ARCHER, CATHRO
● ASSOCIATES (1981) LIMITED
CONSULTING GEOLOGICAL ENGINEERS

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REPORT ON

EXCAVATOR PITTING PROGRAM

JULY 5 TO JULY 30, 1981

TIZA 1- 4 CLAIMS
9 "
11 "
25-30 "
33-44 "
50 "
52 "
54 "
56 "

TESLIN JOINT VENTURE

DAWSON MINING DISTRICT, Y.T.

CLAIM SHEET 116C/8

LATITUDE 64°18'N LONGITUDE 140°15'W

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J. SCOTT MURRAY

NOVEMBER 25, 1982

091402

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(403) 667-4415

s report has been examined by
e Geological Evaluation Unit
der Section 53 (4) Yukon Quartz
ining Act and is allowed as
epresentation work in the amount
f $ 12,500

R. Watson

for Regional Manager, Exploration and
Geological Services for Commissioner
of Yukon Territory.

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INTRODUCTION

The Tiza property was staked in May and June, 1981 by Teslin Joint Venture (Brinco Mining Ltd., Cominco Ltd. and Exploram Minerals Ltd.). The 1981 program was 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, which is located about 35 km from the Tiza property by road. Contract pitting was performed with a Caterpillar 225 excavator operated by IBEX Construction Ltd. of Whitehorse.

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

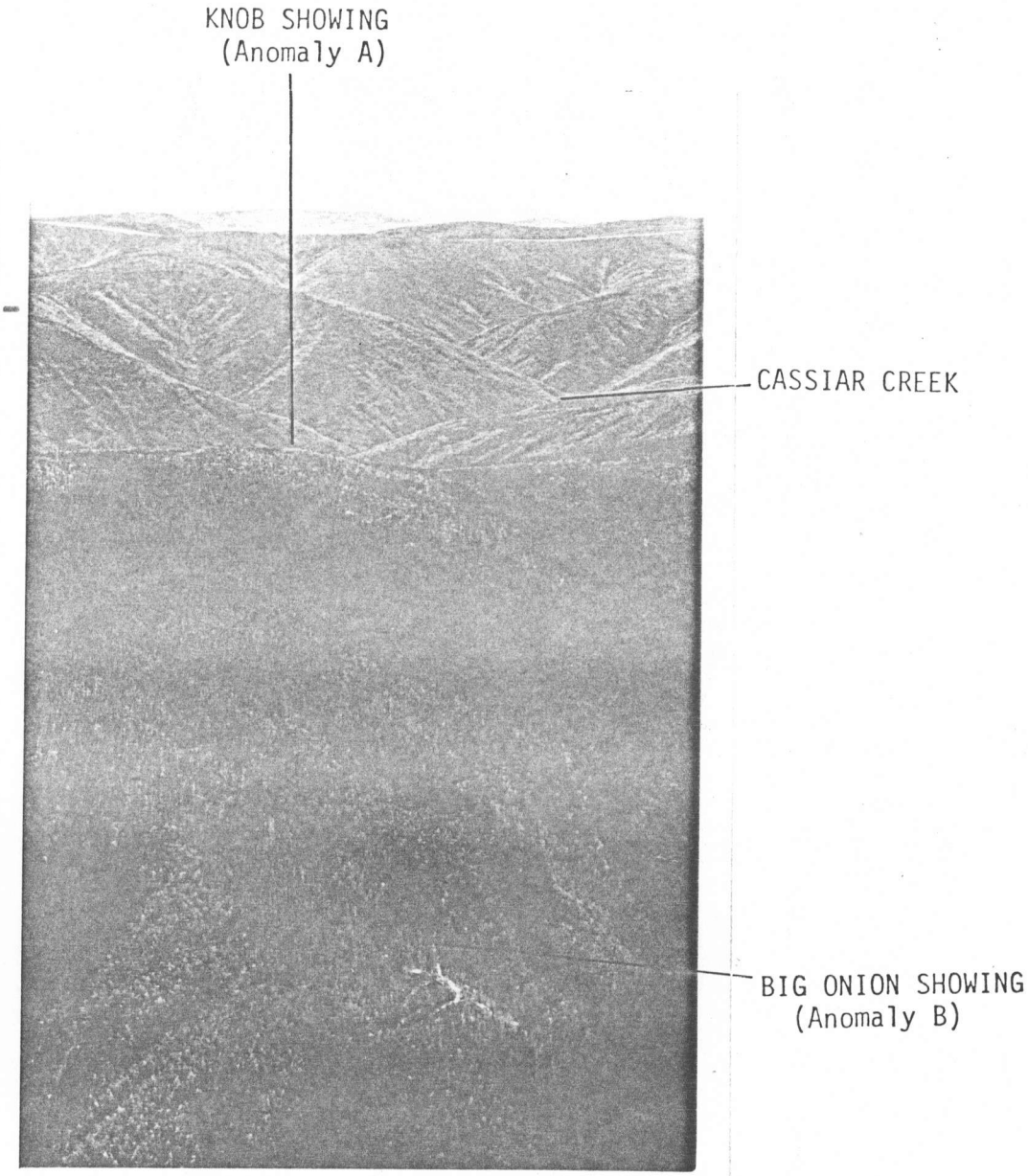
PROPERTY, LOCATION AND ACCESS

The property consists of 28 contiguous Tiza claims recorded in the name of Archer, Cathro & Associates (1981) Limited at the Dawson mining records office, as listed below:

Claim Name	No. Claims	Record Numbers	Expiry Date
Tiza 1- 4	4	YA 55347-50	25 April/87
9	1	YA 55355	"
11	1	YA 55357	"
25-29	5	YA 55371-75	"
30	1	YA 55601	"
33-44	12	YA 55612-23	"
50	1	YA 55656	"
52	1	YA 55658	"
54	1	YA 55660	"
56	1	YA 55662	"
	28		

The claims are situated southwest of two Pet claims covering the former Caley Mine and extend along a ridge between Cassiar Creek and Happy Creek, within NTS sheet 116C/8. The Caley Mine Road crosses the claims and was the primary access route.

Daily crew transportation was mainly by a Ford Econoline 350 van and periodically by a Bell 47 G3/B2 helicopter chartered from Trans North Turbo Air of Whitehorse, to reach outlying parts of the property. A temporary barge landing site was constructed at the mouth of Cassiar Creek to bring a Cat 225 excavator to the property. Excavator routes between digging sites were confined to pre-existing bulldozer trails wherever possible and new trails were designed to cause only minimal damage to the vegetation cover and not as permanent roadways.



TIZA LOOKING SOUTH

HISTORY AND PREVIOUS WORK

The first claims staked in the area were Silver King and Silver Queen claims (13976) in June, 1923 by A. Robertson near Happy Creek. Robertson noted on his application that he was staking a silver-lead showing. No work was recorded.

The Caley deposit itself was apparently first staked in 1931 as the Isabelle and Mario claims but no work was recorded. It was restaked as Brownie, Skip, etc. claims in July, 1955 by prospectors grubstaked by Fred Caley and optioned in 1956 to Conwest Exploration Ltd. Conwest trenched the showing in 1956 and then transferred the property in 1958 to an affiliate, Cassiar Asbestos Corp. Ltd., which explored with more trenching and 360 m of drifting in two adits before dropping the property. A new option was negotiated by Caley with Canadian Johns-Manville Co. Ltd., which explored in 1963-65 with a ground mag survey, mapping and 610 m of diamond drilling (12 holes). In 1966-67, Sphere Development Corp. Ltd. optioned the key claims from Caley, added more claims and flew an aeromag survey. Sphere then conducted bulldozer trenching in 1971 and sold the property in January, 1972 to Anglo Western Minerals Ltd., which conducted geophysical surveys and trenching in 1972 in a joint venture with Branta Explorations Ltd.

During this early exploration phase, serpentinite outcrops on the ridge about 3 km west and a second ultramafite located on Cassiar Creek about 4 km upstream from the Caley deposit were also trenched, probably by Canadian Johns-Manville.

In August, 1977, the Caley deposit was restaked as the Pet claims by R. Gillespie, who built a haulage road to the Clinton

Creek Highway and signed a contract with Cassiar for custom milling. Between March and May, 1978, about 300,000 tonnes of preconcentrated ore were trucked 55 km to the Clinton mill. After the Clinton operation closed in August, 1978, all but two of the claims covering the pit were allowed to lapse.

TJV became interested in the target when reconnaissance silt samples collected in 1980 near the large serpentinite outcrops on the Caley Mine road returned high values.

REGIONAL GEOLOGY

The Clinton Creek camp is situated within the Yukon Plateau and is sharply bounded to the northeast by the late Cretaceous Tintina Fault. The district has a complex geological history resulting from tectonic activity that has thoroughly deformed and intermixed several major rock assemblages. Ages are difficult to estimate since the fossil record has mainly been obliterated by deformation and regional metamorphism and contacts are obscured by overburden cover.

Rocks in this region have been subdivided by government geologists into three major packages: Nasina Suite (OSD); Anvil Allochthon (CPv); and, Klondike Schist (LPK). In the continental collision model proposed by Tempelman-Kluit (1979), the Nasina Suite represents the North American plate margin material. The Anvil Allochthon and Klondike Schist represent seafloor material and continental "Stikinia" plate rocks obducted onto the North American plate during a collision in Jurassic(?) time. The thrust faulting associated with the collision resulted in complex interfingering of the three

units, destruction of sedimentary features and development of new cataclastic textures.

Anvil Allochthon

The allochthonous overthrust block consists of an ophiolite suite composed of alpine-type ultramafite, gabbro, basalt, chert and limestone. In the Clinton Creek camp, these rock types are usually present as their metamorphosed equivalents: serpentinite with associated hornblende diorite, amphibolite, and chlorite schist. The ophiolite assemblage has become highly dismembered by thrusting and most serpentinite bodies are enveloped in graphitic schists of the Nasina Suite.

The ultramafites (CPub) are typically fairly small bodies composed of massive, dark green, fine to medium grained magnetic serpentinite derived from both peridotite and dunite. Most of them are highly sheared, reflecting a stressful emplacement, and are enclosed in metamorphosed host rocks. No relationship has been established yet to link the metamorphic grade of surrounding rocks to fibre development within serpentinite. However, it seems probable that strong shearing in the wall rocks is important in creating islands of unsheared serpentinite within which tensional fracturing and fibre veins can develop.

Cross fibre veins in commercial-grade mineralization seldom show straining or strong disruption except within localized shear zones, indicating they formed at a late stage in the emplacement and alteration of the ultramafite. In the Clinton Creek and Caley orebodies, blocky fracturing with commercial fibre lengths and quantities constitute less than 10

per cent of the serpentinite. These zones are surrounded by sheared varieties of serpentinite such as fish-scale that are typical of other bodies in the camp.

Some serpentinite bodies contain augen-like bodies of relic, massive serpentinite or lens-shaped bodies of diorite. A few of the massive lenses, such as those at the Tjop property, contain cross fibre veins that may have formed during or shortly after emplacement. Some of the fibre veins near the edges of these bodies are highly deformed and drawn out. Similarly, fibre veins that formed in the blackwall alteration zones surrounding diorite lenses (black pods), such as those at the Toc property, often exhibit curved veins and chrysotile fibres that are bent in the direction of movement. Both types of bodies are usually too widely dispersed through a sheared serpentinite to have economic importance.

The margins of many serpentinite bodies are altered to soapstone; for example at the Tjop and Tiza properties. This suggests that temperatures exceeded 400 deg C for a short period after emplacement,probably during regional metamorphism. Quartz-carbonate alteration, which consists of magnesite, talc and opaline silicates, is common and is probably also a post-mineralization event since the alteration is sometimes pseudomorphic after chrysotile fibre. Transformations from serpentinite to quart-carbonate are displayed best in the Clinton Creek Mine, where long fibre veins can occasionally be traced from serpentinite into highly altered rock. This is a gradual change from silky chrysotile to harsh opal along the veins and is not accompanied by physical disruption.

Fine to medium grained, light grey to dark green, biotite or hornblende-rich diorites occur along with the ultramafites at several locations and are usually considered to be part of the Anvil Allochthonous suite. The diorites occur as small lens-shaped bodies or "dykes" that are enclosed by serpentinite and often are associated with black-pod mineralization, as at the Toc property. Alternatively, diorite forms large, stock-like bodies up to several metres across adjacent to the ultramafites, as at the Tjop property. Contacts between the larger bodies of diorite and serpentinite are usually altered to quartz-carbonate, whereas the smaller dykes usually exhibit "blackwall" alteration. This suggest that the diorites are slightly younger than the ultramafites. The smallest dykes are usually enveloped by highly sheared serpentinite and appear to have been squeezed and dismembered into their present lensy form by strong tectonic forces.

Nasina Suite

The Nasina suite has been defined by Tempelman-Kluit (1976) as a distal sequence of carbonaceous and quartz-rich sedimentary rocks. They have been mostly metamorphosed to greenschist facies and now consist of palegreen quartz-mica-chlorite schist, grey to silvery colored quartz-muscovite schist, graphitic schist,chloritic quartzite and minor quartz-biotite gneiss. Although the sequence is not well understood and correlations are difficult to establish, a tentative age of Ordovician to Devonian has been assigned to the Nasina. Rubidium/strontium and potassium/argon age determinations by Htoon (1979) near the Clinton Mine suggest a Permian age, although one sample of

biotite schist returned a rubidium/ strontium age of 470 ma, which is Ordovician. The younger dates may reflect the date of latest metamorphism or of regressive (biotite to chlorite zone) metamorphism, while the Ordovician date may reflect the age of deposition or of earlier metamorphism.

Preliminary mapping by J.G. Abbott of DIAND in the vicinity of Clinton Mine during 1981 revealed the presence of slightly metamorphosed carbonaceous mudstone, limy sandstone and tuffaceous phyllite that he tentatively assigned to the Nasina suite. These rocks probably represent the unmetamorphosed equivalents of the common Nasina suite rocks. They resemble rocks mapped elsewhere in Yukon that are Triassic in age and fossil conodants tentatively identified from Clinton Mine rocks in 1982 support this assumption. Abbott demonstrated fairly conclusively that the Nasina suite underlies the allochthonous assemblage and concluded that the graphite schist adjoining the orebody was derived from Nasina rocks.

Klondike Schist

The Klondike schist is a cataclastic rock that is thought to be derived from felsic intrusive rocks. In the Clinton Creek camp, quartz-rich cataclastics, gneisses and quartz-muscovite cataclastic schist are common. Age relationships are difficult to determine as the Klondike schists cannot be related to other rock units. Radiometric ages of 138 and 145 ma were obtained from samples of cataclastic material by Tempelman-Kluit (1976). These dates are late Jurassic and probably reflect the time of cataclasism.

Igneous Rocks

Igneous rocks in the belt consist of lower Cretaceous biotite granodiorite and quartz monzonite and Tertiary feldspar porphyries. These have been combined for simplicity on Figure 3 as unit Tqfp but are differentiated on GSC Map 1284a. One of the largest quartz monzonite stocks in the district is located about 2 km west of the Tjop claims. It consists of plagioclase, biotite and altered grains of hornblende with minor amounts of potash feldspar, quartz and magnetite. Granitic gneiss and amphibolite have developed along contact zones. The eastern contact of this body was explored for tungsten mineralization by Noranda during 1981.

Small bodies of feldspar porphyry occur throughout the region. These rocks are characterized by phenocrysts of feldspar and quartz up to several mm in length in a light grey to grey-green, fine grained groundmass. One of the largest of these porphyry bodies, on Cassiar Dome, was staked by Cominco for molybdenum-tungsten potential as the Pluto claims and was drilled in 1981. A porphyry dyke at the southeast corner of the Tjop claims was staked in 1927 for sulphide mineralization as the Roal occurrence. Also,
basalt associated with a small porphyry dyke on the Thane grid area was found to contain traces of uranium mineralization. The porphyry bodies are probably more numerous than was previously known and some may host important base metal mineralization.

Olivine basalt (Tv) occurs locally in the region and is probably the youngest rock type as it overlies all other units.

References

Htoon, M.
1979: Geology of the Clinton Creek asbestos deposit, Yukon Territory; unpublished M.Sc. Thesis, University of British Columbia.

Tempelman-Kluit, D.J.
1976: The Yukon crystalline terrane: Enigma in the Canadian Cordillera; Geological Society of America Bulletin, v. 87, pp. 1343-1357.

1979: Transported cataclasite, ophiolite and granodiorite in Yukon: Evidence of arc-continent collision; G.S.C. Paper 79-14.

GEOLOGY AND GEOMORPHOLOGY

The Tiza property is mainly underlain by rocks of the Anvil Allochthon assemblage although some Nasina Series graphite schist was also found. The ultramafites consist of several small to medium sized bodies that contain small, dyke-like bodies of diorite and show signs of extreme tectonic stress. Most ultramafites have been totally altered to serpentinite which is enveloped by quartz-carbonate and soapstone. Surrounding rocks are mainly chlorite and graphite schists.

The property is located on a remnant of a gentle plateau situated between Cassiar Dome to the south and a former floor of the Yukon River to the north. Following rejuvenation of the Yukon River system, the plateau was deeply incised by Cassiar Creek and Happy Creek.

Outcrop is virtually absent except at the Knob showing on the ridge and in scattered exposures along the south bank of Happy Creek. The best bedrock exposure is along the Caley Mine Road which was built in 1978. Soils up to 3 m thick or more cover most of the property.

SAMPLING AND EXCAVATING

A total of 1290 soil samples and 31 silt samples were collected at 50 m spacing on compass lines 200 m apart. About 8.4 km of baseline were cut for survey control. Three anomalies were outlined by the sampling and investigated with 130 excavator pits, as shown on Figure 2, in pocket.

PITTING RESULTS

Anomaly A is a large cluster of anomalous soils centered over a prominent, grassy ridge called the Knob by TJV, about 3 km northwest of the Caley deposit. The soil anomaly is about 200 m by 700 m and trends northeast.

This anomaly is associated with at least three small serpentinites separated by soapstone or Nasina graphitic schist. Some Anvil chlorite schist contacts the ultramafites on the east side. Each of the ultramafite bodies mainly consists of highly sheared, fish-scale serpentinite. Prior to excavator work, weak fibre development was exposed at a showing in old shallow trenches on the Knob and erratic long fibre was uncovered in an old trench located about 300 m northwest. The Caley access roadcut also exposed some very weakly mineralized massive serpentinite about 500 southwest of the Knob.

Point scores of up to 69a were obtained from soils collected on the Knob, indicating better lengths than were visible in the old trenches. Point scores above 50a are normally considered anomalous by TJV. Soil samples nearby contained shorter fibre but showed anomalously high quantities. A separate portion of the anomaly, situated about 500 m north of the Knob, gave point scores of up to 65a, although old trenches in this area exposed no mineralization. The best soils in both areas were tested with excavator pits.

At the Knob showing, pitting uncovered fibre up to 13 mm long in veins up to about 20 mm wide in a blocky serpentinite at a depth of about 4 m below poorly mineralized talus. A 127 kg sample of this rock was sent to Cassiar for test milling

and analysis showed that the rock contains about 2.3% fibre grading low Group 5 (AX product), with an ore value of $20.93 per ton rock and a product value of $820.78 per ton fibre. The fibre was very discolored and the rock showed signs of deep weathering. Similar serpentinites were seen at the Caley pit contacting the ore on the hanging wall. The excavator was unable to dig deeper to test the mineralization in unweathered rocks. Surrounding trenches encountered only fish-scale serpentinites.

The northern portion of Anomaly A was also trenched and was found to be caused by a narrow zone of fibre next to a small diorite body. Short gash veins up to 9 mm long occur sporadically along a 10 m long body of metadiorite with enclosing blackwall alteration. Surrounding serpentinites were all highly sheared and unmineralized.

Considerable effort was made to dig excavator pits at the extreme north end of Anomaly A, where point scores of up to 56a were obtained. This north-facing area has frozen, clay-rich soils that the excavator could not penetrate. The deepest pit was dug to a depth of 3 m and required almost four hours of digging time. Some of the pits were left for one week but the amount of thawing that occurred was insignificant. This area appears to be underlain by clay-rich alluvial overburden and may be impossible to explore with trenching.

Anomaly B is a small cluster of about six soils situated about 1200 m north of the Knob showing. Point scores of up to 108a were obtained near a partly sheared serpentinite outcrop that occurs at the break in slope between the moss-covered uplands and the steep bank of Happy Creek. Chlorite schists of

the Anvil Allochthon overlie the ultramafite.

One of the outcrops contains a few shear veins with fibre up to 6 mm long. Named the Big Onion showing, it is visually estimated to contain less than 1% fibre. The area with blocky fracturing is quite limited and is surrounded by sheared rocks. Eight excavator pits failed to locate better mineralization.

Anomaly C is a single line of soils with point scores up to 167c located on the ridge about 800 m east of the Knob showing. Thirteen shallow excavator pits near the best soils encountered only graphite schist and chlorite schist. The soil depth averaged only about 2 m. Fairly conclusive evidence exists to show that this anomaly was caused by contamination from the sampler.

A third ultramafite occurs on the northwest bank of Cassiar Creek, southwest of the Tiza claims. It consists of highly sheared serpentinite enveloped by Nasina graphitic schist. It is exposed in some old bulldozer trenches over an area of 100 m by 150 m about 100 m above Cassiar Creek. No fibre was located in any of the trenches and soils returned only background values.

SUMMARY AND RECOMMENDATIONS

The Tiza claims were staked to cover some poorly exposed ultramafites, located about 3 km southwest of the Caley Mine, which are covered by soils containing anomalously high concentrations of asbestos fibres. The fibre was first detected in reconnaissance silt samples collected earlier by TJV. In 1981, the area was grid soil sampled and a Cat 225 excavator was used to dig more than 130 pits, up to 6 m deep, at 50 m intervals across the three strongest soil anomalies.

The best mineralization on the claims was located at the Knob showing in a weathered, blocky serpentinite about 6 m below the surface. A 50 kg test mill sample of this material produced 2.3% recoverable fiber grading about group 5. Similar serpentinites occur at the Caley Mine about 10 m above the orebody. Surrounding pits on the Knob encountered only fish-scale serpentinite.

A one week program of rotary drilling is warrented at the Knob showing to determine if mineralization improves with depth. A similiar program is also required to test the anomalous area to the north where the overburden was too thick and frozen to be excavated. The Big Onion showing is too small to warrant further work.

Respectfully submitted,

ARCHER, CATHRO & ASSOCIATES (1981) LIMITED

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

J. Scott Murray

APPENDIX 1

APPENDIX 1

FIBRE DISPERSION SURVEYS

THEORY

Fibre dispersion surveys take advantage of the fact that chrysotile is chemically resistant to weathering and maintains its fibrous integrity during weathering and erosion. Thus, fibre can be detected in soils whether it is being dispersed by normal residual erosion in unglaciated areas, such as the Clinton Creek camp, or by glacial scouring. Experience has shown that chrysotile fibre is so much more resistant to weathering than its host serpentinite that it can be found in soil in areas that are devoid of obvious serpentinite outcrops or talus.

In theory, the amount of fibre in the soil should be directly proportional to the amount of underlying mineralization, since the bulk of the fibre occurs in simple veins that break apart readily when subjected to weathering. Like conventional geochemical surveys, however, simple dispersion patterns and strongly anomalous contrasts only occur around buried fibre occurrences that are covered by simple soil profiles. TJV sampling has shown that all serpentinite bodies contain fibre and that even those that are apparently unmineralized have a low background level that is detectable in soil.

Fibre veins pinch and swell, and are usually divided along their length by a central parting. Weathering of chrysotile mineralization frees fibre veins from the walls and breaks their partings, causing the veins to disintegrate into rod-shaped fragments called fibre bundles (or spicks). Further weathering will cause these bundles to split lengthwise into thinner strands called fibrils. Experience has shown that individual fibrils are unusually strong and that they will seldom break transversely, although they can split longitudinally into thinner fibrils.

In soils, the longest fibrils reflect the maximum width of veins between partings, but seldom the distance between the vein walls.

Much of what is known about the relationship between length and quantity in a fibre deposit has come from milling practise. TJV has assumed that the weathering of fibre is analagous to the milling of fibre to produce a commercial blend of lengths. Milling experience has shown that fibre lengths in a deposit are inversely proportional to the quantity of short fibres, and that the total quantity of fibre in the rock is roughly proportional to fibre length. This suggests that, under most conditions, the number of fibre veins that develop in a block of serpentinite is fairly constant and that the main variable is fibre length (vein thickness). Thus, if conditions are favourable, longer fibres will form in many of the fractures, thereby increasing both the average length (and value) as well as the proportion of the rock that is fibre (ore). When conditions are unfavourable, only short fibre will form and the total fibre content of the rock will remain low. The validity of this concept is confirmed by the fact that long fibres are seldom found in lower grade ores.

The laboratory technique and interpretation methods used by TJV have been designed to identify samples that contain longer fibres and, by definition, have a better probability of having been derived from commercial mineralization. Most commercial deposits contain abundant 6.5 mm fibre. For example, Group 5 specifications stipulate that about 20% must exceed that length. Since 6.5 mm fibres are rare in TJV samples and have only been found in samples collected near important occurrences, that length has been chosen as an important threshold in fibre dispersion surveys.

POINT VALUES

In the TJV sampling, it has been found that most samples contain less than 100 fibres and that quantities exceeding 10,000 fibres are only obtained when sampling has encountered a fibre mat. A fibre mat is fairly uncommon in TJV sampling, either because the sample cannot be collected deep enough or because there is insufficient fibre in bedrock. Alternatively, some soils are too mixed by solifluction to permit the development of a mature profile. As a result, most samples do not contain enough fibres to be sure that the longest fibre present in the bedrock source are represented.

For example, the probability of collecting a fibre 6.5 mm long in soil over asbestos veins containing some fibres 6.5 mm long is high if the sample contains over 10,000 fibres (a fibre mat) but is poor if the sample contains only 10 fibres.

To overcome this difficulty, a "point" value is calculated by the laboratory at Kamloops which utilizes standard relationships between fibre lengths and quantities and greatly simplified the interpretation of soil results.

By permitting the comparison of samples containing different quantities of fibre, the points help to overcome the field difficulty of collecting samples of uniform quality.

Using the example quoted above, the sample containing 10 fibres and a longest fibre of 3.2 mm would have the same point score (50 points) as the fibre mat sample with 10,000 fibres and a maximum length of 6.5 mm. A point score of 50 seems to be a good threshold value since nearly all soils tested from commercial-grade asbestos showings have scores of 50 or more.

Field testing of this method in 1981 showed that it loses its statistical validity once the number of fibres in the soil falls to a low level. For example, a soil sample containing only three fibres will give a point score of 34 if the longest fibre is 2 mm long, but a much higher score of 75 if the longest fibre measures 3 mm.

To overcome this weakness, it was necessary to rate samples according to the number of fibres present by adding a suffix to the point number. Points with an "a" suffix have the highest reliability and those marked "d" the lowest, as shown below:

Suffix	Fibre quantity/sample
a	more than 100 fibres
b	10 to 99 fibres
c	4 to 9 fibres
d	1 to 3 fibres

Samples with quantity "a" are usually collected where soils are thinnest over ultramafites. Soils with "d" ratings generally fringe ultramafite bodies, contain spurious fibre because of contamination, or reflect deeper and more complex overburden profiles. For a given ultramafite, scores derived from "a" soils and from "d" soils will be roughly similar but the "d" scores will be more erratic. Statistics show that over 90% of all "d" scores were less than 50 points and fibres 3 mm or more in length seldom occur in "d" soils. A graph of point value frequencies for each quantity suffix is shown on Figure 2 on the following page.

POINT VALUE FREQUENCIES

Quantity suffixes	No. of samples
a	394
b	512
c	378
d	916
TOTAL	2200

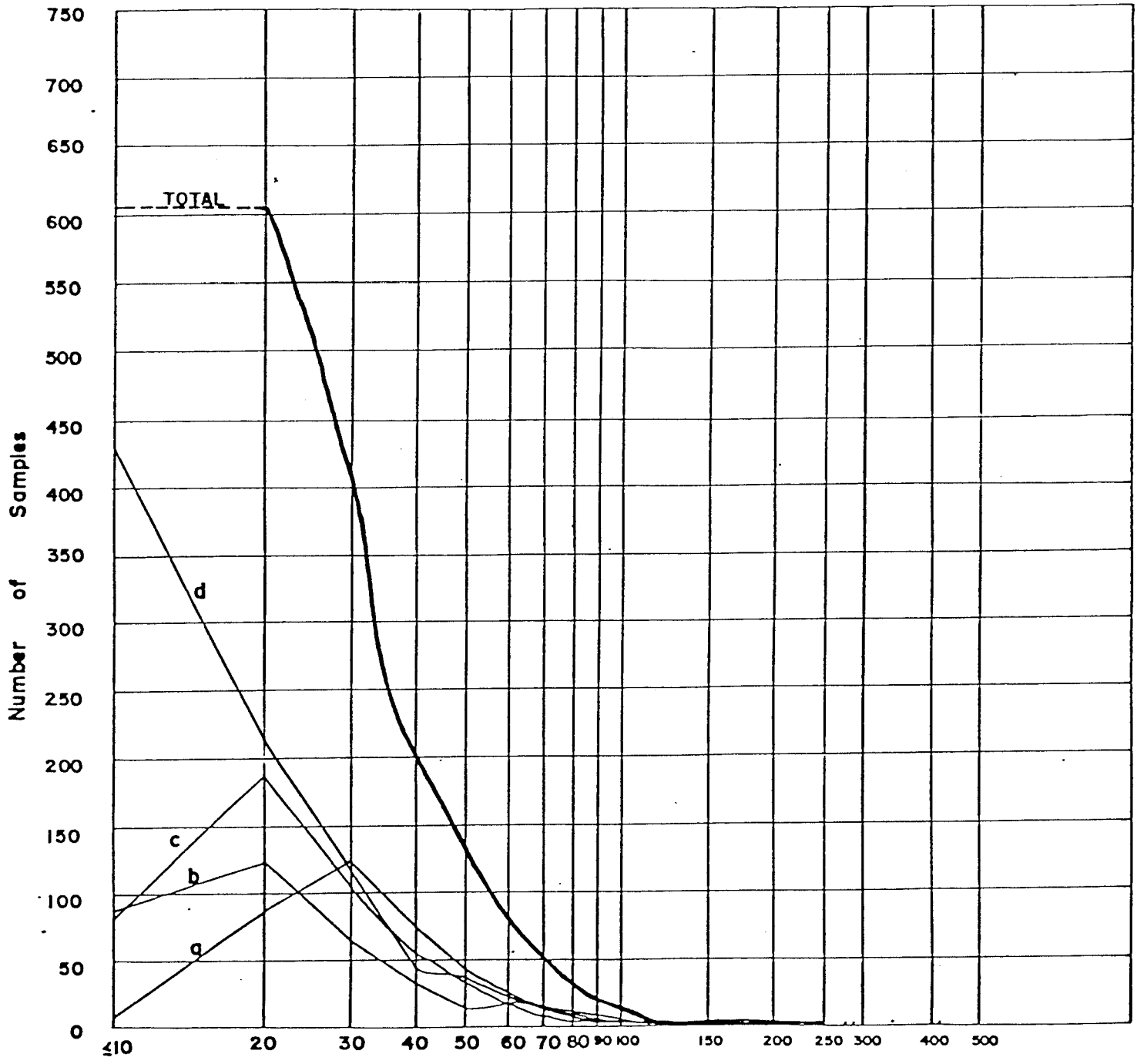


Figure 2

APPENDIX 2

TIZA EXCAVATOR PIT # 1

Date: July 6,1981

Location: 98+00 N, 106+00 E

Volume: 21 cu.m Size: 4.5 m deep, 3.0 m long,1.5 m wide

Rock Types: a) Soil fragments: Soapstone

b) Bedrock: Did not reach

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.4 m ..Brown,silty clay / soapstone frags.

0.4 - 4.5 m ...Sand & silt / white and green soapstone fragments (10 cm)

Comments:

TIZA EXCAVATOR PIT # 2

Date: July 6,1981

Location: 98+00 N, 105+00 E

Volume: 18 cu.m Size: 4.0 m deep, 3.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Soapstone

b) Bedrock: Soapstone, quartz-carbonate

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.4 m ...Darkbrown,silty clay

0.4 - 1.0 m ...Orange sand with soapstone fragments

1.0 - 4.0 m ...Bedrock:grey-green soapstone, altered quartz carbonate, lots of talc

Comments: Hole on old cat road

TIZA EXCAVATOR PIT # 3

Date: July 6,1981

Location: 98+00 N, 104+00 E

Volume: 18 cu.m Size: 3.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: sheared serpentine

b) Bedrock: Serpentinite

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.4 m ...Brown silty clay w/finely sheared serpentinite fragments

0.4 - 3.0 m ...Bedrock:dark massive blocky serpentinite -slightly quartz carbonate altered,minor shearing, some picrolite veins (1/8")

Comments: No fibre seen

TIZA EXCAVATOR PIT # 4

Date: July 6,1981

Location: 98+00 N, 103+50 E

Volume: 12 cu.m Size: 3.0 m deep, 3.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Brown altered schist

b) Bedrock: Schist

Profile: 0.0 - 0.1 m ...Organic

0.1 - 1.5 m ...Brown silty clay with small (2 cm) brown altered schist fragments

1.5 - 3.0 m ...Bedrock:brown quartz carbonate altered schist

Comments: Probably very near contact zone

TIZA EXCAVATOR PIT # 5

Date: July 6,1981

Location: 98+00 N, 103+00 E

Volume: 12 cu.m Size: 2.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Chlorite-sericite schist

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.4 m ...Brown silty clay with schist fragments

0.4 - 2.0 m ...Bedrock:green chlorite sericite schist

Comments:

TIZA EXCAVATOR PIT # 6

Date: July 6,1981

Location: 98+00 N, 102+50 E

Volume: 9 cu.m Size: 2.0 m deep, 3.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Chlorite schist, graphitic argillite

b) Bedrock: Chlorite schist

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.3 m ...Brown silty clay

0.3 - 1.5 m ...Grey silty clay with chlorite schist and black argillite fragments

1.5 - 2.0 m ...Bedrock:chlorite schist

Comments:

TIZA EXCAVATOR PIT # 7

Date: July 6,1981

Location: 98+00 N, 102+00 E

Volume: 13 cu.m Size: 2.5 m deep, 3.5 m long, 1.5 m wide

Rock Types: a) Soil fragments: Dark massive serpentinite

b) Bedrock: Serpentinite with tremolite

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.3 m ...Brown silty clay w/ serpentinite frags.

0.3 - 2.5 m ...Bedrock:dark massive serpentinite with large (+8") veins of green tremolite and some low quality jade, some soapstone

Comments: Probably right at contact

TIZA EXCAVATOR PIT # 8

Date: July 6,1981

Location: 98+00 N, 101+50 E

Volume: 15 cu.m Size: 2.5 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments:

b) Bedrock: Serpentinite

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.5 m ...Brown silty clay

0.5 - 2.5 m ...Bedrock:dark sheared serpentinite with fish scale and green sand

Comments:

TIZA EXCAVATOR PIT # 9

Date: July 7,1981

Location: 98+00 N, 101+00 E

Volume: 30 cu.m Size: 5.5 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: fish-scale serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.1 m ...Organic

0.1 -0.75 m ...Brown silty clay with dark fish-scale serpentinite fragments (3 cm)

0.75- 3.0 m ...Highly sheared med-dark fishscale (10cm) serpentinite in colored banks(8cm thick)

3.0 - 5.5 m ...Bedrock:dark massive serpentine,some minor shearing, 1/4" local fibre veins

Comments: On old cat road

TIZA EXCAVATOR PIT # 10

Date: July 7,1981

Location: 98+50 N, 101+00 E

Volume: 36 cu.m Size: 6.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: dark, fish-scale serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.3 m ...Brown silty clay

0.3 - 0.75m ...Brown silty clay with dark fish-scale serpentinite fragments

0.75- 6.0 m ...Bedrock:moderately sheared medium-dark serpentinite,some 1/16" fibre in two directions

Comments: On old cat road

TIZA EXCAVATOR PIT # 11

Date: July 7,1981

Location: 98+00 N, 101+00 E

Volume: 30 cu.m Size: 5.5 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Weathered fish-scale serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.3 m ...Brown silty clay

0.3 - 0.75m ...Orange weathered fishscale serpentinite

0.75- 5.5 m ...Bedrock:highly sheared fishscale serpentinite w/ quartz carbonate alteration

Comments: On old cat road

TIZA EXCAVATOR PIT # 12

Date: July 7,1981

Location: 99+50 N, 101+00 E

Volume: 24 cu.m Size: 4.5 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments:Dark,fish-scale serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.75m ...Brown silty clay with dark fishscale serpentinite fragments

0.75- 4.5 m ...Bedrock:dark highly sheared weathered brown serpentinite

Comments: On old cat road

TIZA EXCAVATOR PIT # 13

Date: July 7,1981

Location: 100+10 N, 101+10 E

Volume: 35 cu.m Size: 6.5 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Fish-scale serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 1.0 m ...Brown silty clay with fish-scale serpentinite

1.0 - 6.5 m ...Bedrock:dark highly sheared serpentinite some orange staining

Comments: On cat road up to Knob

TIZA EXCAVATOR PIT # 14

Date: July 7,1981

Location: 100+00 N, 101+40 E

Volume: 60 cu.m Size: 6.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Serpentinite with fibre veins

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.4 m ...Brown silty clay with dark blocky serpentinite fragments

0.4 - 6.0 m ...Bedrock:brown weathered dark, slightly sheared serpentinite;lots of fibre, compound veins 1" thick;fibres 7/16"

Comments: Knob showing - on top of ridge

TIZA EXCAVATOR PIT # 15

Date: July 7,1981

Location: 99+00 N, 100+50 E

Volume: 35 cu.m Size: 6.5 m deep, 4.5 m long, 1.5 m wide

Rock Types: a) Soil fragments: Light green serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.2 m ...Brown silty clay

0.2 - 1.5 m ...Green sand/silt with highly sheared and weathered serpentinite fragments

1.5 - 6.5 m ...Bedrock:very highly sheared dark fish-scale serpentinite

Comments:

TIZA EXCAVATOR PIT # 16

Date: July 7,1981

Location: 99+00 N, 100+00 E

Volume: 28 cu.m Size: 4.5 m deep, 5.0 m long, 1.5 m wide

Rock Types: a) Soil fragments:

b) Bedrock: Serpentinite with tremolite

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.2 m ...Brown silty clay

0.2 - 4.5 m ...Bedrock:slightly sheared weathered dark serpentinite with tremolite vein (10"); some 1/4" fibre

Comments: Minor gash veins next to metadiorite dyke

TIZA EXCAVATOR PIT # 17

Date: July 7,1981

Location: 99+00 N, 101+50 E

Volume: 12 cu.m Size: 2.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Black graphitic schist,serpentinite

b) Bedrock: Black graphitic schist

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.6 m ...Brown silty clay with black graphitic schist and serpentinite fragments

0.6 - 2.0 m ...Bedrock:black graphitic schist

Comments:

TIZA EXCAVATOR PIT # 18

Date: July 8,1981

Location: 99+00 N, 102+00 E

Volume: 13 cu.m Size: 2.5 m deep, 3.5 m long, 1.5 m wide

Rock Types: a) Soil fragments:

b) Bedrock: Quartz-graphite schist

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.2 m ...Brown silty clay

0.2 - 0.5 m ...Red weathered sand and clay

0.5 - 2.5 m ...Bedrock:black quartz-graphite schist - some orange staining

Comments:

TIZA EXCAVATOR PIT # 19

Date: July 8,1981

Location: 99+00 N, 102+50 E

Volume: 12 cu.m Size: 2.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Serpentinite,black quartz-graphite schist,brown altered schist

b) Bedrock: Muscovite schist

Profile: 0.0 - 0.1 m ...Organic

0.1 - 1.0 m ...Brown silty clay with fragments of black quartz-graphite schist, brown weathered altered schist and serpentinite

1.0 - 2.0 m ...Bedrock:brown weathered muscovite schist

Comments: Same bedrock as Pit #4

TIZA EXCAVATOR PIT # 20

Date: July 8,1981

Location: 99+50 N, 102+50 E

Volume: 18 cu.m Size: 3.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Serpentinite and schist

b) Bedrock: Quartz-graphite schist

Profile: 0.0 - 1.0 m ...Grey-brown silty clay with schist and serpentinite fragments

1.0 - 3.0 m ...Bedrock: Quartz-graphite schist, some orange staining, schist highly folded

Comments: Hole on cat road up to Knob

TIZA EXCAVATOR PIT # 21

Date: July 8,1981

Location: 100+00 N, 102+50 E

Volume: 15 cu.m Size: 2.5 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Schist and serpentinite

b) Bedrock: Schist

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.75m ...Brown silty clay with serpentinite and schist fragments

0.75- 2.5 m ...Bedrock: Top 10 cm black quartz-graphite schist,then red-brown muscovite-sericite graphite schist

Comments:

TIZA EXCAVATOR PIT # 22

Date: July 8,1981

Location: 100+50 N, 102+50 E

Volume: 12 cu.m Size: 2.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock:Schist

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.2 m ...Brown silty clay

0.2 - 1.0 m ...Brown silty clay with schist fragments

1.0 - 1.5 m ...Bedrock:brown muscovite-sericite schist

1.5 - 2.0 m ...Bedrock:black quartz-graphite schist

Comments:

TIZA EXCAVATOR PIT # 23

Date: July 9,1981

Location: 101+00 N, 102+50 E

Volume: 9 cu.m Size: 1.5 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments:Quartz-muscovite & graphitic schists

b) Bedrock: Quartz-muscovite-sericite schist

Profile: 0.0 - 0.05m ...Organic;

0.05- 0.6 m ...Brown silty clay with quartz-muscovite and black graphitic schist fragments;

0.6 - 1.5 m ...Bedrock:brown,weathered highly folded quartz-muscovite-sericite schist

Comments:

TIZA EXCAVATOR PIT # 24

Date: July 9,1981

Location: 101+00 N, 102+00 E

Volume: 16 cu.m Size: 2.0 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Graphitic & quartz-muscovite schists

b) Bedrock: Graphitic, quartz-muscovite schists

Profile: 0.0 -0.05 m...Organic

0.05 - 0.5 m...Brown silty clay;black graphitic schist and quartz-muscovite schist fragments

0.5 - 0.8 m...Black graphitic schist fragments-sand size at top to 5 cm at bottom

0.8 - 2.0 m...Bedrock:black graphitic schist, some quartz-muscovite schist

Comments: Bedrock dips to west at approximately 10 degrees

TIZA EXCAVATOR PIT # 25

Date: July 9,1981

Location: 101+00 N, 101+50 E

Volume: 12 cu.m Size: 2.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Black graphitic schist

b) Bedrock: Black graphitic schist

Profile: 0.0 -0.05 m ...Organic

0.05-0.3 m ...Black silty clay with black graphitic schist fragments

0.3 -0.75 m ...Gray-black silty clay with schist fragments from sand size to 4 cm

0.75-1.5 m ...Bedrock:black graphitic schist

Comments:

TIZA EXCAVATOR PIT # 26

Date: July 9,1981

Location: 101+00 N, 101+00 E

Volume:15.75 cu.m Size: 2.5 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Graphitic with quartz-muscovite schist

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.75m ...Brown silty clay w/5cm serpentine float

0.75- 1.5 m ...Bedrock: black graphitic schist

1.5 - 2.0 m ...Black graphitic schist w/some quartz-muscovite schist

2.0 - 2.5 m ...Orange weathered graphitic schist

Comments:

TIZA EXCAVATOR PIT # 27

Date: July 9,1981

Location: 101+00 N, 100+50 E

Volume: 9 cu.m Size: 1.5 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Schist and serpentinite

b) Bedrock: Black graphitic schist

Profile: 0.0 - 0.1 m ...Organic

0.1 - 1.0 m ...Gray-black silty clay with schist and serpentinite fragments

1.0 - 1.5 m ...Bedrock: black graphitic schist

Comments:

TIZA EXCAVATOR PIT # 28

Date: July 9,1981

Location: 101+00 N, 100+00 E

Volume: 12 cu.m Size: 2.0 m deep 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Serpentinite;black graphitic schist

b) Bedrock: Quartz-muscovite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.5 m ...Gray-brown silty clay

0.5 - 1.5 m ...Clay w/serpentinite and black graphitic schist fragments to 10 cm; 1/8" fibre

1.5 - 2.0 m ...Bedrock: orange quartz-muscovite schist

Comments:

TIZA EXCAVATOR PIT # 29

Date: July 9,1981

Location: 100+00 N, 100+00 E

Volume: 24 cu.m Size: 3.0 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Dark green weathered serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown clay

0.3 - 1.0 m ...Medium dark-green weathered serpentinite w/some fish-scale; fibre mat

1.0 - 3.0 m ...Bedrock:massive,moderately sheared serpentinite with 3/16" fibre

Comments:

TIZA EXCAVATOR PIT # 30

Date: July 9,1981

Location: 100+00 N, 99+50 E

Volume: 32 cu.m Size: 4.0 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.3 m ...Brown silty clay with small serpentinite fragments

0.3 - 3.0 m ...Bedrock:dark,highly sheared fish-scale serpentinite

Comments: No fibre visible

TIZA EXCAVATOR PIT # 31

Date: July 9,1981

Location: 100+00 N, 99+00 E

Volume: 15.75 cu.m Size: 1.5 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Pale-green chlorite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 1.0 m ...Brown silty clay with 20 cm serpentinite float; no fibre seen

1.0 - 1.5 m ...Pale-green chlorite schist with minor sericite and graphite

Comments:

TIZA EXCAVATOR PIT # 32

Date: July 9,1981

Location: 100+00 N, 98+50 E

Volume: 12 cu.m Size: 1.5 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Grey chlorite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay with some serpentinite

0.3 - 1.5 m ...Bedrock:grey chlorite schist with minor graphite

Comments:

TIZA EXCAVATOR PIT # 33

Date: July 9,1981

Location: 100+00 N, 98+00 E

Volume: 9 cu.m Size: 1.5 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Black graphitic schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay w/serpentinite fragment

0.3 - 1.5 m ...Bedrock:black graphitic schist - very folded

Comments:

TIZA EXCAVATOR PIT # 34

Date: July 9,1981

Location: 100+00 N, 97+50 E

Volume:15.75 cu.m Size: 1.5 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Dark,sheared serpentinite

b) Bedrock: Pale-green chlorite schist

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.3 m ...Gray-brown silty clay with serpentinite fragments containing slip fibre

0.3 - 1.5 m ...Bedrock:graphitic schist 25 cm thick overlying pale-green chlorite schist

Comments: See Pit # 93 for further depth

TIZA EXCAVATOR PIT # 35

Date: July 22,1981

Location: 100+00 N, 97+00 E

Volume: 140 cu.m Size: 5.0 m deep, 7.0 m long, 4.0 m wide

Rock Types: a) Soil fragments: Serpentinite and schists

b) Bedrock: Quartz-muscovite-sericite schist(?)

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay with serpentinite and schist fragments

0.3 - 5.0 m ...Gray brown silty clay with quartz-muscovite-sericite schist fragments.

Comments: Possible bedrock at 5 m

TIZA EXCAVATOR PIT # 36

Date: July 22,1981

Location: 100+00 N, 96+00 E

Volume: 70 cu.m Size: 5.0 m deep, 7.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite and chlorite schist

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 0.25m ...Brown silty clay with schist fragments

0.25- 5.0 m ...Frozen silty clay with chlorite schist and sheared serpentinite fragments up to 30 cm

Comments:

TIZA EXCAVATOR PIT # 37

Date: July 22,1981

Location: 99+50 N, 96+00 E

Volume: 40 cu.m Size: 2.0 m deep, 5.0 m long, 4.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 2.0 m ...Frozen brown silty clay with dark green serpentinite with high bastite content

Comments:

TIZA EXCAVATOR PIT # 38

Date: July 10,1981

Location: 99+00 N, 96+00 E

Volume: 12 cu.m Size: 2.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Serpentinite float

b) Bedrock: Soapstone

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay

0.3 - 0.75m ...Massive,medium green serpentinite float in brown clay

0.75- 2.0 m ...Bedrock: grey and white soapstone

Comments:

TIZA EXCAVATOR PIT # 39

Date: July 10,1981

Location: 98+50 N, 96+00 E

Volume: 9 cu.m Size: 1.5 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Serpentinite and soapstone

b) Bedrock: Soapstone

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.3 m ...Dark-brown silty clay with soapstone fragments to 5 cm

0.3 - 0.75m ...Brown clay with soapstone and massive, dark-green serpentinite fragments

0.75- 1.5 m ...Bedrock: white to grey soapstone

Comments:

TIZA EXCAVATOR PIT # 40

Date: July 18,1981

Location: 98+00 N, 96+00 E

Volume: 15 cu.m Size: 3.0 m deep, 5.0 m long, 1.0 m wide

Rock Types: a) Soil fragments: Black graphitic argellite; soapstone and highly weathered serpentinite

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 0.75m ...Grey-brown muddy soil w/ black graphitic argellite fragments

0.75- 3.0 m ...Brown silt w/highly weathered soapstone and serpentine fragments; slip fibre

Comments:

TIZA EXCAVATOR PIT # 41

Date: July 18,1981

Location: 97+50 N, 96+00 E

Volume: 15 cu.m Size: 1.0 m deep, 5.0 m long, 3.0 m wide

Rock Types: a) Soil fragments: Highly weathered argillite

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown gray loamy soil

0.3 - 1.0 m ...Black graphitic argillite up to 10 cm

Comments: Frozen ground; could not dig

TIZA EXCAVATOR PIT # 42

Date: July 10,1981

Location: 97+00 N, 96+00 E

Volume: Nil cu.m Size: m deep, m long, m wide

Rock Types: a) Soil fragments: Frozen humus

b) Bedrock:

Profile: 0.0 - 0.5 m ...Frozen humus

Comments: Ground too frozen to dig

TIZA EXCAVATOR PIT # 43

Date: July 10,1981

Location: 97+00 N, 100+00 E

Volume: 24 cu.m Size: 4.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Graphitic argillite

b) Bedrock: Graphitic argillite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay

0.3 - 0.75m ...Gray clay w/graphitic argillite fragm'ts

0.75- 1.5 m ...Highly weathered,easily broken graphitic argillite

1.5 - 4.0 m ...Bedrock:grey graphitic argillite

Comments:

TIZA EXCAVATOR PIT # 44

Date: July 10,1981

Location: 97+00 N, 99+50 E

Volume: 24 cu.m Size: 4.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Graphitic argillite

b) Bedrock: Black graphitic argillite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay

0.3 - 1.0 m ...Gray clay w/graphitic argillite fragment

1.0 - 4.0 m ...Bedrock:black graphitic argillite

Comments:

TIZA EXCAVATOR PIT # 45

Date: July 10,1981

Location: 97+00 N, 99+00 E

Volume: 12 cu.m Size: 2.0 m dee4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Graphitic argillite

b) Bedrock: Graphitic argillite (?)

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay

0.3 - 1.0 m ...Gray clay with graphitic argillite fragments from sand size to 4 cm.

1.0 - 2.0 m ...Highly weathered graphitic argillite

Comments:

TIZA EXCAVATOR PIT # 46

Date: July 10,1981

Location: 97+00 N, 98+00 E

Volume: 12 cu.m Size: 2.0 m deep 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Argillite

b) Bedrock: Graphitic argillite

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.5 m ...Brown-gray silty clay with argillite fragments from sand size to 5 cm

0.5 - 2.0 m ...Bedrock:Highly weathered argillite sub-crop

Comments:

TIZA EXCAVATOR PIT # 47

Date: July 10,1981

Location: 97+00 N, 97+50 E

Volume: 12 cu.m Size: 2.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Argillite

b) Bedrock: Graphitic argillite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.75m ...Gray silty clay with argillite fragments from sand size to 4 cm

0.75- 2.0 m ...Bedrock: highly weathered graphitic argillite

Comments:

TIZA EXCAVATOR PIT # 48

Date: July 10,1981

Location: 97+00 N, 97+00 E

Volume: 6.75 cu.m Size: 1.5 m deep, 3.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Argillite

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Grey clay with argillite fragments(3 cm)

0.3 - 1.5 m ...Highly weathered graphitic argillite; all pieces under 10 cm

Comments: Frozen ground - could not dig deeper

TIZA EXCAVATOR PIT # 49

Date: July 10,1981

Location: 99+00 N, 96+00 E

Volume: 14 cu.m Size: 2.0 m deep, 3.5 m long, 2.0 m wide

Rock Types: a) Soil fragments: Argillite

b) Bedrock: Argillite (?)

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.3 m ...Grey clay with argillite fragments(5 cm)

0.3 - 2.0 m ...Highly weathered black graphitic argillite fragments (10 cm)

Comments: Frozen ground - possible bedrock at 2 m

TIZA EXCAVATOR PIT # 50

Date: July 10,1981

Location: 99+00 N, 96+50 E

Volume: 16 cu.m Size: 2.0 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite and soapstone

b) Bedrock: Soapstone

Profile: 0.0 - 0.05m ...Organic

0.05- 0.4 m ...Grey-brown silty clay;some serpentinite float and soapstone fragments

0.4 - 3.0 m ...Bedrock:orange weathered, white to grey soapstone with trace of green talc

Comments:

TIZA EXCAVATOR PIT # 51

Date: July 10,1981

Location: 99+00 N, 97+00 E

Volume: 24 cu.m Size: 3.0 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Dark,highly weathered, blocky serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.75m ...Medium-brown silty clay with small (3cm) serpentinite fragments

0.75- 1.5 m ...Brown-grey clay with highly weathered, pieces of serpentinite (10 cm)

1.5 - 3.0 m ...Bedrock:dark,highly weathered blocky serpentinite,some shearing; ribbon fibre to 1/8"; minor carbonates

Comments:

TIZA EXCAVATOR PIT # 52

Date: July 10,1981

Location: 99+00 N, 97+50E

Volume: 24 cu.m Size: 3.0 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Dark,highly sheared serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.5 m ...Green-brown silty clay with serpentinite fragments

0.5 - 3.0 m ...Bedrock: Dark,highly sheared weathered serpentinite;antigorite in lower 1 m of hole; some red magnesite and quartz-carbonate

Comments:

TIZA EXCAVATOR PIT # 53

Date: July 10,1981

Location: 99+00 N, 98+00E

Volume: 20 cu.m Size: 2.5 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Green-brown silty clay with up to 5 cm serpentinite fragments

0.3 - 2.5 m ...Bedrock: dark, highly sheared and weathered serpentinite with 1/8" fibre; some antigorite

Comments:

TIZA EXCAVATOR PIT # 54

Date: July 10,1981

Location: 99+00 N, 98+50 E

Volume: 16 cu.m Size: 2.0 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Grey-green silty clay

0.3 - 1.0 m ...Light brown-green clay with small serpentinite fragments

1.0 - 2.0 m ...Dark green highly sheared serpentinite from sand size to 10 cm; large amount of antigorite

Comments:

TIZA EXCAVATOR PIT # 55

Date: July 10,1981

Location: 99+00 N, 99+00 E

Volume: 28 cu.m Size: 3.5 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Quartz-muscovite schist

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Grey-brown silty clay

0.3 - 3.5 m ...Light brown-green clay with highly weathered quartz muscovite schist

Comments: Frozen ground - could not dig deeper

TIZA EXCAVATOR PIT # 56

Date: July 10,1981

Location: 99+00 N, 99+50 E

Volume: 22 cu.m Size: 3.5 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 0.75m ...Grey-brown silty clay with fragments of schist

0.75- 3.5 m ...Light green-brown silty clay with highly weathered light-brown quartz-muscovite-sericite schist

Comments:

TIZA EXCAVATOR PIT # 57

Date: July 11,1981

Location: 96+00 N, 100+00 E

Volume: 16 cu.m Size: 2.0 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Graphitic argillite

b) Bedrock: Graphitic argillite

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.4 m ...Gray-brown silty clay with serpentinite float

0.4 - 0.75m ...Gray clay with graphitic argillite fragments up to 5 cm

0.75- 2.0 m ...Bedrock: highly weathered graphitic argillite

Comments:

TIZA EXCAVATOR PIT # 58

Date: July 11,1981

Location: 96+00 N, 100+50 E

Volume: 24 cu.m Size: 3.0 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Graphitic argillite

b) Bedrock: Black graphitic argillite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay

0.3 - 0.8 m ...Grey clay with graphitic argillite up to 10 cm

0.8 - 3.0 m ...Bedrock:highly weathered black graphitic argillite to 2m depth,moderate weathering to 3 meters

Comments:

TIZA EXCAVATOR PIT # 59

Date: July 11,1981

Location: 96+00 N, 101+00 E

Volume: 36 cu.m Size: 4.5 m deep 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Graphitic argillite & serpentinite

b) Bedrock: Soapstone with small amounts of green talc

Profile: 0.0 - 0.05m ...Organic

0.05- 0.4 m ...Brown silty clay

0.4 - 1.0 m ...Grey silty clay with graphitic argillite fragments

1.0 - 1.2 m ...Green clay with serpentinite fragments less than 1 cm (may have come down hill)

1.2 - 4.5 m ...Orange-brown highly weathered white/gray soapstone with minor green talc

Comments:

TIZA EXCAVATOR PIT # 60

Date: July 11,1981

Location: 96+00 N, 101+50 E

Volume: 16 cu.m Size: 2.0 m deep 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Graphitic schist and serpentinite

b) Bedrock: Graphitic schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.75m ...Grey-brown silty clay w/serpentine float

0.75- 1.0 m ...Orange,highly weathered graphitic schist fragments (5 cm) in clay

1.0 - 2.0 m ...Bedrock:well-folded,moderately weathered black graphitic schist

Comments:

TIZA EXCAVATOR PIT # 61

Date: July 11,1981

Location: 96+00 N, 102+00 E

Volume: 28 cu.m Size: 3.5 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Grey-white soapstone

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Dark brown silty clay with fibre mat; fibre lengths to 3/16"

0.3 - 1.0 m ...Highly weathered massive dark-green serpentinite (probably talus)

1.0 - 3.5 m ...Bedrock:orange-weathering, white/grey soapstone with some green talc

Comments:

TIZA EXCAVATOR PIT # 62

Date: July 11,1981

Location: 96+00 N, 102+50 E

Volume: 30 cu.m Size: 3.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Grey argillite; serpentinite

b) Bedrock: Brown argillite;graphitic schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay with boulders of blocky serpentinite with 3/16" fibre

0.3 - 1.5 m ...Grey, highly weathered argillite

1.5 - 3.0 m ...Bedrock:moderately weathered, orange brown argillite; well-folded, grey graphitic schist at east end of hole

Comments:

TIZA EXCAVATOR PIT # 63

Date: July 11,1981

Location: 96+00 N, 103+00 E

Volume: 21 cu.m Size: 3.5 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Soapstone

Profile: 0.0 - 0.05m ...Organic

0.05- 0.25m ...Medium brown silty clay

0.25- 1.25m ...Orange clay with schist fragments

1.25- 3.5 m ...Bedrock: grey/white soapstone with moderate orange weathering

Comments:

TIZA EXCAVATOR PIT # 64

Date: July 12,1981

Location: 102+00 N, 101+00 E

Volume: 30 cu.m Size: 4.5 m deep, 4.5 m long, 1.5 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Black graphitic schist

Profile: 0.0 - 0.05m ...Organic

0.05- 1.0 m ...Green-brown silty clay with serpentinite fragments - no fibre

1.0 - 3.0 m ...Bedrock: highly weathered (orange) black graphitic schist

Comments:

TIZA EXCAVATOR PIT # 65

Date: July 12,1981

Location: 102+00 N, 102+00 E

Volume: 17 cu.m Size: 2.5 m deep, 4.5 m long, 1.5 m wide

Rock Types: a) Soil fragments: Graphitic argillite

b) Bedrock: Black/brown graphitic schist

Profile: 0.0 - 0..05 ...Organic

0.05- 0.4 m ...Brown silty clay

0.4 - 1.5 m ...Highly weathered grey/black graphitic schist

1.5 - 2.5 m ...Bedrock: well-folded, black/brown highly weathered graphitic schist

Comments:

TIZA EXCAVATOR PIT # 66

Date: July 12,1981

Location: 103+00 N, 102+00 E

Volume: 13 cu.m Size: 1.0 m deep, 5.0 m long, 2.5 m wide

Rock Types: a) Soil fragments: Chlorite schist

b) Bedrock: Green chlorite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Silty clay w/ chlorite schist fragments

0.3 - 1.0 m ...Bedrock: green, moderately weathered, well-folded chlorite schist

Comments:

TIZA EXCAVATOR PIT # 67

Date: July 12,1981

Location: 104+00 N, 102+00 E

Volume: 16 cu.m Size: 2.0 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Chlorite schist

b) Bedrock: Chlorite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.25m ...Silty clay w/ chlorite schist fragments

0.25- 1.5 m ...Green,well-folded,highly weathered chlorite schist

1.5 - 2.0 m ...Highly weathered and folded black graphitic schist (foliation dips west to 12 deg)

Comments: Chlorite schist-graphitic schist contact

TIZA EXCAVATOR PIT # 68

Date: July 12,1981

Location: 108+00 N, 109+00 E

Volume: 24 cu.m Size: 4.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Graphitic schist

b) Bedrock: Graphitic schist

Profile: 0.0 - 0.05m ...Organic

0.05- 1.0 m ...Brown silty clay with small fragments of graphitic schist

1.0 - 4.0 m ...Bedrock:highly orange weathered graphitic schist with lots of quartz

Comments:

TIZA EXCAVATOR PIT # 69

Date: July 12,1981

Location: 108+00 N, 108+50 E

Volume: 30 cu.m Size: 4.0 m deep, 5.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: None seen

b) Bedrock: Black graphitic schist

Profile: 0.0 - 0.1 m ...Organic

0.1 - 1.0 m ...Brown silty clay

1.0 - 4.0 m ...Bedrock:highly weathered black graphitic schist with high quartz content; orange weathering in upper parts of bedrock

Comments:

TIZA EXCAVATOR PIT # 70

Date: July 12,1981

Location: 108+00 N, 107+50 E

Volume: 26 cu.m Size: 3.5 m deep, 5.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Graphitic schist

b) Bedrock: Graphitic schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.4 m ...Brown silty clay with graphitic schist fragments

0.4 - 3.5 m ...Bedrock:weathered grey-brown graphitic schist with some quartz

Comments:

TIZA_EXCAVATOR_PIT # _Z1

Date: July 12,1981

Location: 108+00 N, 106+50 E

Volume: 24 cu.m Size: 3.0 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Graphitic schist

b) Bedrock: Black graphitic schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.8 m ...Brown silty clay with graphitic schist fragments

0.8 - 3.0 m ...Bedrock: massive,blocky, black graphitic schist, highly weathered to 2 m

Comments:

TIZA_EXCAVATOR_PIT # _Z2

Date: July 12,1981

Location: 108+00 N, 105+00 E

Volume: 40 cu.m Size: 4.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Graphitic schist

b) Bedrock: Graphitic schist (?)

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.8 m ...Brown silty clay with graphitic schist fragments

0.8 - 4.0 m ...Grey,highly weathered graphitic schist

Comments:

TIZA EXCAVATOR PIT # Z3

Date: July 13,1981

Location: 108+00 N, 100+00 E

Volume: 16 cu.m Size: 2.0 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Graphitic schist

b) Bedrock: Black graphitic schist

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.4 m ...Brown silty clay with graphitic schist fragments

0.4 - 2.0 m ...Bedrock:highly weathered black graphitic schist

Comments:

TIZA EXCAVATOR PIT # Z4

Date: July 13,1981

Location: 108+00 N, 100+50 E

Volume: 12 cu.m Size: 2.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Graphitic schist

b) Bedrock: Brown muscovite-sericite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.4 m ...Brown silty clay

0.4 - 1.0 m ...Highly weathered fragments of grey-black graphitic schist

1.0 - 2.0 m ...Bedrock:brown muscovite-sericite schist

Comments:

TIZA EXCAVATOR PIT # Z5

Date: July 13,1981

Location: 108+00 N, 101+00 E

Volume: 12 cu.m Size: 2.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Brown schist

b) Bedrock: Schist (?)

Profile: 0.0 - 0.05m ...Organic

0.05- 1.0 m ...Brown silty clay w/brown schist fragment

1.0 - 2.0 m ...Highlyweathered brown muscovite-sericite quartz schist

Comments:

TIZA EXCAVATOR PIT # Z6

Date: July 13,1981

Location: 108+00 N, 101+50 E

Volume: 16 cu.m Size: 2.0 m deep, 4.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Black graphitic schist

b) Bedrock: Schist (?)

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay

0.3 - 1.0 m ...Highly weathered black graphitic schist

1.0 - 2.0 m ...Highly weathered, brown muscovite-quartz sericite schist

Comments:

TIZA EXCAVATOR PIT # ZZ

Date: July 13,1981

Location: 108+00 N, 102+00 E

Volume: 22 cu.m Size: 3.0 m deep, 5.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Graphitic schist

b) Bedrock: Graphitic muscovite-sericite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.25m ...Brown silty clay

0.25- 0.8 m ...Highly weathered grey graphitic schist

0.8 - 3.0 m ...Bedrock: Moderately weathered graphitic muscovite-sericite schist, grey-brown color

Comments:

TIZA EXCAVATOR PIT # 78

Date: July 13,1981

Location: 108+00 N, 102+50 E

Volume: 20 cu.m Size: 2.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Graphitic schist

b) Bedrock: Grey graphitic schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.75m ...Brown silty clay with graphitic schist fragments

0.75- 2.0 m ...Bedrock: grey graphitic schist

Comments:

TIZA EXCAVATOR PIT # 79

Date: July 13,1981

Location: 108+00 N, 103+00 E

Volume: 15 cu.m Size: 1.5 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Schist (?)

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay with schist fragments

0.3 - 1.5 m ...Highly weathered grey-brown graphitic muscovite-sericite-quartz schist; well-folded

Comments:

TIZA EXCAVATOR PIT # 80

Date: July 13,1981

Location: 108+00 N, 104+00 E

Volume: 30 cu.m Size: 3.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Chlorite schist

b) Bedrock: Schist (?)

Profile: 0.0 - 0.05m ...Organic

0.05- 0.4 m ...Brown silty clay with chlorite schist fragments

0.4 - 3.0 m ...Highly weathered and contorted, green-brown, chlorite-quartz schist

Comments:

TIZA EXCAVATOR PIT # 81

Date: July 13,1981

Location: 107+00 N, 102+00 E

Volume: 50 cu.m Size: 5.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Graphitic schist (?)

Profile: 0.0 - 0.05m ...Organic

0.05- 1.0 m ...Brown silty clay with schist fragments

1.0 - 4.0 m ...Highly weathered quartz-carbonate, brown muscovite-sericite schist

4.0 - 5.0 m ...Highly weathered black graphitic schist

Comments:

TIZA EXCAVATOR PIT # 82

Date: July 13,1981

Location: 106+00 N, 102+00 E

Volume: 20 cu.m Size: 2.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Graphitic schist (?)

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay with schist fragments

0.3 - 2.0 m ...Highly weathered gray-brown graphitic schist

Comments:

TIZA EXCAVATOR PIT # 83

Date: July 13,1981

Location: 105+00 N, 102+00 E

Volume: 15 cu.m Size: 1.5 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Quartz-muscovite-sericite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.75m ...Brown silty clay with schist fragments

0.75- 1.5 m ...Grey-brown quartz-muscovite-sericite schist; highly folded and weathered

Comments:

TIZA EXCAVATOR PIT # 84

Date: July 16,1981

Location: 101+00 N, 102+00 E

Volume: 60 cu.m Size: 6.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.5 - 0.4 m ...Brown loamy soil with serpentinite fragments

0.4 - 6.0 m ...Highly weathered dark-green serpentinite boulders; fibre to 1/8"

Comments:

TIZA EXCAVATOR PIT # 85

Date: July 13,1981

Location: 100+85 N, 101+35 E

Volume: 56 cu.m Size: 4.0 m deep, 7.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Serpentinite/chlorite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.25m ...Brown loamy soil

0.25- 4.0 m ...Highly weathered serpentinite and chlorite schist; contact zone - schist to south and serpentinite to north

Comments:

TIZA EXCAVATOR PIT # 86

Date: July 20,1981

Location: 97+00 N, 98+50 E

Volume: 25 cu.m Size: 2.5 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Graphitic and quartz-muscovite-sericite schists

Profile: 0.0 - 0.05m ...Organic

0.05- 0.2 m ...Brown loamy clay

0.2 - 2.5 m ...Highly weathered brown/black graphitic schist; some brown quartz-muscovite-sericite schist

Comments: Ground too frozen to dig deeper

TIZA EXCAVATOR PIT # 87

Date: July 20,1981

Location: 108+50 N, 107+00 E

Volume: 18 cu.m Size: 3.0 m deep, 4.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Quartz-muscovite-sericite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.25m ...Brown silty clay with schist fragments

0.25- 3.0 m ...Highly weathered gray-brown quartz-muscovite-sericite schist

Comments: Heavy frost in hole

TIZA EXCAVATOR PIT # 88

Date: July 20,1981

Location: 109+00 N, 101+00 E

Volume: 19 cu.m Size: 2.5 m deep, 5.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Brown quartz-muscovite-sericite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.75m ...Brown silty clay with schist fragments

0.75- 2.5 m ...Bedrock: highly weathered brown quartz-muscovite-sericite schist

Comments:

TIZA EXCAVATOR PIT # 89

Date: July 21,1981

Location: 99+25 N, 98+00 E

Volume: 20 cu.m Size: 2.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Sheared serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown clay with serpentinite fragments

0.3 - 1.5 m ...Medium green highly weathered sheared serpentinite

1.5 - 2.0 m ...Bedrock: green sheared serpentinite;some antigorite and picrolite; trace of slip fibre (2 mm)

Comments:

TIZA EXCAVATOR PIT # 90

Date: July 21,1981

Location: 99+50 N, 98+00 E

Volume: 70 cu.m Size: 5.0 m deep, 7.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Sheared serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.25m ...Brown silty clay with serpentinite frag.

0.25- 2.0 m ...Bedrock: dark-green moderately weathered serpentinite

2.0 - 5.0 m ...Blocky serpentinite; 1/4" fibre in 2 directions;some antigorite and picrolite

Comments:

TIZA EXCAVATOR PIT # 91

Date: July 21,1981

Location: 99+75 N, 98+00 E

Volume: 60 cu.m Size: 5.0 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay with serpentinite frag.

0.3 - 1.0 m ...Highly weathered dark-green sheared serpentinite

1.0 - 5.0 m ...Bedrock: dark-green slightly sheared serpentinite; 3/16" fibre -low quantity

Comments:

TIZA EXCAVATOR PIT # 92

Date: July 21,1981

Location: 99+87 N, 98+00 E

Volume: 23 cu.m Size: 1.5 m deep, 5.0 m long, 3.0 m wide

Rock Types: a) Soil fragments: Graphitic schist

b) Bedrock: Black graphitic schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.5 m ...Brown silty clay with graphitic schist fragments

0.5 - 1.5 m ...Bedrock: black graphitic-quartz schist; well-folded;dips N at 39 deg and strike WNW at 285 deg.

Comments:

TIZA EXCAVATOR PIT # 93

Date: July 21,1981

Location: 100+00 N, 97+50 E

Volume: 25 cu.m Size: 2.5 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Bedrock: Black quartz-graphite schist

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.3 m ...Brown silty clay with schist fragments

0.3 - 2.5 m ...Bedrock:highly weathered, well folded black quartz-graphite schist

Comments: Same as Pit #34 but pit deepened

TIZA EXCAVATOR PIT # 94

Date: July 22,1981

Location: 100+00 N, 96+50 E

Volume: 48 cu.m Size: 4.0 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite,meta-diorite,chlorite schist

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay with serpentinite, meta diorite and chlorite schist fragments

0.3 - 4.0 m ...Frozen silty brown clay; diorite and schist fragments to 4 m depth

Comments:

TIZA EXCAVATOR PIT # 95

Date: July 22,1981

Location: 108+50 N, 101+50 E

Volume: 18 cu.m Size: 1.5 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Muscovite-sericite schist

b) Bedrock: Quartz-muscovite-sericite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 1.0 m ...Brown silty clay with muscovite-sericite schist fragments

1.0 - 1.5 m ...Bedrock:highly weathered(orange) quartz-muscovite-sericite schist

Comments:

TIZA EXCAVATOR PIT # 96

Date: July 22,1981

Location: 108+50 N, 102+00 E

Volume: 24 cu.m Size: 2.0 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 0.25m ...Brown silty clay with schist fragments

0.25- 2.0 m ...Highly weathered,well folded, brown-grey quartz-muscovite-sericite schist

Comments:

TIZA EXCAVATOR PIT # 97

Date: July 22,1981

Location: 109+00 N, 102+00 E

Volume: 20 cu.m Size: 2.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Quartz-muscovite-sericite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay with schist fragments

0.3 - 2.0 m ...Highly weathered,well folded quartz-muscovite-sericite schist

Comments:

TIZA EXCAVATOR PIT # 98

Date: July 22,1981

Location: 109+00 N, 101+50 E

Volume: 24 cu.m Size: 2.0 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay with schist fragments

0.3 - 2.0 m ...Highly weathered,well folded,grey-brown quartz-muscovite-sericite schist; brown weathering

Comments:

TIZA EXCAVATOR PIT # 99

Date: July 22,1981

Location: 110+00 N, 101+00 E

Volume: 20 cu.m Size: 2.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 0.25m ...Brown silty clay with schist fragments

0.25- 2.0 m ...Highly weathered quartz-muscovite-sericite schist

Comments:

TIZA EXCAVATOR PIT # 100

Date: July 22,1981

Location: 110+00 N, 102+00 E

Volume: 30 cu.m Size: 2.5 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Schists

b) Bedrock: Quartz-muscovite-sericite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay with schist fragments

0.3 - 2.0 m ...Highly weathered brown/grey, quartz-muscovite schist

2.0 - 2.5 m ...Bedrock:quartz-muscovite-sericite schist

Comments:

TIZA EXCAVATOR PIT # 101

Date: July 22,1981

Location: 97+00 N, 101+00E

Volume: 13.5 cu.m Size: 3.0 m deep, 3.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.4 m ...Dark brown loamy soil with serpentinite fragments

0.4 - 2.5 m ...Mediumgreen highly weathered and sheared serpentinite

2.5 - 3.0 m ...Highly faulted and sheared medium-green serpentinite and gouge; high magnetite content

Comments:

TIZA EXCAVATOR PIT # 102

Date: July 23,1981

Location: 106+40 N, 92+00 E

Volume: 15 cu.m Size: 1.5 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Quartz-graphite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Black clay, high humus content

0.3 - 1.0 m ...Highly weathered,grey-brown quartz-graphite schist

1.0 - 1.5 m ...Bedrock: well folded grey-brown quartz-graphite schist

Comments:

TIZA EXCAVATOR PIT # 103

Date: July 23,1981

Location: 106+40 N, 91+00 E

Volume: 30 cu.m Size: 3.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.5 m ...Brown silt with serpentinite fragments

0.5 - 2.5 m ...Dark-green highly sheared serpentinite; no fibre; high amount of antigorite and picrolite

Comments:

TIZA EXCAVATOR PIT # 104

Date: July 23,1981

Location: 106+25 N, 90+50 E

Volume: 140 cu.m Size: 7.0 m deep, 5.0 m long, 4.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.5 m ...Brown silty clay with serpentinite fragments

0.5 - 7.0 m ...Dark green serpentinite and gouge; high antigorite and picrolite content; some slip fibre

Comments:

TIZA EXCAVATOR PIT # 105

Date: July 23,1981

Location: 104+00 N, 90+50 E

Volume: 48 cu.m Size: 4.0 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.25m ...Brown silty clay with serpentinite fragments

0.25- 2.0 m ...Highly weathered,dark-green sheared serpentinite

2.0 - 4.0 m ...Med.-green, highly sheared serpentinite; high picrolite and antigorite content

Comments:

TIZA EXCAVATOR PIT # 106

Date: July 23,1981

Location: 104+50 N, 91+00 E

Volume: 11 cu.m Size: 1.5 m deep, 5.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 1.0 m ...Brown silty clay with serpentinite fragments

1.0 - 1.5 m ...Frozen,highly weathered, dark-green sheared serpentinite

Comments: Ground too frozen to dig further

TIZA EXCAVATOR PIT # 107

Date: July 23,1981

Location: 104+00 N, 92+00 E

Volume: 30 cu.m Size: 3.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock:

Profile: 0.0 - 0.05m ...Organic

0.05- 0.5 m ...Brown silty clay with serpentinite fragments

0.5 - 3.0 m ...Highly weathered, med.-green,sheared, highly contorted serpentinite; high antigorite and picrolite content

Comments: Possible contact zone - chlorite schist located nearby

TIZA EXCAVATOR PIT # 108

Date: July 23,1981

Location: 105+00 N, 90+50 E

Volume: 70 cu.m Size: 5.0 m deep, 7.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 1.5 m ...Brown silty clay with sheared serpentine fragments

1.5 - 5.0 m ...Highly weathered, light-green, sheared serpentinite; no fibre

Comments:

TIZA EXCAVATOR PIT # 109

Date: July 24,1981

Location: 97+00 N, 102+00 E

Volume: 96 cu.m Size: 8.0 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.4 m ...Brown silty clay with serpentinite fragments (3 cm)

0.4 - 1.5 m ...Bright-green, highly weathered sheared serpentinite

1.5 - 8.0 m ...Highly weathered, bright-green fairly competent serpentinite but gouge at pit bottom; 1/8" slip and ribbon fibre

Comments:

TIZA EXCAVATOR PIT # 110

Date: July 24,1981

Location: 97+00 N, 103+00 E

Volume: 84 cu.m Size: 7.0 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Schists

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay

0.3 - 2.0 m ...Highly weathered grey graphitic schist and muscovite-sericite schist fragments up to 10 cm

2.0 - 7.0 m ...Same as above but larger fragments

Comments:

TIZA EXCAVATOR PIT # 111

Date: July 24,1981

Location: 97+00 N, 104+00 E

Volume: 36 cu.m Size: 3.0 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite and antigorite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.2 m ...Brown silty clay with serpentinite fragments

0.2 - 1.0 m ...Highly weathered dark-green serpentinite with minor antigorite

1.0 - 3.0 m ...Bedrock: highly weathered, dark-green sheared serpentinite; no fibre; high amount of antigorite along shears

Comments:

TIZA EXCAVATOR PIT # 112

Date: July 24,1981

Location: 93+50 N, 98+50 E

Volume: 112 cu.m Size: 8.0 m deep, 7.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.25m ...Brown silty clay with 5 cm serpentinite fragments

0.25- 1.0 m ...Highly weathered, dark-green sheared serpentinite; brown weathered fragments to 20 cm

1.0 - 7.0 m ...As above with some blocky features; some antigorite

TIZA EXCAVATOR PIT # 113

Date: July 24,1981

Location: 93+50 N, 97+50 E

Volume: 12 cu.m Size: 2.0 m deep, 6.0 m long, 1.0 m wide

Rock Types: a) Soil fragments: Graphitic argillite

b) Bedrock: Graphitic argillite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.1 m ...Light brown silty clay with graphitic argillite fragments

0.1 - 0.4 m ...Gray,highly weathered graphitic argillite

0.4 - 2.0 m ...Green-brown graphitic argillite; some folding; dips at approx. 5 degrees

Comments:

TIZA EXCAVATOR PIT # 114

Date: July 25,1981

Location: 98+50 N, 93+00 E

Volume: 24 cu.m Size: 4.0 m deep, 6.0 m long, 1.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.25m ...Brown silty clay with serpentinite fragments

0.25- 3.5 m ...Highly weathered, dark-green, sheared serpentinite

3.5 - 4.0 m ...Bedrock: sheared,dark-green,barren serpentinite; less sheared near base of pit; minor antigorite and picrolite

Comments:

TIZA EXCAVATOR PIT # 115

Date: July 25,1981

Location: 92+50 N, 98+50 E

Volume: 24 cu.m Size: 2.0 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Soapstone

b) Bedrock: Metadiorite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay with soapstone fragment to 5 cm

0.3 - 1.0 m ...Highly weathered soapstone

1.0 - 1.5 m ...Grey-green highly weathered soapstone

1.5 - 2.0 m ...Dark-green metadiorite

Comments:

TIZA EXCAVATOR PIT # 116

Date: July 25,1981

Location: 94+50 N, 98+50 E

Volume: 36 cu.m Size: 4.0 m deep, 6.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Black graphitic argillite

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 0.5 m ...Brown silty clay w/argillite fragments

0.5 - 4.0 m ...Grey-brown silty clay with fragments of black graphitic argillite

Comments: Ground too frozen to dig further

TIZA EXCAVATOR PIT # 117

Date: July 25,1981

Location: 90+25 N, 100+00 E

Volume: 48 cu.m Size: 4.0 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Massive serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.5 m ...Black humus-rich soil

0.5 - 1.0 m ...Highly weathered sheared serpentinite

1.0 - 4.0 m ...Bedrock:highly weathered,dark-green, massive barren serpentinite;high content of magnetite; some antigorite

Comments:

TIZA EXCAVATOR PIT # 118

Date: July 25,1981

Location: 90+25 N, 99+50 E

Volume: 30 cu.m Size: 3.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Soapstone

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 0.25m ...Black humus-rich soil

0.25- 3.0 m ...Frozen light-brown,highly weathered soapstone fragments up to 20 cm

Comments:

TIZA EXCAVATOR PIT # 119

Date: July 26,1981

Location: 100+00 N, 107+50 E

Volume: 30 cu.m Size: 3.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Graphitic schist

b) Bedrock: Black quartz-graphite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 1.0 m ...Brown humus-rich soil with fragments of graphitic schist

1.0 - 3.0 m ...Bedrock:black quartz-graphite schist; highly weathered, moderately folded

Comments:

TIZA EXCAVATOR PIT # 120

Date: July 26,1981

Location: 98+00 N, 107+50 E

Volume: 25 cu.m Size: 2.5 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Brown graphitic schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay with schist fragments

0.3 - 2.5 m ...Highly weathered,grey-brown graphitic schist; minor folding,orange weathering

Comments:

TIZA EXCAVATOR PIT # 121

Date: July 26,1981

Location: 95+00 N, 107+00 E

Volume: 24 cu.m Size: 2.0 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Schist

b) Bedrock: Quartz-muscovite-sericite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.4 m ...Brown humus-rich soil with schist fragments

0.4 - 1.0 m ...Highly weathered brown-grey quartz-muscovite-sericite schist

1.0 - 2.0 m ...Bedrock:as above but high quartz content

Comments:

TIZA EXCAVATOR PIT # 122

Date: July 26,1981

Location: 94+00 N, 106+00 E

Volume: 112 cu.m Size: 8.0 m deep, 7.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Quartz-muscovite-sericite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown humus-rich soil

0.3 - 0.4 m ...Grey silty clay with fragments of serpentinite (5 cm)

0.4 - 8.0 m ...Orange-brown,highly weathered quartz-muscovite-sericite schist

Comments:

TIZA EXCAVATOR PIT # 123

Date: July 26,1981

Location: 106+00 N, 90+25 E

Volume: 30 cu.m Size: 2.5 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Did not reach

Profile: 0.0 - 0.15m ...Black humus-rich soil with serpentinite fragments

0.15- 2.5 m ...Highly weathered,dark-green,sheared serpentinite and gouge at pit bottom; high amount of antigorite and picrolite

Comments:

TIZA EXCAVATOR PIT # 124

Date: July 26,1981

Location: 106+50 N, 90+00 E

Volume: 30 cu.m Size: 3.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock:

Profile: 0.0 - 0.05m ...Organic

0.05- 2.0 m ...Highly weathered dark-green sheared serpentinite; brown weathering

2.0 - 3.0 m ...Gouge,bright-green highly sheared serpentinite with high picrolite and antigorite content; no fibre

Comments:

TIZA EXCAVATOR PIT # 125

Date: July 27,1981

Location: 96+50 N, 106+50 E

Volume: 84 cu.m Size: 7.0 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Quartz-muscovite-sericite schist

Profile: 0.0 - 0.05m ...Organic

0.05- 2.0 m ...Grey-brown silty clay with serpentinite fragments

2.0 - 5.0 m ...Light brown clay with massive fragments of serpentinite

5.0 - 7.0 m ...Orange-brown,highly weathered quartz-muscovite-sericite schist

Comments:

TIZA EXCAVATOR PIT # 126

Date: July 27,1981

Location: 96+00 N, 106+00 E

Volume: 60 cu.m Size: 5.0 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 2.0 m ...Gray-brown silty clay with serpentinite fragments

2.0 - 5.0 m ...Highly weathered, dark-green sheared serpentinite; high picrolite and antigorite content

Comments:

TIZA EXCAVATOR PIT # 127

Date: July 27,1981

Location: 95+50 N, 105+50 E

Volume: 9 cu.m Size: 2.0 m deep, 3.0 m long, 1.5 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Did not reach

Profile: 0.0 - 0.05m ...Organic

0.05- 2.0 m ...Gray-brown silty clay with serpentinite fragments up to 30 cm

Comments: Ground too frozen to dig further

TIZA EXCAVATOR PIT # 128

Date: July 27,1981

Location: 95+00 N, 105+50 E

Volume: 24 cu.m Size: 4.0 m deep, 6.0 m long, 1.0 m wide

Rock Types: a) Soil fragments: Serpentinite

b) Bedrock: Serpentinite

Profile: 0.0 - 0.05m ...Organic

0.05- 0.5 m ...Grey-brown silty clay with serpentinite fragments

0.5 - 3.5 m ...Highly weathered dark-green massive barren serpentinite; minor picrolite

3.5 - 4.0 m ...Bedrock:moderately weathered,dark-green serpentinite; high bastite content

Comments:

TIZA EXCAVATOR PIT # 129

Date: July 28,1981

Location: 105+80 N, 92+00 E

Volume: 24 cu.m Size: 2.0 m deep, 6.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Graphitic schist

b) Bedrock: Black graphitic schist

Profile: 0.0 - 0.05m ...Organic

0.05- 0.3 m ...Brown silty clay with graphitic schist fragments

0.3 - 1.5 m ...Highly weathered black graphitic schist

1.5 - 2.0 m ...Bedrock: black graphitic schist

Comments:

TIZA EXCAVATOR PIT # 130

Date: July 28,1981

Location: 104+60 N, 92+50 E

Volume: 10 cu.m Size: 1.0 m deep, 5.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Chlorite schist

b) Bedrock: Green chlorite schist

Profile: 0.0 - 0.1 m ...Organic

0.1 - 0.3 m ...Brown silty clay with chlorite schist fragments

0.3 - 1.0 m ...Bedrock:moderately weathered,green chlorite schist; some folding

Comments:

TIZA EXCAVATOR PIT # TRENCH

Date: July 21,1981

Location: 99+80 N, 98+00 E

Volume: 90 cu.m Size: 3.0 m deep,15.0 m long, 2.0 m wide

Rock Types: a) Soil fragments: Serpentinite and graphitic schist

b) Bedrock: Serpentinite, metadiorite,graphitic schist

Geology: 0.0 - 11.0m ...Sheared serpentinite with blackwall alteration surrounding a metadiorite body about 1 m wide and 3 m long on floor of trench; compound fibre veins to 1/2" wide with fibres to 1/4" long within 1 m of metadiorite

11.0 - 15.0m ...Weathered,black graphitic schist

ARCHER, CATHRO
AND ASSOCIATES LTD.
CONSULTING GEOLOGICAL ENGINEERS

BOX 4127, WHITEHORSE, Y.T. Y1A 3S9 667-4415 STANDARD BUILDING, VANCOUVER, B.C. 688-2568

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

CERTIFICATE

I, Robert J. Cathro, with business addresses in Whitehorse, Yukon Territory and Vancouver, British Columbia, and residential address in West Vancouver, British Columbia, do hereby declare

1. I am a consulting engineer.

2. I am a 1959 graduate of the University of British Columbia in geological engineering.

3. From 1959 to 1965 I was engaged in mining and exploration geology with United Keno Hill Mines Ltd., Giant Yellowknife Mines Ltd., and Eldorado Mining and Refining Ltd. I entered private practice in January, 1966.

4. I am a registered professional engineer in British Columbia and Yukon Territory.

5. I have supervised the work described in this report.

Respectfully submitted,

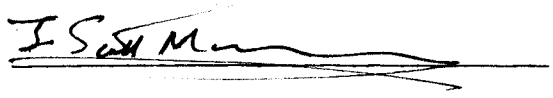
R.J. Cathro, B.A.Sc., P.Eng.

/mc

STATEMENT OF QUALIFICATIONS

J. Scott Murray

Scott Murray was raised at Abbotsford, B.C. and attended U.B.C., B.C.I.T. and Selkirk College. He was employed by Cassiar Asbestos Corp. from 1973 to 1978 as a geological technician at both the Cassiar and Clinton Mines. During this period he was engaged in all phases of mapping, surveying, grade control and exploration for asbestos fibre. From 1979 to present Mr. Murray has supervised asbestos exploration for Archer, Cathro & Associates (1981) Limited.



J. Scott Murray

ARCHER, CATHRO
& ASSOCIATES (1981) LIMITED
CONSULTING GEOLOGICAL ENGINEERS

BOX 4127, 3125 THIRD AVENUE
WHITEHORSE, Y. T. YIA 3S9

(403) 667-4415

AFFIDAVIT

I, Joan Mariacher, of Whitehorse, Y.T., make oath and say:

That to the best of my knowledge the attached Statement of Expenditures for exploration work on the Tiza 1-4,9,11,25-30,33-44,50,52, 54 and 56 mineral claims on Claim Sheet 116C/8 is accurate.

Joan Mariacher

Sworn before me at Whitehorse, Y.T.
this 1st day of October, 1982.

Notary, Yukon Territory

091402

1016-510 WEST HASTINGS STREET, VANCOUVER, B. C. V6B 1L8 (604) 688-2568

Statement of Expenditures
Trenching and Pitting
Tiza 1-4,9,11,25-30,33-44,50,52,54 and 56 Claims
May 25, 1982

Ibex Contracting Ltd. - contract excavator	$17,390.00

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
[illegible]		[illegible]	

	MILES	HOURS	FUEL
IBEX Const			
Trenching [illegible] T12A		9	
2974 " 2902			
225 CAT			
[illegible]			
[illegible]			
TOTALS			

YUKON OFFICE SUPPLIES

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
[illegible]		[illegible]	

	MILES	HOURS	FUEL
IBEX Const			
225 CAT		8	
Trenching [illegible] T12A			
T. J.V.			
[illegible]			
[illegible]			
TOTALS			

YUKON OFFICE SUPPLIES

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
[illegible]		[illegible]	

	MILES	HOURS	FUEL
IBEX Const			
225 CAT			
Trenching [illegible] T12A		11	
2991 " 3002			
[illegible]			
[illegible] TJV			
TOTALS			

YUKON OFFICE SUPPLIES

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
Neil Peter		July 9/81	

	MILES	HOURS	FUEL
IBEX Const			
225 cat		11	
Timeching Stop			
3002 " 3013			
T12A			
TJV			
TOTALS			

YUKON OFFICE SUPPLIES

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
Neil Peter		Aug 10/81	

	MILES	HOURS	FUEL
IBEX			
225 cat			
3013 " 3024			
T12A			
TJV			
TOTALS			

YUKON OFFICE SUPPLIES

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
Neil Peter		July 11/81	

	MILES	HOURS	FUEL
IBEX			
225 cat			
Timeching		12	
3024 " 3036			
T12A			
TJV			
TOTALS			

YUKON OFFICE SUPPLIES

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
[illegible]		[illegible]	

	MILES	HOURS	FUEL
IBEX Const			
225 cat			
timcching Stop		9	
3036 " 3045			
T12A			
[initials]			
[signature] TJV			
TOTALS			

YUKON OFFICE SUPPLIES

MOORE SPEEDIPLY - 3 - MOORE CLEANPRINT PATENTED 1983-1986

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
Will [illegible]		July, 13/81	

	MILES	HOURS	FUEL
IBEX Const			
225 Backhoe			
[illegible]		8	
[illegible] Stop			
T12A			
[initials]			
[signature] TJV			
TOTALS			

YUKON OFFICE SUPPLIES

MOORE SPEEDIPLY - 3 - MOORE CLEANPRINT PATENTED 1983-1986

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
Will Pelant		July 14/81	

	MILES	HOURS	FUEL
IBEX Const			
225 cat			
timcching Stop		9	
3053 " 3062 T12A			
[signature] TJV			
[initials]			
TOTALS			

YUKON OFFICE SUPPLIES

MOORE SPEEDIPLY - 3 - MOORE CLEANPRINT PATENTED 1983-1986

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
Wilf DeForte		July 15/81	

	MILES	HOURS	FUEL
IBEX Const			
225 Backhoe		8	
time Start 3062			
time Stop 3070			
T12A			
T. Scott			
T.S.V			
TOTALS			

YUKON OFFICE SUPPLIES

MOORE SPEEDIPLY - 3 - MOORE CLEANPRINT PATENTED 1980-1986

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
Wilf DeForte		July 16/81	

	MILES	HOURS	FUEL
IBEX Const			
225 Backhoe		8	
time Start 3070			
time Stop 3078			
T12A			
T. Scott			
T.S.V.			
TOTALS			

YUKON OFFICE SUPPLIES

MOORE SPEEDIPLY - 3 - MOORE CLEANPRINT PATENTED 1980-1986

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
Wilf DeForte		July 17/81	

	MILES	HOURS	FUEL
IBEX Const			
225 Backbone			
Time Start 3078		8	
Time Stop 3086			
T. Scott T12A			
T.S.V			
TOTALS			

YUKON OFFICE SUPPLIES

MOORE SPEEDIPLY - 3 - MOORE CLEANPRINT PATENTED 1980-1986

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
Wilf Du Toit		July 17/81	

	MILES	HOURS	FUEL
IBEX Const			
225 Backhoe		10	
time Start 30863			
time stop 3096			
TOTALS			

YUKON OFFICE SUPPLIES

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
Wilf Du Toit		July 20/81	

	MILES	HOURS	FUEL
IBEX Const			
225 Backhoe		11	
time Start 3096			
Time Stop 3107			
TOTALS			

YUKON OFFICE SUPPLIES

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
Wilf Du Toit		21/81	

	MILES	HOURS	FUEL
IBEX Const 225 Backhoe			
Time Start 3107			
~~3107~~ Time Stop 3118		11	
TOTALS			

YUKON OFFICE SUPPLIES

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
Wilf DeCoste		22/81	

	MILES	HOURS	FUEL
IBEX Const			
225 Backhoe		8	
Time Start = 3118			
Time Stop = 3126			
TOTALS	4		

YUKON OFFICE SUPPLIES

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
Wilf DeCoste		July 23/81	

	MILES	HOURS	FUEL
IBEX Const			
225 Backhoe		11	
Time Start 3126			
time Stop 3137			
TOTALS	4		

YUKON OFFICE SUPPLIES

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
DECOSTE		July 24/81	

	MILES	HOURS	FUEL
IBEX CONTRACTING			
CAT 225 W OPERATOR		11	
TOTALS			

YUKON OFFICE SUPPLIES

DRIVER'S TIME SHEET

DRIVER'S NAME	UNIT NO.	DATE	REF. NO.
Wilf DeCosta		July 25/81	

	MILES	HOURS	FUEL
IBEX Const			
225 Backhoe		11	
8 to 8			
TOTALS			

T.J.V. TILA

YUKON OFFICE SUPPLIES

64°16' 64°17' 64°18' 17' 16' 15' 14' 13' 140°15'

to CLINTON ROAD 9km

HAPPY CREEK

Cassiar Creek

OSD

CPub

CPqcII

OSDgs

OSDchs

OSDqm

ANOMALY A

ANOMALY B

ANOMALY C

KNOB SHOWING

BIG ONION SHOWING

LEGEND

CARBONIFEROUS TO PERMIAN — **ANVIL ALLOCHTHON**

- CPub — Dark green serpentinite and quartz carbonate rocks
- CPqcII — Quartz carbonate II, soapstone

ORDOVICIAN TO DEVONIAN — **NASINA SUITE**

- OSD — Undifferentiated grey quartz mica schist, graphite schist, chlorite schist, carbonaceous mudstone, phyllite, ? my sandstone
- OSDqm — Grey and white quartz muscovite schist
- OSDgs — Grey to black graphite schist
- OSDchs — Chlorite schist, may contain graphite

- Geological contact (defined, assumed)
- Point value isoline
- Cut line
- 80N 100E — Grid coordinates
- Excavator pit
- Trench
- Chrysotile showing
- Bulldozer trail
- Helicopter pad
- .30A — Soil sample location and point value
- .50 — Silt sample location and point value

NOTE: Chrysotile content of samples measured with Fine Particle Separator at GEOTOR SERVICES INCORPORATED, Kamloops, B.C.

LOCATION MAP
SCALE - 1:1,000,000
MAP AREA

Fig. 3

ARCHER, CATHRO & ASSOCIATES (1981) LTD.

EXCAVATOR PITS, GEOLOGY AND FIBRE DISPERSION SURVEY

TIZA PROPERTY

TESLIN JOINT VENTURE

SCALE 1:5000

091409

To accompany report dated Dec/81