86-940 - 15469

GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,469

Owner/Operator: **Cyprus Metals Canada**

Toodoggone Project

Exploration of Cassidy Claim Groups 1 and 2
Toodoggone Gold-Silver District
Omineca Mining Division, British Columbia

N.T.S. 94 E/6E, 6W

Lat. 57° 23.4'N., Long. 127° ~~15"~~ 14.6' W.

PART 1 OF 2

FILMED

Willard D. Tompson December 20, 1986

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SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

A five phase exploration program was conducted on the Cassidy No. 1 and 2 claim groups in the Toodoggone district, Omineca Mining Division, British Columbia;

1. Geochemical stream silt sampling of 13 kilometers of stream drainages in the claim group produced 108 samples.

2. Four areas were soil sampled on reconnaissance and detail sample grids. A total of 2912 geochemical samples were collected and analyzed.

3. A total of 101 rock samples were moiled from outcrops along the Moosehorn zone.

4. Eleven trenches were blasted in bedrock. All silicified areas were sampled on one-meter intervals, for a total of 80 samples.

5. Three areas were diamond drilled over a length of 1410 meters (4625 feet) along the Moosehorn zone. Total drilling was 1067 meters (3500 feet). Silicified and/or feldspathized intervals were sampled through 241 meters. The highest assay was from DDH 86-8; Au, 1593 ppb; Ag, 339.6 ppm at interval, 7.0 to 10.0 m.

Promising geochemical silt and soil anomalies are shown in several areas.

A new discovery of vein quartz in the Moosehorn zone was made in an overburden covered area about 1000 meters S.30°E. from the nearest outcrop of the zone.

Rock assays from trenches and from outcrops in the northern part of the Moosehorn zone on the west side of Moosehorn Creek, also show promise.

Costs of the 1986 exploration of Cassidy groups 1 and 2 were $228,769.

Additional geochemical soil sampling, hand trenching, backhoe trenching and diamond drilling are recommended for the 1987 field season. Estimated costs of the recommended program are as follows:

Five geochemical soil grid sampling surveys will produce about 6180 samples	$135,955
Hand trenching and backhoe trenching	89,490
Diamond drilling, 7000 feet (2134 M)	298,029
Supporting costs	35,890
Total	$559,364

ACKNOWLEDGEMENTS

I wish to acknowledge the helpful discussions and counsel of Edward R. Wozniak and Laurence P. James during the course of the exploration program. Peter Tegart shared his knowledge of the district and in particular, his understanding of the geology of the Lawyers deposits. N.C. Carter, T.G. Schroeter, Louise Eccles and George Sivertz provided helpful discussions on the geology of the district.

Paul Elkins, Greg Thomson and Jim Spencer provided capable geological assistance through the full duration of the field work. Jack Hemelspeck was foreman and overseer of the line cutting and trenching and kept all of the camp systems operational. Nona Robinson was camp cook and provided an uncommon culinary expertise for a northern bush camp. Rick Kernahan and Okanagan Helicopters provided outstanding support for supply and field transport of men and equipment. Central Mountain Airlines furnished an economic and reliable link between Smithers and Sturdee airstrip. J.T. Thomas Diamond Drilling drilled the 12 BQ wireline drill holes, totalling 3500 feet (1067 m) in 14 days, including moves and mobilization, or 28 hours per hole. Core recovery was nearly 100 percent. Gail Tompson maintained radio communications with Moosehorn camp, purchased all supplies and organized shipments to Sturdee airstrip. She also typed the draft of the final report. Phyllis Bunker typed the final copy.

Exploration of Cassidy Claim Groups 1 and 2
Toodoggone Gold-Silver District
Omineca Mining Division, British Columbia

PROPERTY AND LOCATION

Cassidy Groups 1 and 2 lie near the center of the Toodoggone gold-silver district in the northern interior of British Columbia (Figures 1 and 2). The Toodoggone area achieved prominence when the Baker gold-silver mine commenced production in 1980.

Toodoggone River is the most prominent landmark in the immediate vicinity of the claims, although the surrounding country contains many prominent landmarks, including the beautiful, broad, flat-topped Edozadelly Mountain which lies 11 kilometers westerly from Cassidy Group 1. Toodoggone River rises 7 kilometers west of Cassidy Group 1 and flows easterly. The claims occupy a broad area on both sides of the river, through 4 kilometers of its length.

Near the center of Cassidy Groups 1 and 2, latitude is 57°23' N. and longitude is 127°14' W. Magnetic declination is N.26°30' E.

Cassidy Groups 1 and 2 lie at elevations from 1180 meters in Toodoggone River valley, to 1626 meters at the top of the round mountain in the south part of claim, G.W.P. No. 28. Relief is moderate.

Toodoggone district lies 300 kilometers north of Smithers, B.C. Access is by fixed wing aircraft to Sturdee airstrip (Figure 3) and thence by helicopter to the Company's base camp at Moosehorn Creek, 23 kilometers northerly from Sturdee.

Figure I.

CYPRUS METALS CANADA

Toodoggone Project

Map of British Columbia showing Location of Toodoggone Area

WILLARD D. TOMPSON November 20, 1986

Km 0 100 200 400 600 Km

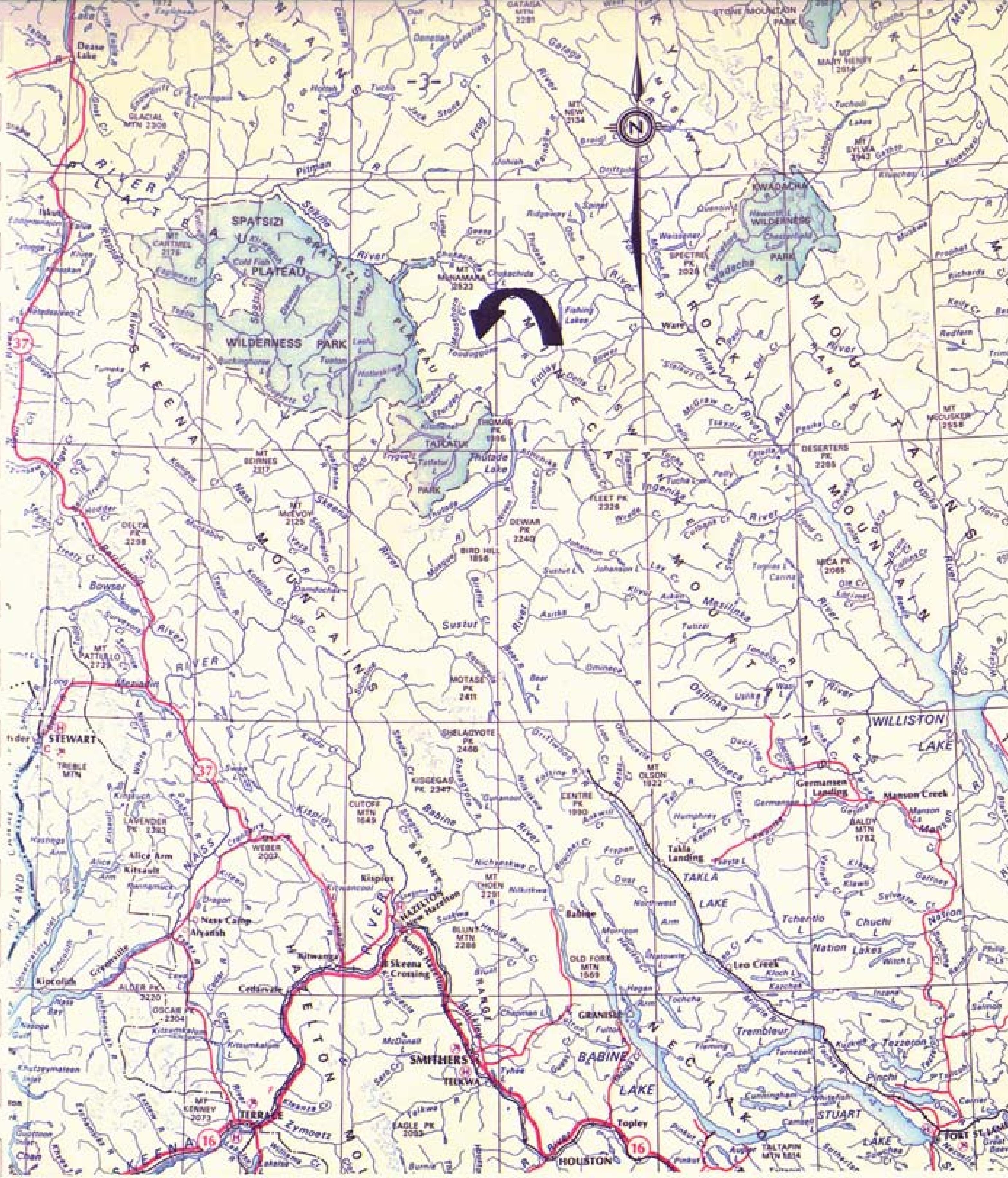
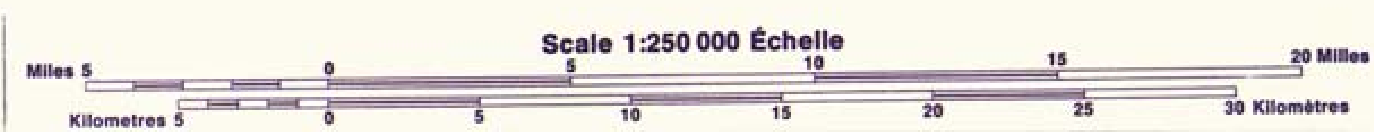


Figure 2 - Map of a portion of northern British Columbia showing Toodoggone district.

SCALE – 1: 2 000 000

Kilometres 20 0 20 40 60 80 100 120 140 160 180 200 Kilometres

Figure 3. - Map showing Cassidy groups 1 to 6 and claim, G.W.P. 430.



CLAIMS

Cassidy Group No. 1 is made up of seven claims containing 72 units. Cassidy Group No. 2 has 35 units in two claims (Figure 4).

Cassidy Group No. 1

Claim Name	Record Number	Units
G.W.P. No. 27	3514	18
G.W.P. No. 28	3515	12
G.W.P. No. 30	3517	20
G.W.P. No. 40	3519	8
G.W.P. No. 42	3898	12
Bear	3899	1
Dougs	3897	1

Cassidy Group No. 2

Claim Name	Record Number	Units
G.W.P. No. 29	3516	20
G.W.P. No. 34	3518	15

Other Company holdings in the Toodoggone mining area include Cassidy Groups 3, 4, 5 and 6 and mineral claim G.W.P. No. 430.

Cassidy Group No. 3

Claim Name	Record Number	Units
G.W.P. No. 220	7567	16
G.W.P. No. 240	7569	20
G.W.P. No. 250	7570	18
G.W.P. No. 260	7571	18

Cassidy Group No. 4

Claim Name	Record Number	Units
G.W.P. No. 130	7558	6
G.W.P. No. 150	7560	12
G.W.P. No. 170	7562	12
G.W.P. No. 210	7566	15
G.W.P. No. 230	7568	16

Cassidy Group No. 5

Claim Name	Record Number	Units
G.W.P. No. 110	7556	3
G.W.P. No. 120	7557	6
G.W.P. No. 140	7559	12
G.W.P. No. 160	7561	16
G.W.P. No. 180	7563	16
G.W.P. No. 190	7564	15
G.W.P. No. 2000	7565	20

Cassidy Group No. 6

Claim Name	Record Number	Units
G.W.P. No. 1	2870	20
G.W.P. No. 41	3520	18
G.W.P. No. 200	4731	8

Mineral claim, G.W.P. No. 430 is not included in a claim group. It has record number 7302 and is made up of 20 units.

Cassidy Groups 1 - 6 and claim, G.W.P. No. 430 make a total of 394 units comprising 9850 hectares or 24,329 acres.

OWNERSHIP

The claims are owned by Cyprus Metals (Canada) Ltd., whose address is 7200 South Alton Way, Englewood, Colorado. The work done in 1986 was performed by Cyprus.

HISTORY

The claims of Cassidy Groups 1 and 2 were staked during the winter of 1980-81 by agents for Great Western Petroleum, Ltd., a British Columbia company based at that time in Vancouver, B.C.

During the summer of 1981 Great Western Petroleum, Ltd., conducted extensive geological and geochemical work on all of the claims. This work was under the direction of N.C. Carter, a long-time advocate of the Toodoggone area. he was assisted by. several geologists including Louise Eccles who authored many of the reports which resulted from that work, and by Douglas Forster who wrote a Master of Science thesis on the area. Those reports are referenced in the Bibliography of this report.

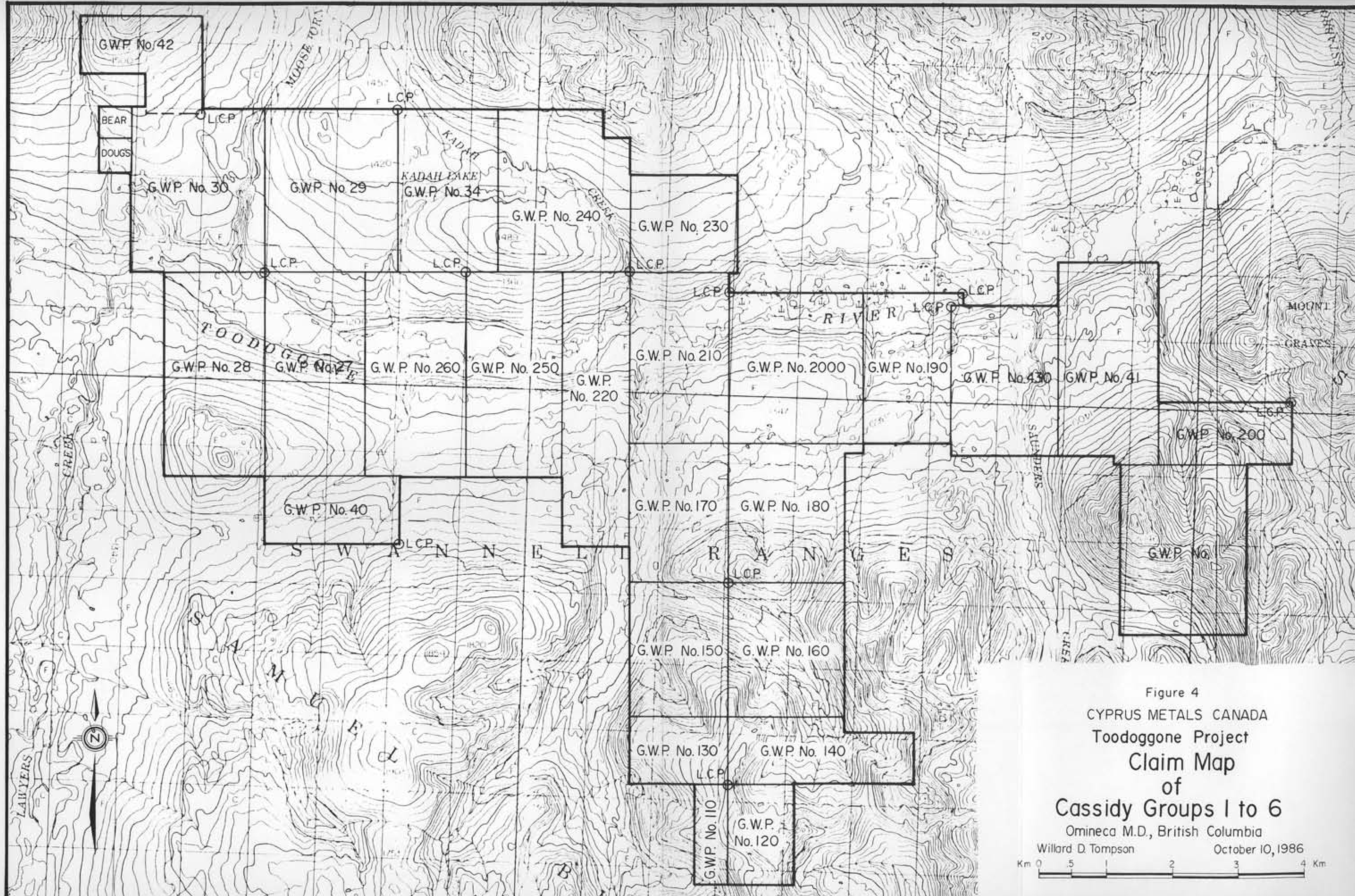


Figure 4
CYPRUS METALS CANADA
Toodoggone Project
Claim Map
of
Cassidy Groups 1 to 6
Omineca M.D., British Columbia
Willard D. Tompson October 10, 1986
Km 0 .5 1 2 3 4 Km

Cassidy Resources, Ltd. owned the claims in 1985 and conducted geological mapping and trenched and sampled silicified outcrops.

First recorded work in the Toodoggone area was for placer gold along the lower portions of Belle Creek near its confluence with Toodoggone River. During the 1930's, a large camp was established near the mouth of Belle Creek and some placer mining was done in the shallow canyon of Belle Creek about 4 or 5 kilometers upstream from the camp.

In 1968, Kennco Explorations (Canada) Ltd. conducted a geochemical survey on the Chapelle property, 15 kilometers southwesterly from Toodoggone Lake. In 1970 they conducted a geochemical survey on their Lawyers property, which lies 12 kilometers west-southwesterly from Toodoggone Lake.

The Chapelle property was optioned to Conwest Exploration Company, Ltd. in 1973 and Conwest drove a 530 foot (161.1 m) adit to the vein. In 1975 the Chapelle property was optioned to DuPont of Canada Exploration Ltd. and they diamond drilled and conducted geophysical surveys (Barr, 1978). The Baker mine (re-named from Chapelle) went into production in 1980 with reserves of 100,000 tons of ore containing 0.92 ounces of gold and 18.7 ounces of silver per ton. That ore was mined during the ensuing 3 years.

Kennco optioned the Lawyers property to Serem, Ltd., in 1979. Serem conducted extensive underground work on the Amethyst Gold Breccia zone and trenched and drilled the Cliff Creek and Dukes Ridge zones. Reserves in the Amethyst Gold Breccia zone are 941,000 tonnes grading 7.2 grams of gold and 260 grams of silver per tonne.

An excellent detailed account of the history of the Toodoggone River area was written by Tegart (1985).

GENERAL GEOLOGY OF THE TOODOGGONE AREA

This description of the general geology of the Toodoggone mining area is summarized from the works of those who have mapped the geology of the Toodoggone volcanic rocks and the surrounding areas.

The volcanic sequence was named by Carter (1971, p.63). Carter described the rocks as follows:

> "A sequence of volcanic rocks, Jurassic or younger in age, and here informally called the Toodoggone volcanic rocks, unconformably overlie Takla Group in the western part of the area. The Toodoggone rocks, which may be several hundred feet thick, include red to green or grey dacite and latite porphyry flows and pyroclastic rocks."

He showed the age to be 186 ± 6 million years.

Gabrielse, Dodds and Mansy (1975) mapped the Toodoggone River quadrangle (N.T.S. 94E) which includes the area underlain by the Toodoggone volcanic rocks. They show a northwesterly-striking band of volcanic rocks, which is up to 17 kilometers wide and 90 kilometers long, extending from Kemess Creek on the south to Chukachida River on the north. The Toodoggone volcanic rocks are bounded on the east by coeval hornblende-quartz diorite plutons, which are known as the "Omineca Intrusions" and on the west by the Upper Cretaceous Sustut group.

Schroeter (1981, pp. 124 - 131) described the regional geology, structure and mineral prospects of the area. He identified four principal subdivisions of Toodoggone volcanic rocks:

1. Lower volcanic division - purple agglomerates, and grey to purple dacite tuffs.
2. Middle volcanic division - rhyolites, dacites, "orange" crystal to lithic tuffs and quartz-feldspar porphyries.
3. Upper volcanic-intrusive division - grey to green to maroon crystal tuffs and quartz-eye feldspar porphyries.

4. Upper volcanic-sedimentary division - lacustrine sedimentary rocks, stream bed deposits and possible fanglomerate and interbedded tuffs.

In 1981, Schroeter (1982) conducted some preliminary geochemical studies. He observed:

1. Three main classes of rocks are: varicolored andesitic and dacitic pyroclastic tuffs which are overlain by trachytic pyroclastic tuffs.
2. The ratio K_2O/Na_2O increases toward mineralization.
3. Sulfur values are very low.
4. Trace elements are not enhanced toward mineralization.
5. The overall Ag:Au ratio is 20:1.

Panteleyev (1982) commenced systematic geologic mapping of the Toodoggone rocks in 1981. He started his mapping south of Finlay River in 1981 and in 1982 he mapped an area north of Finlay River between Sturdee River and Toodoggone River (Panteleyev, 1983).

Diakow (1983) examined the stratigraphy, structure and hydrothermal alteration of two types of precious metal occurrences in the Toodoggone; (1) quartz stockworks and veins which are discordant and transect bedding at high angles and (2) pervasive siliceous zones which are strataform and stratabound.

In 1985, Diakow, Panteleyev and Schroeter produced a geological map of the Toodoggone River area. Figure 5 (p. 11) is a geological map at scale 1:250,000 which is generalized and reduced from Diakow, Panteleyev and Schroeter (1985).

Permian Asitka Group

The oldest rocks in the map area are Permian crystalline limestones of the Asitka group. Barr (1978) shows that Asitka rocks were thrust upon Triassic Takla rocks during Jurassic time.

Barr (1978) in his work at the Chapelle gold-silver deposit (Baker mine) shows that the Takla group is made up of four principal units:

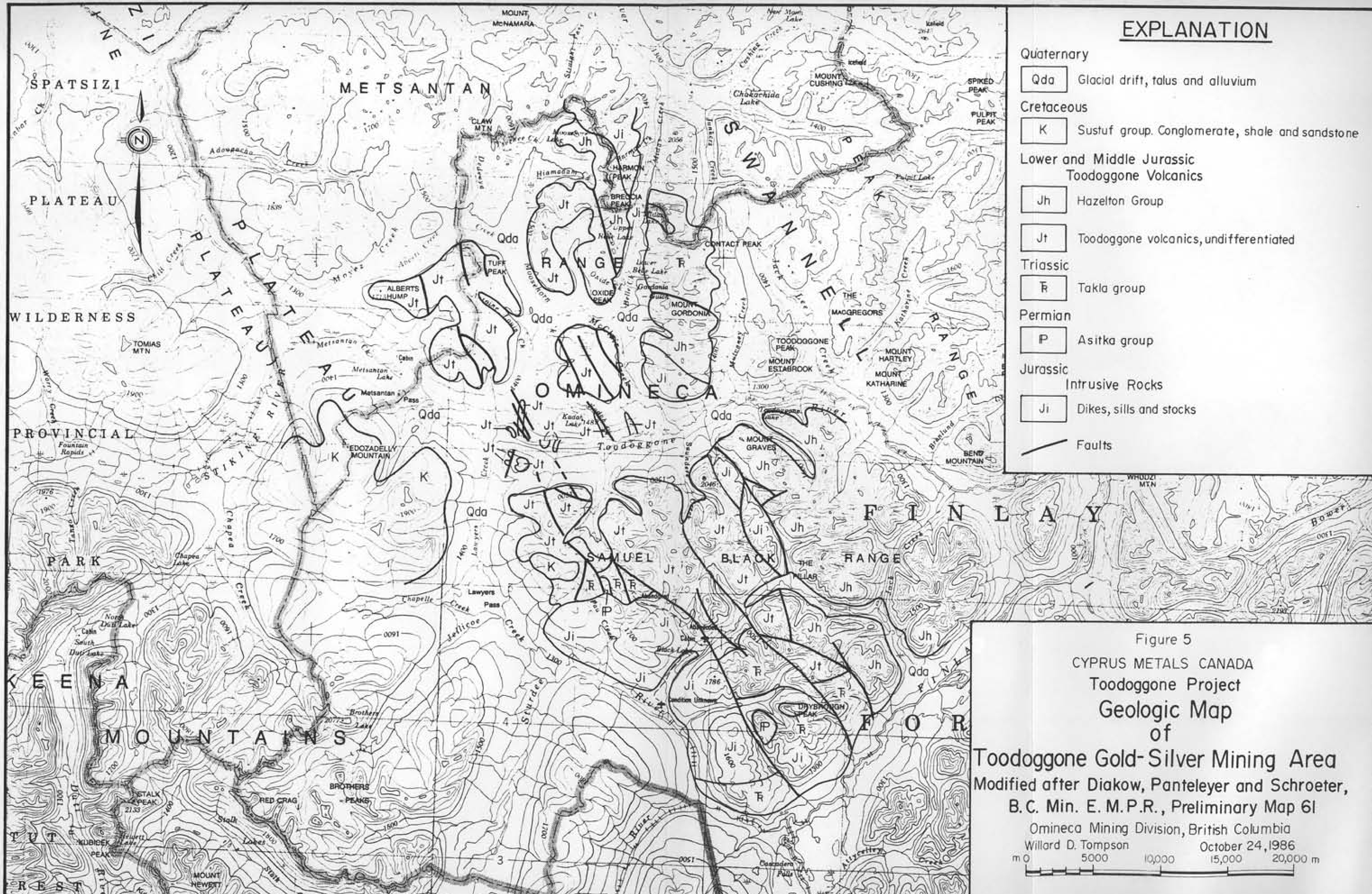


Figure 5
CYPRUS METALS CANADA
Toodoggone Project
Geologic Map of Toodoggone Gold-Silver Mining Area
Modified after Diakow, Panteleyer and Schroeter, B.C. Min. E.M.P.R., Preliminary Map 61
Omineca Mining Division, British Columbia
Willard D. Tompson October 24, 1986
m 0 5000 10,000 15,000 20,000 m

1. Tremolite andesite *prophyry*. Typically contains large euhedral phenocrysts of tremolite in a dark grey aphanitic matrix. This is the oldest unit of Takla rocks.
2. Fine grained andesite. Massive light green to greenish-grey.
3. Dark grey porphyritic feldspar andesite.
4. Pyroclastic breccia composed of lapilli-sized multi-colored clasts of fine grained andesite in a fine-grained beige to grey-green matrix.

Upper Triassic Takla Group

The Takla group of volcanic rocks is the earliest of the Mesozoic extrusions in the area and reflects the beginnings of a period of volcanism which persisted through Lower Jurassic time when the Toodoggone volcanic rocks were deposited.

Lower and Middle Jurassic Toodogoone Volcanic Rocks

Carter (1971) and Panteleyev (1983) show that the Toodoggone volcanic rocks were deposited over a period of 20 million years from 200 to 180 Ma. Panteleyev (1983, p. 143) identified six map units of Toodoggone volcanic rocks between Sturdee River and Toodoggone River.

Diakow, Panteleyev and Schroeter (1985) in their preliminary map of the Toodoggone area, recognize nine map units with several mappable subdivisions of Toodoggone volcanic rocks:

1. Addogatcho Creek formation
2. Moyez Creek volcaniclastics
3. Lawyers-Metsantan quartzonse andesite
4. Mafic flow and tuff unit
5. McClair Creek formation
6. Tuff Peak formation
7. Toodoggone crystal ash tuff and flows
8. Grey dacite
9. Hazelton group.

Upper Cretaceous Sustut Formation

The Triassic Takla rocks and the Jurassic Toodoggone rocks are overlain on the west by sandstones and conglomerates of the Upper Cretaceous Sustut formation. Sustut rocks are part of the Bowser assemblage and here, lie near the eastern margin of the Bowser Basin.

Physiography of the Toodoggone Area

Physiography of the Toodoggone area was sculptured by the movement of ice during Recent glaciation. Valleys were undoubtedly full of ice at the climax of the "little ice age", about 450 years ago (Holland, 1964, p. 105). Remnants of glaciers still exist in a few cirques. Valleys are "U" shaped and glacial moraines, kames and eskers are widespread. Glacial erratics occur throughout the area. A common rock-type which occurs as erratics is a chert-quartz pebble conglomerate. Similar chert-quartz pebble conglomerate beds occur along the Skeena River 100 kilometers to the southwest. Here, the Devil's Claw unit of the Cretaceous Groundhog group (Bustin and Moffatt, 1983) is up to 500 meters thick and is composed of shales, sandstones, thin, discontinuous coal seams and massive chert-quartz pebble conglomerates (Tompson, et.al., 1970).

Holland (1964, P. 101) shows a northeasterly direction of flow for the Cordilleran Ice Sheet during the Pleistocene, which is consistent with the observed distribution of Devil's Claw erratics in the Toodoggone.

Toodoggone River occupies a broad "U" shaped valley with gravel terraces up to 1100 meters wide. Toodoggone River is an underfit stream, occupying a valley that was first formed by a valley glacier. The valley then became a major drainage channel as it carried meltwater eastward from the waning glaciers. Thus, the gravels of the Toodoggone River hold no promise for deposits of placer gold.

GEOLOGY OF CASSIDY GROUPS 1 AND 2

It is shown in Figure 5 and Plate I that Cassidy Groups 1 and 2 are largely covered by unconsolidated deposits: river gravels, glacial deposits and talus. These commonly sustain luxuriant growths of spruce, balsam and pine trees and broad expanses of willows.

Cassidy No. 1 group has four areas of outcrop:

1. Moosehorn Canyon
2. The symmetrical, round mountain at the south end of claim, G.W.P. No. 28
3. South of Toodoggone River in G.W.P. No. 28
4. South of Toodoggone River in G.W.P. No. 27.

Cassidy No. 2 group has one small area of outcrop in the canyon of West Kodah Creek.

The claim area was mapped at scale 1:10,000 directly onto topographic maps (Plate I).

The symmetrical, round mountain in claim G.W.P. No. 28 was mapped at scale 1:2000 on a prepared grid. This mountain will be referred to as "Round Mountain" in this report.

A grid was established with a baseline at bearing, N.28°W., which is the strike of a prominent structural trend in the area. Grid lines were cut at right angles to the baseline.

A geomorphological map was prepared at scale, 1:5000 using the grid stations for control. The intent of the geomorphological mapping was to aid in the interpretation of geochemical exploration surveys.

Moosehorn Canyon was mapped through its length of 1115 meters at scale, 1:500. Mapping control was established using Brunton and chain.

Description of Rocks

Unconsolidated deposits occupy more than 95 percent of the map area. They are broadly differentiated; alluvial stream deposits, and glacial, colluvial and talus deposits (Plate I).

Seven bedrock map units are recognized. They are described briefly below as they are mapped on the geological map of Cassidy Groups 1 and 2 (Plate I).

Unit Jtq: Grey to brown, medium grained to very fine grained epiclastic tuffs and greywacke. A few thin beds of dark grey to black shale. Some greywacke beds contain minor amounts of chloritized mafic minerals.

Unit Ja: Fine grained to very fine grained light green tuff. Contains grains of feldspar, hornblende and biotite and clasts of fine grained, red volcanic rocks. Veins and patches of calcite occur locally.

Unit Jat: Light green lapilli tuff containing trachyandesite clasts. Matrix is fine grained.

Unit Jaq: Porphyritic andesite with hornblende, pyroxene and plagioclase phenocrysts. Matrix is fine grained and greenish. Contains a few quartz phenocrysts.

Unit Jt: Trachyandesite porphyry. Characterized by large salmon-pink to orange K-spar phenocrysts which are up to 8 mm in diameter. Bright pink to orange plagioclase phenocrysts display albite twinning and are up to 5 mm in cross section. Matrix is fine grained to slightly granular in texture and is pink to green in color. Locally a small percentage of quartz phenocrysts occur. Hornblende and biotite are slightly chloritized.

Unit Jr: Rhyolite porphyry dike. "Quartz-eye" phenocrysts, hornblende and orthoclase. Weathers pink to buff color.

Unit Jqd: Quartz dacite porphyry. Phenocrysts are hornblende, biotite and quartz. Contains clasts of flattened pyroclastic rocks.

Description of Altered Rocks

Hydrothermal alteration has changed the composition and appearance of the rocks in several localities. These altered rocks are shown on Plate 1 as separate map units.

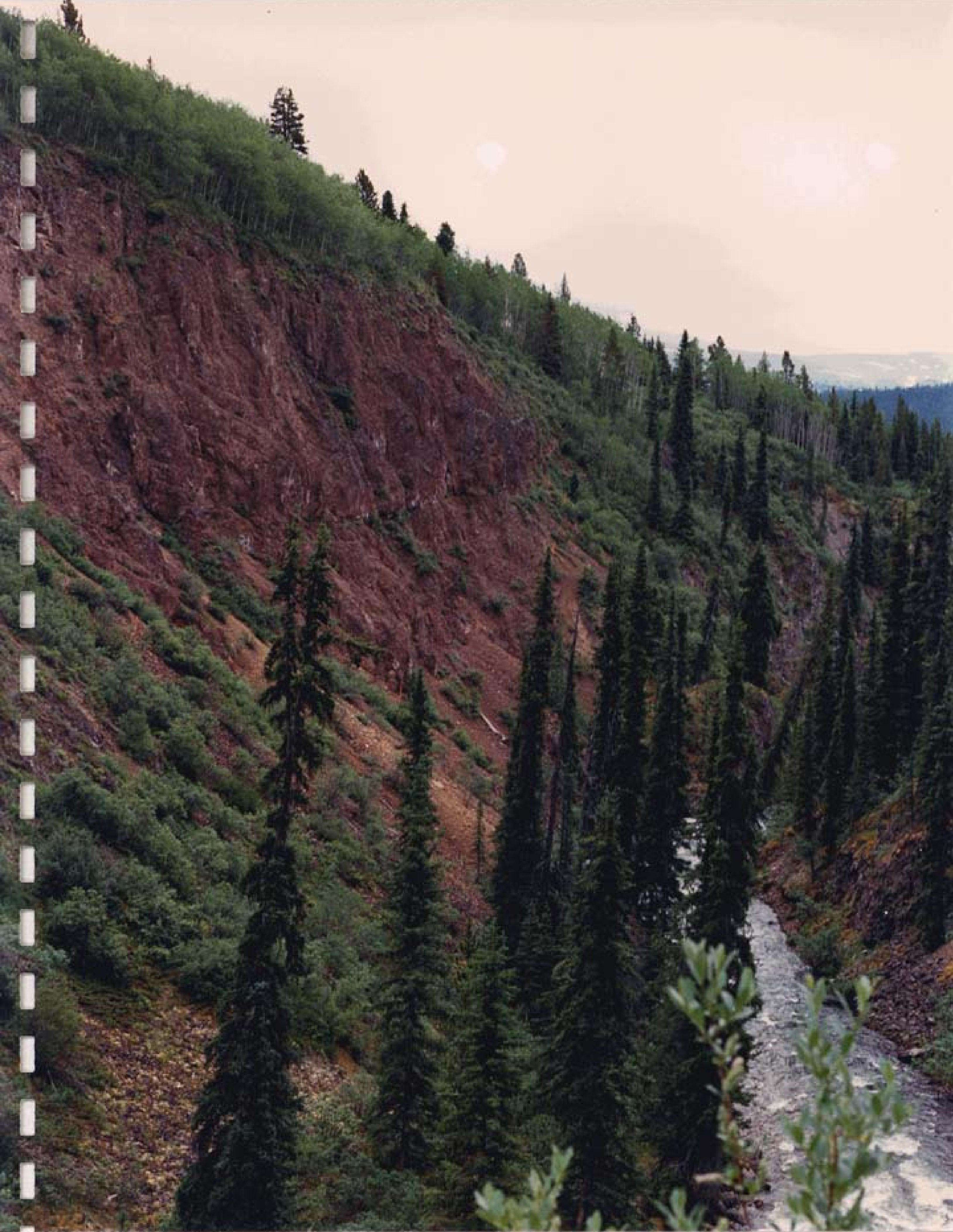
Unit Jkq: Rocks in this unit display advanced potassic alteration. They probably were originally trachyandesite. The rocks are composed of K-spar and quartz with varying amounts of fine grained pyrite, but mostly less than 0.1 percent pyrite. Specular hematite occurs in minor amounts. The rocks are mostly medium grained, but locally are fine grained with granular texture. Quartz occurs as small veins in stockworks and in at least one large vein, which is up to 4 meters wide. In outcrop the rocks are rusty, reddish-brown in color. Limonite is abundant on fresh surfaces. Quartz-filled vugs with euhedral quartz crystals up to 3 or 4 mm in length are common. Amethystine quartz is locally abundant.

Unit Jvk: These rocks are altered trachyandesites, but varying degrees of alteration commonly render them difficult to distinguish from unit Jkq. The rocks contain large K-spar phenocrysts (up to 5 mm) with smaller pink plagioclase laths, set in a pink to buff, sugary-textured matrix. Hornblende phenocrysts are commonly altered to chlorite or to clay minerals and limonite. Limonite also occurs replacing pyrite. Small masses of secondary quartz occur locally. Rocks are yellowish to buff to pink in outcrops, are resistant to weathering and stand as cliffs.

Unit Jh: Argillic alteration in andesite. Mafic minerals and feldspars are altered to clay.

Photograph 1. View of Moosehorn Creek looking north.

Photograph 2. View of Moosehorn Creek looking south.



Topographic Relations

Moosehorn Canyon

Moosehorn Creek originates at Moosehorn Lake, 21 kilometers north of Moosehorn Canyon. The creek flows south for 19 kilometers through a drift filled valley at a gradient of about 12 meters per kilometer. It then traverses resistant trachyandesite flows and some pyroclastic rocks for a distance of 2 kilometers, maintaining about the same gradient. The creek then crosses a N.30°W. fault, where it makes a 7 meter waterfall, and encounters the faulted and argillized rocks of Moosehorn Canyon. These rocks are more easily eroded than the fresh trachyandesite and the gradient of the creek steepens to 47 meters per kilometer for 1.5 kilometers, where the creek flows into Toodoggone River.

The terrain both east and west of Moosehorn Creek slopes moderately southward toward Toodoggone River. The surface throughout is covered by a thin mantle of glacial drift and some isolated remnants of paleogravels of Moosehorn Creek (Plate II).

Round Mountain

Round Mountain lies about 1.5 kilometers south of Toodoggone River and 1.5 kilometers east of Lawyers Creek. It is a prominent topographic feature and is not officially named, so in this report, it is called "Round Mountain" in allusion to its shape. Its highest point lies at 1615 meters. The area of the mountain which lies above 1450 meters in elevation is above treeline and stands out as a nearly symmetrical round hill about 1700 meters in diameter. Bedrock is exposed intermittently throughout the area above 1550 meters, but below this elevation, bedrock is covered by talus, glacial drift and vegetation.

Toodoggone River

Toodoggone River, as it traverses Cassidy Groups 1 and 2, flows east-southeasterly. The river valley is flat and is from 450 to 1100 meters wide. The valley is full of boulders and gravel, most of which were deposited as glaciers receded, and which have been reworked as the river traversed back and forth across the valley floor. Thickness of the valley fill is believed to be about 100 to 125 meters near the mouth of Moosehorn Creek.

The steeper, north-facing slopes on the south side of Toodoggone River provide bedrock exposures of Toodoggone volcanic rocks (Plate I) in mineral claims, G.W.P. Nos. 27 and 28.

West Kodah Creek

Kodah Lake occupies a slight debris-filled depression 2.5 kilometers north of Toodoggone River. The terrain slopes moderately toward Toodoggone River at an average grade of about 10 percent. The entire area is covered by glacial drift, thus the only bedrock exposures are in the canyon of West Kodah Creek.

Structures

A strong system of faults strikes across the claims in a N.20°W. to N.30°W. direction. Two faults which are recognized and named on the Lawyers property, appear to occur on Cassidy groups 1 and 2.

The Attorney Fault

Vulimiri, Tegart and Stammers (1985) show that at the Lawyers Amethyst Gold Breccia deposit, the Attorney fault is post mineral and limits the gold breccia zone at its northern terminus. The fault strikes about N.30°W. and dips near vertical. Where exposed in a road cut, the zone of intensely shattered and gougey rock is more than 10 meters wide.

The Attorney fault is shown by Vulimiri, Tegart and Stammers (1985, p. 151) to extend over a distance of nearly 40 kilometers, from Baker mine on the south, to Adoogacho Creek on the north.

Schroeter (1981, p. 125) suggests that the Attorney fault is part of a deep-seated system of volcanic centers along a gold-silver rich geological province. Late stage hydrothermal activity associated with those volcanic centers, produced the epithermal gold-silver deposits of the Toodoggone.

The Attorney fault zone crosses Moosehorn Creek about 1000 meters north of Toodoggone River. There appears to be at least three principal fracture planes in the fault zone over a width of 500 to 600 meters (Plate I). The ages of these planes of faulting relative to the ages of mineralization at Moosehorn Creek are not known, but it is believed that they were active before, during and after the mineralizing-alteration events.

Cliff Creek Fault

The Cliff Creek fault lies about 2200 meters west of the Attorney fault and strikes approximately N.20°W. to N.30°W., and thus is about parallel to the Attorney fault. The Cliff Creek fault is large and it is mineralized with quartz, gold, silver and some pyrite. It appears to extend onto the G.W.P. No. 40 and G.W.P. No. 28 claims from the Law 3 claim of SEREM, Ltd. It is responsible for the altered and silicified zone on the eastern side of Round Mountain (Plate I) and the altered zone on Toodoggone River in the northern half of G.W.P. No. 28. Galena, pyrite and quartz occur in these rocks on G.W.P. No. 28. The Cliff Creek fault zone is covered by talus and glacial debris away from these areas of outcrop.

MINERALIZATION AND ZONES OF ALTERATION

Two zones of alteration and mineralization are known to occur on Cassidy Groups 1 and 2:

1. A zone of silicification and feldspathization with some gold-silver values, known as the "Moosehorn Zone".

2. A zone of argillization and silicification on Round Mountain which will herein be referred to as the "Round Mountain Zone".

Geology of the Moosehorn Zone

The Moosehorn zone of alteration is exposed only in Moosehorn Canyon. It makes prominent outcrops in the canyon walls over a north-south distance of 900 meters. But, as the zone strikes across the north-south canyon at a bearing of N.30°W., the true width of the mineralized-altered zone is about 450 meters.

Moosehorn Canyon was mapped over a length of 1115 meters at a scale of 1:500 (Plate III). Base map control was established using Brunton and chain, in conjunction with the cut and picketed Moosehorn grid. Accuracy of survey control is believed to be well within the limits which are required for geological mapping.

Attitude, Size and Shape

Rocks which are considered to be the "Moosehorn zone" comprise a band or zone of silicified and feldspathized rocks which crop out in Moosehorn Canyon. The Moosehorn zone lies on the southwest margin of a broader band of hydrothermally altered rocks, which strike about N.30°W. and dip about 75° west. The Moosehorn zone is about 75 meters wide and is exposed over a length of 370 meters. Exposures occur only in the canyon walls, as the areas lying on strike of the zone to the north and to the south are covered by glacial drift and swamps (Plate II). The Moosehorn zone is shown as unit Jkq on Plate III.

Description of Footwall Rocks

The Moosehorn zone is bounded on the west by propyliticly altered trachyandesite porphyry. Phenocrysts are pink orthoclase which are up to 2 or 3 millimeters in cross section. Plagioclase phenocrysts display albite twinning and are pink and up to 2 millimeters in cross section. Hornblende and biotite phenocrysts are chloritized. Matrix is fine grained and granular. Color is pinkish to greenish in outcrop and purplish a few meters beneath the surface, as seen in drill core from diamond drill holes 86-4, 86-5 and 86-6. These rocks are mapped as unit "Jt" on Plate III.

Description of Footwall Contact

The contact of the footwall (the western wall) of the Moosehorn zone forms a slightly arcuate line, striking N.23°W. where mapped on the south, to N.31°W. on the north (Plate III). It is a prominent structural feature and is reflected by a topographic lineament. Moosehorn Creek follows the fault for about 150 meters (Plate III). The fault was encountered in diamond drill holes 86-4, 86-5 and 86-6. In each intersection, the fault contained one to two meters of heavy clay which was a grey to green color in 86-4 and 86-5 and a reddish-maroon color in 86-6. Footwall rocks are strongly fractured for several meters away from the fault plane.

Description of Hanging Wall Rocks

Rocks which form the hanging wall (the eastern wall) of the Moosehorn zone are trachyandesite porphyry. They are characterized by large, pink orthoclase phenocrysts up to 6 or 7 millimeters in cross section and by smaller pink plagioclase laths in a pink to buff colored, sugary textured matrix.

Hornblende phenocrysts are altered to chlorite or to clay minerals and limonite. Pyrite occurs in trace amounts, and in outcrops is commonly altered to limonite. Small masses of quartz and tiny quartz veinlets occur locally.

In outcrop, the rocks are yellowish to buff to pinkish in color. They are resistant to weathering and commonly stand as cliffs, as may be readily seen in Moosehorn Canyon. These rocks are mapped as unit "Jvk" on Plate III.

Rocks which are similar in composition and texture to footwall rocks (described above as unit "Jt") also occur in the hanging wall of the Moosehorn zone.

Description of Hanging Wall Contact

The contact between the mineralized rocks of the Moosehorn zone and rocks in the hanging wall (eastern wall) is poorly exposed in most of the map area. However, it is visible over a length of about 80 meters in the east wall of Moosehorn Canyon, but here, steep cliffs render close examination very difficult (Plate III).

A color distinction between the silicified rocks of the Moosehorn zone and the sericitized rocks in the hanging wall is vague, but nonetheless is perceptible.

A topographic lineament through most of the length of the 80-meter exposure suggests that the contact area is strongly fractured and altered.

Diamond drill holes 86-1 and 86-2 intersected the faulted contact at about 70 meters and 35 meters respectively and each had broad areas of shattered rock with narrow, brown clay seams.

Mineralized Rocks of the Moosehorn Zone

Rocks of the Moosehorn zone are subtly distinctive from the trachyandesite porphyry of the hanging wall. The distinction is made only upon careful observation:

1. Rocks of the Moosehorn zone regularly contain quartz stockworks.

2. K-spar content of rocks in the Moosehorn zone is high. Available petrographic information shows rock composition of: 70 percent k-spar, 18 percent quartz and vein quarts, and 2 percent limonite. Megascopic observations of rocks from DDH 86-6 show that rocks may contain 90 percent k-spar and 10 percent vein quartz.

3. The rocks commonly contain from 0.01 to 0.1 percent very fine grained, disseminated pyrite.

4. Quartz breccias occur in many localities throughout the zone.

5. Chalcedonic quartz, quartz banding and vuggy quartz lining open spaces are common.

6. Amethystine quartz occurs in several localities in the zone.

7. Large quartz veins occur in the zone. The Moosehorn vein (Plate III) is 4 meters wide and contains amethystine quartz. A vein lying 50 meters north of the Amethyst trench (Plate III) is 1.5 meters wide. Diamond drill hole 86-8 intersected 6.6 meters of quartz (apparent width) immediately beneath 3.6 meters of glacial drift. Drill hole 86-8 is 800 meters S.30°E. from the nearest outcrop of the Moosehorn zone.

Structural Geology of the Moosehorn Zone

The Moosehorn zone is a broad band of hydrothermally altered volcanic rocks occupying a large fault system and striking about N.20°W. to N.30°W. Dips are about 75°W. (?). The footwall (west wall) is fairly distinct and is occupied by intensely shattered rocks and one to two meters of clay. The hanging wall (east wall) contact is broader, more diffuse and not so well defined.

It is shown on Plate III that a parallel zone of silicified and feldspathized rocks occurs north of coordinates, 3+50N. - 1+00W. It is not known if this zone is separate and distinct from the Moosehorn zone or if it is the Moosehorn zone, offset 80 meters to the east.

Most quartz veins which occur in the zone strike northwesterly and dip nearly vertical, but there are notable exceptions. The 4 meter wide Moosehorn vein appears to dip westerly, but was not intersected in drill holes which were drilled for the purpose of intersecting it. A contact which occurs in the easternmost part of the exploration trench on the Moosehorn vein, strikes N.20°W. and dips 46°E. This contact may reflect more accurately the attitude of the Moosehorn vein.

A strong lineament occurs at coordinates, L.4S. - 0+93W, striking N.30°W. A small and very straight valley occupies the lineament and is a prominent physiographic feature when observed from the air or from the ground. Discovery of a few pieces of rock float composed entirely of clay minerals, prompted trenching. Volcanic rocks, probably originally trachyandesite, are thoroughly argillized over a width in excess of 6 meters. A width of at least 4 meters of massive, cream colored clay occurs and, no doubt, reflects the proximity of a conduit along which hydrothermal fluids were transported. This occurrence is 400 meters S.30°E. from the nearest outcrop of the Moosehorn zone.

Geology of the Round Mountain Zones

The Round Mountain zones occur on a prominent mountain lying about 2 kilometers south of the mouth of Moosehorn Creek. The area of the mountain above the 1450 meter level has a circular, symmetrical form with a dome-shaped, rounded profile, hence the unofficial name "Round Mountain" is herein conferred. Good bedrock exposures occur above 1550 meters elevation.

The mountain is underlain mostly by a greenish andesite porphyry and some volcanic conglomerate. These are intruded by a narrow, northwesterly-striking rhyolite dike (Plate IV).

A zone of silicification with argillic alteration strikes about N.25°W. across the eastern part of the outcrop area. This zone of alteration is believed to be the northwesterly extension of the Cliff Creek zone, which is being explored on the Lawyers property.

Another zone of quartz stockworks and silicification strikes northerly across the western part of the map area. This zone strikes about north and occurs intermittently over a strike length of 500 meters.

Description of Rocks

Andesite porphyry has a green fine-grained matrix. Orthoclase occurs in volumes up to 5 percent. Plagioclase laths are 0.5 to 2 mm in length with a few up to 5 mm. Hornblende phenocrysts are up to 3 mm long. Quartz occurs as round grains scattered through the rock in volumes of about 0.5 percent.

Volcanic conglomerate beds occur in the andesite flows. They are composed of rounded to subangular clasts of volcanic rocks in a matrix of fine-grained epiclastic sedimentary rock.

A rhyolite dike strikes northwesterly, transecting the andesite porphyry. The rhyolite is fine-grained, and is pale green to pink to white in color. Quartz phenocrysts occur in volumes of up to 10 percent. They are sub-round in shape and about 1 to 2 mm in diameter.

Description of Rock Alteration

Rocks in the argillized zone on the east side of Round Mountain are bleached white to buff color. Relict textures of the andesite porphyry are visible in hand specimens. Feldspars and mafic minerals are replaced by sericite. A few films of goethite occur replacing pyrite veinlets, and limonite stains the weathered surfaces. The zone is about 75 meters wide.

Quartz and chalcedonic quartz form veins, stockworks and replacement masses in a north-striking zone on the west side of Round Mountain. In the zones of silicification, the rocks are grey in color with much flooding of bright, glassy quartz. Quartz also occurs in veins and stockworks a few millimeters in width. Vuggy quartz fills small open spaces 2 to 3 mm wide and is commonly stained by limonite. Feldspars are partially replaced by epidote. The zone of silicification is irregular in width and varies from a few meters to 50 meters.

Structural Geology of the Round Mountain Zone

Two structural trends are recognized on Round Mountain and both probably reflect a system of faulting.

On the west side of the mountain, a north-striking fault and a north-striking zone of silicification occur about 200 meters apart (Plate IV).

A northwesterly striking rhyolite dike and a northwesterly striking zone of argillic alteration occur on the eastern half of the mountain. It is shown above that this zone of argillic alteration may be the northwesterly continuation of the Cliff Creek zone which is being explored on the Lawyers property. Areas of strong clay alteration with silicification continue 1800 meters to the N.30°W. where they crop out above the banks of the Toodoggone River. Intervening ground is covered by talus and glacial debris.

EXPLORATION OF CASSIDY GROUPS 1 AND 2

A four-phase exploration program was employed on Cassidy Groups 1 and 2:

1. Geochemical surveys
2. Outcrop sampling
3. Trenching and bedrock sampling
4. Diamond drilling

Geochemical Surveys

The geochemical exploration program consists of 3 parts:

1. Silt sampling of creeks
2. Reconnaissance grid sampling of soils at a sample interval of 25 x 100 meters and 25 x 200 meters
3. Detailed soil sampling of grids on gold-silver anomalies, at a sample interval of 10 x 10 meters.

All analytical work was done by Bondar-Clegg & Company, Ltd., 130 Pemberton Avenue, North Vancouver, B.C. Some check assays were done by Chemex Labs Ltd., 212 Brooksbank Avenue, North Vancouver, B.C. and by Min-En Laboratories Ltd., 705 West 15th Street, North Vancouver, B.C.

All samples were analyzed for gold and silver:

Element	Extraction	Method
Gold	Fire-assay	Fire-assay AA
Silver	$H\ NO_3$ - HCl Hot Extr.	Atomic Absorption

Moreover, all samples were analyzed for three or four additional elements, including:

Element	Extraction	Method
Arsenic	Nitric Perchloric Dig	Colorimetric
Mercury	$H\ NO_3$ - HCl Hot Extr.	Color Vapor AA
Barium		X-ray fluorescence
Antimony		X-ray fluorescence
Copper	$H\ NO_3$ - HCl Hot Extr.	Atomic Absorption
Lead	$H\ NO_3$ - HCl Hot Extr.	Atomic Absorption
Zinc	$H\ NO_3$ - HCl Hot Extr.	Atomic Absorption

The geochemical maps show only gold and silver values as none of the other elements appear to reflect proximity to gold-silver anomalies.

Silt Sampling of Creeks

Four creeks occur on Cassidy Groups 1 and 2. Only Moosehorn Creek is named. Three of the creeks flow southerly to Toodoggone River and one creek flows northerly to Toodoggone River (Plate V).

Silt samples were collected at 100 meter intervals through the length of the creeks, except where physical conditions rendered sampling impossible as in steep canyons and in swamps. A total of 13 kilometers of creeks was traversed on Cassidy Groups 1 and 2 and 108 silt samples were collected.

Silts were collected from the main channel of the stream, so that samples would be less apt to reflect metal values of the rocks lying immediately upslope from the sample site. Silt, sand and gravel were shoveled onto a 16 mesh screen and the minus 16 fraction was collected in a gold pan. Excess water was carefully decanted and samples were bagged in Kraft 24 L envelopes. Sample collection by the two-man crew normally required about 20 minutes per sample.

It is shown on Plate V that, of the 108 silt samples collected during the survey (number ST 562 was apparently lost), the distribution of gold values is as follows:

> 200 ppb	9 samples
101 - 200	2
51 - 100	3
25 - 50	6
< 50	87
TOTAL	107 samples

Four anomalous samples which were taken from the creek in the southeastern part of G.W.P. No. 40, range from 200 ppb gold to 1350 ppb gold (Plate V). These show a nearly continuous anomaly over a length of 400 meters (one of 5 samples had low values). This anomalous area is downstream from SEREM's Cliff Creek zone. However, 16 samples upstream from the anomaly have low gold values, suggesting that the anomaly may reflect a local source for the gold in the silts. It is noted that this locality is on strike of the Moosehorn zone.

In the northwestern part of claim G.W.P. No. 30, three of seven samples from a length of 600 meters of the creek have high gold values: 460 ppb, 720 ppb and 3200 ppb. These are in an area of no outcrop.

Three samples from near the mouth of Moosehorn Creek range from 840 to 2300 ppb gold. These sample sites are 700 to 900 meters downstream from the Moosehorn zone, which is known to contain gold values.

Three samples from Moosehorn Creek in the northeastern part of G.W.P. No. 30 have high values: 1050, 3100 and greater than 10,000 ppb gold. This is in an area of no outcrop, and the source of the gold is not known.

Reconnaissance Grid Soil Survey

A baseline 7800 meters in length and striking N.28°W. was cut, chained and picketed. Grid lines were cut at right angles to the baseline and also were chained and picketed (Plates VI and VII). A total of 36,800 meters of grid lines was cut, making a total of 44.6 kilometers of cut lines on Cassidy Groups 1 and 2. This total does not include a second baseline cut on Cassidy Groups 3, 4 and 5.

A separate grid on Cassidy Groups 1 and 2 was prepared on Round Mountain, but much of this grid is above treeline and little cutting was required. The baseline for this grid is referred to as "Baseline 28" as it is on claim, G.W.P. No. 28 (Plate VIII).

Plate VI shows the geochemical soil grid which is centered on Moosehorn Canyon. This grid extends from line 20 North to 18 South, and from 1000 meters east to 1000 meters west, making a grid area of about 2000 meters by 3800 meters. Plate II is a geomorphological map of the same area.

The geomorphological map shows that, except for the south-easternmost part of the grid area and the area of Moosehorn Canyon, the entire survey area is covered by gravel and glacial deposits. Furthermore, much of the area lying on strike of regional structures is covered by swamps.

A total of 1,011 soil samples was collected in the reconnaissance soil survey on this grid. The distribution of gold and silver geochemical analyses from those samples is as follows:

	GOLD		SILVER		
> 200 ppb	18	samples	> 4 ppm	11	samples
101 - 200	19	samples	2 - 4	26	samples
50 - 100	23	samples	1 - 2	84	samples
< 50	951	samples	< 1	890	samples
TOTAL	1,011	samples	Total	1,011	samples

It is immediately apparent from an inspection of Plate VI that the greatest number of anomalous samples are from the area near Moosehorn Canyon and from the southeasterly part of the grid area. As noted above, gravel and glacial deposits (Plate II) have been partially removed from these areas. In one instance, overburden was removed downslope to Moosehorn Creek and in the other, it was removed downslope to Toodoggone River.

Most of the grid area has low relief and is covered by 2 to 4 meters of overburden. In the areas which are covered by a mantle of gravel and glacial deposits, nearly all of the geochemical soil samples have low assays: gold, less than 5 ppb and silver, less than 0.2 ppm to 0.4 ppm. Assays from these covered areas probably reflect the metal content of the transported gravel and glacial deposits, and give little or no indication of the presence or absence of gold and silver in bedrock.

Ten sample sites in which anomalous values in gold and/or silver occur were tested with close space grid sampling:

Sample Coordinates	Gold (ppb)	Silver (ppm)
6+00N., 5+25E	380	0.4
4+00N., 9+75	620	0.2
4+00N., 0+50	760	0.4
2+00N., 0+00	180	0.3
2+00N., 1+50	420	0.6
8+00S., 0+00	190	13.3
12+00S., 2+75	460	0.3
14+00S., 4+00	<5	6.4
16+00S., 5+00	<5	4.5
18+00S., 9+50	520	0.4

Detailed Geochemical Soil Survey

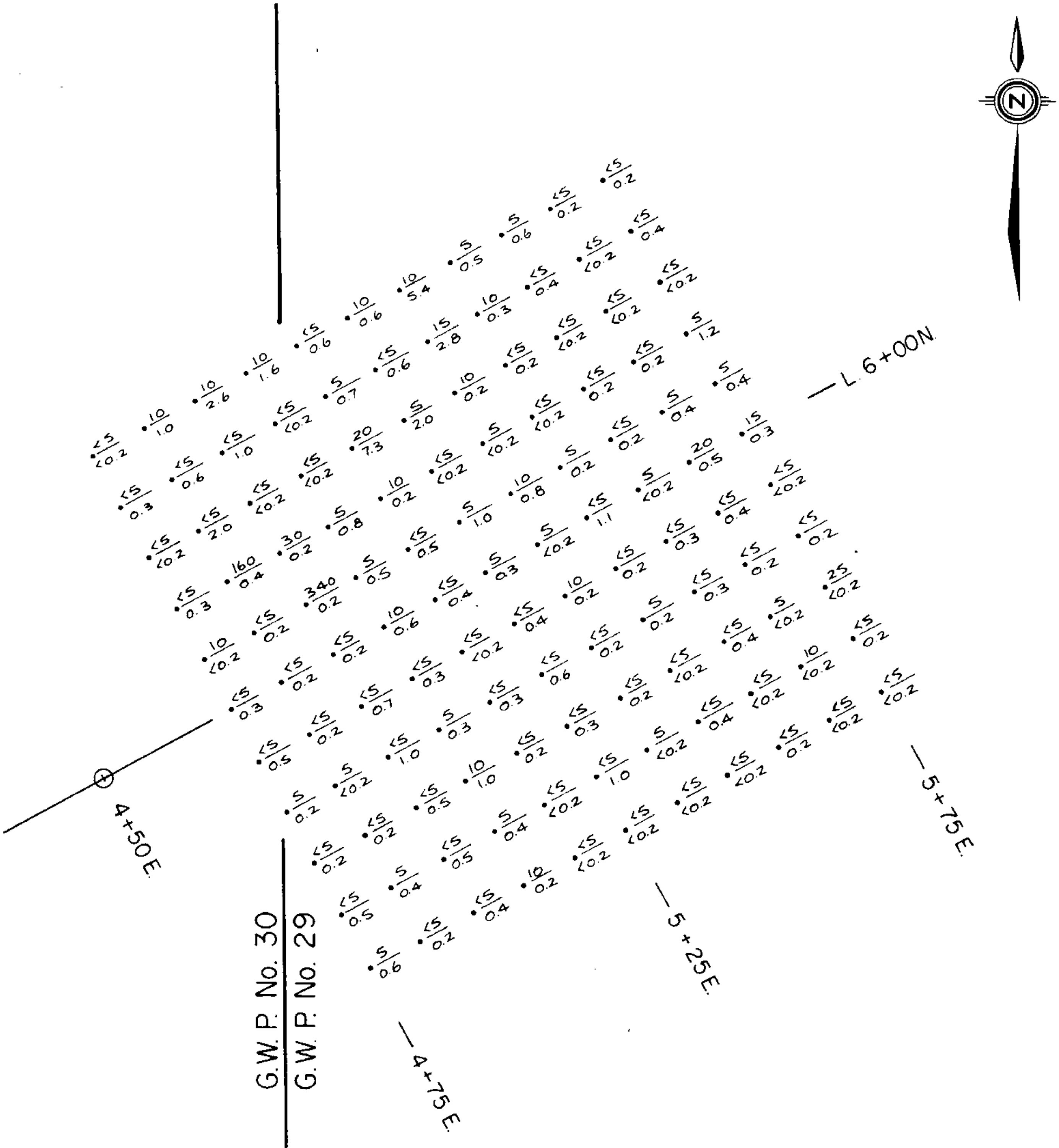
Ten grid areas, 100 x 100 meters were soil sampled at localities in which anomalous gold-silver values were found. A 10 x 10 meter sample array was maintained. Thus, eleven lines were sampled, each line producing eleven sample sites, or a possible 121 samples per grid. The soil sample maps from this survey are shown in Figures 6 to 13. A total of 1,378 samples was collected from a possible 1,498 sample sites.

Distribution of gold and silver values in each of the close-spaced grids is as follows:

Fig. No.	Detail Sample Grid Coordinates at Center of Grid	Number of Samples						
		Gold (ppb)			Silver (ppm)			Total Samples
		>200	101-200	50.-100	>4	2-4	1-2	
6	6+00N.,5+25 E.	1	1	nil	2	2	8	121
7	4+00N.,9+75 E.	nil	1	1	nil	nil	nil	121
8	4+00N.,0+50 E.							
8	2+00N.,0+00 E.	7	8	20	nil	3	8	578
8	2+00N.,1+50 E.							
9	8+00S.,0+00 E.	8	9	21	24	25	40	118
10	12+00S.,2+75 E.	6	5	17	4	13	12	106
11	14+00S.,4+00 E.	2	6	2	nil	4	15	108
12	16+00S.,5+00 E.	nil	3	4	2	8	12	119
13	18+00S.,9+50 E.	3	1	4	2	2	15	107
	Total samples	27	34	69	34	57	110	1,378

The highest gold-silver values in the close-spaced grids occur in sample sites shown on Figures 9, 10, 11, 12 and 13. This is at least partly due to the fact that the paleosurface is partially exhumed by the downslope movement and removal of glacial overburden, thus making the soil samples more representative of bedrock, than of the overlying unconsolidated deposits.

Figure 9 is the detailed sample grid of an area at 8+00 South on the baseline. During the detailed grid sampling program, large amounts of vein quartz were found in the soil and on the surface. This locality is less than 100 meters from Toodoggone River terrace gravels and only 30 meters above the water level which existed at the time those gravels were deposited. Bedrock in this area is mostly exhumed. However, 150 meters to the east and 40 meters higher in elevation, debris from a large boulder moraine continues to slough downhill.



EXPLANATION

Sample Site • Au (ppb) / Ag (ppm)

Figure 6

CYPRUS METALS CANADA

Toodoggone Project

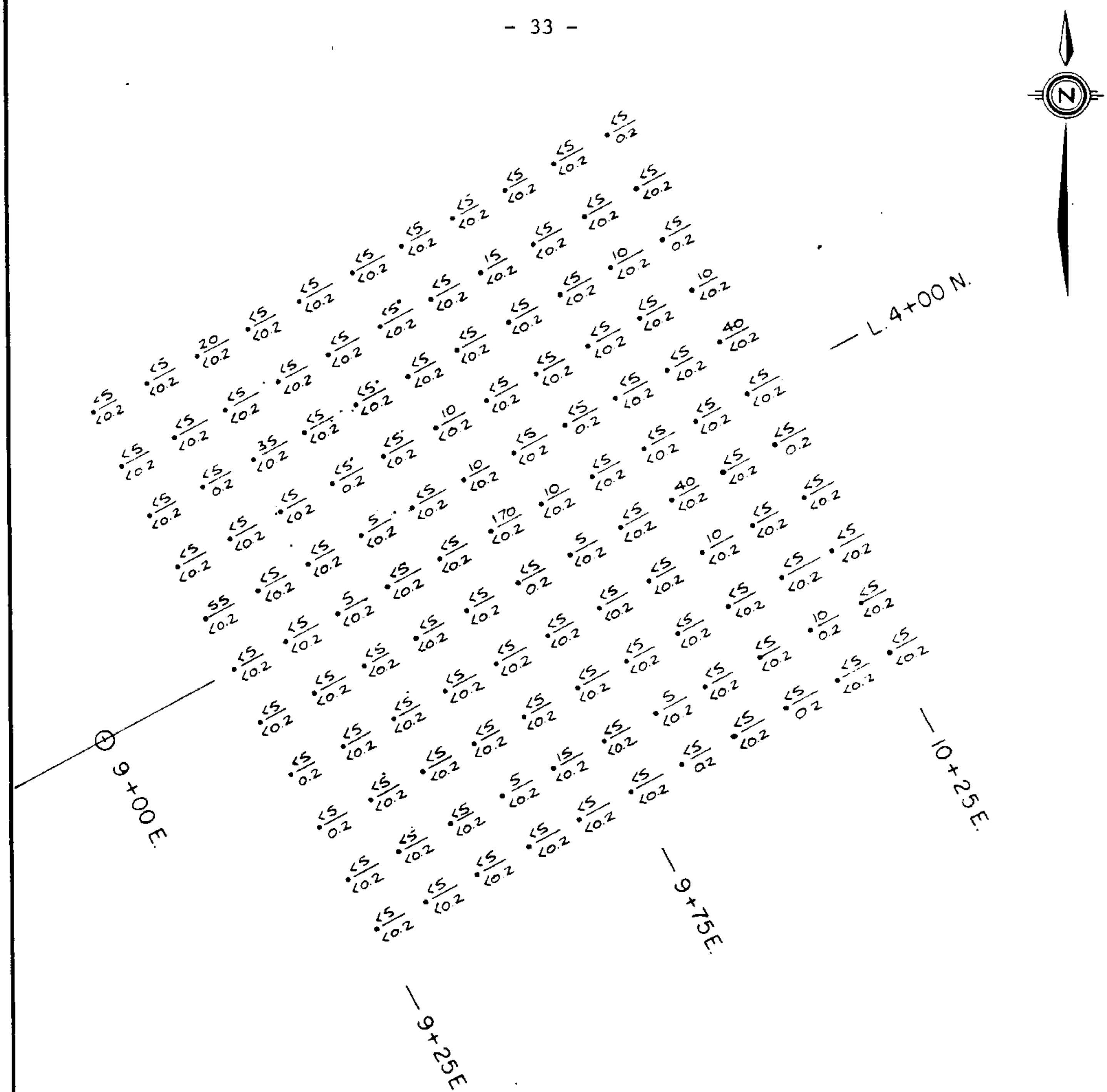
Close-Spaced Geochemical Grid Showing Gold and Silver Content of Soils

Mineral Claims G.W.P. Nos. 29 & 30, Cassidy Groups 1 & 2

m 0 10 20 30 40 50 100 m

WILLARD D. TOMPSON

October 7, 1986



EXPLANATION

Sample Site • Au (ppb) / Ag (ppm)

Figure 7

CYPRUS METALS CANADA

Toodoggone Project

Close-Spaced Geochemical Grid Showing Gold and Silver Content of Soils

Mineral Claim G.W.P. No. 29, Cassidy Group No. 2

m 0 10 20 30 40 50 100 m

WILLARD D. TOMPSON

October 7, 1986

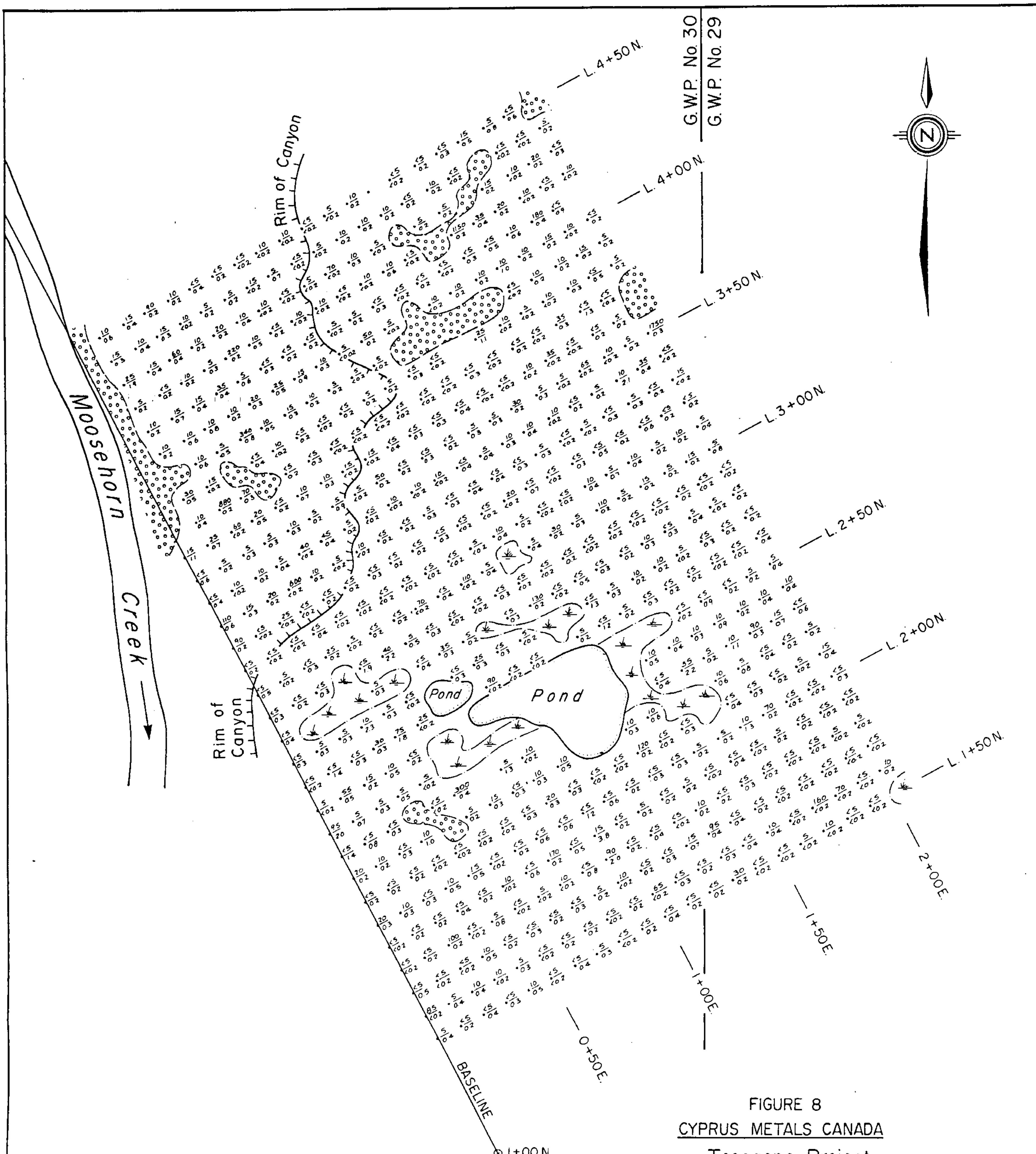


FIGURE 8

CYPRUS METALS CANADA

Tooggone Project

Map Showing
Gold and Silver Content of Soils

Mineral Claims G.W.P. Nos. 29 and 30

Cassidy Groups 1 and 2

Omineca Mining Division, British Columbia

Grid Control by Compass and Chain

Willard D. Tompson   October 10, 1986

m 0 10 20 30 40 50 100 m

EXPLANATION

Au (ppb) / Ag (ppm) • Sample site

Swamp

Boulders

JW

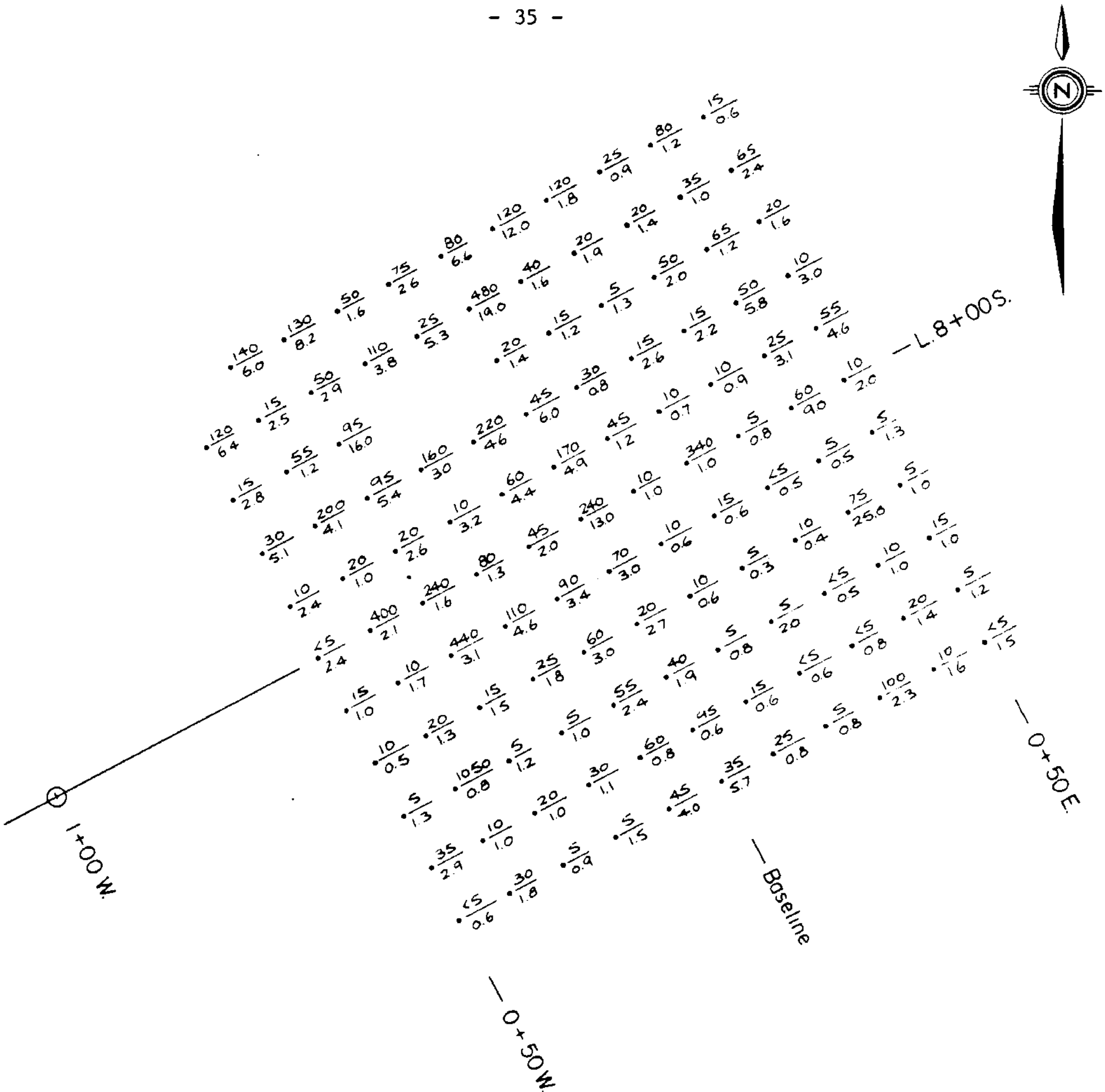


Figure 9

CYPRUS METALS CANADA

Toodoggone Project

Close-Spaced Geochemical Grid Showing Gold and Silver Content of Soils

Mineral Claim G.W.P. No. 27, Cassidy Group No. 1

m 0 10 20 30 40 50 100 m

WILLARD D. TOMPSON

October 7, 1986

EXPLANATION

Sample Site • Au (ppb) / Ag (ppm)

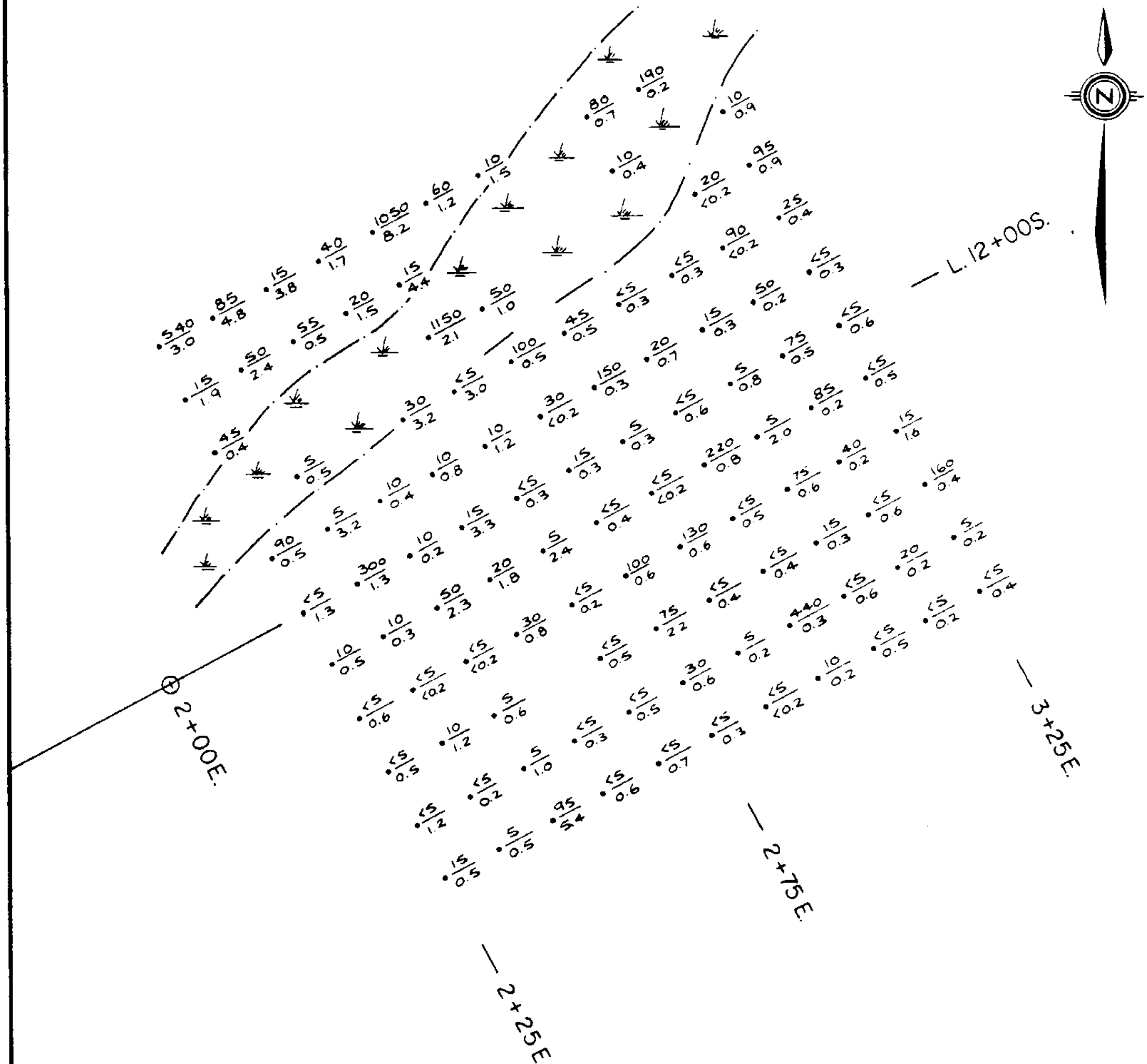


Figure 10

CYPRUS METALS CANADA

Toodoggone Project

Close-Spaced Geochemical Grid Showing Gold and Silver Content of Soils

Mineral Claim G.W.P. No. 27, Cassidy Group No. 1

m 0 10 20 30 40 50 100 m

WILLARD D. TOMPSON

October 7, 1986

EXPLANATION

Sample Site • Au (ppb) / Ag (ppm)

Swamp

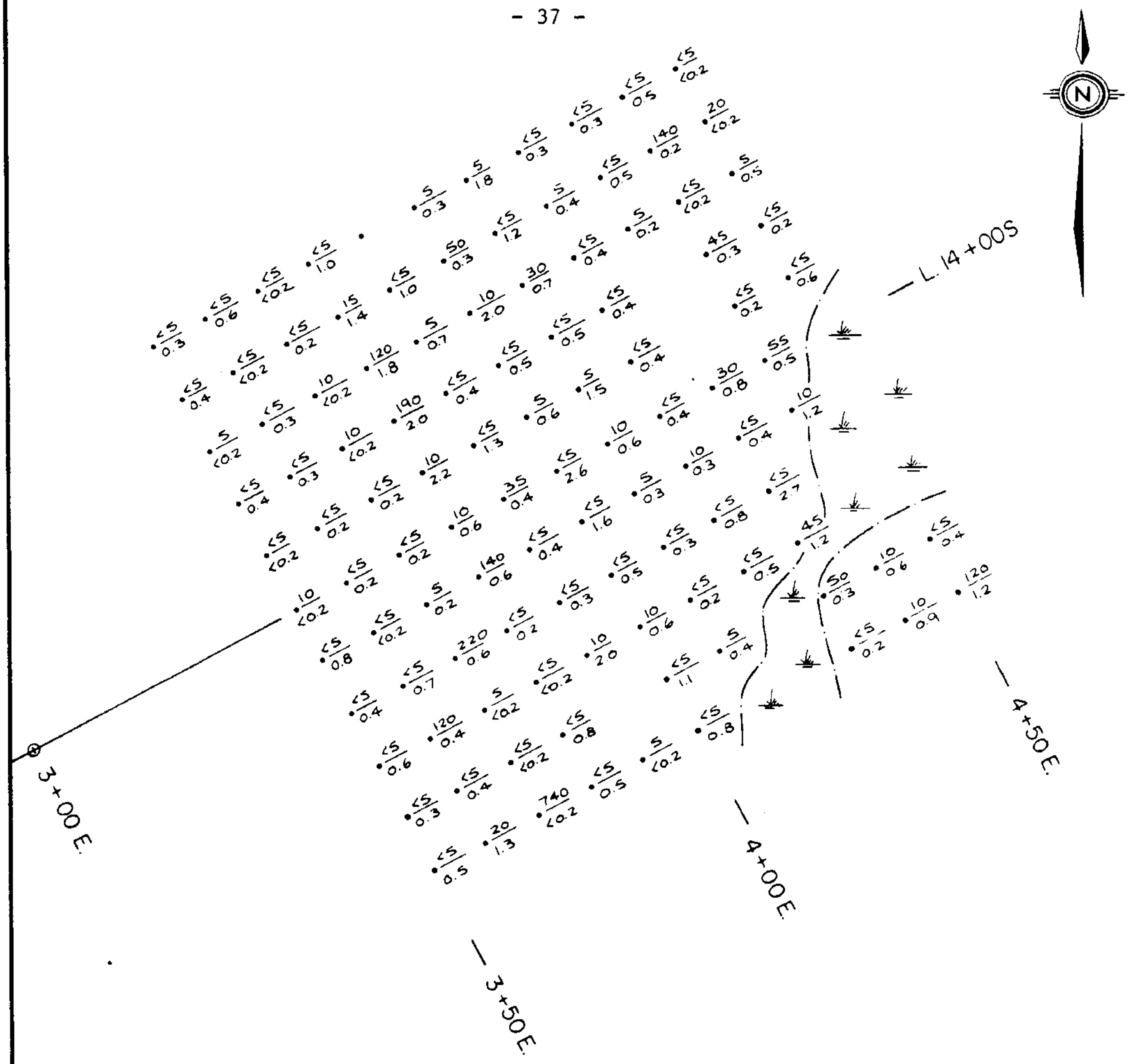


Figure II

CYPRUS METALS CANADA

Toodoggone Project

Close-Spaced Geochemical Grid Showing Gold and Silver Content of Soils

Mineral Claim G.W.P. No. 27, Cassidy Group No. 1

m 0 10 20 30 40 50 100 m

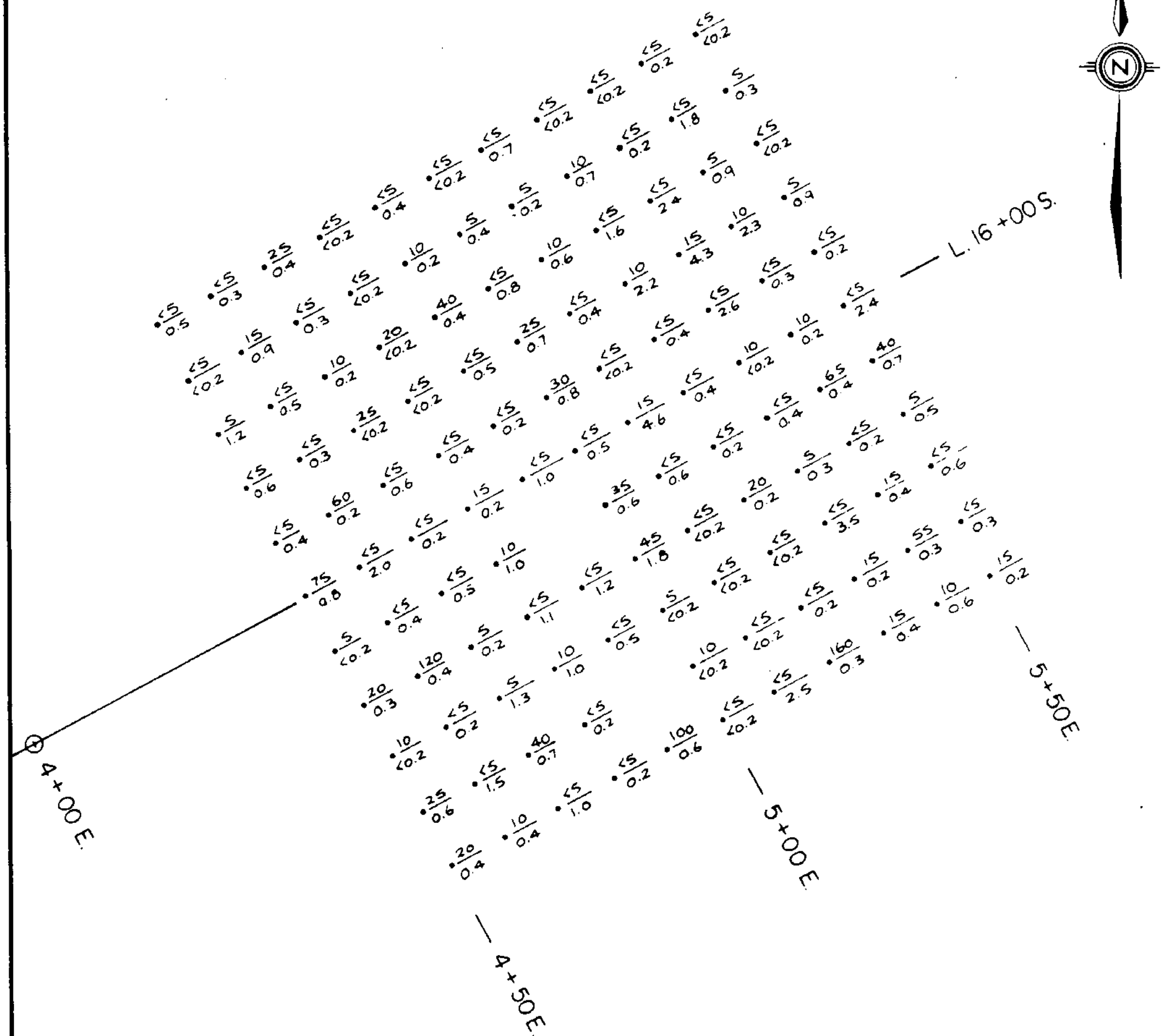
WILLARD D. TOMPSON

October 7, 1986

EXPLANATION

Sample Site • Au (ppb) / Ag (ppm)

Swamp



EXPLANATION

Sample Site • Au (ppb) / Ag (ppm)

Figure 12

CYPRUS METALS CANADA

Toodoggone Project

Close-Spaced Geochemical Grid Showing Gold and Silver Content of Soils

Mineral Claim G.W.P. No. 27, Cassidy Group No. 1

m 0 10 20 30 40 50 100 m

WILLARD D. TOMPSON

October 7, 1986

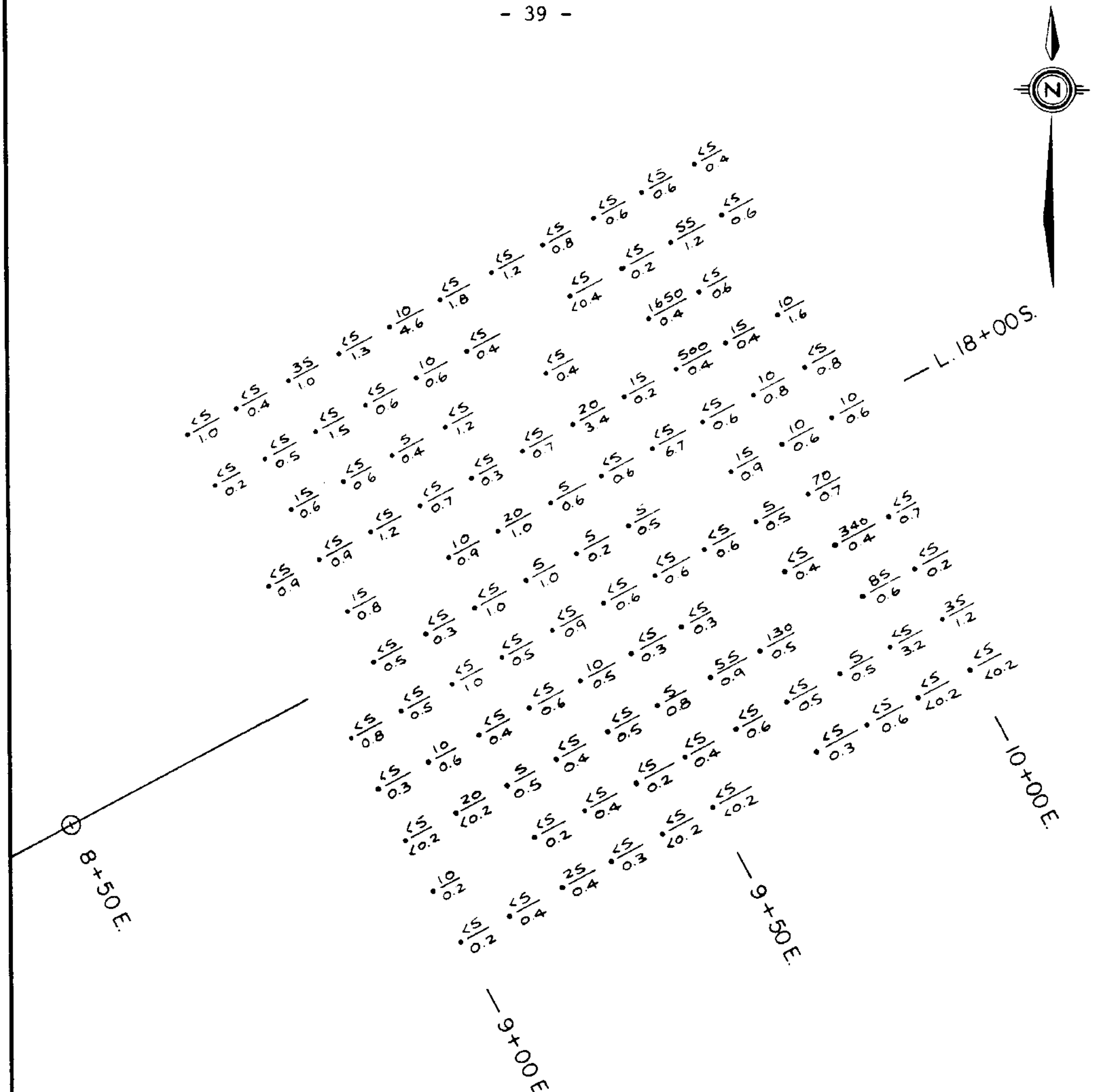


Figure 13

CYPRUS METALS CANADA

Toodoggone Project

Close-Spaced Geochemical Grid Showing Gold and Silver Content of Soils

Mineral Claim G.W.P. No. 27, Cassidy Group No.1

m 0 10 20 30 40 50 100 m

WILLARD D. TOMPSON

October 7, 1986

EXPLANATION

Sample Site • Au (ppb) / Ag (ppm)

Four diamond drill holes were drilled in this area as a result of the geochemical discovery. They are drill holes number 86-7, 86-8, 86-9 and 86-12.

Geochemical Survey South of Toodoggone River

A reconnaissance soil grid was sampled between grid lines 28+00 South and 48+00 south on Baseline No. 1. This area is from 1000 to 3000 meters south of Toodoggone River and lies on a northerly to northeasterly-facing slope which has an average grade of about 10 percent. Bedrock throughout this survey area is covered by an undetermined thickness of colluvium and glacial debris.

The sample grid and gold and silver analyses are shown on Plate VII. The map shows that a large part of the area is covered by swamps. Vegetation in much of the grid area is scrub spruce and balsam which grows in a low lying tangle of branches, making grid soil sampling very difficult.

It is noted that of 310 samples which were taken in the survey, 8 samples contained greater than 50 ppb of gold and 11 had greater than 1 ppm of silver.

Geochemical Survey on Round Mountain

A reconnaissance geochemical soil survey was conducted on Round Mountain, using the prepared grid for control of sample site locations (Plate VIII). The geology of Round Mountain is shown on Plates I and IV.

About half of the soil samples were taken in areas where bedrock is covered by a thin mantle of soil and weathered and frost-heaved rock, developed mostly from underlying bedrock.

A total of 213 soil samples was collected during the survey. Twelve of the samples contained greater than 50 ppb of gold and 44 samples had more than 1 ppm of silver.

It may be noted that a strand of anomalous samples, 350 meters wide, lies parallel to the baseline. These anomalous samples may reflect the extension of the Cliff Creek structure which is being explored by SEREM on their Lawyers property (Plate I).

Outcrop Sampling

Silicified outcrops in Moosehorn Canyon were sampled in localities where they were accessible. The sampled areas and assays are shown in Figures 14 to 26, pages 42 to 54.

Samples were moiled from bedrock across the available rock exposures. Continuous chip samples were collected along one meter intervals and bagged in 12 by 18 inch, 6 mil plastic bags and identified with appropriate sample tags. Each sample weighed about 2.5 to 3.5 kilograms (5.5 to 7.7 pounds).

Survey stations shown in Figures 14 to 26 are the same stations which are shown on Plate III, thus sampled areas and assays may be compared with the geology at the sample sites. The sites occur over a length of about 400 meters in the canyon.

Assay values range from 30 to 3200 ppb gold and from 1.2 to 125.5 ppm silver.

Distribution of values of 101 rock samples taken from outcrops are as follows:

Gold				Silver			
>800	ppb	2	samples	>80	ppm	3	samples
401-800		14		41-80		4	
201-400		22		21-40		5	
100-200		21		10-20		21	
<100		42		<10		68	
TOTAL		101	samples			101	samples

Areas in which rock assays are greater than 400 ppb gold and greater than 20 ppm silver are believed to warrant additional geological and geochemical evaluation.

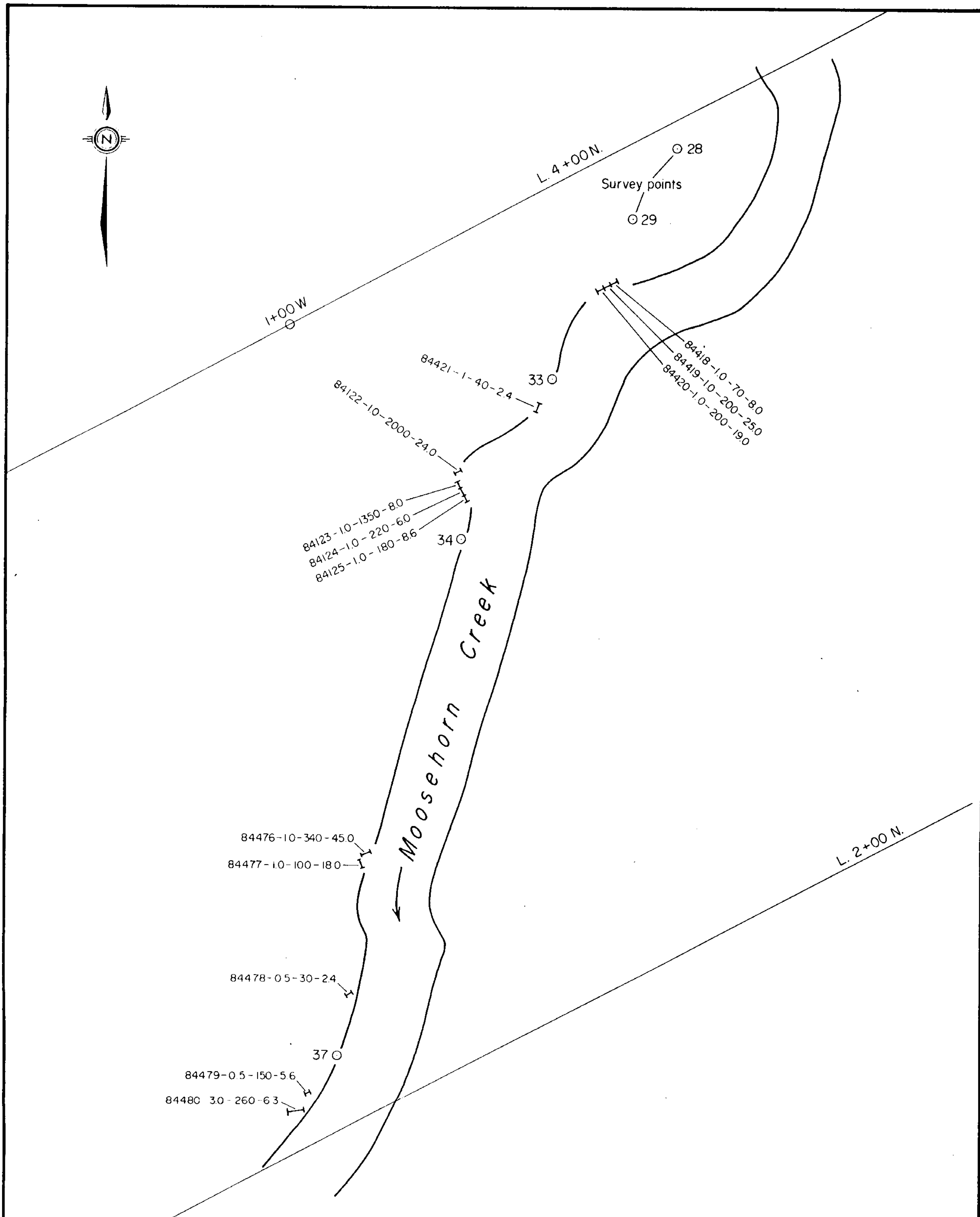


Figure 14

CYPRUS METALS CANADA

Toodoggone Project

Assay Map of Outcrops in Moosehorn Canyon

Mineral Claim, G.W.P. No. 30, Cassidy No.1 Group

m 0 .5 1 2 4 6 m

WILLARD D. TOMPSON Nov. 10, 1986

ASSAY ORDER:

Sample No - Width (m) - Au (ppb) - Ag (ppm) - As (ppm)

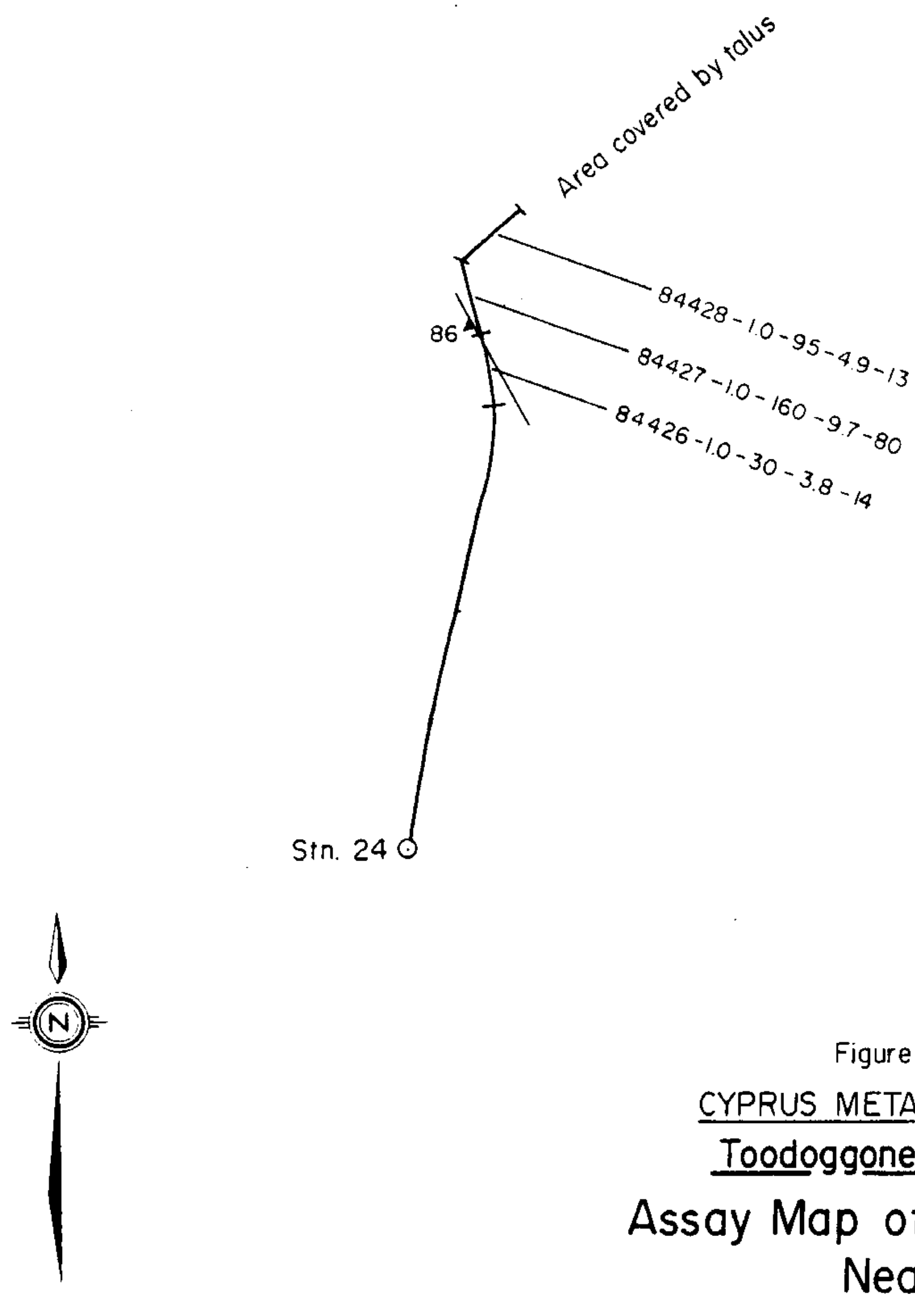


Figure 15

CYPRUS METALS CANADA

Toodoggone Project

Assay Map of Outcrops Near Survey Station 24, Moosehorn Canyon

Mineral Claim, G. W. P. No. 30, Cassidy No. 1 Group

m 0 5 1 2 4 6 m

WILLARD D. TOMPSON Aug. 4, 1986

ASSAY ORDER:

Sample No. - Width (m) - Au (ppb)-Ag (ppm) - As (ppm)

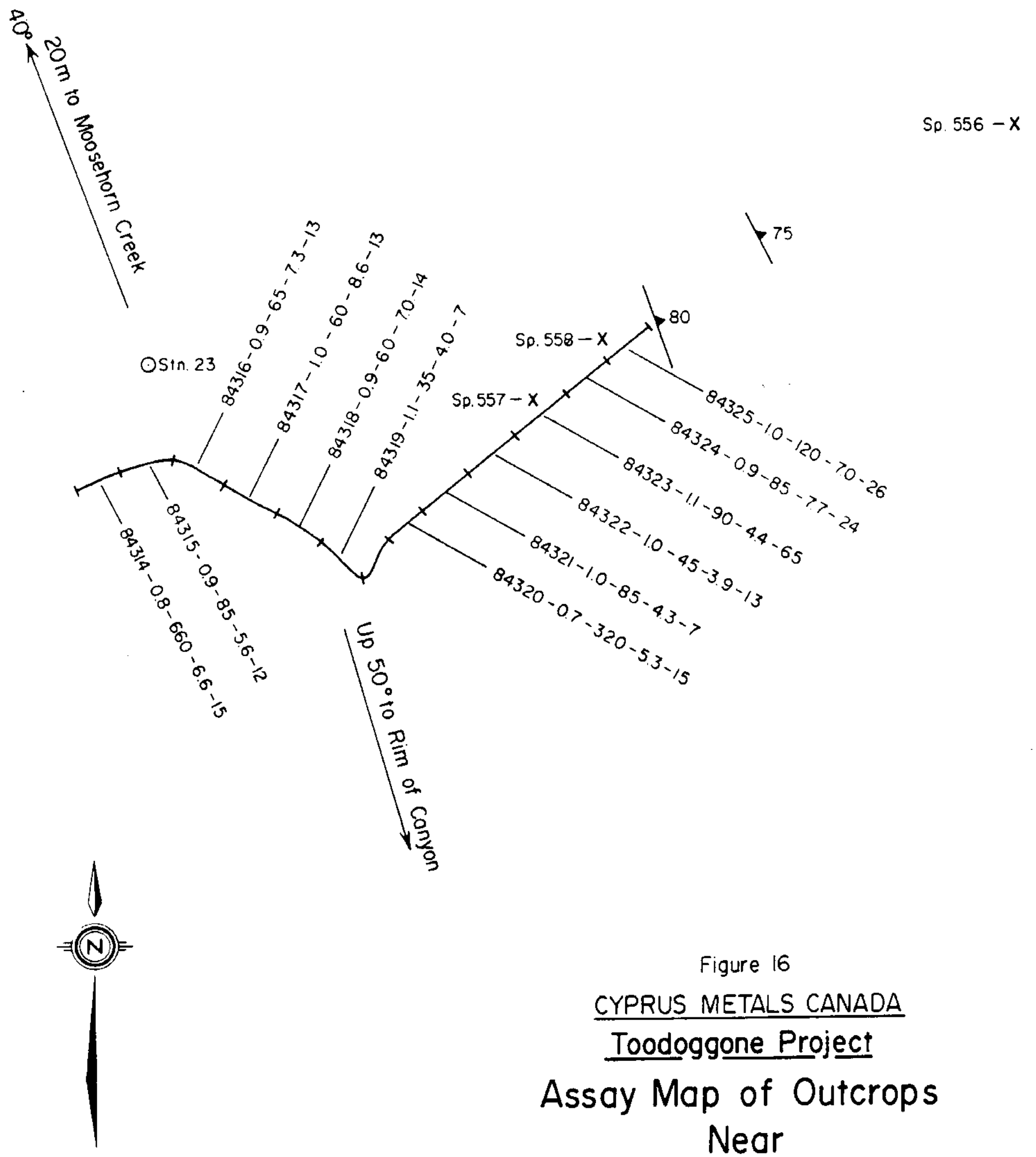


Figure 16

CYPRUS METALS CANADA

Toodoggone Project

Assay Map of Outcrops Near Survey Station 23, Moosehorn Canyon

Mineral Claim, G. W. P. No. 30, Cassidy No.1 Group

m 0 .5 1 2 4 6 m

WILLARD D. TOMPSON Aug. 4, 1986

ASSAY ORDER:

Sample No – Width (m) – Au (ppb) – Ag (ppm) – As (ppm)

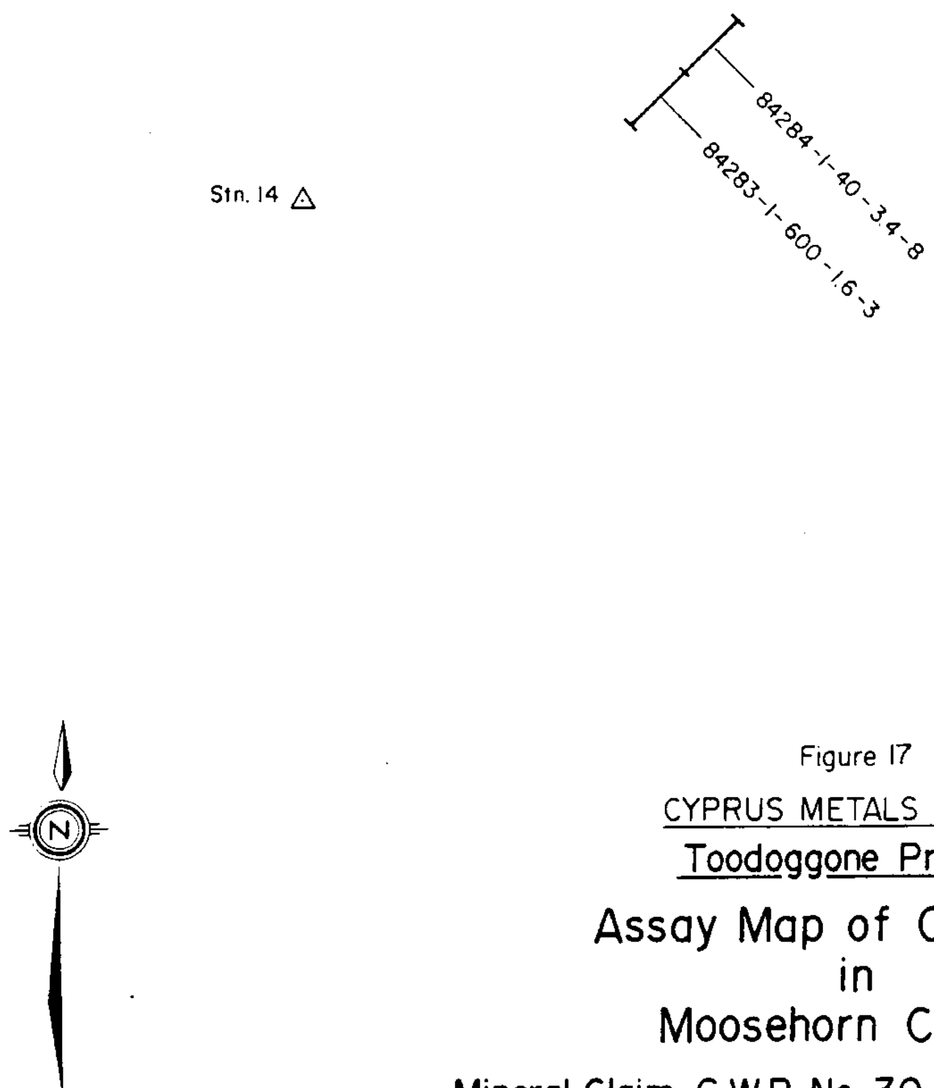


Figure 17

CYPRUS METALS CANADA

Toodoggone Project

Assay Map of Outcrops in Moosehorn Canyon

Mineral Claim, G.W.P. No. 30, Cassidy No.1 Group

ASSAY ORDER:
Sample No.-Width(m)-Au(ppb)-Ag(ppm)-As(ppm)

m 0 .5 1 2 4 6 m

WILLARD D. TOMPSON July 20, 1986

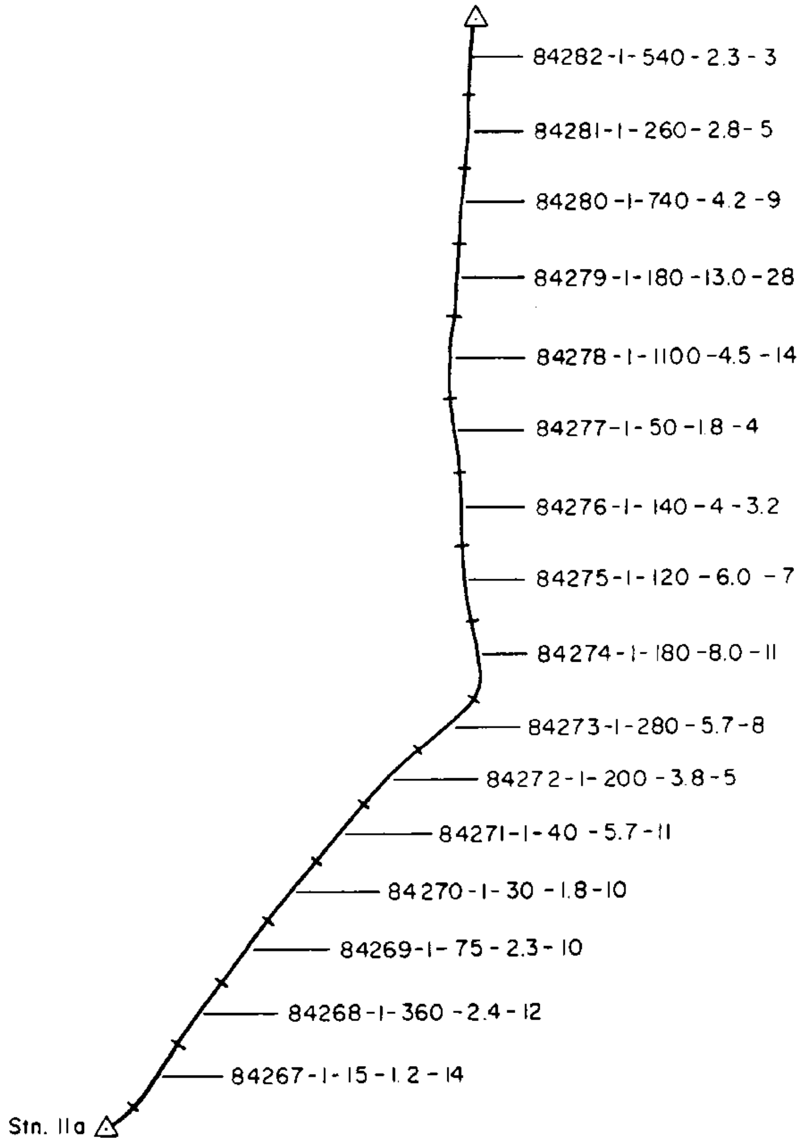


Figure 18

CYPRUS METALS CANADA

Toodoggone Project

Assay Map of Outcrops in Moosehorn Canyon

Mineral Claim, G.W.P. No. 30, Cassidy No.1 Group

ASSAY ORDER:
Sample No. - Width(m) - Au(ppb) - Ag(ppm) - As(ppm)

m 0 .5 1 2 4 6m

WILLARD D. TOMPSON July 20, 1986

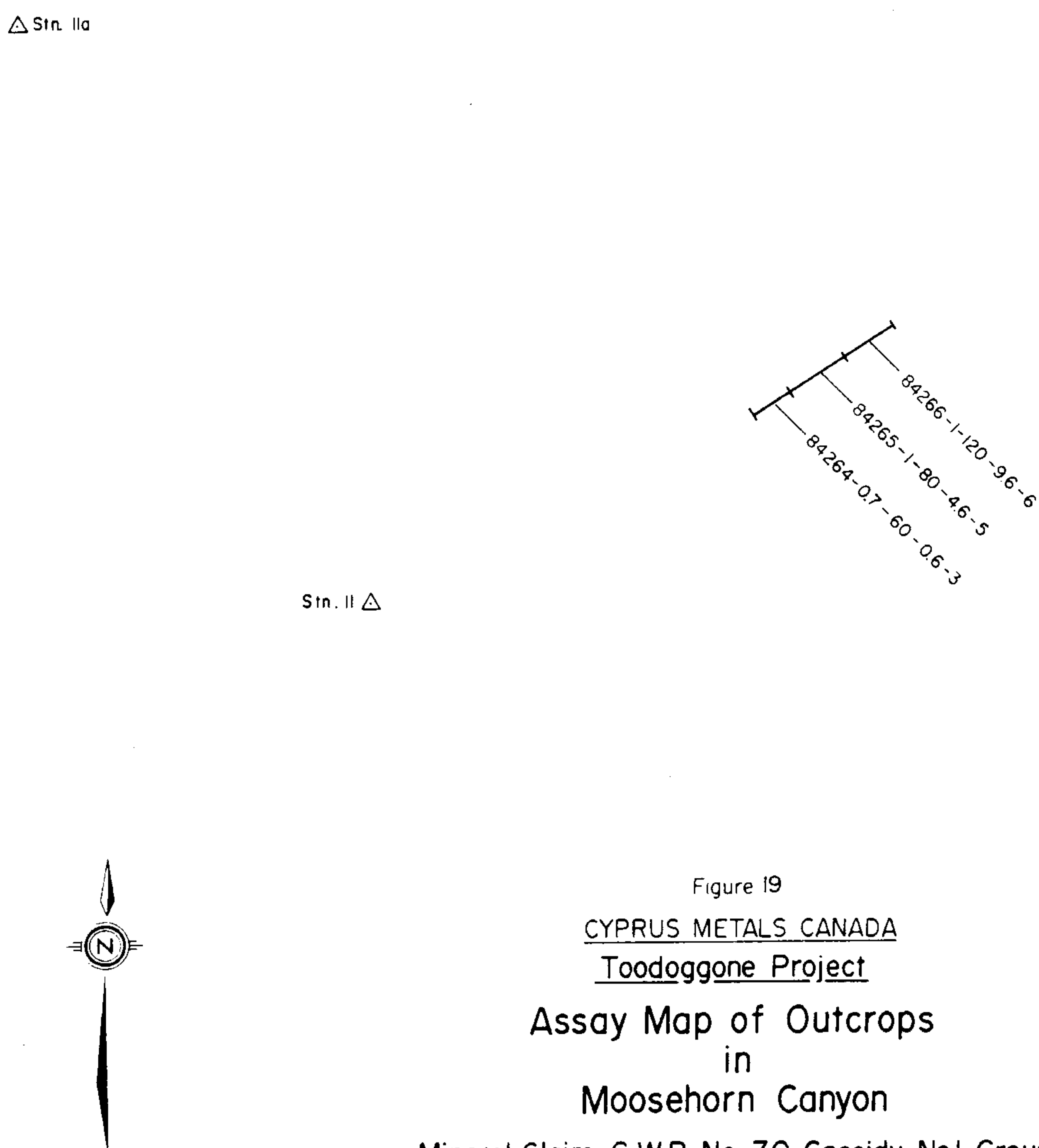


Figure 19

CYPRUS METALS CANADA

Toodoggone Project

Assay Map of Outcrops in Moosehorn Canyon

Mineral Claim, G.W.P. No. 30, Cassidy No.1 Group

m 0 .5 1 2 4 6 m

WILLARD D. TOMPSON July 20, 1986

ASSAY ORDER:
Sample No. - Width (m) - Au (ppb) - Ag (ppm) - As (ppm)

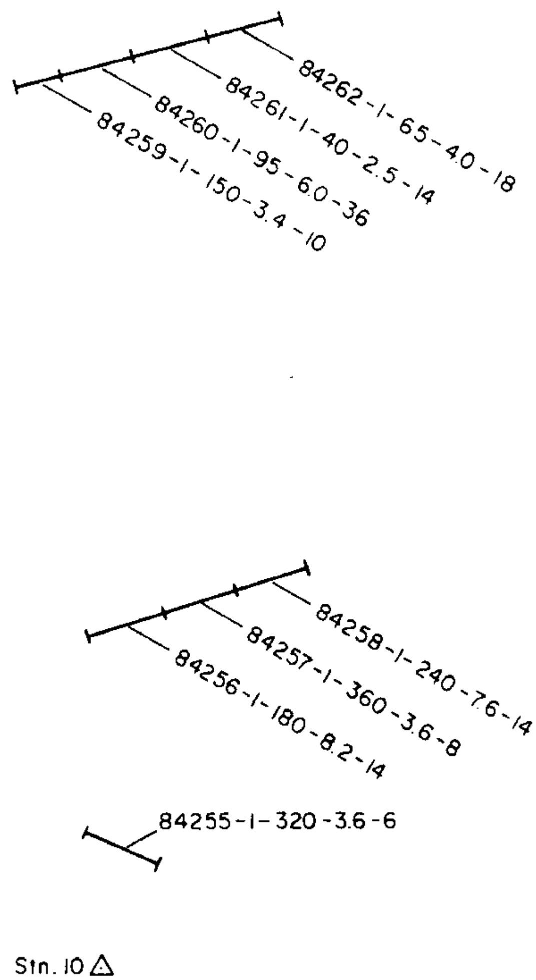


Figure 20

CYPRUS METALS CANADA

Toodoggone Project

Assay Map of Outcrops in Moosehorn Canyon

Mineral Claim, G.W.P. No. 30, Cassidy No.1 Group

m 0 .5 1 2 4 6 m

WILLARD D. TOMPSON July 20, 1986

ASSAY ORDER:
Sample No. - Width(m) - Au(ppb) - Ag(ppm) - As(ppm)

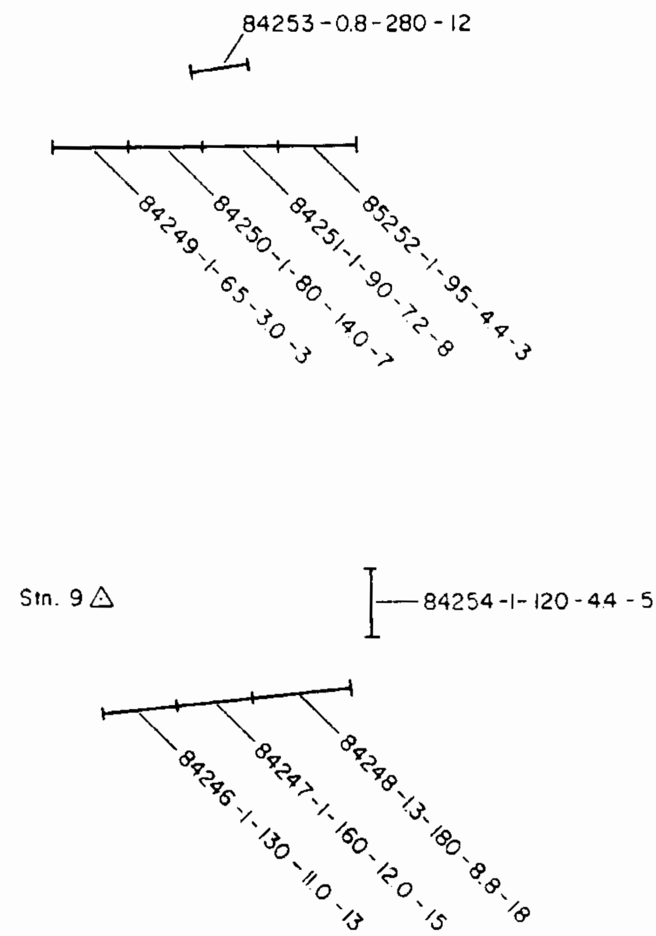


Figure 21

CYPRUS METALS CANADA

Toodoggone Project

Assay Map of Outcrops in Moosehorn Canyon

Mineral Claim, G.W.P. No. 30, Cassidy No.1 Group

m 0 .5 1 2 4 6 m

WILLARD D. TOMPSON July 20, 1986

ASSAY ORDER:
Sample No.-Width(m)-Au(ppb)-Ag(ppm)-As(ppm)

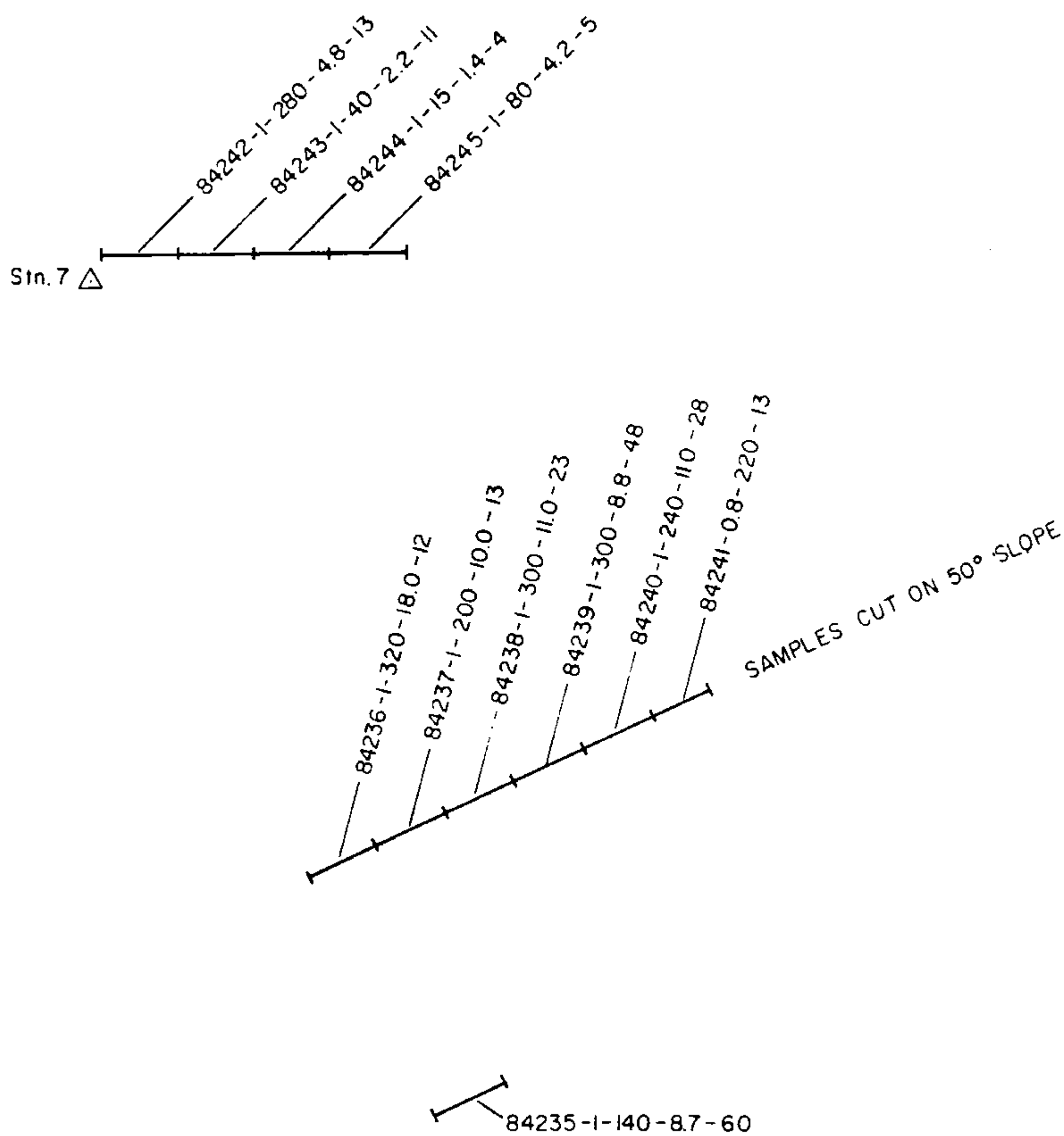


Figure 22

CYPRUS METALS CANADA

Toodoggone Project

Assay Map of Outcrops in Moosehorn Canyon

Mineral Claim, G.W.P. No. 30, Cassidy No.1 Group

m 0 .5 1 2 4 6 m

WILLARD D. TOMPSON July 20, 1986

ASSAY ORDER:
Sample No.-Width(m)-Au(ppb)-Ag(ppm)-As(ppm)

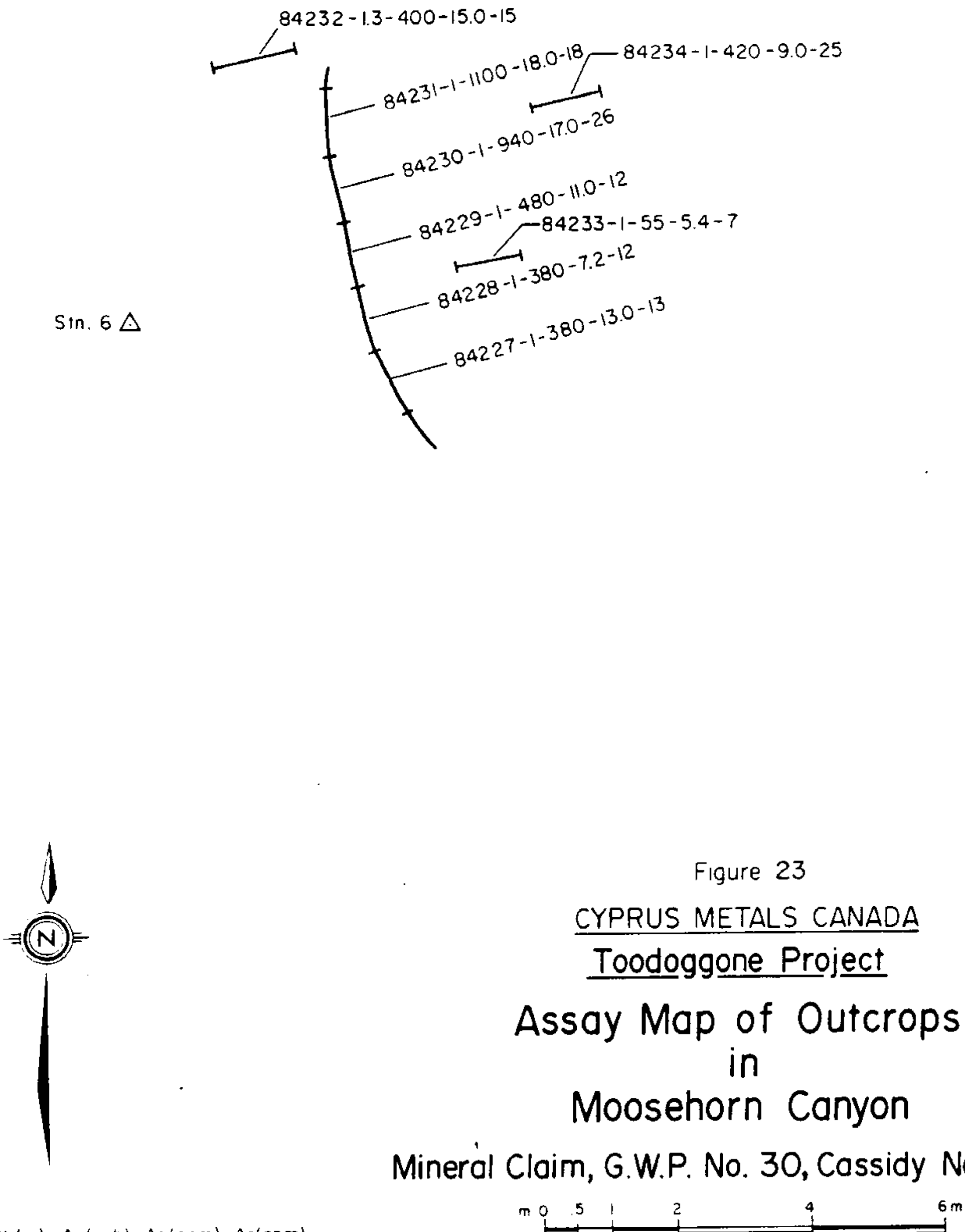


Figure 23

CYPRUS METALS CANADA

Toodoggone Project

Assay Map of Outcrops in Moosehorn Canyon

Mineral Claim, G.W.P. No. 30, Cassidy No.1 Group

ASSAY ORDER:
Sample No.-Width(m)-Au(ppb)-Ag(ppm)-As(ppm)

WILLARD D. TOMPSON July 20, 1986

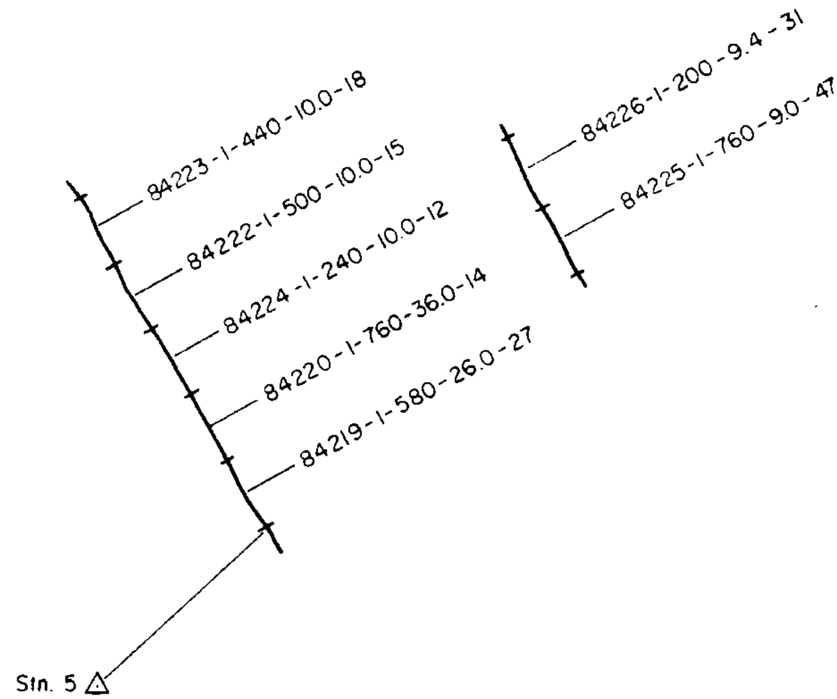


Figure 24

CYPRUS METALS CANADA

Toodoggone Project

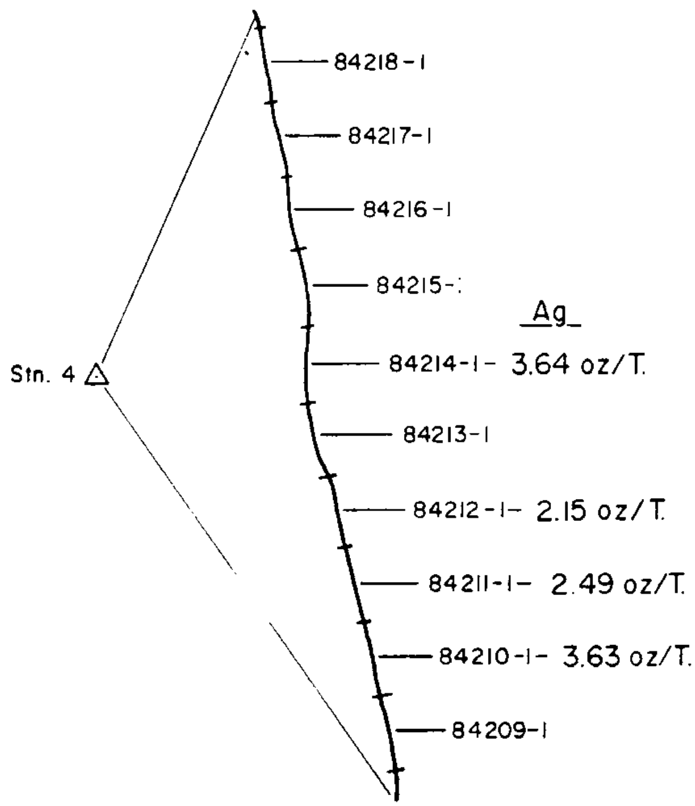
Assay Map of Outcrops in Moosehorn Canyon

Mineral Claim, G.W.P. No. 30, Cassidy No.1 Group

m 0 .5 1 2 4 6m

WILLARD D. TOMPSON July 20, 1986

ASSAY ORDER:
Sample No. - Width(m) - Au(ppb) - Ag(ppm) - As(ppm)



See also figure 26

Figure 25

CYPRUS METALS CANADA

Toodoggone Project

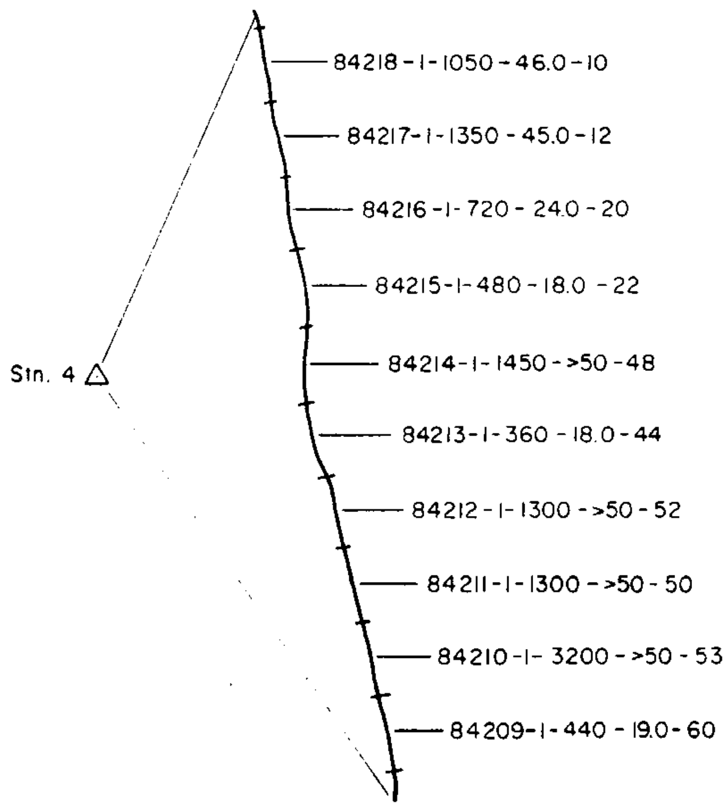
Assay Map of Outcrops in Moosehorn Canyon

Mineral Claim, G.W.P. No. 30, Cassidy No.1 Group

m 0 .5 1 2 4 6m

WILLARD D. TOMPSON July 20, 1986

ASSAY ORDER:
Sample No.-Width(m)



See also figure 25

Figure 26

CYPRUS METALS CANADA

Toodoggone Project

Assay Map of Outcrops in Moosehorn Canyon

Mineral Claim, G.W.P. No. 30, Cassidy No.1 Group

WILLARD D. TOMPSON July 20, 1986

ASSAY ORDER:
Sample No. - Width(m) - Au(ppb) - Ag(ppm) - As(ppm)

Trenching and Sampling

Several hand trenches were dug along the Moosehorn zone. Blast holes were drilled using a diesel-powered Atlas Copco XAS-50 compressor, skid mounted and rigged for slinging with a helicopter.

Trenches were dug to provide specific kinds of information:

1. Zones of silicification were trenched to facilitate sampling and to improve exposures for geological mapping.
2. Covered areas were trenched where float indicated the possible presence of quartz veins or clay zones.

Trench, Baseline at 10+00N

The trench shown in Figure 27 lies at the northernmost outcrop of the Moosehorn zone of argillic alteration. Quartz stockworks occur in bedrock exposures at the crossing of Baseline No. 1 and grid line, 10+00N. Nine continuous chip samples were cut from bedrock. Each weighed about 4 kilograms.

Distribution of assay values is as follows:

Gold (ppb)		Silver (ppm)	
101-200	1 sample	<10	9 samples
<100	8		
TOTAL	9 samples		

Trench, 8+60N. - 0+45W.

A small creek flows southeasterly and joins Moosehorn Creek immediately below the waterfall. About 100 meters west of the confluence of the streams, strong quartz stockworks crop out on the north bank of the creek. A trench was blasted into bedrock over a length of 18 meters and a second small outcrop was also trenched (Figure 28).

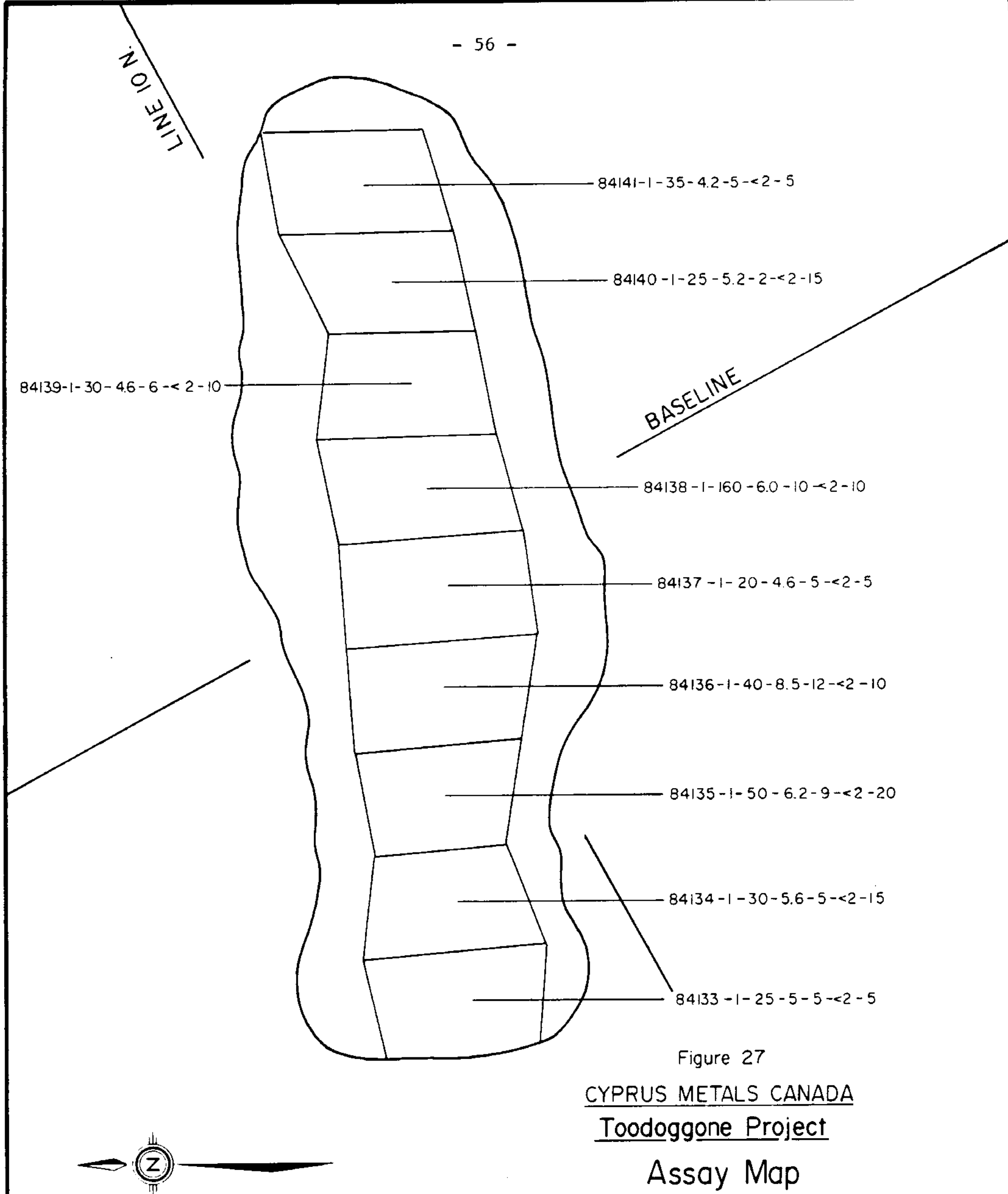


Figure 27

CYPRUS METALS CANADA

Toodoggone Project

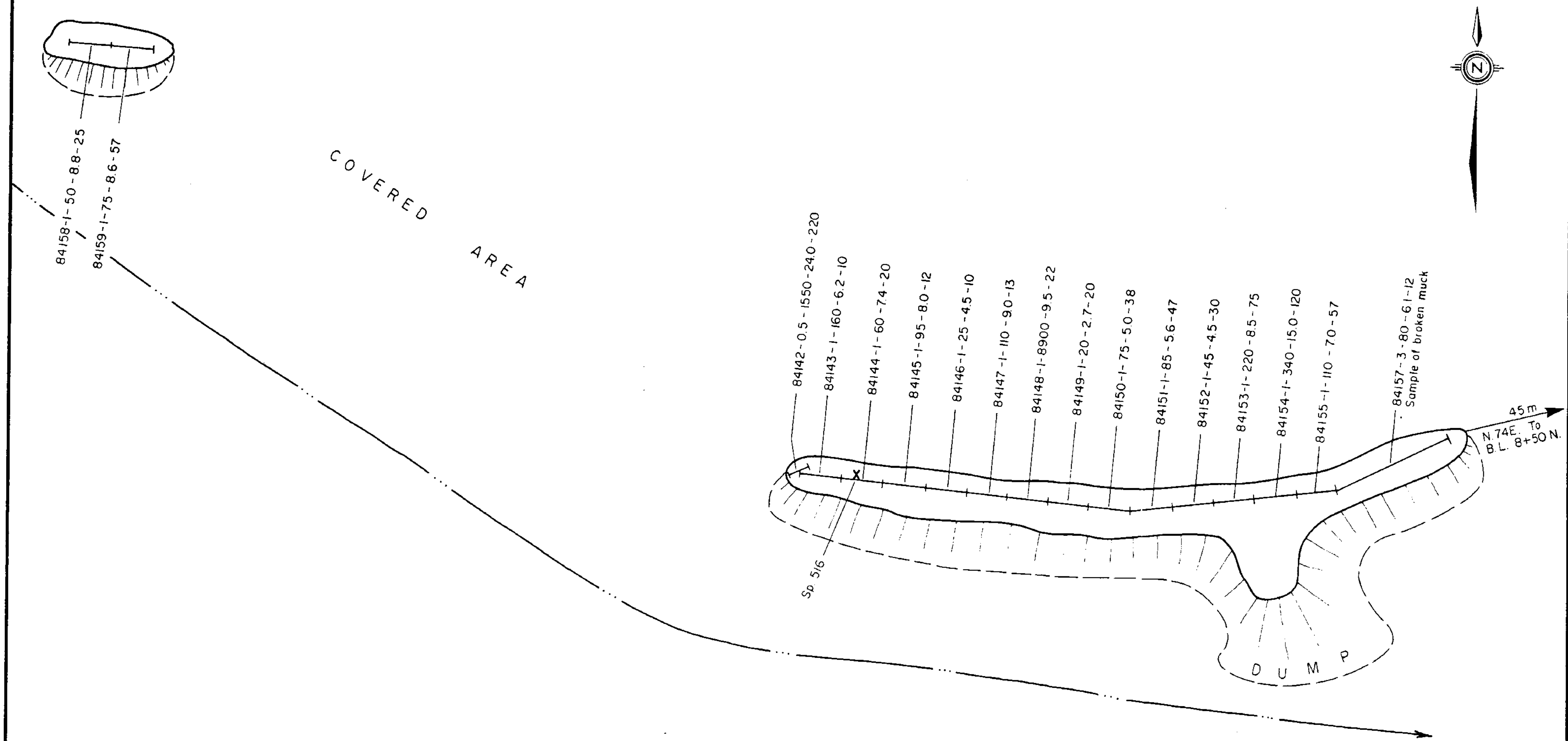
Assay Map of Trench Baseline at 10+00N.

Mineral Claim, G.W.P. No. 30, Cassidy No.1 Group

ASSAY ORDER:
Sample No.-Width(m)-Au(ppb)-Ag(ppm)-As(ppm)-Sb(ppm)-Hg(ppb)

m 0 .5 1 2 3 m

WILLARD D. TOMPSON July 20, 1986



Host rock. Feldspathized, silicified trachyandesite (?) contains up to 0.1 % fresh pyrite. Prominent quartz-filled vugs. Abundant limonite. Many transecting quartz veins up to 5 mm wide. Some dark grey quartz veins.

ASSAY ORDER:

Sample No. - Width (m) - Au (ppb) - Ag (ppm) - As (ppm)

Figure 28

CYPRUS METALS CANADA

Toodoggone Project

Assay Map of Trench 8+60 N.-0+45 W.

Mineral Claim, G.W.P. No. 30, Cassidy No. 1 Group

m 0 1 2 3 4 5 10 m

0+50W L 8+50 N.

WILLARD D TOMPSON July 10, 1986

Assay values of the 17 samples which were cut from bedrock are as follows:

Gold (ppb)			Silver (ppm)		
>800	2	samples	21-40	1	sample
401-800	nil		10-20	1	
201-400	2		<10	15	
100-200	3				
<100	10				
TOTAL	17	samples		17	samples

It is noted that sample number 84148 assayed: gold, 8900 ppb or 0.258 ounces per ton.

Rock composed of orthoclase, vein quartz and pyrite is a prominent rock type in the trench. Pyrite occurs as tiny, disseminated grains in amounts up to about 0.5 percent. Orthoclase is the principal constituent, in amounts of about 80 percent. Vein quartz, quartz vugs with cockscomb structures and dark grey quartz veins are prominent.

Darker reddish-colored veins transect the rock and are cut by later quartz veins. The reddish veins appear to be composed of orthoclase and fine-grained quartz.

Rocks composed of grey quartz, sericite, clay and very fine-grained pyrite (?) are also prominent in the trench and are abundant on the dump. These rocks are limonite stained on the weathered surfaces and are grey on fresh surfaces, due to the presence of very fine-grained pyrite mixed with clay minerals. A film of hard, bright goethite covers some rock surfaces.

It may be noted on Plate I that this area lies very near to a major fracture system whose strike is reflected by the southeasterly flow of the small creek.

Trenches on Moosehorn Vein

Outcrops of the Moosehorn vein are on the west side of Moosehorn Canyon and directly opposite the Moosehorn base camp.

The vein is intermittently and poorly exposed on a talus covered, southwest facing slope, 40 meters above the creek.

Figure 29 is a geological and assay map of the vein and its host rocks. Sample number 84160 to 84168 were cut from bedrock after initial blasting removed surface debris. The balance of the samples were cut after the various stages of trenching were completed.

A total of 46 samples was cut from the trenches, with 27 of the 46 samples being from the vein.

Distribution of assay values in samples of vein material is as follows:

Gold (ppb)			Silver (ppm)		
>800	4	samples	>80	2	samples
401-800	3		41-80	1	
201-400	7		21-40	2	
100-200	11		10-20	3	
<100	2		<10	19	
TOTAL	27	samples	TOTAL	27	samples

Distribution of assay values in samples from wall rocks is as follows:

Gold (ppb)			Silver (ppm)		
>800	nil	samples	>80	nil	samples
401-800	nil		41-80	nil	
201-400	3		21-40	1	
100-200	12		10-20	nil	
<100	4		<10	18	
TOTAL	19	samples	TOTAL	19	samples

Description of Moosehorn Vein

The Moosehorn vein is exposed over a length of about 40 meters at the rim of Moosehorn Canyon. The vein strikes about N.50°W. and appears to dip 45°NE., but the direction of dip is not certain. Exposures of the vein which were produced by trenching, show the vein to be up to 4 meters wide (Figure 29).

The vein is composed of about 75 percent quartz with the

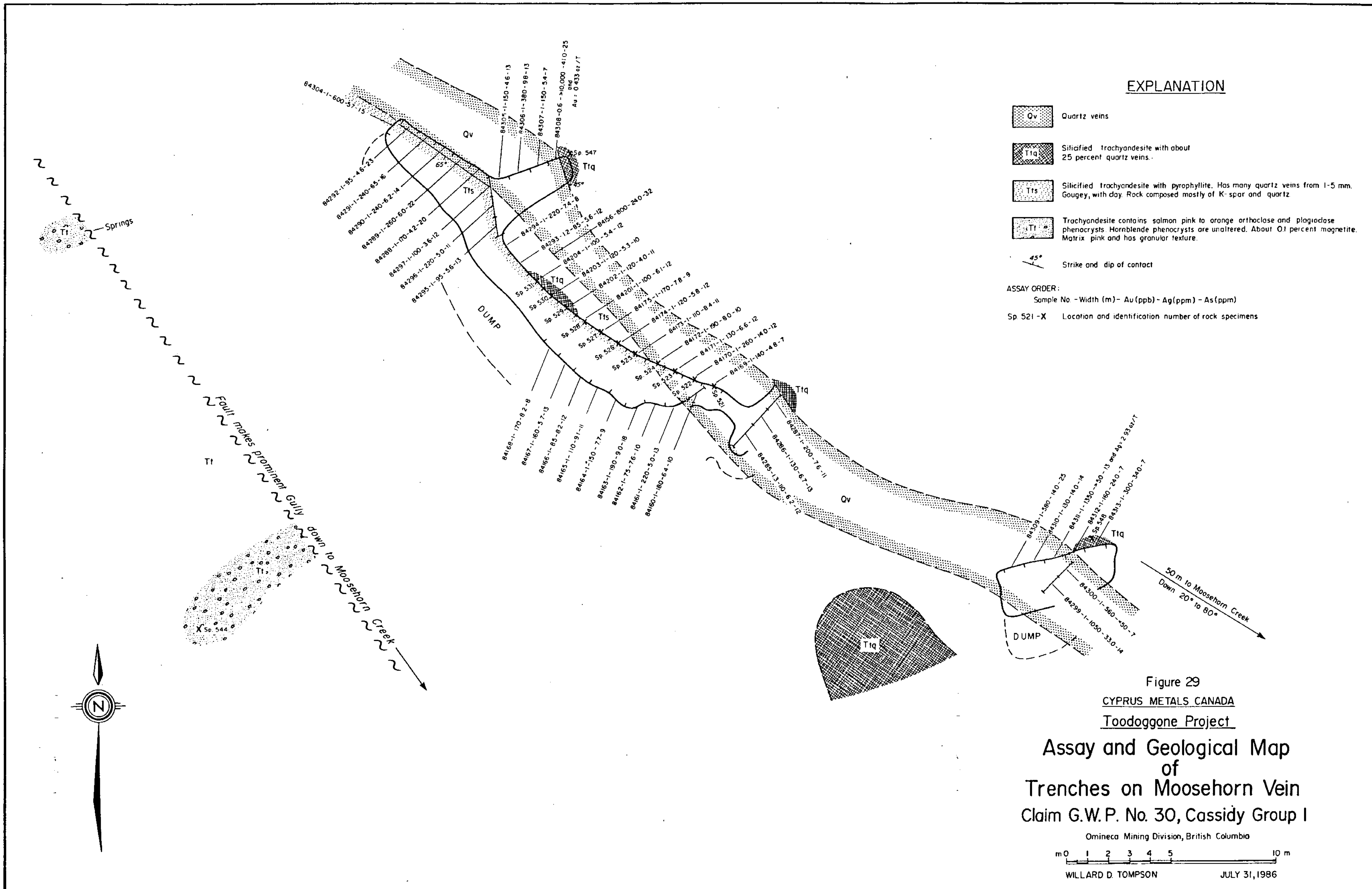


Figure 29

CYPRUS METALS CANADA

Toodoggone Project

Assay and Geological Map of Trenches on Moosehorn Vein

Claim G.W.P. No. 30, Cassidy Group I

Omineca Mining Division, British Columbia

WILLARD D. TOMPSON JULY 31, 1986

remainder being made up of breccia fragments of feldspathized, silicified and argillized host rocks. The quartz is light grey to medium grey in color with many vugs and abundant cockscomb structures. Amethystine quartz is prominent near sample sites 84305, 84306 and 84307. Quartz breccia occurs at sample sites 84169, 84170 and 84171 (Figure 29).

Limonite forms a rusty-brown stain over most of the outcrop area. Tiny boxworks of limonite replacing pyrite (?) occur and limonite tends to fill open spaces.

Immediately southwest of the vein and 15 meters from the trench, the trace of a fault (Figure 29) is reflected in a long, straight gully striking N.30°W., nearly parallel to the Moosehorn vein. It is shown in Plate I and Plate III that this fault forms the footwall (?) of the Moosehorn zone.

Host rocks of the vein are bright, pink K-spar-quartz rocks, but adjacent to the vein, K-spar is hydrothermally altered and partially replaced by sericite and a few patches of clay minerals including dickite (?). Here, instead of the rocks being bright pink, they are dull and buff to a light pinkish color. Quartz veins from 1 to 5 mm in width are common in the wall rocks.

Trenches 4+20S. - 1+05W.

Two trenches were cut through overburden following the discovery of rock fragments in the float, composed entirely of clay. A large clay zone at least 11 meters wide (Figure 30) lies along a major fault zone. The fault makes a long, straight lineament striking N.32°W., lying exactly on strike of outcrops of the Moosehorn zone (Plate I).

Some relict textures in the clay rocks suggest that they originally were trachyandesite. However, most of the rocks have no remaining primary textural features.

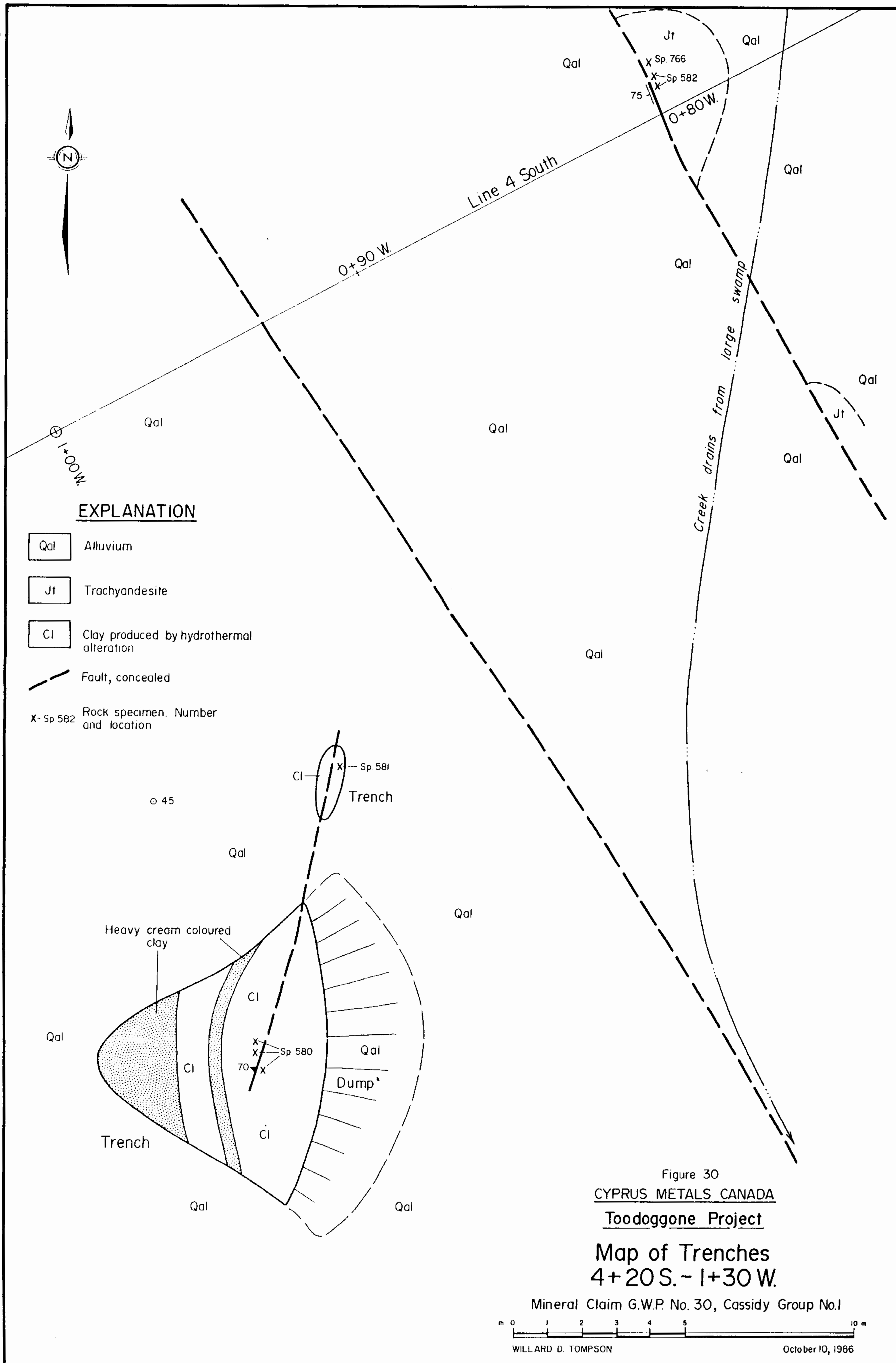


Figure 30

CYPRUS METALS CANADA

Toodoggone Project

Map of Trenches
4+20 S. - 1+30 W.

Mineral Claim G.W.P. No. 30, Cassidy Group No.1

WILLARD D. TOMPSON

October 10, 1986

Rocks which form the eastern boundary of the fault are trachyandesite porphyry, and these are strongly fractured. Mafic minerals and the matrix are chloritized. Orthoclase phenocrysts are bright and pink and appear to be fresh. Abundant calcite occurs as veins, and calcite surrounds breccia fragments. A few small, discontinuous masses of quartz also occur.

The clay zone, which is exposed in the trenches shown on Figure 30, is probably of hydrothermal origin and it appears to be a part of a larger altered zone. Mapping (Figure 30) suggests that the altered zone may be 30 meters or more wide.

If this zone of clay alteration is a "hanging wall clay", as is common in epithermal deposits, an exploration target may exist in the covered area to the west (?) of the trenches.

Trenches 7+50S. - 0+40W.

Vein quartz float was discovered during the detailed geochemical sampling program at several localities near coordinates, L.7+50S. to L.8+50S., and from the baseline westerly to the terrace gravel deposits of Toodoggone River. Locations of some of the quartz float occurrences are shown on Figure 31.

The quartz is grey to dark grey and is fine-grained crystalline to cryptocrystalline. Open spaces are abundant and are lined with drusy quartz. Pyrite occurs as tiny disseminated grains and is believed to cause the darker grey color of some of the quartz. Tiny boxworks of limonite occur replacing pyrite. The rocks as they occur on the surface normally have a rusty-brown appearance, due to the relative abundance of limonite.

Two trenches were blasted in overburden in order to reach bedrock. One trench encountered bedrock at about 1 meter depth, as shown in Figure 31. No quartz veins were found in the trench. The second trench did not reach bedrock in 2 meters depth.

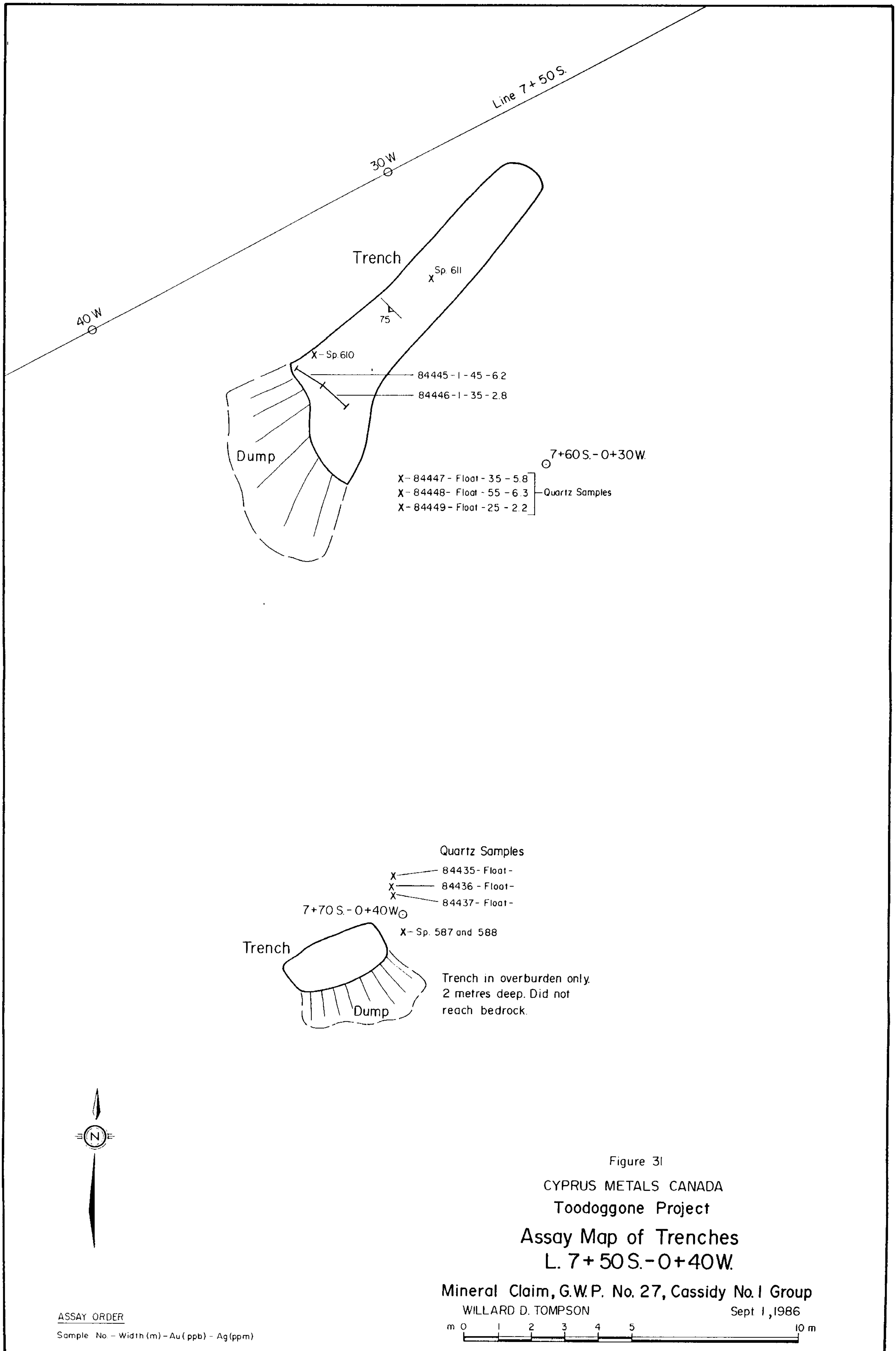


Figure 31

CYPRUS METALS CANADA

Toodoggone Project

Assay Map of Trenches
L. 7+50 S. - 0+40 W.

Mineral Claim, G.W.P. No. 27, Cassidy No. 1 Group

WILLARD D. TOMPSON Sept 1, 1986

Trachyandesite porphyry is exposed over a length of about 10 meters in the northernmost trench at coordinates, 7+50S. - 0+40W. Plagioclase laths are pink and up to 2 mm in length. Orthoclase phenocrysts are pink and only slightly larger than plagioclase, with cleavage sections up to 3 or 4 mm in diameter. Matrix is a medium grey-greenish color, slightly granular in texture and has a subtle, waxy appearance due to sericitization of matrix minerals. There are a few quartz phenocrysts, but no quartz veins or veinlets were observed in the trench.

The source of the vein quartz which occurs as float near these trenches, is probably uphill from the trenches, near the baseline.

Diamond Drilling

Twelve diamond drill holes were drilled in four principal locations on the Moosehorn zone (Figure 32):

1. Diamond drill holes 4, 5 and 6 are west of Moosehorn Creek and were drilled to intersect the Moosehorn vein. These are the northernmost drill holes.
2. Diamond drill holes 10 and 11 are on the east side of Moosehorn Creek at the bottom of the canyon. The drill sites are 66 meters apart and are located in the only available area where drill set-ups may be made in the canyon.
3. Diamond drill holes 1, 2 and 3 are on the east side of Moosehorn Creek near the southernmost outcrops of the Moosehorn zone.
4. Diamond drill holes 7, 8, 9 and 12 are nearly 1000 meters S.30°E. from the southernmost outcrops of the Moosehorn zone. They are in an area of geochemical anomalies where vein quartz occurs in abundance as float.

The drill holes are aligned along a north-northwesterly strike over a length of 1410 meters (4625 feet).

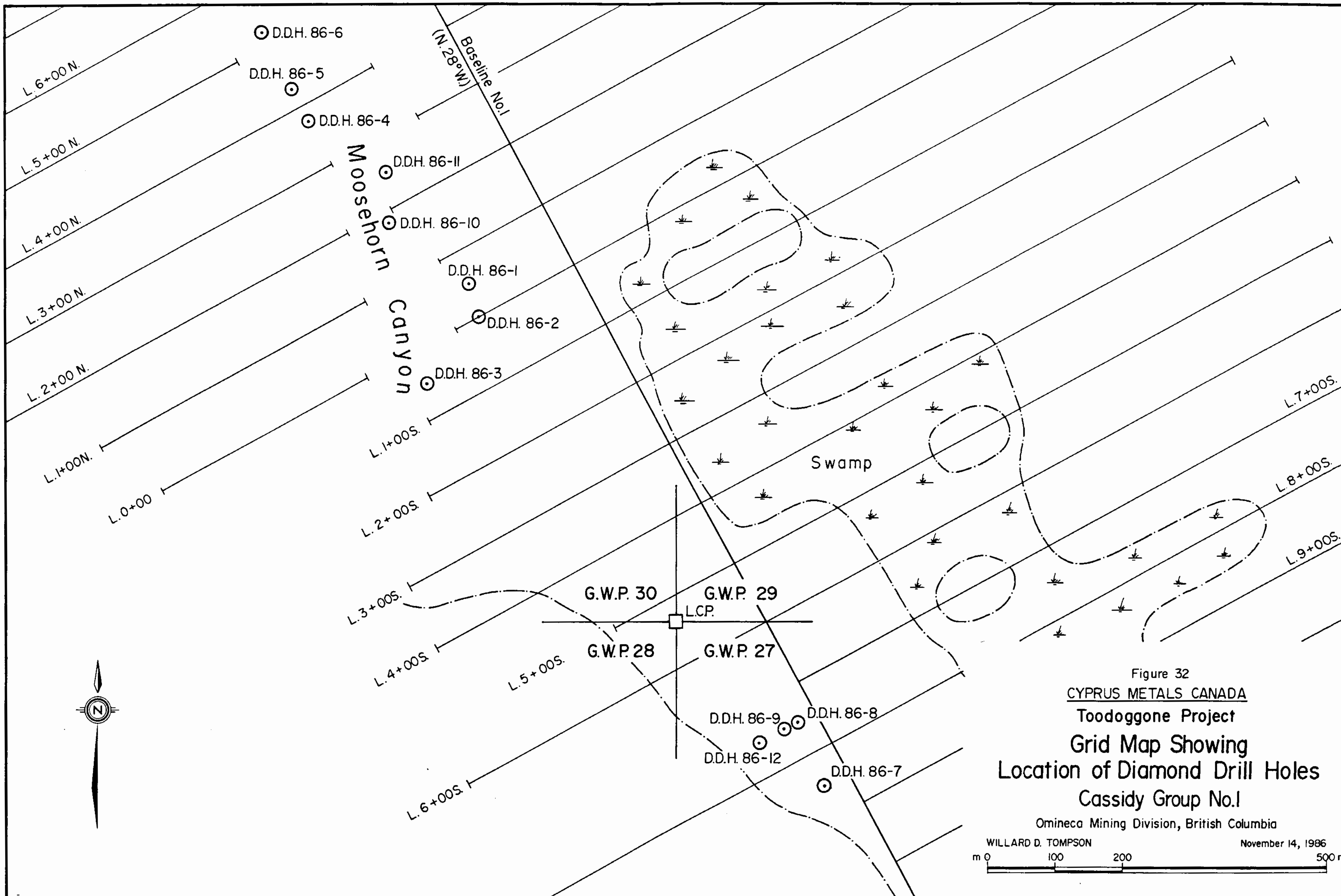


Figure 32
CYPRUS METALS CANADA
Toodoggone Project
Grid Map Showing
Location of Diamond Drill Holes
Cassidy Group No.1
Omineca Mining Division, British Columbia

Drill core was logged on a descriptive-graphic form at scale 1:10 (1 inch = 8.3 feet). Rock types, structures, textures and rock alteration were recorded. Silicified and feldspathized intersections were identified for splitting and sampling.

Descriptive Logs of Drill Holes

Geological information is summarized in descriptive logs of diamond drill holes 86-1 to 86-12, which appear on pages 68 to 80.

W. Tompson and P. Elkins (B.Sc geology, UBC) logged the core, which is stored on the property

Diamond Drill Hole 86-1

Descriptive Log

Coordinates: L.0+50N. - 1+50W.

Elevation: 1265 m

Bearing: S.62°W. Dip: -50°

Date: August 30, 31, 1986

Length: 116.5 m

Description	Interval
Overburden	0. - 4.6m
Trachyandesite porphyry. Prominent K-spar phenocrysts are bright pink; amounts up to 5 percent. A few hornblende phenocrysts. Locally K-spar altered to dickite. A few fault surfaces and minor calcite veins	4.6 - 64.6
Trachyandesite porphyry as above, but with silicification and feldspathization. Also some brecciation	64.6 - 67.5
Trachyandesite porphyry with strong brecciation, silicification and feldspathization	67.5 - 78.5
Rock is K-spar and quartz	78.5 - 85.1
Trachyandesite porphyry with large, orange phenocrysts. Matrix is dark greyish-green	85.1 - 90.1
Trachyandesite porphyry with much fracturing and clay. Fault breccia 103.2 - 106.0	90.1 -106.0
Trachyandesitic tuff	106.0 -116.5

End of hole: 116.5 m

Diamond Drill Hole 86-2

Descriptive Log

Coordinates: L.0+00 - 1+62W.

Elevation: 1265 m

Bearing: S.62°W. Dip: -50°

Dates: August 31 - September 1, 1986

Length: 87.5 m

Description	Interval
Overburden	0. - 2.7m
Trachyandesite porphyry. Large orange and pink feldspars. Ferromags are slightly chloritized. Matrix is greenish to pinkish. A few quarts veinlets start at 30 m	2.7 - 52.7
Trachyandesite porphyry as above, but K-spar flooding starts at 52.7	52.7 - 60.2
Rock composed of K-spar and vein quartz. Quartz breccia through much of interval. Amethyst at 61.6, 67.8 and 73.5	60.2 - 75.0
Trachyandesite porphyry, but feldspar phenocrysts not as large as above	75.0 - 79.9
Trachyandesite porphyry with intense rock shearing and many fractures with clay	79.9 - 87.5

End of hole: 87.5 m

Diamond Drill Hole 86-3

Descriptive Log

Coordinates: L.0+50S. - 2+77W.

Elevation: 1228 m

Bearing: N.62°E. Dip: -50°

Dates: Sept. 1 - Sept. 2, 1986

Length: 98.2 m

Description	Interval
Overburden	0. - 3.7m
Greyish to buff lapilli tuff	3.7 - 10.1
Green tuff, has K-spar fragments, hornblende and some calcite. Large clasts of trachyandesite	10.0 - 27.0
Trachyandesite porphyry (lava)	27.0 - 28.6
Green tuff, as above	28.6 - 32.5
Trachyandesite porphyry with K-spar and hornblende phenocrysts; greenish matrix	32.5 - 44.3
Trachyandesite porphyry, buff colored with bands of dark, very fine-grained tuff	44.3 - 52.5
Green, fine-grained trachyandesite porphyry with bands of fine-grained tuff	52.5 - 86.2
Trachyandesite porphyry, greenish to buff colored	86.2 - 93.8
Trachyandesite porphyry with prominent K-spars. Rock is sheared, has discontinuous calcite veinlets. Some heavy clay on fractures	93.8 - 98.2

End of hole: 98.2 m

Diamond Drill Hole 86-4

Descriptive Log

Coordinates: L.3+75N - 2+50W.

Elevation: 1262 m

Bearing: N.62°E. Dip: -50°

Dates: Sept. 2 - Sept. 3, 1986

Length: 86.0 m

Description	Interval
Overburden	0. - 3.3m
Trachyandesite porphyry, orthoclase and plagioclase phenocrysts up to 2 - 3 mm. Matrix is granular and purplish in color. Fault gouge 5.5 to 6.7 and 14.1 to 15.4	3.3 - 22.0
Fault at change of rock type	22.0 - 22.5
K-spar phenocrysts increase in amount and in size. Also replacement K-spar and quartz veinlets	22.5 - 26.0
Rock is brecciated and silicified. Original rock type obscure but probably trachyandesite. K-spar veining and replacement. Some disseminated, very fine-grained pyrite	26.0 - 32.8
Grey clay	32.8 - 33.2
Trachyandesite with orange to pink feldspars. Purplish colored, granular matrix. Grey clay 44.2 - 45.2	33.2 - 53.5
Trachyandesite porphyry, matrix is buff to pink, orange-colored feldspars up to 4 mm	53.5 - 57.5
Trachyandesite porphyry as above, but matrix is greyish-green	57.5 - 86.0

End of hole: 86.0 m

Diamond Drill Hole 86-5

Descriptive Log

Coordinates: 4+25N. - 2+50W.

Elevation: 1265 m

Bearing: N.62°E. Dip: -50°

Dates: Sept. 3 - Sept. 4, 1986

Length: 116.5 m

Description	Interval
Overburden	0. - 1.6m
Trachyandesite porphyry. Large K-spar phenocrysts, hornblende phenocrysts. K-spar enrichment 3.0 - 5.7. Clay on fractures 10.7 to 13.8 and 25.4 to 28.6. Grey clay on shear zone 60.5 to 61.5. Some calcite veinlets scattered through interval	1.6 - 73.2
Rock composed of K-spar and quartz. Very fine-grained pyrite through interval. Large masses of very white clay, mostly parallel to core axis. Small quartz veins occur throughout interval. Relict hornblende phenocrysts occur locally	73.2 -101.5
Trachyandesite porphyry with xenoliths of andesite. Some dickite in rock	101.5 -116.5

End of hole: 116.5 m

Diamond Drill Hole 86-6

Descriptive Log

Coordinates: 5+20N. - 2+50W.

Elevation: 1282 m

Bearing: N.62°E. Dip: -50°

Dates: Sept. 4 - Sept. 5, 1986

Length: 114.9 m

Description	Interval
Overburden	0. - 4.5m
Trachyandesite porphyry with large feldspar phenocrysts. Feldspars are prominent pink color. Ferromags chloritized	4.5 - 15.4
Trachyandesite porphyry. Matrix is purplish color. Slight flowage foliation. A few scattered calcite veinlets	15.4 - 38.9
Heavy clay, maroon to grey color	38.9 - 40.0
Quartz-K-spar rock. Rock is about 90 percent K-spar, remainder quartz and vein quartz. Disseminated pyrite. Strong brecciation 50 - 60	40.0 - 74.0
Trachyandesite porphyry. Matrix is purplish	74.0 - 84.5
K-spar-quartz rock with quartz veins and pyrite	84.5 -114.9

End of hole: 114.9 m

Diamond Drill Hole 86-7

Descriptive Log

Coordinates: 8+50S. - 0+40W.

Elevation: 1184 m

Bearing: N.62°E. Dip: -45°

Dates: Sept. 5 - Sept. 6, 1986

Length: 111.8 m

Description	Interval
Overburden	0. - 3.3m
Trachyandesite porphyry. Some chlorite on fractures. Trace disseminated pyrite	3.3 - 19.1
Same rock type, but K-spar flooding produces K-spar rims on breccia fragments	19.1 - 32.5
Trachyandesite porphyry. K-spars are pink with some alteration of K-spar to dickite	32.5 - 67.0
Trachyandesite is flooded with K-spar and quartz. Silicification diminishes at 99.6	67.0 - 99.6
Trachyandesite porphyry. K-spars are salmon-pink to orange. Locally feldspars altered to dickite	99.6 -111.8

End of hole: 111.8 m

Diamond Drill Hole 86-8

Descriptive Log

Coordinates: 7+50S. - 0+03W.

Elevation: 1213 m

Bearing: N.62°E. Dip: -45°

Dates: Sept. 6 - Sept. 7, 1986

Length: 54.6 m

Description	Interval
Overburden	0. - 3.6m
Quartz vein, grey quartz and quartz breccia	3.6 - 10.2
Trachyandesite porphyry. Scattered orange feldspar phenocrysts. Fine-grained pyrite scattered throughout rock to about 0.1 percent. Flow contact at 21.0 m	10.2 - 21.0
Volcanic breccia, fragments of andesitic to trachyandesitic composition. Fine-grained pyrite scattered throughout	21.0 - 36.4
Trachyandesite porphyry with orange feldspar phenocrysts. 10 cm grey quartz at bottom of hole	36.4 - 54.6

End of hole: 54.6 m

Diamond Drill Hole 86-9

Descriptive Log

Coordinates:	7+50S. - 0+05W.
Elevation:	1213 m
Bearing:	S. 62°W. Dip: -60°
Dates:	Sept. 7, 1986
Length:	55.5 m

Description	Interval
Overburden	0. - 1.5m
Trachyandesite. Silicified with quartz veins and quartz breccia. Amethyst at 6.0 m. Trachyandesite is strongly brecciated throughout interval with much quartz and some K-spar	1.5 - 14.0
Volcanic breccia, composed of fragments of andesite and trachyandesite. Greenish color with pyrite disseminated. Quartz fills spaces in some places. Many small quartz veinlets	14.0 - 26.0
Trachyandesite porphyry with orange feldspar phenocrysts. Some brecciation with quartz veins up to 1 cm. Some calcite veining	26.0 - 55.5

End of hole: 55.5 m

Diamond Drill Hole 86-10

Descriptive Log

Coordinates: 1+85N. - 2+13W.

Elevation: 1196 m

Bearing: N.62°E. Dip: -45°

Dates: Sept. 7 - Sept. 8, 1986

Length: 71.8 m

Description	Interval
Overburden	0. - 4.5m
Trachyandesite porphyry. Intensely sheared. Rock is chloritized with many fractures with clay	4.5 - 18.5
Trachyandesite porphyry. Pink K-spar phenocrysts and hornblende. K-spar altering to pink colored clay	18.5 - 22.3
Trachyandesite porphyry. Some K-spar alteration along fractures	22.3 - 37.2
Trachyandesite porphyry with xenoliths of andesite (?). Greenish color	37.2 - 50.0
Trachyandesite porphyry with pale pink feldspars. Feldspars alter to pink clay locally. Matrix is purplish. Fractures with thin clay slips occur through interval. Some xenoliths of andesite(?)	50.0 - 71.8

End of hole: 71.8 m

Diamond Drill Hole 86-11

Descriptive Log

Coordinates: 2+51N. - 1+83W.

Elevation: 1198 m

Bearing: N.62°E. Dip: -45°

Dates: Sept. 8, 1986

Length: 28.1 m

Description	Interval
Overburden	0. - 3.7m
Trachyandesite porphyry. Purplish fine-grained matrix with pink orthoclase phenocrysts, locally altered to dickite	3.7 - 11.3
Trachyandesite porphyry with fine-grained green matrix. Some small discontinuous calcite veins	11.3 - 28.1

End of hole: 28.1 m

Diamond Drill Hole 86-12

Descriptive Log

Coordinates: 7+50S. - 0+91W.

Elevation: 1181 m

Bearing: N.62°E. Dip: -45°

Dates: Sept. 8 - Sept. 9, 1986

Length: 127.5 m

Description	Interval
Overburden	0. - 3.6m
Trachyandesite porphyry. Orange feldspar phenocrysts; most are 1 - 2 mm but some are 4 mm. Pyrite is disseminated throughout. Rock is brecciated with quartz and calcite surrounding some fragments	3.6 - 15.0
Trachyandesite porphyry, but matrix is purplish. Quartz-chalcedony veins occur throughout, but sparse and small. Some brecciation and up to 0.1 percent pyrite disseminated. Some vuggy quartz locally	15.0 - 50.0
Trachyandesite with volcanic breccia. Also mixed K-spar quartz rock locally through interval. Matrix is variously, greenish to pinkish. Quartz veins, brecciation and vugs scattered through interval	50.0 - 65.0
Trachyandesite porphyry, with orange feldspars, most 1 - 3 mm. Matrix is fine-grained and dark greenish	65.0 - 81.0
Trachyandesite as above but more brecciation and quartz veining. Matrix is greenish	81.0 - 85.0
Trachyandesite becomes feldspathized; brecciation and calcite veining with pyrite. Fault rubble 86.6 - 89.0. Drillers report heavy flow of water starting about here	85.0 - 92.5
Trachyandesite porphyry is brecciated, silicified and feldspathized	92.5 -100.5
Trachyandesite porphyry; matrix becomes greenish to grey in color	100.5 -102.5

Diamond Drill Hole 86-12 (continued)

Description	Interval
Trachyandesite porphyry with quartz veins and brecciation	102.5 -107.0m
Trachyandesite porphyry. Pink feldspars are 1 - 3 mm in section. Matrix is purplish to pinkish and is fine-grained, granular. Calcite veining is scattered through interval	107.0 -126.0
High water pressure drove core barrel and core out of drill rods and scattered core from last 1.52 meters (5 feet) drill run.	126.0 -127.5

End of hole: 127.5 m

Geology of the Drill Holes

The geology of the drill holes is shown in geological drill sections of the twelve holes.

Six principal rock types are recognized in the drill core. However, there are significant variations in rock textures and distinct differences in color, which may be due, in part, to hydrothermal alteration or to crushing and alteration along faults:

1. Trachyandesite porphyry with orange and pink feldspar phenocrysts. Feldspar cleavage surfaces are from 1 mm to 8 mm in section. Mafic minerals are commonly chloritized. Matrix is fine-grained and greenish, grey or purplish in color.
2. Trachyandesite porphyry lava with bands of fine-grained, grey tuff.
3. Trachyandesitic lapilli tuff
4. Grey and greenish tuff
5. Trachyandesite porphyry with many fragments of greenish, fine-grained andesite
6. Volcanic breccia composed of fragments of andesite and trachyandesite. Greenish to greyish-green in color.

In addition to the widespread propylitic alteration of the volcanic rocks, two facies of hydrothermal alteration are recognized in rocks encountered in the drill core. These are megascopic distinctions and are subject to revision pending petrographic analysis:

1. Argillic alteration of trachyandesite porphyry produces a buff to brownish-colored rock. Original textures remain, but matrix minerals are sericitized, although mineral outlines are not changed. Hornblende is commonly altered to clay minerals and limonite. Small quartz veins occur locally.

2. Potassic-silicic alteration. These rocks are composed mostly of reddish K-spar and quartz. K-spar veins and quartz veins are common. Rocks are commonly medium-grained, but many are fine-grained. Fine-grained disseminated pyrite occurs in small amounts. Quartz veins in the Moosehorn zone occur in or adjacent to rocks with potassic-silicic alteration.

Figures 33 to 42 are geological cross-sections of the drill holes.

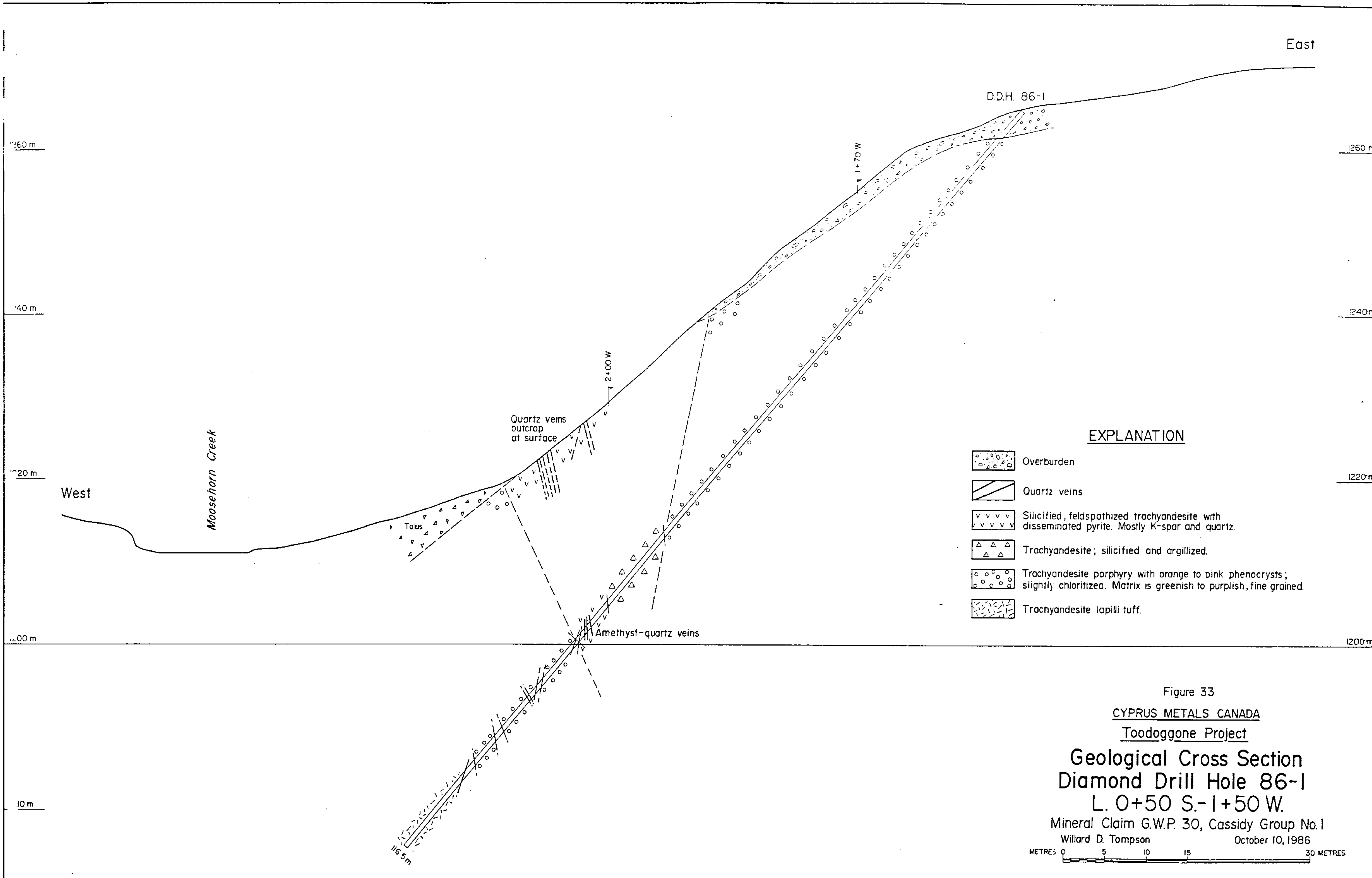


Figure 33

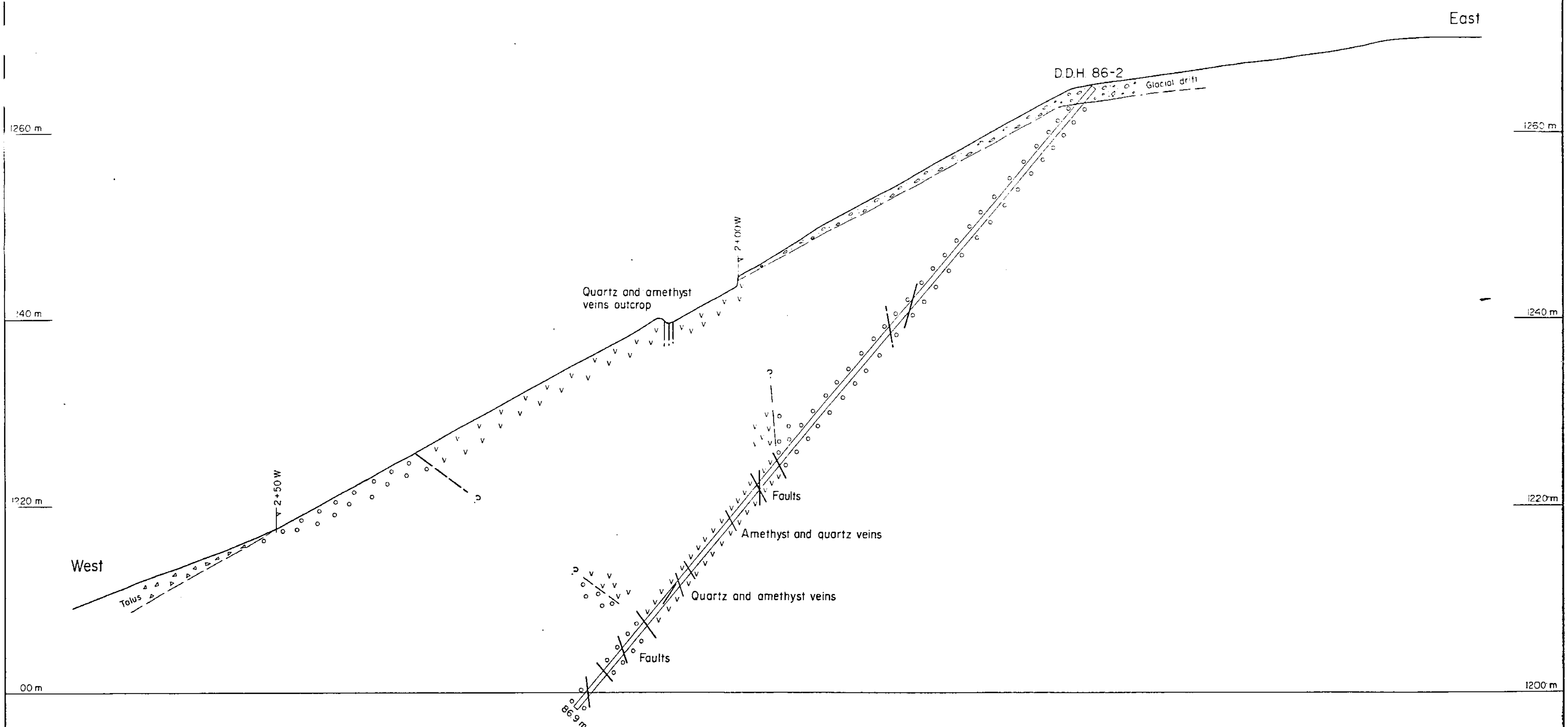
CYPRUS METALS CANADA

Toodoggone Project

Geological Cross Section Diamond Drill Hole 86-1 L. 0+50 S.-1+50 W.

Mineral Claim G.W.P. 30, Cassidy Group No. 1

Willard D. Tompson October 10, 1986



EXPLANATION

- Overburden
- Silicified, feldspathized trachyandesite with disseminated pyrite. Mostly K-spar and quartz.
- Trachyandesite porphyry with orange to pink phenocrysts; slightly chloritized. Matrix is greenish to purplish, fine grained.
- Fault with much clay gouge

Figure 34

CYPRUS METALS CANADA

Toodoggone Project

Geological Cross Section Diamond Drill Hole 86-2 L. 0+00 S.- 1+62 W.

Mineral Claim G.W.P. 30, Cassidy Group No. 1

Willard D. Tompson October 10, 1986

METRES 0 5 10 15 30 METRES

JW

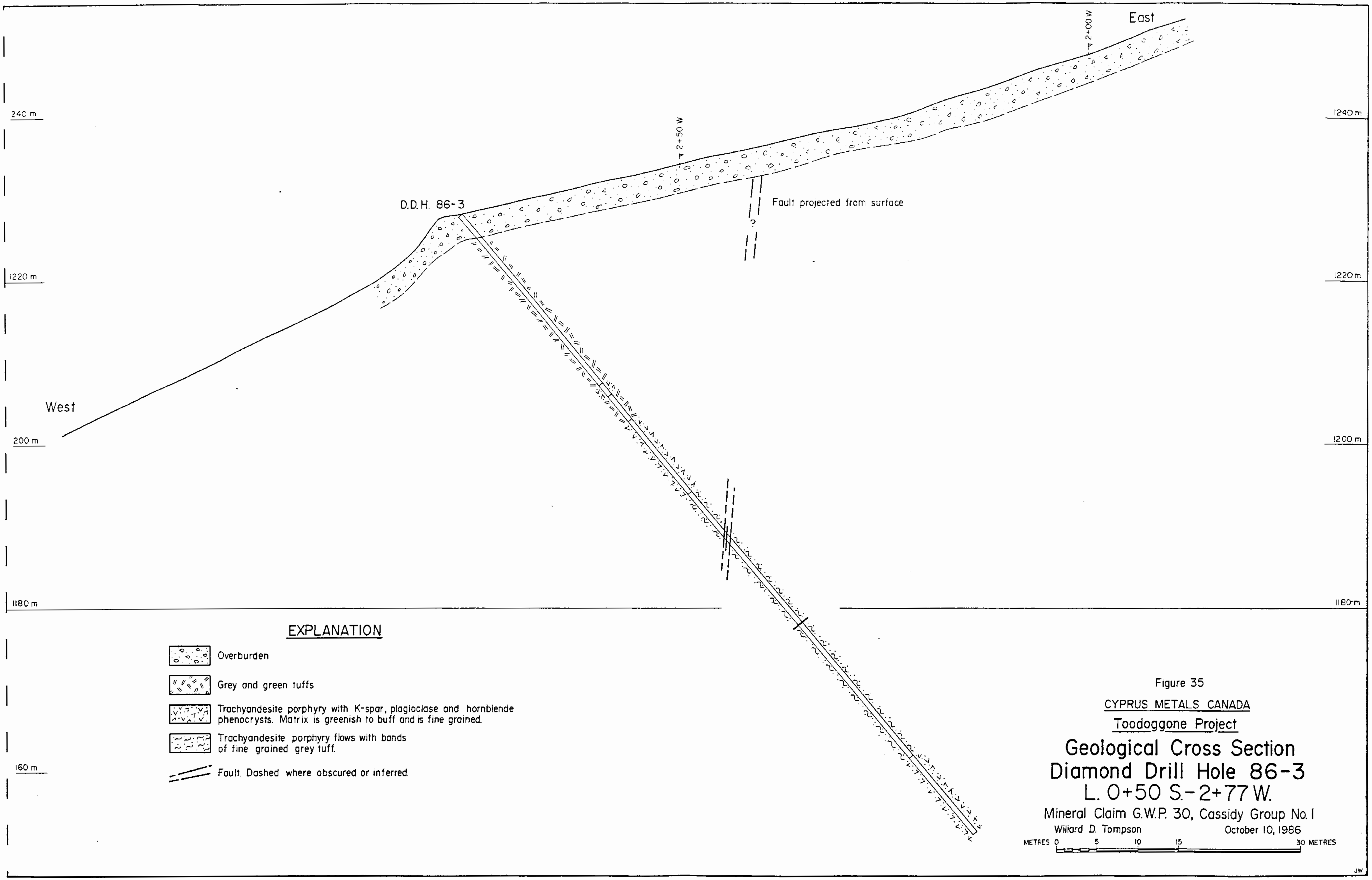


Figure 35

CYPRUS METALS CANADA

Toodoggone Project

Geological Cross Section
Diamond Drill Hole 86-3
L. 0+50 S.-2+77 W.

Mineral Claim G.W.P. 30, Cassidy Group No. 1

Willard D. Tompson October 10, 1986

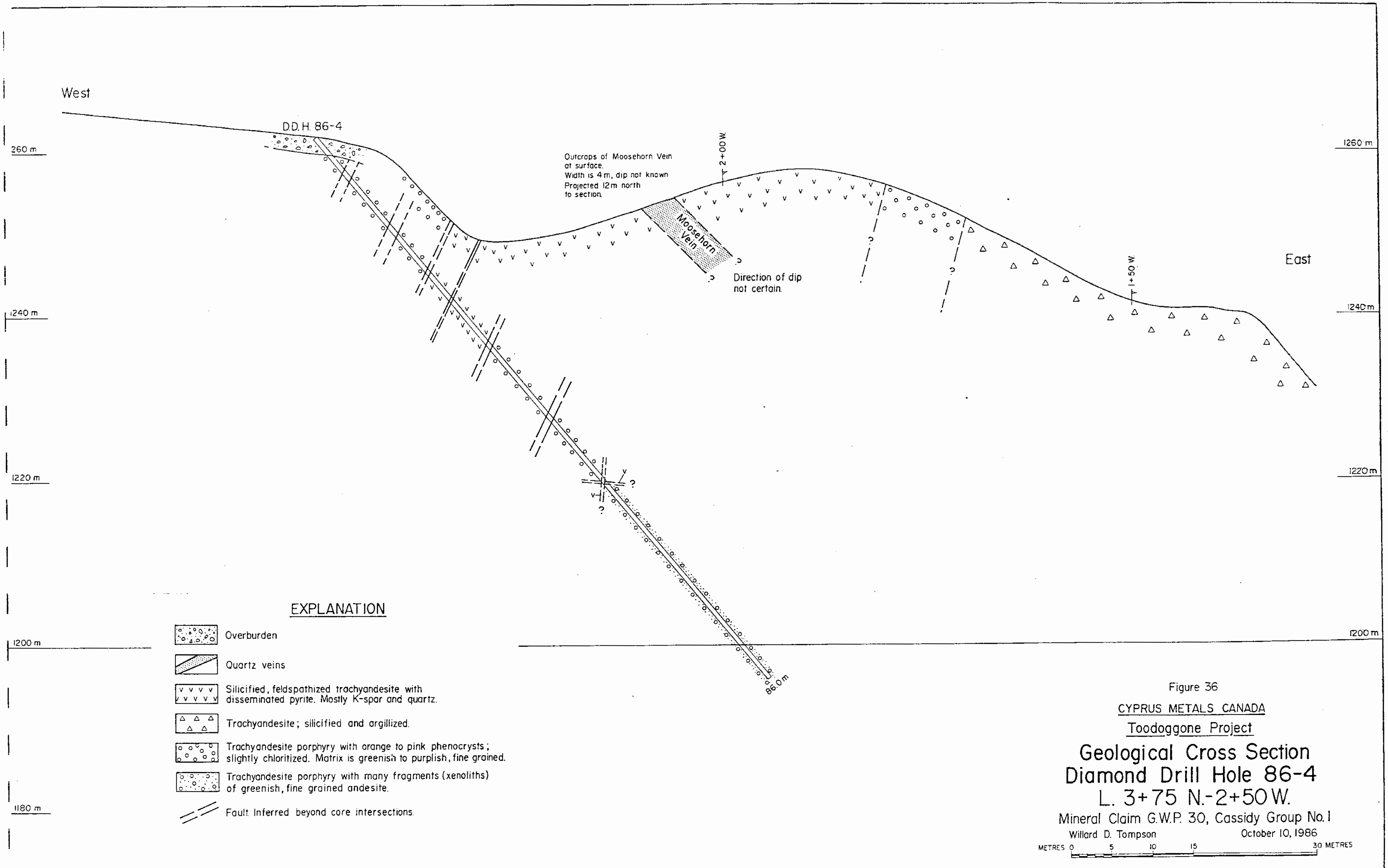


Figure 36

CYPRUS METALS CANADA

Toodoggone Project

Geological Cross Section
Diamond Drill Hole 86-4
L. 3+75 N.-2+50 W.

Mineral Claim G.W.P. 30, Cassidy Group No. 1

Willard D. Tompson — October 10, 1986

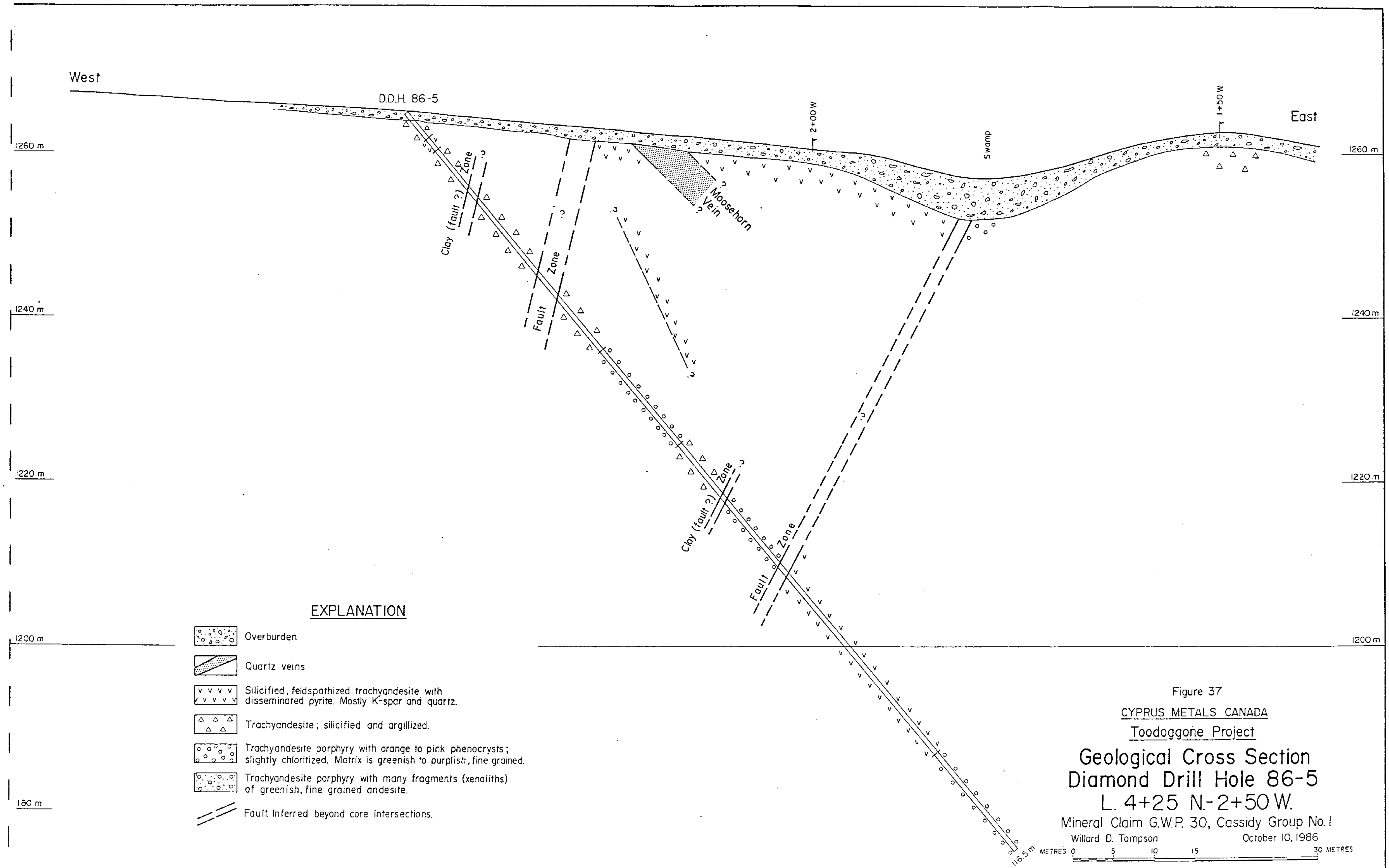


Figure 37

CYPRUS METALS CANADA

Toodoggone Project

Geological Cross Section
Diamond Drill Hole 86-5
L. 4+25 N.-2+50 W.

Mineral Claim G.W.P. 30, Cassidy Group No. 1

Willard D. Tompson   October 10, 1986

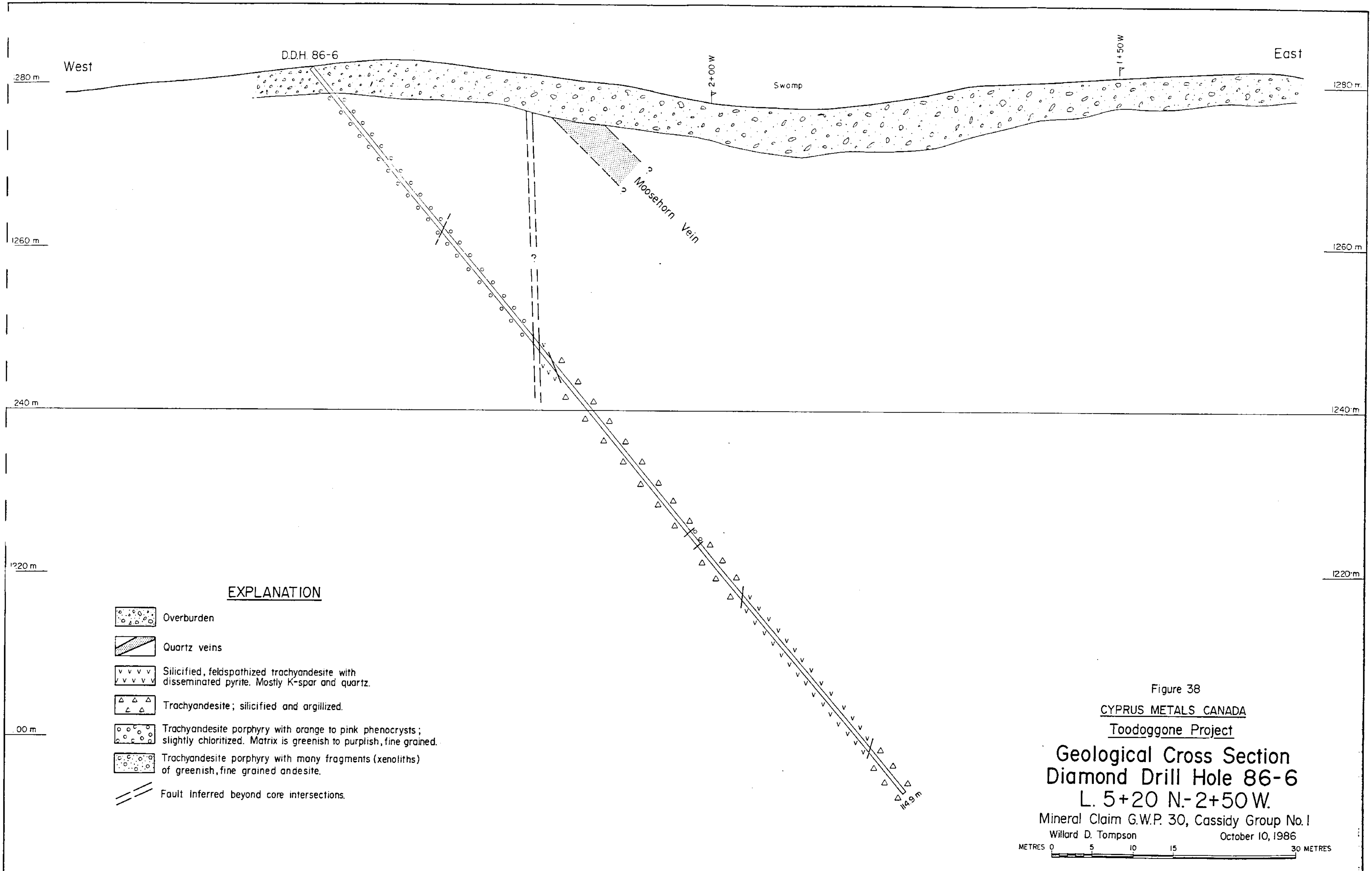


Figure 38

CYPRUS METALS CANADA

Toodoggone Project

Geological Cross Section
Diamond Drill Hole 86-6
L. 5+20 N.-2+50 W.

Mineral Claim G.W.P. 30, Cassidy Group No. 1

Willard D. Tompson — October 10, 1986

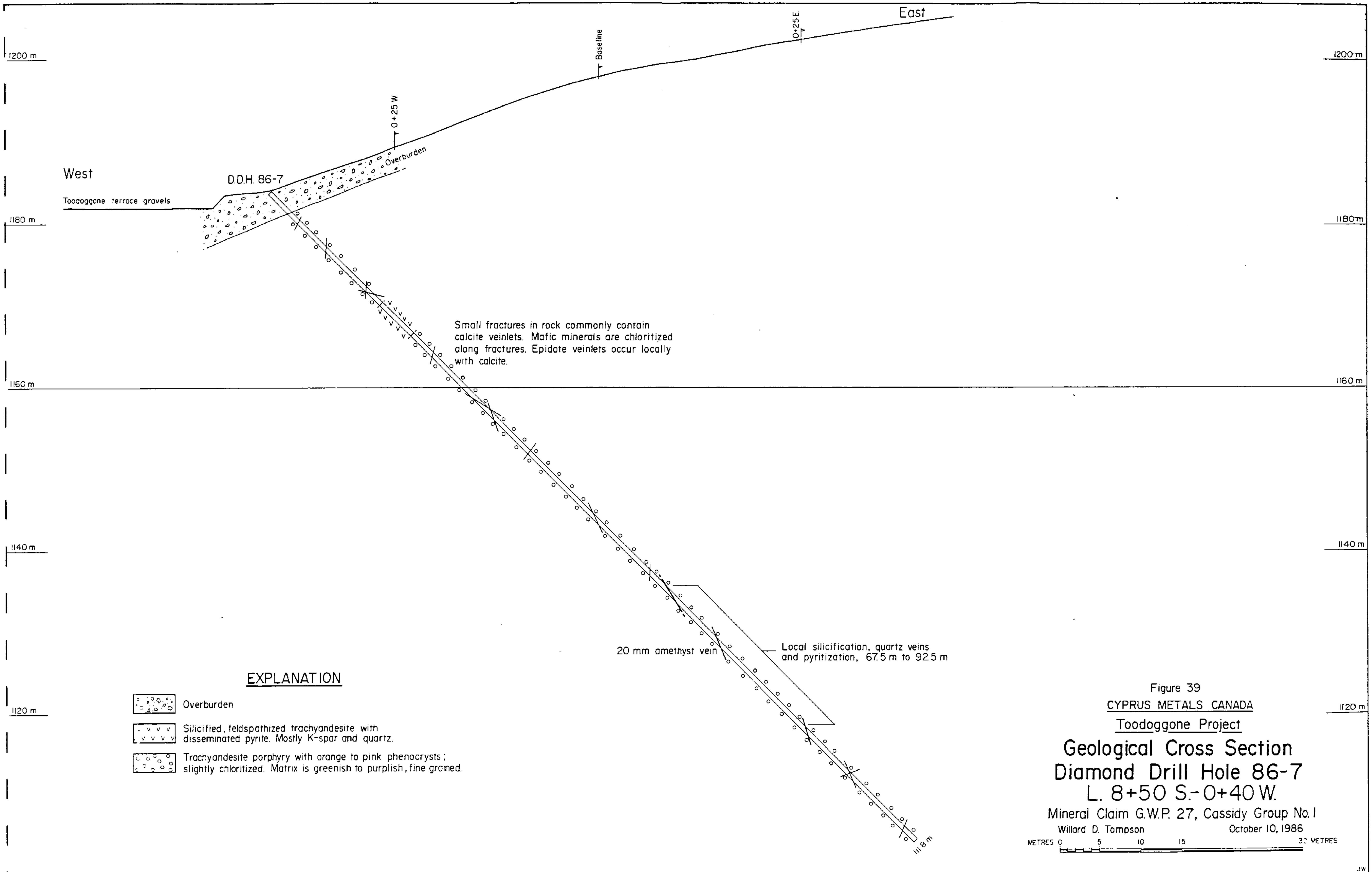


Figure 39

CYPRUS METALS CANADA

Toodoggone Project

Geological Cross Section
Diamond Drill Hole 86-7
L. 8+50 S.-0+40 W.

Mineral Claim G.W.P. 27, Cassidy Group No. 1

Willard D. Tompson   October 10, 1986

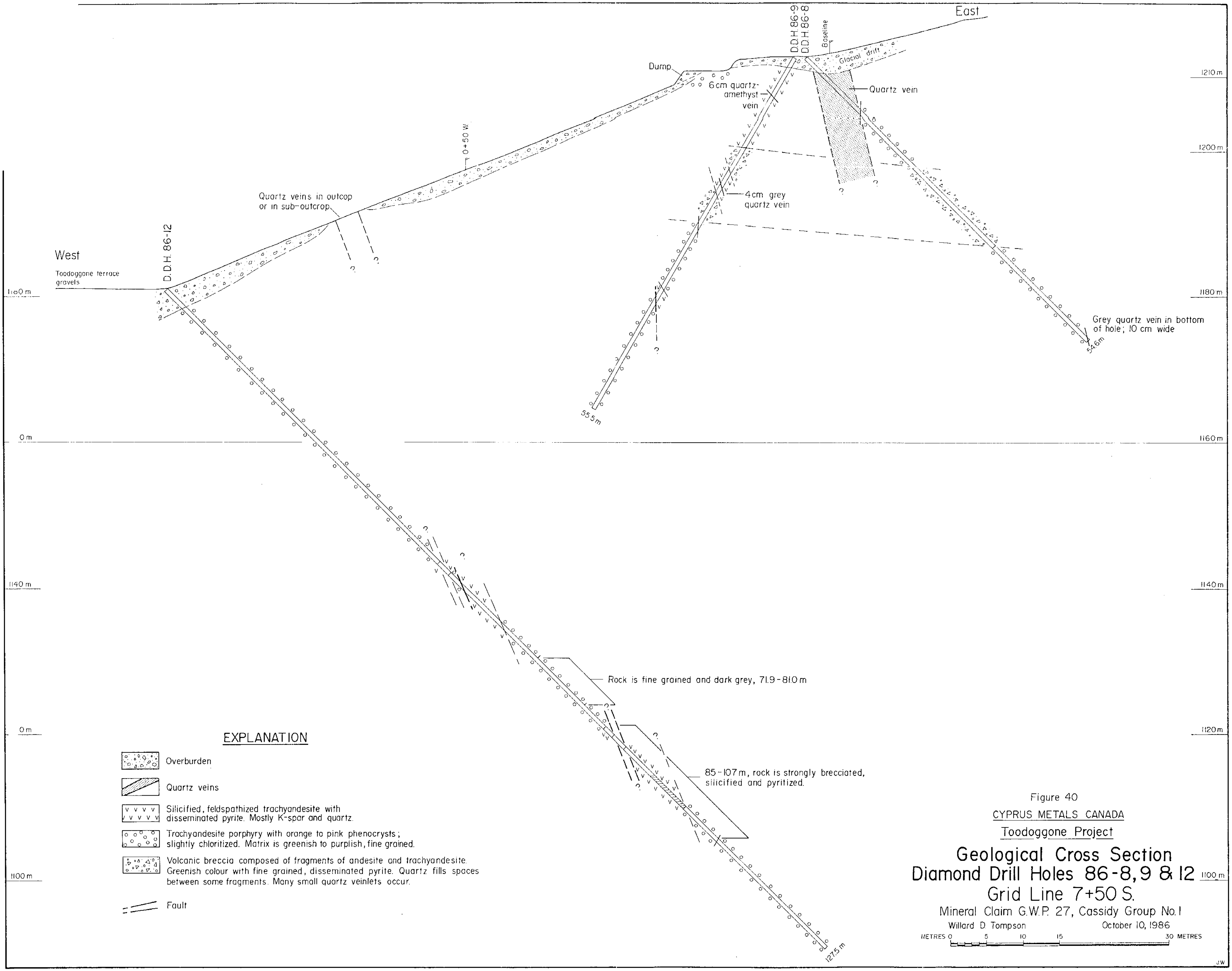


Figure 40

CYPRUS METALS CANADA

Toodoggone Project

Geological Cross Section Diamond Drill Holes 86-8, 9 & 12 Grid Line 7+50 S.

Mineral Claim G.W.P. 27, Cassidy Group No. 1

Willard D. Tompson October 10, 1986

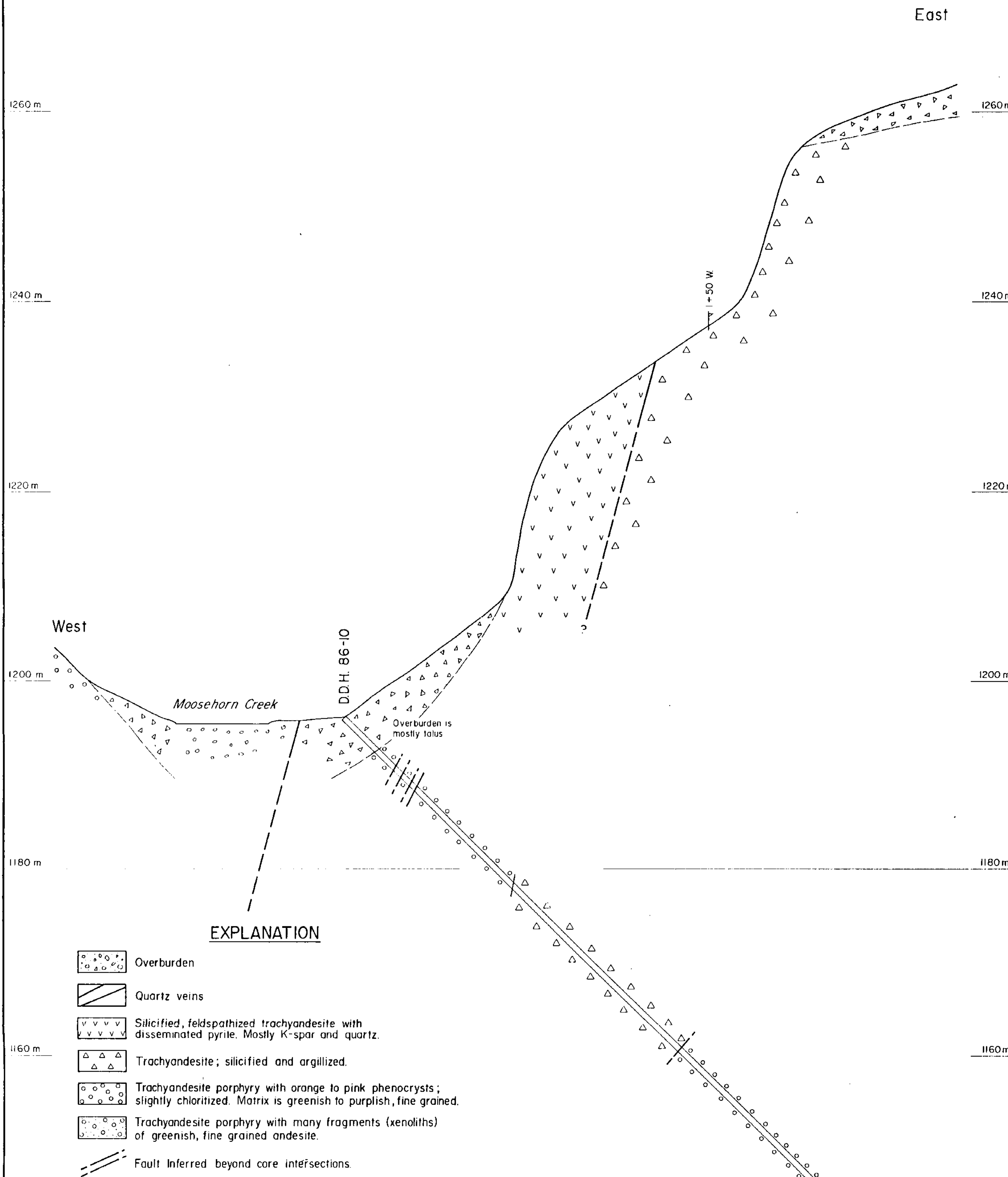


Figure 41

CYPRUS METALS CANADA

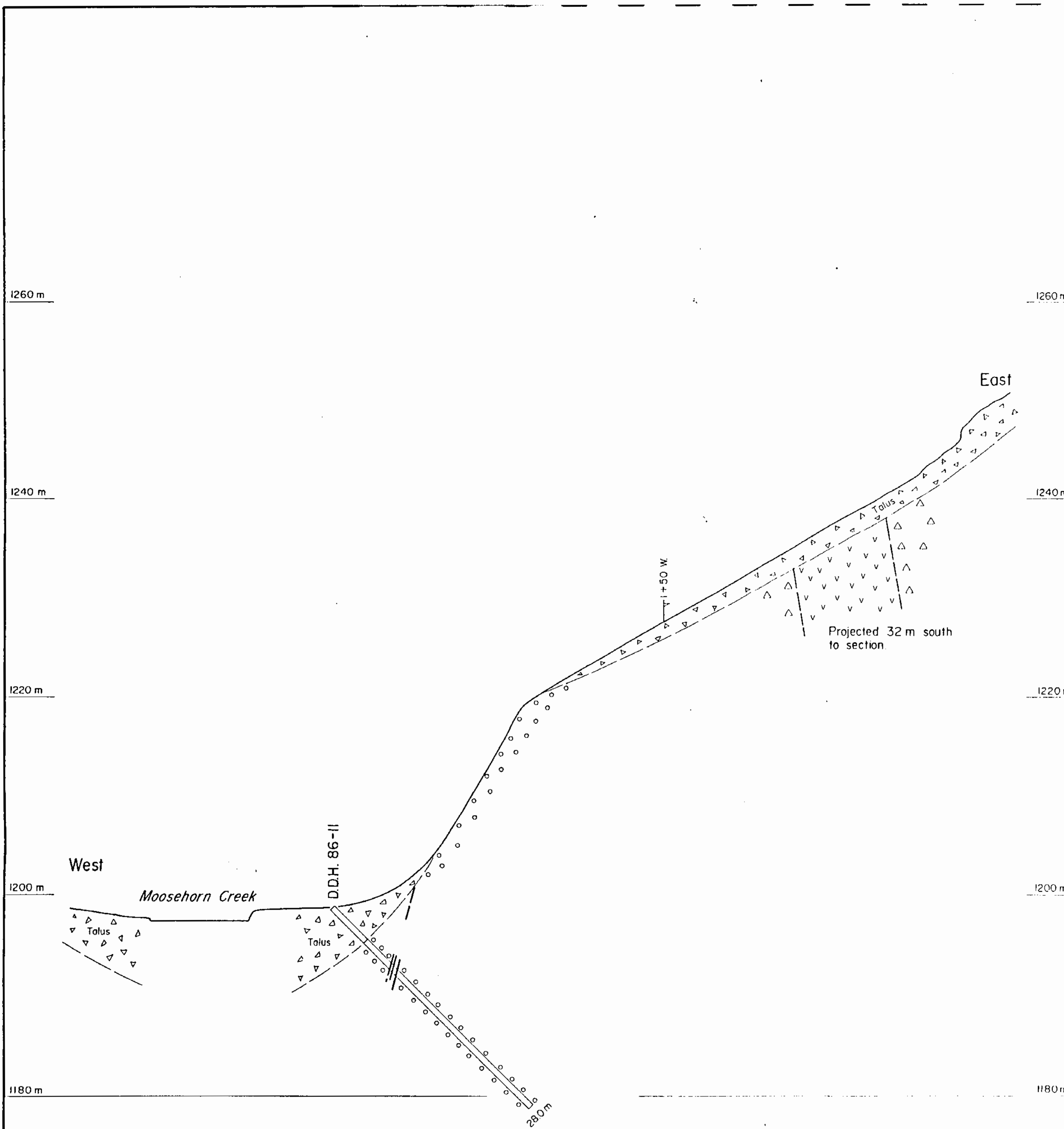
Toodoggone Project

Geological Cross Section
Diamond Drill Hole 86-10
L. 1+85 N.-1+88 W.

Mineral Claim G.W.P. 30, Cassidy Group No. 1

Willard D. Tompson October 10, 1986

METRES 0 5 10 15 30 METRES



EXPLANATION

- Overburden
- Quartz veins
- Silicified, feldspathized trachyandesite with disseminated pyrite. Mostly K-spar and quartz.
- Trachyandesite; silicified and argillized.
- Trachyandesite porphyry with orange to pink phenocrysts; slightly chloritized. Matrix is greenish to purplish, fine grained.
- Trachyandesite porphyry with many fragments (xenoliths) of greenish, fine grained andesite.
- Fault. Inferred beyond core intersections.

Figure 42

CYPRUS METALS CANADA

Toodoggone Project

Geological Cross Section
Diamond Drill Hole 86-11
L. 2+51 N. - 1+83 W.

Mineral Claim G.W.P. 30, Cassidy Group No.1

Willard D. Tompson   October 10, 1986

METRES 0 5 10 15 30 METRES

Mineralized Intersections in Drill Holes

Ten of the drill holes encountered significant intersections of mineralized rock. It was shown above that drill holes 86-4, 86-5 and 86-6 were probably drilled down dip, in the footwall of the Moosehorn vein and that conclusion tends to be supported by assay data from those holes. Drill holes 86-3 and 86-11 did not intersect significant mineralization.

The mineralized intersections from diamond drill holes 86-1 to 86-12 are summarized below.

Figures 43 to 50 are assay cross-sections of drill holes 86-1, 86-2, 86-4 to 86-10 and 86-12.

Mineralized Intersections in Drill Core

Drill Hole No.	Intersection (meters)			Width (meters)	Assays Au(ppb)	Assays Ag(ppm)
86-1	64.6	-	74.5	9.9	87.	6.6
86-1	74.5	-	75.5	1.0	360.	37.0
86-1	78.5	-	83.9	5.4	90.	5.1
86-2	53.0	-	61.0	8.0	51.	4.6
86-2	61.0	-	66.0	5.0	340.	22.2
86-2	66.0	-	71.0	5.0	164.	7.3
86-2	71.0	-	75.0	4.0	350.	10.2
86-4	26.5	-	32.5	6.0	182.	11.4
86-5	84.0	-	93.0	9.0	40.	2.8
86-6	40.0	-	44.0	4.0	54.	3.3
86-6	75.0	-	80.0	5.0	60.	1.9
86-6	84.0	-	95.0	11.0	48.	6.4
86-6	97.0	-	102.0	5.0	50.	2.5
86-7	19.0	-	26.0	7.0	26.	5.4
86-7	32.0	-	34.0	2.0	25.	3.5
86-7	68.0	-	71.0	3.0	150.	12.2
86-7	71.0	-	74.0	3.0	75.	4.7
86-7	74.0	-	78.0	4.0	715.	19.5
86-7	83.8	-	89.0	5.2	326.	16.4
86-7	89.0	-	93.0	4.0	96.	5.7
86-7	95.0	-	97.0	2.0	30.	1.9
86-8	3.6	-	7.0	3.4	121.	30.3
86-8	7.0	-	10.0	3.0	1,593.	339.6
86-8	10.0	-	17.0	7.0	157.	13.1
86-8	17.0	-	25.0	8.0	66.	4.2
86-8	25.0	-	33.0	8.0	34.	1.9
86-8	44.3	-	50.0	5.7	70.	7.2
86-9	1.5	-	7.5	6.0	100.	8.6
86-9	9.5	-	12.5	3.0	312.	34.7
86-9	12.5	-	17.5	5.0	93.	6.1
86-9	17.5	-	26.5	9.0	113.	5.8
86-9	36.8	-	41.5	4.7	80.	12.4
86-9	41.5	-	44.5	3.0	47.	4.7
86-9	44.5	-	45.5	1.0	320.	40.3
86-9	45.5	-	55.5	10.0	24.	3.2
86-10	31.0	-	33.0	2.0	40.	3.0

Mineralized Intersections in Drill Core

Drill Hole No.	Intersection (meters)			Width (meters)	Au(ppb)	Assays Ag(ppm)
86-12	12.0	-	17.0	5.0	125.	5.4
86-12	25.0	-	30.0	5.0	65.	5.4
86-12	30.0	-	33.0	3.0	33.	3.2
86-12	33.0	-	37.0	4.0	96.	13.2
86-12	37.0	-	44.0	7.0	20.	2.6
86-12	44.0	-	46.0	2.0	420.	82.4
86-12	46.0	-	49.0	3.0	28.	5.6
86-12	83.0	-	88.0	5.0	62.	4.0
86-12	88.0	-	91.0	3.0	80.	0.9
86-12	91.0		95.0	4.0	250.	6.3
86-12	95.0	-	103.0	8.0	69.	5.2
86-12	103.0	-	108.0	5.0	930.	42.6

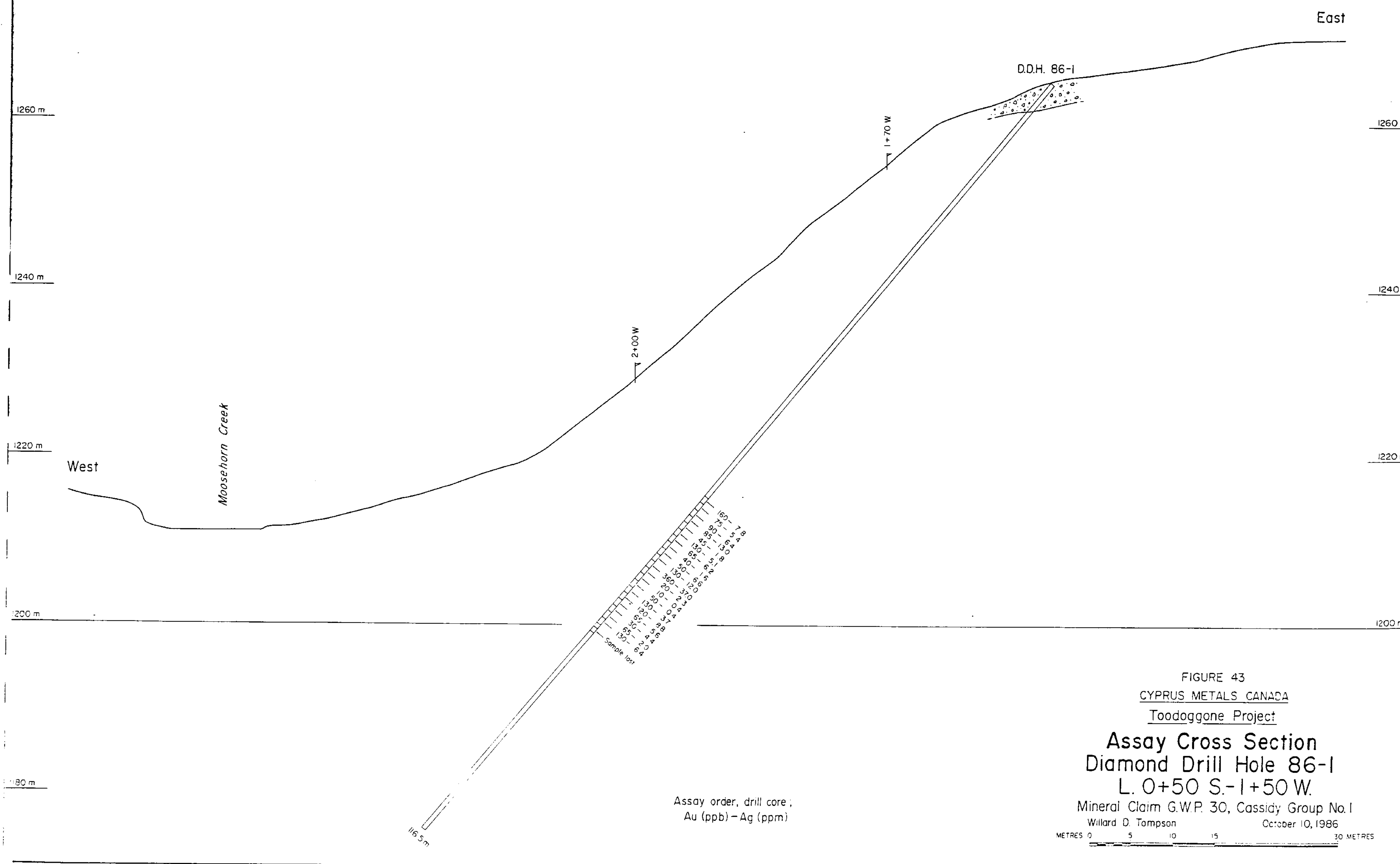


FIGURE 43

CYPRUS METALS CANADA

Toodoggone Project

Assay Cross Section
Diamond Drill Hole 86-1
L. 0+50 S.-1+50 W.

Mineral Claim G.W.P. 30, Cassidy Group No. 1

Willard D. Tompson October 10, 1986

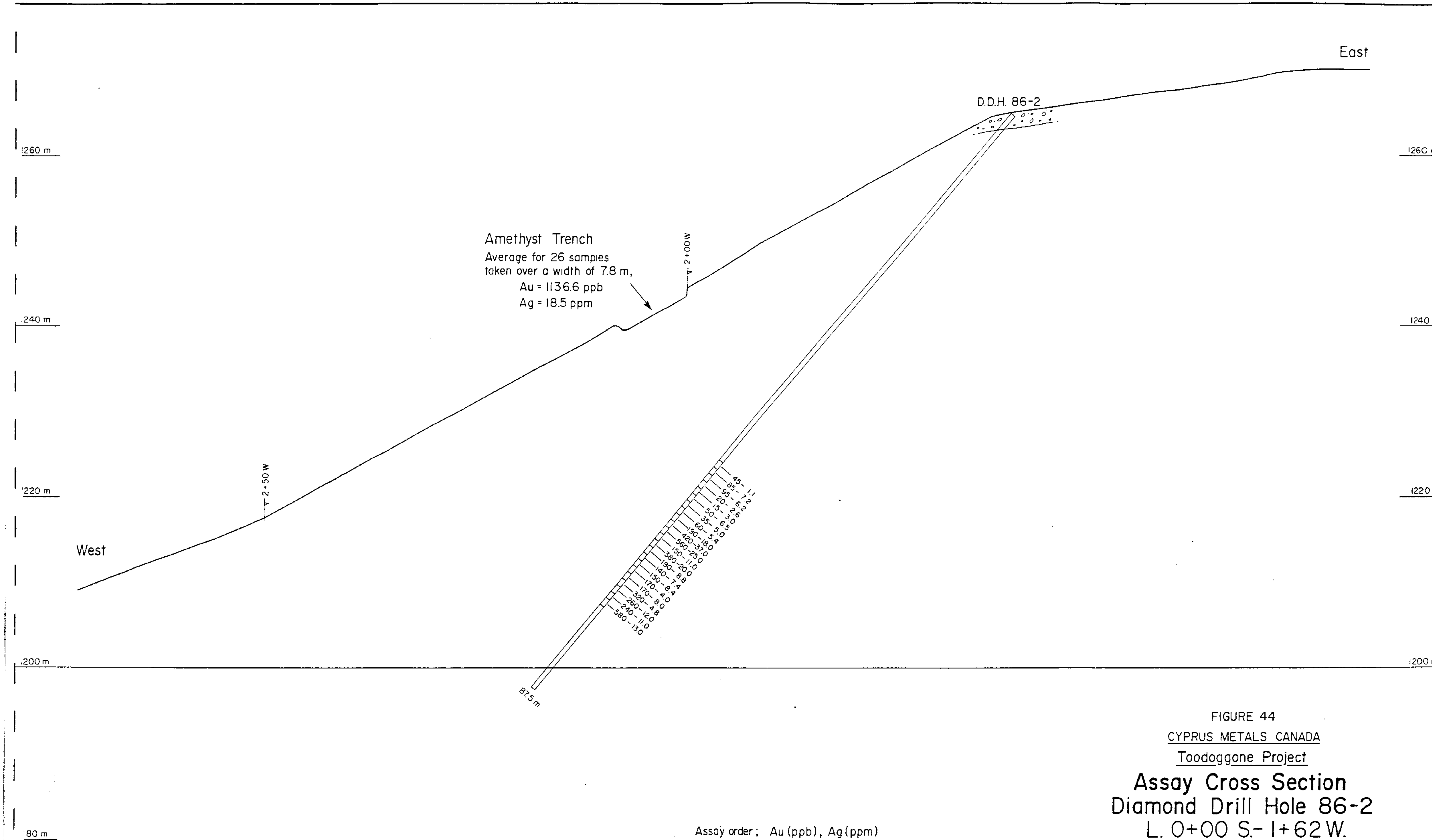


FIGURE 44

CYPRUS METALS CANADA

Toodoggone Project

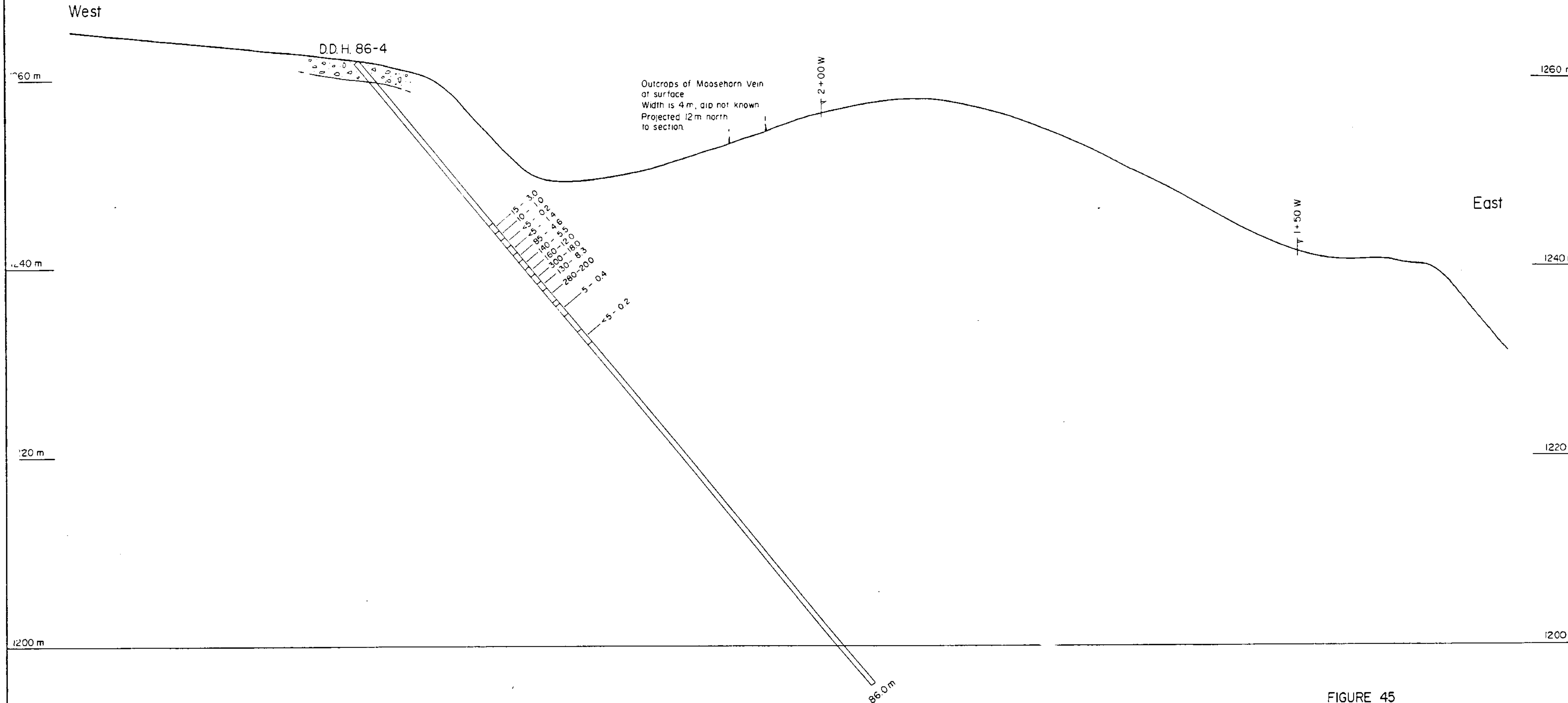
Assay Cross Section
Diamond Drill Hole 86-2
L. 0+00 S.- 1+62 W.

Mineral Claim G.W.P. 30, Cassidy Group No. 1

Willard D. Tompson October 10, 1986

METRES 0 5 10 15 30 METRES

JW



Assay order, drill core;
Au (ppb) - Ag (ppm)

FIGURE 45

CYPRUS METALS CANADA

Toodoggone Project

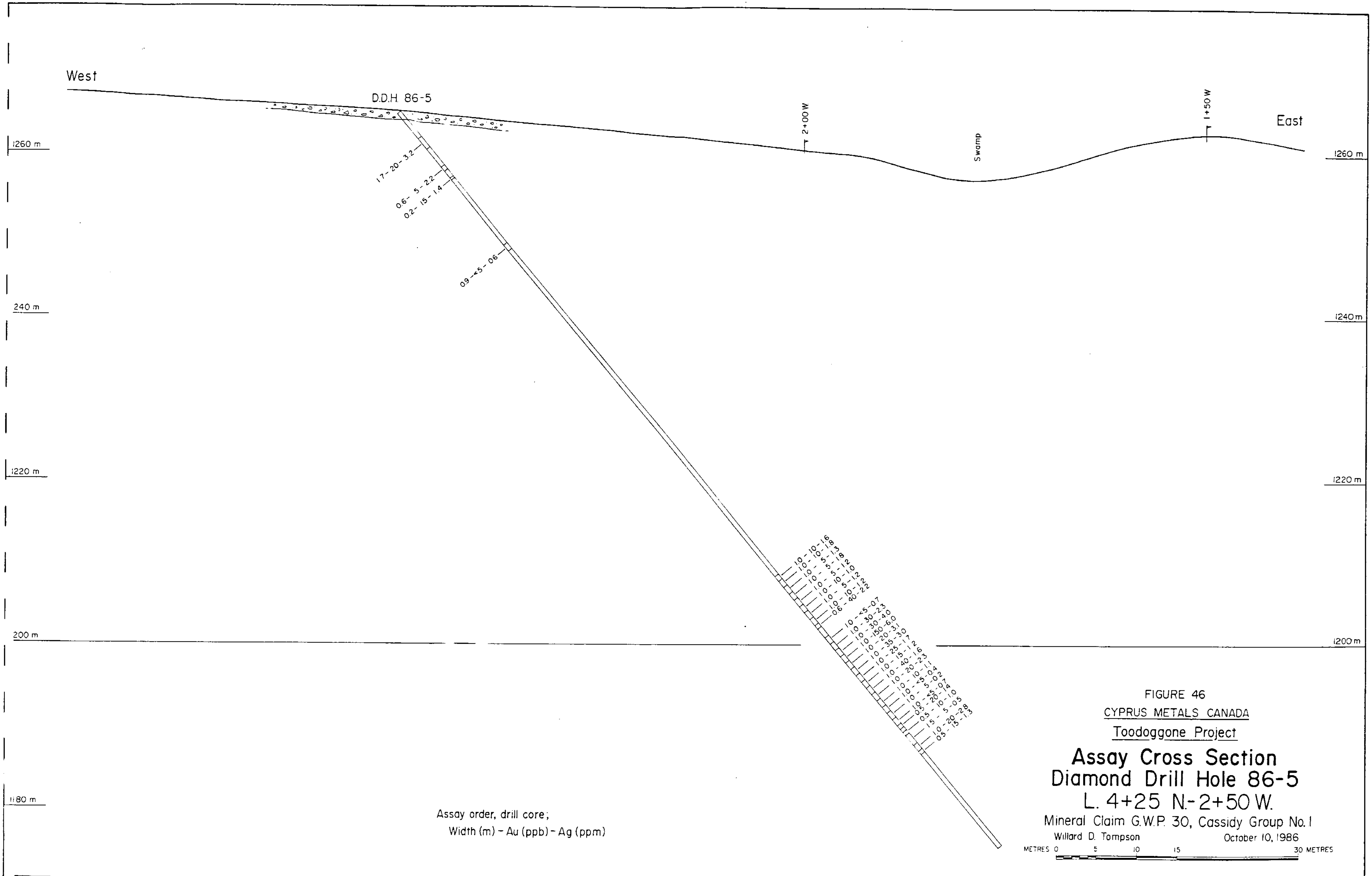
Assay Cross Section
Diamond Drill Hole 86-4
L. 3+75 N.-2+50 W.

Mineral Claim G.W.P. 30, Cassidy Group No. 1

Willard D. Tompson — October 10, 1986

METRES 0 5 10 15 30 METRES

JW


West
East
D.D.H. 86-5
2+00W
1+50W
Swamp
1260 m
1240 m
1220 m
1200 m
1180 m
17-20-3.2
0.6-5-2.2
0.2-15-1.4
0.9-<5-0.6
Assay order, drill core;
Width (m) - Au (ppb) - Ag (ppm)
FIGURE 46
CYPRUS METALS CANADA
Toodoggone Project
Assay Cross Section
Diamond Drill Hole 86-5
L. 4+25 N.-2+50 W.
Mineral Claim G.W.P. 30, Cassidy Group No. 1
Willard D. Tompson
October 10, 1986
METRES 0 5 10 15 30 METRES

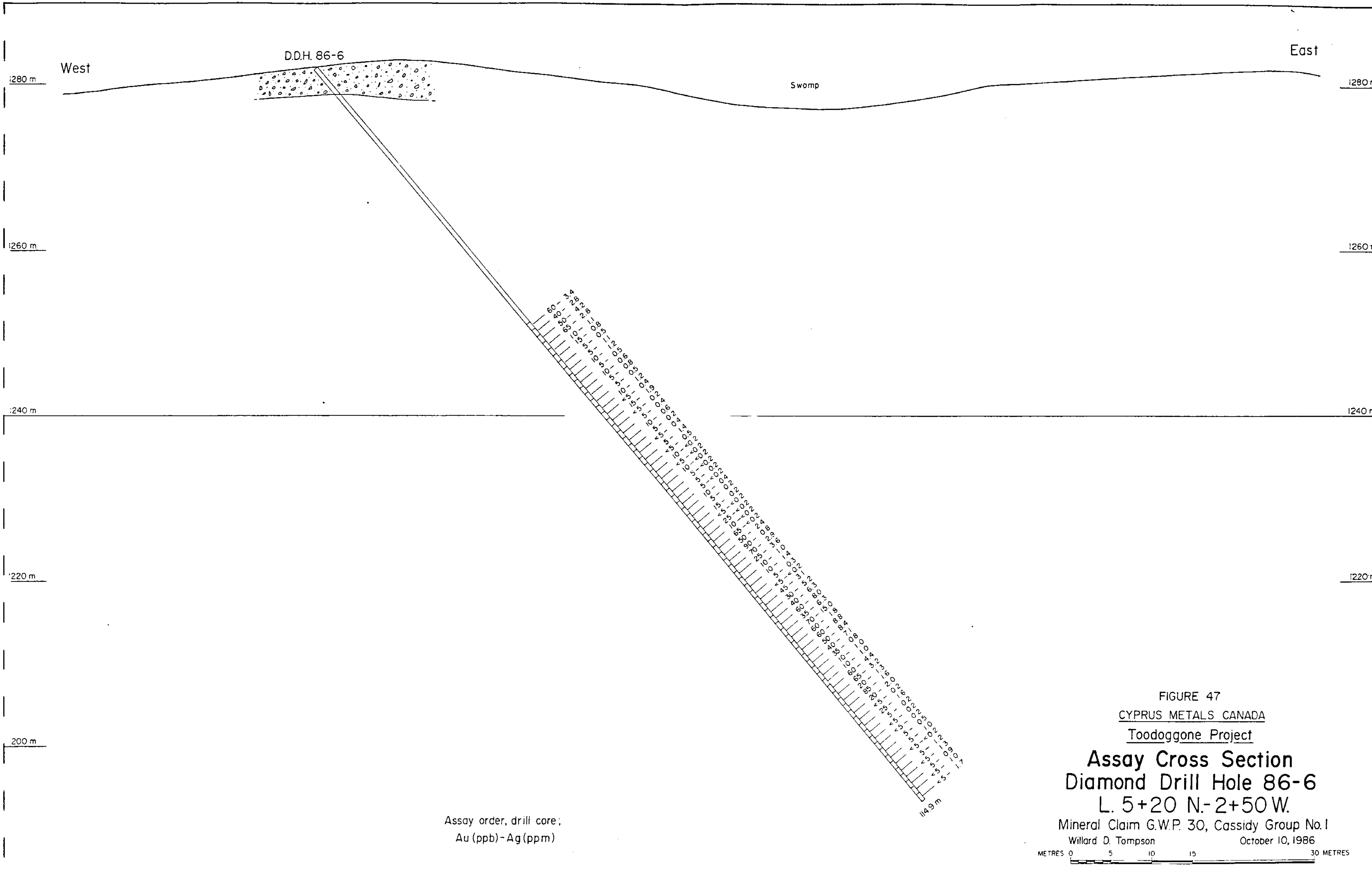


FIGURE 47

CYPRUS METALS CANADA

Toodoggone Project

Assay Cross Section
Diamond Drill Hole 86-6
L. 5+20 N.-2+50 W.

Mineral Claim G.W.P. 30, Cassidy Group No. 1

Willard D. Tompson — October 10, 1986

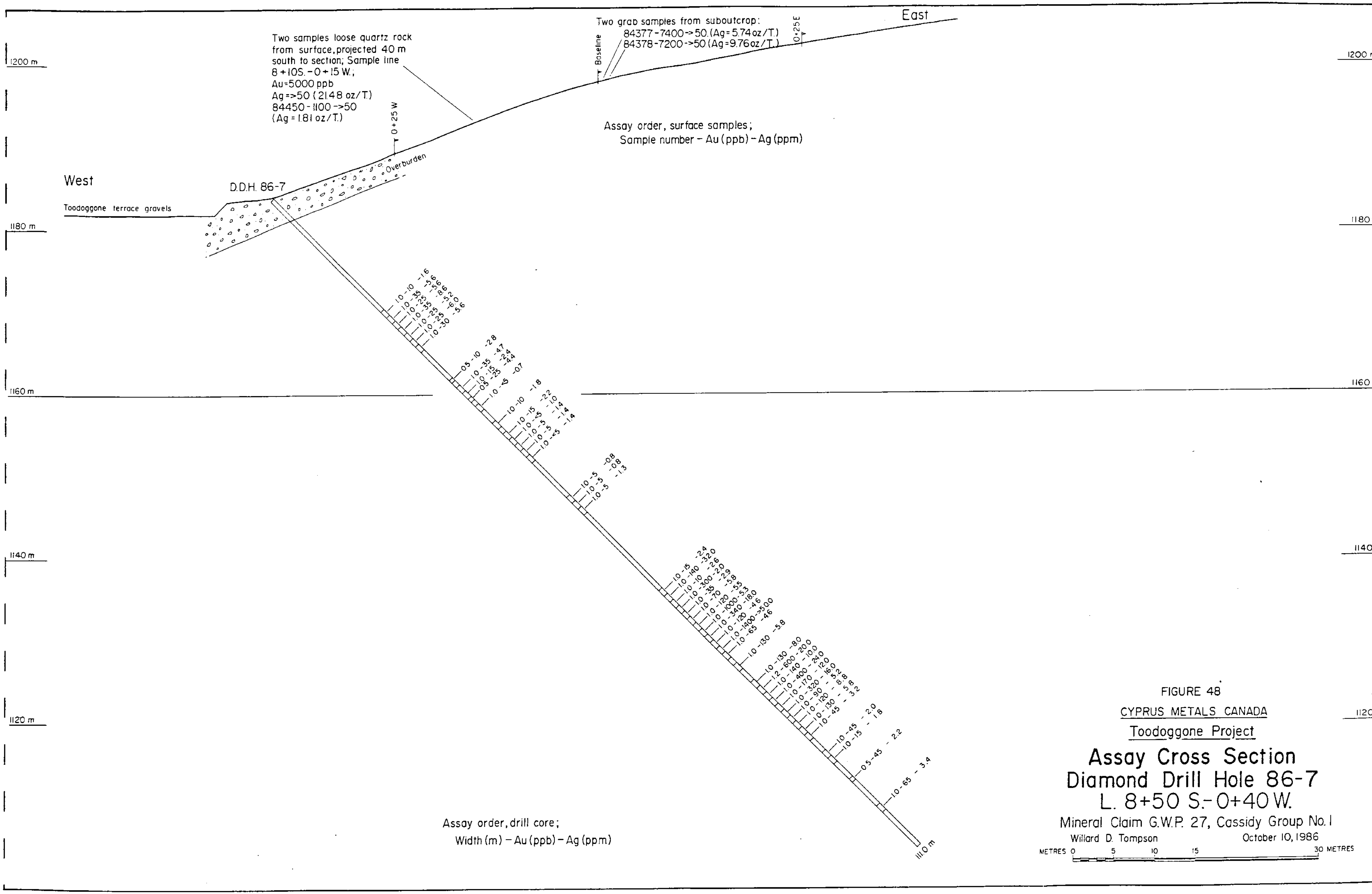


FIGURE 48

CYPRUS METALS CANADA

Toodoggone Project

Assay Cross Section
Diamond Drill Hole 86-7
L. 8+50 S.-0+40 W.

Mineral Claim G.W.P. 27, Cassidy Group No. 1

Willard D. Tompson — October 10, 1986

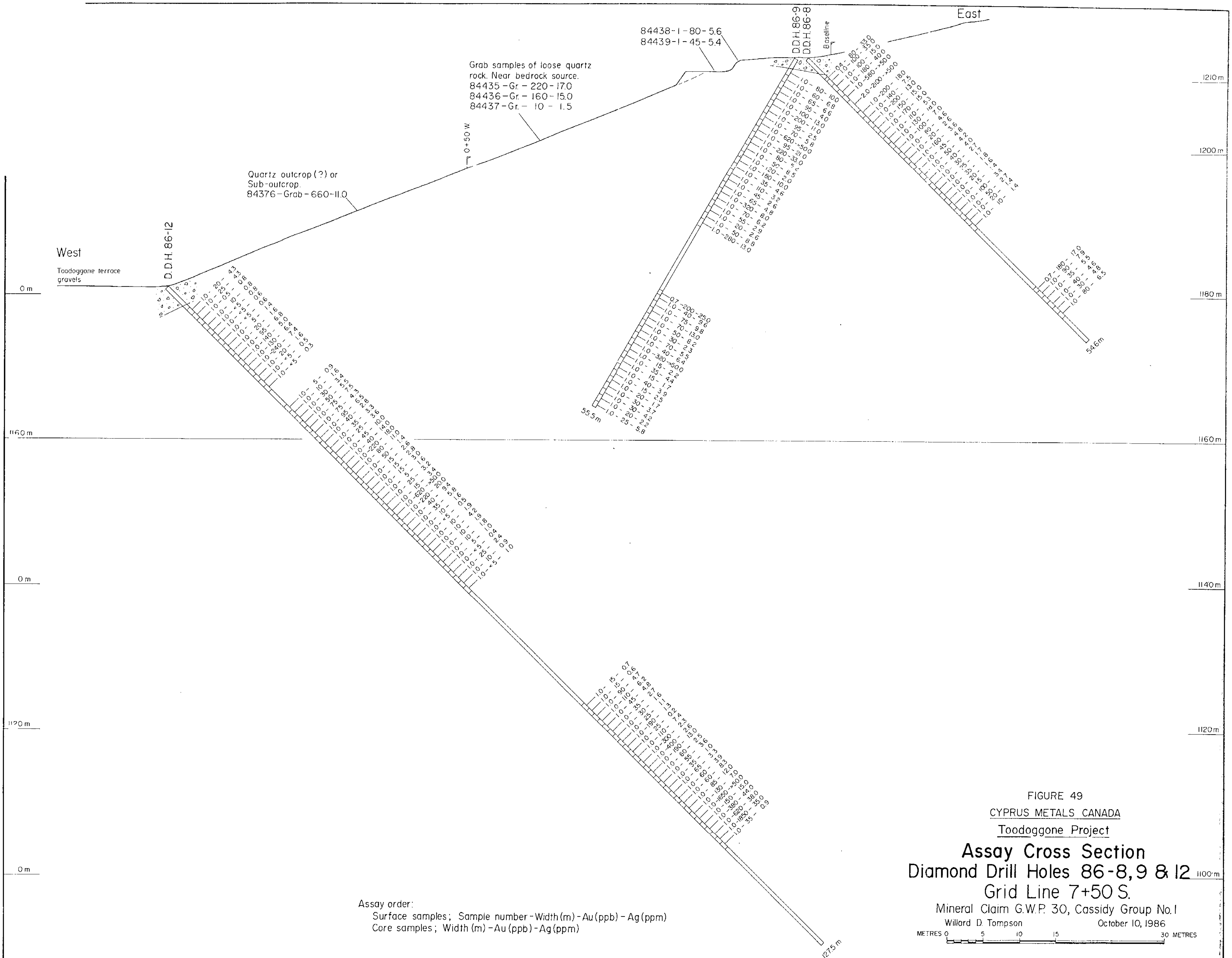


FIGURE 49

CYPRUS METALS CANADA

Toodoggone Project

Assay Cross Section
Diamond Drill Holes 86-8, 9 & 12
Grid Line 7+50 S.

Mineral Claim G.W.P. 30, Cassidy Group No. 1

Willard D. Tompson October 10, 1986

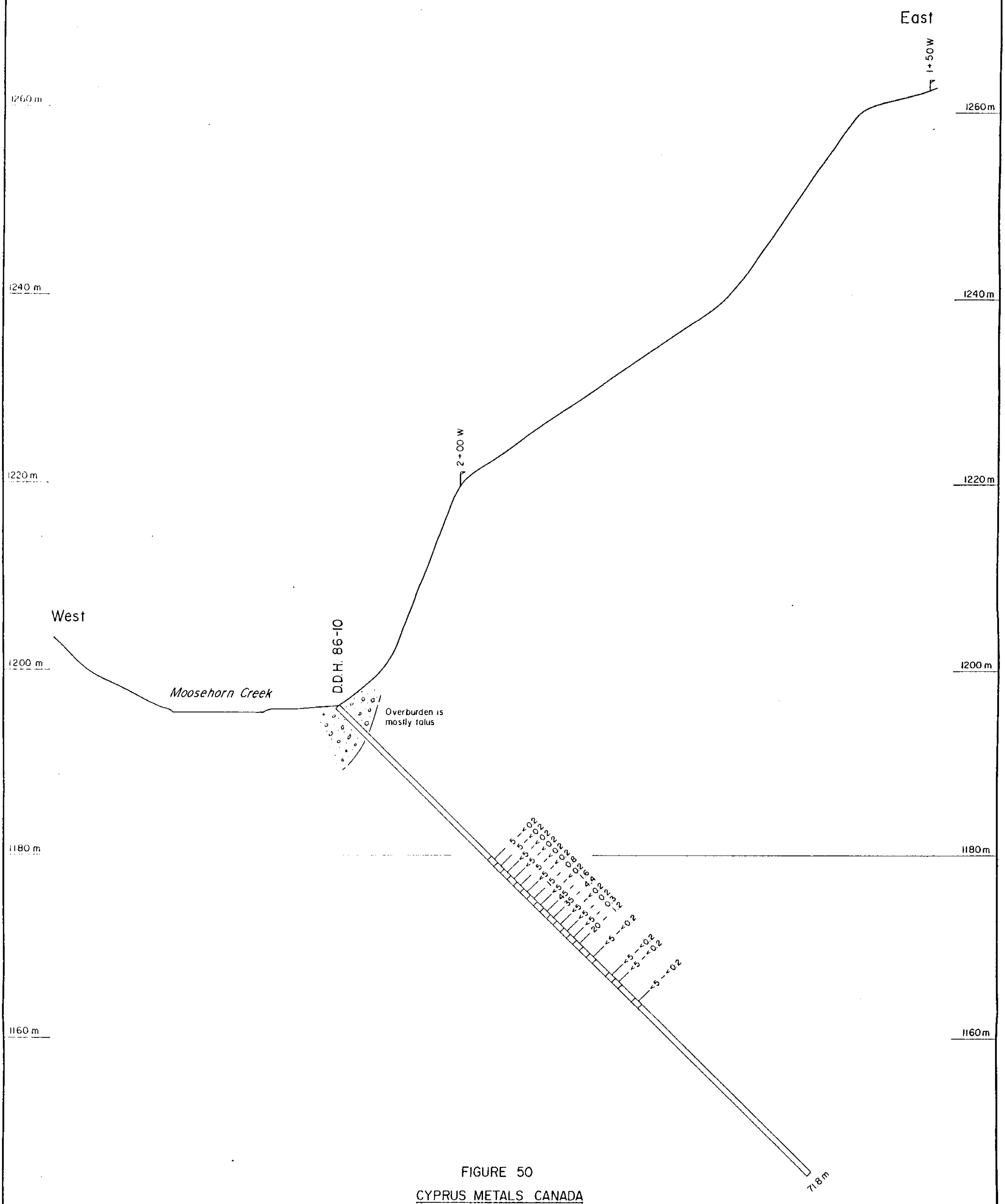


FIGURE 50

CYPRUS METALS CANADA

Toodoggone Project

Assay Cross Section
Diamond Drill Hole 86-10
L. 1+85 N.-1+88 W.

Mineral Claim G.W.P. 30, Cassidy Group No. 1

Willard D. Tompson October 10, 1986

METRES 0 5 10 15 30 METRES

Assay order;
Au (ppb) - Ag (ppm)

CONCLUSIONS

Several promising exploration targets are recognized as a result of the geochemical surveys and from the trenching and drilling programs.

Exploration Targets Identified in Geochemical Stream Silt Surveys

Four areas of anomalous gold values were identified in stream silts (Plate V):

1. In southeastern G.W.P. No. 40, four of five successive samples have gold values from 200 to 1350 ppb. Upstream from the anomalies, 16 samples have low gold values, which suggests a local source for the gold. The area lies on strike of the Moosehorn zone.
2. In the northwestern part of G.W.P. No. 30, four of seven successive silt samples have gold values from 55 to 3200 ppb. No other geological or geochemical information is available from that area.
3. Two samples in West Kodah Creek have values of 200 and 340 ppb of gold.
4. Five of seven samples north of Moosehorn Canyon have gold values of 75 to greater than 10,000 ppb.

Exploration Targets Identified in Geochemical Soil Surveys

Geochemical soil surveys were conducted in three principal areas on Cassidy Groups 1 and 2:

1. Moosehorn grid, centered on Moosehorn Canyon
2. Reconnaissance geochemical grid near the south end of Baseline No. 1
3. Reconnaissance geochemical grid on Round Mountain

Geochemical Anomalies on the Moosehorn Grid

A group of geochemical anomalies occurs on the southeastern part of the Moosehorn grid. These anomalies were checked and confirmed by detailed grid sampling (Figures 9, 10, 11, 12 and 13) and some drilling was done near the gold anomaly, Baseline - 8+00 South (Figure 32).

It is suggested that the area in the southeastern part of the Moosehorn grid is more likely to respond to soil geochemical techniques than most of the northern part of the grid area. It is shown on Plate II that bedrock in this southeastern part of the Moosehorn grid is partially exhumed by the removal of ground moraine, downslope to Toodoggone River.

Other geochemical anomalies west of Moosehorn Canyon have not been checked by detailed grid sampling or by prospecting.

Reconnaissance Geochemical Grid Near the South End of Baseline No. 1

Six of 310 soil samples which were taken near the south end of the main baseline, contain anomalous (greater than 100 ppb) gold values. It is shown on Plate VII that this sampling was wide-spaced (25 x 200 meters) reconnaissance-type sampling and, therefore, structural trends and mineralized patterns will not necessarily be demonstrated.

The localities where the anomalous values were discovered may be further examined by detailed geochemical grid sampling and by prospecting.

Reconnaissance Geochemical Grid on Round Mountain

The reconnaissance geochemical grid sampling on Round Mountain is shown on Plate VIII. The map shows a cluster of anomalous gold and silver values aligned along the baseline, from 100 meters south to 250 meters north of the baseline. Geological mapping (Plates I and IV) shows that silicification occurs in this area. It is suggested above (page 26) and on the geological map (Plate I) that this zone of silicification and the geochemical anomalies, lie on strike of the Cliff Creek zone which is being explored by SEREM, Ltd.

Exploration Targets Identified in Trenches

Three of six trenches which were drilled and blasted and excavated by hand, provide positive information for additional exploration work.

Exploration Target at Trench, Coordinates, 8+60N. - 0+45W.

The trench was blasted in silicified bedrock on the north bank of a small tributary of Moosehorn Creek, about 150 meters west of the Moosehorn Creek waterfall. The trench is shown in Figure 28. Silicified rocks occur over a large area near the trench, but are poorly exposed. However, the area lies on strike of the Moosehorn zone and warrants additional testing, initially with a detailed geochemical survey. It is noted on Figure 28 that some promising gold assays come from the trench.

Exploration Target at the Moosehorn Vein

First sampling in the area of the Moosehorn vein was by Great Western Petroleum in 1981 (Eccles, 1982). Their rock geochemical assays showed up to 1500 ppb gold and 40 ppm silver.

The Moosehorn vein was explored over a length of 45 meters by drilling, blasting and excavating by hand. Assay values of continuous chip rock samples which were moiled at one meter intervals, are promising. The highest gold assay is 0.433 ounces per ton, and the highest silver assay is 2.93 ounces per ton.

It is suggested above (page 93) that diamond drill holes 86-4, 86-5 and 86-6, which were drilled to intersect the vein, were drilled down dip, and in the footwall of the vein.

Additional drilling of the *Moosehorn* vein is warranted.

Exploration Target Near Zone of Clay Alteration, Coordinates, 4+20S. - 1+05W.

About 400 meters, S.30°E. from the Canyon exposures of the Moosehorn zone, trachyandesite porphyry is altered to white clay. The occurrences lie adjacent to a strong structural lineament which is on strike of, and parallel to, the Moosehorn zone.

The clay is a product of the hydrothermal alteration of trachyandesite porphyry and it denotes the near proximity of a conduit along which hydrothermal fluids were transported.

A detailed soil *geochemical* survey with *a grid* spacing of 10 x 25 meters and covering an area about 200 x 300 meters, will show if precious metals are associated with the clay alteration and the structure.

Exploration Targets Identified in Outcrop Sampling in Moosehorn Canyon

Outcrops in Moosehorn Canyon were sampled where quartz veins were visible in outcrops and where the outcrops were accessible by routine climbing means. Three separate areas of outcrops in Moosehorn Canyon contain anomalous and significant amounts of gold and silver (pp. 41 - 54 and Figures 14 - 26).

Outcrops Near Coordinates, 2+00N. - 4+00N., From Baseline to 2+00W.

Outcrops along the west side of a 250 meter-long portion of Moosehorn Creek are accessible during periods of low water. Technical climbing methods are required to reach them from above.

Areas of quartz veining in outcrops which are exposed above the water level have gold values up to 2000 ppb and silver values of to 45 ppm.

Mineralization may persist along strike to the north-northwest from the outcrops, beneath the covered areas at the top of the cliffs. Geochemical soil anomalies on L.6N. at 75 and 100 meters west of the baseline, support this concept.

Detailed geochemical grid soil sampling and prospecting techniques may be employed to search for the extensions of the mineralized structures in the covered areas.

Outcrops at Survey Station 23

Amethyst quartz and other quartz veins occur on the east side of Moosehorn Creek, opposite the trenches on the Moosehorn vein. Survey station 23 is near the site. The outcrops lie about 13 meters above Moosehorn Creek in relatively steep terrain. The amethyst and quartz veins and faults strike north-northwesterly, but are covered by talus away from the area of outcrops. It is noted on Plate III that other areas of silicification and quartz veins lie on the opposite side of Moosehorn Creek and on strike from the zone at Survey station 23.

Due to the nature of the terrain at station 23, hand trenching is believed to be the most suitable method for exploring the vein system. Trenching will require drilling and blasting, which may be achieved by placing a compressor on a suitable site above the vein outcrop area, as was done in trenching the Moosehorn vein.

Outcrops Near Survey Stations 14 to 4

Outcrops in the area of survey stations 14 to 4 are in the east wall of Moosehorn Canyon and are from 10 to 30 meters above the creek level. Several silicified outcrops were sampled through the 170 meter interval (Figures 17 - 26). Many samples contain anomalous amounts of gold and silver:

	Gold(ppb)			Silver(ppm)	
>800	9	samples	>40	6	samples
401-800	13		21-40	4	
201-400	18		10-20	17	
101-200	14		5-10	19	
<100	20		<10	28	
Total	74	samples	Total	74	samples

It is noted that both gold and silver values increase toward the south. This may be at least partly due to the accessibility of outcrops as that relates to the ability of the sampler to collect a representative sample in the steep terrain of Moosehorn Canyon.

Outcrop trenching and diamond drilling from the bottom of the canyon are not considered to be practical or possible, due to the steep terrain in the canyon. However, it is possible to drill beneath the canyon from the east rim of the canyon, as was done in drill holes, 86-1 and 86-2.

Overburden depth to the south-southeast of the Canyon outcrops is believed to be less than 3 meters. In this area, slopes are about 20 degrees and appear to be well-drained, as they support large stands of poplar trees. Thus, trenching with a large backhoe is believed to be a reasonable and practical means of exploring that part of the area which lies on strike of the Moosehorn zone.

Exploration Targets Identified by Diamond Drilling

Target Area at 7+00S. - 8+50S.

It is readily apparent from an inspection of the table of mineralized intersections in the drill core (pages 94 and 95), that the area near 7+00South to 8-50 South, along the baseline has significant promise for the discovery of ore-grade vein deposits. Drill hole 86-8, collared (beneath 3.6 meters of overburden) in a fine-grained to chalcedonic, grey quartz vein which appears to be about 3 meters wide. The vein has not been tested at depth.

The area in the vicinity of the discovery is readily suitable to trenching with a backhoe. Diamond drilling could be facilitated by construction of some roads in the target area, thereby reducing the need for helicopter support. An abundant supply of water for drilling is available from a stream about 250 meters east of the area.

Target Area Near the Amethyst Trench

Diamond drill holes 86-1 and 86-2 intersected slightly mineralized, silicified zones and quartz veins through intervals of 16.3 and 21.0 meters respectively (Figures 33, 34, 43 and 44). In each drill hole, the intersections were made at elevations of approximately 1200 to 1220 meters and were only 20 meters beneath outcrop. Drill hole 86-3 (Figure 35) may have made an intersection at about 110 meters, at a depth of 100 meters beneath the outcrops, but it was terminated prematurely due to incomplete understanding of the geology of the vein and the barren nature of the rocks from the collar to 98 meters depth. It is now thought that an intersection may have been made in about 7 meters additional drilling, or at 105 meters.

It must be noted that, in trench sampling on the Amethyst trench, which is up-dip from the intersections in DDH 86-2, the average of 26 samples moiled from bedrock was: gold, 1136.6 ppb and silver, 18.5 ppm.

Target Area at the Moosehorn Vein

Diamond drilling at the Moosehorn vein (DDH 86-4, 86-5 and 86-6) showed conclusively that the vein does not dip to the southwest as was believed when the drilling was done. A contact which was measured in the trench (Figure 29) suggests that the vein may dip northeasterly at about 45 degrees.

Host rocks of the Moosehorn vein are strongly silicified and feldspathized and contain from 0.1 to 0.5 percent very fine-grained disseminated pyrite.

The highest gold assay from the trench is 0.433 ounces per ton for the one meter sample. The highest silver assay is 2.93 ounces per ton.

Diamond drill holes should be inclined at about 45 degrees and should be drilled at a bearing of S.62°E. for intersections with the Moosehorn vein. Satisfactory drill sites are accessible above the cliffs of Moosehorn Canyon.

RECOMMENDATIONS

Geochemical soil surveys, hand-trenching and diamond drilling are recommended as a result of information gained from the field work which was accomplished in 1986.

Geochemical Soil Surveys

Follow-up Geochemical Soil Surveys Resulting from Geochemical Silt Anomalies

Four areas are shown on Plate V which have anomalous gold values in stream silts. These areas are described further on pages 103 - 106 of this report.

It is recommended that the four areas be evaluated by field examination and that a soil geochemical grid be designed for each area.

It is estimated that 250 geochemical soil samples will be collected at each of the four areas of the stream silt anomalies, for a total of 1,000 samples.

Follow-up Geochemical Soil Surveys Resulting from Reconnaissance Geochemical Soil Surveys

Six soil geochemical anomalies west of Moosehorn Canyon (Plate VI) should be checked by detail grid sampling. A detailed grid array similar to those used on the east side of Moosehorn Canyon is recommended. The detailed grid produces 121 samples for a 100 by 100 meter grid with a 10 x 10 meter sample array, making a total of 726 samples for the detailed geochemical soil survey west of Moosehorn Canyon.

Plate VII shows an area near the south end of the main baseline in which a reconnaissance geochemical soil survey was done. Four samples have greater than 200 ppb of gold.

It is recommended that this grid be extended to Line 20 South and to 1000 meters on each side of the baseline and that the grid sampling be completed with a 25 x 100 meter sample array.

The recommended soil geochemical sampling program near the south end of the main baseline will produce about 1,770 samples.

No additional sampling is recommended on the Breeze claim (Plate VIII).

Several samples with anomalous gold and silver values came from the grid sampling of Baseline 28 on Round Mountain, south of Toodoggone River (Plate VIII).

The Round Mountain reconnaissance grid should be completed with a 25 x 100 meter sample array and should be expanded to cover the area from Line 20 South to Line 44 South and should extend 1000 meters on each side of the baseline. This soil sampling program would produce about 1,750 samples. In addition, the four existing anomalous sites should be sampled in detail. The detailed sampling would produce about 484 samples. Thus, the recommended geochemical soil sampling program on Round Mountain would produce a total of 2,234 samples. Other detailed sample grids may be required if anomalous sites are found in the expanded geochemical soil survey.

This geochemical survey grid on Round Mountain is of particular importance because it is believed that the Cliff Creek fault, which is a mineralized fault on SEREM's, New Lawyers 3 and 4 claims, may extend onto the G.W.P. No. 28 claim on Round Mountain.

About 2000 meters north-northwesterly from Round Mountain, near the northwestern part of G.W.P. No. 28, a zone of quartz veins and silicification crops out above the Toodoggone River terrace gravels. Some galena occurs with the quartz veins. This area is believed to lie on strike of the Cliff Creek fault.

A geochemical grid is recommended for the area. Initially, a grid covering 1000 x 1000 meters with a 25 x 100 meter sample array may be employed. This survey will show the precious metals, if they are associated with the zone of silicification. Preliminary soil sampling will produce about 450 samples.

The geochemical surveys which are recommended above will produce a total of 6,180 samples.

It is recommended that the samples be analyzed for gold and silver only, as it is shown that other elements which traditionally are enriched near gold and silver deposits, show no enrichment near gold and silver occurrences in the areas which were tested.

Estimated Cost of the Recommended Geochemical Surveys

Five geochemical soil surveys are recommended, which will produce about 6,180 soil samples. The estimated cost of these geochemical surveys is as follows:

Wages	
Line cutters	$3,600.
Samplers	17,920.
Assays, 6,180 @ $10.00	61,800.
Tools	700.
Board and room	
Aircraft crew	1,125.
Line cutters	2,000.
Geochemical samplers	13,200.
Geologists	2,500.
Helicopter charter, 44 days @0.4 hours x $600 for samplers	10,560.
Helicopter charter, 20 days @0.4 hours x $600 for line cutters	4,800.
Fixed wing aircraft support, prorated, estimate	2,000.
Mobilzation, demobilization	4,000.
Supervision	8,000.
Plotting and drafting in the field	3,000.
Total for geochemical surveys	$135,955.

Trenching

It is proposed that hand trenching be done on certain silicified outcrops and geochemical anomalies. This trenching is to be accomplished using a portable compressor (described above, p. 55) for drilling and blasting.

A Caterpillar 214 backhoe will be available in the Toodoggone area during the summer of 1987. It is proposed that backhoe trenching be employed in the area of diamond drill holes 86-7, 86-8, 86-9 and 86-12 in an effort to trace the vein at the surface.

It is estimated that about 400 meters of backhoe trenching may be done in 20 days. About 100 to 200 meters of hand trenching is also recommended.

Estimate of Costs of Exploration Trenching

Costs of hand trenching and backhoe trenching are combined, as follows:

Wages and fees	
Supervision, planning	$6,000.
Survey control, mapping	4,020.
Blasting foreman	4,300.
Muckers and Samplers	14,250.
Equipment rentals	1,260.
Contract, backhoe @ $90/hour	14,400.
Fuel: compressor and backhoe	3,400.
Blasting supplies	1,500.
Small tools	500.
Board and room	13,850.
Helicopter charter	6,500.
Fixed wing charter	9,000.
Freight samples to laboratory	1,000.
Sampling supplies	1,500.
Mobilization-demobilization (personnel only)	3,000.
Assays	5,010.
Total cost of trenching	$89,490.

Diamond Drilling

A diamond drilling program of 7,000 feet (2134 m) is recommended, which is double the amount drilled in 1986. It is proposed that half of the drilling be allocated to the area near diamond drill holes 86-7 to 86-9 and 86-12, with the balance of the drill holes to be drilled in the areas of the Amethyst trench and Moosehorn vein.

Estimate of Cost of Diamond Drilling

The cost estimate, which is shown below, is based upon a drill program of 7,000 feet (2143 m) of BQ drilling with each hole being 500 feet in length. This drill program will require 15 drill moves. Mobilization, drill moves and demobilization cost estimates are based upon a helicopter-supported program.

Drill contract, 7000 feet @ $20/foot	$140,000.
Contractors field costs @ 10.80/foot	75,600.
Wages and fees	
Supervision and planning	7,500.
Field plotting, drafting, core logging and splitting	7,550.
Assays, estimated 750 @ $11.15	8,363.
Core boxes	2,116.
Core racks	1,000.
Sampling supplies	500.
Helicopter charter for transfer all drill related materials, move fuel, samples and drill moves, mobilization-demobilization	38,840.
Fixed wing aircraft, for transfer of drill related supplies, samples, mobilization/ demobilization	5,060.
Freight	500.
Board and room, drill crew - 4 men @ $50 for 25 days and company representatives, 4 men @ $50 for 30 days	11,000.
Total field and lab costs for 7000 feet drilling	$298,029.

Estimate of Other Costs
Related to the Exploration Program

A few costs of the exploration program which is described above, are not adequately addressed in the foregoing cost estimates.

Camp cook	$13,800.
Expediting	10,000.
Generator rental	2,200.
Fuel for generator	1,500.
Propane	2,000.
Reactivate camp (wages)	1,500.
Plastic pipe and fittings (new water supply system)	1,500.
Mobilization (aircraft charters)	2,640.
Room and board during mobilization	750.
Total support costs	$35,890.

Total estimate of costs of the proposed 1987 exploration costs	$559,364.

Respectfully submitted,

Willard D. Tompson

Estimate of Other Costs
Related to the Exploration Program

A few costs of the exploration program which is described above, are not adequately addressed in the foregoing cost estimates.

Camp cook	$13,800.
Expediting	10,000.
Generator rental	2,200.
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Room and board during mobilization	750.
Total support costs	$35,890.
Total estimate of costs of the proposed 1987 exploration costs	$559,364.

Respectfully submitted,

Willard D. Tompson

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CERTIFICATE

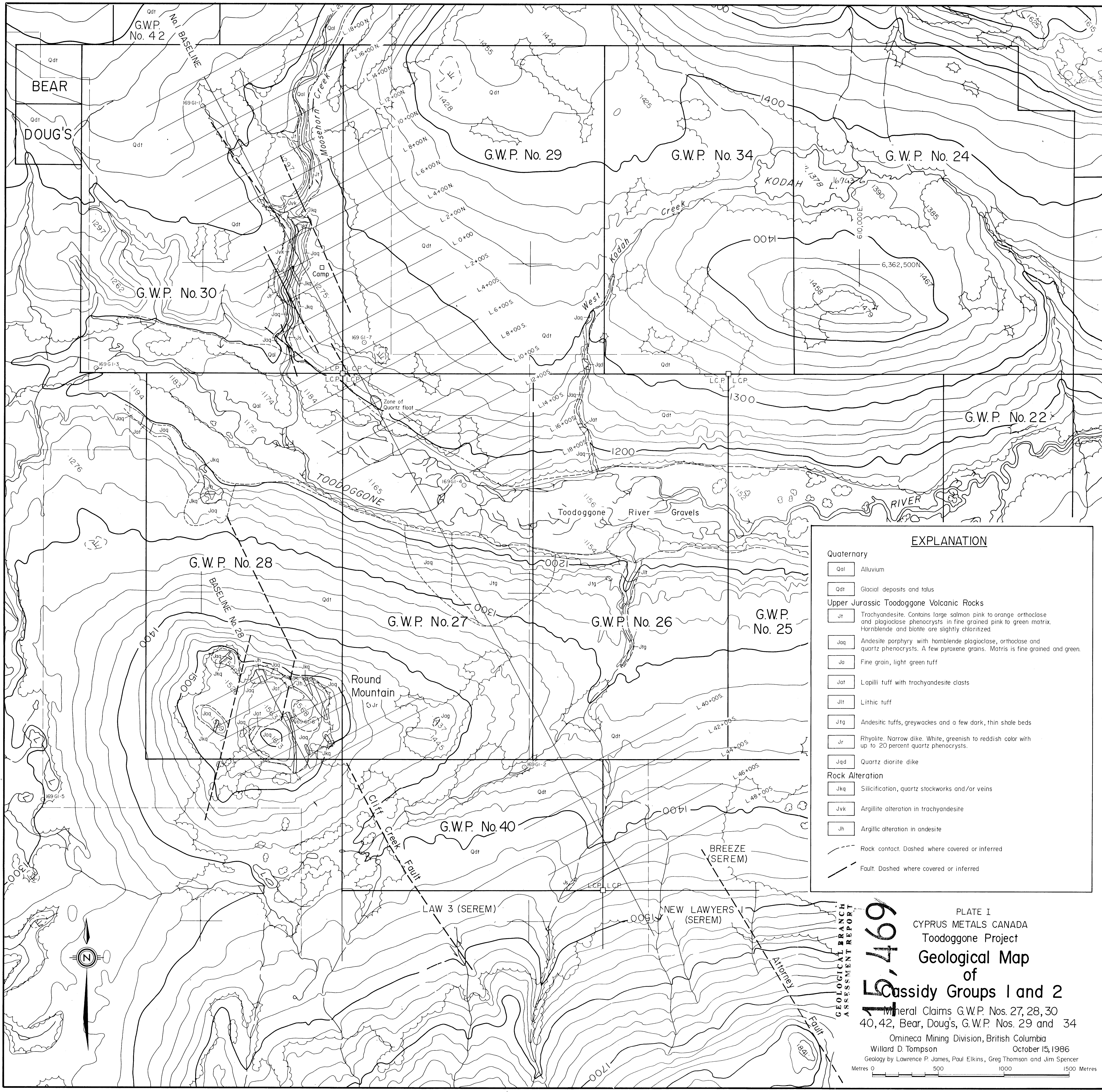
I, Willard D. Tompson, of Smithers, British Columbia, do hereby certify:

1. THAT I am a consulting geologist residing at Van Gaalen Road, Smithers, British Columbia;
2. THAT I hold a Master of Science Degree (Geology) from Montana State University;
3. THAT I am a Fellow of the Geological Association of Canada;
4. THAT I have practiced my profession for more than 28 years;
5. THAT I managed the field exploration program which is described in this report and that I planned the work described herein in consultation with Company management personnel and that I supervised the work in the field;
6. THAT I have not received, directly or indirectly, nor do I expect to receive any interest, direct or indirect, in the property of the Company nor any affiliate of the Company, nor do I beneficially own, directly or indirectly any securities of the Company or any affiliate of the Company;
7. THAT this report may be used for any corporate purpose the Company deems necessary.

Dated at Smithers, British Columbia this 20th day of December, 1986.

Willard D. Tompson

Willard D. Tompson,
Consulting Geologist


EXPLANATION
Quaternary
Qal Alluvium
Qdt Glacial deposits and talus
Upper Jurassic Toodoggone Volcanic Rocks
Jt Trachyandesite. Contains large salmon pink to orange orthoclase and plagioclase phenocrysts in fine grained pink to green matrix. Hornblende and biotite are slightly chloritized.
Jaq Andesite porphyry with hornblende plagioclase, orthoclase and quartz phenocrysts. A few pyroxene grains. Matrix is fine grained and green.
Ja Fine grain, light green tuff
Jat Lapilli tuff with trachyandesite clasts
Jlt Lithic tuff
Jtg Andesitic tuffs, greywackes and a few dark, thin shale beds
Jr Rhyolite. Narrow dike. White, greenish to reddish color with up to 20 percent quartz phenocrysts.
Jqd Quartz diorite dike
Rock Alteration
Jkq Silicification, quartz stockworks and/or veins
Jvk Argillite alteration in trachyandesite
Jh Argillic alteration in andesite
Rock contact. Dashed where covered or inferred
Fault. Dashed where covered or inferred
PLATE I
CYPRUS METALS CANADA
Toodoggone Project
Geological Map
of
Cassidy Groups 1 and 2
Mineral Claims G.W.P. Nos. 27, 28, 30
40, 42, Bear, Doug's, G.W.P. Nos. 29 and 34
Omineca Mining Division, British Columbia
Willard D. Tompson
October 15, 1986
Geology by Lawrence P. James, Paul Elkins, Greg Thomson and Jim Spencer
Metres 0 500 1000 1500 Metres
GEOLOGICAL BRANCH
ASSESSMENT REPORT
15,469
PART 1 OF 2
BEAR
DOUG'S
G.W.P. No. 42
G.W.P. No. 29
G.W.P. No. 34
G.W.P. No. 24
G.W.P. No. 30
G.W.P. No. 22
G.W.P. No. 28
G.W.P. No. 27
G.W.P. No. 26
G.W.P. No. 25
G.W.P. No. 40
No. 1 BASELINE
BASELINE No. 28
Moosehorn Creek
KODAH L.
Kodah Creek
West Kodah Creek
TOODOGGONE RIVER
Toodoggone River Gravels
Round Mountain
Camp
Zone of Quartz float
Cliff Creek Fault
Attorney Fault
BREEZE (SEREM)
LAW 3 (SEREM)
NEW LAWYERS (SEREM)
6,362,500N
610,000E
L.C.P.
N

GEOLOGICAL BRANCH
ASSESSMENT REPORT

15,469

EXPLANATION

UTal	Upper terrace gravels of Toodoggone River
LTal	Lower Terrace gravels of Toodoggone River
Mal	Alluvium of Moosehorn Creek. Sorted sand and gravel.
Mtl	Moosehorn till. Unsorted clay, silt, sand and gravel.
Mme	Moosehorn moraines and eskers. Unsorted and unconsolidated clay, sand, cobbles and boulders.
Md	Moosehorn drift. Glacial ground moraine.
Mc	Moosehorn cover. Soil and moss.
Sc	Suboutcrop and talus.
———	Contacts of geomorphological map units.
-·-→	Creek

PLATE II

CYPRUS METALS CANADA

Toodoggone Project

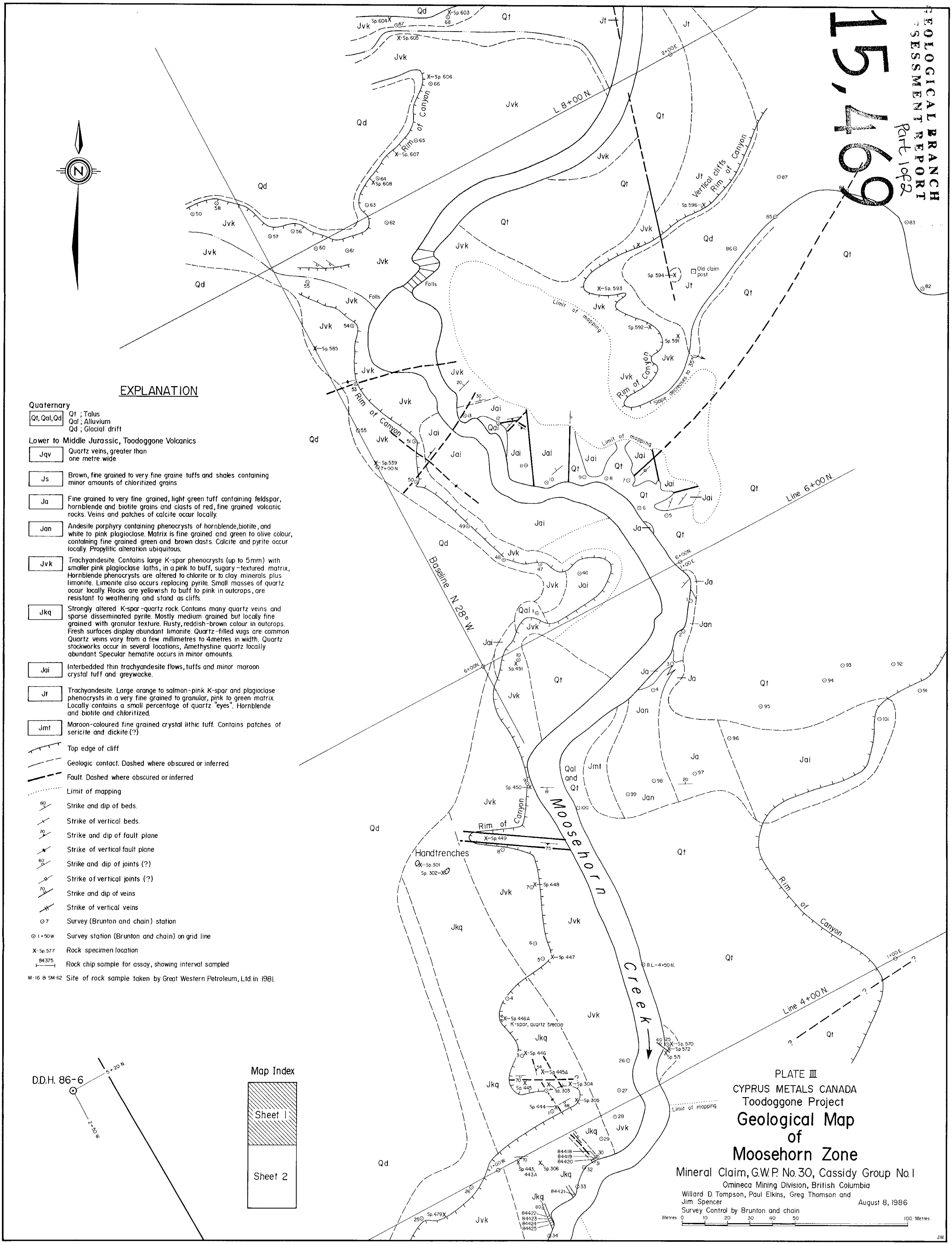
Mineral Claims G.W.P. Nos. 26, 27, 29 & 30
Cassidy Groups 1, 2 & 3

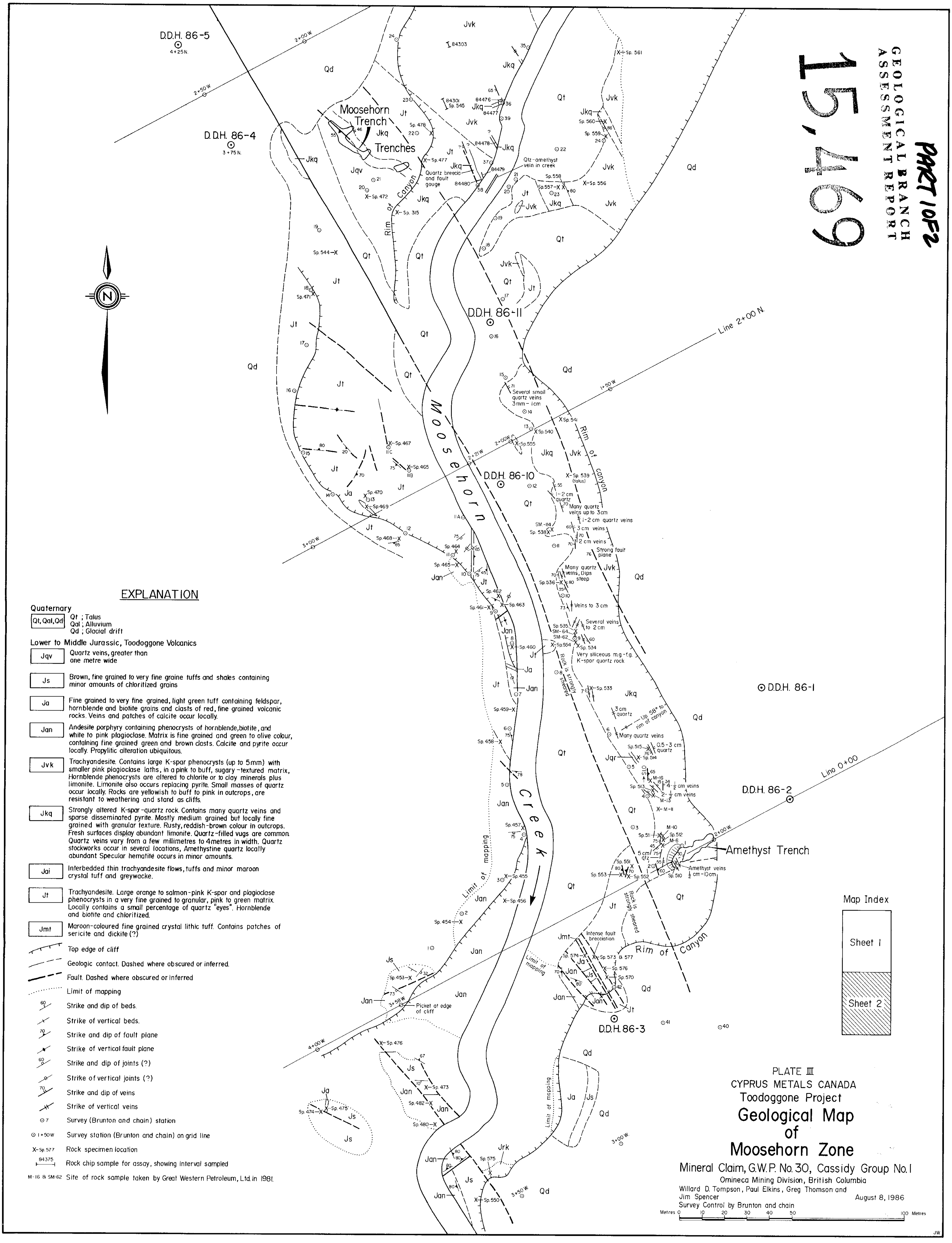
Geomorphological Map of Moosehorn Creek

OMINECA MININING DIVISION, BRITISH COLUMBIA

m 0 100 200 300 400 500 600 m

WILLARD D. TOMPSON June, 1986
GEOLOGY BY PAUL ELKINS AND GREG THOMSON


GEOLOGICAL BRANCH
ASSESSMENT REPORT
15,469
Part 1 of 2
EXPLANATION
Quaternary
Qt,Qal,Qd
Qt ; Talus
Qal ; Alluvium
Qd ; Glacial drift
Lower to Middle Jurassic, Toodoggone Volcanics
Jqv
Quartz veins, greater than one metre wide
Js
Brown, fine grained to very fine graine tuffs and shales containing minor amounts of chloritized grains
Ja
Fine grained to very fine grained, light green tuff containing feldspar, hornblende and biotite grains and clasts of red, fine grained volcanic rocks. Veins and patches of calcite occur locally.
Jan
Andesite porphyry containing phenocrysts of hornblende, biotite, and white to pink plagioclase. Matrix is fine grained and green to olive colour, containing fine grained green and brown clasts. Calcite and pyrite occur locally. Propylitic alteration ubiquitous.
Jvk
Trachyandesite. Contains large K-spar phenocrysts (up to 5mm) with smaller pink plagioclase laths, in a pink to buff, sugary-textured matrix. Hornblende phenocrysts are altered to chlorite or to clay minerals plus limonite. Limonite also occurs replacing pyrite. Small masses of quartz occur locally. Rocks are yellowish to buff to pink in outcrops, are resistant to weathering and stand as cliffs.
Jkq
Strongly altered K-spar-quartz rock. Contains many quartz veins and sparse disseminated pyrite. Mostly medium grained but locally fine grained with granular texture. Rusty, reddish-brown colour in outcrops. Fresh surfaces display abundant limonite. Quartz-filled vugs are common. Quartz veins vary from a few millimetres to 4metres in width. Quartz stockworks occur in several locations. Amethystine quartz locally abundant. Specular hematite occurs in minor amounts.
Jai
Interbedded thin trachyandesite flows, tuffs and minor maroon crystal tuff and greywacke.
Jt
Trachyandesite. Large orange to salmon-pink K-spar and plagioclase phenocrysts in a very fine grained to granular, pink to green matrix. Locally contains a small percentage of quartz "eyes". Hornblende and biotite and chloritized.
Jmt
Maroon-coloured fine grained crystal lithic tuff. Contains patches of sericite and dickite (?)
Top edge of cliff
Geologic contact. Dashed where obscured or inferred.
Fault. Dashed where obscured or inferred
Limit of mapping
Strike and dip of beds.
Strike of vertical beds.
Strike and dip of fault plane
Strike of vertical fault plane
Strike and dip of joints (?)
Strike of vertical joints (?)
Strike and dip of veins
Strike of vertical veins
Survey (Brunton and chain) station
Survey station (Brunton and chain) on grid line
Rock specimen location
Rock chip sample for assay, showing interval sampled
Site of rock sample taken by Great Western Petroleum, Ltd. in 1981.
Moosehorn Creek
Baseline N 28° W.
L. 8+00 N.
Line 6+00 N.
Line 4+00 N.
Rim of Canyon
Vertical cliffs Rim of Canyon
Falls
Handtrenches
Old claim post
D.D.H. 86-6
Map Index
Sheet 1
Sheet 2
PLATE III
CYPRUS METALS CANADA
Toodoggone Project
Geological Map of Moosehorn Zone
Mineral Claim, G.W.P. No. 30, Cassidy Group No. 1
Omineca Mining Division, British Columbia
Willard D. Tompson, Paul Elkins, Greg Thomson and Jim Spencer
August 8, 1986
Survey Control by Brunton and chain
Metres 0 10 20 30 40 50 100 Metres


GEOLOGICAL BRANCH
ASSESSMENT REPORT
15,469
PART 1 OF 2
D.D.H. 86-5
D.D.H. 86-4
D.D.H. 86-11
D.D.H. 86-10
D.D.H. 86-1
D.D.H. 86-2
D.D.H. 86-3
Moosehorn Trench
Trenches
Amethyst Trench
Moosehorn Creek
Rim of Canyon
Line 2+00 N.
Line 0+00
Map Index
Sheet 1
Sheet 2
EXPLANATION
Quaternary
Qt, Qal, Qd — Qt ; Talus
Qal ; Alluvium
Qd ; Glacial drift
Lower to Middle Jurassic, Toodoggone Volcanics
Jqv — Quartz veins, greater than one metre wide
Js — Brown, fine grained to very fine graine tuffs and shales containing minor amounts of chloritized grains
Ja — Fine grained to very fine grained, light green tuff containing feldspar, hornblende and biotite grains and clasts of red, fine grained volcanic rocks. Veins and patches of calcite occur locally.
Jan — Andesite porphyry containing phenocrysts of hornblende, biotite, and white to pink plagioclase. Matrix is fine grained and green to olive colour, containing fine grained green and brown clasts. Calcite and pyrite occur locally. Propylitic alteration ubiquitous.
Jvk — Trachyandesite. Contains large K-spar phenocrysts (up to 5mm) with smaller pink plagioclase laths, in a pink to buff, sugary-textured matrix, Hornblende phenocrysts are altered to chlorite or to clay minerals plus limonite. Limonite also occurs replacing pyrite. Small masses of quartz occur locally. Rocks are yellowish to buff to pink in outcrops, are resistant to weathering and stand as cliffs.
Jkq — Strongly altered K-spar-quartz rock. Contains many quartz veins and sparse disseminated pyrite. Mostly medium grained but locally fine grained with granular texture. Rusty, reddish-brown colour in outcrops. Fresh surfaces display abundant limonite. Quartz-filled vugs are common. Quartz veins vary from a few millimetres to 4metres in width. Quartz stockworks occur in several locations, Amethystine quartz locally abundant Specular hematite occurs in minor amounts.
Jai — Interbedded thin trachyandesite flows, tuffs and minor maroon crystal tuff and greywacke.
Jt — Trachyandesite. Large orange to salmon-pink K-spar and plagioclase phenocrysts in a very fine grained to granular, pink to green matrix. Locally contains a small percentage of quartz "eyes". Hornblende and biotite and chloritized.
Jmt — Maroon-coloured fine grained crystal lithic tuff. Contains patches of sericite and dickite (?)
Top edge of cliff
Geologic contact. Dashed where obscured or inferred.
Fault. Dashed where obscured or inferred
Limit of mapping
Strike and dip of beds.
Strike of vertical beds.
Strike and dip of fault plane
Strike of vertical fault plane
Strike and dip of joints (?)
Strike of vertical joints (?)
Strike and dip of veins
Strike of vertical veins
⊙ 7 Survey (Brunton and chain) station
⊙ 1+50W Survey station (Brunton and chain) on grid line
X-Sp. 577 Rock specimen location
84375 Rock chip sample for assay, showing interval sampled
M-16 & SM-62 Site of rock sample taken by Great Western Petroleum, Ltd. in 1981.
PLATE III
CYPRUS METALS CANADA
Toodoggone Project
Geological Map of Moosehorn Zone
Mineral Claim, G.W.P. No. 30, Cassidy Group No. 1
Omineca Mining Division, British Columbia
Willard D. Tompson, Paul Elkins, Greg Thomson and Jim Spencer
August 8, 1986
Survey Control by Brunton and chain
Metres 0 10 20 30 40 50 100 Metres

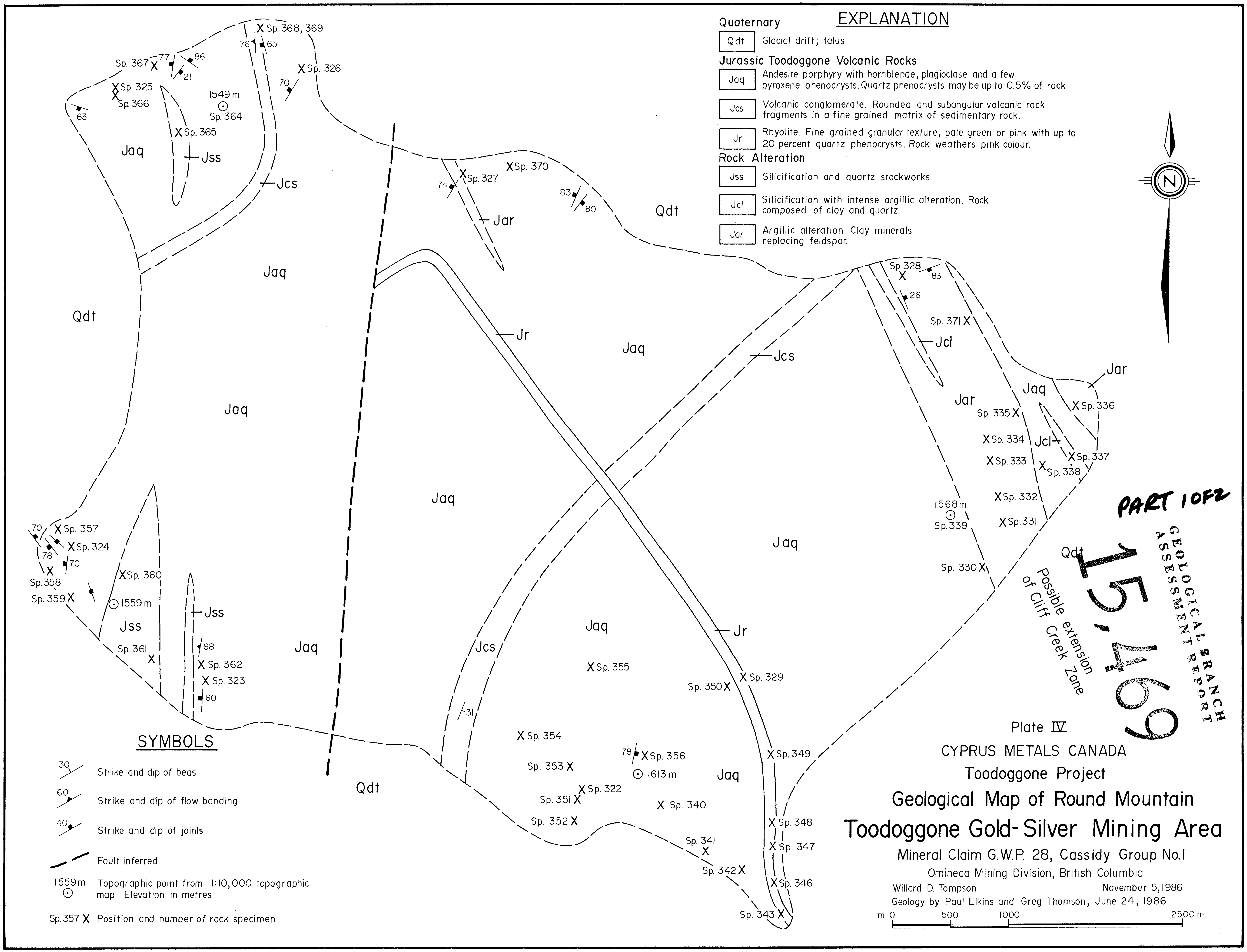

EXPLANATION
Quaternary
Qdt Glacial drift; talus
Jurassic Toodoggone Volcanic Rocks
Jaq Andesite porphyry with hornblende, plagioclase and a few pyroxene phenocrysts. Quartz phenocrysts may be up to 0.5% of rock
Jcs Volcanic conglomerate. Rounded and subangular volcanic rock fragments in a fine grained matrix of sedimentary rock.
Jr Rhyolite. Fine grained granular texture, pale green or pink with up to 20 percent quartz phenocrysts. Rock weathers pink colour.
Rock Alteration
Jss Silicification and quartz stockworks
Jcl Silicification with intense argillic alteration. Rock composed of clay and quartz.
Jar Argillic alteration. Clay minerals replacing feldspar.
N
SYMBOLS
Strike and dip of beds
Strike and dip of flow banding
Strike and dip of joints
Fault inferred
1559m Topographic point from 1:10,000 topographic map. Elevation in metres
Sp. 357 X Position and number of rock specimen
Qdt
Jaq
Jcs
Jr
Jar
Jcl
Jss
1549 m
1568m
1559 m
1613 m
Possible extension of Cliff Creek Zone
PART 1 OF 2
GEOLOGICAL BRANCH ASSESSMENT REPORT
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Plate IV
CYPRUS METALS CANADA
Toodoggone Project
Geological Map of Round Mountain
Toodoggone Gold-Silver Mining Area
Mineral Claim G.W.P. 28, Cassidy Group No.1
Omineca Mining Division, British Columbia
Willard D. Tompson November 5, 1986
Geology by Paul Elkins and Greg Thomson, June 24, 1986
m 0 500 1000 2500 m

PLATE V

CYPRUS METALS CANADA

Toodoggone Project

Map Showing Location of Geochemical Silt Samples and Gold and Silver Analysis

Cassidy Groups 1 and 2

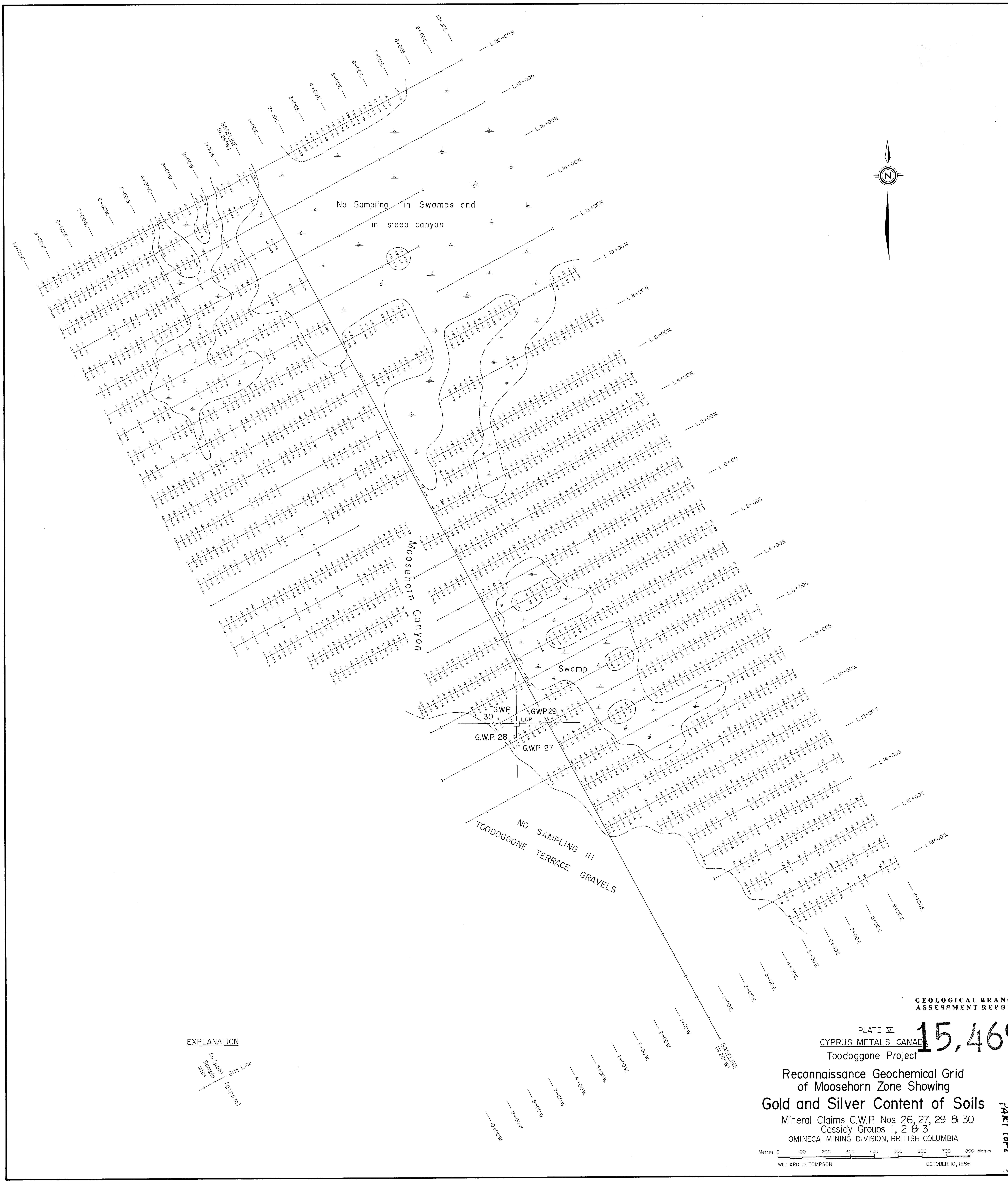
Omineca Mining Division, British Columbia

Willard D. Tompson

November 7, 1986

Metres 0 500 1000 1500 Metres

Assay order;
Sample No. – Au (ppb) – Ag (ppm)



No Sampling in Swamps and in steep canyon
Moosehorn Canyon
Swamp
NO SAMPLING IN TOODOGGONE TERRACE GRAVELS
BASELINE (N 28° W)
L 20+00N
L 18+00N
L 16+00N
L 14+00N
L 12+00N
L 10+00N
L 8+00N
L 6+00N
L 4+00N
L 2+00N
L 0+00
L 2+00S
L 4+00S
L 6+00S
L 8+00S
L 10+00S
L 12+00S
L 14+00S
L 16+00S
L 18+00S
1+00E
2+00E
3+00E
4+00E
5+00E
6+00E
7+00E
8+00E
9+00E
10+00E
1+00W
2+00W
3+00W
4+00W
5+00W
6+00W
7+00W
8+00W
9+00W
10+00W
G.W.P. 30
G.W.P. 29
G.W.P. 28
G.W.P. 27
LCP
N
EXPLANATION
Au (ppb)
Sample sites
Grid Line
Ag (ppm)
GEOLOGICAL BRANCH ASSESSMENT REPORT
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PLATE VI
CYPRUS METALS CANADA
Toodoggone Project
Reconnaissance Geochemical Grid of Moosehorn Zone Showing
Gold and Silver Content of Soils
Mineral Claims G.W.P. Nos. 26, 27, 29 & 30
Cassidy Groups 1, 2 & 3
OMINECA MINING DIVISION, BRITISH COLUMBIA
Metres 0 100 200 300 400 500 600 700 800 Metres
WILLARD D. TOMPSON
OCTOBER 10, 1986
PART 1 OF 2
J.W.

GEOLOGICAL BRANCH
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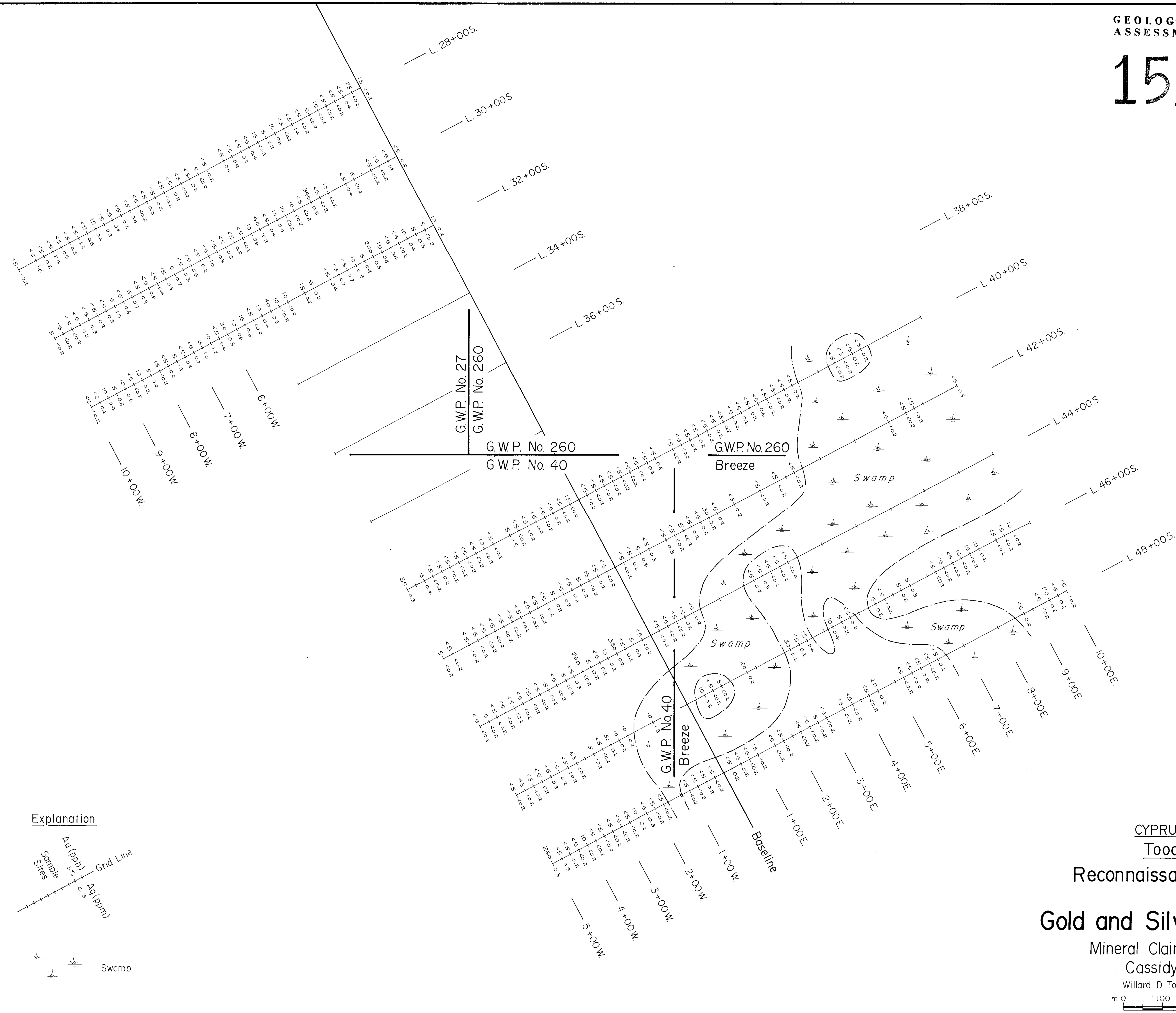

PLATE VII

CYPRUS METALS CANADA

Toodoggone Project

Reconnaissance Geochemical Grid Showing

Gold and Silver Content of Soils

Mineral Claims G.W.P. Nos. 260, 27 & 40

Cassidy Groups Nos. 1 & 3

Willard D. Tompson October 10, 1986

m 0 100 200 500 m

PART 1 OF 2

JW.

GEOLOGICAL BRANCH
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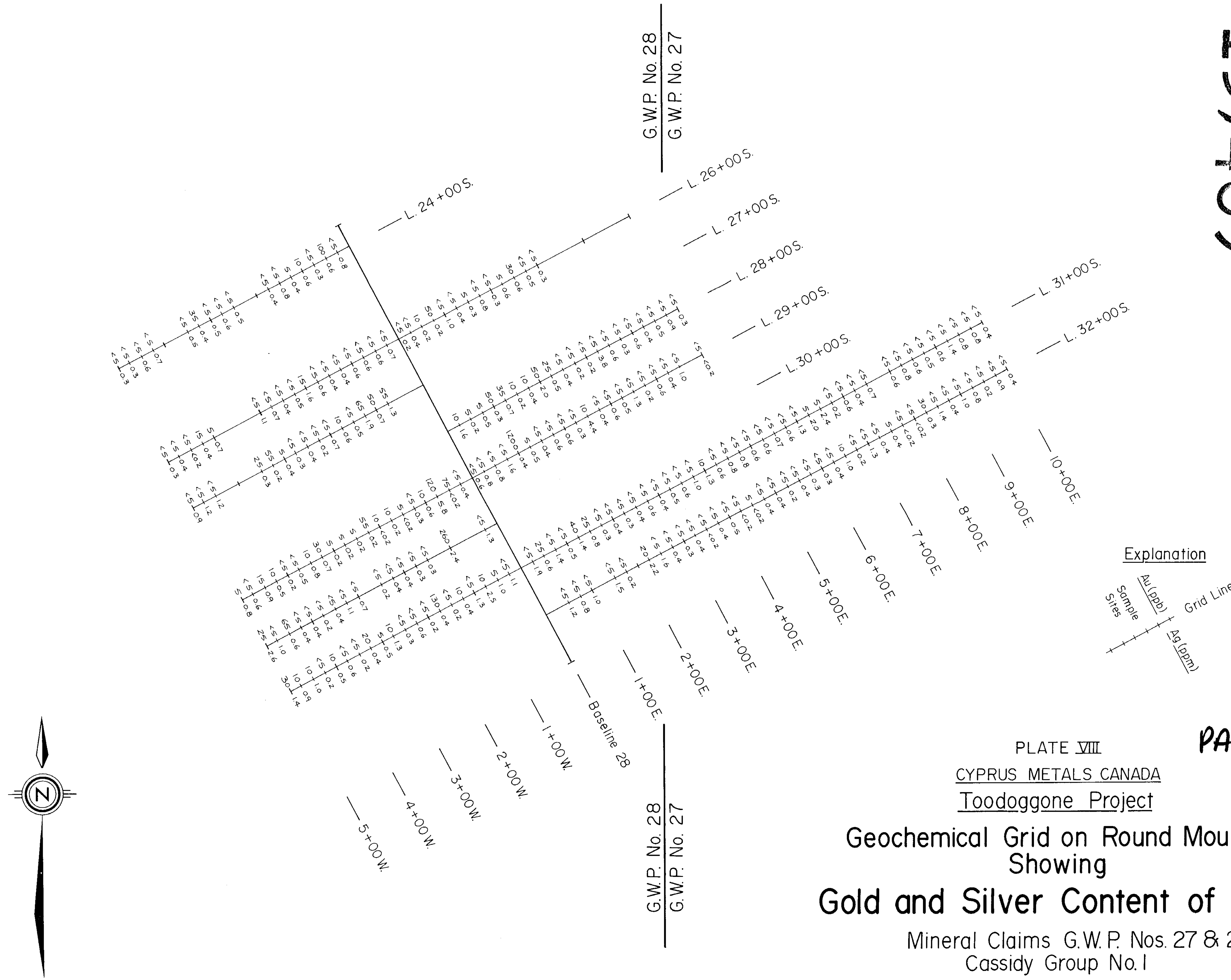
Part 1 of 2.



PART 1 OF 2

PLATE VIII

CYPRUS METALS CANADA

Toodoggone Project

Geochemical Grid on Round Mountain Showing

Gold and Silver Content of Soils

Mineral Claims G.W.P. Nos. 27 & 28

Cassidy Group No. 1

Willard D. Tompson October 10, 1986

m 0 100 200 500 m

J.W.