20 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - serpentinite is moderately sheared with some slip fibre

Tjop Pit #: 80 Date: June 29, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.5 m brown silty clay with small fish scale serpentinite  
fragments  
0.5 to 3 m bedrock: moderately sheared dark serpentinite  
with fish-scale weathered fragments at top

Pit Dimensions: 3 m deep, 3 m long, 1.5 m wide

Volume: 12 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - no fibre seen

Tjop Pit #: 81 Date: June 29, 1981

Profile: 0 to 0.1 m organic soil 0.1 to 0.2 m brown silty clay  
0.2 to 0.75 m brown silty clay with dark massive serpentinite fragments  
0.75 to 1.25 m very fine weathered fish-scale serpentinite with some  
fibre 1.25 to 7 m bedrock: moderately sheared dark serpentinite with  
some large (1 m) hard rounded boulders with fibre up to 1/8"

Pit Dimensions: 7 m deep, 3 m long, 3 m wide

Volume: 50 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - some slip fibre

Tjop Pit #: 82 Date: June 29, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 1 m dark brown silty clay with serpentinite fragments  
1 to 3 m bedrock: dark highly sheared serpentinite

Pit Dimensions: 3 m deep, 3.5 m long, 1.5 m wide

Volume: 18 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - some slip fibre

Tjop Pit #: 83 Date: June 29, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.4 m brown silty clay with serpentinite fragments  
0.4 to 2 m bedrock: highly sheared, dark serpentinite

Pit Dimensions: 2 m deep, 3.5 m long, 1.5 m wide

Volume: 12 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - some slip fibre

Tjop Pit #: 84 Date: June 29, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 1 m brown silty clay with fish-scale serpentinite fragments  
1 to 3 m bedrock: highly sheared, weathered light green serpentinite

Pit Dimensions: 3 m deep, 3 m long, 1.5 m wide

Volume: 12 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - some slip fibre

Tjop Pit #: 85 Date: June 29, 1981Profile: 0 to 0.1 m organic soil;  
0.1 to 0.6 m brown silty clay with dark massive serpentinite  
fragments;  
0.6 to 2 m bedrock: moderately sheared massive dark serpentinite;  
2 to 3 m diorite dyke;Pit Dimensions: 3 m deep, 3 m long, 2 m wideVolume: 18 m<sup>3</sup>Condition of Pit: left openRock Types: serpentinite, dioriteComments: \_\_\_\_\_  
\_\_\_\_\_Tjop Pit #: 86 Date: June 29, 1981Profile: 0 to 0.1 m organic soil;  
0.1 to 0.3 m brown silty clay with fish-scale serpentinite  
fragments;  
0.3 to 6 m bedrock: dark highly-sheared fish-scale serpentinite  
some had rounded massive boulder with fibre up to 1/16"Pit Dimensions: 6 m deep, 4 m wide, 1.5 m longVolume: 35 m<sup>3</sup>Condition of Pit: left openRock Types: serpentiniteComments: \_\_\_\_\_  
\_\_\_\_\_

Tjop Pit #: 87 Date: June 30, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.5 m brown silty clay with serpentinite fragments;  
0.5 to 4 m yellow-green fine weathered fish-scale serpentinite  
with some quartz-carbonate alteration;

Pit Dimensions: 4 m deep, 3 m long, 3 m wide

Volume: 40 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite, quartz-carbonate

Comments: - some slip fibre

Tjop Pit #: 88 Date: June 30, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.75 m brown silty clay with serpentinite fragments;  
0.75 to 1 m highly weathered, yellow fish-scale serpentinite;  
1 to 2.5 m bedrock: moderately-sheared dark serpentinite with  
some quartz-carbonate alteration

Pit Dimensions: 3 m deep, 3 m long, 2 m wide

Volume: 20 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite, quartz-carbonate

Comments: - some slip fibre

Tjop Pit #: 89 Date: June 30, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 5 m grey-brown silty clay with massive dark serpentinite  
and chlorite schist fragments;  
5 to 5.5 m bedrock: altered, red-brown weathering, pale green,  
talcy, quartz-carbonate (soapstone?)

Pit Dimensions: 5.5 m deep, 4.5 m wide, 3 m long

Volume: 60 m<sup>3</sup>

Condition of Pit: left open

Rock Types: quartz-carbonate

Comments: - near contact

Tjop Pit #: 90 Date: June 30, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 6.5 m grey-brown silty clay with fragments of  
serpentinite, chlorite schist and soapstone (like  
in pit 89) fragments

Pit Dimensions: 6.5 m deep, 5 m long, 1.5 m wide

Volume: 35 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite, chlorite schist, soapstone

Comments: - did not reach bedrock

Tjop Pit #: 91 Date: June 30, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.3 m dark brown silty clay;  
0.3 to 1.5 m light brown silty clay with some fish-scale  
serpentine fragments; 1.5 to 4 m moderately sheared dark serpentine  
fragments; 4 to 6 m light green highly weathered serpentine

Pit Dimensions: 6 m deep, 5 m long, 1.5 m wideVolume: 35 m<sup>3</sup>Condition of Pit: left openRock Types: serpentineComments: - no fibre seenTjop Pit #: 92 Date: June 30, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.5 m brown silty clay with some fish-scale serpentine  
fragments;  
0.5 to 4.5 m bedrock: highly weathered quartz-carbonate and  
light green, red weathered serpentine - highly sheared

Pit Dimensions: 4.5 m deep, 4.5 m long, 1.5 m deepVolume: 28 m<sup>3</sup>Condition of Pit: left openRock Types: serpentine, quartz-carbonateComments: - some slip fibre

Tjop Pit #: 93 Date: July 1, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.6 m brown silty clay with dark massive serpentinite  
fragments about 5 cm across;  
0.6 to 3 m bedrock highly weathered light green quartz-carbonate

Pit Dimensions: 3 m deep, 4 m long, 2 m wide

Volume: 25 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite, quartz-carbonate

Comments:

Tjop Pit #: 94 Date: July 1, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 1 m grey-brown silty clay with fragments of dark  
moderately sheared serpentinite;  
1 to 2m bedrock: sheared serpentinite

Pit Dimensions: 2 m deep, 4 m long, 1.5 m wide

Volume: 12 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite

Comments: - some slip fibre

Tjop Pit #: 95 Date: July 1, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.75 m brown silty clay with fragments of grey diorite;  
0.75 to 1.5 m bedrock: red weathered grey diorite

Pit Dimensions: 1.5 m deep, 4 m long, 1.5 m wide

Volume: 10 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: diorite

Comments: - possibly a dyke in serpentinite

Tjop Pit #: 96 Date: July 1, 1981

Profile: 0 to 0.1 m organic soil; 0.1 to 0.5 m grey-brown silty  
clay with quartz-carbonate, diorite fragments (5 cm);  
0.5 to 0.75 m red weathered clay with quartz-carbonate  
and diorite fragments; 0.75 to 1.5 m bedrock: red  
weathering quartz-carbonate

Pit Dimensions: 1.5 m deep, 4.5 m long, 1.5 m wide

Volume: 12 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: quartz-carbonate

Comments: - near contact

Tjop Pit #: 97 Date: July 1, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.4 m brown silty clay;  
0.4 to 1.25 m brown silty clay with grey diorite fragments (to 10 cm);  
1.25 to 2.5 m bedrock: fine-grained, grey-green diorite

Pit Dimensions: 2.5 m deep, 4 m long, 1.5 m wide

Volume: 18 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: diorite

Comments: \_\_\_\_\_  
\_\_\_\_\_

Tjop Pit #: 98 Date: July 1, 1981

Profile: 0 to 0.1 m organic soil; 0.1 to 0.3 m brown silty clay;  
0.3 to 1.25 m brown silty clay with fragments of serpentinite and  
diorite (about 5 cm); 1.25 to 1.5 m medium-grained sand with cross  
bedding and flame structures; 1.5 to 2 m sand with dark grey fish-scale  
serpentinite; 2 to 3 m bedrock: orange weathering quartz-carbonate

Pit Dimensions: 3 m deep, 4 m long, 1.5 m wide

Volume: 18 m<sup>3</sup>

Condition of Pit: left open

Rock Types: quartz-carbonate

Comments: - no fibre seen  
\_\_\_\_\_  
\_\_\_\_\_

Tjop Pit #: 99 Date: July 1, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 1 m grey-brown silty clay with diorite and serpentinite  
fragments;  
1 to 1.1 m sand with cross-bedding and load casting;  
1.1 to 2.5 m bedrock: opalized quartz-carbonate

Pit Dimensions: 2.5 m deep, 4 m long, 1.5 m wideVolume: 15 m<sup>3</sup>Condition of Pit: left openRock Types: quartz-carbonateComments: \_\_\_\_\_  
\_\_\_\_\_Tjop Pit #: 100 Date: July 1, 1981

Profile: 0 to 0.1 m organic soil; 0.1 to 1 m grey-brown silty clay  
with dark serpentinite fragments; 1 to 1.5 m fragments of weathered  
fish-scale serpentinite with minor, hairline fibre; 1.5 to 2.5 m  
grey-brown medium grained sand no bedding; 2.5 m bedrock: diorite  
up to 2" blackwater alteration

Pit Dimensions: 2.5 m deep, 4 m long, 1.5 m wideVolume: 15 m<sup>3</sup>Condition of Pit: left openRock Types: serpentinite, dioriteComments: - diorite lenses in serpentinite(?)  
\_\_\_\_\_

Tjop Pit #: 101 Date: July 3, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.6 m brown silty clay with diorite fragments;  
0.6 to 2 m bedrock: green diorite

Pit Dimensions: 2.5 m deep, 4 m long, 1.5 m wide

Volume: 15 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: diorite

Comments: \_\_\_\_\_  
\_\_\_\_\_

Tjop Pit #: 102 Date: July 3, 1981

Profile: 0 to 0.1 m organic soil; 0.1 to 0.4 m brown silty clay with  
diorite fragments; 0.4 to 1 m grey silty sand with diorite  
fragments; 1 to 1.5 m red weathered sand and quartz-carbonate  
fragments; 1.5 to 2.5 m bedrock: quartz-carbonate

Pit Dimensions: 2.5 m deep, 4 m long, 1.5 m wide

Volume: 15 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: quartz-carbonate

Comments: \_\_\_\_\_  
\_\_\_\_\_

Tjop Pit #: 103 Date: July 3, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.6 m brown silty clay with quartz-carbonate fragments;  
0.6 to 0.8 m fine, weathered orange sand and cobbles of quartz-carbonate;  
0.8 to 2.5 m bedrock: quartz-carbonate

Pit Dimensions: 2.5 m deep, 4 m long, 1.5 m wide

Volume: 15 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: quartz-carbonate

Comments:

Tjop Pit #: 104 Date: July 3, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 1 m brown silty clay with quartz-carbonate fragments;  
1 to 3 m bedrock: quartz-carbonate

Pit Dimensions: 3 m deep, 3.5 m long, 1.5 m wide

Volume: 17 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: quartz-carbonate

Comments:

Tjop Pit #: 105 Date: July 3, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.3 m brown silty clay;  
0.3 to 0.9 m red-brown sandy silt and quartz-carbonate  
fragments;  
0.9 to 3 m bedrock: quartz-carbonate

Pit Dimensions: 3 m deep, 3.5 m long, 1.5 m wide

Volume: 20 m<sup>3</sup>

Condition of Pit: left open

Rock Types: quartz-carbonate

Comments: \_\_\_\_\_  
\_\_\_\_\_

Tjop Pit #: 106 Date: July 3, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.3 m brown silty clay;  
0.3 to 1.5 m very fine green weathering fish-scale  
serpentinite;  
1.5 to 4 m bedrock: green quartz-carbonate

Pit Dimensions: 4 m deep, 3.5 m long, 1.5 m wide

Volume: 23 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite, quartz-carbonate

Comments: - some short loose fibres in soil at 1.5 m depth  
\_\_\_\_\_

Tjop Pit #: 107 Date: July 3, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.3 m brown silty clay with serpentinite fragments;  
0.3 to 2 m green quartz-carbonate

Pit Dimensions: 2 m deep, 3 m long, 2 m wide

Volume: 12 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite, quartz-carbonate

Comments: - did not reach bedrock - hole contains large (up to 1 m)  
hard rounded serpentinite boulders (lenses) with fibre  
up to 3/8" in erratic veins

Tjop Pit #: 108 Date: July 3, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.5 m red brown silty clay;  
0.5 to 2 m bedrock: hard, orange-red coloured, partly  
sheared quartz-carbonate

Pit Dimensions: 2 m deep, 4 m long, 1.5 m wide

Volume: 12 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: quartz-carbonate

Comments: - quartz-carbonate has mariposite

Tjop Pit #: 109 Date: July 3, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.3 m brown silty clay;  
0.3 to 1.5 m bedrock: dark highly sheared fish-scale  
serpentine

Pit Dimensions: 1.5 m deep, 3 m long, 1.5 m wide

Volume: 7 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: serpentine

Comments: - large boulders of serpentine but no fibre

Tjop Pit #: 110 Date: July 3, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.6 m brown silty clay with fish-scale serpentine  
fragments;  
0.6 to 1 m highly weathered very fine fish-scale serpentine  
- some minor fibre

Pit Dimensions: 1 m deep, 4 m long, 1.5 m wide

Volume: 6 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: serpentine

Comments: - ground frozen

- did not reach bedrock

Tjop Pit #: 111 Date: July 3, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.3 m dark brown silty clay;  
0.3 to 0.75 m red-brown silty clay;  
0.75 to 1 m highly weathered serpentinite partly altered  
to quartz-carbonate fragments

Pit Dimensions: 1 m deep, 3 m long, 1.5 m wide

Volume: 5 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: quartz-carbonate, serpentinite

Comments: - ground frozen  
- did not reach bedrock

Tjop Pit #: 112 Date: July 3, 1981

Profile: 0 to 0.1 m organic soil; 0.1 to 0.4 m brown silty clay  
with blackwall altered serpentinite fragments; 0.4 to 1 m  
blackwall altered serpentinite blocks - talus?; 1 to 4.5 m  
bedrock quartz-carbonate with lots of white fibrous tremolite  
and minor chrysotile

Pit Dimensions: 4.5 m deep, 3 m long, 1.5 m wide

Volume: 20 m<sup>3</sup>

Condition of Pit: left open

Rock Types: serpentinite, quartz-carbonate

Comments: - at old hand pits

Tjop Pit #: 113 Date: July 3, 1981

Profile: 0 to 0.1 m organic soil; 0.1 to 0.4 m brown silty clay;  
0.4 to 3 m green and orange weathered banded sand;  
3 to 4 m bedrock: quartz-carbonate with white tremolite  
cross fibre also diorite dyke and blackwall altered  
serpentinite

Pit Dimensions: 4 m deep, 4 m long, 1.5 m wide

Volume: 24 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: quartz-carbonate, diorite, serpentinite

Comments: - probably near diorite contact - no chrysotile seen

Tjop Pit #: 114 Date: July 3, 1981

Profile: 0 to 0.1 m organic soil  
0.1 to 0.3 m brown silty clay;  
0.3 to 1 m green and orange sand with small quartz-carbonate  
fragments;  
1 to 3.5 m bedrock: orange-red quartz-carbonate

Pit Dimensions: 3.5 m deep, 4 m long, 1.5 m wide

Volume: 21 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: quartz-carbonate

Comments: \_\_\_\_\_

Tjop Pit #: 115 Date: July 4, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.2 m brown silty clay;  
0.2 to 0.6 m grey silty clay with small fragments of fish-scale  
serpentine;  
0.6 to 4 m bedrock: weathered fish-scale serpentine

Pit Dimensions: 4 m deep, 3 m long, 1.5 m wide

Volume: 18 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: serpentinite

Comments: - lots of slip fibre , nemalite(?)

Tjop Pit #: 116 Date: July 4, 1981

Profile: 0 to 0.1 m organic soil;  
0.1 to 0.2 m brown silty clay;  
0.2 to 1.5 m bedrock: dark weathered highly sheared  
serpentinite

Pit Dimensions: 2 m deep, 3 m long, 1.5 m wide

Volume: 9 m<sup>3</sup>

Condition of Pit: back-filled

Rock Types: serpentinite

Comments: - has sheared hard boulders - no fibres

Tjop Pit #: 117 Date: July 4, 1981Profile: 0 to 0.1 m organic soil;  
0.1 to 0.3 m brown silty clay with serpentinite fragments;  
0.3 to 3 m bedrock: highly sheared dark fish-scale serpentinite  
with unshered lensesPit Dimensions: 3 m deep, 3 m long, 1.5 m wideVolume: 14 m<sup>3</sup>Condition of Pit: left openRock Types: serpentiniteComments: - no fibreTjop Pit #: 118 Date: July 5, 1981Profile: 0 to 0.1 m organic soil;  
0.1 to 0.2 m brown silty clay with fish-scale fragments  
0.2 to 2 m bedrock: fish-scale serpentinitePit Dimensions: 2 m deep, 3 m long, 1.5 m wideVolume: 10 m<sup>3</sup>Condition of Pit: left openRock Types: serpentiniteComments: - no fibre seen

Tjop Pit #: 119 Date: July 5, 1981

Profile: - shows Discovery "outcrops" are in fact boulders of unsheared  
serpentinite with fibre that has eroded out of sheared  
serpentinite and rolled a short distance downhill

Pit Dimensions: \_\_\_\_\_

Volume: \_\_\_\_\_

Condition of Pit: \_\_\_\_\_

Rock Types: \_\_\_\_\_

Comments: - total fibre content of best boulders is about 5%

Tjop Pit #: \_\_\_\_\_ Date: \_\_\_\_\_

Profile: \_\_\_\_\_

Pit Dimensions: \_\_\_\_\_

Volume: \_\_\_\_\_

Condition of Pit: \_\_\_\_\_

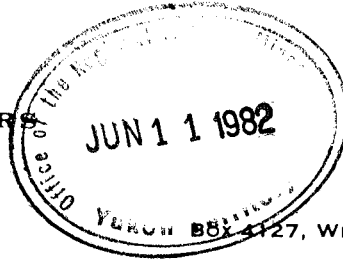
Rock Types: \_\_\_\_\_

Comments: \_\_\_\_\_

# ARCHER, CATHRO

& ASSOCIATES LIMITED

CONSULTING GEOLOGICAL ENGINEERS



VANCOUVER, B.C. (604) 688-2568

1016 - 510 WEST HASTINGS STREET  
VANCOUVER, B.C. V6B 1L8



## AFFIDAVIT

I, Joan Mariacher, of Vancouver, B.C. make oath and say:

That to the best of my knowledge the attached Statement of Expenditures for exploration work on the Tjop 21-34,36-42,45-47,158-160 & 170 mineral claims on Claim Sheet 116B/5 & C/8 is accurate.

Joan Mariacher

Sworn before me at Vancouver, B.C.

this 18th day of

March, 1982

Notary, Yukon Territory

091059


Statement of Expenditures  
Tjop 21-34, 36-42, 45-47, 140-141, 158-160 & 170 Claims  
March 18, 1982

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Ibex Contracting Ltd. - contract excavator	\$65,445.00
Goldmark Minerals Ltd. - barging	<u>6,794.00</u>
Total	<u><u>\$72,239.00</u></u>

DATE	DETAILS	CHARGES	CREDITS	BALANCE
	BALANCE FORWARD			
	Rental of 1 caterpillar model 225 Excavator as per Equipment Rental Agreement for the period from May 25 - 31, 1981.  57 Hrs @ \$94.00/Hr.			5,358.00
<i>paid June 13/81 #642</i>				
<b>two percent may be charged on accounts over 30 days</b>				

S25TA

IN ACCOUNT  
WITHPAYMENTS MADE AFTER DATE SHOWN  
SHALL APPEAR ON NEXT STATEMENT.**STATEMENT**LAST AMOUNT IN THIS COLUMN  
IS BALANCE OF YOUR ACCOUNT  
AT THE DATE SHOWN. 

# Goldmark Minerals Ltd.

506 Highstreet House  
933 - 17th Avenue S.W.,  
Calgary, Alberta  
T2T 5R6

TELEPHONE: (403) 245-0027

June 17, 1981

ARCHER CATHRO & ASSOCIATES LTD.  
Box 4127,  
Whitehorse, Yukon

Dear Sirs:

RE: Rental of tug and barge

*TJOP*

This is our invoice to your rental of our tug and barge for transporting equipment downstream from Dawson City. As agreed, our rate to cover labor, fuel and rental is \$200.00 per hour.

Total of this invoice:            17 hrs. @ \$200./hr.            =            \$3,400.00

Our terms are net 30 days.

*JUNE 6, 1981*

Please contact us at 993-5422 or 245-0027 if you wish to schedule a return trip later in the year.

Yours very truly,

GOLDMARK MINERALS LTD.



B. M. HEARST  
Treasurer

BMH/sb

*J. H. Hearst*  
*7/6/81*

# IBEX

## CONTRACTING LIMITED

Box 5225 668-5617  
Whitehorse, Yukon  
Y1A 4Z1

SOLD TO: ARCHER CATMO & ASSOCIATES LIMITED

DATE: JULY 2/81  
No 022

Quantity	Description	Unit Price	Total
171 HRS	CAT 225 EXCAVATOR WITH OPERATOR	\$ 94.00	\$ 16,074.00
	T. J.V. - JUNE 1 TO 30/81		
	less diesel on per cent.		2608.75
	(no driver chgd)		
	Chemical Per.		13465.25
	+ July 1-14 132 hrs		12408.
	paid - July 14/81		
	# 670		
	TOTAL		\$ 16,074.00

2% per month over 30 days

25,573.25    13465.25

# Goldmark Minerals Ltd.

506 Highstreet House  
933 - 17th Avenue S.W.,  
Calgary, Alberta  
T2T 5R6

TELEPHONE: (403) 245-0027

July 13, 1981

ARCHER CATHRO & ASSOCIATES  
3125, 3rd Avenue,  
Whitehorse, Yukon

Dear Sirs:

RE: Rental of Goldmark tug and barge

*July 5 moved*

Further to our invoice regarding rental on July 6 and 7, we wish to include in that invoice the actual cost of an extra deck hand, Mr. Jim Spandier, as follows:

11 hrs. @ \$10.50, 5 hrs. @ \$15.75 = \$ 194.25

Amount invoiced: 3,200.00

Revised total: \$3,394.25

Yours very truly,

GOLDMARK MINERALS LTD.

*Brian M. Hearst*

*paid July 23/81  
#683*

BRIAN M. HEARST  
Treasurer

BMH/sb

DATE	DETAILS	CHARGES	CREDITS	BALANCE
BALANCE FORWARD				
	Cat 225 Excavator with Operator T JV July 15 <sup>th</sup> to Aug 13 <sup>th</sup> / 81  130 Hrs @ \$94 <sup>00</sup>	70  July 11/81 #712		12,220 <sup>00</sup>

**two percent may be charged on accounts over 30 days**

S25TA

IN ACCOUNT WITH

PAYMENTS MADE AFTER DATE SHOWN SHALL APPEAR ON NEXT STATEMENT.

STATEMENT

LAST AMOUNT IN THIS COLUMN IS BALANCE OF YOUR ACCOUNT AT THE DATE SHOWN.

DATE	DETAILS	CHARGES	CREDITS	BALANCE
	BALANCE FORWARD			
	Cat 225 Excavator with operator TJV Aug 13 <sup>th</sup> to 14 <sup>th</sup> / 81  64 Hrs @ \$94.00			6,016 <sup>00</sup>
		<i>John Langley</i> 5/18/81 #705		
<b>two percent may be charged on accounts over 30 days</b>				

S2STA

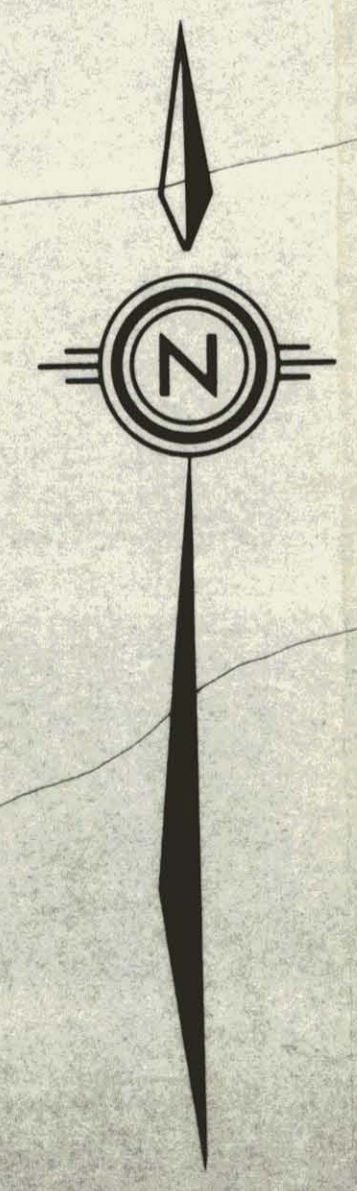
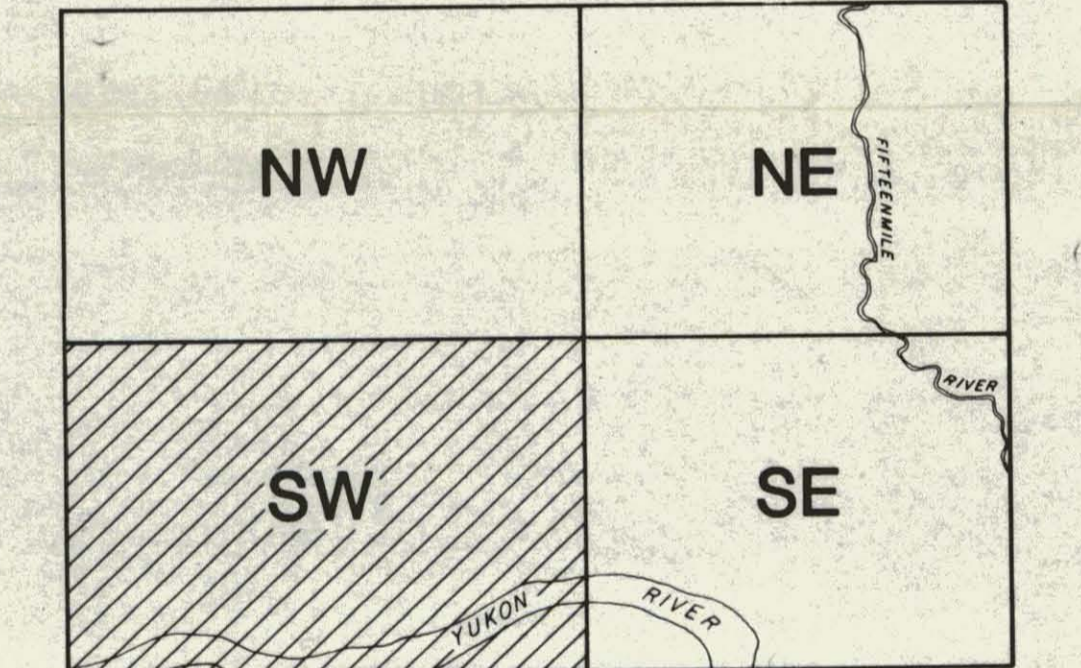
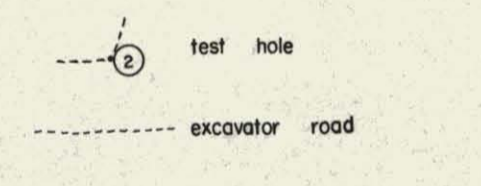
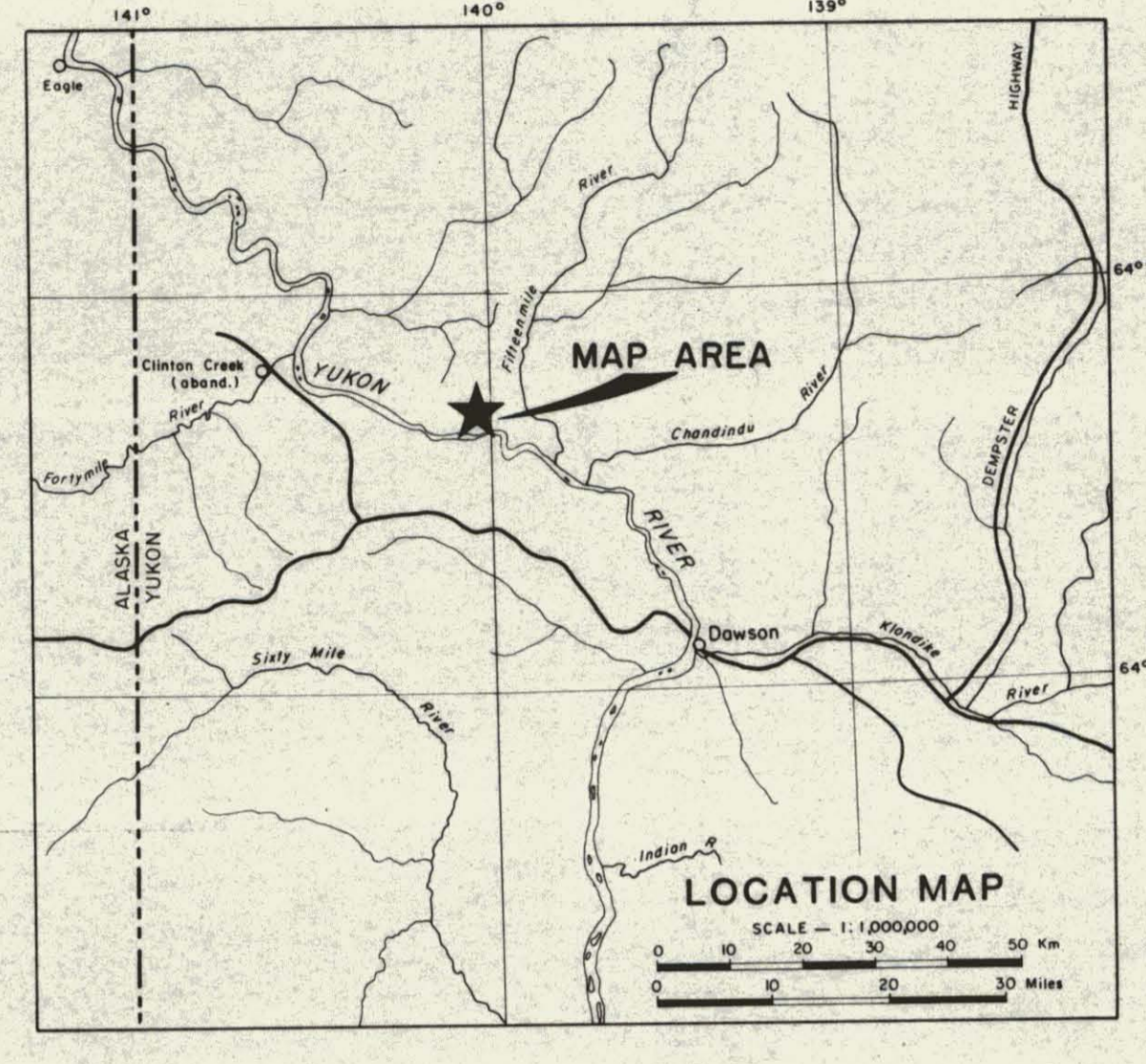
IN ACCOUNT WITH

PAYMENTS MADE AFTER DATE SHOWN SHALL APPEAR ON NEXT STATEMENT.

# STATEMENT

LAST AMOUNT IN THIS COLUMN IS BALANCE OF YOUR ACCOUNT AT THE DATE SHOWN.





YUKON

RIVER

TJOP CLAIMS BOUNDARY

FIGURE 3  
 ARCHER, CATRO & ASSOCIATES LTD. 001059  
**EXCAVATOR PITS**  
 TJOP CLAIMS  
 TEBLIN JOINT VENTURE  
 SCALE - 1:5000

