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**GEOCHEMICAL REPORT**  
**ON THE**  
**RAILWAY-ZETU PROPERTY**

**Liard Mining Division, British Columbia**  
**NTS 104H/13W**

**Latitude: 57° 53' North**

**Longitude: 129° 50' West**

Prepared for

**HYDER GOLD INC.**  
Vancouver, B.C.

Prepared by

**David G. DuPre, B.Sc., P.Geol.**  
**KEEWATIN ENGINEERING INC.**  
#800 - 900 West Hastings Street  
Vancouver, B.C.  
V6C 1E5

October 24, 1991

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

**21,760**

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Keewatin Engineering Inc.

## 1.0 SUMMARY

The Railway-Zetu property consists of 21 claims (9,000 acres) located one kilometre northeast of Iskut Village in northwestern British Columbia. The relatively unexplored property is predominantly underlain by Permo-Carboniferous foliated sedimentary rocks and lesser Triassic to Jurassic volcanic rocks which have been intruded by several intermediate intrusive stocks. A number of copper showings associated with shear zones or quartz carbonate veins are reported from the property.

In order to evaluate the porphyry copper/gold and shear/vein gold/silver potential of the property, a program of reconnaissance soil/silt sampling and showing evaluation was carried out in 1991. The silt sampling did not produce any responses which could be considered as very anomalous in a regional context. The contour soil sampling produced 27 samples which returned anomalous (>150 ppm) copper values. Sixteen of these anomalous values are clustered in an area to the southwest of Zechtoo Mountain. Another group of widely spaced anomalous copper results occurs in the northeastern part of the property. Outcrops and talus observed in these areas were not mineralized. A program of grid soil sampling in the "Main Trench Area" defined two trends of anomalous Cu, Au, Ag and As values.

An evaluation of the showings indicates that the chalcopyrite mineralization is related to minor amounts of quartz  $\pm$  carbonate veining in phyllites, volcanics or monzodiorites. The samples from the showings generally returned low values but some selected grabs of mineralized material returned values up to 36,040 ppm Cu. The best representative chip samples were obtained from the "Discovery Zone" (6,803 ppm Cu and 9 ppb Au over 0.80 m) and from Trench 7 in the "Main Trench Area" (1,725 ppm Cu and 1 ppb Au over 1.5 m).

The absence of large, pervasively altered and mineralized zones and the spotty, low order soil/silt geochemical responses indicate that the property's potential to host porphyry copper  $\pm$  gold deposits is low. The known showings returned low Cu and Au values from the grab and chip samples collected. These showings also do not display significant potential for hosting shear/vein base or precious metal deposits.

## 2.0 INTRODUCTION

The Railway-Zetu property is situated immediately northeast of Iskut Village in northwestern British Columbia. This large property is held by West Pride Industries Corp. and was optioned to Hyder Gold Inc. in early 1991.

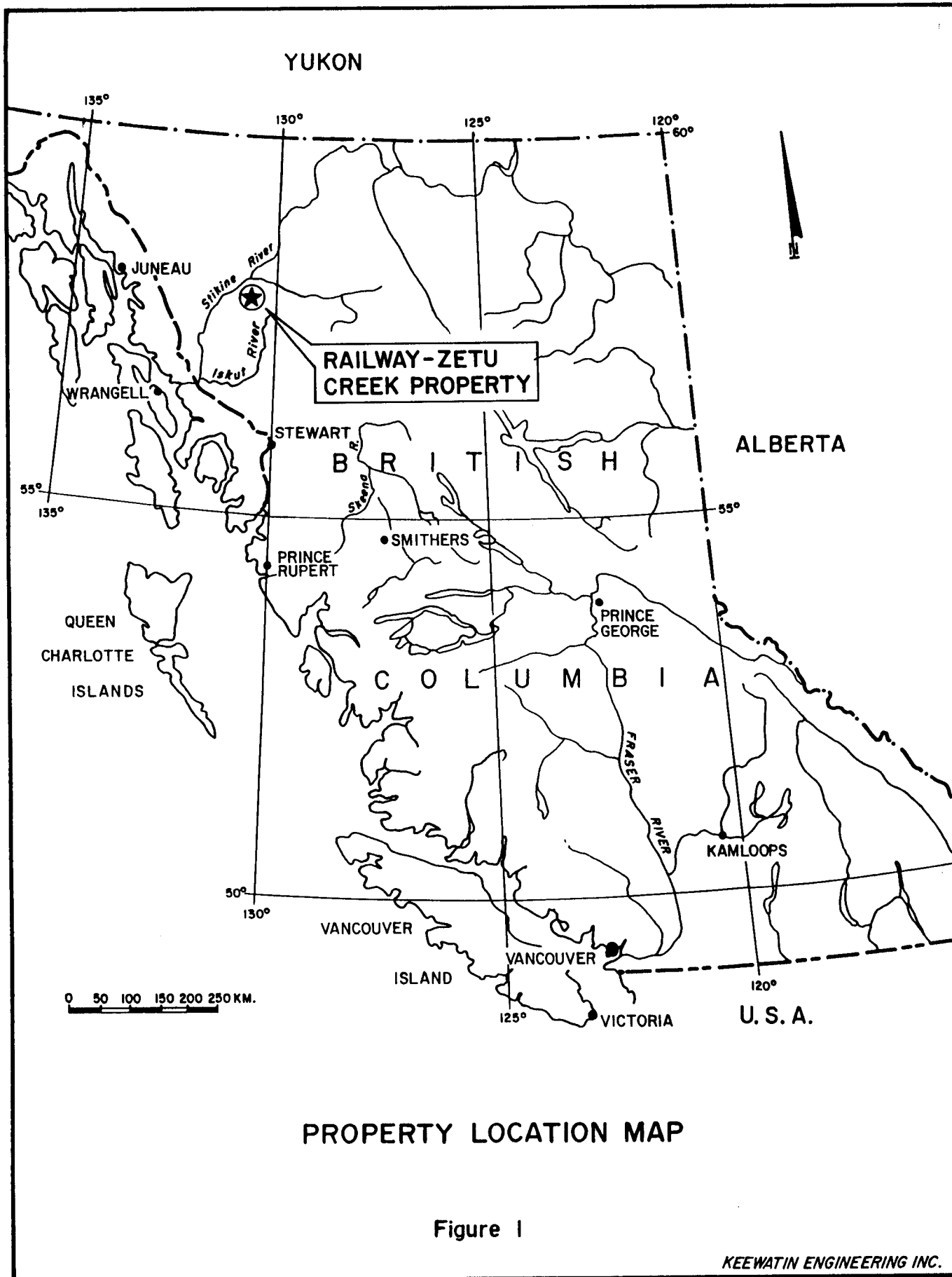
The relatively unexplored property is predominantly underlain by Permo-Carboniferous deformed sedimentary rocks and lesser Triassic to Jurassic volcanic rocks. Several large Triassic-Jurassic gabbroic, dioritic or monzodiorite stocks intrude these supracrustal assemblages. A number of copper showings associated with shear zones and quartz  $\pm$  carbonate veins are reported from the property.

Keewatin Engineering Inc. was commissioned by Hyder Gold Inc. to carry out an exploration program in 1991 on the Railway-Zetu Property. The objective of this program was to evaluate the porphyry Cu/Au and shear/vein Au/Ag potential of the claim group. This report presents the results of the 1991 evaluation program.

## 2.1 Location and Access

The Railway-Zetu property is located in the Stikine region of northwestern British Columbia, approximately 200 kilometres north of Stewart and 50 kilometres south of Dease Lake (Figure 1). The claims lie immediately northeast of Iskut Village on the Stewart-Cassiar Highway (#37). The property is centred upon 57° 53' North latitude and 129° 50' West longitude on NTS map sheet 104H/13W. Access to most of the property is best gained via helicopter from various points along the highway. The nearest seasonal helicopter is located 25 km southwest of the property at Tatogga Lake and is operated by Canadian Helicopters Ltd.

Scheduled air service is available from Smithers to Iskut Village during the summer months. A dirt road from the highway near Iskut Village to the microwave tower on Zechtoo Mountain provides access to the western part of the property.



**PROPERTY LOCATION MAP**

Figure 1

## **2.2 Physiography, Vegetation and Climate**

The property covers a massif formed by Zechtoo and Thatue Mountains which is dissected by the deeply incised Zetu Creek. The central part of the massif is characterized by a gently rolling plateau above 5,000 feet with moderate to steep slopes on all sides. Elevations range from 6,215 feet at the peak of Thatue Mountain to 3,500 feet on the lowlands near the Iskut airstrip and near the Klappan River valley to the east.

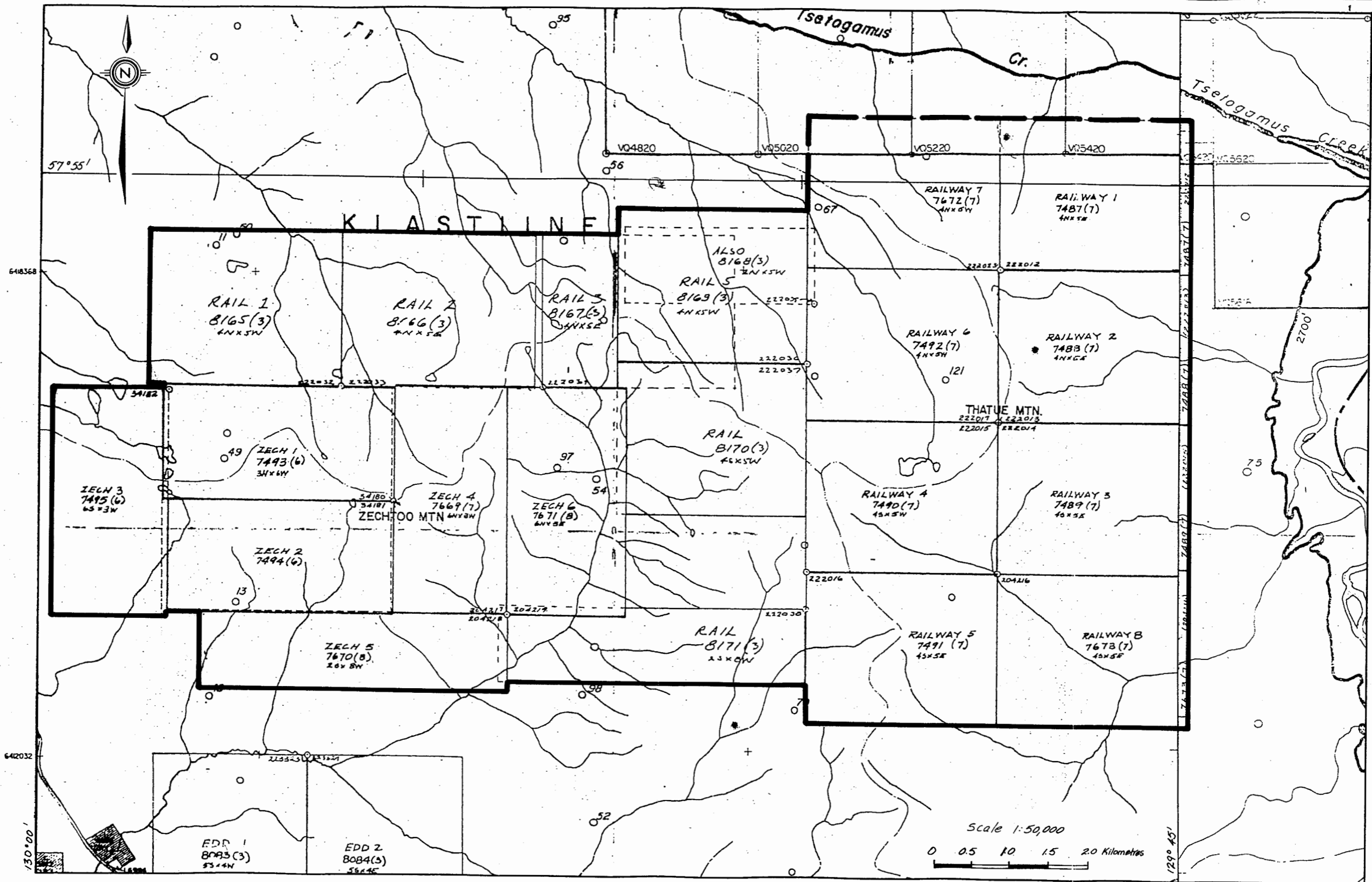
The vegetation consists of willow and alder in the low flat areas followed by poplar on the lower slopes. Pine and spruce are common on the steep slopes up to the transitional tree line between 4,500 feet and 5,000 feet. Above the tree line, sub-alpine scrub and grasses predominate.

A number of small lakes are present on the plateau and, together with the numerous creeks on the property, could provide adequate water for camp and drilling purposes.

Precipitation in the area is moderate, averaging 100 cm per annum. Thick accumulations of snow are common during winter. It is seldom possible to commence surface geological work before July and difficult to continue beyond September.

## **2.3 Property and Ownership**

The Zetu-Railway property consists of 21 claims (392 units) located within the Liard Mining Division. The claim disposition is shown on Figure 2 and the relevant claim information is tabulated below:



RAILWAY-ZETU CREEK PROJECT  
CLAIM MAP

Figure 2



TABLE 1 - CLAIM STATUS				
Claim Name	No. of Units	Record No.	Date Recorded	Expiry Date*
Zech 1	18	7493	June 30, 1990	June 30, 1993
Zech 2	18	7494	June 30, 1990	June 30, 1993
Zech 3	18	7495	June 30, 1990	June 30, 1993
Zech 4	18	7669	August 3, 1990	August 3, 1993
Zech 5	16	7670	August 3, 1990	August 3, 1993
Zech 6	18	7671	August 3, 1990	August 3, 1993
Railway 1	20	7487	July 2, 1990	July 2, 1993
Railway 2	20	7488	July 2, 1990	July 2, 1993
Railway 3	20	7489	July 3, 1990	July 3, 1993
Railway 4	20	7490	July 2, 1990	July 2, 1993
Railway 5	20	7491	July 3, 1990	July 3, 1993
Railway 6	20	7492	July 3, 1990	July 3, 1993
Railway 7	20	7672	July 30, 1990	July 30, 1993
Railway 8	20	7673	July 31, 1990	July 31, 1993
Rail 1	20	8165	March 31, 1991	March 31, 1993
Rail 2	20	8166	March 31, 1991	March 31, 1993
Rail 3	20	8167	March 31, 1991	March 31, 1993
Rail 4	10	8168	March 31, 1991	March 31, 1993
Rail 5	20	8169	March 31, 1991	March 31, 1993
Rail 6	20	8170	March 31, 1991	March 31, 1993
Rail 7	16	8171	March 31, 1991	March 31, 1993
<b>Total: (21 claims)</b>	<b>392 Units</b>			

\* Expiry date subsequent to this assessment filing.

All of the claims are 100% owned by West Pride Industries Corp. with offices at 1030 - 800 West Pender Street, Vancouver, B.C., V6C 2V6. The property was optioned in 1991 to Hyder Gold Inc. with offices at 800 - 900 West Hastings Street, Vancouver, B.C., V6C 1E5.

## 2.4 History of Exploration

The Railway-Zetu property is located in the Stikine River area of northwestern B.C., a region well known for its alkalic plutons and associated porphyry copper/gold mineralization. The area was subjected to very little exploration until the 1960's and 1970's when extensive exploration for porphyry copper deposits took place. In particular, Texasgulf Inc. carried out an intensive exploration program throughout the area and discovered a number of significant prospects including the Red-Chris and Rok.

A number of slumped trenches located south of Zechtoo Mountain attest to a previous exploration program in this area. No record of this work is contained within the available records.

During 1976, Great Plans Development Company of Canada Ltd. carried out prospecting and geological mapping (Minfile #104H/15, 18) on the Kitty, Fife and Drum claims. These expired claims are within the area presently covered by the Railway-Zetu property. The Drum claim was located midway between Zechtoo Mountain and Thatue Mountain. The Kitty and Fife claims were situated on the south and west side of Zechtoo Mountain. No significant mineralized occurrences were discovered during this program.

During the period of June to August, 1990, West Pride Industries Corp. staked the Railway 1 to 8 (160 units) and the Zech 1 to 6 (106 units) claims. In March of 1991, the Rail 1 to 7 claims (126 units) were staked, adding more ground to the north of the Zech claims and filling in the gap between the two, previously separate, claim blocks. In July and August, 1990, Reliance Geological Services Inc. carried out a program of reconnaissance prospecting and silt sampling (Kidlark, 1990a and 1990b) on the property. In June, 1991, Placer Dome Inc. conducted a property examination of the property. They collected 99 soil samples from several traverses near Zechtoo and Thatue Mountains. Fifty-five rock samples were also collected, mainly from the "Main Trench" area. A sample location map and the analytical results were made available to West Pride Industries Corp. but a report was not submitted.

## 2.5 Objectives of the 1991 Exploration Program

The objective of the program reported in this report was to evaluate the porphyry Cu/Au and shear vein Au/Ag potential of the entire Railway-Zetu property. The primary thrust of this program was reconnaissance soil/silt sampling and an evaluation of the known showings.

### 3.0 GEOLOGY

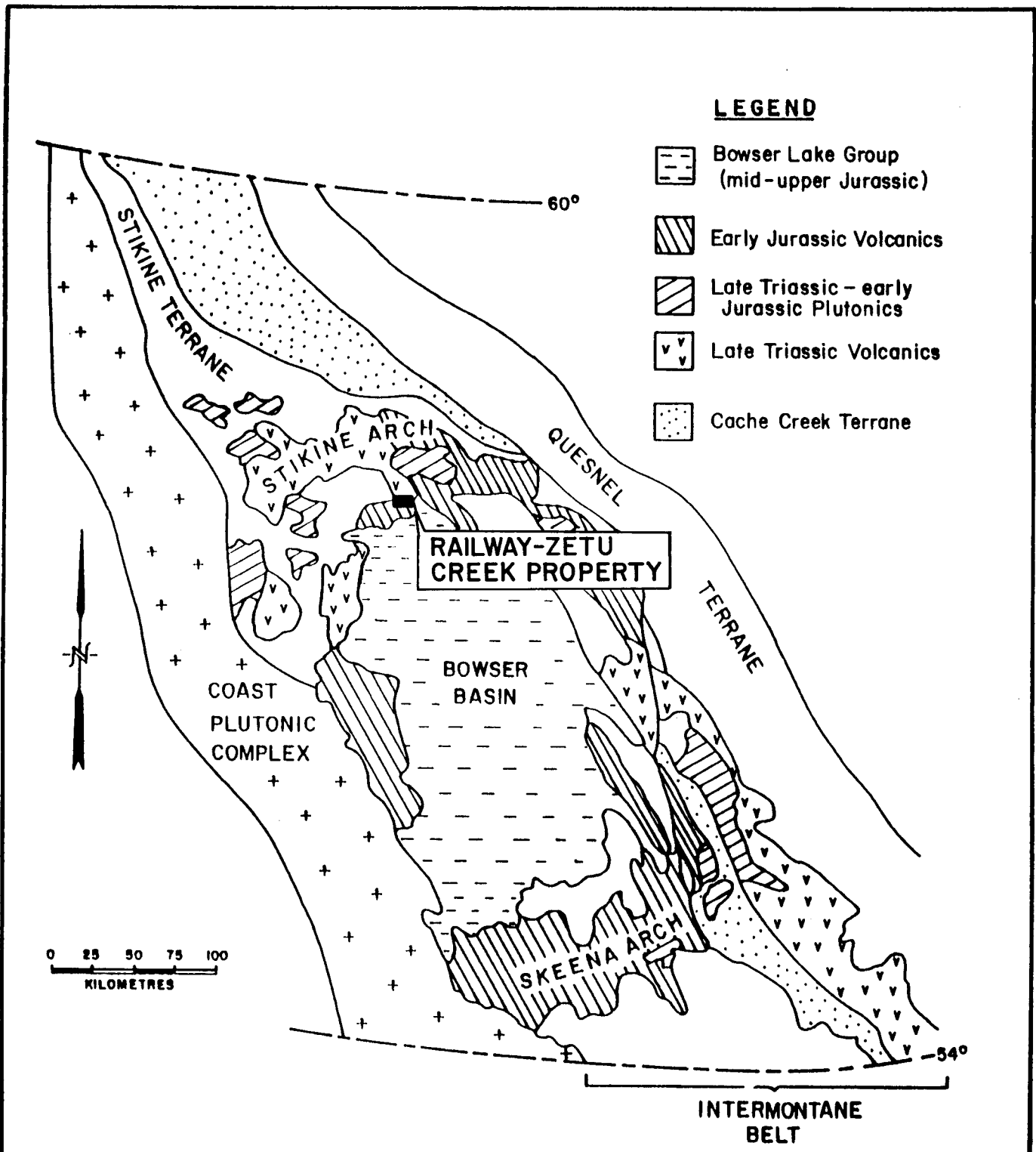
#### 3.1 Regional Geology

The Railway-Zetu property lies within the Stikinia Terrane of the Intermontane Tectono-Stratigraphic Belt (Figure 3). The claims are situated on the southern flank of the Bowser Basin.

Gabrielse and Tipper (1984) assign the oldest rocks in the region to an unnamed Carboniferous and older(?) sequence of phyllite, limestone and greenstones. North of the Pitman Fault, the Tsaybahe Group of Middle Triassic age unconformably overlies the Carboniferous and older(?) unit. This Group has been sub-divided into a Basal Sedimentary Unit, a Lower Volcanic Unit, a Middle Sedimentary Unit and an Upper Volcanic Unit. These supracrustal rocks have been intruded by a number of large plutons of pyroxenite to monzodiorite composition.

In places, Upper Triassic conglomeratic and limestone units of the Stuhini Group non-conformably overlie the "Railway Pluton" which occurs in several fault slices on the eastern part of the Railway-Zetu property. Northwest of Ealue Lake, a 200 m thick siltstone unit with minor limestone, conglomerate and greywacke layers may be correlative with the Stuhini Group. Green andesite, with plagioclase and some augite phenocrysts forms brecciated and tuffaceous sequences above and below the sedimentary unit and hosts the coeval "Edon" and "Rose" plutons of the Rok property. On Ehahceztle Mountain, purple andesitic volcanic breccia, conglomerates and flows are interbedded with the green andesites. Northwest of Ealue Lake, the purple volcanics which cap Ehahceztle Mountain are likely part of the "Toodoggone Volcanics" but cannot be excluded from the Stuhini Group.

South of Cold-Fish Lake, lies the fault-slivered western end of a belt of Lower Jurassic "Toodoggone Volcanics" which extends over 40 kilometres eastward. The southwesterly dipping and facing sequence is composed of green and maroon sedimentary and volcanic rocks.



**REGIONAL GEOLOGY  
 BOWSER BASIN  
 NW BRITISH COLUMBIA**

(Outline of terrane boundaries and major rock groups of the Jurassic and Triassic - modified from Thomson, 1985).

Figure 3

Sandstone, shale and local lenses of basal breccia belonging to the Tango Creek Formation occur along the rim of the Grand Canyon of the Stikine. Rocks of the Sustut Group also outcrop along the Grand Canyon and form a gentle southerly dipping sequence that laps onto the northern margin of the Sustut Basin.

Several remnants of olivine basalt with lherzolite inclusions belonging to the "Nido Formation" of Pliocene to Miocene age. Two small remnants of olivine basalt, which lack lherzolite inclusions, belonging to the "Klastline Formation" of Pleistocene age occur on the Klastline Plateau.

In the area, some rocks retain evidence of four phases of folding and two phases of low grade regional metamorphism. Throughout much of the area, Carboniferous and (?) older rocks display two phases of mesoscopic folding, a well developed foliation, and a lower greenschist facies metamorphism which resulted from the Permo-Triassic "Thaltanian Orogeny". In contrast, the Lower and Middle Triassic rocks of the "Tsaybahe Group" lack foliation and tight mesoscopic folds.

In late Triassic time, several intrusions cut faults and folds developed in rocks as young as Early to Middle Triassic. No regional metamorphism accompanied this intrusive episode. In the northern part of the region, gently dipping "Toodoggone volcanics" unconformably overlie more steeply dipping sedimentary rocks of the "Tsaybahe Group". The deformation which produced this unconformity may have occurred between Middle and Late Triassic times or between Late Triassic and middle Early Jurassic times.

Along the western half of the Grand Canyon of the Stikine, gentle southwesterly dipping, unmetamorphosed sediments of the Sustut Group overlie moderate to steeply dipping volcanic and sedimentary rocks of the "Tsaybahe group" metamorphosed to a maximum of lower greenschist facies. This second phase of deformation and metamorphism, restricted to the interval between Late Triassic and Early Cretaceous, affects the older rocks throughout the area.

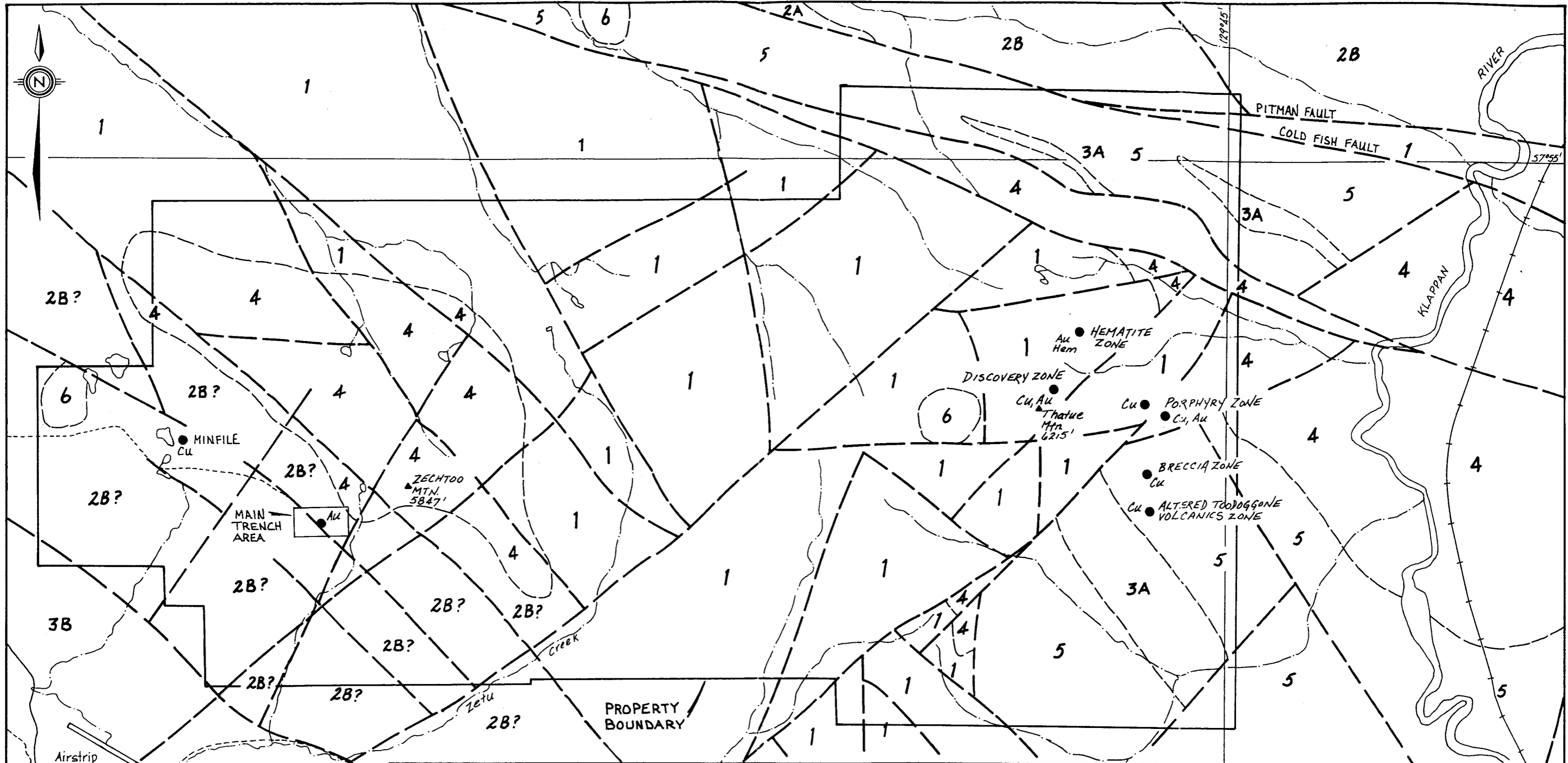
At least two sets of Jurassic to late early Cretaceous faults with intervening folding have been mapped in that area. An early set, represented by the Z faults at the western edge of the map area of the Tanzilla Fault, were originally gently dipping faults which were subsequently folded about a northeasterly trending axis. A later fault set trends north-northwesterly, offsets the Z fault and has minor strike-slip movement. The major east-west trending Cold Fish and Pitman faults cut the Cretaceous Sustut Group. Both are steeply dipping with the older Cold Fish a suspected reverse fault with the northeast side up and the younger Pitman Fault a possible left lateral strike slip fault. The Pitman Fault is the longest (approximately 140 km) and most important of several east-west trending faults on the southern flank of the Stikine Arch.

### 3.2 Property Geology

Geological mapping was not carried out during the 1991 program. Outcrops observed during the course of the geochemical program were described by the samplers and their findings are incorporated on Maps 1 and 2. Most of the previously known showings were described and sampled. These observations are treated in Section 3.3 (Mineralization).

The geological setting of the eastern part of the property is derived from GSC Open File 1080 while the eastern half is portrayed on GSC Open File 1050 (Gabrielse and Tipper, 1984). The property geology (Figure 4) is dominated by a set of northwest-southeast and northeast-southwest trending faults which produce rectangular blocks of the various map-units. The oldest and most extensive unit consists of Permo-Carboniferous phyllite, greenstone and limestone which underlies the western three-quarters of the property. Several outcrops of weakly foliated andesite were observed by the Keewatin crew in the southwestern part of the property. These are most analogous to the Tsaybahe Group. In the eastern part of the property, several fault-bounded slices of Tsaybahe Group volcanics alternate with rocks belonging to the "Toodoggone Volcanics".

The Railway Pluton is in fault contact with all other units. It has been assigned a Triassic age by the GSC (Open File 1080) and is described as a biotite augite meta-monzodiorite. The



**LEGEND**

- TERTIARY - (EOCENE-MIOCENE)**
- 6 BASALT
- JURASSIC**
- 5 TOODOGGONE VOLCANICS and RELATED SEDIMENTS
  - 4 Hb QTZ MONZONITE, PORPHYRITIC MONZODIORITE, DIORITE

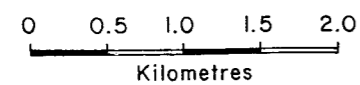
- TRIASSIC or JURASSIC**
- 3A/3B STUHINI GROUP VOLCANICS and RELATED SEDIMENTS
- TRIASSIC**
- 2A/2B TSAYBAHE GROUP VOLCANICS and RELATED SEDIMENTS

- PERMIAN-CARBONIFEROUS**
- 1 GREENSTONE - PHYLLITE

- MINERAL SHOWING
- FAULT, INTERPRETED
- - - GEOLOGIC BOUNDARY

Derived from GSC Open File 1050, 1080 and modified by Innes (1990) and DuPré (1991).

<b>HYDER GOLD INC.</b>	
<b>RAILWAY-ZETU CREEK PROJECT</b>	
<b>PROPERTY GEOLOGY</b>	
DATE: OCT., 1991	NTS: 104H/13E
PROJECT: RAILWAY-ZETU	PRDJ. GEOL.: D. MEHNER
SCALE: 1:50,000	
Keewatin Engineering Inc. Figure 4	



Zetu Pluton is a large, elongate body with intrusive contacts and a diorite to gabbro composition.

### Map-Units

#### Permo-Carboniferous

Greenstone-Phyllite (Unit 1): This unit is predominantly composed of rusty weathering, light green phyllite and phyllitic greenstone. Minor amounts of ribbon chert and massive white or grey bedded limestone also occur within this unit. Most of the phyllitic units are well foliated, schistose and of greenschist facies metamorphic grade.

#### Triassic

Tsaybahe Group (Unit 2): To the north of the Pitman Fault and in the southeastern corner of the property, the GSC (Open File 1080) have identified rocks belonging to the "Lower Volcanic Unit" of the Tsaybahe Group. They are described as porphyritic (augite) meta-andesite and meta-basalt breccia, tuffs and flows. Minor amounts of porphyritic (plagioclase) meta-andesite pillow lavas and flows with some breccia are also described.

The Keewatin crew observed similar rocks in the southwestern part of the property. These rocks have, therefore, been ascribed to the Tsaybahe Group even though Gabrielse and Tipper (1984) shows the area to be underlain by the Permo-Carboniferous unit.

#### Upper Triassic

Stuhini Group (Unit 3): Several narrow belts of green volcanic rocks and related sediments belonging to the Stuhini Group have been mapped by the GSC (Open File 1080) in the eastern part of the property. A thick belt is also mapped by Gabrielse



and Tipper (1984) in the southwestern part of the property. These rocks are described as aphanitic  $\pm$  augite phyrric breccia, tuffs and flows with lesser tuffaceous siltstones, argillites and wackes. In the extreme northeastern corner of the property, a thin band of granitic pebble to cobble conglomerate has also been mapped by the GSC (Open File 1080). In general, these rocks are relatively unmetamorphosed and undeformed.

### Triassic to Jurassic

Intrusive Rocks (Unit 4): A large, elongate stock of intrusive rocks occurs in the western part of the property. This unit varies in composition from diorite to gabbro and is generally medium grained, equigranular and unaltered.

The Railway Pluton is localized within several fault bounded slices in the northeastern part of the property. The GSC (Open File 1080) assign a Triassic age to the pluton and describe it as a biotite augite meta-monzodiorite. This pluton is generally coarse grained, equigranular and has a variable composition indicative of a multiphase intrusive complex.

### Lower Jurassic

"Toodoggone Volcanics" (Unit 5): South of the Cold Fish Fault lies the fault-slivered western end of a belt of Lower Jurassic "Toodoggone Volcanics". A large block also occurs in the east-central part of the property. This unit is predominantly composed of green and grey aphanitic and plagioclase phyric andesite and basalt flows, breccia and minor tuff. The GSC (Open File 1080) has mapped several narrow bands of chert pebble conglomerate, grey-green and locally maroon tuffaceous wacke, siltstone, shale and volcanic breccia on the property. This assemblage is generally unaltered and weakly metamorphosed.

## Tertiary

Nido Formation (Unit 6): A small circular remnant of olivine basalt with lherzolite inclusions has been mapped by the GSC (Open File 1080) in an area one kilometre to the west of Thatue Mountain.

The geological setting of the property is dominated by a trellis-like net of faults. The most predominant of these are the regional Pitman and Cold Fish faults which transect the northeastern part of the property. The GSC (Open File 1080) concludes that both of these faults are steeply dipping with the older Cold Fish a suspected reverse fault with the northeast side up and the younger Pitman Fault a possible left lateral strike slip fault. A second series of northeast-southwest trending faults has segmented the property into a number of tabular blocks.

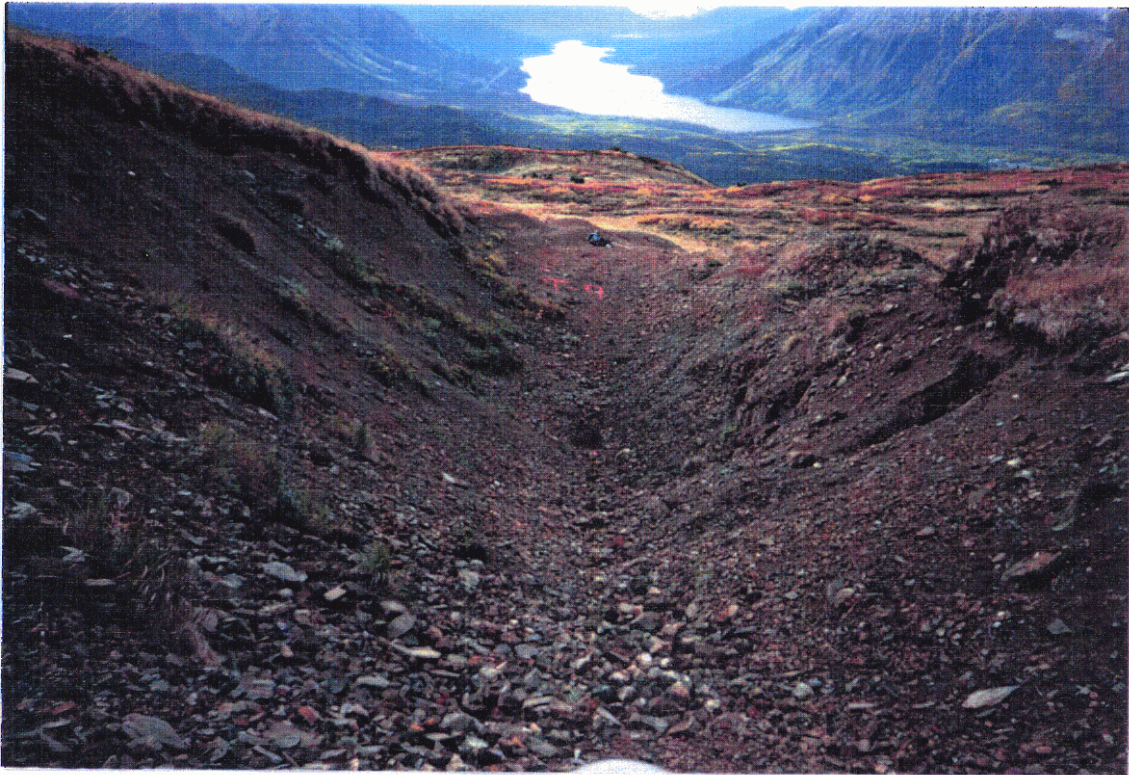
Foliation in the Permian and Older units suggest that these rocks have been deformed into a series of northwest-southeast trending tight folds. In contrast, the Lower and Middle Triassic rocks of the "Tsaybahe Group" are weakly foliated and tight mesoscopic folds.

### 3.3 Mineralization

A number of mineralized occurrences were examined and sampled during the course of the 1991 exploration program. The locations of these showings are plotted on Figure 4 and Maps 1 and 2. The sample descriptions and analytical results are incorporated in Appendix IV.

#### 3.3.1 "Main Trench Area"

During the 1970's, nine bulldozer trenches were excavated in an area one kilometre southwest of Zechtoo Mountain. A considerable amount of overburden has slumped into these trenches and only a limited amount of subcrop is presently exposed (Photo 1).



**Photo 1. Main Trench Area (Trench 9)**

In addition to the limited trench exposures and outcrop, numerous angular bulldozed blocks were investigated. Six of the trenches were excavated to evaluate the primary mineralized system over a strike length of 180 metres (Figure 5). Two trenches (#3 and 4) tested a parallel system to the southwest of the primary system and one large circular trench evaluated a mineralized system to the northeast.

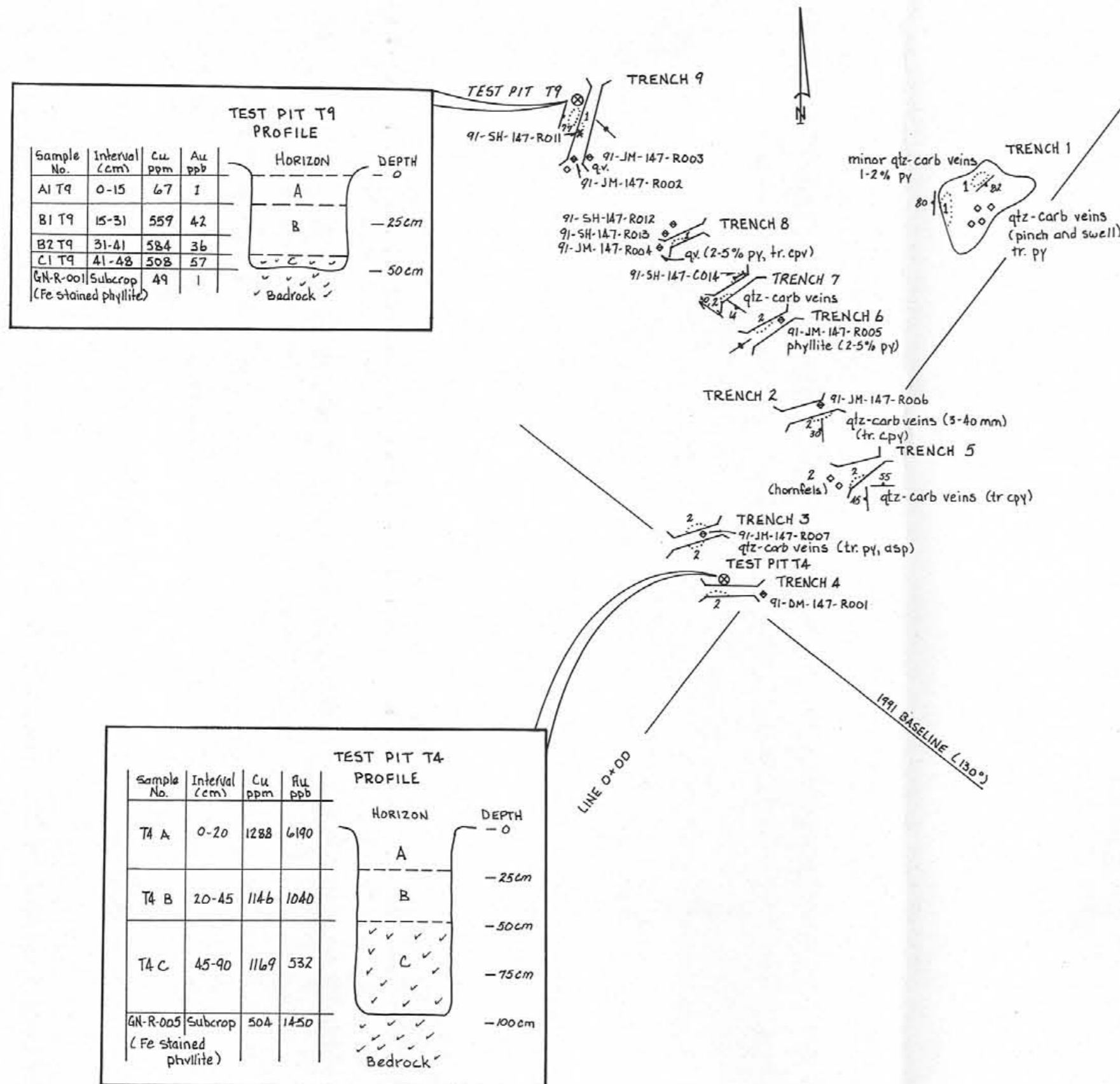
The mineralization in the primary system is composed of narrow, widely spaced quartz-carbonate (ankerite) veins and stringers hosted by phyllitic tuffaceous? volcanics (Photo 2).

SAMPLE DESCRIPTIONS AND ANALYTICAL RESULTS						
Trench	Sample No.	Sample Type	Rock Description	Cu ppm	Au ppb	Au oz/t
2	91-JM-147-R006	float, grab	Quartz vein in phyllite 7-10% chalcopyrite and malachite in quartz vein	36,040	19	
3	91-JM-147-R007	float, grab	One metre thick quartz vein with 20% pyrite as blebs and disseminations. 3-5% arsenopyrite.	516	1,000	0.029
4	91-DM-147-R001	float, grab	Quartz vein in phyllite 15-20% pyrite, 20-25% arsenopyrite, 15% pyrite, 1-2% chalcopyrite	5,997	1,600	0.047
6	91-JM-147-R005	float, grab	Quartz-carbonate altered phyllite. Limonite after 2-5% pyrite	49	10	
7	91-SH-147-C014	Outcrop, 1.5 m chip	Weakly gossanous, phyllitic siltstone with malachite stain (1-2% disseminated pyrite, chalcopyrite)	1,725	1	
8	91-JM-147-R004	float, grab	Silicified phyllite with vuggy quartz veins (2-5% pyrite, trace chalcopyrite)	51	4	
8	91-SH-147-F012	float, grab	Silicified intermediate tuff with 10% quartz veins. 5% pyrite.	62	2	
8	91-SH-147-F013	float, grab	Foliated intermediate volcanic with 3% quartz-carbonate veins containing 2% pyrite, trace chalcopyrite	759	2	
9	91-JM-147-R002	float, grab	Silicified phyllite, strong iron stain. Brecciated, abundant quartz veins	844	102	
9	91-JM-147-R003	float, grab	White quartz vein ( $\pm 10$ cm thick) with $\leq 1\%$ pyrite. Strong iron stain	29	9	
9	91-SH-147-R011	outcrop, grab	Intermediate tuff with $< 1\%$ quartz veins. Trace disseminated pyrite.	44	2	

LEGEND	
	Phyllite
	Dacitic tuff (foliated)
	Foliation
	Joint
	Quartz $\pm$ carbonate vein
	Outcrop
	Float
	Chip sample
	Outcrop sample (grab)
	Float sample (grab)

0 20 40 60 80 100 metres

HYDER GOLD INC.	
RAILWAY-ZETU CREEK PROJECT	
MAIN TRENCH AREA	
GEOLOGICAL SKETCH PLAN	
DATE: OCT, 1991	NTS: 104H/13H
PROJECT: RAILWAY-ZETU	PROJ. GEOL. D. MEHNER
SCALE: 1:2000	
Keewatin Engineering Inc. Figure 5	





**Photo 2. Mineralized Quartz-Carbonate Veins in Phyllite (Trench 9).**

These veins display various orientations but are preferentially aligned within the foliation plane. The veins average 0.5 cm in width and have a maximum width of 1.5 m. The veins comprise an aggregate of 1-10% of most exposures and have been traced discontinuously in several subcrop patches in Trench #7 over a width of 5 m.

These veins are weakly mineralized with trace to 1% disseminated pyrite and trace amounts of disseminated chalcopyrite. The samples collected from this trend returned low base and precious metal values. The highest values were obtained from several blocks of mineralized phyllite excavated from the trenches (Figure 5). One of the selected grab samples from Trench 2 returned 36,040 ppm Cu while a continuous chip sample from Trench 7 returned 1,725 ppm Cu over 1.5 m.

Trenches 3 and 4 exposed a mineralized system 50 m to the southwest of the primary trend. The style of mineralization is similar to the primary trend except that arsenopyrite is present.

The host rocks are slightly less foliated and the remnant volcanic textures are more obvious. A thick (approx. 1 metre) lenticular quartz vein with blebs of pyrite, arsenopyrite and chalcopyrite occurs on the north side of Trench 4. Bulldozed blocks of similar material were noted on the floor of Trench 3. The two selected grab samples of float from this zone returned the elevated values tabulated below:

Trench No.	Sample No.	Assay Results	
		Cu (ppm)	Au (oz/ton)
3	91-JM-147-R-007	516	0.029
4	91-JM-147-R-001	5,997	0.047

The mineralization in Trench 1 is similar to that observed in the other trenches. A large subcrop exposure of mineralized phyllite and a number of bulldozed blocks exhibit 1-2% quartz-carbonate veins with up to 8% disseminated pyrite. The veins pinch and swell from several millimetres to 50 cm in width and are preferential concordant to the foliation plane.

### 3.3.2 "Discovery Zone"

This showing is located in the eastern part of the property, 250 metres north of Zechtoo Mountain. The showing is restricted to a 3 m x 1 m hand dug trench in talus. A 40 cm wide quartz-carbonate vein with  $\pm 2\%$  chalcopyrite and an adjacent 40-50 cm wide breccia zone with quartz, carbonate and pyrite/chalcopyrite is exposed in the trenched rubble.

A series of five continuous chip samples were intermittently collected across this showing. The analytical results from this sampling are shown below in Figure 6.

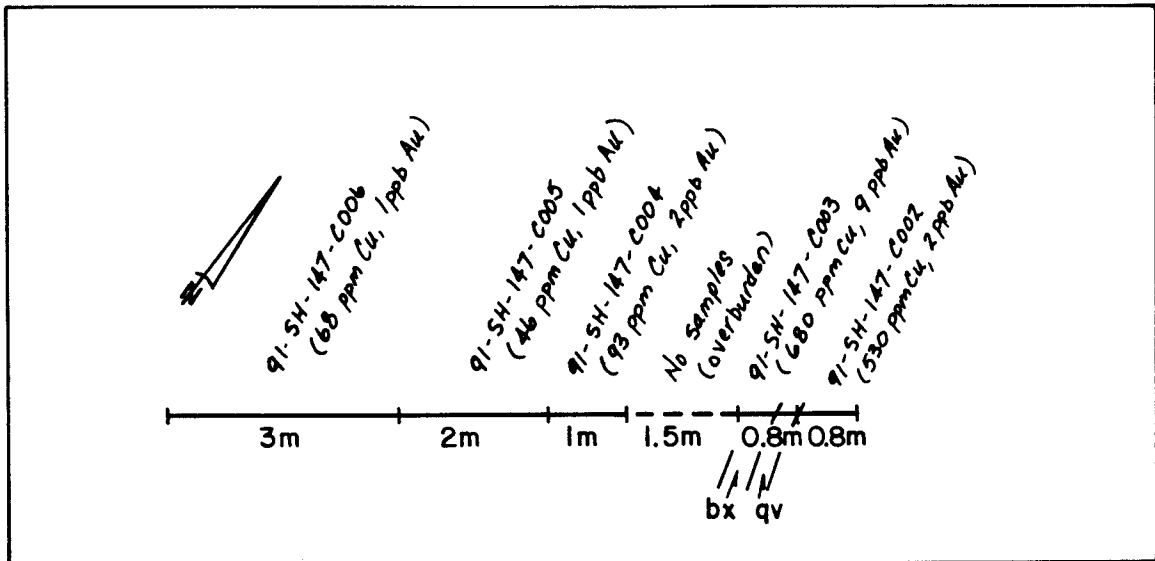


Figure 6. Sampling Plan of "Discovery Zone."

A small angular float block (heave?) was located 15 m to the east of the main "Discovery Showing". A selected grab sample from this locale returned 9,907 ppm Cu and 49 ppb Au. Outcrops in the immediate vicinity of the showing are predominantly foliated to phyllitic, weakly pyritic intermediate volcanics with minor, local chloritic and carbonate alteration.

The area to the south and west of this showing was traversed and was found to be 40% covered by talus. The blocks in this area are mainly intermediate volcanics with trace amounts of pyrite. Four hundred metres southwest of the "Discovery Showing", several large boulders of intermediate volcanics contain quartz-carbonate veins with 2% disseminated pyrite. A grab sample of this float (#91-SH-147-F-001) returned 75 ppm Cu and 24 ppb Au.

### 3.3.3 "Hematite Zone"

This small (50 m x 50 m) showing comprises quartz-carbonate veinlets within outcrops and float of massive to phyllitic intermediate volcanic rocks. These veinlets make up 3% of the exposures. No sulphides were observed at this locale but spotty coarse grained hematite imparts a red-brown stain to the rocks. A grab sample of this hematitic material (91-SH-147-R-007) returned 60 ppm Cu and 1 ppb Au. Outcrop and talus in the vicinity of this zone is

unmineralized except for a few flecks of specularite. Downslope from the showing, two small ( $\pm 40$  cm) boulders of mineralized volcanic rocks were located. These boulders contain 5% quartz-carbonate veins up to 1 cm thick. Hematite, malachite and up to 5% chalcopyrite (as blebs) are commonly associated with these veins. A selected grab sample from this occurrence returned 7,173 ppm copper and 9 ppb gold.

Further downslope (at 5,680 feet elevation), a 5 m x 20 m area of quartz-carbonate veins in fine grained intermediate volcanics was observed. Chlorite and epidote are associated with these veins. No sulphides were observed at this locality.

#### 3.3.4 "Porphyry Zone"

This zone is located one kilometre east-southeast of Thatue Mountain and was discovered in 1990 by Kidlark (1990). Several outcrops and float blocks of weakly mineralized monzodiorite and phyllite occur in a limited (20 sq. m) area. Trace to 2% very fine grained pyrite and trace to 3% chalcopyrite are associated with narrow quartz-carbonate veinlets and breccia matrix material. A grab sample of the best mineralized monzodiorite float blocks returned 266 ppm Cu and 1 ppm Au.

#### 3.3.5 "Breccia Zone"

Three outcrops and numerous talus boulders of weakly mineralized maroon tuff were found in an area approximately 100 m wide. The mineralization consists of 1-2% chalcopyrite with minor malachite and bornite associated with quartz-carbonate fracture and breccia fillings. A selected grab sample of the best mineralized float returned 6,791 ppm copper and 3 ppb gold. Grab samples from three outcrops in the area returned a maximum value of 165 ppm Cu. Immediately above the mineralized zone, outcrops consist of unmineralized grey-green andesitic tuff.



### 3.3.6 "Altered Toodoggone Volcanic Zone"

This showing is described by Kidlark (1990) as a green and maroon tuff breccia with disseminated fine grained chalcopyrite. Kidlark (1990) collected a 60 cm "select chip" sample from this showing which returned 0.61% Cu and <5 ppb Au. The area in the vicinity of the plotted showing was thoroughly prospected by the Keewatin crews but no copper mineralization was observed in outcrop or float. The area is underlain by a sequence of thin banded tuffaceous rocks.

### 3.3.7 "Gossan Zone"

This zone was reportedly observed from the air by Kidlark (1990) in August, 1990. Two unsuccessful attempts were made to locate this gossan. Traverses done in the vicinity of the reported location show that the area is underlain by intercalated intermediate volcanics and mudstone. No sulphides and only minor quartz-carbonate veins were observed in the area.

## 4.0 1991 EXPLORATION PROGRAM

### 4.1 Geochemistry

#### 4.1.1 Sampling Procedures

A total of 573 soil (including 24 soil pit profile samples), 45 silt and 51 rock samples were collected during the 1991 field season. Fifteen of the soil samples were inadvertently destroyed by fire in the Smithers facility of Min-En Laboratories. Control for sample positioning was obtained from 1:10,000 topographic maps, compass, topo-chain and altimeter. All of the sample sites were marked with flagging. The sample locations are plotted on Maps 3 and 4 attached to this report. The sample descriptions are included in Appendix IV.

The silt samples were generally collected where the contour traverses crossed stream channels. Typically, fine silt from the active portion of the streams was collected by hand and placed in kraft paper envelopes. Most of the samples were collected from narrow, shallow

streams with a moderate gradient on the flanks of the plateau. In general, the plateau is well drained and silt sampling can be considered appropriate in targeting large porphyry Cu ± Au deposits.

Most (484) of the soil samples were collected at 100 m intervals along topographic contours. Two traverses were also done over the Zechtoo Mountain Plateau in the area underlain by the gabbro-diorite complex. Approximately 45 line-kilometres of contour traverses were completed during this component of the exploration program. Sixty-five soil samples were also collected from a small grid over the "Main Trench Area". These grid samples were obtained at 20 m intervals along lines spaced 100 m apart. The sample numbers from the grid are identified by co-ordinates. Generally, the soil samples were collected from the "B" horizon with a grub-hoe or long-handled shovel. The average depth of sample collection was 25 cm.

Nine rock chip and 42 grab (outcrop and float) samples were collected in 1991. These samples represent mineralized and/or altered rocks observed during the soil sampling traverses or the investigation of known showings. The rock descriptions are incorporated in Appendix IV.

#### 4.1.2 Analytical Techniques

All of the samples were shipped to Min-En Laboratories Ltd. in Smithers for preparation prior to analysis in their Vancouver laboratory. This analysis comprised fire assay with atomic absorption finish for gold and a seven element ICP package (Ag, Cu, Pb, Zn, As, Sb, Mo). Samples which returned greater than 1,000 ppb gold were subsequently analyzed by fire assay with a gravimetric finish. All of the sample results are included in Appendix V and the analytical techniques utilized by Min-En Laboratories Ltd. are detailed in Appendix VI.

#### 4.2 Discussion of Soil Horizon Development

Seven soil test pits were excavated in order to determine the soil horizon development. The locations of test pits are shown on Figure 5 and Maps 3, 4, 5 and 6. Two of these pits (T4

and T9) are located in the "Main Trench Area" (Figure 5), four are located on moderately steep slopes on the plateau flanks and one (DM-1) is situated on the plateau in the western part of the property. The soil sample descriptions from these pits are found in Appendix IV.

The soil horizons were profile sampled at, approximately, 10-20 cm intervals down the pitwalls. Samples of the subcrop at the bottom of the pits were also collected. The results of this profile sampling are shown on Table 2 below.

TABLE 2 - WEST PRIDE PROPERTY SOIL TEST PITS					
Pit	Sample No.	Interval	Horizon	Cu (ppm)	Au (ppb)
DM-1	91-DM-147-S-AP1	0-20 cm	A	56	2
	91-DM-147-S-BP1	20-30 cm	B	204	3
	91-DM-147-S-C1P1	30-45 cm	C	357	4
	91-DM-147-S-C2P1	45-60 cm	C	329	10
	91-DM-147-S-C3P1	60-82 cm	C	386	1
	91-DM-147-S-C4P1	82-113 cm	C	479	1
	91-DM-147-S-C5P1	113-143 cm	C	486	2
	91-JM-147-R-001	143 cm	subcrop	81	1
DM-2	91-DM-147-S-AP2	0-14 cm	A	147	1
	91-DM-147-S-BP2	14-23 cm	B	209	2
	91-DM-147-S-CP2	23-56 cm	C	174	1
	91-DM-147-R-005	56 cm	subcrop	198	6
DM-3	91-DM-147-S-AP3	0-19 cm	A	93	6
	91-DM-147-S-CP3	19-80 cm	C	69	10
JM-1	91-GN-147-S-TP1A	0-8 cm	A	77	2
	91-GN-147-S-TP1B	8-20 cm	B	147	2
	91-GN-147-R-002	20 cm	subcrop	101	5
JM-2	91-GN-147-S-TP2A	0-10 cm	A	27	2
	91-GN-147-S-TP2B	10-25 cm	B	51	1
	91-GN-147-S-TP2C	25-50 cm	C	110	2
T4	91-GN-147-S-T4A	0-20 cm	A	1,288	6,190
	91-GN-147-S-T4B	20-45 cm	B	1,146	1,040
	91-GN-147-S-T4C	45-95 cm	C	1,169	532
	91-GN-147-R-003	95 cm	subcrop	504	1,450
T9	91-GN-147-S-A1T9	0-15 cm	A	67	1
	91-GN-147-S-B1T9	15-31 cm	B	559	42
	91-GN-147-S-B2T9	31-41 cm	B	584	36
	91-GN-147-S-C1T9	41-48 cm	C	508	57

The soil horizons in the pits appear to be moderately well developed. The dark brown, organic-rich "A" horizon is 8-20 cm thick and overlies a "B" horizon which is found at an average depth of 15 cm. The "B" horizon is commonly medium red-brown in colour, silty or gritty in places, and locally contains rock fragments. The "C" horizon is characterized by abundant small angular blocks of subcrop in a matrix of red-brown sandy soil. This "C" horizon varies in thickness from 25 to 113 cm and is transitional into the subcrop. Three of the soil pits did not reach the subcrop. No special overburden conditions (i.e. fluvioglacial deposits, outwash, ash layers, etc.) which might suppress the geochemical dispersion were noted in the pits. No pits, however, were dug in the central part of the plateau where special overburden conditions may exist.

The soil geochemical profiles in most of the pits display an enrichment of copper in the "B" and "C" horizons with respect to the subcrop. With the exception of test pit T4, the copper content of the "A" horizon is depleted with respect to the subcrop and "B" or "C" horizons.

#### **4.3 Description and Discussion of Geochemical Results**

The forty-five silt samples returned values which ranged up to 7 ppb Au, 1.7 ppm Ag, 212 ppm Cu, 24 ppm Pb, 204 ppm Zn, 38 ppm As, 1 ppm Sb and 5 ppm Mo. In a regional context, these results can be considered as background values.

A review of the 484 reconnaissance contour soil geochemical results indicates that copper values greater than 150 ppm can be considered as probably anomalous and those greater than 200 ppm are definitely anomalous. Utilizing these criteria, 17 samples (3.5% of total) returned probably anomalous copper values and 10 samples (2% of total) returned definitely anomalous copper values. Sixteen of these anomalous values are clustered in an area to the south and east of Zechtoo Mountain. This area is also characterized by numerous anomalous lead (>30 ppm) and Zn (>140 ppm) values.

Another cluster of anomalous copper results occurs on the 5,000 foot contour in the northeastern part of the property. Several other single station copper anomalies are scattered throughout the property.

Thirty (6.2%) of the contour soils returned gold values greater than 10 ppb. The highest value was 39 ppb.

The grid soil sampling of the main trench area defined two trends with coincident anomalous Cu, Au, Ag, As values. The northern trend covers the westernmost trenches and extends 200 m further to the west and is still open. Values up to 626 ppm Cu and 120 ppb Au occur within this trend. The southern anomaly is defined by two stations 20 m apart on line 00. This anomaly is open to the west and characterized by copper values up to 2,556 ppm and gold values up to 204 ppb.

The rock sample results are discussed in Section 3.3 (Mineralization).

## 5.0 CONCLUSIONS

The reconnaissance silt and soil sampling in various parts of the property did not outline large areas with consistent, high order anomalous copper or gold values. The evaluation of the known showings indicates that they are related to quartz-carbonate vein systems, limited in extent and are only weakly mineralized. The rock sampling program did not produce any representative samples with significant copper or gold values. The highest value obtained from the chip sampling was 6,803 ppm Cu and 9 ppb gold over 0.80 m from the "Discovery Zone".

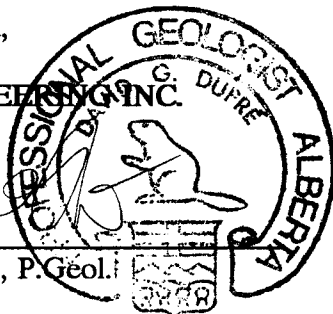
The absence of large, pervasively altered and mineralized zones and the spotty, low order soil/silt geochemical responses indicate that the porphyry Cu/Au potential of the areas investigated is low. The known showings returned low-order copper/gold values and do not exhibit significant potential for hosting economic shear/vein or fracture related base or precious metal deposits.

Respectfully submitted,

KEEWATIN ENGINEERING INC.



David G. DuPré, B.Sc., P.Géol.



Keewatin Engineering Inc.

## 6.0 REFERENCES

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**APPENDIX I**

**Statement of Qualifications**



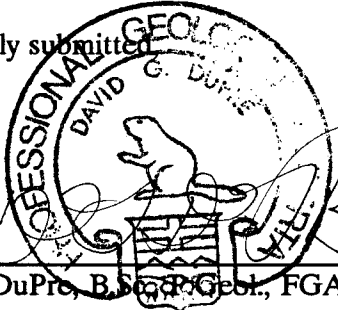
## STATEMENT OF QUALIFICATIONS

I, DAVID GEORGE DuPRE, of 56 Parkgrove Crescent in the Municipality of Delta in the Province of British Columbia, do hereby certify that:

- 1) I am a graduate of the University of Calgary, B.Sc. Geology (1969), and have practised my profession continuously since graduation.
- 2) I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta; and I am a Fellow of the Geological Association of Canada.
- 3) I am a consulting geologist with the firm of Keewatin Engineering Inc. with offices at Suite 800 - 900 West Hastings Street, Vancouver, British Columbia.
- 4) I am the author of the report entitled "Geochemical Report on the Railway-Zetu Property, Liard Mining Division, British Columbia", dated October 24, 1991.
- 5) I directly supervised the exploration program carried out on the Railway-Zetu property between June 7 and August 20, 1991.
- 6) I do not own or expect to receive any interest (direct, indirect or contingent) in the property described herein nor in the securities of Hyder Gold Inc. or West Pride Industries Inc. in respect of services rendered in the preparation of this report.

Dated at Vancouver, British Columbia this 24th day of October, A.D. 1991.

Respectfully submitted



David G. DuPre, B.Sc. P. Geol., FGAC

Keewatin Engineering Inc.

**APPENDIX II**

**Summary of Field Personnel**

SUMMARY OF FIELD PERSONNEL			
Name	Position	Sampler Code	Days Worked
R.F. Nichols	Project Supervisor		2.5
D.G. DuPre	Project Supervisor		4.0
D.T. Mehner	Senior Geologist	DM	10.5
J. Miller	Geologist	JM	9.5
F. Ferguson	Senior Technician	FF	3.0
S. Howson	Prospector	SH	7.0
A. Muirhead	Prospector	AM	8.0
D. Coolidge	Prospector	DC	4.0
C. Anderson	Prospector	CA	2.0
D. O'Brien	Prospector	DO	9.0
G. Nagy	Senior Field Assistant	GN	20.5
B. Richardson	Senior Field Assistant	BR	10.0
F. Depey	Field Assistant	FD	5.0
M. Brown	Field Assistant	MB	3.0
T. Shepherd	Field Assistant	RS	1.0
P. Wankling	Field Assistant	PW	18.0
C. Thompson	Field Assistant	CT	1.0
V. Jordan	Cook/First Aid Attendant		8.0
B. Whelan	Tenure Administrator		3.0

**APPENDIX III**

**Statement of Expenditures**

**STATEMENT OF EXPENDITURES**

<b><u>Pre-Field</u></b> (maps, reports, permitting, equipment procurement)			<b>\$ 2,103.48</b>
<b><u>Field Program</u></b>			
<u>Personnel</u>		\$31,677.50	
<u>Camp Support</u>			
Camp Costs	\$8,812.17		
Fuel	202.14		
Expediting and Freight	1,808.30		
Communications	<u>216.60</u>	11,039.21	
<u>Transportation</u>			
Fixed Wing and Travel	\$3,268.14		
Truck	1,875.00		
Helicopter	<u>8,568.00</u>	13,711.14	
<u>Geochemical Analyses</u>		4,052.20	
<u>Field Equipment</u>		<u>594.28</u>	<b>\$61,074.33</b>
<b><u>Post-Field</u></b> (report writing, drafting, word processing, reproduction)			<b><u>\$ 6,555.00</u></b>
<b>TOTAL:</b>			<b><u>\$69,732.81</u></b>

**APPENDIX IV**

**Rock/Soil/Silt Sample Descriptions**

**Rock Sample Descriptions**

**KEEWATIN ENGINEERING INC.**

**ROCK SAMPLE DESCRIPTIONS**

Project: Hyder/West Pride				Results Plotted By: A. Muirhead					
Area (Grid): Railway				Map:	NTS: 104H/13W				
Collectors: Muirhead				Date: Sept. 14, 1991	Surface: X		Underground:		
SAMPLE NO.	LOCATION NOTES	SAMPLE TYPE/LENGTH	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Au (ppb)	Au (oz/ton)	Cu (ppm)		
91AM147R-001	Elevation ~5,580', above plotted WPR90-7	Grab	Mylonite-Phyllite	Sub-crop (heave) directly upslope of "porphyry zone". Contorted (mylonitic) phyllite. Pink-buff weathering with late Fe/carb fracture fillings. 1-2% $\leq$ mm size euhedral pyrite + possible trace chalcopyrite.	9		36		
91AM147R-002	Elevation 5,580'	Grab	Sheared/Laminate Int. Volcanic	Sub-crop. Banded appearance, quartz/carb. altered phyllite(?) propylitic with 1-2% very fine grained-euhedral pyrite, trace chalcopyrite.	2		71		
91AM147F-003	Elevation 5,500'	Float	Monzodiorite	Float boulder ~ 30 cm diameter. High grade boulder (rare) in "talus" slope - moderately sheared monzodiorite with 1-3 mm quartz/carbonate fracture filling and coarse blebs of chalcopyrite and fine grained disseminated chalcopyrite @ margins of fracture filling. 3% chalcopyrite average.	1		266		
91AM147R-004	Elevation 5,440'. Plotted location WPR90-8.	Comp. Grab	Monzodiorite	Sub-crop in bear pit. Shear breccia and clay gouge. Altered monzodiorite. No visible sulphides but rusty clay alteration.	4		165		
91AM147R-005	"Breccia Zone" Elevation 5,600'	Rep. Comp. Grab	Lapilli Tuff/Tuff Breccia	Several > 1 m boulders/ heaved subcrop maroon lapilli tuff brecciated re-heald with carbonate/quartz fill. Trace to 1% chalcopyrite and malachite stains.	2		566		
91AM147R-006	"Breccia Zone" Elevation 5,600'	Comp. Grab	Lapilli Tuff/Tuff Breccia	Outcrop. Fractured maroon lapilli tuff. Minor carbonate fracture filling to 0.5 cm wide with disseminated chalcopyrite and malachite stains.	1		312		
91AM147R-007	"Breccia Zone" Elevatioan 5,600'	Float	Lapilli Tuff/Tuff Breccia	Float - very unusual brecciated lapilli tuff with 5% + chalcopyrite as coarse disseminations. Mainly in quartz/carbonate fill.	3		6,791		



SAMPLE NO.	LOCATION NOTES	SAMPLE TYPE/LENGTH	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Au (ppb)	Au (oz/ton)	Cu (ppm)		
91AM147R-008	"Breccia Zone"	Grab	Maroon Tuff/Lapilli Tuff	Small (1.5 x 2.0 m) area of breccia/ fracturing with carbonate fill. Chalcopyrite and malachite stains (average approx. 1% chalcopyrite)	1		1,531		
91AM147C-009	5,200' elevation ~200 m east of "100 m trench" plot	Chip (6 m)	Phyllite/ Andesite	6 m chip @ 050° across weathered phyllite/shear zone platy foliation-fractures @ 130°/60° and 160°/80° northeast. Occasional rusty zones and gouge. No visible Cu.	4		125		
91AM147F-010	5,200' elevation 8 m upslope of sample 009	Float	Quartz/ Iron Carbonate	Float/possible subcrop. Quartz/iron-carbonate breccia vein material in weathered phyllite/shear slope as above - trace to 1% coarse chalcopyrite pod?	2		293		
91AM147F-011	5,200' elevation 8 m upslope of sample 009	Composite Grab	Phyllite/ Andesite	Composite grab. Friable material similar to C-009 from 0.3 m. Pit dug below F-010 and less sheared andesite from 0.5 m upslope (outcrop).	1		123		
91AM147F-012	Elevation 5,450'.	Float	Mixed	Float - a volumetrically representative sample of approx. 3 x 3 m area of float. Includes some quartz/iron carbonate breccia material with approx. 1% chalcopyrite.	1		70		
91AM147R-013	Approx. 12 m upslope of 012.	Grab	Phyllite	Grab of outcrop (heave?) upslope of above - weakly brecciated chloritic phyllite minor carbonate alteration + fe/carbonate fracture filling. Trace to 1% disseminated pyrite.	2		61		

**KEEWATIN ENGINEERING INC.**

**ROCK SAMPLE DESCRIPTIONS**

Project: Hyder/Westpride (#147)				Results Plotted By: A. Muirhead					
Area (Grid): Railway				Map:	NTS: 104H/13W				
Collectors: Sally Howson				Date: Sept. 14, 1991	Surface: X	Underground:			
SAMPLE NO.	LOCATION NOTES	SAMPLE TYPE/LENGTH	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Au (ppb)	Au (oz/ton)	Cu (ppm)		
91SH147F-001	400 m southwest of "Discovery Zone". Elevation 5,840'	Float	Intermediate Volcanic	Float - ??? boulder 8 x 2 m - angular with 5-6 smaller angular boulders in the same area - 4-10 cm quartz/carbonate veining in fine grained pale green volcanic. Chlorite associated with quartz/carbonate veining (no sulphides). - Host rock contains 2% disseminated pyrite - no chalcopyrite - no malachite.	24		75		
91SH147C-002	"Discovery Zone" - subcrop.	Chip (0.80 m)	Intermediate Volcanic	80 cm chip across weakly sericitized fine grained, green, intermediate volcanic with 2-3% disseminated pyrite/chalcopyrite. Subcrop. - east of quartz/carbonate vein.	2		530		
91SH147C-003	"Discovery Zone" - subcrop?	Chip (0.80 m)	Quartz/Carb vein in Intermediate Volcanic	80 m chip across quartz/carbonate vein. - 30 cm of sample - quartz/carbonate vein trends 160° dip vertical. Locally massive chalcopyrite/pyrite malachite staining. 50 cm of intermediate volcanic with quartz veining. 1-2% disseminated pyrite/chalcopyrite.	9		6,803		
91SH147C-004	"Discovery Zone"	Chip (1.0 m)	Intermediate Tuff	- 1 m chip across well foliated sericitic altered tuff. - trace pyrite, joint 298 vertical dip	2		93		
91SH147C-005	"Discovery Zone"	Chip (2.0 m)	Intermediate Tuff	2 m chip - same as C-004. <trace pyrite.	1		46		
91SH147C-006	"Discovery Zone"	Chip (3.0 m)	Intermediate Tuff	3 m chip - same as C-004.	1		68		

SAMPLE NO.	LOCATION NOTES	SAMPLE TYPE/LENGTH	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Au (ppb)	Au (oz/ton)	Cu (ppm)		
91SH147R-007	"Hematite Showing" Elevation 5,900'.	Grab	Intermediate Volcanic	Grab of phyllite, dark green, fine grained volcanic with 3% quartz/carbonate veining. mm - 4 cm wide. - hematite occurs at quartz/carbonate contact with host rock. No sulphides occur. - Jointing 020° vertical - Jointing 080 dip 40°N - Foliation 60° vertical	1		60		
91SH147F-008	"Hematite Showing" Elevation 5,760'	Float	Intermediate Volcanic	30 x 40 cm subangular blocks. Volcanic with mm quartz vein. Hematite. Pods of chalcopyrite (mm) malachite staining locally 10% chalcopyrite.	9		7,137		
91SH147F-009	Talus Slope - 5,060'. Glacial till where minfile showing is located on Map 1:10,000	Float	Intermediate Volcanic	Rounded to sub-rounded boulder - 40 x 50 cm. Quartz/calcite vein in intermediate fine grained dark grey volcanic. 1% specular hematite.	1		65		
91SH147R-010	5,100' - up the draw from F-009 600 m.	Grab	Intermediate Volcanic	Gossanous outcrop of phyllitic, pale green, fine grained, carbonate alteration intermediate volcanic. - 3% cubic disseminated pyrite.	3		42		
91SH147R-011	Trench 9	Grab	Andesite Tuff	Blocky, weakly phyllitic, dark grey/brown, andesite tuff, fine grained with <1% disseminated pyrite.	2		44		
91SH147R-012	Trench 8	Grab	Intermediate Volcanic	Large boulder possibly subcrop. 1.60 x 80 cm silic. intermediate volcanic with 10% quartz/calcite/chlorite veining. 5% pyrite associated with veining, trace to 1% chalcopyrite associated with veining.	2		62		
91SH147F-013	Trench 8	Float	Phyllite	20 x 10 cm phyllitic volcanic tuff? with mm to 0.5 cm quartz/calcite veining. 2-3% pyrite/chalcopyrite associated with veining.	2		759		
91SH147F-014	Trench 7	Chip (1.5 m)	Argillite	1.5 m chip across fissile argillite with quartz/carbonate veining, 1-2% disseminated pyrite/chalcopyrite, malachite staining.	1		1,725		

# KEEWATIN ENGINEERING INC.

## ROCK SAMPLE DESCRIPTIONS

Project: West Pride (#147)				Results Plotted By: Jason Miller					
Area (Grid):				Map:		NTS: 104H/13W			
Collectors: Dave O'Brien & Don Coolidge				Date: Aug. 4, 1991		Surface: X	Underground:		
SAMPLE NO.	LOCATION NOTES	SAMPLE TYPE/LENGTH	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Au (ppb)	Au (oz/ton)	Cu (ppm)		
91DO147R-902	Same location as soil sample 91-DO-147S-001	Float	Andesitic plagioclase porphyry volcanic	1% specular hematite veins in a green, fine grained, plagioclase porphyritic andesite. Non-magnetic. Veins <1 mm.	1		33		
91DO147R-907	Same location as soil sample 91-DO-147S-026 stn + 70 metres @ 5,000 feet ASL	Grab	Greywacke	Platey fractured clastic rock; calcite fractures/veins sub-parallel to cleavage contain 1% chalcopyrite -no pyrite, no gossan.	1		2,231		
91DO147R-2072	Elevation 4,480 feet ASL	Grab (2.0 m area)	Silicified Siltstone (bedded)	≥2-3% pyrite + trace chalcopyrite (<0.3%) along fractures and finely disseminated. Slightly magnetic. Smells fetid (sulphides?). Abundant fractured limonite.	9		88		
91DO147R-914	Same location as soil sample 91JM-147S-058	Grab	Silicified Diorite(?)	Carbonate altered, silicified diorite. Non-magnetic. 5% mafics (altered mt). 5% carbonate, fractured + disseminated limonite after pyrite (4%).	21		43		
91DC147R-0273	Elevation 4,490 feet ASL	Grab (1.0 m area)	Fine grained Granodiorite	3-4% fractured limonite and 1-2% finely disseminated pyrite in a fine grained granodiorite. Non-magnetic.	3		108		
91DC147R-0274	Elevation 4,490 feet ASL	Grab (2.0 m area)	Silicified Siltstone (bedded)	Slightly magnetic siltstone (silicified) with 5% finely disseminated pyrite. 2% fracture controlled limonite.	3		85		
91DO147R-915	91-PW-147-S-062	Grab Selected	Vein	Epidote-pyrrhotite vein(?) in actinolite altered andesite(?). 5% pyrrhotite; vein 3" wide, 1-2 m long and pinches and swells.	20		985		

**KEEWATIN ENGINEERING INC.**

**ROCK SAMPLE DESCRIPTIONS**

Project: West Pride - Railway-Zetu (#147)				Results Plotted By: D. Mehner					
Area (Grid):				Map:	NTS: 104H/13				
Collectors: Dave Mehner				Date: July, 1991	Surface: X	Underground:			
SAMPLE NO.	LOCATION NOTES	SAMPLE TYPE/LENGTH	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Au (ppb)	Au (oz/ton)	Cu (ppm)		
91DM147R-001	Trench 4 @ 5,100 feet; old trench area	Float	Quartz vein in phyllitic siltstone	Vuggy, oxidized quartz vein from dump @ end of trench; grabs with up to 20-25% arsenopyrite; 15-20% pyrite (veins to 2 cm), 15% pyrrhotite and 1-2% chalcopyrite; host is phyllitic siltstone.	1,600	0.047	5,997		
91DM147R-002	Old pit, 350 metres north of Railway 2, 3, 4 and 6 LCP; @ West Pride sample B1301	Grab	Sericitic phyllite	Chalcopyrite veins and chalcopyrite in quartz veins (to 4 mm) within felsic, sugary (re-crystallized) phyllite; small "higher grade" showing < 1 m x 3 m.	49		9,907		
91DM147R-003	Main Showing 15 m north of above	Chip (4.0 m)	Phyllite	Chips across footwall immediately west of mineralized pit; trace disseminated pyrite only.	4		72		
91DM147R-004	Main mineralized showing as above	Grab	Chalcopyrite -Calcite- Dolomite ± Quartz Vein	Grabs of "chalcopyrite rich" vein material; veins (2) are ≤30 cm each and occur within 2½ metre intervals; occur within "late" fractures (120°) that cross-cut foliation (155°); chalcopyrite veins have 8-10% chalcopyrite and occur in phyllite.	37		19,850		
91DM147R-005	Test pit DM-2 @ 5,870 feet	Grab	Phyllite	Barren, pale green phyllites at base of pit 2.	6		198		
91DM147R-006	4,620 feet ASL; 2.38 km southeast of Railway 2, 3, 4 and 6 LCP.	Chip (5.0 m)		Leached, grey, siliceous fine grained andesite(?) with 6-8% finely disseminated pyrite; strong iron stain on fractures and gossan outcrop @ 4,720 feet ASL and is 3 m @ 180° by 20 m @ 146°.	1		51		

**KEEWATIN ENGINEERING INC.**

**ROCK SAMPLE DESCRIPTIONS**

Project: West Pride - Railway-Zetu (#147)				Results Plotted By: Jason Miller					
Area (Grid):				Map:	NTS: 104H/13				
Collectors: Jason Miller				Date: July, 1991	Surface: X	Underground:			
SAMPLE NO.	LOCATION NOTES	SAMPLE TYPE/LENGTH	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Au (ppb)	Au (oz/ton)	Cu (ppm)		
91JM147R-001	Test pit 1 along road, west end of property @ 4,950 feet ASL	Grab	Andesite Tuff(?)	Silicified along fractures; <2% finely disseminated/fractured pyrite; very fine grained; 2% calcite; non-magnetic; sample base of test pit.	1		81		
91JM147R-002	South end of old cat Trench 9	Float	Phyllite	Silicified with boxwork after pyrite; quartz veining and breccia; strong iron stain.	102		844		
91JM147R-003	East side, south end of old cat Trench 9	Float	Quartz vein	Bull white quartz vein >10 cm; <1% pyrite; rock strongly oxidized with strong fractured limonite.	9		29		
91JM147R-004	Southeast end of old cat Trench 8	Float	Phyllite	Iron stained, silicified phyllite; vuggy quartz veins with 2-5% disseminated pyrite and trace chalcopryrite along foliated fractured cleavage; some ankerite veining.	4		51		
91JM147R-005	North end of old cat Trench 6	Float	Phyllite	Quartz-carbonate altered phyllite. Iron stained; limonite after 2-5% pyrite along fractures; carbonate fracture filling.	10		49		
91JM147R-006	North end of old cat Trench 2	Float	Quartz vein in phyllite	7-10% chalcopryrite + malachite in quartz vein cutting phyllite; vein <3 cm; it pinches and swells.	19		36,040		
91JM147R-007	Middle of old cat Trench 3	Float	Quartz vein	1 metre wide quartz vein; 20% bleb + disseminated pyrite with 3-5% arsenopryrite: calcite and quartz fracture filling; limonite boxwork after pyrite.	1,000	0.029	516		

**KEEWATIN ENGINEERING INC.**

**ROCK SAMPLE DESCRIPTIONS**

Project: West Pride - Railway-Zetu				Results Plotted By: Bruce Richardson					
Area (Grid):				Map:	NTS: 104H/13				
Collectors: Bruce Richardson				Date: July, 1991	Surface: X	Underground:			
SAMPLE NO.	LOCATION NOTES	SAMPLE TYPE/LENGTH	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Au (ppb)	Au (oz/ton)	Cu (ppm)		
91BR147R-001	1,070 metres east-southeast of Microwave tower; on top of Zechtoo Mountain	Grab	Diorite	Altered, leached, medium grained diorite; mafics mainly leached out; iron gossan on fracture; trace disseminated pyrite.	2		160		

# KEEWATIN ENGINEERING INC.

## ROCK SAMPLE DESCRIPTIONS

Project: West Pride - Railway-Zetu (#147)				Results Plotted By: Grant Nagy					
Area (Grid):				Map:		NTS: 104H/13			
Collectors: Grant Nagy				Date: July, 1991		Surface: X	Underground:		
SAMPLE NO.	LOCATION NOTES	SAMPLE TYPE/LENGTH	ROCK TYPE	SAMPLE DESCRIPTION	ASSAYS				
					Au (ppb)	Au (oz/ton)	Cu (ppm)		
91GN147R-001	Test Pit at Trench 9 in old trench area below Microwave Tower.	Grab	Phyllite	Weak iron stain in phyllite at base of soil test pit.	1		49		
91GN147R-002	Test Pit 1 at 4,840 feet ASL below main trenches above.	Grab	Phyllite	Barren phyllite at base of soil test pit.	5		101		
91GN147R-003	Soil test pit near Trench 4	Grab	Phyllite	Iron-stained, vuggy, leached out phyllite; boxwork after sulphides.	1,450	0.049	504		



**Soil Sample Descriptions**

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: 147

Results Plotted By: F. DEPEY

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 104H/13W

Collectors: FD (FRANCOIS DEPEY)

Date: 91.07.21

Sample Number	Sample Location		Notes	Topography				Vegetation					Soil Data							
	Elevation <i>Line</i>	Station		Valley Bottom	Direction of slope °	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development		Parent	Material	Colour
																Good	Poor			
91FD 147	4500	001	Ang	E				✓					B	10	✓			✓	LB	
	4500	002	Ang	130°						✓			C	10		✓		✓	MB	
	4500	003	Ang	120°						✓			A	20		✓		✓	DB	
	4500	004	Ang	140°						✓			B	20	✓			✓	MB	
	4500	005	None	45						✓			A/B	15		✓		✓	DB	
	4460	006	Ang	130°						✓			B	30	✓			✓	LB	
	4440	007	Ang	130°				✓					A	20		✓		✓	DB	
	4480	008	Subang - Ang	155°						✓			A	20		✓		✓	DB	
	4500	009	Subang - Ang	120°						✓			B	20	✓			✓	MB	
	4550	010	Ang	80°				✓					B/C	30		✓		✓	DB	
	4600	011	Ang	100°				✓					B	20		✓		✓	MB	
	?	012	Ang	130°				✓					B	30		✓		✓	MB	
	4690	013	Ang	SW						✓			B/C			✓		✓	MB	
	4620	014	Ang	210°						✓			B	30		✓		✓	MB	
	4580	015	Ang	160°				✓					B/C	20		✓		✓	MB	
	4520	016	Subang - Ang	170°				✓					B	20	✓			✓	MB	
	4500	017	Ang	230°				✓					B	20	✓			✓	MB	
	4540	018	Ang	180°				✓					B	15		✓		✓	MB	
	4480	019	Subang - Ang	220°				✓					A/B	15		✓		✓	DB	
	4460	020	Subang - Ang	220°				✓					A/B	20		✓		✓	DB	
	4380	021	Ang	130°				✓					A/B	20		✓		✓	DB	

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: 147

Results Plotted By: F. DEPEY

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 104 H/13W

Collectors: FD (FRANCIS)

Date: 91 07 22

Sample Number	Sample Location		ORGANIC = ORG GRAVEL = GR SAND = SD SILT = ST CLAY = CL Notes:	Topography			Vegetation						Soil Data								
	elevation  Line	Station		ORG/GR/SD/ST/CL	Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development		Parent	Material	Colour
																	Good	Poor			
91FD 147	4500	022	Ang		60°				✓					B	35	✓			✓	LB	
	4500	023	Ang	10/40/40/10/0	60°				✓					B	40	✓			✓	MB	
	4500	024	Ang	5/45/40/10/0	65°			✓						A	35	✓			✓	DB	
	4500	025	Ang	5/50/35/10/0	85°			✓						B	35	✓			✓	MB	
	4470	026	Ang	5/50/35/10/0	70°			✓						B	20	✓			✓	MB	
	4500	027	Ang	5/50/35/10/0	110°			✓						B	30	✓			✓	MB	
	4500	028	Subsamy	10/30/30/10/20	130°				✓					B	30	✓		✓		MB	
	4500	029	Ang	10/30/30/30/0	75°			✓						B	30	✓			✓	DB	
	4540	030	Subsamy	Ang 10/30/30/20/10	70°			✓						B	30	✓			✓	MB	
	4540	031	Ang	10/0/10/40/40	90°			✓						B	30	✓			✓	DB	
	4520	032	Ang	5/30/10/30/25	155°			✓						B	20	✓			✓	MB	
	4540	033	Ang	10/80/0/10/0	150°				✓					B/C	20		✓		✓	DB	
	4520	034	Ang	5/30/15/40/40	110°			✓						B	30	✓			✓	G	
	4500	035	Ang	5/5/30/30/30	80°			✓						B	20	✓			✓	G	
	4500	036	Ang	5/20/10/25/20	70°			✓						B	30	✓			✓	LB	
	4500	037	Ang	20/20/10/25/25	110°			✓						B	20	✓			✓	MB	
	4500	038	Ang	20/50/5/15/10	120°				✓					B	20	✓			✓	MB	
	4520	039	Ang	15/60/15/10/0	140°			✓						C	20		✓		✓	MR	
	4500	040	Ang	20/10/10/40/20	160°			✓						B	20	✓			✓	DB	
	4520	041	Ang	20/20/30/30/0	160°			✓						B	30	✓			✓	MB	

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

 Project: 147

 Results Plotted By: F. DEPEY

Area (Grid): \_\_\_\_\_

 Map: \_\_\_\_\_ N.T.S.: 104H/13W

 Collectors: (FRANCOIS DEPEY) F.D

 Date: 91.07.23

Sample Number	Sample Location		Notes	Topography							Vegetation						Soil Data					
	elevation Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development		Parent Material		Colour		
																Good	Poor	Drift	Bedrock			
91 FD 147	4580	042	ANG 20/50/5/15/10		14°								B	15	✓			✓	MB			
	4580	043	ANG 30/50/15/10/5		10°								B	20	✓			✓	DB			
	4600	044	ANG 15/50/15/20/10		35°								B	30	✓			✓	DB			
	4560	045	ANG 20/20/30/15/15		10°								B	30	✓			✓	DB			
	4600	046	ANG 10/10/10/40/30		E								B	20	✓			✓	DB			
	4620	047	ANG 10/0/0/50/40		30°								B	20	✓			✓	Black			
	4600	048	ANG 30/50/15/10/5		20°								B/C	30		✓		✓	DB			
	4600	049	ANG 10/20/10/40/20		350°								B	30	✓			✓	DB			
	4640	050	ANG 10/30/20/20/20		170°								B	30	✓			✓	DB			
	4660	051	ANG 20/20/20/30/10		40°								B	20	✓			✓	DB			
	4640	052	ANG 5/50/20/15/10		30°			✓					B	30	✓			✓	DB			
	4620	053	ANG 20/40/15/20/15		350°								B	20	✓			✓	DB			
	4620	054	ORGAN 40/0/0/50/10		10°								A	30	✓		ORGAN	✓	DB			
	4620	055	ROUND 20/0/5/40/35		30°								A	20	✓		✓	✓	DB			
	4640	056	ANG 10/50/20/10/0		10°								B	15	✓			✓	MB			
	4620	058	ANG 10/40/10/20/20		350°								B	20	✓			✓	MB			
	4640	058	ANG 50/30/0/10/10		10°								A	20	✓			✓	DB			
	4640	059	ANG/SUBANG 10/60/0/20/10		40°			✓					B	30	✓			✓	MB			
	4660	060	ANG 20/30/10/30/10		260°			✓					B	15	✓			✓	LB			
	4600	061	ANG 0/20/40/40/0		80°				✓				B	30	✓			✓	MB			
	4620	062	SUBANG 5/30/40/25/0		340°			✓					B	20	✓			✓	MB			
	4660	063	SUBANG 10/30/30/10/30		N			✓					B	20	✓			✓	LB			
	4680	064	ANG 10/20/40/30/0		N			✓					B	30	✓			✓	LB			
	4680	065	ANG 20/30/20/20/10		350°			✓					B	20	✓			✓	DB			
	4680	066	ROUND 20/20/30/10/20		350°			✓					B	25	✓			✓	DB			
	4680	067	SUBROUND 20/40/10/20/10		30°			✓					B	20	✓			✓	MB			

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: West prde 147

Results Plotted By: PATTI WANKLING

Area (Grid): Contour Sampling at 4500

Map: \_\_\_\_\_ N.T.S.: 104H/13W

Collectors: Patti Wankling / Dave O'Brien

Date: July 20/91

91AW H/S

July 21/91

Sample Number	Sample Location		Notes	Topography							Vegetation					Soil Data				
	Elevation	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development		Parent	Material	Colour
																Good	Poor			
100m	4500	CL001	30 A.F./20 sand/15 org/20 clay/15 silt		N								B	30	/	/			LB	
200m	4510	CL002	40 org/30 sand/20 silt/10 clay		S								B	25	/	/			LB	
300m	4510	CL003	30 org/30 sand/10 A.F./30 silt		S								B	40	/	/			HB	
400m	4490	CL004	" " " " " "		S								B	40	/	/			DB	
500m	4490	CL005	10 org/40 silt/20 sand/20 A.F./10 clay		NE								B	45	/	/			DB	
600m	4500	CL006	10 org/40 clay/20 sand/30 silt		NE								B	40	/	/			LB	
700m	4500	CL007	" " " " " "		NE								B	40	/	/			LB	
800m	4500	CL008	25 org/30 silt/10 clay/10 A.F./25 sand		S								B	25	/	/			MB	
900m	4500	CL009	20 org/10 clay/40 sand/10 A.F./20 silt		S								B	35	/	/			MB	
1000m	4520	CL010	20 sand/40 clay/10 org/30 silt		S								B	20	/	/			MB	
1100m	4500	CL011	60 clay/20 silt/10 org/10 sand		NE								C	30	/	/			DB	
1200m	4500	CL012	" " " " " "		S								A	30	/	/			MB	
1300m	4500	CL013	40 gravel/50 A.F./10 org/20 clay		S								B	30	/	/			MB	
1400m	4480	CL014	60 gravel/30 A.F./20 silt TRUCKS		S								B	25	/	/			LB	
1500m	4500	CL015	" " " " " " TRUCKS		S								B	30	/	/			LB	
1600m	4500	CL016	30 gravel/40 clay/15 sand/15 silt		S								B	25	/	/			LB	
1700m	4520	CL017	50 gravel/20 sand/20 clay/10 silt		S								B	20	/	/			grey	
1800m	4500	CL018	60 gravel/30 clay/10 org		N								B	30	/	/			MB	
1900m	4520	CL019	30 A.F./40 sand/20 silt/10 org		N								B	25	/	/			MB	
2000m	4520	CL020	50 org/40 gravel/30 clay/25 A.F.		SW								B	30	/	/			MB	
2100m	4540	CL021	" " " " " "		SW								B	25	/	/			MB	
2200m	4500	CL022	40 clay/20 silt/10 org/15 A.F./15 gravel		SW								B	35	/	/			MB	
2300m	4540	CL023	30 clay/30 silt/20 sand/20 A.F.		SW								B	30	/	/			MB	
2400m	4540	CL024	30 clay/30 silt/10 org/15 sand/15 A.F.		N								B	25	/	/			MB	
2500m	4520	CL025	" " " " " "		N								B	30	/	/			MB	
2600m	4500	CL026	40 gravel/20 sand/10 org/30 silt		S								C	25	/	/			MB	
2700m	4540	CL027	20 A.F./20 org/20 sand/20 silt/20 clay		S								B	25	/	/			MB	
2800m	4500	CL028	30 clay/30 silt/20 sand/10 org/10 A.F.		S								B	30	/	/			MB	
2900m	4530	CL029	" " " " " "		S								B	25	/	/			MB	

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: West pride 147  
 Area (Grid): Contour Sampling at 4500  
 Collectors: Patti Wankling / Dave O'Brien

Results Plotted By: PATTI WANKLING  
 Map: N.T.S.: 104H/13W  
 Date: July 21/91 cont

Sample Number	Sample Location		Notes	Topography							Vegetation						Soil Data					
	Elevation Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development	Parent	Material	Colour			
91PW147S																						
3000m	4540	CL0030		SE				/					B	30	/				HB			
3100m	4540	CL0031		SE				/					B	25	/				HB			
3200m	4500	CL0032		SE				/					B	35	/				HB			
3300m	4500	CL0033		E				/					B	25	/				HB			
3400m	4500	CL0034		E				/					A	30	/				HB			
3500m	4490	CL0035		E				/					B	40	/				HB			
3600m	4500	CL0036	TALLS SLOPE					/					B	30	/				HB			
3700m	4500	CL0037		NE				/					B	30	/				HB			
3800m	4500	CL0038		NE				/					B	30	/				HB			

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: West side 147  
 Area (Grid): Contour Sampling at 4500  
 Collectors: Patti Wankling / Grant Nagy

Results Plotted By: PATTI WANKLING  
 Map: N.T.S.: 104H/13W  
 Date: July 22/91

Sample Number	Sample Location		Notes	Topography							Vegetation					Soil Data				
	Elevation Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development		Parent Material		Colour
																Good	Poor	Drift	Bedrock	
91AW #175 100m	4480	CL0039	30 A.E / 40 grav / 100 org / 20 silt		SW									A	30	/	/			MB
200m	4480	CL0040	35 A.E / 20 clay / 38 sand / 15 silt		SW		/							B	35	/	/			MB
300m	4500	CL0041	40 silt / 20 org / 20 A.E / 10 grav		SW		/							A	30	/	/			MB
400m	4540	CL0042	10 A.E / 50 silt / 30 grav / 10 clay		SW		/							B	35	/	/			LB
500m	4520	CL0043	" " " " " "		SW		/							B	30	/	/			LB
600m	4540	CL0044	20 org / 20 A.E / 40 sand / 20 clay		SW		/							B	35	/	/			MB
700m	4560	CL0045	5 A.E / 40 silt / 30 org / 1 clay / 10 sand		SW		/							B	25	/	/			MB
800m	4580	CL0046	0 org / 10 A.E / 60 silt / 10 sand / 10 clay		SW		/							B	30	/	/			MB
900m	4580	CL0047	" " " " " "		SE		/							B	35	/	/			MB
1000m	4580	CL0048	10 org / 10 A.E / 40 silt / 20 clay / 20 sand		SE		/							B	30	/	/			LB
1100m	4580	CL0049	70 silt / 10 org / 5 grav / 15 sand		SE		/							B	30	/	/			LB
1200m	4580	CL0050	20 org / 60 A.E / 10 clay / 10 sand		SE		/							A	35	/	/			MB
1300m	4550	CL0051	30 A.E / 50 silt / 20 org		SE		/							A	30	/	/			DB
1400m	4560	CL0052	60 grav / 10 org / 30 silt		E		/							A	30	/	/			LB
1500m	4530	CL0053	20 org / 10 clay / 90 silt / 20 sand		E		/							A	35	/	/			LB
1600m	4540	CL0054	40 silt / 20 org / 30 sand / 10 A.E		E		/							A	30	/	/			DB

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: 147 WEST PRIDE

Results Plotted By: BRUCE RICHARDSON

Area (Grid): \_\_\_\_\_

Map: 1044-13 N.T.S.: EALUE LAKE

Collectors: B. RICHARDSON

Date: AUG 1/91

Sample Number	Sample Location		Notes %	Topography				Vegetation				Soil Data								
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development		Parent Material		Colour
																Good	Poor	Drift	Bedrock	
91BR1475	5000	01	20 Gravel 20 Sand 50 Silt 10 Clay			/					/		B	70				/	Br	
91BR1475	5000	02	35 Sand 50 Silt 10 Clay 5 Org			/					/		B	50				/	Br	
91BR1475	5000	03	40 Sand 50 Silt 10 Clay			/					/		B	70				/	Br	
91BR1475	5000	04	20 Sand 70 Silt 10 Clay			/					/		B	40				/	Br	
91BR1475	5000	05	10 Gravel 40 Sand 50 Silt			/					/		B	40				/	Br	
91BR1475	5000	06	20 Sand 60 Silt 20 Clay			/					/		B	80				/	Br	
91BR1475	3000	07	20 Gravel 20 Sand 40 Silt 10 Clay 10 Org			/					/		B	70				/	Br	
91BR1475	5000	08	60 Sand 30 Silt 10 Clay			/					/		B	45				/	Br	
91BR1475	5000	09	50 Sand 40 Silt 10 Clay			/					/		B	55				/	Br	
91BR1475	5000	10	50 Sand 40 Silt 10 Clay			/					/		B	30				/	Br	
91BR1475	5000	11	20 Sand 70 Silt 10 Clay			/					/		B	40				/	Br	
91BR1475	5000	12	10 Gravel 30 Sand 50 Silt 10 Clay			/					/		B	40				/	Br	
91BR1475	5000	13	30 Sand 50 Silt 10 Clay 10 Org			/					/		B	50				/	Br	
91BR1475	5000	14	20 Gravel 20 Sand 40 Silt 20 Clay			/					/		B	30				/	Br	
91BR1475	5000	15	20 Gravel 20 Sand 30 Silt 20 Clay 10 Org			/					/		B	40				/	Br	
91BR1475	5000	16	10 Gravel 10 Sand 70 Silt 10 Clay			/					/		B	30				/	Br	
91BR1475	5000	17	20 Gravel 20 Sand 40 Silt 10 Clay 10 Org			/					/		B	75				/	Br	
91BR1475	5000	18	30 Gravel 10 Sand 50 Silt 10 Clay			/					/		B	40				/	Br	
91BR1475	5000	19	20 Gravel 20 Sand 40 Silt 20 Clay			/					/		B	70				/	Br	
91BR1475	5000	20	10 Gravel 50 Sand 40 Silt			/					/		B	60				/	Br	
91BR1475	5000	21	20 Gravel 20 Sand 50 Silt 10 Clay			/					/		B	50				/	Br	
91BR1475	5000	22	20 Gravel 25 Sand 40 Silt 10 Clay 5 Org			/					/		B	30				/	Br	
91BR1475	5000	23	10 Gravel 30 Sand 50 Silt 10 Clay			/					/		B	40				/	Br	
91BR1475	5000	24	10 Gravel 20 Sand 60 Silt 10 Clay			/					/		B	40				/	Br	
91BR1475	5000	25	10 Gravel 20 Sand 70 Silt			/					/		B	40				/	Br	
91BR1475	5000	26	20 Gravel 30 Sand 50 Silt 10 Clay			/					/		B	40				/	Br	



KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: 147 Westpride

Results Plotted By: PATTI WANKLING

Area (Grid): - Contouring at 4500

Map: N.T.S.: 104H/13W

Collectors: Patti W / Don C.

Date: Aug. 2/91

Sample Number	Sample Location		Notes	Topography			Vegetation						Soil Data						
	Elevation Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development	Parent	Material	Colour
9102147.5															Good	Poor	Drift	Bedrock	
	4500	01	10/10/30/40/10		N			/		/			B	20	✓			✓	HB
	4515	02	10/20/30/40/10		SE			/		/			B	25	✓			✓	HB
	4500	03	15/30/30/25/0		S			/		/			B	"	✓			✓	HB
	4400		N/S Talus Slope																
	4420		N/S "																
	4440		N/S "																
	4510	04	10/25/25/30/10		SW			/		/			B	30	✓			✓	HB
	4520	05	"		SW			/		/			B	30	✓			✓	LB
	4480	06	20/20/30/20/10		SW			/		/			B	20	✓			✓	HB
	4490	07	20/25/30/25/5		SW			/		/			B	25	✓			✓	HB
	4480	08	10/20/30/20/20		SW			/		/			B	20	✓			✓	RB
	4460	09	20/20/20/30/10		SW			/		/			B	25	✓			✓	HB
	4440	010	20/20/40/10/10		SW			/		/			B	25	✓			✓	"
	4480	011	20/20/20/20/20		SW			/		/			B	30	✓			✓	"
	4480	012	10/20/20/30/20		SW			/		/			B	25	✓			✓	"
	4480	013	20/20/20/20/20		W			/		/			B	20	✓			✓	"
	4460	014	10/25/35/20/10		W			/		/			B	25	✓			✓	"
	4460	015	30/10/30/30/10		N			/		/			B	35		✓		✓	LB
	4480	016	20/20/30/20/10		S			/		/			B	30	✓			✓	HB
	4470	017	20/10/20/40/10		S			/		/			B	30		✓		✓	OB
	4480	018	"		W			/		/			B	25	✓			✓	HB
	4500	019	40/10/30/0					/		/			A	25		✓		✓	OB
	4540	020	"		E			/		/			B	20	✓			✓	HB

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: Wapiti 147

Results Plotted By: \_\_\_\_\_

Area (Grid): Contouring at 5000

Map: \_\_\_\_\_ N.T.S.: \_\_\_\_\_

Collectors: Patti Wauking / DON C.

Date: Aug 3/91

Sample Number	Sample Location		Notes	Topography				Vegetation					Soil Data						
	Elevation Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sample	Horizon Development		Parent	Material	Colour
															Good	Poor			
91021475	5000	021	9/30/40/30/0			/	/	/					B	30	/		/	HB	
	5010	022	"			/	/	/					B	30	/		/	"	
	5060	023	10/30/30/30/0			/	/	/					B	20	/		/	"	
	5040	024	0 "			/	/	/					B	"	/		/	DB	
	5000	025	10/20/20/30/10			/	/	/					B	25	/		/	HB	
	"	026	10/30/30/20/10			/	/	/					B	20	/		/	"	
	"	027	10/30/40/20/10			/	/	/					B	25	/		/	"	
	"	028	10/20/30/30/10			/	/	/					B	20	/		/	"	
	"	029	"			/	/	/					B	"	/		/	"	
	"	030	10/20/40/20/10			/	/	/					B	25	/		/	"	
	5040	031	10/30/30/20/10			/	/	/					B	20	/		/	"	
	4980	032	"			/	/	/					B	25	/		/	LB	
	4980	033	"			/	/	/					B	20	/		/	HB	
	5000	034	10/30/40/20/0			/	/	/					B	30	/		/	"	
	4980	035	20/20/20/20/20			/	/	/					B	25	/		/	"	
	4940	036	10/30/40/20/10			/	/	/					B	20	/		/	"	
	4900	037	10/20/20/30/10			/	/	/					B	25	/		/	"	
	"		N/S																
	"		N/S																
	4900	038	10/20/40/20/10			/	/	/					B	25	/		/	HB	
	4980		N/S																
	5000	039	20/20/20/20/20			/	/	/					B	25	/		/	HB	
	5000	040	30/10/20/40/0			/	/	/					B	"	/		/	DB	
	"																		
	4980	041	10/20/30/30/10	E		/		/					B	"	/		/	HB	



KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Westpride 147

Results Plotted By: PATTI WANKLING

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 104 H/13W

Collectors: Patti W / Grant N

Date: Aug 11/91

Sample Number	Sample Location		Notes	Topography				Vegetation					Soil Data						
	Elevation Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Horizon Depth to Horizon Sample	Horizon Development	Parent	Material	Colour
91PW147S																			
	4980	S129	20/20/40/20/0		E					/			A	20	/	/	/	/	MB
	4980	S130	00/20/60/20		E					/			A	35	/	/	/	/	MB
	4910	S131	20/5/25/50/0		E					/			B	35	/	/	/	/	RB
	4840	S132	30/0/30/40/0		E			/		/			A	35	/	/	/	/	MB

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: 147 - WEST BRIDE

Results Plotted By: CAMERON THOMPSON

Area (Grid): CONTOUR

Map: \_\_\_\_\_ N.T.S.: 104H/13W

Collectors: CAM THOMPSON

Date: AUG 1991

Sample Number	Sample Location		Notes	Topography				Vegetation					Soil Data								
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample		Horizon Development		Parent	Material	Colour
															Good	Poor	Drill	Bedrock			
91CT142	-	S001	15cm coarse frags		N		✓				✓		B	8	✓					✓	GR
		S002	NLSIZED "	"	N		✓				✓		B	5	✓					✓	MB
		S003	1cm "	"	N		✓				✓		B	8	✓					✓	GR
		S004	1-5cm "	"	N		✓				✓		B	8	✓					✓	MB
		S005	1-10cm "	"	15°	NE		✓				✓		NB	15	✓				✓	MB
		S006	1-3cm "	"	EXPOSED	N		✓				✓		B	0	✓				✓	MB
		S007	1-4cm "	"		N		✓				✓		B	20	✓				✓	LR
		S008	1-2cm "	"	EXPOSED	N		✓				✓		B	0	✓				✓	MB
		S009	off	"		N		✓				✓		B	15	✓				✓	DR
		S010	1-5cm "	"		N		✓				✓		B	10	✓				✓	MB
		S011	1-7cm "	"		N		✓				✓		B	20	✓				✓	DR
		S012	1-5cm "	"		N		✓				✓		NB	20	✓				✓	DR
		S013	1-2cm "	"		N		✓				✓		B	0	✓				✓	LR
		S014	1cm "	"		N		✓				✓		B	15	✓				✓	DR
		S015	1-5cm "	"		N		✓				✓		B	15	✓				✓	DR
		S016	1-10cm "	"		N		✓				✓		B	20	✓				✓	MR
		S017	1-5cm "	"		15°	W		✓			✓		A/B	30	✓				✓	MR
		S018	1-5cm "	"		N		✓				✓		A/B	20	✓				✓	DR
		S019	0	"		N		✓				✓		B	25	✓				✓	DR
		S020	5-1cm "	"		N		✓				✓		B	20	✓				✓	DR
		S021	0	"		S		✓				✓		B	25	✓				✓	DR
		S022	ALLSIZED	"	"	N		✓				✓		B	25	✓				✓	DR
		S023	" SIZED	"	"	W		✓				✓		B	20	✓				✓	DR
		S024	5-30cm "	"	"	NW		✓				✓		B	20	✓				✓	DR
		S025	0	"	"	SW		✓				✓		B	20	✓				✓	DR
		S026	5-10cm "	"	"	10°	SW		✓			✓		B	15	✓				✓	DR
		S027	1-2cm "	"	"	10°	W		✓			✓		B	20	✓				✓	DR
		S028	1-5cm "	"	"	0°	W		✓			✓		B	25	✓				✓	DR
		S029	1-2cm "	"	"	5°	W		✓			✓		B	15	✓				✓	DR

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: 147 WEST PRIDE

Results Plotted By: CAMERON THOMPSON

Area (Grid): CAZOUR

Map: \_\_\_\_\_ N.T.S.: 104H/13W

Collectors: CAM THOMPSON

Date: AUG 1991

Sample Number	Sample Location		Notes	Topography						Vegetation					Soil Data							
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled		Depth to Horizon Sample		Horizon Development		Parent	Material	Colour
														Good	Poor	Good	Poor	Drill	Bedrock			
91CT147-	-	SO30	1-3 cm COARSE FRAGS	20°	W						✓		B	15	5	✓	✓		✓	MBD		
		SO31	1-5 cm " "		W						✓		B	15	5	✓	✓		✓	MBD		
		SO32	5-10 cm " "		N						✓		B	15	5	✓	✓		✓	MBD		
		SO33	" "	5°	N						✓		A/B	15	10	✓	✓		✓	MBD		
		SO34	1-2 cm " "	40°	S						✓		B	15	5	✓	✓		✓	MBD		
		SO35	2-5 cm " "		W						✓		B	15	5	✓	✓		✓	MBD		
		SO36	1-3 cm " "	80°	W						✓		B	15	10	✓	✓		✓	MBD		
		SO37	1-10 cm " "	5°	W						✓		A/B	15	5	✓	✓		✓	MBD		
		SO38	1-5 cm " "	5°	SW						✓		B	15	5	✓	✓		✓	MBD		

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: Westside 147  
 Area (Grid): Contour Sampling at 5000  
 Collectors: Patli Wankling

Results Plotted By: PATTI WANKLING  
 Map: \_\_\_\_\_ N.T.S.: 104 H/13W  
 Date: July 23/91

Sample Number	Sample Location		Notes	Topography							Vegetation					Soil Data				
	Elevation Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development		Parent	Material	Colour
																Good	Poor			
100m	5020	C1001	50A.F/30 org./20 sand		NE								A	35	/	/			DB	
200m	5060	C1002	30 grav./55 A.F./15 silt		NE								A	25	/	/			MB	
300m	5040	C1003	40 org./30 A.F./10 grav./20 silt		N								A	20	/	/			MB	
400m	5010	C1004	"				/						A	35	/	/			"	
500m	5000	C1005	30 A.F./10 org./40 grav./20 silt				/						B	30	/	/			MB	
600m	5015	C1006	40 org./30 silt/30 sand				/						A	35	/	/			DB	
700m	5010	C1007	10 org./40 silt/20 clay/15 grav./15 A.F.				/						B	30	/	/			DB	
800m	5015	C1008	40 A.F./40 grav./10 org./10 silt		S		/						B	20	/	/			MB	
900m	4980	C1009	40 org./30 A.F./20 sand/10 silt				/						B	30	/	/			MB	
1000m	4980	C10010	"				/						B	35	/	/			MB	
1100m	5000	C10011	20 org./30 silt/30 clay/20 A.F.		S		/						B	30	/	/			LB	
1200m	5010	C10012	10 org./30 silt/30 clay/15 A.F./15 sand		N		/						B	35	/	/			DB	
1300m	5010	C10013	40 A.F./30 grav./10 org./10 silt/10 clay		N		/						B	25	/	/			MB	
1400m	5040	C10014	40 sand/20 A.F./30 silt/10 org.				/						B	30	/	/			MB	
1500m	5050	C10015	10 org./20 silt/40 A.F./30 sand				/						B	25	/	/			MB	
1600m	5010	C10016	30 A.F./20 grav./20 silt/20 clay/10 org.				/						B	30	/	/			MB	
1700m	5000	C10017	40 org./20 A.F./30 sand/10 silt		N		/						A	20	/	/			MB	
1800m	5000	C10018	N/S TILLS		N		/								/	/				
1900m	5010	C10019	20 silt/40 A.F./30 sand/10 org.		N		/						B	25	/	/			MB	
2000m	4940	C10020	30 org./40 A.F./20 sand/10 silt		N		/						A	25	/	/			MB	
2100m	4960	C10021	30 silt/20 clay/10 org./20 A.F./20 sand		N		/						B	30	/	/			DB	
2200m	5000	C10022	N/S TILLS				/								/	/				
2300m	5000	C10023	20 org./30 silt/20 A.F./30 sand				/						B	30	/	/			DB	
2400m	5010	C10024	20 org./30 sand/20 silt/30 A.F.				/						A	25	/	/			DB	
2500m	5010	C10025	30 sand/30 A.F./20 org./20 silt				/						B	35	/	/			LB	
2600m	5000	C10026	"				/						B	35	/	/			LB	
2700m	5000	C10027	20 clay/30 silt/10 org./25 sand/15 A.F.				/						B	30	/	/			DB	
2800m	5000	C10028	60 org./20 silt/10 A.F./10 sand		N		/						A	30	/	/			MB	
2900m	4960	C10029	60 grav./15 A.F./10 org./15 silt		N		/						A	40	/	/			MB	





# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: 147 west pride

Results Plotted By: MIKE BROWN

Area (Grid): \_\_\_\_\_

Map: EALUE LAKE N.T.S.: 104H/13W

Collectors: Michael Brown

Date: August 2nd/91

Sample Number	Sample Location		Notes	Topography							Vegetation					Soil Data				
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample Cm	Horizon Development		Parent	Material	Colour
																Good	Poor			
001		0m	25% S.A.F. - SSC		W								B	20	✓		✓		BR	
002		100m	25% S.A.F. - SSC												✓		✓			
003		200m	60% SSC - 25% A.F. - 15% organics												✓		✓			
004		300m	10% A.F. - SSC												✓		✓			
005		400m	10% A.F. - SSC		↓										✓		✓		↓	
006		500m	20% A.F. - SSC		W								↓	↓	✓		✓		BR	
007		600m	50% A.F. - SSC		S								B	20		✓	✓	↓	BR	
008		644m	91-MB-147-L-008 - 1.5m x 4"																	
009		700m	15% A.F. - SSC		W								B	20	✓		✓		BR	
010		800m	50% A.F. - SSC		S										✓		✓			
011		900m	25% A.F. - SSC		S										✓		✓			
013		1000m	SSC		W								↓	↓	✓		✓			
014		1100m	10% A.F. - SSC										B	20	✓		✓			
015		1200m	25% A.F. - SSC		↓									10		✓	✓		↓	
016		1300m	25% A.F. - SSC		W									15	✓		✓		BR	
		1400m	NO Sample - No soil																	
017		1500m	75% A.F. - 25% SSC		S								A	10		✓	✓		BR	
018		1555m	91-MB-147-L-018 - stream .5m x 2"																	
019		1600m	25% A.F. - SSC		N								B	20	✓		✓		BR	
020		1700m			W										✓		✓			
021		1800m													✓		✓			
022		1900m													✓		✓			
023		2000m			↓								↓	↓	✓		✓		↓	
024		2100m	25% A.F. - SSC		W								B	20	✓		✓		BR	
025.A.		2164m	91-MB-147-L-025 stream 1' x 1"																	
		2200m	NO sample Tallus																	
025.B.		2300m			S								B	20	✓		✓		BR	
026		2300m	stream 91-MB-147-L-026																	
027		2400m	30% A.F.		W								B	20	✓		✓		BR	



# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: West Pride 147

Results Plotted By: MIKE BROWN

Area (Grid): \_\_\_\_\_

Map: EALUE LAKE N.T.S.: 104H/13W

Collectors: Michael Brown

Date: August/3rd/01

Sample Number	Sample Location		Notes	Topography			Vegetation					Soil Data								
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample Cm	Horizon Good	Horizon Poor	Parent Drift	Material Bedrock	Colour
033		0m	91-MB-147-L-033 silt																	
034		0m	25% AF - SSC		E						moss		B	30	✓	✓	✓			4BR
035		100m	40% AF - SSC		E									40	✓	✓	✓			BR
036		200m	25% AF - SSC		E						↓		↓	40	✓	✓	✓			BR
037		300m	40% AF SSC		E						moss		B	20	✓	✓	✓			4BR
		400m	No Sample - Tallus																	
038		500m	20% AF 10% organic - SSC 5050ft		S						moss		B	25						BR
039		600m	60% AF - 10% organic - SSC 5040ft		S						scrub		B	20						4BR
040		700m	Tallus at base SSC 5050ft		SE						0%		A	0						BR
041		800m	SSC		E						scrub		B	20						BR
042		900m	15% AF - 15% organic SSC		E									20						
043		1000m	25% AF - 15% organic SSC		SE									20						
044		1100m	25% AF - 15% organic SSC 5050ft		SE									30	✓					
045		1200m	25% AF 15% organic SSC		SE									30	✓					
046		1300m	25% AF - 25% organic SSC 5100ft		SE									20	✓					
047		1400m	25% AF - 25% organic SSC 5100ft		S									20	✓					
048		1500m	15% AF - 5% organic SSC 4850ft		SE									30	✓					
049		1600m	15% AF 5% organic SSC		E						↓		↓	20	✓					↓
050		1700m	15% AF 5% organic SSC		N						scrub		B	25	✓					BR
051		1775m	stream 91-MB-147-L-051 5050ft																	
052		1800m	10% AF - SSC		S						grass		B	20	✓					BR
053		1900m	25% AF - 10% organic - SSC		S									20	✓					
054		2000m	15% AF - 25% organic - SSC		SE									20	✓					
055		2100m	15% AF - 25% organic - SSC		SE								↓	20	✓					↓
056		2200m	25% AF - 10% organic - SSC		SE						grass		B	20	✓					BR
057		2210m	stream 91-MB-147-L-057																	
058		2300m			SW						scrub		B	30	✓					BR
		2400m	No Sample Tallus																	
059		2500m			SW						scrub		A	10	✓					BR



# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: 147 West park

Results Plotted By: JASON MILLER

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 104H/13W

Collectors: Patti Hawking / Jason Miller

Date: July 24/91

Sample Number	Sample Location		Notes	Topography					Vegetation					Soil Data						
	Elevation Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development		Parent	Material	Colour
																Good	Poor			
CL001	4040	CL001	10/30/40/20/0	S			/						B	30	/				MB	
CL002	4000	200	10/20/20/30/30	S			/						B	20	/				MB	
CL003	4010	300	0/30/30/40/0	SW			/						B	30	/				LB	
CL004	4010	400	15/65/15/5/0	SE			/						A	25	/				MB	
CL005	4010	500	5/50/25/10/5	SE			/						B	40	/				MB	
CL006	4015	600	10/50/30/10/0	E			/						B	20	/				MB	
CL007	4045	700	5/25/50/25/0	E			/						B	30	/				MB	
CL008	4080	800	10/30/40/20/0	E			/						B	30	/				MB	
CL009	4060	900	5/20/60/15	S			/						B	25	/				MB	
CL010	4065	1000	2/90/6/0/4	E			/						A	25	/				MB	
CL011	4060	1100	0/50/20/30/0	E			/						B	20	/				MB	
CL012	4080	1200	0/10/30/10/0	E			/						B	25	/				MB	
CL013	4000	1300	15/25/45/50/10	E			/						B	25	/				MB	
CL014	4000	1400	10/30/10/15/15	E			/						B	20	/				LB	
CL015	4020	1500	10/30/40/20/0	E			/						B	30	/				MB	
CL016	4000	1600	10/30/50/10/0	E			/						B	35	/				MB	
CL017	4010	1700	10/40/40/0/0	E			/						A	30	/				MB	
CL018	4000	1800	" " " " "	E			/						A	25	/				MB	
CL019	3980	1900	10/30/40/10/10	S			/						B	30	/				LB	
CL020	3980	2000	10/40/40/10/0	E			/						A	25	/				MB	

Field Book

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: 147

Results Plotted By: DAVE O' (D.O)

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 104H/13W

Collectors: FRANCIS DUFFY / DAVE O' / (JM)

Date: 9-07-25

Sample Number	Sample Location		Notes	Topography				Vegetation					Soil Data							
	Denotation Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development		Parent Material		Colour
																Good	Poor	Drift	Bedrock	
41JM 147	4000	021	ANG 10/40/10/20/20		SW								B	15	✓			✓	MB	
	4000	022	ANG 10/40/10/30/10		S								B	15	✓			✓	LB	
	4000	023	ANG 20/40/10/25/5		SE								B	15	✓			✓	LB	
	3960	024	ANG 20/30/10/30/10		E								B	20	✓			✓	MB	
	4000	025	ANG 20/40/10/20/10		SE								B	30	✓			✓	LB	
	4020	026	ANG 10/50/5/35/10		S								B/C	15		✓		✓	MB	
	4000	027	ANG 5/30/10/30/25		SE								B	20	✓			✓	LB	
	4000	028	ANG 10/50/5/25/10		E								C	20		✓		✓	DB	
			NO SAMPLE ROCK																	
			NO SAMPLE ROCK																	
	4020	029	ANG 5/50/10/30/15		70°								MB/C	10		✓		✓	DB	
	4000	030	ANG 5/30/0/50/15		70°								B	15	✓			✓	LB	
	3980	031	ANG 10/20/10/50/10		90°								B	20	✓			✓	LB	
	3980	032	ANG 20/20/0/50/10		E								B	30	✓			✓	MB	
	4000	033	ANG 10/40/20/25/5		E								B	30	✓			✓	MB	
	4040	034	ANG 20/40/10/20/10		E								B	35	✓			✓	MB	
	4000	035	ANG 10/20/20/40/10		E								B	10	✓			✓	V	
	3960	036	ANG 5/10/5/50/30		E								B	30	✓			✓	LB	
			NO SAMPLE																	
	4000	037	ANG 10/20/10/40/20		E								B	10	✓			✓	LB	

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: 147 - Westpride

Results Plotted By: P. WANKLING

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 104H/13W

Collectors: Path Wankling / Dave O'Brien

Date: July 28/91

Sample Number	Sample Location		Notes <i>organic/gravel/sand/silt/clay</i>	Topography							Vegetation					Soil Data				
	Elevation Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development		Parent	Material	Colour
																Good	Poor			
* 100m From Creek	91Rw 147S																			
100m	4080	062	10/20/30/20/20		SE								BK	20	/					LB
200m	4060	063	10/20/20/20/30		NW								BK	25	/					LB
300m	4050	064	" "		SW								BK	25	/					LB
400m	4020	065	20/10/30/30/10		SW								B	20	/					LB
500m	4010	066	20/20/20/20/20		SW								B	20	/					LB
600m	4010	067	20/20/30/20/10		S								B	25	/					LB
700m	4040	068	10/20/20/20/20		S								B	30	/					LB
800m	4040	069	5/10/10/40/35		S								B	40	/					LB
900m	4060	070	" "		S								B	40	/					LB
1000m	4060	071	5/20/15/30/30		SE								B	30	/					LB
1100m	4040	072	5/25/10/30/20		SE								B	40	/					grey
1200m	4040	073	5/10/15/30/50		NE								B	30	/					OB
1300m	4060	074	5/10/15/20/30		S								B	35	/					MB
1400m	4020	075	10/30/20/20/20		S								B	40	/					OB
1500m	4010	076	10/10/30/10/10		NW								B	40	/					grey
1600m	4000	077	10/40/20/25/10		NW								B	40	/					LB
1700m	4010	078	10/30/20/30/10		WNW								B	30	/					OB
1800m	4080	079	5/50/15/20/10		W								B	35	/					MB
1900m	4100	080	10/50/20/10/10		SW								C	35	/					LB
2000m	4100	081	0/10/40/30/10/10		NW								B	45	/					MB
2100m	4120	082	5/25/20/20/30		SW								B	25	/					MB
2200m	4110	083	10/70/10/10/10		SW								C	20	/					LB
2300m	4140	084	10/40/30/10/10		S								BK	20	/					RB
2400m	4110	085	10/40/20/20/10		S								B	25	/					MB





# KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: WEST PRIDE 147

Results Plotted By: G. NAGY

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 104H/13W

Collectors: Grant Nagy / Dove O'Brian

Date: July 27/91

Sample Number	Sample Location		Notes	Topography							Vegetation					Soil Data				
	elev. Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grossland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development		Parent	Material	Colour
																Good	Poor			
91-01-147S	4000	054	10 org 30 sand 40 silt 20 gravel		S								B	40	✓			✓	LB	
	3990	055	5 / 30 / 65 /		E									35	✓			✓	MB	
	4000	056	10 / 50 / 40		E									35	✓			✓	MB	
	4005	057	10 / 20 / 70		E									40	✓			✓	MB	
	4010	058	20 / 50 / 30		E									35	✓			✓	RB	
	4020	059	20 / 60 / 20		E									40	✓			✓	RB	
	4030	060	10 / 60 / 30		E									40	✓			✓	MB	
	4005	061	10 / 30 / 20 / 40 clay		E									45	✓			✓	RB	
	4000	062	20 / 30 / 50		E									35	✓			✓	RB	
	4000	063	20 / 40 / 40		E									35	✓			✓	RB	
	4000	064	20 / 20 / 60											45	✓			✓	RB	
	4000	065	20 / 30 / 45											45	✓			✓	RB	
	4010	066	20 / 40 / 40											40	✓			✓	RB	
	4000	067	20 / 50 / 30											45	✓			✓	RB	
	4000	068	10 / 30 / 60											50	✓			✓	RB	
	4000	069	10 / 20 / 70											35	✓			✓	RB	
	4010	070	20 / 20 / 50 / 10 clay											40	✓			✓	RB	
	4010	071	20 / 20 / 60											35	✓			✓	RB	
	4000	072	20 / 40 / 20 / 20 chr											35		✓		✓	BLK	
	4000	073	30 / 20 / 30 / 20 ✓														✓	✓	RB	
	4000	074	N/S OUT CROP cut at 2096m											45	✓			✓	RB	
	4000	075	10 org 20 sand 70 silt																	
		P.O.L.																		

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: 147

Results Plotted By: D. O'BRIEN.

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 104H/13W

Collectors: FRANÇOIS DEPRET & DAVE O'BRIAN -> DO

Date: 9/07/24

Sample Number	Sample Location		Notes	Topography							Vegetation					Soil Data				
	elevation -line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development	Parent	Material	Colour	
	Good	Poor	Drill	Bedrock																
91 DO 147	NS	NS	NO SOIL available																	
	4000	036	ANG 20/50/10/10/10	20°									B/C	15	✓			✓	MB	
	3940	037	SUB ROUND 5/40/5/25/25	E									B	20	✓			✓	MB	
	3980	038	ANG/SUB ANG 5/30/10/25/20	E									B	30	✓			✓	MB	
	4000	039	SUB ROUND 5/20/5/40/20	E									B	20	✓			✓	MB	
	4020	040	SUB ROUND 10/50/5/20/15	E									B	30	✓	✓	✓	MB		
	4000	041	SUB ANG 10/10/10/40/30	E									B	30	✓		✓	LB		
		NS	NO SILT available																	
	3950	042	SUB ANG 10/30/10/30/20	E									B	25	✓		✓	LB		
	3970	043	ANG 5/20/25/25/25	E									B	20	✓		✓	LB		
	4020	044	ANG/SUB ANG 20/20/5/20/5	E									B	20	✓		✓	MB		
	4040	045	SUB ROUND 10/30/10/25/25	E									B	20	✓		✓	MB		
	4020	046	SUB ANG 10/10/15/45/30	E									B	30	✓		✓	LB		
	4020	047	ANG 0/10/20/35/35	70°									B	25	✓		✓	MB		
	4030	048	SUB ANG 5/10/20/35/30	70°									B	30	✓		✓	LB		
	4080	049	SUB ANG 10/50/10/15/15	55°									B	40	✓	✓	✓	LB		
	4000	050	SUB ANG 5/20/20/25/30	55°									B	30	✓		✓	MB		
	4020	051	ANG 5/10/25/30/30	E									B	15	✓		✓	MB		
	4060	052	ANG 5/30/10/30/25	E									B	30	✓		✓	LB		
	4020	053	ANG 5/10/10/35/40	35°									B	30	✓		✓	Grey MB		
	4020	054	ANG 5/15/10/30/30	35°									B	35	✓		✓	MB		

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: West Pride 147  
 Area (Grid): OLD TRENCH - GRID  
 Collectors: Patti Wankling

Results Plotted By: D. MEHNER  
 Map: 1:2000 GRID N.T.S.: 104H/13W  
 Date: Aug. 18/91

Sample Number	Sample Location		Notes	Topography				Vegetation					Soil Data								
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Good	Horizon Poor	Horizon Development	Parent	Bedrock	Material
91DW147S	100W	00N	20/10/30/40/0		NW								B	25	/	/	/				MB
		20N	"		"								B	30	/	/	/				MB
		40N	30/10/20/40/0		"								A	35	/	/	/				MB
		60N	N.S.		"										/	/	/				
		80N	50/0/20/30/0		"								A	35	/	/	/				MB
		100N	"		"								A	25	/	/	/				MB
		120N	10/40/40/0/0		"								A	30	/	/	/				LB
		140N	30/20/20/30/0		"								A	35	/	/	/				DB
		20S	20/20/30/30/0		"								A	30	/	/	/				"
		40S	"		"								A	40	/	/	/				"
		60S	20/20/20/30/0		"								B	30	/	/	/				MB
		80S	20/20/30/30/0		"								B	30	/	/	/				MB
		100S	10/30/40/20/0		"								A	40	/	/	/				MB
		120S	N.S.		"										/	/	/				
		140S	60/0/20/ack		"								A	35	/	/	/				LB
	00W	00N	N.S. TALUS																		
		20N	40/20/30/0		NW								A	35	/	/	/				MB
		40N	0/30/60/0/0		"								A	35	/	/	/				LB
		60N	10/20/40/30/0		"								A	35	/	/	/				MB
		80N	30/20/30/20/0		"								A	20	/	/	/				MB
		100N	35/20/35/10/0		"								A	25	/	/	/				MB
		120N	"		"								A	30	/	/	/				LB
		140N	20/20/30/30/0		"								A	30	/	/	/				LB
		20S	10/20/20/40/0		"								B	30	/	/	/				LB
		40S	30/10/30/30/0		"								A	25	/	/	/				MB
		60S	10/30/50/10/0		"								A	20	/	/	/				MB
		80S	10/40/50/0/0		"								A	25	/	/	/				MB
		100S	"		"										/	/	/				MB



# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: WEST PRIDE GRID

Area (Grid): OLD TRENCH - GRID

Collectors: Patti / GRANT

Results Plotted By: D. MEHNER

Map: 1:2000 GRID N.T.S.: 104H/13W

Date: AUG. 18/91

Sample Number	Sample Location		Notes	Topography				Vegetation					Soil Data							
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grossland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Good	Horizon Poor	Percent	Molecular	Colour
L200W	140S		10 ORG 40 SILT 50 SAND		NW			✓					B	30	✓				✓	RE
BZ	220W		10 40 40 10 GR	✓									B	35	✓				✓	DE
	240W		30 30 10	✓									A	30		✓			✓	RE
	260W		10 40 30 20	✓									B	35	✓				✓	RE
	280W		10 50 30 10	✓									✓	30	✓				✓	RE
	120W		10 40 20 30	✓									A	25	✓				✓	RE
	140W		20 60	✓									✓	30		✓			✓	RE
	160W		25 75	✓									✓	35		✓			✓	RE
	180W		20 60 20	✓									B	35		✓			✓	RE
	80W		20 40 20 20 CLAY	✓									✓	35	✓				✓	RE
	60W		20 40 30 10	✓									A	35	✓				✓	RE
	40W		25 50 25	✓									B	30		✓			✓	RE
	20W		15 40 20 15 10 CLAY	✓									B	30	✓				✓	RE

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: WEST PRIDE GRID  
 Area (Grid): OLD TRENCH GRID  
 Collectors: Patti / GRANT

Results Plotted By: D. MEHNER  
 Map: 1:2000 GRID N.T.S.: 104H/13W  
 Date: AUG 18/91

Sample Number	Sample Location		* 20M STATIONS  Notes	Topography				Vegetation					Soil Data				Colour		
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grossland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Good		Horizon Develop-ment	Parent
L-300W	00N		20 ORG 40 SILT 20 SAND 20 GRUL		NW								B	30	✓			✓	LB
	20N		30 60 10		✓								✓		✓			✓	DB
	40N		10 60 30		✓					✓			✓		✓			✓	RB
	60N		20 80		✓								A		✓			✓	✓
	80N		20 40 20 20		✓								✓		✓			✓	RB
	100N		20 20 40 20		✓								✓		✓			✓	✓
	120N		N/S OUT CROP																
	140N		N/S OUT CROP																
	20S		20 40 40		✓								B	40	✓	✓		✓	RB
	40S		20 50 30		✓					✓			A	35	✓			✓	LB
	60S		30 30 10 30		✓								✓	✓	✓			✓	✓
	80S		20 40 30 10		✓								✓	30	✓			✓	DB
	100S		10 30 60		✓					✓			B	35	✓			✓	LB
	120S		10 40 40 10		✓								✓	✓	✓			✓	RB
	140S		N/S OUT CROP																
L-200W	00N		20 70 10		✓								A	40	✓	✓		✓	DB
	20N		20 40 20 20		✓					✓			✓	✓	✓			✓	✓
	40N		40 60		✓								✓	✓	✓			✓	RB
	60N		60 40		✓					✓			✓	45	✓			✓	✓
	80N		30 40 30		✓								✓	40	✓			✓	DB
	100N		20 40 30 10		✓								✓	✓	✓			✓	✓
	120N		20 40 40		✓								B	30	✓			✓	RB
	140N		50 50		✓								A	35	✓	✓		✓	DB
	20S		10 50 40		✓								B	30	✓			✓	✓
	40S		20 60 20		✓					✓			A	35	✓			✓	✓
	60S		20 70 10		✓					✓			✓	✓	✓			✓	✓
	80S		20 80		✓								✓	30	✓			✓	✓
	100S		20 50 30		✓					✓			✓	✓	✓			✓	RB
	120S		10 50 40		✓					✓			B	✓	✓			✓	✓

# KEEWATIN ENGINEERING INC.

## SOIL SAMPLES

Project: 147 WEST PRIDE.

Results Plotted By: GRANT NAGY.

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 104H/13W

Collectors: Grant / Jason

Date: July 1991

Sample Number	Sample Location		Notes	Topography			Vegetation					Soil Data									
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grossland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Good	Horizon Development	Parent	Material	Colour	
91-147-S	Trench 3	A	30 org 70 silt										A	5		✓		✓	DB		
		B	10 " 90 ✓										B	12	✓			✓	RB		
		C	20 frag - 30 sand - 50 silt											C	8-10	✓			✓	RB	
	Trench 4	A	10 org 40 silt										A	20		✓		✓	DB		
		B	10 clay 40 silt - 50 sand - 30 gravel											B	25	✓			✓	RB	
		C	20 ✓ - 20 ✓ - 40 ✓ - 20 frag											C	50	✓			✓	RB	
Test Pit	T.P. 1	4880' elev.	A	30 org 70 silt									A	8		✓		✓	DB		
			B	20 frag 10 org 50 silt - 20 gravel											B	12		✓		✓	DB
	T.P. 2	4820' elev.	A	20 org 50 silt 20 sand 10 clay									A	10		✓		✓	DB		
			B	10 " - 40 " - 10 " - 40 frag											B	15	✓			✓	RB
			C	20 clay - 10 " - 10 " - 60 ✓											C	25	✓			✓	LB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: 147 WEST PRIDE  
 Area (Grid): \_\_\_\_\_  
 Collectors: Grant / Jason

Results Plotted By: GRANT NAGY  
 Map: \_\_\_\_\_ N.T.S.: 104H/13W  
 Date: July 1991

Sample Number	Sample Location		Notes	Topography							Vegetation					Soil Data				
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon		Percent	Material	Colour
																Good	Poor			
91-GP-117	F.P. 9 Trench 9	A-1	30 org 50 silt 20 sand										A	15		✓	✓	DB		
		B-1	10 " 10 org 60 sand 10 gravel 10 clay										B	16	✓		✓	LB		
		B-2	20 ✓ 40 ✓ 20 ✓ 20 ✓											B	10	✓		✓	LB	
		C-1	30 ✓ 40 ✓ 10 ✓ 20 ✓											C	7	✓		✓	LB	
Trench 8	A	50 org 50 silt											A	13		✓	✓	BLK		
	B	10 org 20 silt 10 frag 60 sand											B	10	✓		✓	MB		
	C	20 frag 10 clay 40 sand 20 gravel 10 silt											C	30	✓		✓	RB		
Trench 7	A	20 org 70 silt 10 gravel											A	6		✓	✓	DB		
	B	10 ✓ 40 ✓ 10 gravel 20 sand 10 frag											B	6	✓		✓	LB		
	C	50 org 30 frag 30 sand 25 silt 5 gravel											C	10	✓		✓	LB		
Trench 6	A	40 org 40 silt 10 sand 10 gravel											A	7		✓	✓	LB		
	B	20 ✓ 40 ✓ 20 ✓ 20 frag											B	14		✓	✓	LB		
	C	80 silt 10 frag 10 sand											C	4		✓	✓	RB		
Trench 2	A	50 org 50 silt											A	8		✓	✓	DB		
	B	10 ✓ 40 ✓ 10 gravel 40 frag											B	10		✓	✓	DB		
Trench 5	A	2-5cm Bedrock Below	N/S													✓	✓	BLK		
Trench 1	A	40 org 60 silt											A	15		✓	✓	LB		
	B1	10 org 40 silt 50 frag											B	12		✓	✓	LB		
	B2	30 silt 40 clay 10 frag 20 sand											B	6		✓	✓	RB		
	C	50 clay 30 sand 20 frag											C	2-5		✓	✓	LB		



KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: RAILWAY-ZETU #147

Results Plotted By: D. MEHNER

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 104H/13W

Collectors: D. MEHNER / B. RICHARDSON

Date: JULY 16, 1991

Sample Number	Sample Location		Notes	Topography				Vegetation				Soil Data										
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grossland/ PLANE	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Good	Horizon Development	Percent	Material	Colour		
91-DM-	147S -	AP1	TEST (mass roots 15% ang. nbs < 7cm 30% nbs < 3cm, 5% roots, "sand" PIT 15% nbs < 3cm, 5% roots DM-1 grey to grey black, 80% nbs < 2cm 25% clay, 15-20% nbs < 6cm, 30% sand 10% nbs < 4cm, 20% clay, 20% sand 80% nbs < 1/2 cm	N							✓		A	20	✓				✓	BL		
		BP1		TEST	N							✓		B	30		✓			✓	RB	
		CP1		PIT	N							✓		C	45	✓				✓	BG	
		CP1		DM-1	N							✓		C	60	✓				✓	GBL	
		CP1			N							✓		C	82	✓				✓	BR	
		CP1			N							✓		C	113	✓				✓	BR	
		CP1			N							✓		C	143	✓				✓	BR	
		AP2		TEST	E								✓		A	14	✓				✓	
		BP2		PIT	E								✓		B	9		✓			✓	GR
		CP2		DM-2	E								✓		C	33	✓				✓	GB
AP3	TEST	E								✓		A	19	✓				✓				
CP3	PIT	E								✓		C	61	✓				✓				
			DM-3																			

BL = BLACK  
 RB = Red Brown  
 BG = Brown-grey

GBL = grey-black  
 BR = Brown  
 GR = grey

**Silt Sample Descriptions**

# KEEWATIN ENGINEERING INC.

## STREAM SEDIMENTS

Project: 147 - West Pride

Results Plotted By: Dave O'Brien

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 104H/13W

Collectors: DL

Date: July 20 - 1991

Sample Number	NOTES	SEDIMENT DATA					STREAM DATA					SPRING	DRY GULLY					
		Gravel	Sand	Silt	Clay	Organic	Bank	Active	Width	Depth	Velocity							
L900	4500' elev of Creek south of Ishat's tip	40	30	30		mod.		✓	2-8'	12"	Mod							*
L901	4500' elev	20	40	40		little		✓	2-8'	6"	"							*
L903	@ 9100-147 S002	70	20	10		"		✓	8-20'	12"	"							*
L904	@ 9100 147 S005 + 53m	40	20	20		mix		✓	2'	4"	slow							*
L905	@ 9100 147 S007 + 88m	80	10	10		"		✓	2-8'	10"	mod							*
L906	@ " S016 + 70m	50	30	20		"		✓	2-8'	6"	"							*
L908	@ " S031 + 70m	70	20	10		high		✓	2'	2"	"							*
L909	@ 91 " S036	50	30	20		low		✓	2-8'	12"	"							
L910	@ 91 JM S051 + 70m	60	20	20		mix	✓		2'	4"	fast							
L911	@ JM S060 + 67m	0	20	80		very high		✓	2'	4"	"							organic ooze.
L912	@ JM S065 + 80m	30	30	20		low		✓	2-8'	12"	mod							
L913	JM S074	70	20	10		mix		✓	2-8'	16"	"							
L916	PW S062	50	30	20		mod.		✓	2-8'	12"	"							
L917	PW S075 + 60m	60	20	20		low		✓	2-8'	6"	"							
* - SAMPLES DENOTED BY ASTERIK WERE DESTROYED IN FIRE AT MIN-EN LABS																		

# KEEWATIN ENGINEERING INC.

## STREAM SEDIMENTS

Project: Westpride 147

Results Plotted By: G. NAGY

Area (Grid): \_\_\_\_\_

Map: \_\_\_\_\_ N.T.S.: 104H/13W

Collectors: Patti W/ Grant Nagy

Date: July 29/91

Sample Number	NOTES	SEDIMENT DATA					STREAM DATA					SPRING	DRY GULLY					
		Gravel	Sand	Silt	Clay	Organic	Bank	Active	Width	Depth	Velocity							
0930	Gray, cr. Slows on Bedrock	10	40	40		10	✓	2-8'	5-10cm	M								
0931	" "	20	30	30		20	✓	"	"	"								
0932	" "	30	30	35		5	✓	2'	5-15cm	M								
0933	" "	60	30	10			✓	2'	10cm	M								
0934	" "	10	30	20		40	✓	"	10-15	M								
0935	" "	30	40	20		10	✓	"	10-20	"								
0936	" "	10	20	70			✓	"	5-15	✓								
0937	→ 91GN147L Gray, mixed, cr. Gausson Bedrock	50	30	20			✓	"	5-10	M								
0938	" "	25	25	30		20	✓	"	"	M								
91-GN-147-L-007	4500ft ASL; heavy vegetation; large ang. bldrs						steep	✓	8-10'	10/25 MOD								
91-GN-147-L-008	4480 ft ASL / 469m - 2nd drainage; dense veg; ang. bldrs; dry creek @ 855m (4526 ft ASL). E/W claim line @ STN. 1200N	50		20		30		✓	2-4'	5-15	slow							
91-GN-147-L-009	4380 ft ASL - 1970m; dead fall; silt; dense veg; ang bldrs.	30	10	30		30	STEEP	✓	5-9'	5/20	MOD							
91-GN-147-L-010	elev 4780 ft ASL; heavy veg; ang bldrs	10	30	50		10	MOD	✓	0.5'	5-20	MOD							



# KEEWATIN ENGINEERING INC.

Project: WESTSIDE - RAILWAY - ZETU CREEK  
 Area (Grid): \_\_\_\_\_  
 Collectors: DAVE O'BRIAN

## STREAM SEDIMENTS

Results Plotted By: DAVE O'BRIAN  
 Map: \_\_\_\_\_ N.T.S.: 1044/13W  
 Date: AUG 1991

Sample Number	NOTES	SEDIMENT DATA					STREAM DATA					SPRING	DRY GULLY				
		Gravel	Sand	Silt	Clay	Organic	Bank	Active	Width M	Depth M	Velo- city						
L-1370	east fork of Zetu Creek; 4500 ft ASL																
L-1371	west fork of Zetu Creek; 4500 ft ASL																
L-1372	4500 ft ASL; 1590 M south of 1371																
L-1373	4500 ft ASL @ 400 M SSW of 1372																
951	4630 ft ASL; 1760 M northwest of Railway 1#7 LCP; seems very "organic"	5		95				✓	0.7	4	MOD						
952	4670 ft ASL; 2230 M northwest of Railway 1#7 LCP.	10	40	50				✓	1.5	4	MOD.						
953	3980 ft ASL; 1850 M south of Railway 2-6 LCP		20	80				✓	0.5	10	MOD.						
954	4000 ft ASL; 1490 M north of Railway 1#7 LCP.		10	90				✓	0.7	2	MOD						
955	4000 ft ASL; 1490 M north of Railway 1#7 LCP.		20	60	20			✓	0.7	25	MOD						
956	4050 ft ASL; 1370 M NNE of Railway 1#7 LCP.	10	30	30	30			✓	0.7	10	MOD						



**APPENDIX V**

**Rock/Soil/Silt Sample Results**



**Rock Sample Results**













**MIN  
• EN  
LABORATORIES**  
(DIVISION OF ASSAYERS CORP.)

**SPECIALISTS IN MINERAL ENVIRONMENTS**  
CHEMISTS • ASSAYERS • ANALYSTS • GEOCHEMISTS

**VANCOUVER OFFICE:**  
705 WEST 15TH STREET  
NORTH VANCOUVER, B.C. CANADA V7M 1T2  
TELEPHONE (604) 980-5814 OR (604) 988-4524  
FAX (604) 980-9621

**SMITHERS LAB.:**  
3176 TATLOW ROAD  
SMITHERS, B.C. CANADA V0J 2N0  
TELEPHONE (604) 847-3004  
FAX (604) 847-3005

Assay Certificate

1S-0208-RA1

Company: **KEEWATIN ENGRG.**  
Project: 147 WESTPRIDE  
Attn: B.WHELAN/D.MEHNER

Date: JUL-26-91

Copy 1. KEEWATIN ENGRG., VANCOUVER, B.C.  
2. KEEWATIN ENGRG., C/O SMITHERS EXP.  
3. KEEWATIN ENGRG., C/O MIN-EN LABS.

*We hereby certify* the following Assay of 2 ROCK samples  
submitted JUL-22-91 by D.MEHNER.

Sample Number	*AU g/tonne	*AU oz/ton
91-GN-147 R003	1.69	.049
91-JM-147 R007	.98	.029

\*AU - 1 ASSAY TON.

Certified by \_\_\_\_\_

MIN-EN LABORATORIES



**MIN  
• EN  
LABORATORIES**  
(DIVISION OF ASSAYERS CORP.)

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**SMITHERS LAB.:**  
3176 TATLOW ROAD  
SMITHERS, B.C. CANADA V0J 2N0  
TELEPHONE (604) 847-3004  
FAX (604) 847-3005

Assay Certificate

1S-0170-RA1

Company: **KEEWATIN ENGRG.**  
Project: 147 WESTPRIDE  
Attn: B. WHELAN/D. MEHNER

Date: JUL-23-91

- Copy 1. KEEWATIN ENGRG., VANCOUVER, B.C.  
2. KEEWATIN ENGRG., C/O SMITHERS EXP.  
3. KEEWATIN ENGRG., C/O MIN-EN LABS.

*We hereby certify* the following Assay of 1 ROCK samples  
submitted JUL-19-91 by D.MEHNER.

Sample Number	*AU g/tonne	*AU oz/ton
91 DM 147 R 001	1.62	.047

\*AU - 1 ASSAY TON.

Certified by   
MIN-EN LABORATORIES



**Soil Sample Results**

COMP: KEEWATIN ENGRG.  
 PROJ: WESTPRIDE 147  
 ATTN: B.WHELAN/E.OLFERT

**MIN-EN LABS — ICP REPORT**  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 OR (604)988-4524

FILE NO: 1S-0456-SJ2+3  
 DATE: 91/08/21  
 • SOIL • (ACT:F31)

SAMPLE NUMBER	AU-FIRE PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM
91 PW 147 S 100	2	.1	86	22	66	24	1	1
91 PW 147 S 101	1	.5	38	23	93	15	1	1
91 PW 147 S 102	4	.5	58	16	79	8	1	1
91 PW 147 S 103	2	.3	32	18	89	5	1	1
91 PW 147 S 104	2	.9	36	15	99	1	1	1
91 PW 147 S 105	1	.6	28	24	95	1	1	1
91 PW 147 S 106	3	.7	94	15	76	6	1	1
91 PW 147 S 107	1	.8	51	14	73	1	1	1
91 PW 147 S 108	2	.5	68	17	80	5	1	1
91 PW 147 S 109	3	.9	86	10	85	1	1	1
91 PW 147 S 110	2	1.1	73	14	104	1	1	1
91 PW 147 S 112	1	.6	99	14	76	1	1	1
91 PW 147 S 113	4	.9	97	12	101	1	1	1
91 PW 147 S 114	3	.8	72	13	89	1	1	1
91 PW 147 S 115	2	.5	19	22	84	1	1	1
91 PW 147 S 116	2	.5	89	12	64	1	1	1
91 PW 147 S 117	3	.5	31	22	91	8	1	1
91 PW 147 S 118	2	.8	71	12	77	1	1	1
91 PW 147 S 119	8	.5	24	20	99	1	1	1
91 PW 147 S 120	1	.5	27	18	99	1	1	1
91 PW 147 S 121	4	1.3	56	15	128	1	1	1
91 PW 147 S 122	3	1.2	84	11	105	3	1	1
91 PW 147 S 123	2	1.2	30	10	89	1	1	1
91 PW 147 S 124	2	.7	21	17	100	1	1	1
91 PW 147 S 125	1	.9	20	19	87	1	1	1
91 PW 147 S 126	1	.5	52	8	94	1	1	1
91 PW 147 S 127	2	.8	34	14	95	1	1	1
91 PW 147 S 128	1	.2	29	17	98	3	1	1
91 PW 147 S 129	2	.6	59	11	78	1	1	1
91 PW 147 S 130	2	.6	65	11	83	10	1	1
91 PW 147 S 131	3	.6	21	26	101	1	1	1
91 PW 147 S 132	4	.5	45	16	74	16	1	1
91 CT 147 S 001	3	.3	130	13	78	31	1	1
91 CT 147 S 002	2	.9	181	8	90	20	1	1
91 CT 147 S 003	3	.1	95	15	76	17	1	1
91 CT 147 S 004	1	.2	69	16	93	17	1	1
91 CT 147 S 005	2	.3	49	17	85	12	1	1
91 CT 147 S 006	2	1.0	116	10	110	9	1	1
91 CT 147 S 007	9	.4	55	21	129	25	1	1
91 CT 147 S 008	3	.9	104	13	117	9	1	1
91 CT 147 S 009	6	.2	28	18	87	7	1	1
91 CT 147 S 010	2	.9	26	14	98	1	1	1
91 CT 147 S 011	4	.4	104	16	95	8	1	1
91 CT 147 S 012	3	.1	30	18	82	3	1	1
91 CT 147 S 013	16	.1	149	17	146	18	1	1
91 CT 147 S 014	4	1.4	99	13	214	33	1	2
91 CT 147 S 015	5	.4	108	12	118	11	1	1
91 CT 147 S 016	2	.7	47	10	102	7	1	1
91 CT 147 S 017	2	.9	28	14	89	2	1	1
91 CT 147 S 018	6	.8	24	16	97	1	1	1
91 CT 147 S 019	1	.5	26	12	98	10	1	1
91 CT 147 S 020	2	.8	36	13	88	1	1	1
91 CT 147 S 021	2	.9	51	15	82	3	1	1
91 CT 147 S 022	39	.8	22	18	63	9	1	1
91 CT 147 S 023	3	.7	71	8	83	4	1	1
91 CT 147 S 024	2	1.0	48	13	183	1	1	1
91 CT 147 S 025	1	.7	34	11	91	5	1	1
91 CT 147 S 026	4	.1	49	10	103	2	1	1
91 CT 147 S 027	2	.1	50	14	60	7	1	1
91 CT 147 S 028	2	.7	30	13	60	1	1	1

















COMP: KEEWATIN ENGRG.  
 PROJ: 147  
 ATTN: B.WHELAN/D.MEHNER

**MIN-EN LABS — ICP REPORT**  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 OR (604)988-4524

FILE NO: 1S-0384-SJ1+2  
 DATE: 91/08/15  
 • SOIL • (ACT:F31)

SAMPLE NUMBER	AU-FIRE PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM
91 MB 147S 001	2	.1	81	17	95	27	1	1
91 MB 147S 002	2	.4	77	14	80	15	1	1
91 MB 147S 003	1	.3	52	17	80	12	1	1
91 MB 147S 004	2	.5	52	14	137	8	1	1
91 MB 147S 005	1	.4	56	11	95	15	1	1
91 MB 147S 006	3	.6	37	11	87	14	1	1
91 MB 147S 007	2	.1	156	13	109	49	1	1
91 MB 147S 008	4	.7	113	11	105	36	1	1
91 MB 147S 009	2	.8	66	16	78	3	1	1
91 MB 147S 010	1	.3	35	14	95	5	1	1
91 MB 147S 011	3	.3	42	10	84	2	1	1
91 MB 147S 012	2	.7	71	8	81	15	1	1
91 MB 147S 013	1	.2	70	13	83	13	1	1
91 MB 147S 014	2	.5	57	11	83	6	1	1
91 MB 147S 015	2	.1	88	9	66	23	1	1
91 MB 147S 016	1	.2	61	11	93	14	1	1
91 MB 147S 017	4	.5	157	18	74	24	1	1
91 MB 147S 018	2	1.1	56	9	47	16	1	1
91 MB 147S 019	2	.3	66	10	63	13	1	1
91 MB 147S 020	1	.1	31	19	79	8	1	1
91 MB 147S 021	3	.1	74	12	102	15	1	1
91 MB 147S 022	2	.5	65	15	70	19	1	1
91 MB 147S 023	1	.2	77	18	66	13	1	2
91 MB 147S 024	1	.3	86	21	121	11	1	1
91 MB 147S 025 A	2	.2	93	9	79	16	1	1
91 MB 147S 025 B	2	.1	78	13	58	13	1	1
91 MB 147S 026	4	.5	75	11	95	15	1	1
91 MB 147S 027	3	.1	78	9	65	21	1	1
91 MB 147S 028	1	.1	121	14	83	32	1	1
91 MB 147S 029	2	.1	151	22	63	39	1	1
91 MB 147S 030	3	.1	92	17	70	34	1	1
91 MB 147S 031	2	.1	73	21	55	20	1	1
91 MB 147S 032	2	.1	140	15	61	52	1	2
91 MB 147S 033	5	.7	180	11	66	37	1	1
91 MB 147S 034	8	.3	101	17	79	12	1	1
91 MB 147S 035	2	.1	68	32	96	8	1	1
91 MB 147S 036	1	.3	67	21	94	14	1	1
91 MB 147S 037	2	.2	76	15	80	13	1	1
91 MB 147S 038	3	.6	227	30	75	40	1	1
91 MB 147S 039	1	.1	154	35	128	6	1	4
91 MB 147S 040	1	.2	86	15	116	7	1	1
91 MB 147S 041	2	.3	43	17	110	4	1	1
91 MB 147S 042	1	.1	63	19	90	8	1	1
91 MB 147S 043	1	.1	87	13	72	3	1	1
91 MB 147S 044	2	.1	135	11	36	37	1	3
91 MB 147S 045	1	.6	120	14	91	1	1	1
91 MB 147S 046	1	.6	92	11	70	11	1	1
91 MB 147S 047	17	.3	140	16	62	59	1	12
91 MB 147S 048	2	.1	59	11	63	13	1	1
91 MB 147S 049	5	.1	129	17	110	35	1	4
91 MB 147S 050	2	.7	82	12	86	16	1	1
91 MB 147S 051	2	.8	64	14	98	15	1	3
91 MB 147S 052	1	.1	31	13	83	10	1	1
91 MB 147S 053	3	.1	64	13	91	4	1	1
91 MB 147S 054	1	.1	54	16	99	1	1	1
91 MB 147S 055	2	.3	51	10	97	2	1	1
91 MB 147S 056	2	.9	66	14	83	1	1	1
91 MB 147S 057	4	.6	91	6	96	15	1	1
91 MB 147S 058	2	.5	76	10	94	6	1	1
91 MB 147S 059	1	.7	49	11	67	2	1	1

COMP: KEEWATIN ENGRG.  
 PROJ: 147  
 ATTN: B.WHELAN/D.MEHNER

**MIN-EN LABS — ICP REPORT**  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 OR (604)988-4524

FILE NO: 1S-0384-SJ3+4  
 DATE: 91/08/15  
 \* SOIL \* (ACT:F31)

SAMPLE NUMBER	AU-FIRE PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM
91 MB 147S 060	1	.2	45	18	107	1	1	1
91 MB 147S 061	2	.3	33	17	163	8	1	1
91 MB 147S 062	1	.3	40	18	104	1	1	1
91 MB 147S 063	4	.1	52	28	76	4	1	1
91 BR 147S 5000 001	3	.6	63	18	71	10	1	1
91 BR 147S 5000 002	4	.1	75	20	79	10	1	1
91 BR 147S 5000 003	1	.6	48	18	78	1	1	1
91 BR 147S 5000 004	2	.9	19	15	80	1	1	1
91 BR 147S 5000 005	2	.5	34	15	119	1	1	1
91 BR 147S 5000 006	1	.8	35	12	93	1	1	1
91 BR 147S 5000 007	2	.6	35	11	87	1	1	1
91 BR 147S 5000 008	3	.9	28	6	73	1	1	1
91 BR 147S 5000 009	2	.6	46	6	78	1	1	1
91 BR 147S 5000 010	2	.1	41	7	75	1	1	1
91 BR 147S 5000 011	6	.8	38	17	100	1	1	1
91 BR 147S 5000 012	1	1.0	41	8	100	1	1	1
91 BR 147S 5000 013	2	.4	41	19	88	1	1	1
91 BR 147S 5000 014	1	.5	143	19	77	1	1	1
91 BR 147S 5000 015	3	.1	78	14	70	3	1	1
91 BR 147S 5000 016	2	.8	44	9	84	1	1	1
91 BR 147S 5000 017	2	.1	70	16	67	6	1	1
91 BR 147S 5000 018	1	.2	42	15	65	1	1	1
91 BR 147S 5000 019	2	.1	93	9	70	16	1	1
91 BR 147S 5000 020	1	.6	44	10	85	12	1	1
91 BR 147S 5000 021	3	.6	60	14	91	7	1	1
91 BR 147S 5000 022	3	.4	67	13	90	18	1	1
91 BR 147S 5000 023	1	.4	36	14	131	1	1	1
91 BR 147S 5000 024	2	.4	24	18	80	1	1	1
91 BR 147S 5000 025	1	.5	32	18	77	1	1	1
91 BR 147S 5000 026	2	.4	103	10	69	13	1	1
91 DC 147S 5000 021	2	.1	82	8	83	11	1	1
91 DC 147S 5000 022	1	.5	34	13	83	1	1	1
91 DC 147S 5000 023	2	.1	72	11	63	1	1	1
91 DC 147S 5000 024	1	.4	46	12	88	1	1	1
91 DC 147S 5000 025	2	.5	50	10	85	1	1	1
91 DC 147S 5000 026	3	.3	47	6	81	1	1	1
91 DC 147S 5000 027	2	.1	62	7	73	1	1	1
91 DC 147S 5000 028	2	.1	53	9	72	1	1	1
91 DC 147S 5000 029	1	.3	71	11	78	1	1	1
91 DC 147S 5000 030	1	.4	68	10	82	1	1	1
91 DC 147S 5000 031	1	.3	35	11	119	6	1	1
91 DC 147S 5000 032	2	.1	182	35	144	57	1	1
91 DC 147S 5000 033	1	.4	38	11	114	1	1	1
91 DC 147S 5000 034	5	.1	63	11	62	1	1	1
91 DC 147S 5000 035	3	.1	40	13	116	1	1	1
91 DC 147S 5000 036	3	.1	135	25	414	18	4	6
91 DC 147S 5000 037	6	1.1	33	23	86	11	1	2
91 DC 147S 5000 038	2	.2	41	18	58	29	1	3
91 DC 147S 5000 039	2	1.0	19	20	79	14	1	1
91 DC 147S 5000 040	1	.6	30	14	54	13	1	1
91 JM 147S CL 001	2	.6	26	21	81	39	1	10
91 JM 147S CL 002	1	.6	29	19	90	20	1	2
91 JM 147S CL 003	3	.9	24	16	96	17	1	1
91 JM 147S CL 004	2	1.0	33	22	101	18	1	1
91 JM 147S CL 005	2	2.6	10	19	18	36	8	2
91 JM 147S CL 006	1	.7	28	18	80	27	1	3
91 JM 147S CL 007	2	.7	40	23	57	34	1	3
91 JM 147S CL 008	4	.7	36	25	100	24	1	3
91 JM 147S CL 009	2	.8	25	21	127	22	1	3
91 JM 147S CL 010	1	.6	31	24	85	82	1	10





COMP: KEEWATIN ENGRG.  
 PROJ: 147 WEST PRIDE  
 ATTN: B.WHELAN/E.OLFERT

**MIN-EN LABS — ICP REPORT**  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 OR (604)988-4524

FILE NO: 1S-0344-SJ1+2  
 DATE: 91/08/13  
 \* SOIL \* (ACT:F31)

SAMPLE NUMBER	AU-FIRE PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM
91BR 147S 036	1	.1	42	18	91	6	1	1
91BR 147S 037	2	.3	73	23	88	11	1	1
91BR 147S 038	2	.4	39	17	72	9	1	1
91BR 147S 039	1	.1	40	14	84	1	1	1
91BR 147S 040	1	.1	24	15	76	8	1	1
91BR 147S 041	4	1.1	83	16	108	27	1	1
91BR 147S 042	1	.3	61	18	61	12	1	1
91BR 147S 043	3	.8	124	63	62	19	1	16
91BR 147S 044	2	.6	83	17	92	2	1	1
91BR 147S 045	2	.3	65	15	81	1	1	1
91BR 147S 046	1	.1	30	11	70	1	1	1
91BR 147S 047	2	.2	24	9	74	1	1	1
91BR 147S 048	2	.4	31	17	121	8	1	1
91BR 147S 049	2	1.1	35	9	38	7	1	1
91BR 147S 050	1	1.1	90	12	134	9	1	1
91BR 147S 051	3	.6	122	15	79	12	1	1
91BR 147S 052	2	.7	93	12	83	4	1	1
91BR 147S 053	2	.6	129	10	87	9	1	1
91BR 147S 054	2	.4	170	14	91	15	1	1
91BR 147S 055	1	.1	34	18	75	5	1	1
91BR 147S 056	1	.1	38	13	93	11	1	1
91BR 147S 057	18	.2	40	12	77	3	1	1
91BR 147S 058	2	.2	71	13	70	8	1	1
91BR 147S 059	3	.1	42	13	55	13	1	1
91BR 147S 060	1	.1	43	17	51	6	1	1
91PW 147S 062	2	.3	39	9	77	2	1	1
91PW 147S 063	1	.5	34	12	93	3	1	1
91PW 147S 064	2	.8	30	16	144	1	1	1
91PW 147S 065	1	.4	27	16	106	2	1	1
91PW 147S 066	2	.6	30	9	68	4	1	1
91PW 147S 067	2	1.7	30	26	167	1	1	1
91PW 147S 068	1	.9	20	20	107	1	1	1
91PW 147S 069	1	.8	29	17	67	4	1	1
91PW 147S 070	3	1.2	56	19	87	11	1	1
91PW 147S 071	2	.4	39	11	58	12	1	1
91PW 147S 072	1	.6	56	18	65	11	1	1
91PW 147S 073	1	.9	29	18	93	3	1	1
91PW 147S 074	4	.6	27	19	106	1	1	1
91PW 147S 075	1	.6	80	15	71	10	1	1
91PW 147S 076	2	.5	99	11	79	14	1	1
91PW 147S 077	2	.4	60	16	61	13	1	1
91PW 147S 078	2	1.0	33	16	75	1	1	1
91PW 147S 079	1	.1	71	14	56	8	1	1
91PW 147S 080	3	.1	49	20	60	19	1	1
91PW 147S 081	2	.4	38	19	86	1	1	1
91PW 147S 082	2	.2	34	14	48	15	1	1
91PW 147S 083	2	.1	31	15	65	2	1	1
91PW 147S 084	1	1.2	19	22	132	1	1	1
91PW 147S 085	6	.7	32	15	116	1	1	1
91JM 147S 046	1	.9	45	17	98	9	1	1
91JM 147S 047	1	.5	39	18	84	17	1	2
91JM 147S 050	2	.3	16	12	44	5	1	1
91JM 147S 051	1	1.3	60	31	96	1	1	1
91JM 147S 052	1	1.1	143	28	146	1	1	1
91JM 147S 054	2	.8	53	14	69	20	1	1
91JM 147S 055	2	.5	33	17	66	9	1	1
91JM 147S 056	1	1.0	26	12	74	2	1	1
91JM 147S 057	1	.9	24	12	78	1	1	1
91JM 147S 058	2	.5	53	15	79	4	1	3
91JM 147S 059	1	.7	34	9	53	14	1	1



COMP: KEEWATIN ENGRG.  
 PROJ: WEST PRIDE 147  
 ATTN: B.WHELAN/D.MEHNER

**MIN-EN LABS — ICP REPORT**  
 705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2  
 (604)980-5814 OR (604)988-4524

FILE NO: 1S-0536-SJ1+2  
 DATE: 91/08/29  
 • SOIL • (ACT:F31)

SAMPLE NUMBER	AU-FIRE PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM
GN 147S L300W 100N	117	.3	626	22	109	1883	1	1
GN 147S L300W 080N	6	.2	163	17	92	240	1	1
GN 147S L300W 060N	2	1.0	45	18	106	36	1	1
GN 147S L300W 040N	2	.1	65	26	80	59	1	1
GN 147S L300W 020N	1	1.0	94	24	213	38	1	1
GN 147S L300W 020S	1	1.6	55	19	110	15	1	1
GN 147S L300W 040S	1	.2	46	20	67	20	1	1
GN 147S L300W 060S	2	.6	53	22	119	31	1	1
GN 147S L300W 080S	1	1.4	53	15	158	16	1	1
GN 147S L300W 100S	3	.1	71	20	81	30	1	1
GN 147S L300W 120S	2	.6	27	24	51	18	1	1
GN 147S L200W 140N	1	.8	37	16	103	32	1	1
GN 147S L200W 120N	24	.1	344	18	89	935	1	1
GN 147S L200W 100N	20	.5	160	18	112	1722	1	1
GN 147S L200W 080N	2	.4	89	22	87	222	1	1
GN 147S L200W 060N	1	.7	70	22	97	60	1	1
GN 147S L200W 040N	1	1.1	63	19	84	39	1	1
GN 147S L200W 020N	2	.4	36	24	147	28	1	1
GN 147S L200W 020S	1	.6	70	24	95	50	1	1
GN 147S L200W 040S	1	1.1	40	21	112	31	1	1
GN 147S L200W 060S	2	1.0	28	16	75	13	1	1
GN 147S L200W 080S	1	.8	41	22	163	20	1	1
GN 147S L200W 100S	1	.2	53	29	107	31	1	1
GN 147S L200W 120S	4	.1	81	23	73	73	1	1
GN 147S L200W 140S	2	.4	72	25	92	90	1	1
PW 147S L100W 140N	2	1.2	73	19	87	24	1	1
PW 147S L100W 120N	120	.4	237	17	50	1145	1	1
PW 147S L100W 100N	2	.1	146	19	80	140	1	1
PW 147S L100W 080N	3	.2	121	19	72	127	1	2
PW 147S L100W 040N	2	.5	80	19	109	49	1	1
PW 147S L100W 020N	1	1.0	40	22	99	22	1	1
PW 147S L100W 020S	7	.6	43	15	101	19	1	1
PW 147S L100W 040S	10	.8	33	17	80	19	1	1
PW 147S L100W 060S	2	.8	38	22	107	14	1	1
PW 147S L100W 080S	3	.5	53	18	79	16	1	1
PW 147S L100W 100S	1	.8	108	22	209	48	1	1
PW 147S L100W 140S	4	.1	83	23	75	35	1	1
PW 147S L000W 140N	16	.2	75	21	104	25	1	1
PW 147S L000W 120N	3	.4	35	23	109	12	1	1
PW 147S L000W 100N	1	1.1	36	18	70	20	1	1
PW 147S L000W 080N	1	.2	46	29	92	13	1	1
PW 147S L000W 060N	1	1.2	33	14	56	8	1	1
PW 147S L000W 040N	2	.1	65	20	86	31	1	1
PW 147S L000W 020N	1	.1	58	19	65	25	1	1
PW 147S L000W 020S	1	.5	50	21	88	38	1	2
PW 147S L000W 040S	4	.1	87	16	65	44	1	4
PW 147S L000W 080S	204	.9	2556	22	107	1677	8	2
PW 147S L000W 100S	46	.2	652	15	44	276	2	1
PW 147S L000W 120S	3	.1	110	25	79	26	1	3
PW 147S L000W 140S	1	.1	67	29	88	21	1	1
BL 300W	1	.2	51	23	114	37	1	1
BL 280W	3	.1	93	24	75	111	1	1
BL 260W	1	.1	56	19	73	55	1	1
BL 240W	1	.1	48	19	69	24	1	1
BL 220W	3	1.2	37	19	100	30	1	1
BL 200W	6	.9	47	17	111	21	1	1
BL 180W	1	.6	53	21	134	44	1	1
BL 160W	12	.7	31	18	111	27	1	1
BL 140W	3	.3	29	21	117	33	1	1
BL 120W	1	.7	44	22	123	42	1	1









**Silt Sample Results**

















**APPENDIX VI**

**Analytical Techniques**

## ANALYTICAL PROCEDURES USED BY MIN-EN LABORATORIES

### ICP Analysis for Cu, Pb, Zn, Ag, As, Sb, Mo

After drying the samples at 95°C, soil and stream sediment samples are screened by 80 mesh sieve to obtain the minus 80 mesh fraction for analysis. The rock samples are crushed by a jaw crusher and pulverized on a ring mill pulverizer.

0.50 gram of the sample is digested for two hours with an aqua regia mixture. After cooling samples are diluted to standard volume.

The solutions are analyzed by computer operated Jarrall Ash 9000 ICAP or Jobin Yvon 70 Type II Inductively Coupled Plasma Spectrometers.

### Au Fire Geochem

A suitable sample weight; 15.00 or 30.00 grams is fire assay pre-concentrated. The precious metal beads are taken into solution with aqua regia and made to volume.

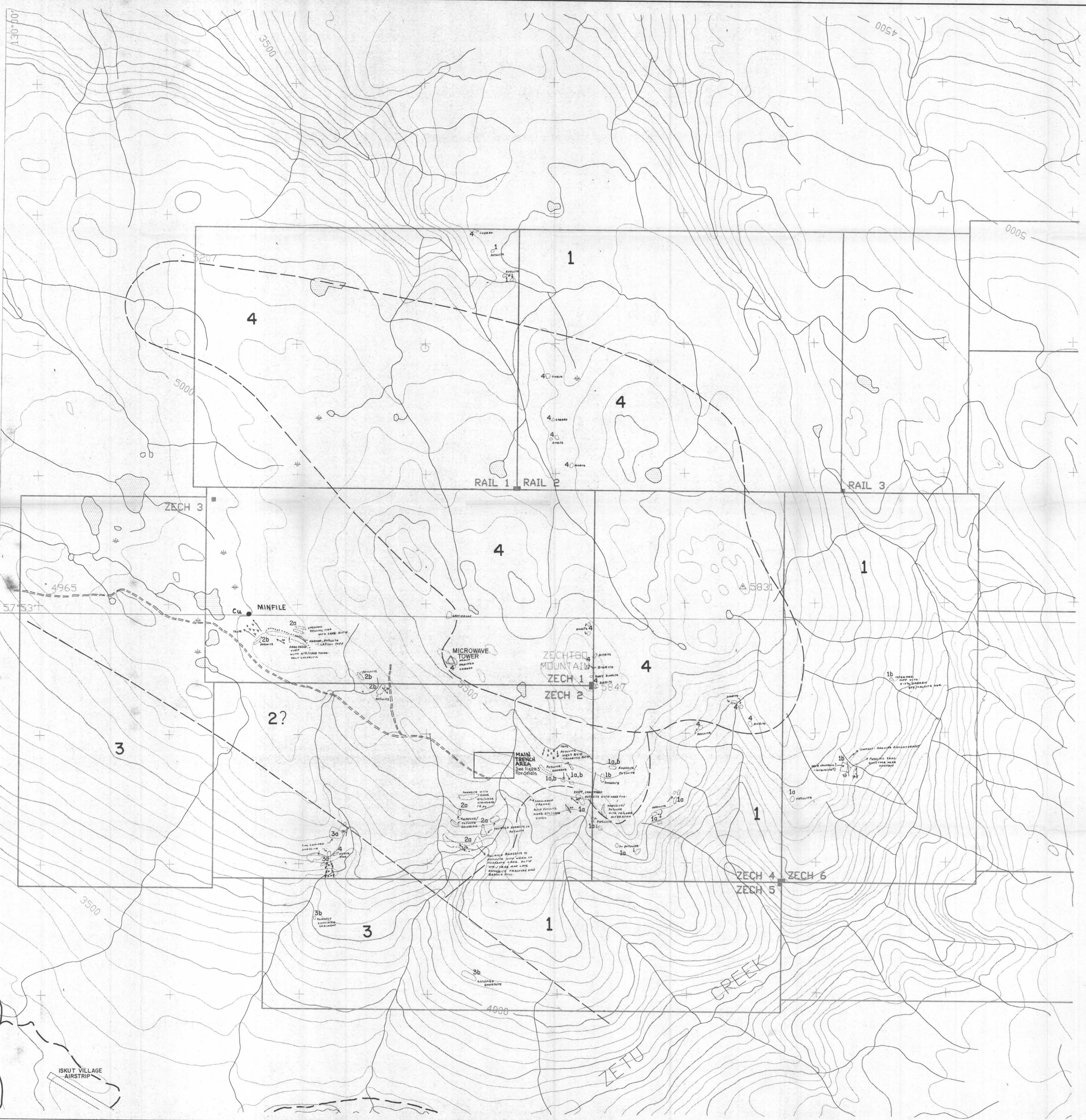
For Au only, samples are aspirated on an atomic absorption spectrometer with a suitable set of standard solutions. If samples are for Au plus Pt or Pd, the sample solution is analyzed in an inductively coupled plasma spectrometer with reference to a suitable standard set.

### Gold Assay Procedure

Samples are dried @ 95°C and when dry are crushed on a jaw crusher. The -¼ inch output of the jaw crusher is put through a secondary roll crusher to reduce it to -1/8 inch. The whole sample is then riffled on a Jones Riffle down to a statistically representative 300 - 400 gram sub-sample (in accordance with Gy's statistical rules). This sub-sample is then pulverized in a ring pulverizer to 95% minus 120 mesh, rolled and bagged for analysis. The remaining reject from the Jones Riffle is bagged and stored.

Samples are fire assayed using one assay ton sample weight. The samples are fluxed, a silver inquart added and mixed. The assays are fused in batches of 24 assays along with a natural standard and a blank. This batch of 26 assays is carried through the whole procedure as a set. After cupellation the precious metal beads are transferred into new glassware, dissolved, diluted to volume and mixed.

These aqua regia solutions are analyzed on an atomic absorption spectrometer using a suitable standard set. The natural standard fused along with this set must be within 3 standard deviations of its known or the whole set is re-assayed. Likewise the blank must be less than 0.015 g/tonne.



LEGEND

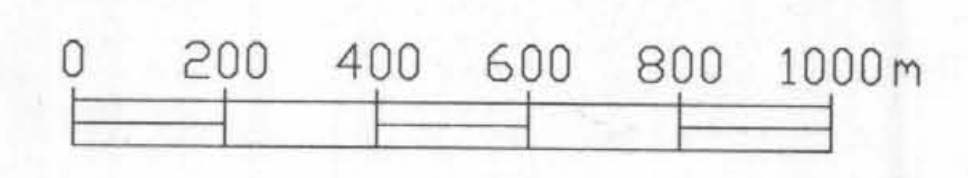
- 5 LOWER JURASSIC
  - 5a Sediments (conglomerate, grit, greywacke)
  - 5b Volcanics (maroon tuffs and lapilli tuffs)
- 4 JURASSIC
  - Intrusives (gabro, diorite, monzonite, monzodiorite)
- 3 UPPER TRIASSIC
  - Stuhini Group
    - 3a Sediments (siltstone, quartzite, greywacke)
    - 3b Volcanics (andesite flows)
- 2 TRIASSIC
  - Tsaybhe Group
    - 2a Sediments (weakly foliated argillite, siltstone, greywacke, grit)
    - 2b Volcanics (weakly foliated andesitic tuffs and flows)
- 1 PERMO-CARBONIFEROUS
  - 1a Phyllite
  - 1b Greenstone

SYMBOLS

- Assumed Geological Contact
- Fault
- Limit of Outcrop
- Bedding
- Foliation
- Avalanche Slope
- Corner Post

GEOLOGICAL BRANCH ASSESSMENT REPORT

21,760



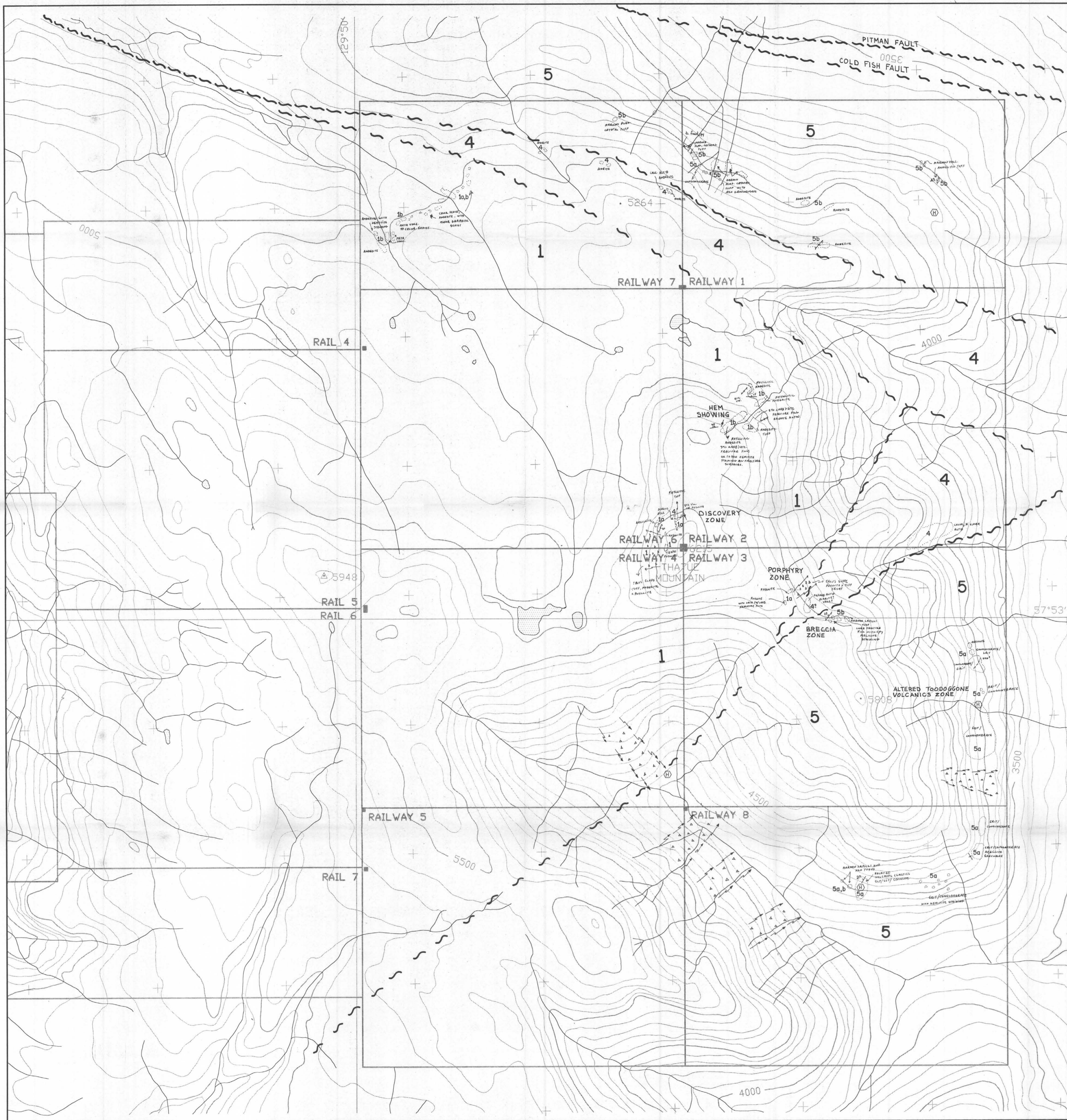
HYDER GOLD INC.

RAILWAY-ZETU CREEK PROJECT  
(WEST HALF)

GEOLOGY MAP

DATE: OCT, 1991	NTS: 104H/13V
PROJECT: RAILWAY-ZETU	BY: D. MEHNER
SCALE: 1 : 10,000	
Keewatin Engineering Inc. MAP No. 1	

ISKUT VILLAGE AIRSTRIP



LEGEND

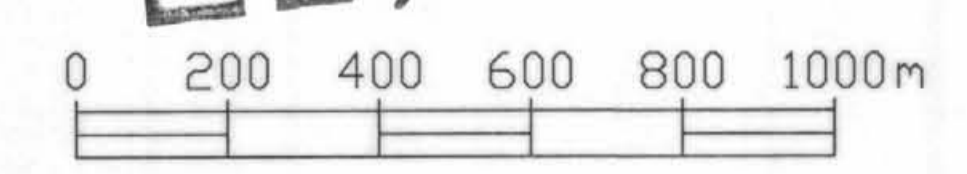
- 5 LOWER JURASSIC  
"Toodoggone Volcanics"  
5a Sediments (conglomerate, grit, greywacke)  
5b Volcanics (maroon tuffs and lapilli tuffs)
- 4 JURASSIC  
Intrusives (gabbro, diorite, monzonite, monzodiorite)
- 3 UPPER TRIASSIC  
Stuhini Group  
3a Sediments (siltstone, quartzite, greywacke)  
3b Volcanics (andesite flows)
- 2 TRIASSIC  
Tsaybhe Group  
2a Sediments (weakly foliated argillite, siltstone, greywacke, grit)  
2b Volcanics (weakly foliated andesitic tuffs and flows)
- 1 PERMO-CARBONIFEROUS  
1a Phyllite  
1b Greenstone

SYMBOLS

- Assumed Geological Contact
- ~ Fault
- Limit of Outcrop
- ⊥ Bedding
- ⊥ Foliation
- ▲ Avalanche Slope
- Corner Post

GEOLOGICAL BRANCH  
ASSESSMENT REPORT

21,760



HYDER GOLD INC.	
RAILWAY-ZETU CREEK PROJECT (EAST HALF)	
GEOLOGY MAP	
DATE: OCT, 1991	NTS: 104H/13W
PROJECT: RAILWAY-ZETU	BY: D. MEHNER
SCALE: 1 : 10,000	
Keewatin Engineering Inc. MAP No. 2	



**LEGEND**

- 91-JM-147-S-045 1991 Soil Sample
- ≥150 ppm Cu in Soil
- ≥200 ppm Cu in Soil
- 91-JM-147-L-910 1991 Silt Sample
- ≥150 ppm Cu in Silt
- 91-DO-147-R-902 1991 Rock Sample
- ✕✕ Soil and Silt Samples Collected but Destroyed in a Fire @ Min-En Labs
- Soil Test Pit with Results from Various Depth Intervals
- 18/3/04 ppm Cu / ppb Au / ppm Ag

**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**21,760**



**HYDER GOLD INC.**

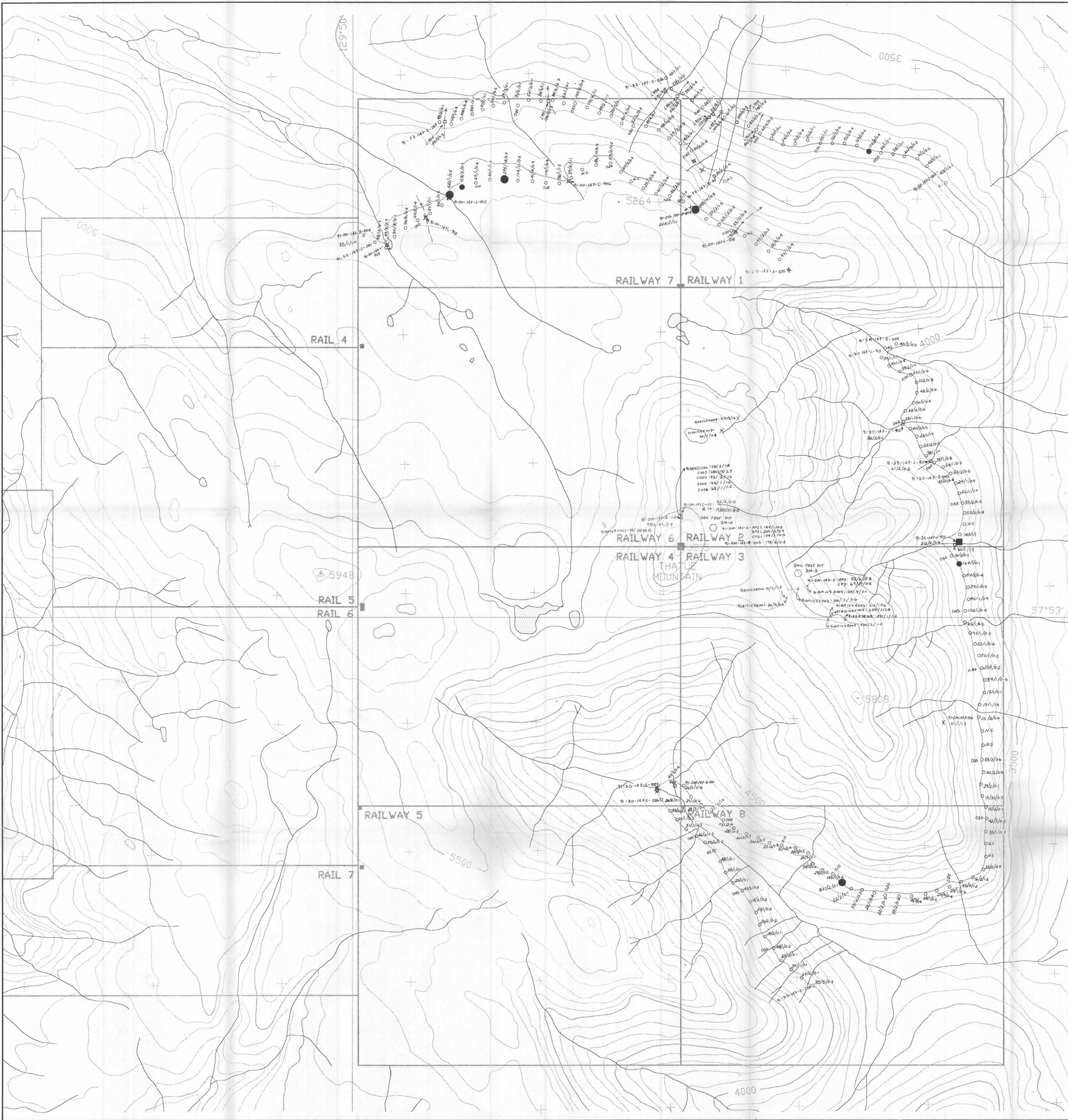
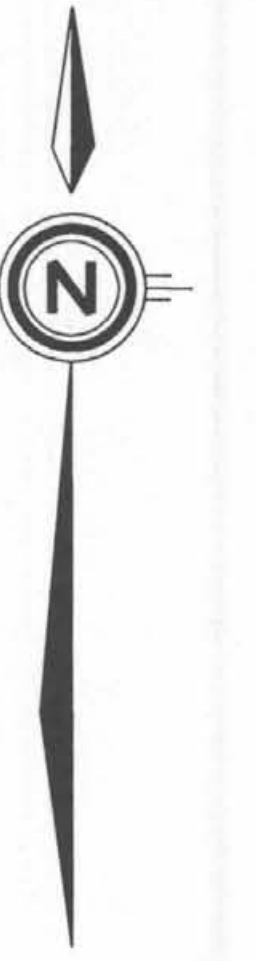
**RAILWAY-ZETU CREEK PROJECT (WEST HALF)**

**Cu - Au - Ag SOIL-SILT - ROCK GEOCHEMISTRY**

DATE: OCT, 1991	NTS: 104H/13W
PROJECT: RAILWAY-ZETU	BY: D. MEHNER
SCALE: 1 : 10,000	
Keewatin Engineering Inc. MAP No. 3	

ISKUT VILLAGE AIRSTRIP





- LEGEND**
- 91-JM-147-S-045 1991 Soil Sample
  - ≥150 ppm Cu in Soil
  - ≥200 ppm Cu in Soil
  - 91-JM-147-L-910 1991 Silt Sample
  - ≥150 ppm Cu in Silt
  - 91-DO-147-R-902 1991 Rock Sample
  - ✕ ✕ Soil and Silt Samples Collected but Destroyed in a Fire @ Min-En Labs
  - Soil Test Pit with Results from Various Depth Intervals
  - 18/3/04 ppm Cu / ppb Au / ppm Ag

**GEOLOGICAL BRANCH  
ASSESSMENT REPORT**

# 21,760

0 200 400 600 800 1000m

<b>HYDER GOLD INC.</b>	
<b>RAILWAY-ZETU CREEK PROJECT (EAST HALF)</b>	
<b>Cu - Au - Ag SOIL-SILT - ROCK GEOCHEMISTRY</b>	
DATE: OCT, 1991	NTS: 104H/13W
PROJECT: RAILWAY-ZETU	BY: D. MEHNER
SCALE: 1 : 10,000	
Keewatin Engineering Inc. MAP No. 4	

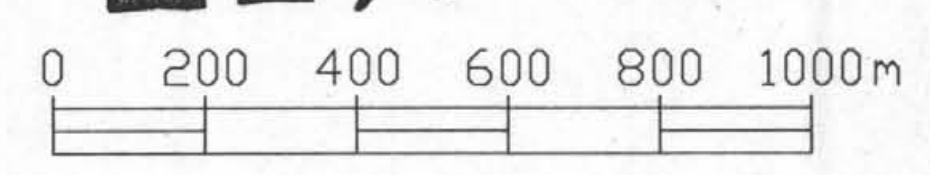


LEGEND

- 91-JM-147-S-045 1991 Soil Sample
- ≥ 30 ppm Pb in Soil
- ≥ 140 ppm Zn in Soil
- 91-JM-147-L-910 1991 Silt Sample
- ≥ 30 ppm Pb in Silt
- ≥ 140 ppm Zn in Silt
- \* Silt/Soil Sample with ≥ 30 ppm As
- 91-DO-147-R-902 1991 Rock Sample
- ⊗ Soil and Silt Samples Collected but Destroyed in a fire @ Min-En Labs
- Soil Test Pit with Results from Various Depth Intervals
- 20/94/1 ppm Pb / ppm Zn / ppm As

GEOLOGICAL BRANCH ASSESSMENT REPORT

21,760



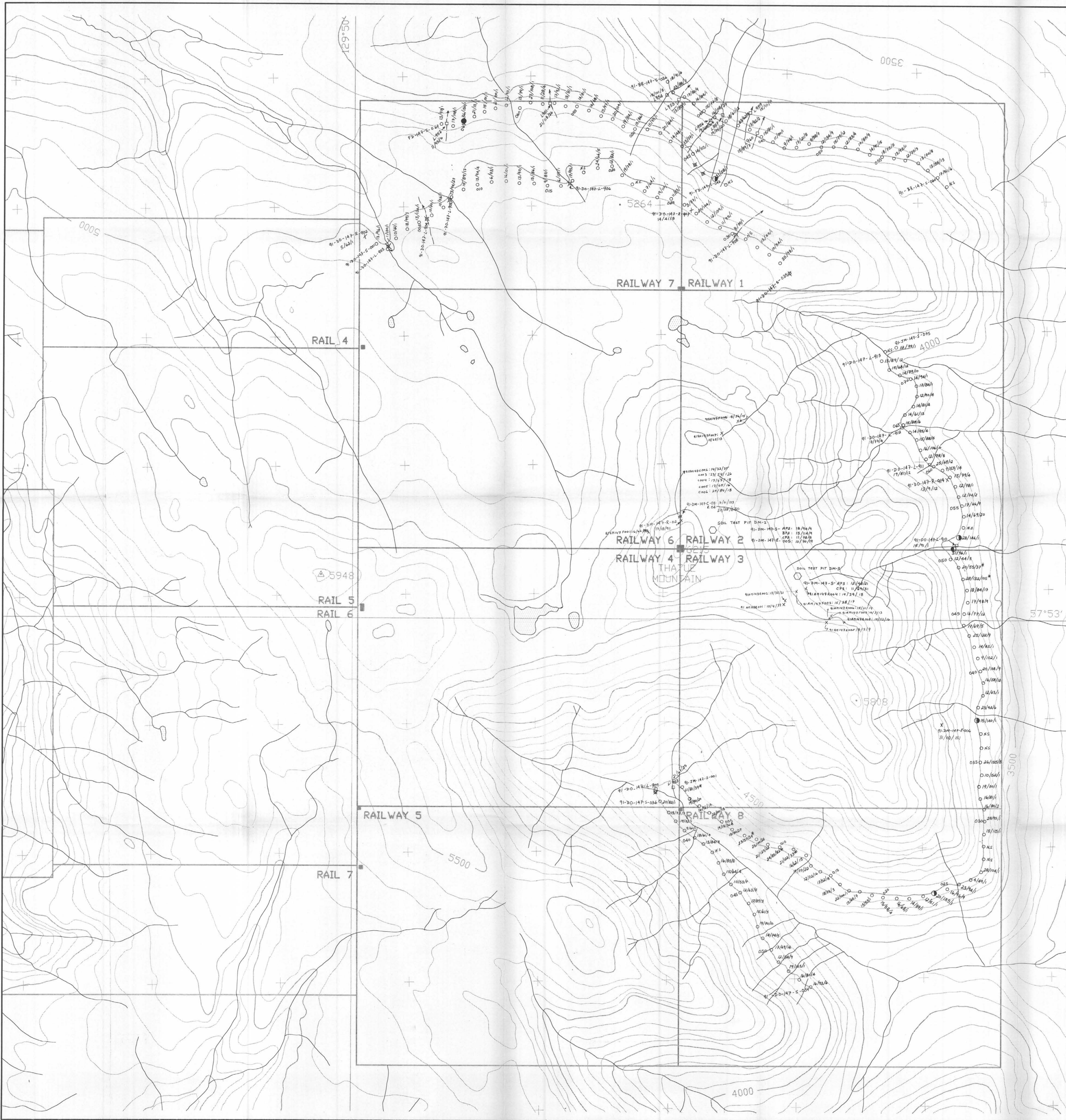
HYDER GOLD INC.

RAILWAY-ZETU CREEK PROJECT  
(WEST HALF)

Pb - Zn - As  
SOIL-SILT - ROCK GEOCHEMISTRY

DATE: OCT, 1991	NTS: 104H/13W
PROJECT: RAILWAY-ZETU	BY: D. MEHNER
SCALE: 1 : 10,000	
Keewatin Engineering Inc. MAP No. 5	

ISKUT VILLAGE AIRSTRIP



**LEGEND**

- 91-JM-147-S-045 1991 Soil Sample
  - ≥ 30 ppm Pb in Soil
  - ≥ 140 ppm Zn in Soil
- 91-JM-147-L-910 1991 Silt Sample
  - ≥ 30 ppm Pb in Silt
  - ≥ 140 ppm Zn in Silt
  - \* Silt/Soil Sample with ≥ 30 ppm As
- 91-DO-147-R-902 1991 Rock Sample
  - ✕✕ Soil and Silt Samples Collected but Destroyed in a fire @ Min-En Labs
  - Soil Test Pit with Results from Various Depth Intervals
- 20 / 94 / 1 ppm Pb / ppm Zn / ppm As

**GEOLOGICAL BRANCH ASSESSMENT REPORT**

**21,760**

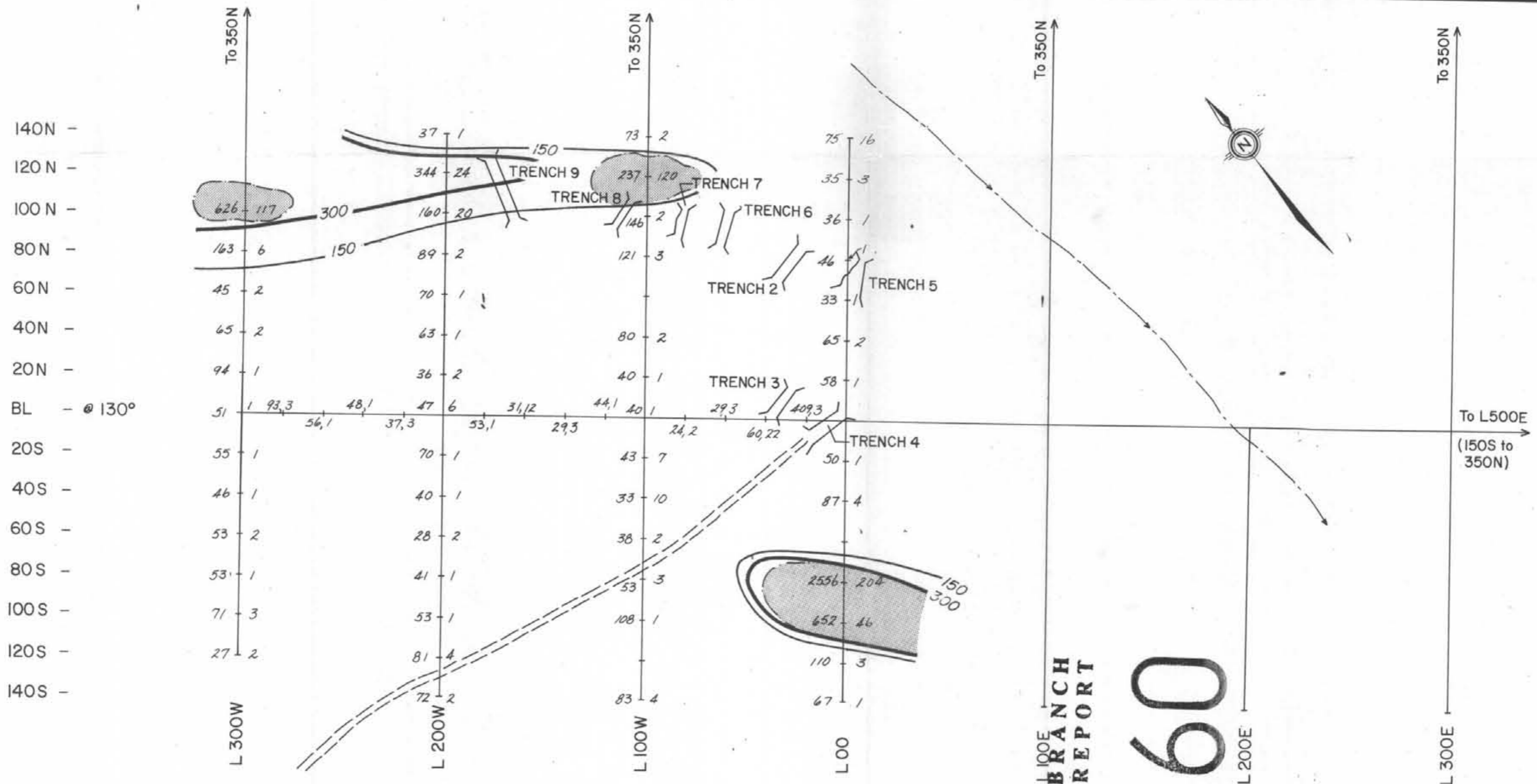


**HYDER GOLD INC.**

**RAILWAY-ZETU CREEK PROJECT (EAST HALF)**

**Pb-Zn-As SOIL-SILT-ROCK GEOCHEMISTRY**

DATE: OCT, 1991	NTS: 104H/13W
PROJECT: RAILWAY-ZETU	BY: D. MEHNER
SCALE: 1 : 10,000	
Keewatin Engineering Inc.	MAP No. 6



140N -  
120N -  
100N -  
80N -  
60N -  
40N -  
20N -  
BL - @ 130°  
20S -  
40S -  
60S -  
80S -  
100S -  
120S -  
140S -

To 350N  
L 300W  
L 200W  
L 100W  
L 00

To 350N  
L 100E  
L 200E  
L 300E

To 350N  
L 100E  
L 200E  
L 300E

To 350N  
To L500E  
(150S to 350N)

NOTE: Grid extends to L500W  
L500W goes from 150S to 350N  
L300W, L100W, L100E, L300E go to 350N

Ground control by hip chain and compass  
Flagged grid

Scale: 1:2,000



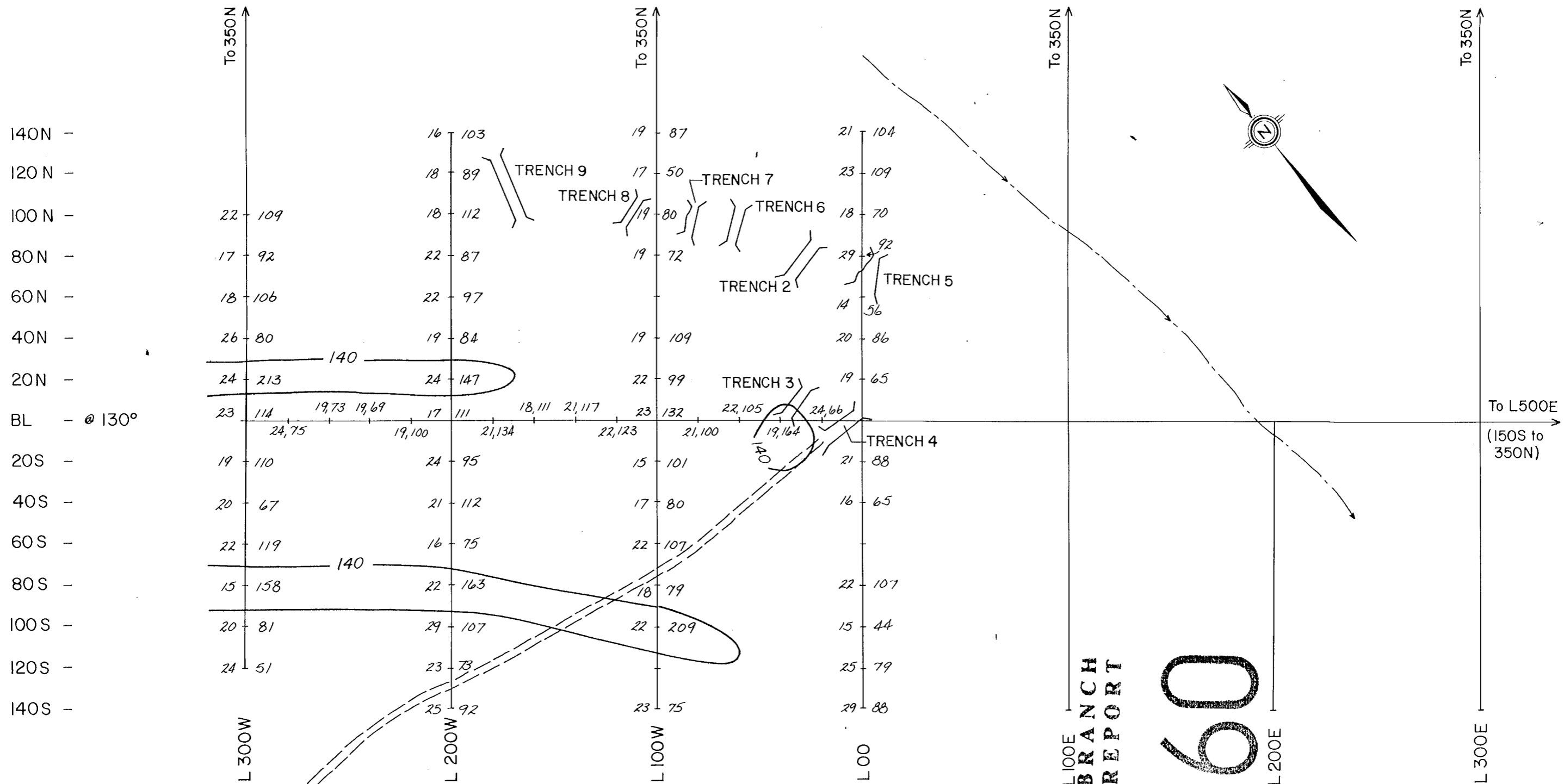
LEGEND

- 2556 | 204 ppm Cu | ppb Au
- 150 ≥ 150 ppm Cu
- 300 ≥ 300 ppm Cu
- Shaded area ≥ 40 ppb Au
- ||| Old cat trench

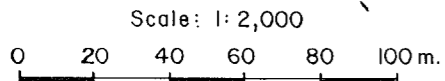
GEOLOGICAL BRANCH ASSESSMENT REPORT

21,760

<b>HYDER GOLD INC.</b>	
RAILWAY-ZETU CREEK PROJECT MAIN TRENCH AREA	
Cu - Au SOIL GEOCHEMISTRY	
DATE: OCT., 1991	NTS: 104H/13W
PROJECT: RAILWAY-ZETU	PROJ. GEOL.: D. MEHNER
SCALE: 1:2,000	& S. HOWSON
Keewatin Engineering Inc.	MAP No. 7



NOTE: Grid extends to L 500W  
 L 500W goes from 150S to 350N  
 L 300W, L100W, L100E, L300E go to 350N  
 Ground control by hip chain and compass  
 Flagged grid



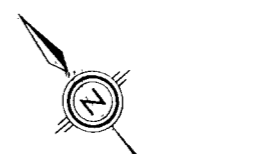
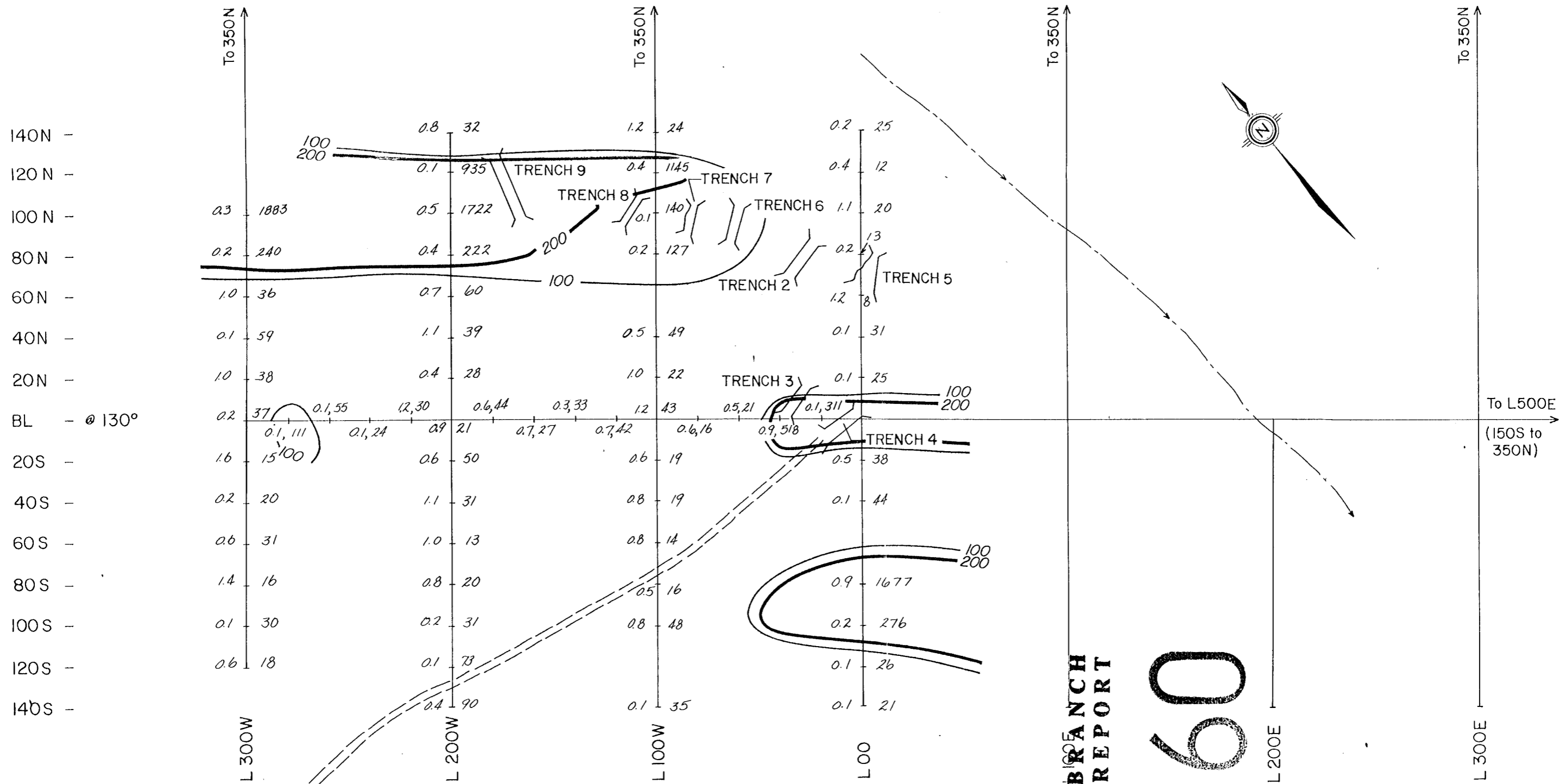
LEGEND

- 24 | 213    ppm Pb | ppm Zn
- 140     $\geq 140$  ppm Zn
- |||    Old cat trench

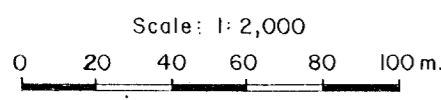
GEOLOGICAL BRANCH ASSESSMENT REPORT

21,760

<b>HYDER GOLD INC.</b>	
RAILWAY - ZETU CREEK PROJECT MAIN TRENCH AREA	
Pb - Zn SOIL GEOCHEMISTRY	
DATE: OCT., 1991	NTS: 104H/13W
PROJECT: RAILWAY-ZETU	PRJ. GEOL.: D. MEHNER & S. HOWSON
SCALE: 1:2,000	MAP No. 8
<i>Keewatin Engineering Inc.</i>	



NOTE: Grid extends to L500W  
 L 500W goes from 150S to 350N  
 L 300W, L100W, L100E, L300E go to 350N  
 Ground control by hip chain and compass  
 Flagged grid



**LEGEND**

- 0.9 | 1677 ppmAg | ppm As
- 100 (contour) ≥100ppm As
- 200 (contour) ≥200ppm As
- (dashed line) Old cat trench

**GEOLOGICAL BRANCH  
 ASSESSMENT REPORT**

**21,760**

<b>HYDER GOLD INC.</b>	
RAILWAY-ZETU CREEK PROJECT MAIN TRENCH AREA	
Ag - As SOIL GEOCHEMISTRY	
DATE: OCT, 1991	INS: 104H/13W
PROJECT: RAILWAY-ZETU	PROJ. GEOL: D. MEHNER
SCALE: 1:2,000	& S. HOWSON
Keewatin Engineering Inc.	MAP No. 9