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GEOLOGICAL REPORT
ON THE
CRAZE CREEK (CUNNINGHAM) PROPERTY

Cariboo Mining Division
NTS 93A/14W
Latitude 52°56'
Longitude 121°21'

on behalf of
LOKI GOLD CORPORATION
 Vancouver, B.C.

by
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**GEOLOGICAL BRANCH
 ASSESSMENT REPORT**

19,793
PART 1 of 3

January 16, 1990

Keewatin Engineering Inc.

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1.0 SUMMARY

The objective of Loki Gold's 1989 field project was to locate economic concentrations of gold/silver. Work included additional trenching, mapping and sampling of existing workings, establishing a property wide soil geochemical grid, undertaking further trenching on newly discovered showings, and systematically drilling the most promising showing locations. Prospecting was also carried out on selected parts of the property. The program was completed in two stages. Drilling completed 1090.5 m in 17 holes, and tested 4 target areas: Jewellery Shop, B-Zone, Hibernian and Nugget Mountain.

In all a total of 14 significant gold-mineralized areas were located with encouraging results obtained through detailed trench mapping and sampling (Table 2) and in 4 areas by drilling (Table 3).

It may be concluded that significant gold concentrations are present within (and adjacent to) property boundaries, although occurrences tested to date are sporadic in nature. Gold anomalous areas intersected during drilling proved difficult to follow down-dip or along strike. Gold showings are, however, relatively numerous on a property-scale, suggesting that potential for a low-grade open-pit operation may exist in addition to the smaller tonnage, high grade targets.

Fieldwork in 1989 showed that general stratigraphic setting, alteration and style of mineralization are similar to that encountered during production from the mines at nearby Wells. Prospecting and soil geochemistry work left a number of promising targets requiring further investigation. Follow-up on a number of these soil anomalies should be completed and trenching undertaken, including detailed mapping and sampling of bedrock geology. Further drilling should be planned to better delineate mineralized zones outlined during the 1989 season. A geophysical survey may prove useful over some suspected mineralized structures.

2.0 INTRODUCTION

2.1 History

The Cariboo region has been recognized as a major gold belt since 1859, when placer miners were lured to the area by discoveries of rich placer gold in the Williams Creek area, presently the site of Barkerville. A frenzied production pace continued into the next century, yielding over 2.5 million ounces before exhausting most of the easily accessible material. Placer operations exist today in the area, recovering gold from pre-worked material and in a few previously unmined deposits.

The Cariboo district was glaciated at least twice during the Pleistocene, most recently during the Fraser Glaciation from about 20,000 to 10,000 years ago (Fulton, 1971; Clague, 1989). Westward-flowing sheets eroded and redistributed much of the placer gold in the Cariboo, leaving rich deposits in outwash streams and plains. Cunningham Creek itself has produced 12,893 ounces of placer gold to 1950 (Holland, 1954), with two mines presently in operation.

The search for lode gold was conducted intermittently over the years with the first major discovery coming in 1929 at the northeast end of Jack of Clubs Lake, now the site of Wells, BC. Mining continued at this location to the present, with the Cariboo Gold-Quartz, Island Mountain, and Mosquito Creek mines producing over 1.29 million ounces of gold (Alldrick, 1983).

Lode gold was discovered in the early 1920's in the Cunningham Creek area, but significant work did not commence until 1937. Extensive underground development was carried out at the Cariboo Hudson Mine, producing 13,000 tons of 0.4 oz/ton ore from quartz veins. The mine was closed at the outbreak of World War II. Recent exploration of this property, which is located immediately south of Loki's present holdings by Imperial Metals has resulted in upgraded ore reserves of 37,000 tons of 0.36 oz/ton gold above the 200 foot level of the mine. Limited production was reported on the property now held by Loki from the Coniagas Adit, where shipments during 1937-38 totalled 3.98 tons of ore grading 7.63 oz/ton gold and 1.25 oz/ton silver.

Subsequent work on the property commenced in 1971 with Coast Interior Ventures Ltd. undertaking a program for the exploration of base metals in an area of high grade silver-gold quartz veins. In 1976-78 RioCanex optioned the property and carried out detailed soil sampling, magnetic and I.P. surveys, followed by drilling in two areas for gold and stratabound lead-zinc.

A 180 foot adit was driven in 1980 to develop a primarily silver-rich quartz vein exposed along Penny Creek. Ore produced from this adit was milled in Lumby and sent to Trail for smelting. Records indicate 14,822 dry tons were shipped, yielding 0.07 oz/ton gold, 89.4 oz/ton silver, 1.05% copper, 11.4% lead and 3.8% zinc (private records, Chaput Logging). The total value of the ore in November 1980 was \$27,674. A second shipment as sent in December 1980, weighing 15,846 dry tons yielding 0.152 oz/ton gold, 114.85 oz/ton silver, 1.45% copper, 19.0% lead and 5.1% zinc. The total value of this shipment was \$39,642. It is suspected that this ore was mixed with material high-graded from the Jewellery Shop (known to have higher gold values). Activity ceased in 1980 after only one season.

In 1987, Chaput Logging Ltd. completed 11.51 km VLF and magnetometer surveys over an area of known gold-bearing veins. In 1988 Preido Mines optioned the property and completed

trenching and channel sampling of several of these veins. Loki Gold assumed the option from Preido Mines in 1989 and commenced work on the property in May 1989.

2.2 Ownership

The property consists of 190 MGS and two post claims. Fifty of these are owned by Chaput Logging and are subject to an option agreement with Preido Mines and Loki. Four units were acquired through purchase in 1989, and 136 units were staked by Loki Gold during the course of the field season. Claim status is summarized in the Table 1 below.

Claims Under Option-Chaput Logging

<u>Claim Name</u>	<u>Record Number</u>	<u>Total Units</u>	<u>Expiry Date</u>
<u>Park Group (#2798)</u>			
Park 1-10	71845-71854	10	27/09/94
Park 11,12	53549,53559	2	27/08/94
Tarn	456	1	20/07/94
<u>Roundtop Group (#2576)</u>			
Base Metal 1-5	54167-54171	5	25/08/94
Base Metal 6,7	53289,53290	2	30/08/94
Base Metal 8-10	54241-54243	3	14/10/94
Bon Fraction	54240	1	14/10/94
R.T. 41-44	54134-54137	4	15/09/94
Roundtop 1	42783	1	20/06/94
Roundtop 3	42785	1	20/06/94
Roundtop 10-26	54138-54154	17	25/08/94
Roundtop 27,28(fr)	53291-53292	2	30/08/94
Silver Mountain 2	53288	1	30/08/94
<u>Lok Group ()</u>			
Lok 1	9576	20	11/03/90
Lok 2	9577	15	11/03/90
Lok 3	9578	16	11/03/90
Lok 7	9833	6	05/07/90
Nob 1,2	9052,9053(10)	2	22/10/90
<u>Craze Group ()</u>			
Lok 4	9579	15	11/03/90
Lok 5	9580	20	11/03/90
Lok 6	9581	20	11/03/90
Lok 9	9810	20	18/06/90
<u>Ungrouped</u>			
Tom 1,2	9206,9207(6)	<u>2</u>	29/06/90
		190	

An agreement was reached on September 15, 1989 whereby Loki Gold would option eight-five MGS and two post claim units from Richfield Metals Inc. These claims adjoin the present property boundary to the northwest. No work was done on this group during the 1989 program. Status of these claims are summarized below:

Claims Under Option-Richfield Metals

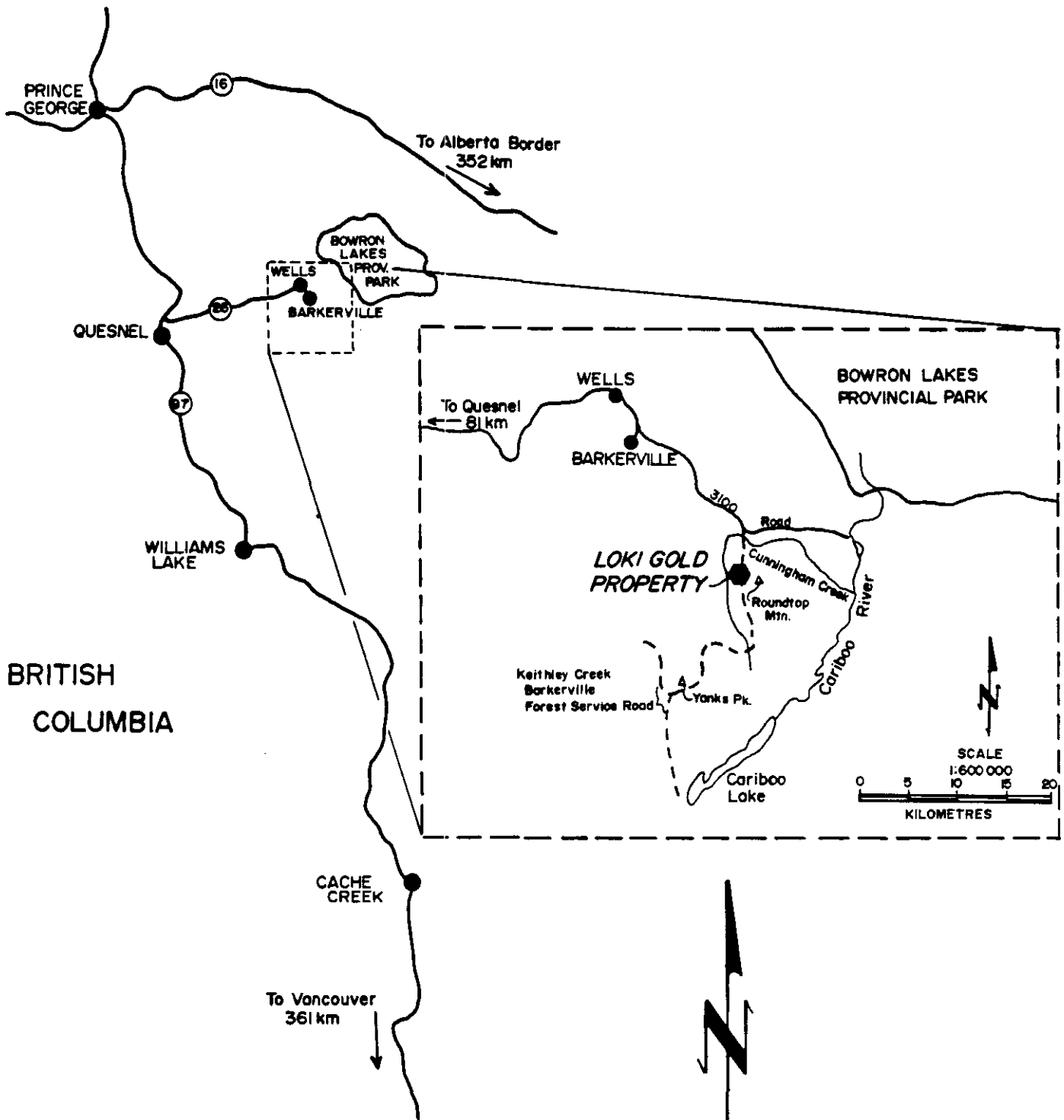
<u>Claim Name</u>	<u>Record Number</u>	<u>Total Units</u>	<u>Expiry Date</u>
Au 3	3169(2)	15	24/02/93
General Frank	3183(3)	20	03/03/93
Hi Run	3154(2)	18	06/02/93
Independence	3168(2)	20	20/02/93
Silver Dawn 1-4	2056(10)-2059(10)	4	21/10/94
Silver Dollar 1,2	6677(12),6678(12)	2	17/12/91
Silver Clay 1-4	2095(11)-2098(11)	4	13/11/93
Sure Shot 1,2	4085(10),4086(10)	<u>2</u>	01/10/93
		85	

2.3 Location, Access, and Physiography

The property is located at latitude 52°55', longitude 121°20' on NTS map sheet 93 A/14. It is located 25 km southeast of Wells, BC, seventy air-km west of Quesnel, BC within the Cariboo Mining district (Figures 2.3-1, 2.3-2). The property is situated within well-forested, rounded hills at elevations 3900 to 6600 feet.

The area is within a moist climatic belt, subject to heavy snowfalls in winter and generally rainy conditions in summer. The area is workable from late May to mid-October at most elevations. Underbrush is sparse in most areas of the property, with north and east-facing slopes being more heavily covered with low brush. Numerous cabins are present throughout the property, owned by past and present placer miners. Some are habitable, while most are in disrepair.

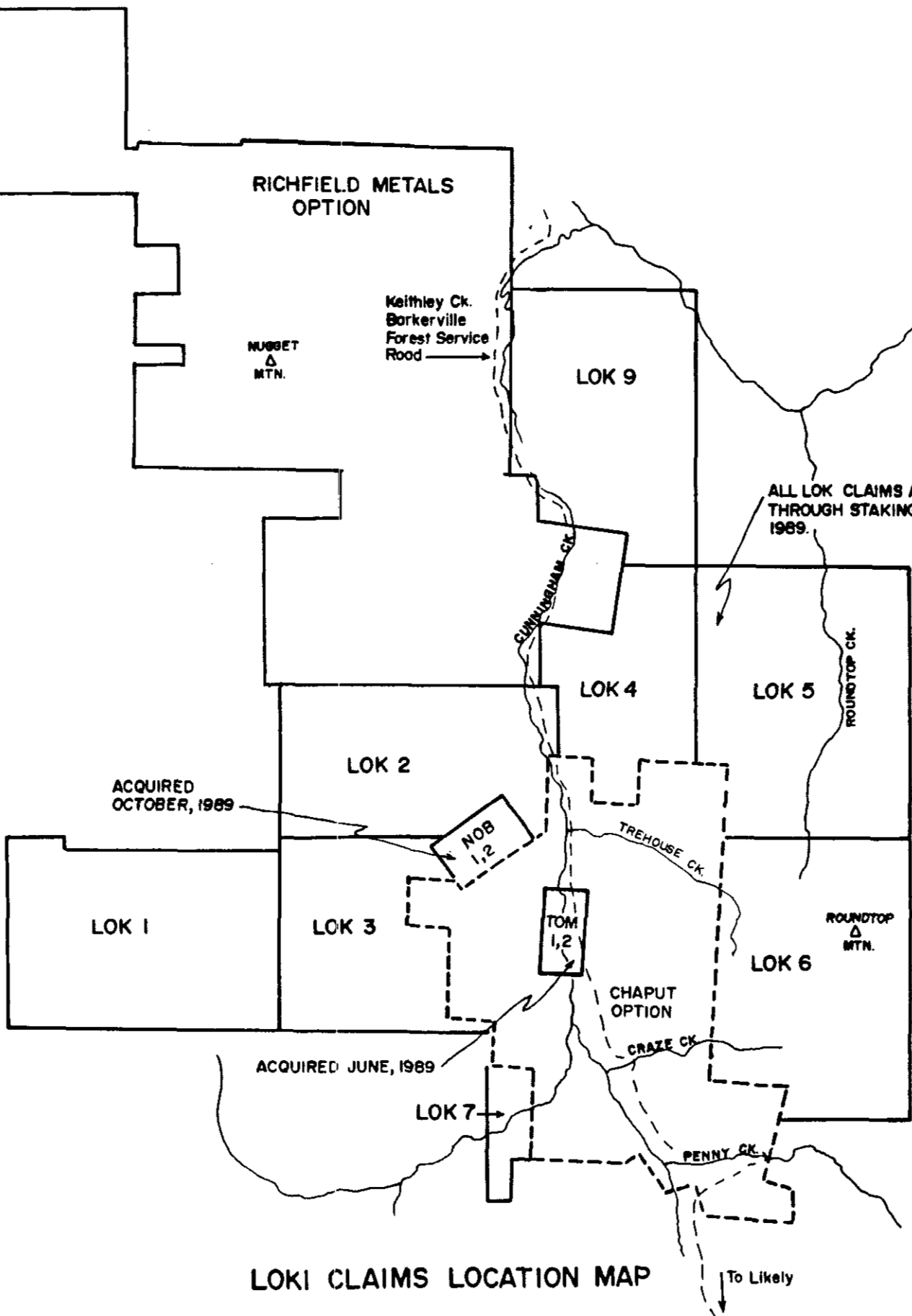
Access to-and within and property is excellent. The forestry-maintained 3100 logging road, begins near Barkerville and is graded year round. The Kiethley Creek-Barkerville road branches off the 3100 Road at 14.6 km and runs through the centre of the property. This road is in excellent condition as far as the Cariboo-Hudson Mine 3 km south of the property, then deteriorates to 4-wheel drive only conditions. It is graded annually as far as the mine. Numerous private roads constructed over the years during exploration spur off, providing access to many of the showing areas.



**LOCATION MAP
LOKI GOLD PROPERTY**

SCALE 1:2 500 000





LOKI CLAIMS LOCATION MAP

SCALE 1:50000



2.4 Regional Geology (from Humphreys, 1989)

The property covers a section of complexly deformed Upper Proterozoic to Upper Palaeozoic metasediments in the Omineca Tectonic Belt of the Canadian Cordillera. The northwest-southeast trending Pleasant Valley Thrust crosses the claims and separates two tectonically and stratigraphically unique terranes recently defined by Struik (1988) of the G.S.C. To the west, the Barkerville Terrane is dominated by varieties of grit, quartzite, and pelites with lesser amounts of limestone and volcanoclastic rocks. East of the fault, the Cariboo Terrane comprises Hadrynian to Lower Palaeozoic limestone and clastic rocks and farther to the east, Middle to Upper Palaeozoic shales, limestones and minor basalt.

The rocks of both the Cariboo and Barkerville Terranes are structurally complex. According to Struik (1988), they have been affected by at least four episodes of deformation. Generally, the rocks strike to the northwest and dip vertically or steeply to the northeast. Most fold axes plunge gently to the northwest. The cleavage is pervasive throughout Cariboo Terrane rocks. It strikes dominantly west-northwest and dips moderately to steeply northeast.

The metamorphic grade reaches lower greenschist facies in most of the Cariboo and Barkerville Terrane rocks.

2.5 Geology of Wells Gold Deposits

The Mosquito Creek, Island Mountain and Cariboo Gold Quartz deposits at Wells have recorded production of some 3 million tons of ore grading 0.4 oz/ton gold. The ore bodies occur in a large number of discrete, relatively small deposits over a strike length of 4.5 km at or near the contact of the 'Baker Member' (Struik's Downey succession) and the 'Rainbow Member' (Struik's Hardscrabble Mt. Succession). Two types of mineralization are recognized; gold-bearing quartz veins up to 5 m wide within the Rainbow Member and massive pyrite replacement bodies in or near limestone beds in the Baker Member. The replacement deposits are shallowly plunging pencil shaped bodies in folded limestone. These ore bodies have been the major source of gold and have the higher grades - about 20 g/t (0.58 opt) compared to 12 g/t (0.35 opt) for the quartz veins.

Origin of the 'replacement' bodies has always been a contested issue, and several theories have been presented. One suggests that gold-bearing hydrothermal fluids penetrated fractured and folded strata, precipitating quartz and pyrite in the fractures (quartz vein feeders) and 'replacing' chemically reactive limestone beds. This idea is supported by lead-isotope studies by Andrew et. al (1983). However, Robert and Taylor (1989) have suggested that, based on detailed structural analysis of the

deposits, the massive pyrite bodies could be contemporaneous with sedimentation. Regardless of interpretation, the proximity to the Rainbow/Baker contact is clearly an important exploration criterion.

It should be noted that this contact has been traced for over 10 km through the Loki Gold property and recently optioned ground. Although numerous vein-type concentrations were located and trenched, replacement bodies as described above were not discovered during the 1989 program.

2.6 Summary of Work Completed in 1989

Commencement of field work was May 23, 1989, with a final demobilization completed on November 23, 1989. A total of 130 days were spent in the field during this period. Work was composed of:

- 1) Property mapping (1:5,000 scale) over much of the property.
- 2) Establishing a 91 km grid and collecting 4789 soil samples.
- 3) Minor prospecting of fringe areas.
- 4) Detailed trenching, including collection of 403 rock samples.
- 5) Minor geophysical orientation.
- 6) Drilling of six showing areas, consisting of 17 holes totalling 1090.5 m of BGM core (access maintained by snow-plowing).

3.0 PROPERTY GEOLOGY

3.1 Introduction

The property is covered overall by 1-5 m of overburden. Underlying bedrock physiography is highly irregular where exposed in trenching. Due to intense structural deformation and weathering, the upper 0.5 m of bedrock sheds readily into overlying material. Outcrop exposure is poor, with less than 5% bedrock visible over the property area. Exposure is limited almost exclusively to stream and road cuts.

3.2 Lithology

The property is underlain primarily by fine grained pelitic rocks including sericite schist, mudstones and some limestone bands. Contacts are usually anastomosing and gradational. Struik has mapped the Hardscrabble Mtn. and Downey successions as the dominant units on the property. Both

of these stratigraphic intervals consist of pelitic material, with the Hardscrabble Mtn. rocks being markedly more graphitic than the underlying Downey succession. Igneous activity is relatively minor, with the only known intrusives found in the Penny Creek area near the Silver Mine. These include a lamprophyre dyke exposed in the 5100 pit and 5200 pit trenches. Diorites are exposed in Penny Creek at elevation 4900'.

Schists

These include chloritic, sericitic, and graphitic variations. These rocks weather buff brown overall, often having a spotted appearance due to weathering of iron-rich ankerite prophyroblasts. The rocks are well foliated, often to the point of being 'rotten' near surface. They have generally >30% micaceous content, with local concentrations causing talcose characteristics. Grain size is generally less than 2 mm. Bedding features are indistinct, if present at all. Sericite schist is the most prominent lithology throughout the property area.

Quartzites

The quartzites generally weather a slightly darker brown than the schists. These rocks are fine grained, poorly sorted and locally micaceous. They occur as podiform massive bodies, often appearing to occupy fold nose areas. 1-3% fine grained disseminated pyrite is ubiquitous.

Mudstones/Argillites/Shales

These sedimentary rocks are characterized by higher graphitic content and well developed foliation/cleavage. They are very fine grained, weakly siliceous and/or locally calcareous. These packages are usually found as 2-10 m wide lenses within more broad schist and quartzite packages. They are predominantly located on the eastern portion of the property, associated with the Hardscrabble Mtn. succession.

Limestones/Marble

These lithologies seem irregular and often associated with more graphitic intervals. The limestones vary from light grey to black, locally impure with ankerite, producing a buff reddish weathering surface. These rocks are present in narrow 1-3 m bands or lenses throughout the property. Though considered an important potential host to replacement-type mineralization, no such relationship was recognized in the property area.

Intrusives and Volcanics

Lamprophyre on the property has been mapped by Struik as a km-scale linear feature crossing south of Roundtop Peak. It is a metre-wide chocolate brown unit with spheroidal weathering in outcrop. Fresh surfaces reveal darker coloured, coarse grained, felted textures. Lamprophyre is mapped within the Silver Mine workings only. This occurrence is thought to be related to that mapped by Struik.

3.3 Structure

Rocks in the property area have clearly been subjected to numerous episodes of strain. Orientation of units is predominantly northwesterly, striking 145° with steep northeasterly dips. Bedding-parallel cleavage is pervasive throughout the property area. It is often locally folded and crosscut by spaced crenulation cleavages, evidence of strong structural deformation. Faults and/or shears are ubiquitous, generally oriented north and north-northeast. Some quartz veins seem related to faulting, possibly as pre- and syn-deformational tension gashes, evidenced by drag folds and mineral growth patterns.

3.4 Mineralization

The Craze Creek property is well mineralized. Numerous gold/silver showings have been uncovered in the past, most occurring along a 145° trend, parallel to the Downy/Hardscrabble contact. As well, significant lead-zinc potential exists within the property area, and has received exploration activity in the past. The presence of a 0.5-1.5 m bedded barite unit within graphitic shales is also a very encouraging indication of a possible base metal-generating environment. This barite unit occurs in two locations spaced over 2 km apart, along a recognizable stratigraphic trend.

Gold occurs with silver, pyrite, arsenopyrite, sphalerite, galena and locally scheelite and trace metals within erratic anastomosing quartz veins. These veins are difficult to trace on surface for more than 5 m, but generally occur along recognizable north-south trending fault and shear zones up to 5 m wide. These showings will be discussed in detail individually in the trenching/showings section (4.4), following. The vein quartz is massive, milky or creamy-white in colour. Drusy and cockscomb textures indicate relatively open fracture deposition. Ankerite and muscovite are common gangue materials. Gold is invariably associated with pyrite, with better grades related to galena and arsenopyrite content. A major silver-bearing quartz vein occurs along Penny Creek at elevation 4940 feet. The 1 m wide structure strikes 170° , and dips vertically. This structure, though it contains no

economic gold, was developed for its silver in 1980. This structure has been traced over 800 m laterally with over 200 m of vertical continuity inferred.

Scheelite, once an exploration target in the area, is present in 1-2% concentrations within veins along Penny Creek. The only other occurrence is in hole 89-6 (B-Zone), in a quartz vein which graded 41.8 g/t Au over 1.4 m.

4.0 EXPLORATION ACTIVITY

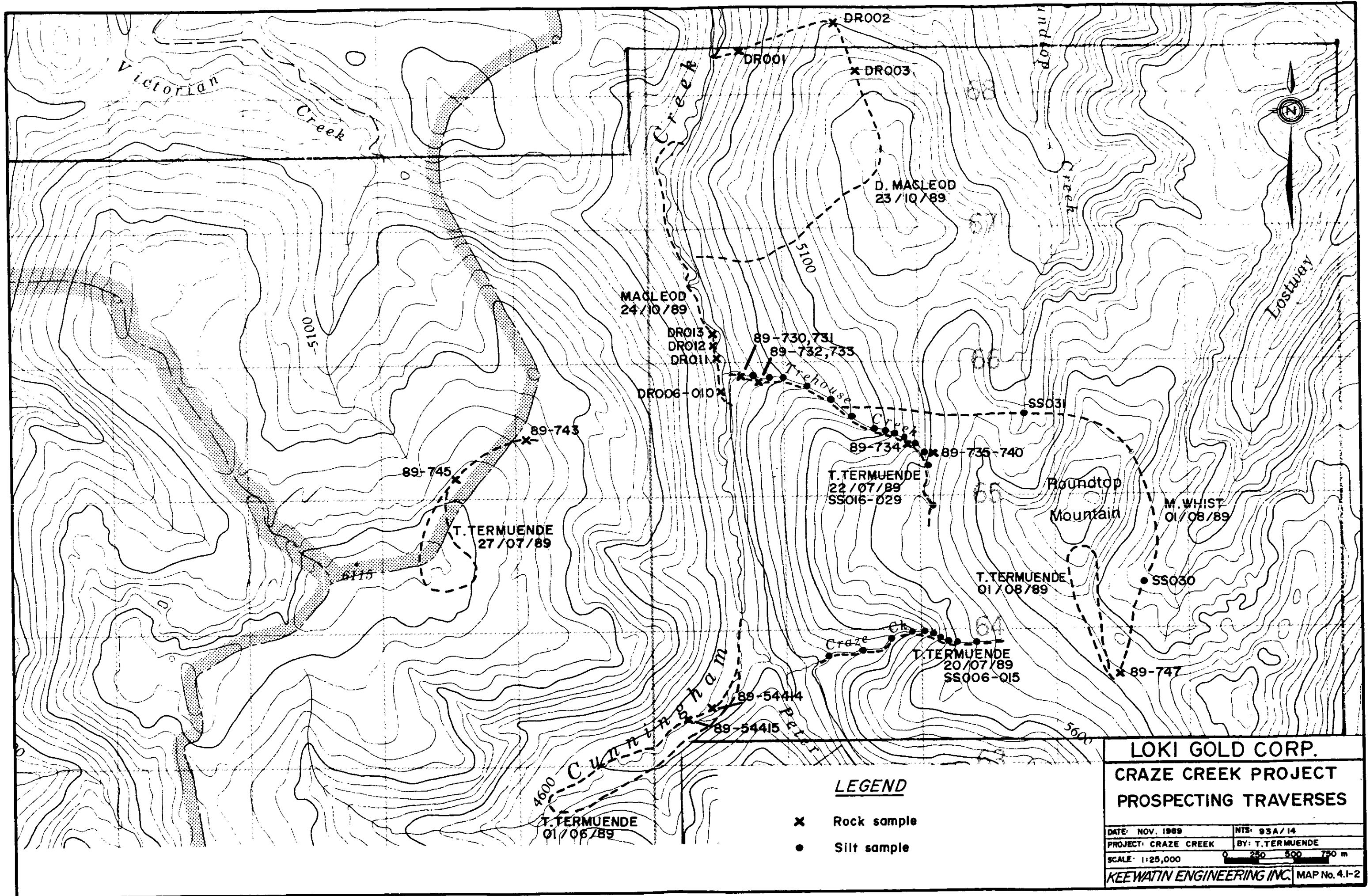
4.1 Geological Mapping and Prospecting

The property was mapped on a scale of 1:5,000 overall (see Figure 4.1-1). Creeks and roadcuts were traversed, as very few exposures exist elsewhere. The focus of coverage was the Cunningham Creek valley itself and its tributaries. Areas closer to the property boundary were not covered.

Twelve man-days were spent prospecting in the property area (see Figure 4.1-2). Creeks were traversed with silt samples taken every 100 foot elevation. No significant results were obtained, though a number of areas should see some follow-up work, based on field observations. These include the top of Nugget Mountain within the Lok 3 claim block, and a gossanous area located at 650N/1600E.

4.2 Geochemistry

A 91 km grid was established over favourable stratigraphy within the property (see Figure 4.2-1). The 5.1 km baseline was oriented 145° with 0+00 located at the intersection of the Kiethley Creek-Barkerville road and Craze Creek. A second 1.5 km baseline was completed at 12+00E, running parallel to the main line. Baselines were cut by powersaw and chained with slope corrections made. Lath pickets were placed every 25 m with metal tags affixed at 100 m crossline intervals. Crosslines were oriented 55° and were lightly cut with axes. The grid was designed to provide geochemical survey coverage over known showing areas and their possible extensions. The east grid was positioned to tie in Riocanex drill holes and delineate potential lead-zinc rich horizons. Two detailed grids were completed over particularly favourable areas. These grids are located on Nugget Mountain over an area which saw extensive trenching by Riocanex in 1977-78, with the other over the Jewellery Shop, B-Zone and Hibernian Trenches (see Figures 4.2-1A,1B). Crosslines were spaced every 50 m along the main baseline with 10 m sample spacings. Detailed sampling was completed 300 m east and west of the baseline.



- LEGEND**
- x Rock sample
 - Silt sample

LOKI GOLD CORP.
CRAZE CREEK PROJECT
PROSPECTING TRAVERSES

DATE: NOV. 1989	NTS: 93A/14
PROJECT: CRAZE CREEK	BY: T. TERMUENDE
SCALE: 1:25,000	0 250 500 750 m

KEEWATIN ENGINEERING INC. MAP No. 4.1-2

Mike Waskett-Myers, an experienced geochemist visited the property to complete a soil geochemical orientation. A number of test pits were dug and sampled, exposing well-developed soil horizons indicating that reasonably representative survey results can be expected from the property.

4789 soil samples were collected at 25 m spacings, 10 m over detailed grids. Samples were sent to Eco-Tech Labs in Kamloops, where gold geochemistry and 30 element I.C.P. analyses were completed (see Appendix). Any samples which contained values higher than 1000 ppb Au were fire assayed. Gold, silver, arsenic, copper, lead and zinc were plotted separately on main and detailed grid maps (see Figures 4.2-1 to 4.2-6).

Results

Numerous spot anomalies were located, with some continuous trends suggested. Trenching of some of these targets subsequently revealed that geochemistry is a reliable exploration tool in the area. Auriferous veins were often located directly below spot highs, suggesting that dispersion is minimal. Larger, more continuous anomalies tended to be the result of numerous small scale (10-30 cm) veins in an en-echelon orientation. Lead and arsenic values generally show good correlation with gold and silver.

4.3 Geophysics

Geophysical surveys have been undertaken in the past on and around the property area with limited success. The most recent work included a survey by Brian Mullion in 1987. That survey was completed over the Silver Mine, Penny Creek, and Jewellery Shop areas. Station intervals were 10 m along lines spaced 50 m apart. Results indicated a number of weak structures, but were largely inconclusive. Both Rioconex and Interior Coast Ventures had previously completed large scale surveys in the search for lead zinc.

A one-day orientation survey was completed by John Ashenhurst over the Jewellery Shop detailed grid. His Magnetometer and VLF survey was run over existing Jewellery Shop, B-Zone and Hibernian Trenches in order to test the effectiveness of these techniques. A proton magnetometer and VLF EM-16 instrument were used, with Annapolis as the VLF transmitter. A number of weak conductors were indicated, though none coincided with the existing mineralization. A single coincident mag-VLF conductor was interpreted to lie along Petergulch Creek from its confluence with Cunningham Creek (5+75N), southward to 2+50N. At the time the survey was completed, the Seattle station was off the air. This transmitter would have been preferred to test for north-south

structures, and as a result leaves some question as to the validity of results. The presence of graphitic horizons also suggests that some of the VLF conductors may not be related to sulphide mineralization.

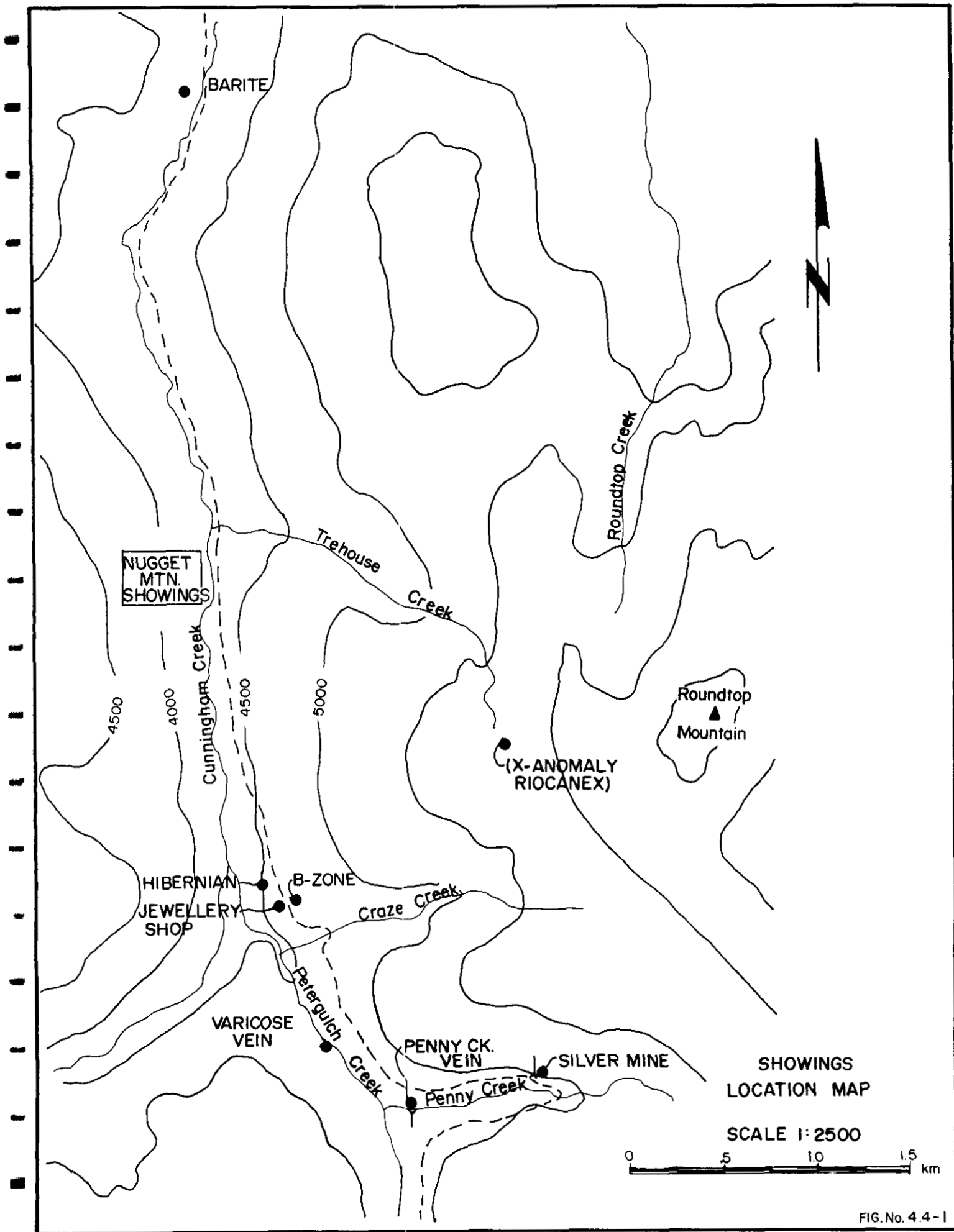
4.4 Trenching/Showings

A number of trenches were completed during the program, five being very large scale (over 1000 m² each). These include the Jewellery Shop, B-Zone, Hibernian, Switchback and 1500 Trenches (see Figure 4.4-1).

These and other workings and their locations are summarized below.

TABLE 2
1989 Trenching Program

<u>Trench/Showing Name</u>	<u>Location</u>	<u>Size</u>	<u>Vein Mineralogy</u>	<u>Significant Assays</u>
B-Zone	Baseline 3+00N	1125m ²	Au, Pb ± Zn	17.8g Au/2.0 m 22.5g Au/4.0 m 4.1g Au/3.0 m
Hibernian	550N/100W	1200m ²	Au, Ag, Pb, Zn	4.4g Au/3.0 m 5.8g Au/3.0 m 16.3g Au/2.0 m 19.6g Au/2.0 m 9.5g Au/2.0 m 7.8g Au/3.0 m
Jewellery Shop	300N/070W	1200m ²	Au, Ag, Pb	26.3g Au/4.0 m 11.9g Au/2.0 m 8.9g Au/3.0 m 6.8g Au/2.0 m 7.5g Au/2.0 m
Level 2	1860N/070W	50m ²	Au, Ag, Pb	15.5g Au, 157 g Ag, 1.8% Pb/2.0 m
Penny Creek Vein	1000S/225W	130m ²	Au, Ag	12.7g Au/1.1 m 10.1g Au/1.0 m
Silver Mine (Portal Area) (5100 Pit)	1170S/475E 1120S/475E	10m ² 60m ²	Ag Ag, Cu, Pb, Zn	10.0g Ag/1.0 m 45.8g Ag/1.0 m >10,000 ppb Cu, Pb, Zn/2.0 m
(5200 Pit)	1100S/500E	100m ²	Ag	40.8g Ag/1.0 m



SHOWINGS
LOCATION MAP

SCALE 1:2500



<u>Trench/Showing Name</u>	<u>Location</u>	<u>Size</u>	<u>Vein Mineralogy</u>	<u>Significant Assays</u>
Switchback	1150N/80W	900m ²	Au, Ag, Pb	247.1g Ag, >10,000 ppb Pb/1.0m 78.9g Ag,>10,000ppb Pb/1.0m 5.7g Au/1.0 m 6.11g Au/1.0 m 39.73g Au, 356.1 g Ag, >10,000 ppb Pb/1.0 m
Varicose Vein	600S/350W	90m ²	Au, Ag	8.61g Au, 19.6g Ag/1.0m 11.21g Au, 19.8g Ag, >10,000 ppb Pb/1.0 m 12.57g Au/1.0 m
186 Trench	1225S/420E	60m ²	W	1-5% Scheelite in quartz
378 Trench	1125S/250E	60m ²	W	1% Scheelite in quartz
14S/400E Trench	1400S/400E		Ag	>30 g Ag/0.7 m >30 g Ag/0.5 m
1500 Trench	Baseline 1500N	900m ²	Au	8.15 g Au/1.0 m
1650 Trench	Baseline 1650N	30m ²	Au	4.5 g Au/1.0 m

B-Zone Showing (Figure 4.4-2)

The B-Zone consists of several north-south oriented near vertical faults which offset northwest trending quartz veins. Drag folding of both the veins and of the host units foliation indicates right-lateral motion, with slickensides measuring 10⁰ to 003⁰. Veins tend to thicken and increase in sulphide content proximal to the faults. The most concentrated sulphide mineralization is at the north end of the trench where a quartz vein contains up to 20% pyrite and arsenopyrite in pods and as fine grained disseminations.

A single 1 m wide vein is seen to be offset three times, once by each of the major north-south trending faults. Total offset is approximately 30 m. Visible gold was observed within the delicate pyrite boxwork present along the vein selvage. This vein swells to a maximum thickness of 2.5 m along the most easterly fault uncovered.

To the north, veins horsetail to narrow stringers with 10% pyrite, but if further trenching were done along the main fault, more quartz veins would likely be uncovered. To the south the trench was ended in quartz.

Host rock is an interbedded sequence of sericite schist, sericitic quartzite and lesser 1-3 m wide bands of shale. All beds are well foliated except the more resistant quartzite. Fold axes are oriented 10° toward 135° in the south section of the trench and 10° toward 325° in the north, possibly indicating multi-directional, two-phase folding. Glacially striated rock was exposed in the northwest portion of the trench.

Hibernian Showing

The Hibernian Showing consists of a number of mineralized 1-2 m wide quartz veins hosted within a sericite schist/mudstone package. Foliation is well defined, oriented 140° - 160° / 60° - 80° NE. Quartz vein mineralogy consists of pyrite, galena, sphalerite, tetrahedrite, ankerite and minor arsenopyrite. Veins occur both as podiform masses or as 10-20 cm wide stringers, dipping near-vertically with a 110° strike.

Faulting is evident throughout the trench area. A number of faults splay off a major north-south structure, displacing all quartz veins and imparting a right-lateral offset of 3-4 m. Gouge zones are 5-10 m wide with the exception of the major structure, which contains intensely sericitized clays over 3 m, narrowing to the north. 10% quartz rubble is contained within the gouge material. Wallrock alteration has occurred adjacent to both faults and veins. Leaching and more intense sericitization is seen 1-2 m from these structures in both footwall and hangingwall members. Within this alteration band, perfect euhedral pyrite dodecahedrons are found, some over 1 cm in size.

Gold is confined to mineralized quartz veins, with a correlation between gold and galena evident. Mineralization relating to the major north-south fault structure may occur elsewhere along strike as no offsetting east-west structure was seen.

Jewellery Shop

This showing consists of a number of sulphide-rich auriferous quartz veins up to 2 m wide, oriented northwesterly. These veins may have up to 70% sulphides locally, primarily pyrite, arsenopyrite, galena, with trace tetrahedrite and argentite. All sulphides are very coarse grained, with euhedral crystals up to 1 cm wide present. Sericitic slivers are present within the sulphide bands. Vein contacts with the wallrock are convoluted and irregular. A resistant oxidized iron cap is often found directly above larger sulphide masses. Host rocks are primarily schist, one more graphitic in composition, the other a buff coloured sericitic unit. The contact between the two is foliation-parallel and is taken up by a north-south oriented vertical strike slip fault with slickensides 13°

toward 000°. The mineralized zone is offset repeatedly by 160°-180° faults, all with drag folds showing right-lateral movement. Some evidence suggests movement of approximately 2.5 m.

The pre-faulted width of the zone is estimated to be 5 m. The frequency of faulting within the trench area creates a noticeable mineralized zone subparallel to faulting.

The Silver Mine (see Figures 4.4-5 to 4.4-8)

The Silver Mine is located at the intersection of the Kiethley Creek-Barkerville Road and Penny Creek at elevation 5000 feet. Four parallel silver-lead bearing veins have been recognized, the most easterly seeing development in 1980 for one year. A 180 foot adit was driven along the structure, with some 30,000 tonnes of ore crushed on site and shipped to Trail. Grades of the order of 350 g/t Ag and 15% Pb were recovered.

Detailed mapping was completed on the most easterly vein, revealing a continuous .5 to 1.5 m structure striking 170° with a vertical dip. Four trenches, the 5200 Pit, 5100 Pit, Silver Mine, and 145/400E Trench all exposed what is thought to be the same vein. Soil geochem Ag and Pb highs on L7+00S and L8+00S suggest continuity to the north. Air photo lineations indicate this or a similar structure may continue to the south, onto Imperial Metals ground. With these indications, a total strike length of over 2 km and 300 m vertical continuity can be inferred. The vein itself appears to occupy the axial plane of an isoclinal fold, evidenced by minor folds in the 5200 Pit (see Figure 4.4-7), and geologic mapping of host stratigraphy. Post-depositional faulting has occurred within the vein, with numerous striated planes seen in the 5100 Pit indicating strike-slip movement (see Figure 4.4-6). Vein mineralogy includes galena, tetrahedrite, malachite, azurite and trace scheelite, argentite? and bornite.

Penny Creek and Varicose Veins (see Figures 4.4-9,10)

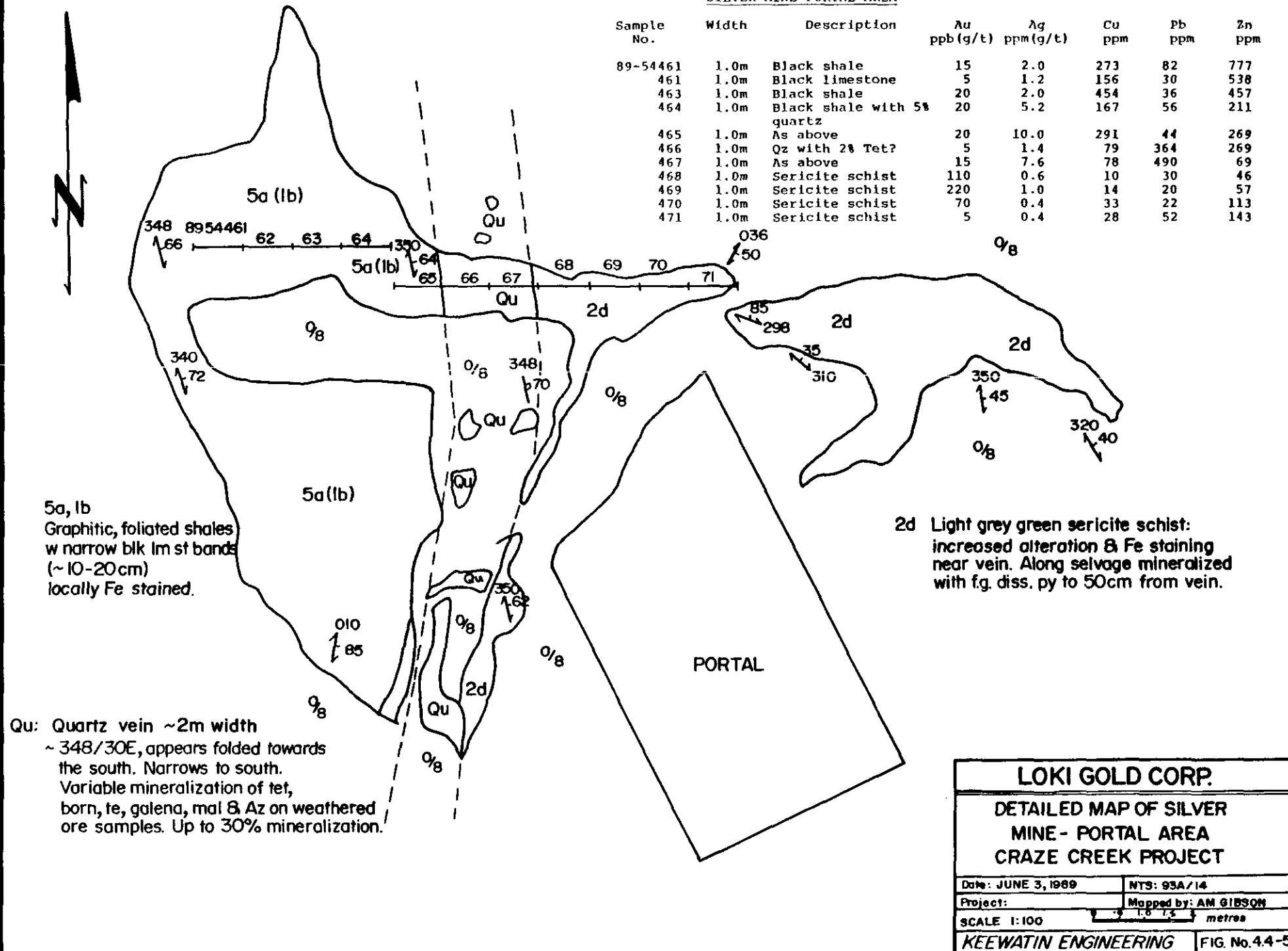
These two trenches were worked previously and reveal seemingly similar quartz vein systems. Both contain high gold values, are erratic and cut off abruptly by northerly trending faults. Extensions of each system are expected to exist, but terrain would make such trenching difficult and expensive.

Nugget Mountain Trenches (see Figures 4.4-11 to 4.4-13)

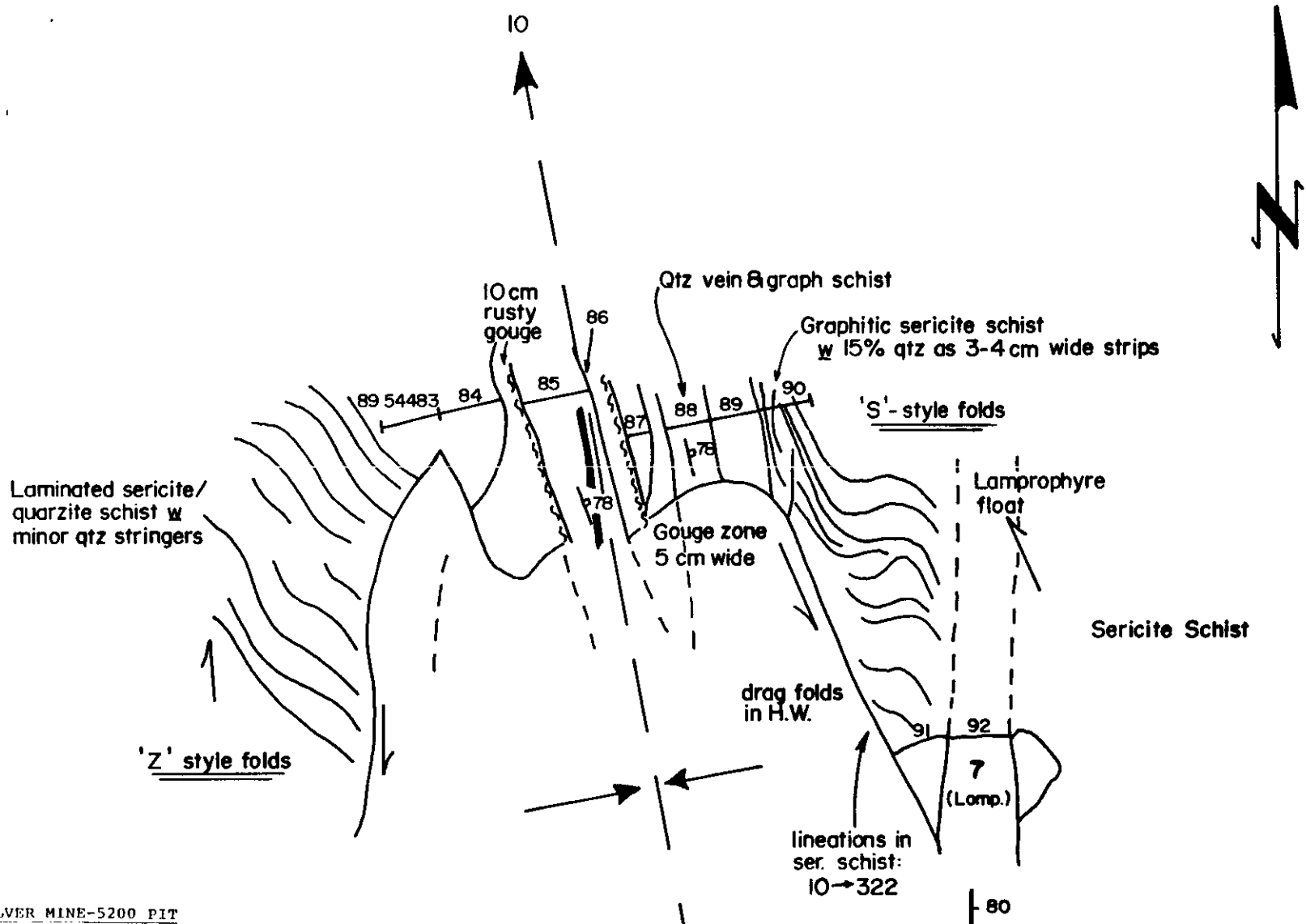
Numerous trenches exist in this area, many made by Riocanex during their 1977 and 1978 field programs. Four trenches were dug by Loki Gold in the 1989 season, namely the Switchback,

SILVER MINE-PORTAL AREA

Sample No.	Width	Description	Au ppb (g/t)	Ag ppm (g/t)	Cu ppm	Pb ppm	Zn ppm
89-54461	1.0m	Black shale	15	2.0	273	82	777
461	1.0m	Black limestone	5	1.2	156	30	538
463	1.0m	Black shale	20	2.0	454	36	457
464	1.0m	Black shale with 5% quartz	20	5.2	167	56	211
465	1.0m	As above	20	10.0	291	44	269
466	1.0m	Qz with 2% Tet?	5	1.4	79	364	269
467	1.0m	As above	15	7.6	78	490	69
468	1.0m	Sericite schist	110	0.6	10	30	46
469	1.0m	Sericite schist	220	1.0	14	20	57
470	1.0m	Sericite schist	70	0.4	33	22	113
471	1.0m	Sericite schist	5	0.4	28	52	143



LOKI GOLD CORP.	
DETAILED MAP OF SILVER MINE - PORTAL AREA CRAZE CREEK PROJECT	
Date: JUNE 3, 1989	NTS: 93A/14
Project:	Mapped by: AM GIBSON
SCALE 1:100	
KEEWATIN ENGINEERING	FIG. No. 4.4-5



SILVER MINE-5200 PIT

Sample No.	Width	Description	Au ppb (g/t)	Ag ppm (g/t)	Cu ppm	Pb ppm	Zn ppm
89-54483	1.0m	Sericite schist	5	0.8	51	100	293
484	1.0m	As above	45	0.6	65	34	317
485	1.0m	Quartz vein	25	40.8	649	2686	326
486	0.5m	Lamprophyre dyke	35	3.0	214	470	950
487	0.5m	Quartz vein	55	2.8	92	242	207
488	0.7m	Quartz vein	75	1.8	66	156	180
489	0.7m	Lamprophyre dyke	10	0.6	69	26	93
490	1.0m	Sericite schist	180	0.4	15	30	68
491	1.0m	Sericite schist	165	0.6	27	26	78
492	1.0m	Lamprophyre dyke	10	0.4	59	8	62

LOKI GOLD CORP.

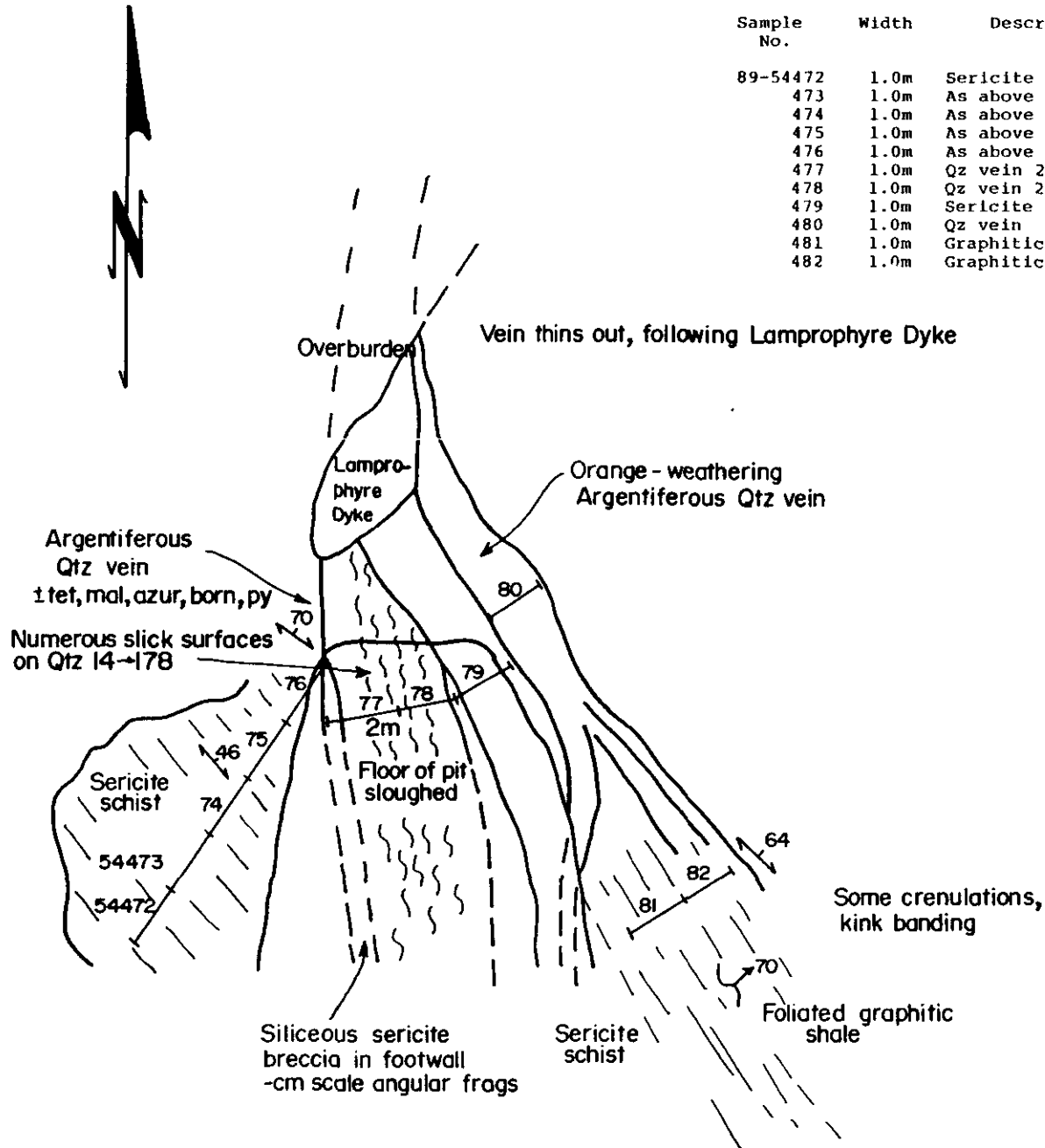
CRAZE CREEK PROJECT
SILVER MINE 5200 PIT

Date: JUNE 1989	NTS: 93A/14
Project:	Mapped by: T. TERMUENDE
SCALE: 1:1000	0 2 4 6 8 metres

KEEWATIN ENGINEERING FIG. No. 4.4-6

SILVER MINE-5100 PIT

Sample No.	Width	Description	Au ppb (g/t)	Ag ppm (g/t)	Cu ppm	Pb ppm	Zn ppm
89-54472	1.0m	Sericite schist	55	45.8	580	1472	1205
473	1.0m	As above	30	6.0	100	290	438
474	1.0m	As above	65	4.8	83	208	276
475	1.0m	As above	45	1.4	38	72	109
476	1.0m	As above	125	1.2	27	48	61
477	1.0m	Qz vein 20% Sx	815	< .2	> 10000	> 10000	> 10000
478	1.0m	Qz vein 20% Sx	395	< .2	> 10000	> 10000	> 10000
479	1.0m	Sericite schist	160	39	627	906	1030
480	1.0m	Qz vein	10	15.4	179	564	185
481	1.0m	Graphitic shale	75	3.8	129	142	287
482	1.0m	Graphitic shale	20	1.8	110	166	365



LOKI GOLD CORP.

CRAZE CREEK PROJECT

SILVER MINE 5100 PIT

Date: JUNE 3, 1989

NTS: 93A/14

Project:

Mapped by: T. TERMUENDE

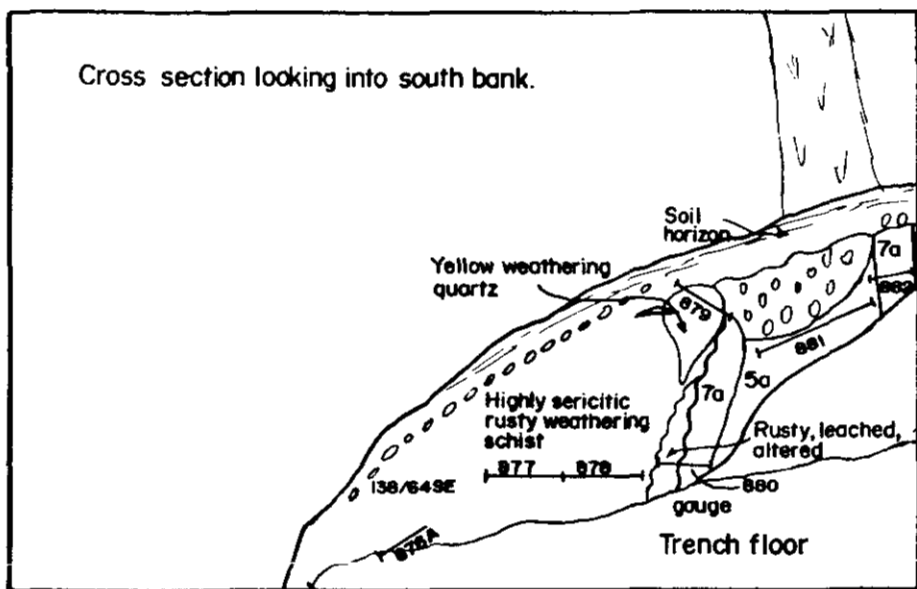
SCALE 1:1000

0 5 10 15 metres

KEEWATIN ENGINEERING

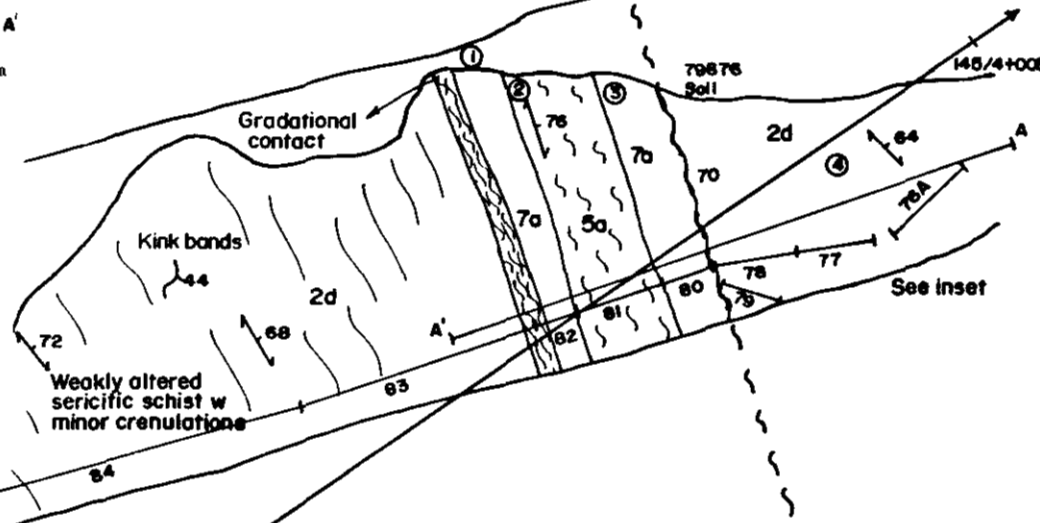
FIG. No. 4.4-7

Cross section looking into south bank.



- ① Mineralized qtz vein: similar to adjacent vein: 0.5m wide, oriented 160/70E.
- ② Intensely graphitic, minor crenulations throughout.
- ③ Mineralized qtz vein: strongly leached, altered with gouge seams within. Chalky-white colouration with native Ag, malachite stain, trace galena 0.7m wide, oriented 160/70E.
- ④ Highly sericitic, altered schist: rusty weathering with numerous qtz stringers oriented 032/70E.

Sample No.	Width	Description	Au ppb (g/t)	Ag ppm (g/t)	Cu ppm	Pb ppm	Zn ppm
149/400E TRENCH							
89-79876	1.0m	Sericitic, rusty soil	(1.15)	1.5	65	10	190
876A	1.0m	Sericite-alt. schist	60	.2	40	14	63
877	1.0m	As above	605	2.5	81	4	130
878	1.0m	As above	880	4.2	69	5	94
879	1.0m	Qz vein?	65	26.7	330	2521	167
880	0.7m	Ag/Cu-qz vein	115	>30.0	373	761	186
881	1.2m	Graphitic schist	25	1.5	58	60	114
882	0.5m	As 880	15	>30.0	970	2599	138
883	3.0m	Sericite schist	15	< 0.5	46	53	114
884	4.4m	Sericite schist	5	< .2	24	22	102
885	3.5m	Sericite schist	10	< .2	18	18	74
886	2.0m	Sericite schist	15	< .2	23	26	84



LOKI GOLD CORP.
CRAZE CREEK PROJECT
14S/400E TRENCH

Date: OCTOBER 16, 1989	NTS: 93A/14
Project:	Mapped by: T TERMUENDE
SCALE 1:100	metres

KEEWATIN ENGINEERING | FIG.No.4.4-8



BARREN QUARTZ VEIN
 - milky white colouration
 - no visible sulphides
 - intensely fractured 006/80E
 - oriented 005/90

MINERALIZED QUARTZ VEIN
 - apparent attitude: 022/66E
 - 1-2 m wide
 - up to 20% py, 5% ga as fine grained clusters and coarse euhedral crystals
 - sericitic ribbons throughout

POORLY EXPOSED PYRITIFEROUS VEIN
 - up to 10% py, concentrated in envelope
 - coarse, euhedral crystals
 - 30cm wide
 - 100/60N?

TAILINGS
 - qtz boulders containing up to 20% py as coarse, euhedral crystals.

CAVED-IN ADIT
 - mine timbers visible in debris pile

MINERALIZED QUARTZ VEIN
 - identical in mineralogy to view across stream

FAULT SCARP WITH SLICKS
 very well defined
 - drag fold suggest r. lat. movement
 - slickensides oriented 22° 360°
 - fault oriented 180/90

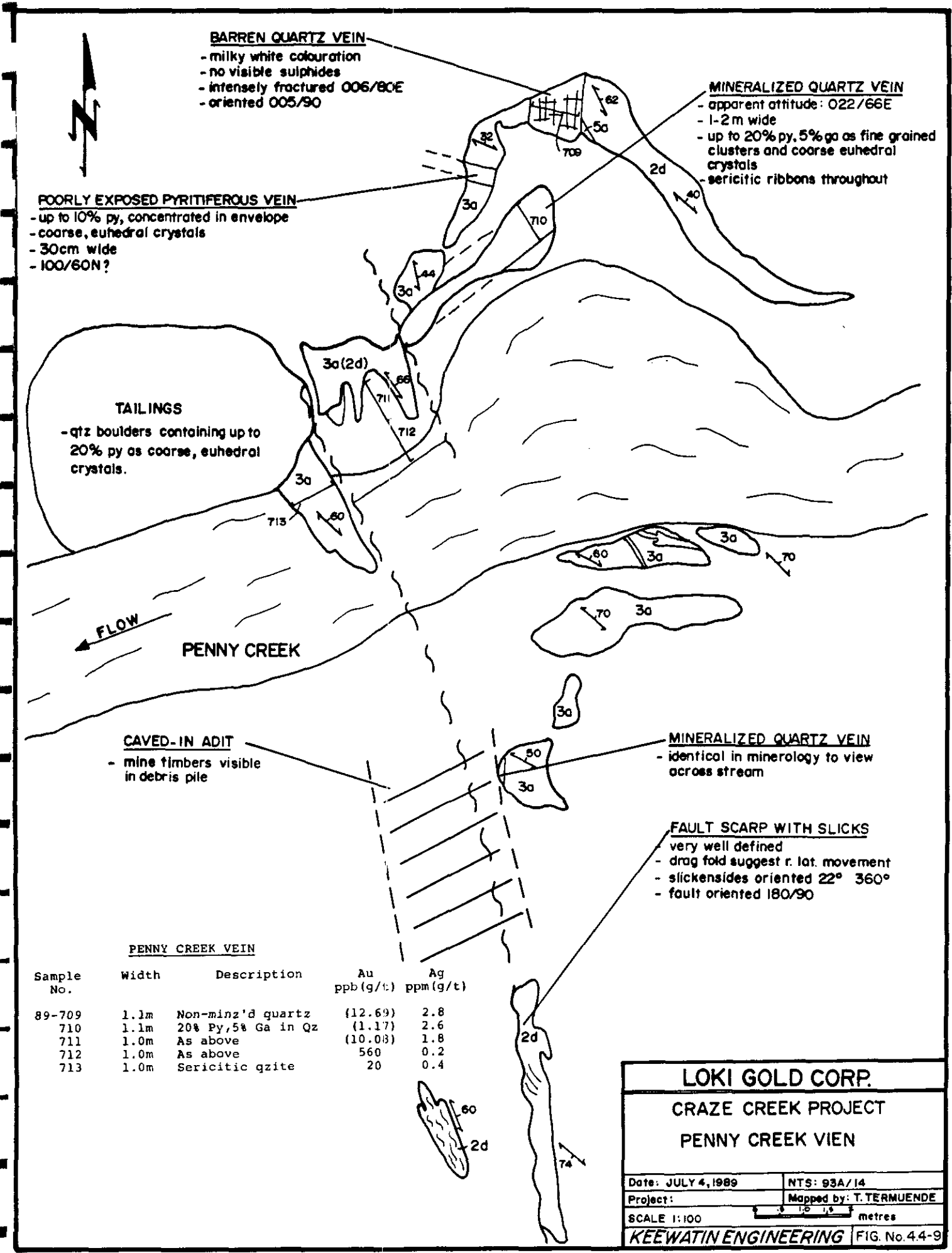
PENNY CREEK VEIN

Sample No.	Width	Description	Au ppb (g/t)	Ag ppm (g/t)
89-709	1.1m	Non-minz'd quartz	(12.69)	2.8
710	1.1m	20% Py, 5% Ga in Qz	(1.17)	2.6
711	1.0m	As above	(10.08)	1.8
712	1.0m	As above	560	0.2
713	1.0m	Sericitic qzite	20	0.4

LOKI GOLD CORP.
CRAZE CREEK PROJECT
PENNY CREEK VEIN

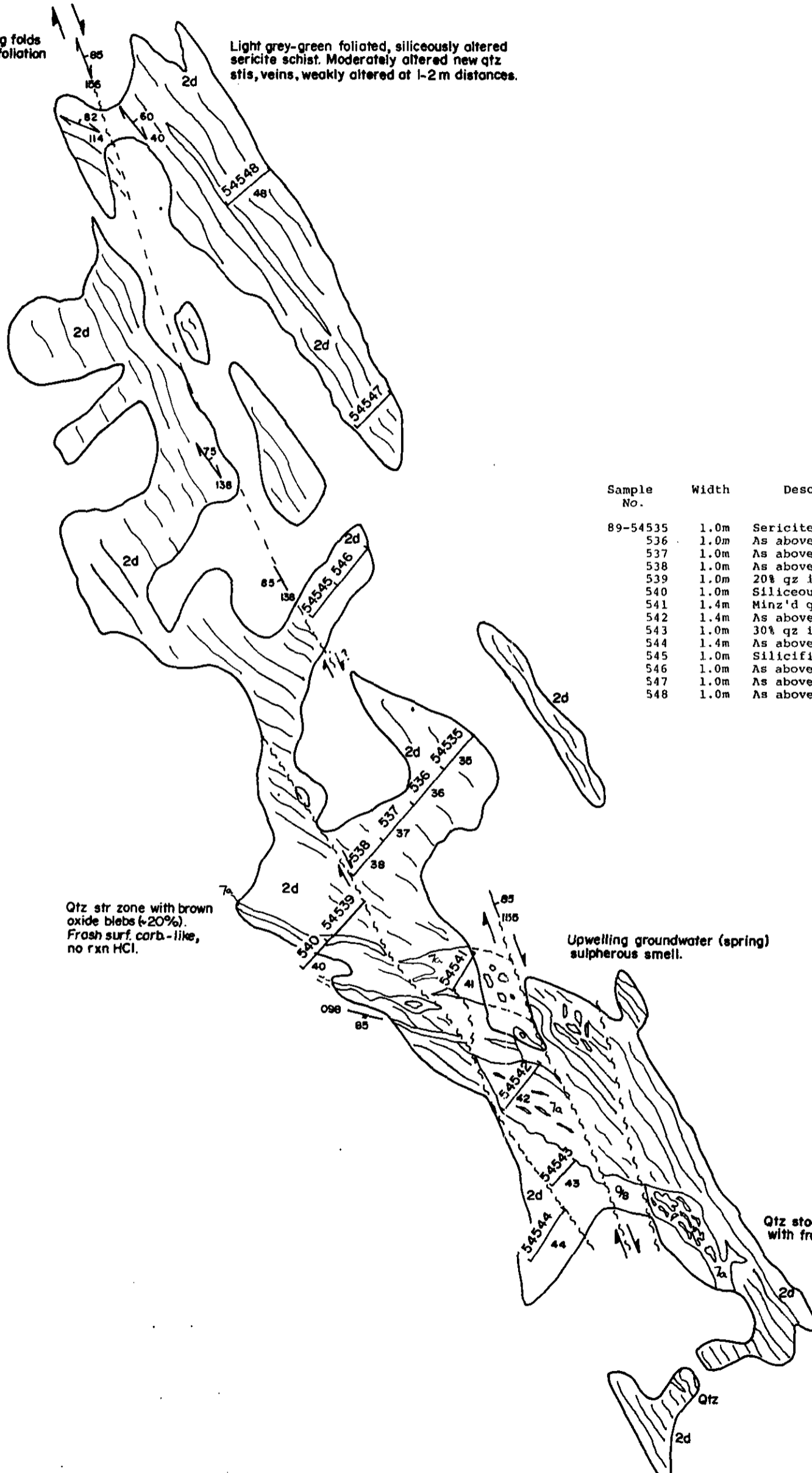
Date: JULY 4, 1989 NTS: 93A/14
 Project: Mapped by: T. TERMUENDE
 SCALE 1:100 0 1.0 1.5 metres

KEEWATIN ENGINEERING FIG. No. 4.4-9



Drag folds of foliation

Light grey-green foliated, siliceously altered sericite schist. Moderately altered new qtz stis, veins, weakly altered at 1-2 m distances.



Qtz str zone with brown oxide blebs (~20%). Fresh surf. carb.-like, no rxn HCl.

Upwelling groundwater (spring) sulphurous smell.

Qtz stockwork mylonitic zone with fragment of sericite & gn stringers



Sample No.	Width	Description	Au ppb (g/t)	Ag ppm (g/t)	Cu ppm	Pb ppm	Zn ppm
89-54535	1.0m	Sericite schist	30	< .2	15	20	43
536	1.0m	As above with minor qz	15	< .2	32	16	108
537	1.0m	As above	50	0.6	96	30	123
538	1.0m	As above	20	< .2	35	16	102
539	1.0m	20% qz in ser. schist (8.61)	19.6		6	1564	38
540	1.0m	Siliceous ser. schist	45	0.4	10	26	35
541	1.4m	Minz'd qz vein, 10% Sx (11.21)	19.8		4	>10000	69
542	1.4m	As above (12.57)	3.0		1	128	14
543	1.0m	30% qz in ser. schist	625	0.2	30	46	83
544	1.4m	As above	85	0.2	13	26	61
545	1.0m	Silicified ser. schist	55	< .2	14	10	57
546	1.0m	As above	50	< .2	25	14	82
547	1.0m	As above	30	< .2	12	12	39
548	1.0m	As above	30	0.2	3	8	16

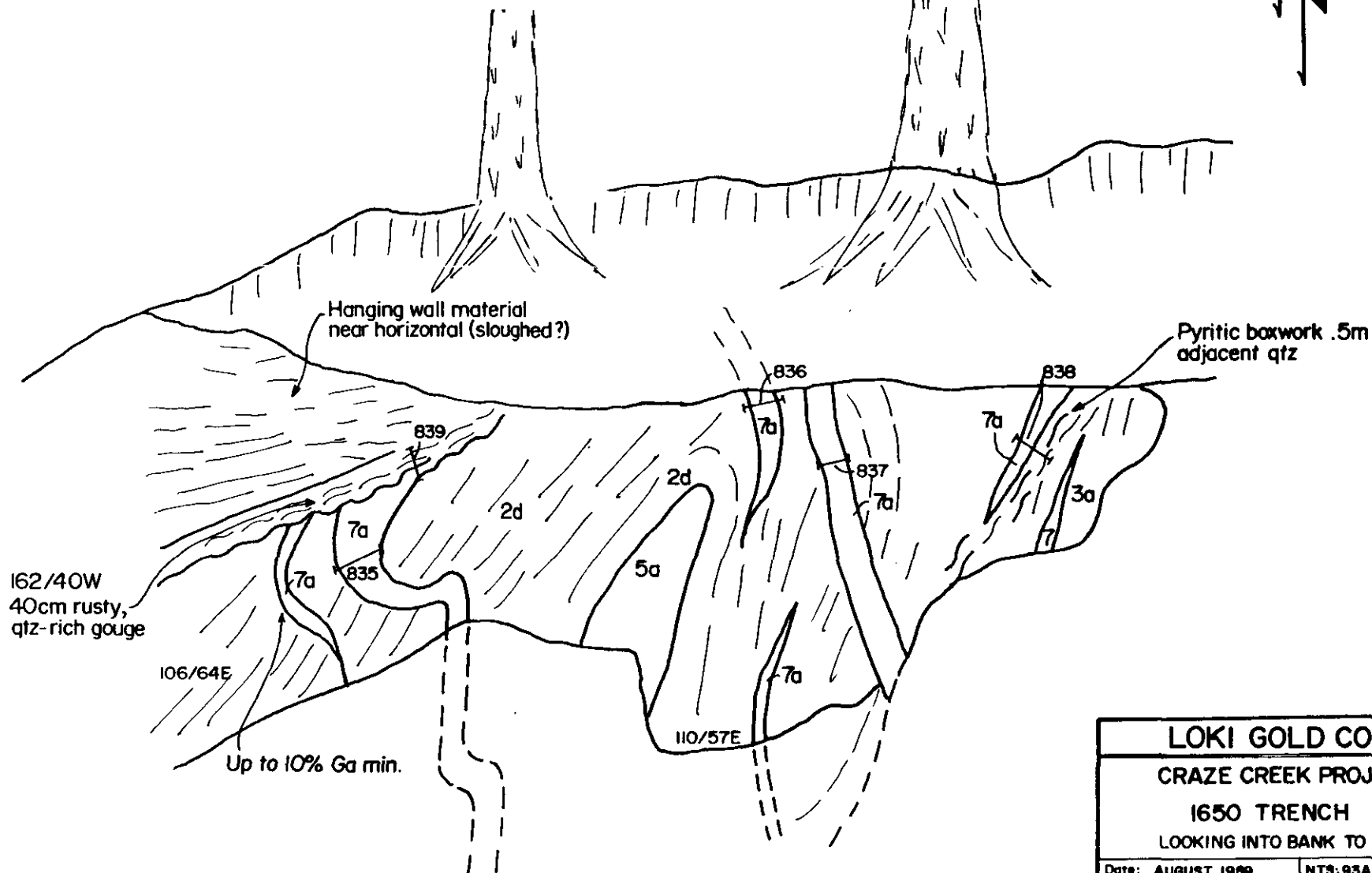
LOKI GOLD CORP.
CRAZE CREEK PROJECT
VARICOSE VEIN
DETAILED TRENCH MAP

Date: JUNE 14, 1989 NTS: 95A/14
Project: Mapped by: AM GIBSON
SCALE 1:100 0 1 2 metres

KEEWATIN ENGINEERING FIG. No. 4.4-K

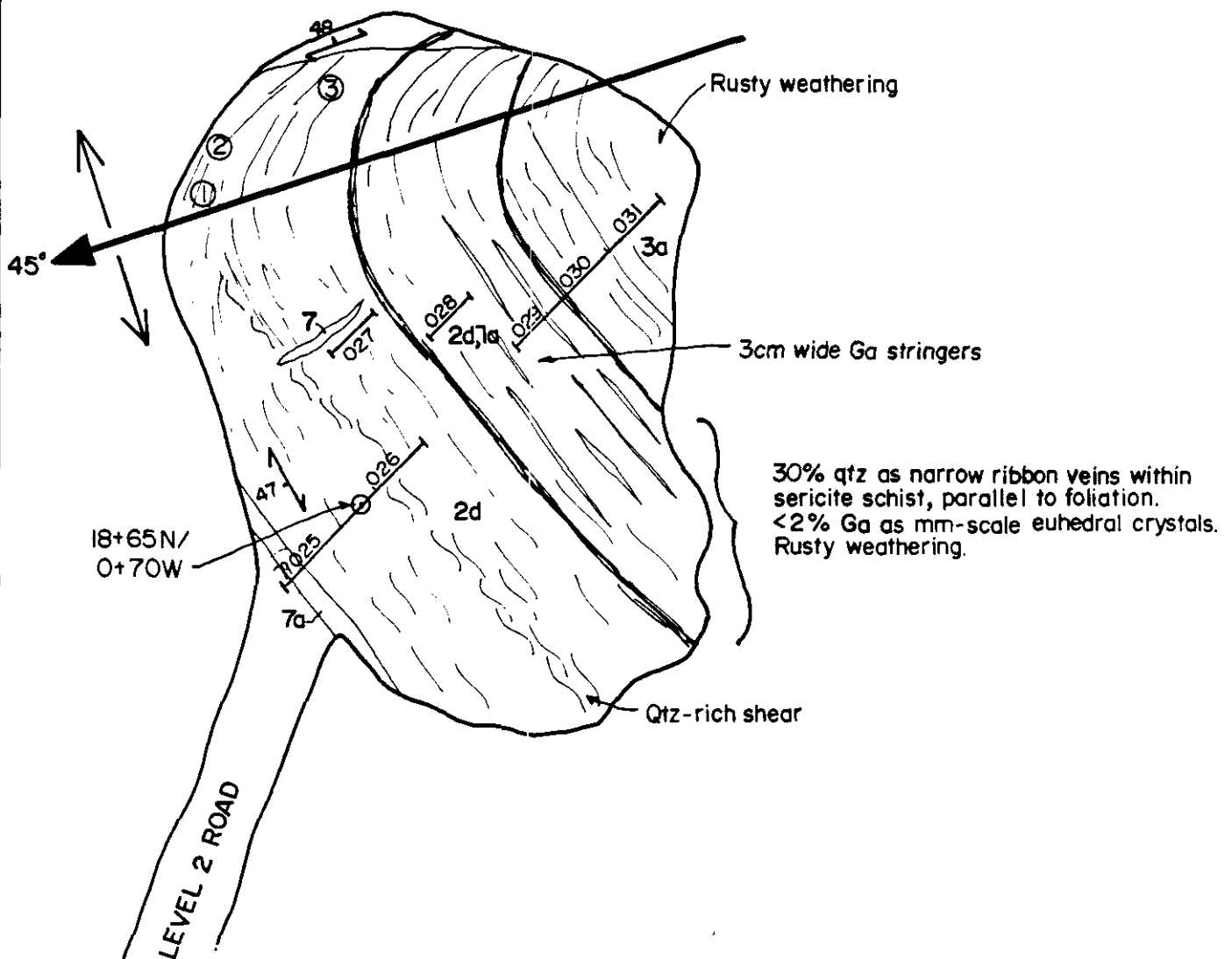
1650 TRENCH

Sample No.	Width	Description	Au ppb (g/t)	Ag ppm (g/t)	Cu ppm	Pb ppm	Zn ppm
89-79835	1.0m	5% galena in qz	35	3.0	< 1	9780	24
836	0.7m	Orange quartz	(1.86)	< .2	< 1	234	22
837	0.7m	As above	415	< .2	< 1	104	25
838	1.0m	Pyritic shear	(4.53)	< .2	< 1	79	28
839	0.4m	Clay gouge	495	0.4	< 1	1631	64
840	grab	1% ga in quartz	80	1.0	< 1	1974	39



LOKI GOLD CORP.	
CRAZE CREEK PROJECT	
1650 TRENCH	
LOOKING INTO BANK TO 290°	
Date: AUGUST 1989	NTS: 93A/14
Project:	Mapped by: T. TERMUENDE
SCALE 1:100	metres
KEEWATIN ENGINEERING	FIG. No. 4.4-12

- ① 032,033,034 vertical on wall of trench
- ② Slicks 00-330°
- ③ Intensely sericitic, qtz-rich in fold nose area



LEVEL 2 TRENCH

Sample No.	Width	Description	Au ppb(q/t)	Ag ppm(q/t)	Cu ppm	Pb ppm	Zn ppm
89-79025	1.0m	80% qz in ser. schist	525	2.6	17	1114	443
026	2.0m	Weak shear, 20% qz	205	1.0	72	206	452
027	1.0m	Ser. schist, 5% quartz	55	1.0	25	594	796
028	1.0m	Ribbon-banded chert, ga	(12.61)	(308)	14	(3.58)	3559
029	1.0m	As above	(18.41)	7.2	10	918	1277
030	1.0m	Fold qzite, 5% quartz	965	1.6	111	190	198
031	1.0m	As above	145	0.6	92	50	116
032	1.0m	Fold nose, 30% quartz	105	0.8	28	222	767
033	1.0m	As above	305	0.6	18	152	663
034	1.0m	As above	125	0.6	72	566	

LOKI GOLD CORP.

CRAZE CREEK PROJECT

LEVEL 2 TRENCH

Date: OCTOBER 24, 1989	NTS: 93A/14
Project:	Mapped by: T. TERMUENDE
SCALE 1:100	

KEEWATIN ENGINEERING FIG.No.44-13

1500, 1650, and Level 2. All workings revealed similar mineralization: narrow, erratic gold-bearing pyritiferous quartz veins. These veins differ from those elsewhere on the property in that they seem to have been subjected to greater deformation. Veins often occur as crumbly pebble trains within shear zones up to 1 m wide. Drilling confirmed highly deformed ground conditions, as recovery was less than 50% overall in the three holes completed in this area, compared to 95% elsewhere on the property. Trenching was hampered by frequent underground springs and extremely muddy overburden.

4.5 Diamond Drilling (see Figures 4.5-1 to 4.5-10, Appendix B)

A \$100,000, 1090 m drill program commenced in November, to test continuity at depth under the more favourable mineralized areas trenched earlier, was contracted to Falcon Drilling of Prince George, B.C. Seventeen holes were completed on ten sites (see Figure 4.5-1). Moves were facilitated by D-6 Cat, with a Hughes 500E helicopter required for two moves due to mud and snow conditions.

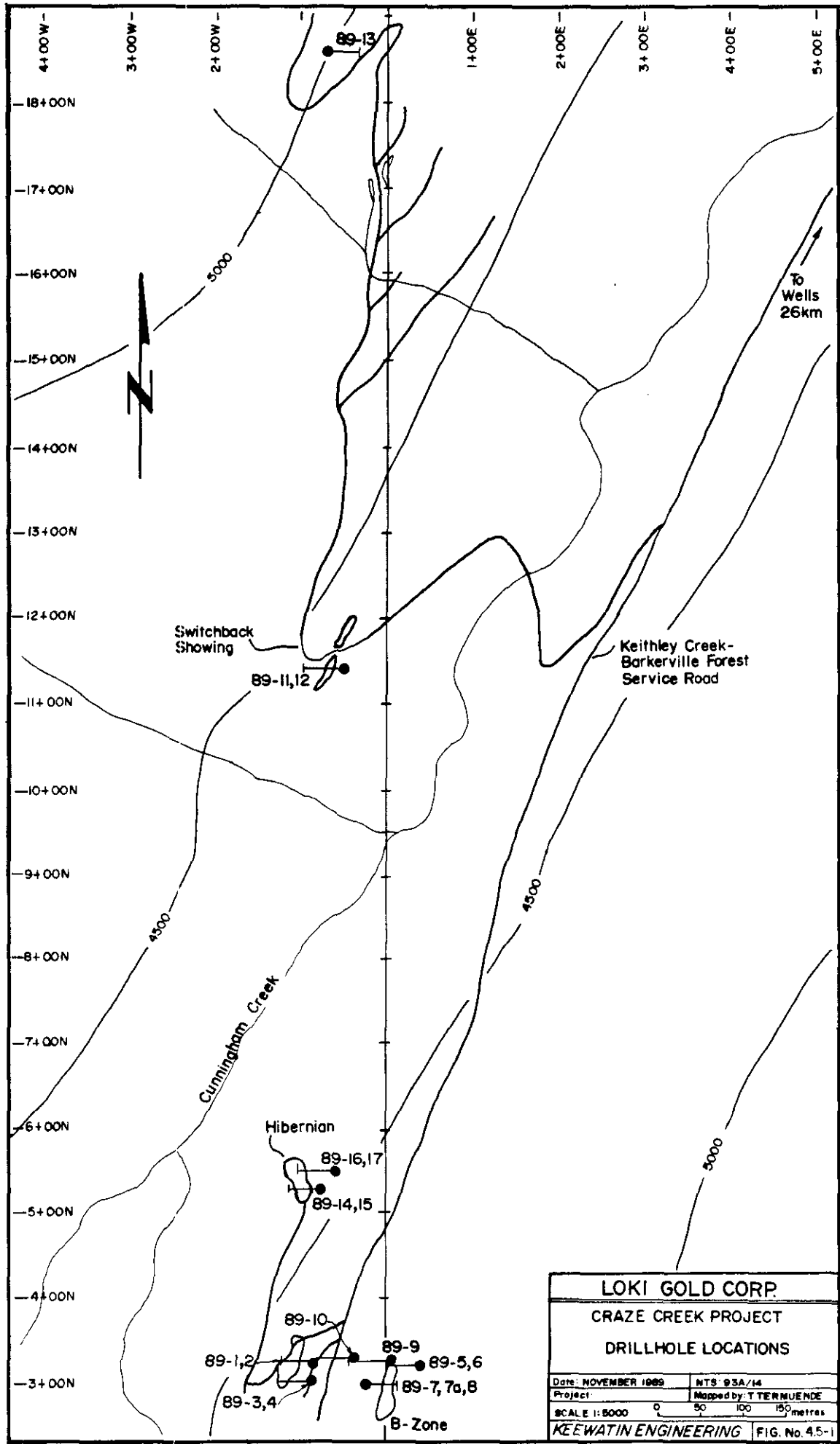
CORE STORED ON SITE AT OLD TRAPPERS CABIN

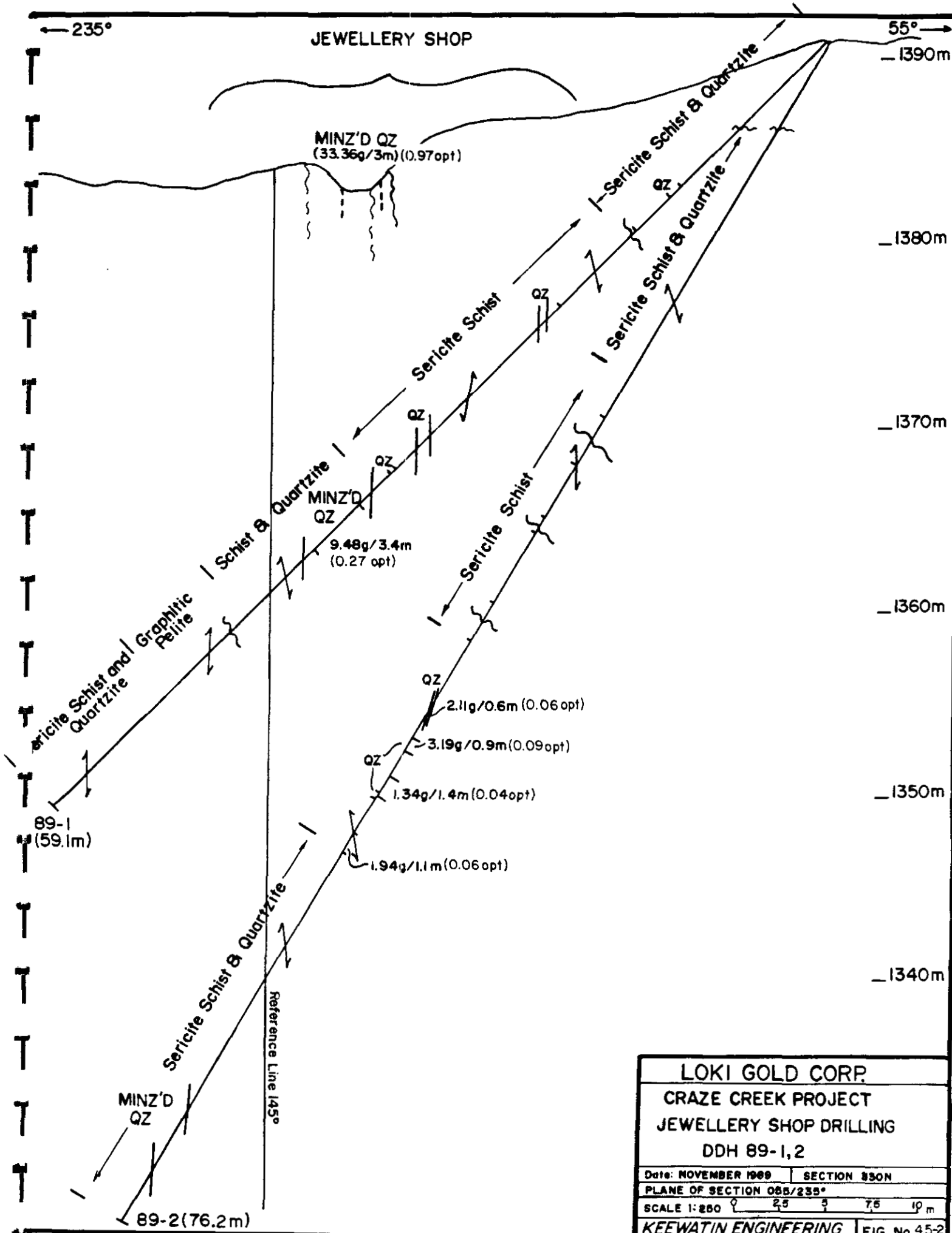
Drilling information is summarized below:

TABLE 3

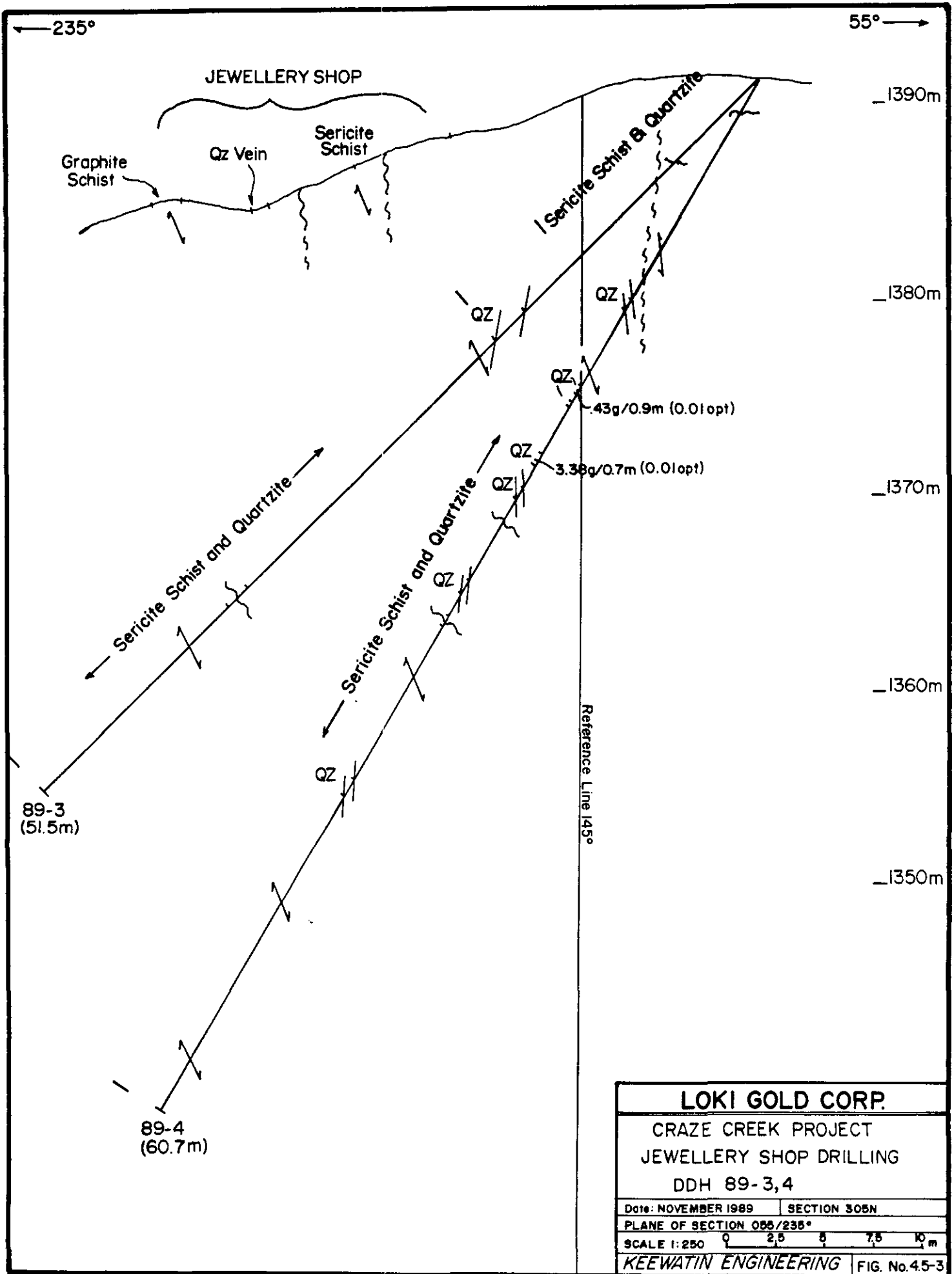
Drilling Summary

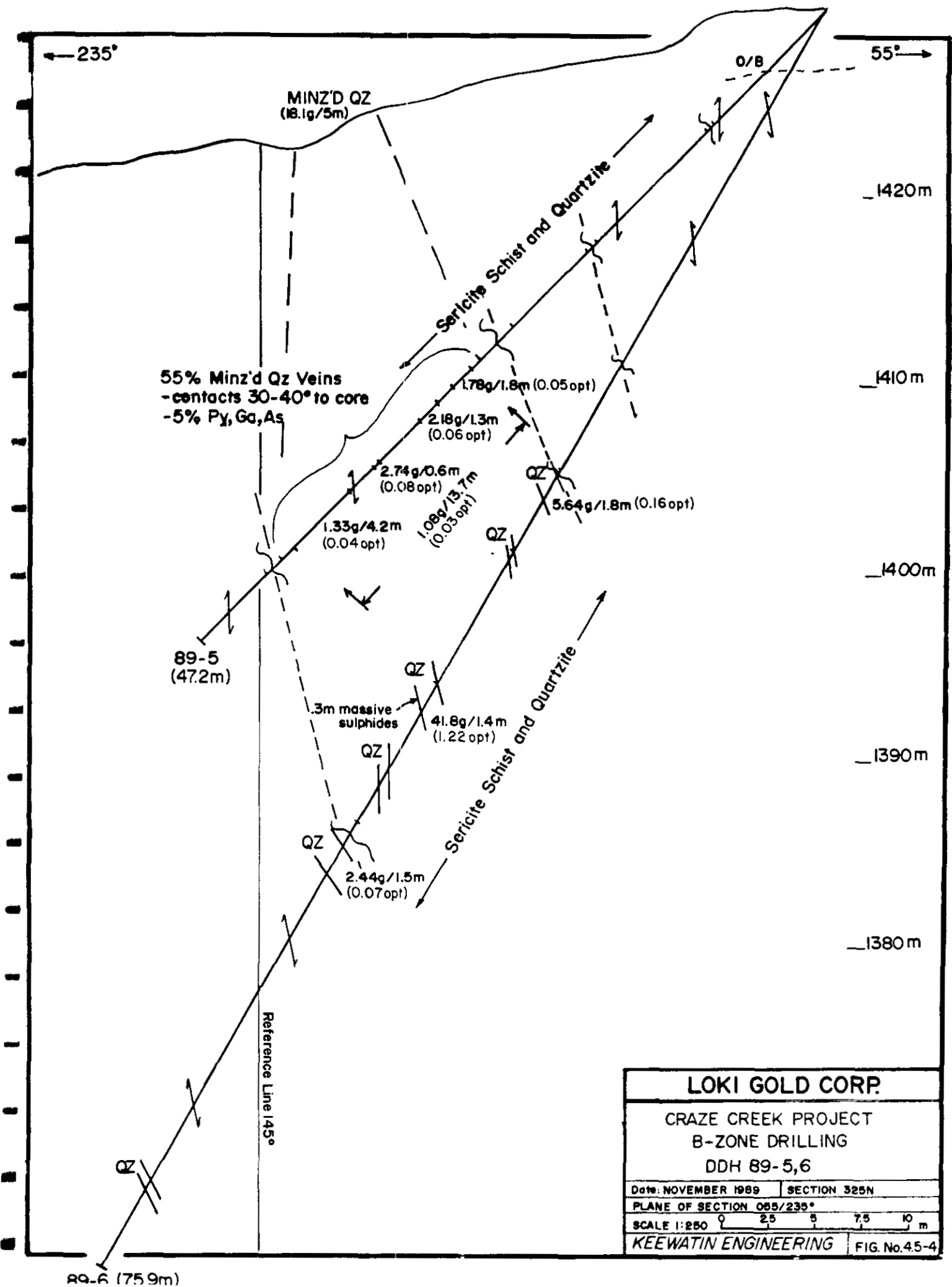
<u>Hole</u>	<u>Orientation</u>	<u>Length</u>	<u>Location</u>	<u>Elev.</u>	<u>Surface Showing</u>	<u>Significant Results</u>
89-1	-45° to 235 °	59.1m	330N/050W	1395m	JewelleryShop	21.4-22.0m(0.6m)17.23g/t 35.7-39.1m(3.4m)9.48g/t
89-2	-60° to 235 °	76.7m	330N/050W	1395m	JewelleryShop	41.7-42.3m(0.6m)2.11g/t 43.9-44.8m(0.9m)3.19g/t 46.3-47.7m(1.4m)1.34g/t 50.3-51.4m(1.1m)1.94g/t
89-3	-45° to 235 °	51.5m	305N/050W	1392m	JewelleryShop	16.8-17.8m(1.0m)0.47g/t
89-4	-60° to 235 °	60.7m	305N/050W	1392m	JewelleryShop	21.9-22.6m(0.7m)3.83g/t
89-5	-45° to 235 °	47.2m	325N/038W	1430m	B-Zone	26.7-27.7m(1.0m)2.90g/t 27.6-27.7m(0.1m)17.93g/t 29.3-30.6m(1.3m)2.18g/t 33.6-40.1m(4.2m)2.74g/t 35.9-40.1m(4.2m)1.33g/t 46.4-46.6m(0.2m)1.75g/t



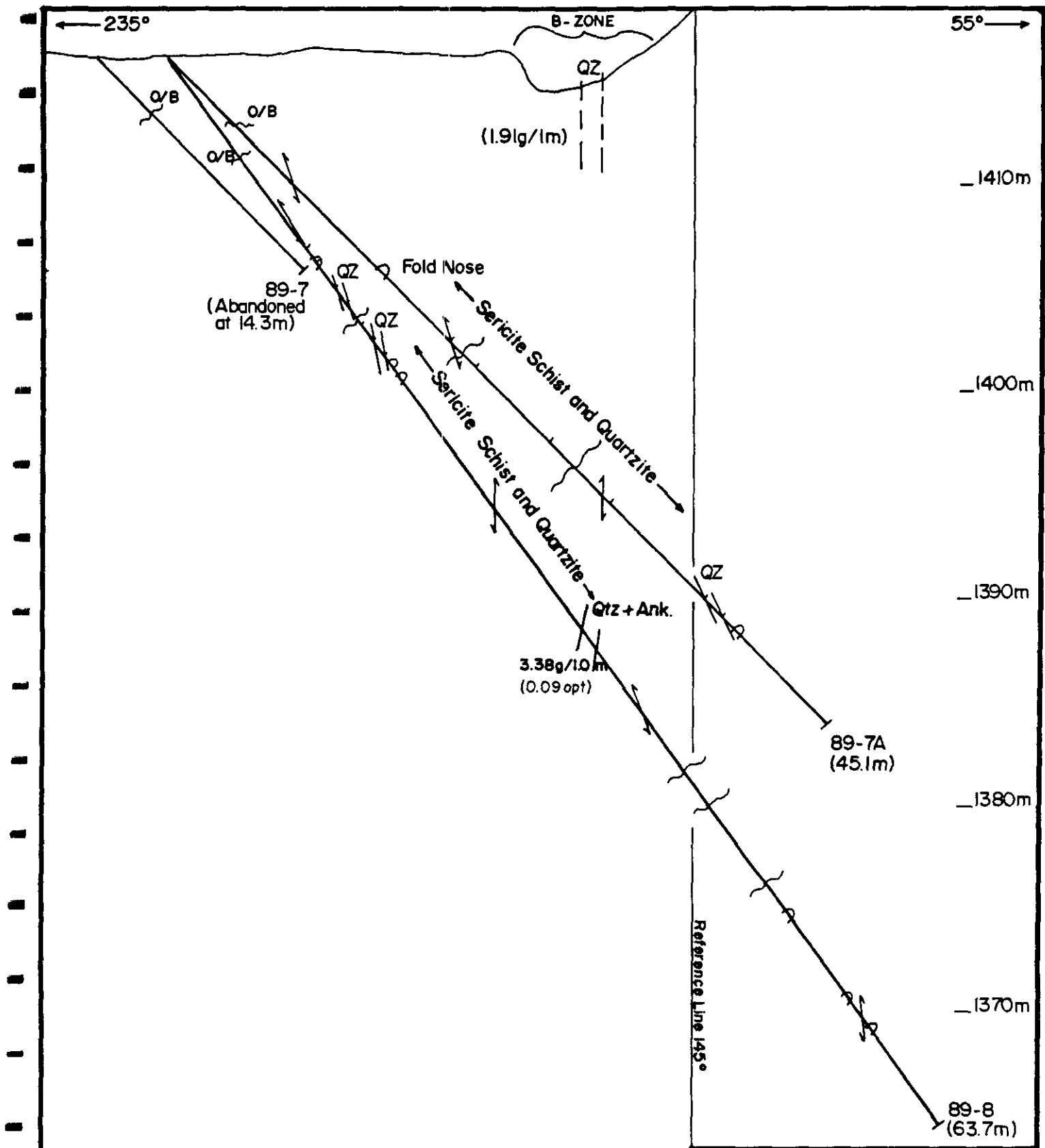


LOKI GOLD CORP.	
CRAZE CREEK PROJECT	
JEWELLERY SHOP DRILLING	
DDH 89-1, 2	
Date: NOVEMBER 1989	SECTION 830N
PLANE OF SECTION 085/235°	
SCALE 1:250	2.5 5 7.5 10 m
KEEWATIN ENGINEERING	FIG. No 4.5-2





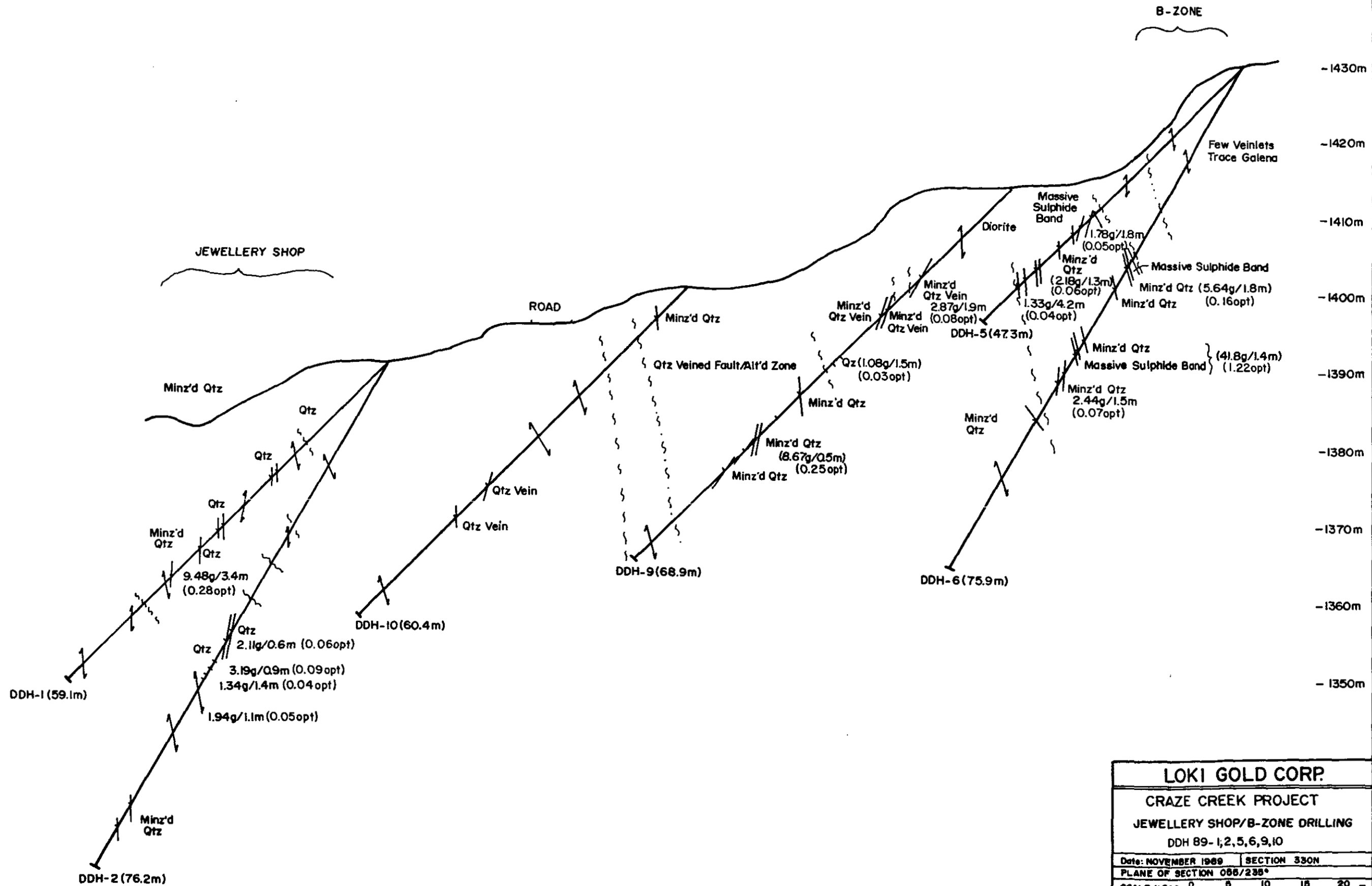
LOKI GOLD CORP.	
CRAZE CREEK PROJECT B-ZONE DRILLING DDH 89-5,6	
Date: NOVEMBER 1989	SECTION 325N
PLANE OF SECTION 085/235°	
SCALE 1:250	0 2.5 5 7.5 10 m
KEEWATIN ENGINEERING	FIG. No.45-4



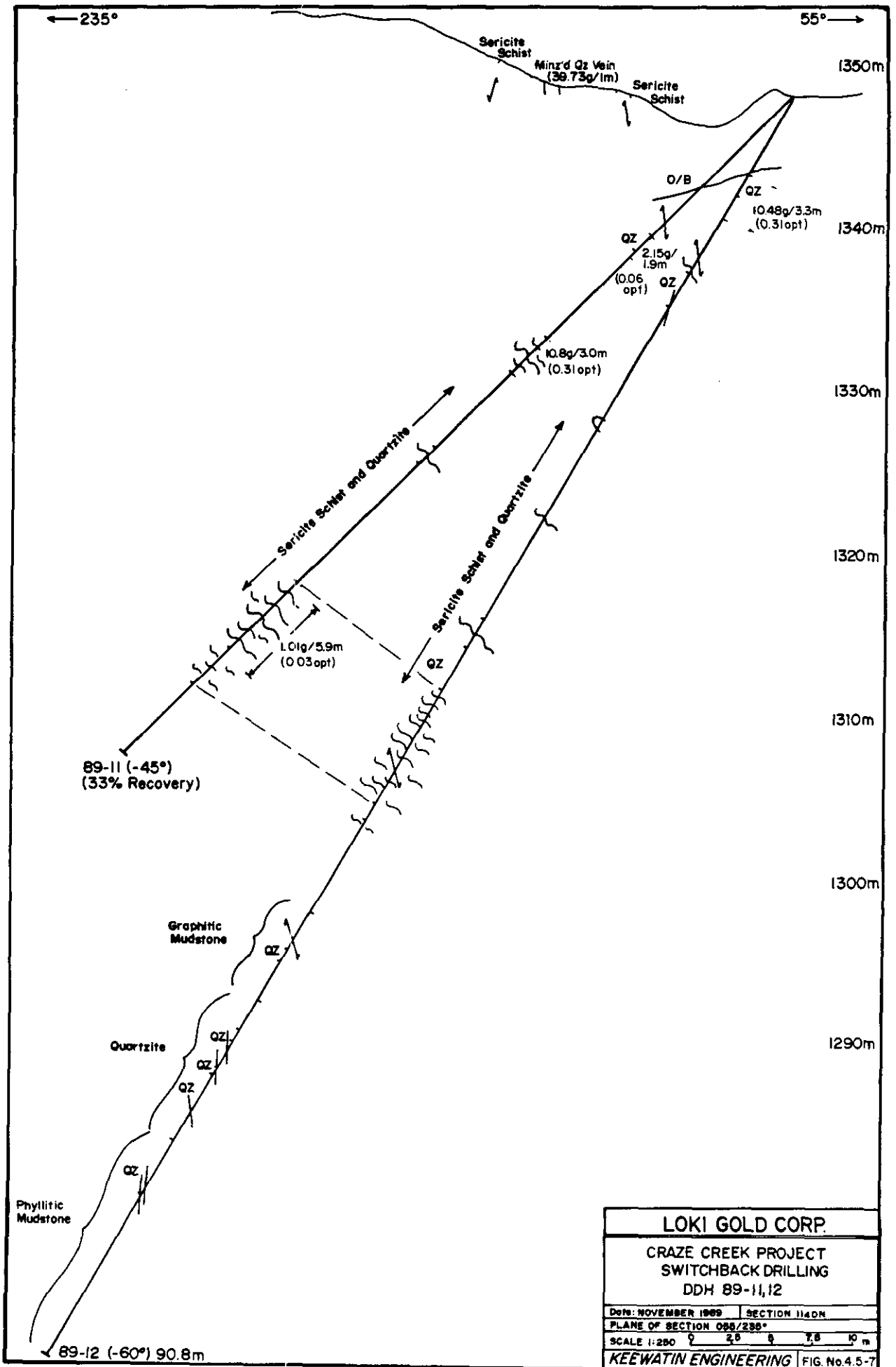
LOKI GOLD CORP.	
CRAZE CREEK PROJECT B-ZONE DRILLING DDH 89- 7, 7A, 8	
Date: NOVEMBER 1989	SECTION 300N
PLANE OF SECTION 55/235°	
SCALE 1:250	0 2.5 5 7.5 10 m
KEEWATIN ENGINEERING	FIG. No.4.5-5

235°

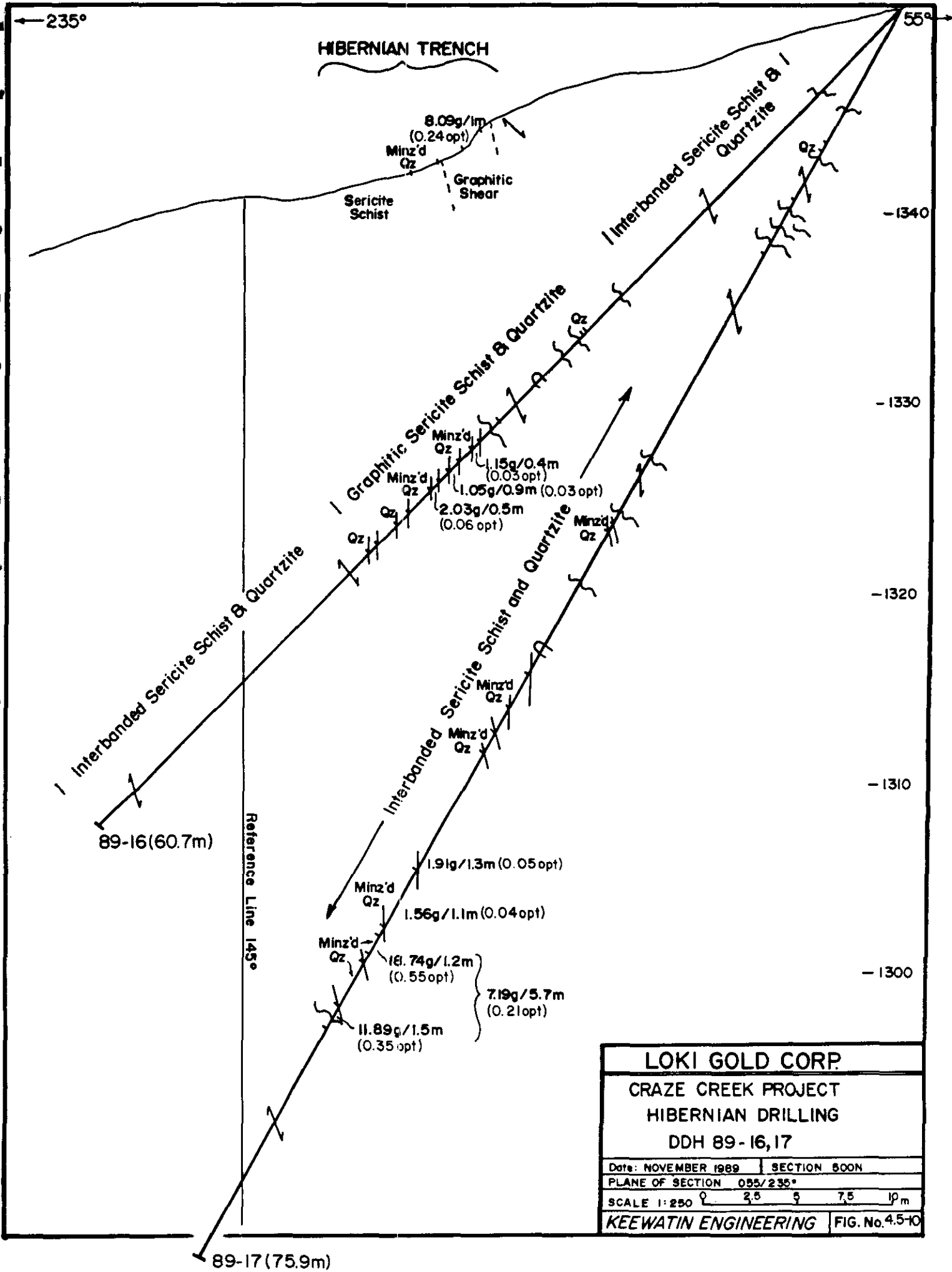
55°



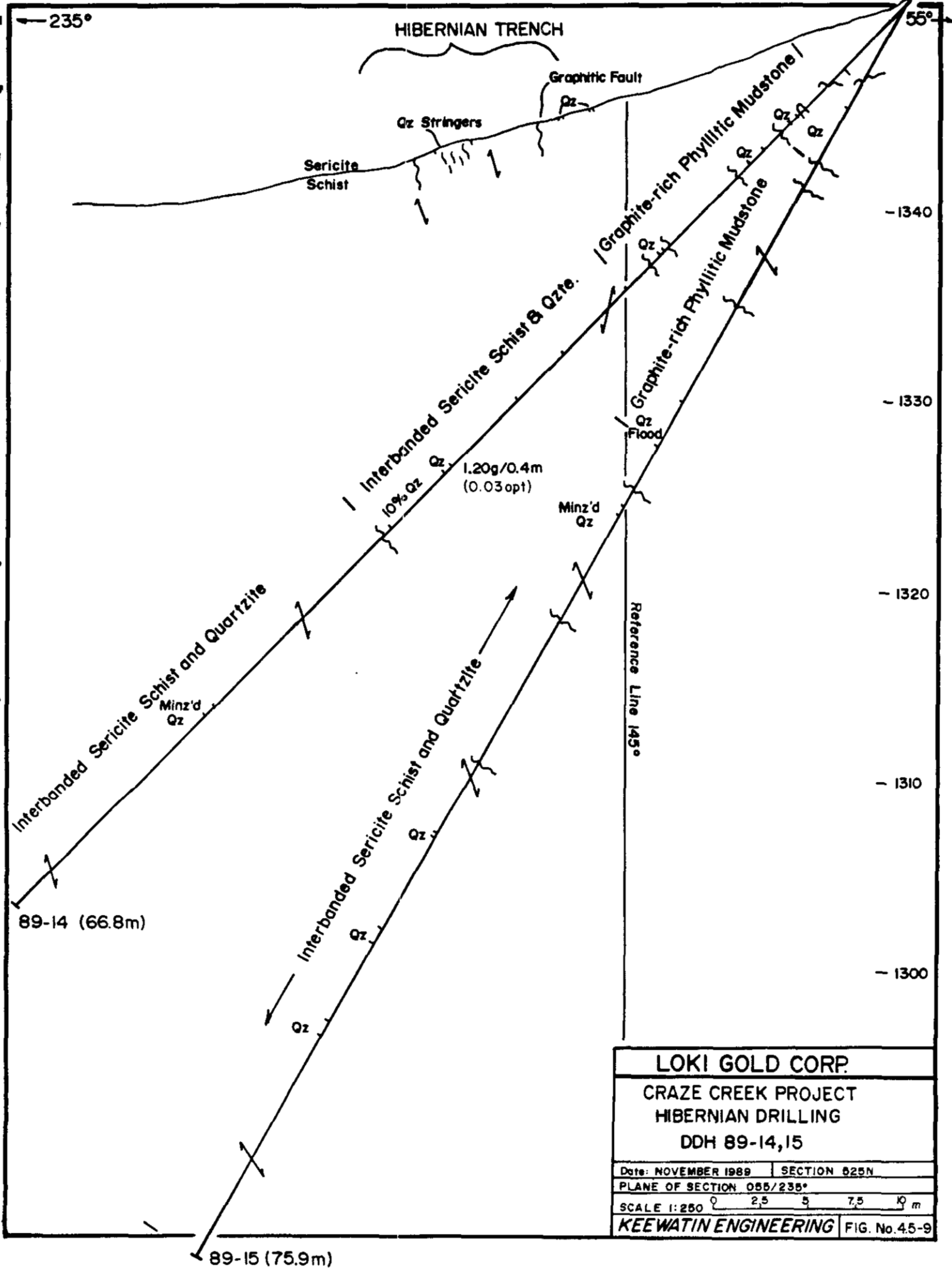
LOKI GOLD CORP.	
CRAZE CREEK PROJECT	
JEWELLERY SHOP/B-ZONE DRILLING	
DDH 89- 1, 2, 5, 6, 9, 10	
Date: NOVEMBER 1989	SECTION 330N
PLANE OF SECTION 086/235°	
SCALE 1:500 0 5 10 15 20 m	
KEEWATIN ENGINEERING	FIG. No 4.5-6



LOKI GOLD CORP.	
CRAZE CREEK PROJECT SWITCHBACK DRILLING DDH 89-11,12	
Date: NOVEMBER 1989	SECTION 1140N
PLANE OF SECTION 088/235°	
SCALE 1:250	0 2.5 5 7.5 10 m
KEEWATIN ENGINEERING FIG. No.4.5-7	

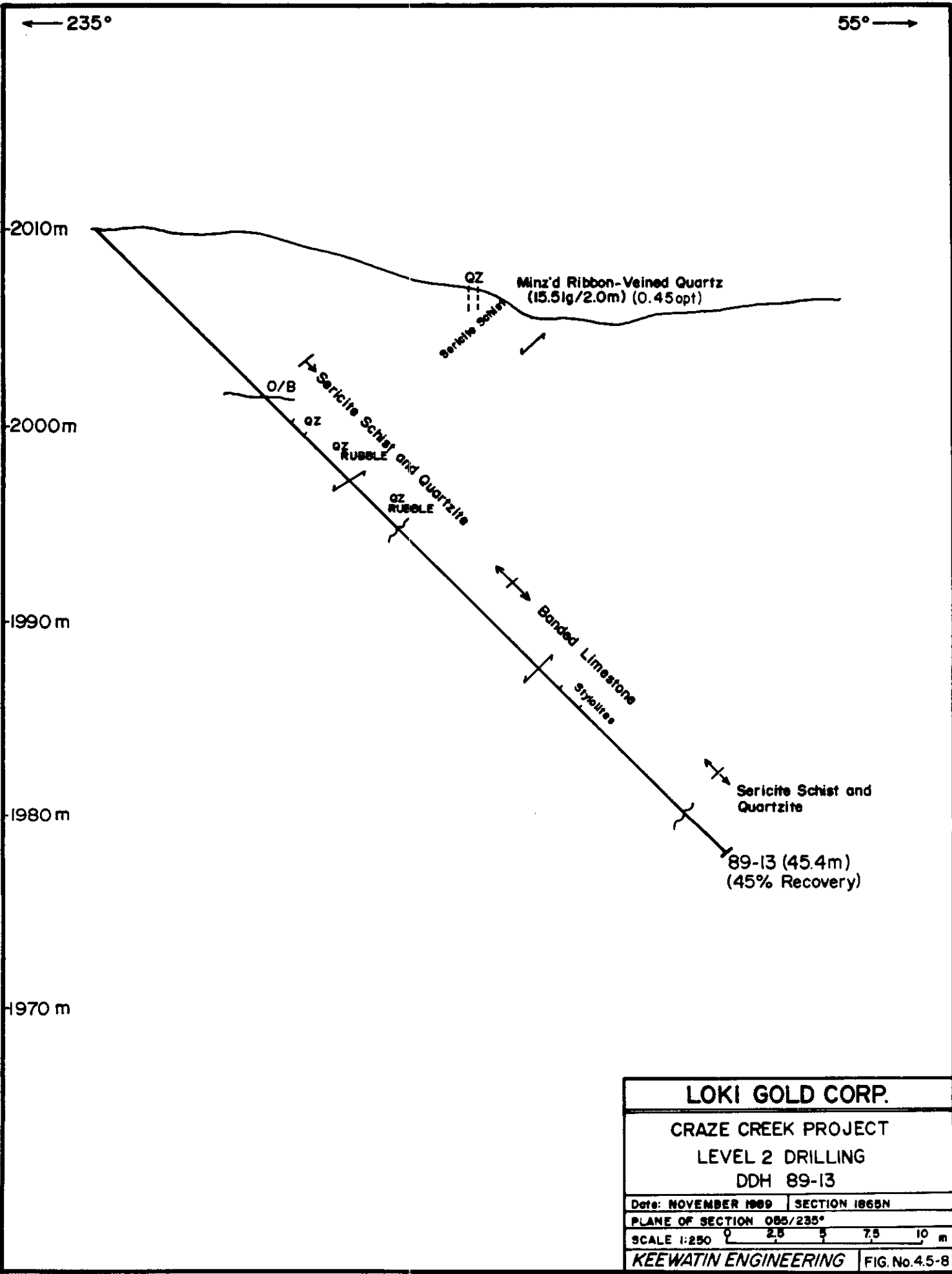


LOKI GOLD CORP.	
CRAZE CREEK PROJECT	
HIBERNIAN DRILLING	
DDH 89-16,17	
Date: NOVEMBER 1989	SECTION 600N
PLANE OF SECTION 055/235°	
SCALE 1:250	0 2.5 5 7.5 10m
KEEWATIN ENGINEERING	FIG. No. 4.5-10



LOKI GOLD CORP.
CRAZE CREEK PROJECT
HIBERNIAN DRILLING
DDH 89-14,15

Date: NOVEMBER 1989	SECTION 025N
PLANE OF SECTION 085/235°	
SCALE 1:250 0 2.5 5 7.5 10 m	
KEEWATIN ENGINEERING	FIG. No. 4.5-9



LOKI GOLD CORP.	
CRAZE CREEK PROJECT LEVEL 2 DRILLING DDH 89-13	
Date: NOVEMBER 1989	SECTION 1868N
PLANE OF SECTION 085/235°	
SCALE 1:250	0 2.5 5 7.5 10 m
KEEWATIN ENGINEERING	FIG. No. 4.5-8

<u>Hole</u>	<u>Orientation</u>	<u>Length</u>	<u>Location</u>	<u>Elev.</u>	<u>Surface Showing</u>	<u>Significant Results</u>
89-6	-60°to235 °	75.9m	325N/038W	1430m	B-Zone	28.1-29.4m(1.3m)7.14g/t 41.2-42.6m(1.4m)41.77g/t 51.4-52.9m(1.5m)2.44g/t
89-7	-45° to055°	14.3m	300N/022E	1413m	B-Zone	abandoned
89-7A	-45°to055 °	45.1m	300N/020E	1413m	B-Zone	no significant intersections
89-8	-60°to055 °	63.7m	300N/020E	1413m	B-Zone	34.0-35.0m(1.0m)3.38g/t
89-9	-45°to235 °	68.9m	BL325N	1413m	B-Zone/ JewelleryShop	19.6-23.1m(3.5m)1.90g/t 46.5-47.0m(0.5m)8.67g/t
89-10	-45°to235 °	60.4m	325N/040W	1401m		no significant intersections
89-11	-45°to235 °	51.5m	1140N/055W	1348m	Switchback	12.0-13.9m(1.9m)2.15g/t 21.0-24.0m(3.0m)10.8g/t* 42.4-48.3m(5.9m)1.01g/t
89-12	-60°to235 °	90.8m	1140N/055W	1348m	Switchback	5.2-8.5m(3.3m)10.48g/t*
89-13	-45°to055 °	45.4m	1855/070W	2010m	Level 2	no significant intersections#
89-14	-45°to235 °	66.8m	550N/072W	1351m	Hibernian	34.3-34.7m(0.4m)1.20g/t
89-15	-60°to235 °	75.9m	550N/072W	1351m	Hibernian	no significant intersections
89-16	-45°to235 °	60.7m	525N/090W	1351m	Hibernian	31.7-32.1m(0.4m)1.15g/t 33.3-34.2m(0.9m)1.05g/t 35.0-35.5m(0.5m)2.03g/t
89-17	-60°to235 °	75.9m	525N/090W	1351m	Hibernian	50.7-53.1m(2.4m)1.75g/t 55.8-61.5m(5.7m)7.19g/t incl. 55.8-57.0m(1.2m) 18.74g/t60.0-61.5m(1.5m) 11.89g/t

• less than 10% core recovery

poor core recovery at target depth

5.0 DISCUSSION

Drilling of the showing areas described above confirmed two main points:

- (1) That gold is confined to quartz vein material with no flooding into wallrock lithologies, and
- (2) That these veins are highly erratic and discontinuous.

Sporadic intersections along strike or down dip of mineralized zones suggest the presence of broad mineralized bands located within fault swarms as seen in surface showings. Low grade open pit production may be possible under these conditions.

Poor recovery in the Nugget Mountain area rendered drill results inconclusive. Recoveries from holes 89-11,12 and 13 were 33%, 68% and 45% respectively. However, the frequency of vein occurrences and soil geochemical anomalies suggests a strong potential for mineralization in the area.

Replacement deposits seen at Wells are a more attractive target than vein deposits according to historical records. The Craze Creek property contains stratigraphy and lithologic setting including carbonates, similar to those present at Wells. The presence of typical 'halo' signatures such as galena and sphalerite mineralization, silicification and ankeritization gives reason to believe that other deposits remain to be found in this area.

Bedded barite exposed on the Faye claim adjoining Loki ground, and in the Riocanex X-anomaly in the eastern part of the property suggests a good potential for strataband lead zinc mineralization.

6.0 CONCLUSION

The Craze Creek property is located within the same belt of rocks that host the gold deposits at Wells. The immediate geological setting and mineralization is strikingly similar. The overall potential of the B-Zone, Jewellery Shop and Hibernian vein systems is encouraging. Though structurally complex, intricacies regarding gold distribution may be resolved, as they were during production of 13 million ounces over 60 years of mining in Wells.

The optioning of 85 units and staking of further ground within this important geologic setting provides further potential for discovery in the future.

7.0 RECOMMENDATIONS

Further work is warranted on the property. Work should include trenching of untested soil anomalies, further prospecting undertaken in areas recently staked or optioned, compilation work completed for the Richfield Metals option, and further trenching and drilling in the Nugget Mountain Area.

Respectfully submitted,

KEEWATIN ENGINEERING INC.



Tim J. Termuende, B.Sc.
January 16, 1990

8.0 REFERENCES

- Alldrick, D.J. 1983. The Mosquito Creek Mine, Cariboo Gold Belt (93H/4); in Geological Field Work 1982, British Columbia Ministry of Energy, Mines and Petroleum Resources, Paper 1983-1, pp. 99-112.
- Andrew, A., Godwin, C.I. and Sinclair, A.J. 1983. Age and Genesis of Cariboo Gold Mineralization Determined by Isotope Methods (93H); in Geological Fieldwork 1982, British Columbia Ministry of Energy, Mines and Petroleum Resources, Paper 1983-1, pp. 305-313.
- Barr, D.A. 1980. Gold in the Canadian Cordillera, from CIM Bulletin, June 1980, pp. 59-76.
- Burnett, W.B. 1938. Director's Report to Shareholders - Cariboo-Hudson Gold Mines Ltd. July 19, 1938.
- Carlyle, L.W. 1983. GAC Fieldtrip to Mosquito Creek Mine from Field Guides to Geology and Mineral Deposits, Victoria 1983 Annual Meeting, GAC/MAC/CGV.
- Claque, J.J. 1989. Placer Gold in the Cariboo District, British Columbia; in Current Research, Part E, Geological Survey of Canada, Paper 89-1E, pp. 243-250, 1989.
- Delaney, P.R. 1987. Assessment Report #17114 - 1987 Cunningham Creek Property Report. Imperial Metals Corporation.
- Durfield, R.M. 1983. Assessment Report #11831 - Geochemical Report on the Bon 1-4 Mineral Claims.
- Durfield, R.M. 1985. Assessment Report #13550 - Geochemical Report on the Bon Group of Mineral Claims.
- Fraser, J.R. 1978. Assessment Report #7130 - Geology of the Harveys Creek Property.
- Hanson, G. 1935. Barkerville Gold Belt, Cariboo District, British Columbia; Geological Survey of Canada, Memoir 181.
- Holland, S.S. 1948. Report on the Stanley Area; British Columbia Department of Mines, Bulletin 26.
- Holland, S.S. 1954. Geology of Yanks Peak - Roundtop Mountain Area, Cariboo District, British Columbia; British Columbia Department of Mines and Petroleum Resources, Bulletin 34.
- Humphreys, N. 1989. Geological Report on the Cunningham Creek Property on behalf of Loki Gold Corporation.
- Kirwin, G.L. 1971. Report on Property for Coast Interior Ventures Ltd.
- Longe, R.V. and Hodgson, G.D. 1978. Assessment Report #7106 - Barkerville Project 1978, Cunningham Creek claims.
- Mitchell, J.H. 1974. Report on the Mineralization of the Main Vein, R.T. Claims, Copper Creek in the Cariboo Mining Division of B.C.
- Murphy, D.C. and Rees, C.J. 1983. Structural Transition and Stratigraphy in the Cariboo Mountains, British Columbia; in Current Research, Part A, Geological Survey of Canada, Paper 83-1A, pp. 245-252.

- Robert, F. and Taylor, B.E. 1989. Structure and Mineralization at the Mosquito Creek Gold Mine, Cariboo District, B.C. from Short Course #14 - Structural Environments and Gold in the Canadian Cordillera, GAC Cordilleran Section, January 18, 1989.
- Saleleen, L.W. and Simpson, R.G. 1984. Cariboo-Quesnel Gold Belt; A Geologic Overview; in Western Miner, April 1984, pp. 15-20.
- Singhai, G.C. 1980. Report on the 1-15 Park and Tain Mineral Claims, Cunningham Creek Area, Cariboo Mining Division, B.C. for Chaput Logging Ltd., Lumby, B.C.
- Stewart, J.W. 1970. Report on Examination of Mineral Showings on Nugget and Roundtop Mountains.
- Struik, L.C. 1988. Structural Geology of the Cariboo Mining District, East-Central British Columbia. GSC Memoir 421.
- Sutherland Brown, A. 1957. Geology of the Antler Creek Area, Cariboo District, British Columbia; British Columbia Department of Mines and Petroleum Resources, Bulletin 38.
- Sutherland Brown, A. 1963. Geology of the Cariboo River Area, British Columbia; British Columbia Department of Mines and Petroleum Resources, Bulletin 47.
- Timmins, W.G. 1972. Assessment Report #3521. Report on Property for Coast Interior Ventures Ltd.

9.0 STATEMENT OF QUALIFICATIONS

I, TIM J. TERMUENDE, residing at 1701 Mt. Nelson Crescent, in the City of Cranbrook, in the Province of British Columbia do hereby certify that:

- 1) I am a graduate of the University of British Columbia having acquired a B.Sc. (Geology) in 1987.
- 2) I have practised my profession continually since graduation.
- 3) I am employed as a contract geologist by Keewatin Engineering Inc. with offices at Suite 800 - 900 West Hastings Street, Vancouver, B.C. V6C 1E5.
- 4) I am the author of the report entitled "Geological Report on the Craze Creek (Cunningham) Property, Cariboo Mining Division, British Columbia" dated January 16, 1990.
- 6) I personally carried out or supervised all work presented in this report from May 23, 1989 to November 23, 1989 and am familiar with the regional geology of the area.
- 7) I do not expect to receive any interest (direct, indirect or contingent) in the property described herein, in respect of services rendered in the preparation of this report. I do however, own 20,000 shares of Loki Gold Corporation's stock.

Dated at Vancouver, British Columbia this 16th day of January, 1990.

Respectfully submitted,


Tim J. Termuende, B.Sc.

APPENDIX A

Statement of Expenditures

STATEMENT OF EXPENDITURES

Phase I (Mapping, Prospecting, Trenching)

Labour

Project Supervisors	R. Nichols	17.0 days @	\$425.00/day	\$ 8,075.00	
	L. Nagy	15.0 days @	\$425.00/day	7,225.00	
Project Geologist	T. Termuende	110.5 days @	\$350.00/day	38,675.00	
Geologist	S. Gibson	36.0 days @	\$275.00/day	9,900.00	
	A. Travis	9.5 days @	\$275.00/day	2,613.00	
	N. Humphreys	41.0 days @	\$275.00/day	11,275.00	
Field Assistants	T. Paquin	42.25 days @	\$225.00/day	9,506.00	
	B. Richardson	38.0 days @	\$225.00/day	8,550.00	
	G. Batycki	37.0 days @	\$250.00/day	9,250.00	
	M. Whist	64.0 days @	\$225.00/day	14,400.00	
	G. Nagy	77.0 days @	\$250.00/day	19,250.00	
	S. Thompson	8.0 days @	\$225.00/day	1,800.00	
	D. MacLeod	6.0 days @	\$250.00/day	1,500.00	
	B. MacIntyre	8.0 days @	\$250.00/day	2,000.00	
Drafting	B. Whelan	16.6 days @	\$240.00/day	3,984.00	
Surveyor	F. Ferguson	16.5 days @	\$300.00/day	4,950.00	
Office and Accounting				<u>6,907.50</u>	
					\$158,160.00

Accommodation

7,413.39

Food

8,876.23

Transportation

Truck Rental	\$10,221.70
Fuel	5,300.00
Airfare	3,082.14
Helicopter	<u>2,808.77</u>

21,412.61

Analytical Costs

65,806.97

Heavy Equipment

61,510.89

Geophysics

2,313.00

Freight

1,646.90

Communications

3,576.74

Drafting and Reproduction

1,872.10

Miscellaneous Supplies

5,250.00

TOTAL PHASE 1:

\$337,838.86

Phase 2 (Drilling)

Labour

Project Supervisor	R. Nichols	12.0 days @	\$425.00/day	\$ 5,100.00	
	L. Nagy	8.0 days @	\$425.00/day	3,400.00	
Project Geologist	T. Termuende	37.5 days @	\$350.00/day	13,125.00	
Geologist	A. Travis	23.0 days @	\$275.00/day	6,325.00	
Field Assistant	G. Nagy	25.0 days @	\$250.00/day	6,250.00	
Drafting	J. Termuende	25.0 days @	\$200.00/day	5,000.00	
	B. Whelan	4.0 days @	\$240.00/day	960.00	
Office and Accounting				<u>3,200.00</u>	\$ 43,360.00

Accommodation

1,640.72

Food

2,220.09

Transportation

Truck Rental	\$ 2,251.80	
Fuel	1,200.00	
Airfare	673.17	
Helicopter	<u>4,077.06</u>	

8,202.03

Heavy Equipment

16,452.52

Drilling

118,562.76

Analytical Costs

6,615.14

Freight

953.59

Communications

187.30

Drafting and Reproduction

1,103.67

Miscellaneous Supplies

2,379.40

TOTAL PHASE 2: \$201,677.22

Total Phase 1: \$337,838.86

Total Phase 2: \$201,677.22

GRAND TOTAL: \$539,516.08

APPENDIX B

Drill Logs

ABBREVIATION KEY TO DIAMOND DRILL LOGS

Py	=	pyrite
Ga	=	galena
Sp	=	sphalerite
As	=	arsenopyrite
Ank	=	ankerite
Sid	=	siderite
qtz/qz	=	quartz
Ba	=	barite
Po	=	pyrrhotite

Note: all core angle measurements taken relative to core axis.

DRILL HOLE LOG

HOLE NO.: DDH-89-1

PAGE NO.: 3 of 5.

From	To	Description	Sample	From	To	Length	Au	Ag	As	Cu	Pb	Zn
34.7	39.9	Well Mineralized Quartz Veins	79073	34.7	35.7	1.0 m	(34)	(97.6)	150	12	(5.08)	32
		- four distinct qtz. veins from .30 - 2.3 m. wide, displaying Py., Ga., Sp., As in clusters up to 25% over .5 m	79074	35.7	36.7	1.0 m	(7.92)	(76.2)	(2.55)	9	(2.15)	29
		- 10% Py., 3% Ga., 3% As., 2% Sp., over entire interval	79075	36.7	37.4	0.7 m	(1.78)	3.8	1740	10	860	39
		- sulphides occur as coarse, euhedral crystals, or as fine grained stringers	79076	37.4	39.1	1.7 m	(13.57)	13.0	(1.01)	11	(.19)	37
		- pyrite roseites up to 1 cm in dia. locally	79077	39.1	39.9	0.8 m	(.54)	2.8	1300	21	564	37
		- slicks on foliation planes of wallrock fragments										
		- 5 - 10% ank/sid in qtz. material										
		- drusy textures locally over 5 cm widths										
		34.7 to 35.7 - 75% qtz. as 3 - 10 cm min'zd bands, up to 10% Ga. over 10 cm										
		36.7 to 37.4 - Bull Quartz										
		- mikly white colouration, < 3% Py., predominantly located near vein contacts										
		- tr. As. as coarse crystals										
		37.4 to 39.1 - py-rich qtz. vein										
		- single vein with <5% wallrock fragments										
		- 20 - 30% Py., 2-3% Ga., tr. As., Sp.										
		- rusty fracture surfaces										
		- drusy textures locally										
		- 45° contacts										
39.9	44.4	Sericitic Schist with Interbedded Quartzite	79078	39.9	41.4	1.5 m	(.08)	.6	255	24	70	38
		- as 15.4 - 31.8 (waxy green colouration, foliation well defined (55° to core), silicified near lower contact over 30 cm, gradational contacts)	79079	41.4	43.2	1.8 m	65	.4	70	28	56	38
			79080	43.2	44.4	1.2 m	20	.4	45	25	28	62
44.4	47.8	Phyllitic Pelite	79081	44.0	45.0	1.0 m	10	.2	15	8	6	17
		- spotted texture consisting of preferentially oriented 2 - 4 mm white, rounded crystals parallel to foliation, possible retrograde, 15% composition overall, foliation well defined, oriented 35 - 55° to core	79082	45.0	46.5	1.5 m	20	.2	30	47	20	76
		- 2 - 3% Py as elongate crystals parallel to foliation	79083	46.5	47.8	1.3 m	105	.4	90	45	6	74

DRILL HOLE LOG

HOLE NO.: 89-2

PAGE NO.: 4 of 7.

From	To	Description	Sample	From	To	Length	Au (ppb)	Ag (ppm)	As (ppm)	Cu (ppm)	Pb (ppm)	Zn (ppm)
		42.7 - 43.9 Sericite Schist										
		- up to 30% white ankerite porphyroblasts (mm scale)										
		- small 10 cm bull qtz vein shows blocky fragments ? of ankerite (white-creamy colour)										
		- trace pyrite										
		44.0 Qtz VEin										
		- 10 cm wide cuts core at 10°										
		- approximately 40% pyrite as euhedral cubes										
		44.5 - 44.8 Qtz Vein										
		- trace arsenopyrite in milky white qtz vein that cuts core at 55°										
		- minor pyrite at selvages										
		47.3 47.7 Qtz Vein										
		- broken up, difficult to distinguish if one vein or a series of smaller veins										
		- <1% Arsenopyrite near upper contact										
		- 1% pyrite primarily along vein selvages										
		50.3 - 51.4 Qtz Veined Sericite Schist										
		- light green to dark green										
		- irregular milky white quartz veins (max 3 cm) that generally cut core from 20° - 40°										
		- light green schist shows foliation at approximately 40° to core, also shows ankerite porphyroblasts										
		- trace arsenopyrite noted near upper contact										
		- pyrite 3 - 5% as euhedral cubes, dominantly in schist adjacent to veins										
51.4	67.6	Interbanded Sericite Schist and Quartzite	79978	51.4	52.9	1.5	140	.4	65	5	56	16
		- light grey/green colour	79979	52.9	53.4	1.5	95	.8	45	9	38	32
		- foliation 30° - 45° to core	79980	53.4	54.9	1.5	10	.6	45	6	320	22
		- upper and lower contacts with quartz veins noticeably darker	79981	54.9	56.4	1.5	15	.6	60	12	14	33
			79982	56.4	57.9	1.5	5	.2	15	37	12	35
		- mm scale ankerite porphyroblasts that seems to be slightly larger than interval 5.2 m - 21.1 m,	79983	57.9	59.4	1.5	5	.2	15	25	16	37
		approximately 30%	79984	59.4	60.9	1.5	<5	.6	10	26	44	36
			79985	60.9	62.4	1.5	5	.4	10	25	16	43

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CORE RECOVERY LOG

D.D.H. #: LK 89-2

RECOVERY: 85%

DATE: 05/11/89

Marked Interval	Measured Interval	Core Loss	Marked Interval	Measured Interval	Core Loss
(5.2 - 8.2) 3.0	2.9	3%			
(8.2 - 11.3) 3.1	3.0	3%			
(11.3 - 14.3) 3.0	3.0	0%			
(14.3 - 17.4) 3.1	2.8	10%			
(17.4 - 20.4) 3.0	2.8	7%			
(20.4 - 23.5) 3.1	2.8	10%			
(23.5 - 26.5) 3.0	1.7	43%			
(26.5 - 29.6) 3.1	2.5	19%			
(29.6 - 32.6) 3.0	2.8	7%			
(32.6 - 35.7) 3.1	2.9	6%			
(35.7 - 38.7) 3.0	2.7	10%			
(38.7 - 41.7) 3.0	2.8	7%			
(41.7 - 44.8) 3.1	3.1	0%			
(44.8 - 47.9) 3.1	3.0	3%			
(47.9 - 50.9) 3.0	2.9	3%			
(50.9 - 53.9) 3.0	3.0	0%			
(53.9 - 57.0) 3.1	3.1	0%			
(57.0 - 60.0) 3.0	3.0	0%			
(60.0 - 63.1) 3.1	3.0	3%			
(63.1 - 66.1) 3.0	1.3	57%			
(66.1 - 69.2) 3.1	3.1	0%			
(69.2 - 72.2) 3.0	3.0	0%			
(72.2 - 75.3) 3.1	2.5	19%			
(75.3 - 76.2) 0.9	0.7	12%			

DRILL HOLE LOG

HOLE NO.: 89-3

PAGE NO.: 2 of 4.

From	To	Description	Sample	From	To	Length	Au (g/t)	Ag	As	Cu	Pb	Zn	
13.3	16.8 m	Silicified Sericite Schist ± Graphite - noticeable increase in hardness and in colour to a dark green, almost black due to graphite - slickensides and clay alt'd on foliation - foliation 50 - 55° to core - white ankerite porphyroblasts comprise approximately 25% of core (mm scale) - 1% pyrite as euhedral cubes (mm) - small qtz veins (<1 cm) comprising <1% of section contain 1 - 3% pyrite and trace galena - few small bands of graphite rich schist with apparent concentration of pyrite	34651	13.3	14.8	1.5	<5	.6	35	21	54	52	
			34652	14.8	15.8	1.0	(<.03)						
			34653	15.8	16.8	1.0	<5	.4	85	13	50	49	
16.8	18.9 m	Mineralized Qtz ± Ankerite VEins - a series of smaller qtz ±ankerite veins, maximum 8 cm wide - concentrated in upper 1 m and lower 0.5 m of section - they generally cut core at 30° - 40° - 30% wall rock of sericite schist with minor graphite giving a dark green colour - 3 - 5% pyrite, trace pyrrhotite, galena - ankerite as white-creamy blocky fragments in quartz veins (up to 25%) 18.2 Massive Pyrite band - 1 cm wide - cut core at approximately 90°	34654	16.8	17.8	1.0	(.47)	.8	895	41	274	186	
			34655	17.8	18.9	1.1	(.37)	.6	290	45	86	63	
18.9	23.9	Silicified Sericite Schist ± Graphite - light grey/green with dark green to black bands (0.5 cm) - noticeable increase in graphite adjacent to qtz ± ankerite (<5%) and down hole - graphitic bands cut core at 70° - white, ankerite porphyroblasts comprise 20% of core - qtz augens (mm scale) 10%	34656	18.9	20.2	1.3	(<.03)	.2	85	26	92	76	
			34657	20.2	21.6	1.4	<5	.2	30	22	4	31	
			34658	21.6	23.9	1.3	<5	.4	60	30	14	50	

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CORE RECOVERY LOG

D.D.H. #:89-3

RECOVERY: 83%

DATE: 05/11/89

Marked Interval	Measured Interval	Core Loss	Marked Interval	Measured Interval	Core Loss
(6.1 - 8.8) 2.7	0.9	1.8 m			
(8.8 - 11.9) 3.1	2.7	0.4 m			
(11.9 - 14.9) 3.0	3.0	----			
(14.9 - 18.0) 3.1	3.1	----			
(18.0 - 21.0) 3.0	3.0	----			
(21.0 - 24.1) 3.1	3.1	----			
(24.1 - 27.1) 3.0	3.0	----			
(27.1 - 30.2) 3.1	2.9	0.2 m			
(30.2 - 33.2) 3.0	3.0	----			
(33.2 - 36.3) 3.1	3.1	----			
(36.3 - 39.3) 3.0	3.0	----			
(39.3 - 45.4) 6.1	4.2	1.9 m			
(45.4 - 48.5) 3.1	3.1	----			
(48.5 - 51.5) 3.0	3.0	----			
51.5 EOH					

DRILL HOLE LOG

HOLE NO.:

PAGE NO.: 2 of 7.

From	To	Description	Sample	From	To	Length	Au pph (g/t)	Ag ppm (g/t)	As ppm (%)	Cu ppm (%)	Pb ppm (%)	Zn ppm (%)
12.7	13.5	Oxidized Quartz Veins - upper 40 cm quartz vein with rusty pits and fractures - trace pyrite, arsenopyrite - foliation between veins 30° to core - lower 20 cm, qtz veins (max 3 cm) cut core at 35°	34685A	12.7	13.5	0.8	10	<.2	65	9	6	30
13.5	16.8	Silicified Sericite Schist and Quartzite - quartz eyes up to 3 mm especially towards centre of section (25%) - bull quartz veins (max 3 cm) cut core at approximately 45° - white ankerite porphyroblasts (approximately 2 mm) up to 25% at upper and lower contacts - <1% pyrite as euhedral cubes (mm scale)	34686	13.5	15.2	1.7	15	.2	50	1	2	38
			34687	15.2	16.8	1.6	<5	<.2	65	14	2	37
16.8	18.0	Silicified Sericite Schist and Quartzite ± Graphite - becomes increasingly graphitic towards lower contact - small fault cuts core at 25° at upper contact - foliation cuts core at 45°- 60° - some crenulation of foliation - 1 - 3% pyrite, seems to be associated with more graphitic bands	34688	16.8	18.0	1.2	(<.01)	.2	115	23	52	53
18.0	30.2	Mineralized Quartz Veined Sericite Schist ± Graphite - colour pale green to dark green/black - seven quartz ±ankerite veins (10 cm - 40 cm) - zones between veins generally have 1 - 3 cm qtz ± ankerite veins with 1 - 3% py - the veins cut core at 30 - 40° - 3 - 5% pyrite in larger quartz ankerite vein, chiefly concentrated along selvages in the richer graphitic schist - <1% Arsenopyrite - trace galena	34689	18.0	18.4	0.4	(.66)	.4	560	7	92	64
			34690	18.4	18.9	0.5	(.24)	.8	110	12	94	81
			34691	18.9	19.2	0.3	(<.01)	.2	195	8	48	43
			34692	19.2	20.2	1.0	(.02)	.2	100	8	30	42
			34693	20.2	21.0	0.8	(.03)	.2	100	8	30	42
			34694	21.0	21.9	0.9	(.02)	<.2	55	17	34	43
			34695	21.9	22.6	0.7	(3.38)	.8	105	14	60	32
			34696	22.6	24.1	1.5	(.03)	<.2	15	14	10	23
34697	24.1	24.5	0.4	(.02)	<.2	20	6	30	25			
34698	24.5	25.5	1.0	(.02)	<.2	35	34	16	39			

DRILL HOLE LOG

HOLE NO.:

PAGE NO.: 4 of 7.

From	To	Description	Sample	From	To	Length	Au pph (g/t)	Ag ppm (g/t)	As ppm (%)	Cu ppm (%)	Pb ppm (%)	Zn ppm (%)
		25.5 - 26.2 Qtz Veined Fault/Alteration Zone										
		- upper contact with pale green sericite schist (progressively lighter towards contact)										
		- lower 40 cm alt'd to clay (fault zone)										
		- quartz heavily sheared										
		- 10 - 15% ankerite noted in the fresher pieces										
		- only 1 - 3% pyrite noted, but difficult to distinguish if any other mineralization due to shearing										
		26.8 - 27.7 Qtz Veined Sericite Schist Quartzite										
		- four qtz veins (2 cm - 8 cm) cut core at 40° - 60°										
		- 5 - 10% ankerite along vein edges										
		- 1% pyrite in vein selvages										
		28.5 Qtz Vein										
		- 0.3 cm contains 3% galena on split surface										
		29.7 - 30.2 Mineralized Qtz Vein										
		- upper contact with graphite rich schist which cuts core at approximately 25°										
		- lower contact missing										
		- 5% pyrite chiefly at upper contact in 0.8 cm band										
		- trace arsenopyrite (in band)										
		- 1 - 3% ankerite up to 1 cm annealed grains										
30.2	41.2	Interbanded Sericite Schist + Quartzite	34705	30.2	31.7	1.5	(.01)	.2	55	18	32	50
		- light grey/green colour, some places waxy green appearance; particularly towards lower contact	34706	31.7	32.7	1.0	<5	.6	105	2	148	112
		- foliation cuts core at 45° - 55°	34707	32.7	33.2	0.5	<5	.2	260	25	12	41
		- white ankerite porphyroblasts in sericite schist (aligned with foliation)	34708	33.2	34.7	1.5	<5	.2	90	7	16	47
		- approximately 65% quartzite	34709	34.7	36.3	1.6	5	.4	50	9	132	52
		- some quartzite bands up to 0.5 m	34710	36.3	37.0	0.7	35	.6	55	8	140	36
		- unit gets progressively lighter down hole	34711	37.0	37.9	0.9	105	.2	20	9	2	45
		- minor non-mineralized qtz ±ankerite veins cut core at 35° - 55°	34712	37.9	38.8	0.9	110	.4	10	<1	<2	8
			34713	38.8	39.8	1.0	20	.6	10	10	2	16
			34714	39.8	41.2	1.4	280	.4	15	9	24	27

DRILL HOLE LOG

HOLE NO.:

PAGE NO.: 5 of 7.

From	To	Description	Sample	From	To	Length	Au pph (g/t)	Ag ppm (g/t)	As ppm (%)	Cu ppm (%)	Pb ppm (%)	Zn ppm (%)
		- 1% pyrite - trace galena on split surfaces 32.7 - 33.2 Fault/Altered Zone - very broken up - sericite schist alt'd to clay - few small (1 cm) qtz veins cut core at approximately 50° - 1 - 3% pyrite										
		37.0 - 38.8 Quartzite Rich Sericite Schist - 80% quartzite - light green colour - trace galena, pyrrhotite in fine fractures										
41.2	42.1	Pyrite Rich qtz Vein - approximately 20% pyrite in qtz vein - pyrite as massive bands up to 4 cm wide - 1% ankerite	34715	41.2	42.1	0.9	135	1.4	180	21	12	15
42.1	53.0	Interbanded Sericite Schist + Quartzite - green/grey in colour, waxy green towards middle of interval - particularly well foliated toward middle, where it cuts core at 45° - 55° - silicified near upper contact - white ankerite porphyroblasts up to 0.5 cm 42.6 - 42.9 Mineralized Qtz Vein - broken up core (fault zone?) - 3 cm massive pyrite band - cubes of pyrite up to 1 cm X 2 cm 44.7 - 50.8 Waxy Green Sericite Schist - white ankerite porphyroblasts up to 0.5 cm (35%) - approximately 10% smoky qtz veins (max 1 cm) that are concordant	34716 34717 34718 34719 34720 34721 34722 34723 34724 34725	42.1 42.6 42.9 43.2 44.7 46.2 47.7 49.2 49.2 50.8 51.9	42.6 42.9 43.2 44.7 46.2 47.7 49.2 50.8 51.9	0.5 0.3 0.3 1.5 1.5 1.5 1.5 1.6 1.1 1.1	80 35 40 60 20 55 4 4 5 4	1.2 4.0 3.8 .2 .2 1.0 .4 .4 2.8 .6	15 145 15 40 20 20 25 30 35 35	72 33 71 49 76 51 26 36 36 13	4 16 12 <2 8 2 <2 8 18 <2	57 46 59 52 81 104 94 87 43 23

KEEWATIN ENGINEERING INC.

CORE RECOVERY LOG

D.D.H. #: 89-4

RECOVERY: 97%

DATE: 05/11/89

Marked Interval	Measured Interval	Core Loss	Marked Interval	Measured Interval	Core Loss
2.1 - 5.2 (3.1)	3.1	---			
5.2 - 8.8 (3.6)	3.0	0.6			
8.8 - 11.9 (3.1)	2.6	0.5			
11.9 - 14.9 (3.0)	3.0	---			
14.9 - 18.0 (3.1)	3.1	---			
18.0 - 21.0 (3.0)	3.0	---			
21.0 - 24.1 (3.1)	3.0	0.1			
24.1 - 27.1 (3.0)	3.0	---			
27.1 - 33.2 (3.1)	3.1	---			
33.2 - 36.3 (3.1)	3.1	---			
36.3 - 39.3 (3.0)	3.0	---			
39.3 - 42.4 (3.1)	3.1	---			
42.4 - 45.4 (3.0)	3.0	---			
45.4 - 48.5 (3.1)	3.1	---			
48.5 - 51.5 (3.0)	3.0	---			
51.5 - 54.6 (3.1)	3.1	---			
54.6 - 57.6 (3.0)	3.0	---			
57.6 - 60.7 (3.1)	2.2	0.9			
60.7 E.O.H.					

DRILL HOLE LOG

HOLE NO.: 89-5

PAGE NO.: 2 of 8.

From	To	Description	Sample	From	To	Length	Au ppb (g/t)	Ag	As	Cu	Pb	Zn
		<ul style="list-style-type: none"> - few milky white mineralized qtz veins, 1 - 3% pyrite, trace galena - veins cut core at 45°, 2 cm wide mostly towards lower contact - white ankerite porphyroblasts (mm scale) at top of section (25%) get smaller and less distinct as go down section 10- 15% ankerite in milky qtz veins - smoky grey quartz bands (<1 cm) comprise over 30% of core 										
13.8	17.0 m	Qtz Veined Sericite Schist ± Graphite	34740	13.8	15.5	1.7	<5	<.2	10	24	14	51
		<ul style="list-style-type: none"> - becomes increasingly graphitic - dark green to black - 3 - 5% pyrite as euhedral cubes up to 0.5 cm - foliation 40 - 55° to core but is crenulated adjacent to qtz veins - a few qtz veins at top of section cut core at approximately 60° (approximately 3 cm) - towards end of section quartz veins become irregular in graphitic schist - oxidized 3 - 5% Pyrite in some qtz veins (up to 5 cm) - heavy silica flooding 	34741	15.5	17.3	1.8	<5	<.2	<5	28	12	53
17.0	26.2 m	Interbanded Sericite Schist + Quartzite	34742	17.3	17.9	0.6	<5	<.2	5	37	12	63
		<ul style="list-style-type: none"> - grey/green colour - oxidized and broken near top of section (possible fault) - foliation cuts the core at 40° - 50° (some crenulation) - in some places the sericite schist has an almost waxy appearance - towards end of section broken up (fault?) - 1% pyrite - quartz eyes noted but not as distinct nor as abundant as section 4.6 - 5.8 m 	34743	17.9	19.5	1.6	<5	<.2	5	22	14	60
			34744	19.5	20.3	0.8	<5	<.2	15	39	38	66
			34745	20.3	22.0	1.7	<5	<.2	75	46	52	94
			34746	22.0	23.6	1.6	<5	<.2	70	43	2	68
			34747	23.6	24.9	1.3	20	<.2	120	29	32	48
			34748	24.9	26.2	1.3	(.21)	<.2	120	27	22	43

DRILL HOLE LOG

HOLE NO.: 89-5

PAGE NO.: 3 of 8.

From	To	Description	Sample	From	To	Length	Au ppb (g/t)	Ag	As	Cu	Pb	Zn
		17.3 - 17.9 m Fault/Alteration Zone										
		- broken up core										
		- some qtz veining (<10%) (<1 cm)										
		- <1% pyrite, trace arsenopyrite										
		19.5 - 20.3 Qtz Veined Graphite Rich Schist										
		- core broken up										
		- dark grey/black										
		- clay alt'd on foliation										
		- two small milky white quartz veins cut core at 55°										
		- 3 - 5% pyrite in veins										
		23.6 - 26.2 Fault/Alteration Zone										
		- becomes increasingly graphitic to lower contact with qtz vein										
		- green to dark green/black										
		- broken up core										
		- few (1 - 3%) milky white qtz veins cut core 30° - 60°										
		- smoky quartz veins (sweats?) <1 cm concordant to foliation (35° - 45°) in pale green sericite schist										
		- last metre very broken up and graphite rich										
		- 1 - 3% pyrite										
26.2	41.0	Mineralized Qtz Veins	34749	26.2	26.7	0.5	(.30)	<.2	235	17	78	117
		- 55% qtz veins in interbanded sericite schist and quartzite ± graphite	34750	26.7	27.6	0.9	(1.23)	0.4	7190	9	24	20
		- pale green to dark green	34751	27.6	27.7	0.1	(17.93)	35.9	14.85%	9	3.43%	26
		- foliation 45 - 55°	34752	27.7	28.0	0.3	(.99)	0.2	3190	4	138	19
		- up to 25% ankerite porphyroblasts as white (mm scale) blebs	34753	28.0	29.3	1.3	(.15)	<.2	850	2	76	4
		- few sections show quartz eyes (slightly smaller than garnets)	34754	29.3	30.6	1.3	(2.18)	1.2	840	4	762	46
		- veins from 5 cm - 1.5 m	34755	30.6	31.7	1.1	(.79)	1.8	235	2	1451	24
		- few massive sulphide bands (3 cm - 10 cm)	34756	31.7	32.4	0.7	(.86)	<.2	780	9	24	25
		- bands average 3 - 5% Pyrite, 1 - 3% Arsenopyrite, <1% Galena	34757	32.4	33.6	1.2	(.10)	0.2	190	32	536	65
			34758	33.6	34.2	0.6	(2.74)	0.2	2.23%	38	200	29
			34759	34.2	35.6	1.4	(.21)	0.8	280	87	124	114
			34760	35.6	35.9	0.3	(.13)	<.2	170	12	38	71
			34761	35.9	37.2	1.3	(1.80)	1.4	3335	25	62	61

KEEWATIN ENGINEERING INC.

CORE RECOVERY LOG

D.D.H. #: 89-5

RECOVERY: 95%

DATE: 07/11/89

Marked Interval	Measured Interval	Core Loss	Marked Interval	Measured Interval	Core Loss
4.6 - 5.8	1.1	0.1			
5.8 - 8.8	2.6	0.4			
8.8 - 11.9	3.0	—			
11.9 - 14.9	3.0	—			
14.9 - 18.0	3.0	0.1			
18.0 - 21.0	3.0	—			
21.0 - 24.1	3.1	—			
24.1 - 27.1	2.3	0.2			
27.1 - 30.2	2.6	0.5			
30.2 - 33.2	2.9	0.1			
33.2 - 36.3	2.9	0.2			
36.3 - 39.3	3.0	—			
39.3 - 42.4	2.7	0.4			
42.4 - 45.4	3.0	—			
45.4 - 47.2	1.8	—			
47.2 E.O.H.					

DRILL HOLE LOG

LOCATION: B-Zone

HOLE NO.: 89-6

PAGE NO.: 1 of 6.

AZIM.: 235° ELEV.: 1430 m
 INCLINATION: 60° LENGTH: 75.9 m
 CORE SIZE: BGM

PROPERTY:

STARTED: 07/11/89
 COMPLETED: 08/11/89
 PURPOSE: To test B-Zone mineralization at depth

SURVEYS			
METERAGE	AZIMUTH	INCLINATION	CORR.INCLIN.
EOH			-58°

CLAIM NO.: Chaput Option
 SECTION: 325N
 LOGGED BY: A. Travis
 DATE LOGGED: Nov. 8/89
 DRILLING CO.: Falcon
 ASSAYED BY: Eco-Tech

CORE RECOVERY: 95%

From	To	Description	Sample	From	To	Length	Au	Ag	As	Cu	Pb	Zn
0.0	3.7	Casing/Overburden										
3.7	28.6	Interbanded Sericite Schist and Quartzite	34771	3.7	5.3	1.6	<5	0.2	<5	52	22	72
		- pale green-grey	34772	5.3	6.8	1.5	<5	0.2	<5	15	10	34
		- sericite schist near middle to end of section is a waxy green colour and better foliated	34773	6.8	8.3	1.5	<5	0.2	<5	14	10	34
		- qtz veined and oxidized near top of section	34774	8.3	9.8	1.5	<5	0.8	<5	109	12	120
		- foliation cuts core 25 - 50°	34775	9.8	11.5	1.7	<5	0.6	<5	119	14	112
		- few small fault zones evidenced by clay alteration & shearing	34776	11.5	13.1	1.6	<5	0.6	<5	82	16	96
		- approximately 5% qtz veins which generally cut core at 20 - 45°	34777	13.1	14.6	1.5	<5	0.4	<5	54	18	78
		- veins contain 1 - 3% py, trace Po, and trace Ga.	34778	14.6	16.2	1.6	<5	0.6	<5	106	84	68
		- some veins have up to 10% ankerite	34779	16.2	18.0	1.8	<5	0.4	<5	107	34	102
		- qtz eyes (mm-scale) up to 2 mm generally <10 - 15%, usually more abundant where sericite schist is less abundant	34780	18.0	19.0	1.0	<5	<2	23	41	54	227
		- ankerite porphyroblasts, smaller than normal noted generally in sericite schist	34781	19.0	20.5	1.5	<5	<2	23	29	14	76
		3.7 - 5.3 - oxidized qtz. veined graphitic schist	34782	20.5	22.1	1.6	<5	<2	22	43	24	72
		- 30 cm qtz. vein cuts core at 35°	34783	22.1	23.6	1.5	<5	<2	7	31	16	90
		- schist dark green/black due to graphite	34784	23.6	25.2	1.6	<5	<2	10	24	14	65
		- very broken up	34785	25.2	26.8	1.6	<5	<2	78	32	10	80
			34787	28.1	28.6	0.5	(3.02)	2.2	>10,000	32	428	126

DRILL HOLE LOG

HOLE NO.: 89-6

PAGE NO.: 2 of 6.

From	To	Description	Sample	From	To	Length	Au	Ag	As	Cu	Pb	Zn
		- no sulphides in vein, but gossanous pitted area, 10 - 15% ankerite in vein										
		5.3 - 8.3 - Qtz. flooded sericite schist and quartzite										
		- trace po & py										
		- milky white irregular veining concentrated at bottom & top of section with a partly oxidized zone between										
		13.1 - 19.0 - Qtz. flooded sericite schist and quartzite										
		- very similar to section 5.3 - 8.3										
		- better foliation, waxy green appearance to sericite schist										
		- two types of quartz veining - one a generally non-mineralized smoky qtz. concordant veins - the other a few milky white qtz. veins with trace galena										
		- milky white veins (<4 cm) cut core at 20 - 60°										
		- these veins have up to 15% ankerite										
		- 1 - 3% along vein selvages										
		- foliation 30 - 45°										
		- small fault zones cut the core as evidenced by broken core, generally minz'd veins related to these faults.										
		Note: 16.2 - 18.0 - only 45% very broken, qtz. veined, trace galena										
		21.6 - 21.7 - Fault gouge										
		- heavy clay alt'd interbanded sericite schist & quartzite 1 - 3% pyrite										
		28.1 - 28.4 - Fault Zone										
		- alt'd to clay										
		- four small qtz. veins cut core at 35 - 50°										
		- up to 30 cm fault gouge										
		- lower 20 cm <1 cm qtz. veins with 1 - 3% AsPy, 3 - 5% pyrite										
28.6	59.8	Qtz. Veined Interbanded Sericite Schist and Quartzite	34788	28.6	29.1	0.5	(4.59)	3.0	2431	13	968	27
		- 30% milky white qtz veins of these one-half are	34789	29.1	29.4	0.3	(18.28)	4.8	>10,000	109	78	41
		principally 1 - 3% pyrite with up to 10% ankerite, other	34790	29.4	29.9	0.5	(1.74)	.6	4213	30	16	12
		half (found principally in upper 15 m) contain up to 15%	34791	29.9	31.5	1.6	(.14)	.4	2551	26	68	60
			34792	31.5	33.2	1.7	(.22)	.4	855	30	18	35

KEEWATIN ENGINEERING INC.

CORE RECOVERY LOG

D.D.H. #: 89-6

RECOVERY: 95%

DATE: Nov. 8/89

Marked Interval	Measured Interval	Core Loss	Marked Interval	Measured Interval	Core Loss
3.7 - 5.8	2.0	0.1			
5.8 - 8.8	3.0	---			
8.8 - 11.9	2.9	0.2			
11.9 - 14.9	3.0	---			
14.9 - 18.0	2.0	1.1			
18.0 - 21.0	2.9	0.1			
21.0 - 24.1	3.1	---			
24.1 - 27.1	3.0	---			
27.1 - 30.2	3.0	0.1			
30.2 - 33.2	2.3	0.7			
33.2 - 36.3	2.9	0.2			
36.3 - 39.3	3.0	---			
39.3 - 42.4	3.1	---			
42.4 - 45.4	3.0	---			
45.4 - 48.5	3.1	---			
48.5 - 51.5	2.1	0.9			
51.5 - 54.6	3.1	---			
54.6 - 57.6	3.0	---			
57.6 - 60.7	3.0	0.1			
60.7 - 63.7	3.0	---			
63.7 - 66.8	3.1	---			
66.8 - 69.8	3.0	---			
69.8 - 72.8	2.9	0.1			
72.8 - 75.9	3.0	0.1			
75.9 - E.O.H.		3.7			

KEEWATIN ENGINEERING INC.

CORE RECOVERY LOG

D.D.H. #: 89-8

RECOVERY: 95%

DATE: 09/11/89

Marked Interval	Measured Interval	Core Loss	Marked Interval	Measured Interval	Core Loss
6.1 - 8.8	2.7	---			
8.8 - 11.9	2.8	0.3			
11.9 - 14.9	3.0	---			
14.9 - 18.0	3.1	---			
18.0 - 21.0	2.9	0.1			
21.0 - 24.1	3.0	0.1			
24.1 - 27.1	3.0	---			
27.1 - 30.2	3.0	0.1			
30.2 - 33.2	2.6	0 loss Block			
33.2 - 36.3	3.5	Wrong Place			
36.3 - 39.3	3.0	---			
39.3 - 42.4	2.2	0.9			
42.4 - 45.4	2.0	1.0			
45.4 - 48.5	3.1	---			
48.5 - 51.5	2.6	0.4			
51.5 - 54.6	3.1	---			
54.6 - 57.6	3.0	---			
57.6 - 60.6	3.0	---			
60.6 - 63.7	3.1	---			
		2.9 m			

DRILL HOLE LOG

HOLE NO.: 89-9

PAGE NO.: 3 of 5.

From	To	Description	Sample	From	To	Length	Au	Ag	As	Cu	Pb	Zn
		- 5 - 7% pyrite, chiefly at selvages and in ribboned wall rock caught in vein										
		- graphitic bands (< 1 cm) that are convoluted adjacent to veins										
		- 1 cm pyrite band at lower contact cuts core at 35°										
		- trace galena, pyrrhotite										
		23.5 - 23.9 Mineralized Quartz Vein										
		- upper contact 30° to core										
		- 1 - 3% pyrite in one mass near centre of vein										
		25.1 - 27.3 Fault/Alteration Zone										
		- only 10% recovery										
		- 10 cm altered to clay										
		- upper contact with oxidized qtz vein										
		30.8 - 32.3 Quartz Veined Graphite Rich Schist										
		- 55% qtz veins (milky white)										
		- 1 - 3% pyrite										
		- 10 - 15% ankerite										
		- veins generally cut core at 30 - 40°										
		33.2 - 34.2 Fault/Alteration Zone										
		- very graphitic, clay alt'd on foliation and very strong over 15 cm, fracturing of milky white qtz vein										
		- 3 - 5% pyrite										
		38.7 - 39.0 Mineralized Qtz Vein										
		- 10 - 15% Galena										
		- 3 - 5% Sphalerite										
		- upper contact 25° to core lower contact irregular, averages 50° to core										
		- foliation 50° to core just before upper contact										
42.4	68.9	Interbanded Sericite Schist + Quartzite	34924	42.4	43.7	1.3	15	1.0	45	27	1138	574
		- pale green/grey	34925	43.7	45.1	1.4	15	.6	90	14	52	82
		- 10% milky white quartz veins	34926	45.1	46.5	1.4	10	.4	125	11	22	38
		- veins 1 - 10 cm wide which generally cut core at 10° -> 40°	34927	46.5	47.0	0.5	(8.67)	11.4	9735	1	1416	21
			34928	47.0	48.3	1.3	155	<.2	310	21	18	36
		- trace to 1% Galena in veins with 1 -3% pyrite	34929	48.3	49.7	1.4	35	<.2	50	18	28	38

KEEWATIN ENGINEERING INC.

CORE RECOVERY LOG

D.D.H. #: 89-9

RECOVERY: 84%

DATE: 10/11/89

Marked Interval	Measured Interval	Core Loss	Marked Interval	Measured Interval	Core Loss
6.1 - 8.8	2.7	—			
8.8 - 11.9	2.8	0.3			
11.9 - 14.9	3.0	—			
18.0 - 21.0	2.1	0.9			
21.0 - 24.1	2.4	0.7			
24.1 - 27.1	1.2	1.8			
27.1 - 30.2	3.1	—			
30.2 - 33.2	3.0	—			
33.2 - 36.3	3.1				
36.3 - 39.3	3.0				
39.3 - 42.4	2.7	0.4			
42.4 - 45.4	3.1				
45.4 - 48.5	3.1				
48.5 - 51.5	3.0				
51.5 - 54.5	2.8	0.2			
54.5 - 57.6	2.8	0.3			
57.6 - 60.7	3.1				
60.7 - 63.7	1.5	1.5			
63.7 - 66.8	0.5	2.6			
66.8 - 68.9	0.8	1.3			

DRILL HOLE LOG

LOCATION: Between B-zone and Jewellery Shop

HOLE NO.: 89-10

PAGE NO.: 1 of 3.

AZIM.: 235° ELEV.: 1401 m
 INCLINATION: -45 LENGTH: 60.4 m
 CORE SIZE: BGM

SURVEYS

METERAGE AZIMUTH INCLINATION CORR. INCLIN.

STARTED: 10/11/89
 COMPLETED: 10/11/89
 PURPOSE: to test for continuity of minzn between B-zone and Jewellery Shop

PROPERTY: Craze Creek

CLAIM NO.: Chaput Option
 SECTION: 330N
 LOGGED BY: A. Travis
 DATE LOGGED: 11/11/89
 DRILLING CO.: Falcon
 ASSAYED BY: Eco-Tech

CORE RECOVERY: 85%

From	To	Description	Sample	From	To	Length	Au ppb (g/t)	Ag	As	Cu	Pb	Zn
0.0	6.1m	Casing/Overburden										
6.1	60.4	Interbanded Sericite Schist + Quartzite	34942	6.1	7.6	1.5	185	3.2	40'	16	3528	3230
		- pale green/grey colour	34943	7.6	9.1	1.5	15	<.2	20	16	60	67
		- very broken core near top of section	34944	9.1	11.6	2.5	100	<.2	70	57	60	187
		- also near top of section foliation is approximately 40° to core	34945	11.6	14.6	3.0	90	<.2	350	18	66	52
		- some fault zones that are oxidized and have some quartz veining	34946	14.6	17.7	3.1	10	<.2	35	13	52	48
			34947	17.7	19.4	1.7	10	.6	10	6	76	103
		- veins (<5%) generally cut core at 40° - 60° and contain 1 - 3% pyrite	34948	19.4	20.7	1.3	10	<.2	30	101	24	50
			34949	20.7	22.2	1.5	15	<.2	10	34	14	60
		- only one vein that is mineralized with more than pyrite its only 1 cm wide and contains 25% Galena, 10% Sphalerite, 10% Pyrite	34950	22.2	23.8	1.6	10	<.2	10	44	14	80
			34951	23.8	25.3	1.5	15	<.2	5	31	12	52
		- foliations generally steepens to 70 - 80° towards end of hole	34952	25.3	26.8	1.5	5	<.2	25	32	14	70
			34953	26.8	28.1	1.3	5	<.2	10	40	12	38
		- towards the end of the hole the sericite schist takes on a waxy green appearance	34954	28.1	29.1	1.0	5	<.2	5	12	24	19
			34955	29.1	30.6	1.5	5	<.2	5	23	16	34
		6.1 - 6.3 Oxidized Qtz Vein	34956	30.6	32.1	1.5	20	<.2	<5	41	30	72
		- broken core	34957	32.1	33.6	1.5	5	<.2	10	33	18	85
			34958	33.6	35.1	1.5	10	.4	15	20	62	48
			34959	35.1	36.6	1.5	5	<.2	25	31	16	68

KEEWATIN ENGINEERING INC.

CORE RECOVERY LOG

D.D.H. #: 89-10

RECOVERY: 85%

DATE: 11/11/89

Marked Interval	Measured Interval	Core Loss	Marked Interval	Measured Interval	Core Loss
6.1 - 8.5	2.4	—			
8.5 - 11.6	2.0	1.1			
11.6 - 14.6	0.7	2.3			
14.6 - 17.7	0.5	2.6			
17.7 - 20.7	3.0	—			
20.7 - 23.8	2.7	0.4			
23.8 - 26.8	3.0	—			
26.8 - 29.9	2.8	0.3			
29.9 - 32.9	2.7	0.4			
32.9 - 36.0	3.1	—			
36.0 - 39.0	2.8	0.2			
39.0 - 42.1	2.9	0.2			
42.1 - 45.1	3.0	—			
45.1 - 48.2	2.8	0.3			
48.2 - 51.2	3.0	—			
51.2 - 54.3	3.0	0.1			
54.3 - 57.3	3.0	—			
57.3 - 60.4	3.0	0.1			
60.4 - E.O.H.					

DRILL HOLE LOG

LOCATION: Nugget Mtn/Switchback Showing

HOLE NO.: 89-11

PAGE NO.: 1 of 3.

AZIM.: 235°

ELEV.: 1348 m

INCLINATION: -45°

LENGTH: 57.5

CORE SIZE: BGM

SURVEYS

METERAGE AZIMUTH INCLINATION CORR.INCLIN.

51.5 -45°

STARTED: 12/11/89

COMPLETED: 12/11/89

PURPOSE:

PROPERTY: Craze Creek

CLAIM NO.:

SECTION:

LOGGED BY: A. Travis

DATE LOGGED: 13/11/89

DRILLING CO.: Falcon

ASSAYED BY: Eco-Tech

CORE RECOVERY: 33%

From	To	Description	Sample	From	To	Length	Au ppb (g/t)	Ag	As	Cu	Pb	Zn
0.0	7.6 m	Casing/Overburden										
7.6	5.15 m	Intensely Sheared Interbanded Sericite Schist and Quartzite	34976	7.6	9.8	2.2	5	<.2	20	10	20	47
		- pale green/grey, light brown where oxidized	34977	9.8	12.0	2.2	5	<.2	15	6	16	47
		- cut by numerous fault zones (entire core sheared)	34978	12.0	13.9	1.9	(2.15)	30.6g/t	160	10	3118	42
		- very poor recovery (33%), broken up (largest piece 10 cm)	34979	13.9	15.9	2.0	10	<.2	35	21	32	63
		- minor quartz veining and rubble of quartz vein (up to 10%)	34980	15.9	18.0	2.1	10	<.2	20	19	16	58
		- near top of section 3 - 5% Galena and Pyrite in Qtz Vein (8 cm wide, both contacts missing)	34981	18.0	21.0	3.0	5	.4	10	19	18	62
		- most contacts missing, in one case contact seen to cut core at 40° in 1 cm milky white quartz vein	34982	21.0	24.0	3.0	(10.8)	17.4g/t	6335	16	3318	36
		- in some places just clay (fault gouge?) for over 1.5 m	34983	24.0	27.1	3.1	40	<.2	90	23	28	52
		- clay alt'd on foliation and slickensides	34984	27.1	28.8	1.7	55	<.2	40	10	20	36
		- foliation near top of hole 50° to core	34985	28.8	30.6	1.8	5	<.2	60	14	16	64
		- white ankerite porphyroblasts (up to 0.4 cm) in sericite schist	34986	30.6	32.0	1.4	10	<.2	35	16	18	62
		- up to 50% quartz veins	34987	32.0	33.2	1.2	10	<.2	25	17	20	169
			34988	33.2	36.3	3.1	115	<.2	30	21	34	44
			34989	36.3	39.3	3.0	10	<.2	75	27	40	61
			34990	39.3	42.4	3.1	180	.6	70	6	18	66
			34991	42.4	45.4	3.0	(1.22)	2.4g/t	3335	193	528	58
			34992	45.4	46.9	1.5	220	.2	70	97	74	48
			34993	46.9	48.3	1.4	(1.43)	1.4	280	250	1016	71

DRILL HOLE LOG

HOLE NO.: 89-11

PAGE NO.: 2 of 3.

From	To	Description	Sample	From	To	Length	Au ppb (g/t)	Ag	As	Cu	Pb	Zn
		<ul style="list-style-type: none"> - minimum size of veins 8 cm, all contacts missing - up to 5% galena and pyrite near bottom contact in quartz vein with 1 - 3% ankerite 	34994	48.3	51.5	3.2	140	.4	65	125	160	108
		<p>21.0 - 24.0 m Intensely Sheared Qtz Vein/Fault Zone</p> <ul style="list-style-type: none"> - alt'd to clay with quartz rubble (0.5 cm) and pyrite cubes (0.3 cm) - only 5% recovery - trace arsenopyrite, galena? 										
		<p>30.6 - 32.0 m Intensely Sheared Qtz Vein/ Fault Zone</p> <ul style="list-style-type: none"> - more of a green/grey colour than interval 21.0 - 24.0 m - milky white quartz fragments - no sulphides noted 										
		<p>33.2 - 42.4 m Intensely Sheared Qtz Veined Sericite Schist + Quartzite/Fault Zone</p> <ul style="list-style-type: none"> - very broken up, 15% recovery - pale green to dark grey - slickensides and clay alt'd on foliation - up to 5% ankerite in quartz veins and quartz rubble - pyrite cubes up to 0.5 cm in quartz vein - vein contacts missing 										
		<p>42.4 - 48.3 m Fault Zone</p> <ul style="list-style-type: none"> - almost entire section alt'd to clay/sand - towards middle of section clay and intensely sheared quartz veins (pieces <1 cm average 0.3 cm) - 3 - 5% pyrite as euhedral cubes (0.1 cm) 										
		<p>48.5 - 51.5 Fault Zone</p> <ul style="list-style-type: none"> - 25% recovery - near centre of section core alt'd to clay - sericite schist and quartzite with the introduction of some graphite, giving it a darker appearance - 1 - 3% pyrite 										

51.5

E.O.H.

KEEWATIN ENGINEERING INC.

CORE RECOVERY LOG

D.D.H. #: 89-11

RECOVERY: 33%

DATE: 12/11/89

Marked Interval	Measured Interval	Core Loss	Marked Interval	Measured Interval	Core Loss
(7.6 - 11.9) 3.3	2.2	1.1			
(11.9 - 14.9) 3.0	1.8	1.2			
(14.9 - 18.0) 3.1	1.1	2.0			
(18.0 - 21.0) 3.0	0.3	2.7			
(21.0 - 24.0) 3.0	0.2	2.8			
(24.0 - 27.1) 3.1	0.8	2.3			
(27.1 - 30.2) 3.1	0.6	2.5			
(30.2 - 33.2) 3.0	1.4	1.6			
(33.2 - 36.3) 3.1	0.7	2.4			
(36.3 - 39.3) 3.0	0.2	2.8			
(39.3 - 42.4) 3.1	0.4	2.7			
(42.4 - 45.4) 3.0	1.1	1.9			
(45.4 - 48.5) 3.1	1.9	1.1			
(48.5 - 51.5) 3.0	0.6	2.4			
51.5 - E.O.H.					

DRILL HOLE LOG

LOCATION: Nugget Mtn/Switchback Showing

HOLE NO.: 89-12

PAGE NO.: 1 of 6.

AZIM.: 235

ELEV.: 1348 m

INCLINATION: -60

LENGTH: 90.8 m

CORE SIZE: BGM

SURVEYS
METERAGE AZIMUTH INCLINATION CORR.INCLIN.

PROPERTY: Craze Creek

STARTED: 13/11/89

COMPLETED: 14/11/89

PURPOSE:

CLAIM NO.:

SECTION:

LOGGED BY: A. Travis

DATE LOGGED: 14/11/89

DRILLING CO.: Falcon

ASSAYED BY: Eco-Tech

CORE RECOVERY: 68%

From	To	Description	Sample	From	To	Length	Au	Ag	As	Cu	Pb	Zn
0.0	5.2 m	Casing/Overburden										
5.2	57.8 m	Interbanded Sericite Schist + Quartzite	34995	5.2	8.5	3.3	(10.48)	(42.8)	110	15	2182	33
		- pale green/grey, brown where oxidized	34996	8.5	10.0	1.5	10	.4	60	17	84	65
		- upper 20 m oxidized	34997	10.0	11.6	1.6	10	.2	15	14	20	39
		- core broken up (not as badly as 89-11)	34998	11.6	12.1	0.5	5	.2	60	35	44	99
		- minor quartz veining with shallow (approximately 10°)	34999	12.1	13.6	1.5	10	<.2	15	14	54	119
		core angle near top of section	35000	13.6	14.6	1.0	15	.2	20	24	74	60
		- foliation 30° - 40° near top of section	35001	14.6	16.1	1.5	5	<.2	10	14	12	31
		- fold nose at 23 m	35002	16.1	17.7	1.6	10	<.2	25	25	18	65
		- increase in foliation/core angle to 40° - 50° near end of	35003	17.7	19.2	1.5	10	<.2	15	15	16	50
		section	35004	19.2	20.7	1.5	5	<.2	10	14	12	50
		- where oxidized normally white ankerite porphyroblasts	35005	20.7	22.2	1.5	5	<.2	20	23	8	54
		are seen as rusty red spots (0.2 cm)	35006	22.2	23.8	1.6	10	<.2	5	16	6	64
		- towards end of section interval becomes more competent	35007	23.8	25.3	1.5	5	<.2	5	14	52	46
		(increase in quartzite)	35008	25.3	26.8	1.5	5	<.2	<5	13	8	36
		- also towards end of section white (aligned with foliation)	35009	26.8	28.3	1.5	15	<.2	<5	14	6	49
		increase in size to 0.5 cm in places	35010	28.3	29.9	1.6	5	<.2	<5	35	18	81
		5.5 - 7.0 ? Intensely Sheared Minz'd Qtz Vein	35011	29.9	31.4	1.5	5	<.2	5	19	8	45
		- 10% recovery	35012	31.4	32.9	1.5	10	<.2	<5	21	14	42

DRILL HOLE LOG

HOLE NO.: 89-12

PAGE NO.: 3 of 6.

From	To	Description	Sample	From	To	Length	Au	Ag	As	Cu	Pb	Zn
		- foliation in sericite schist, just past zone is 50° to core 51.3 - 51.8 Fault?										
		- broken core in otherwise competent section										
		- slickensides and a "shear" on foliation										
		- minor non-mineralized milky white qtz veins										
		- trace galena noted on split surface										
57.8	64.4 m	Graphite Rich Phyllitic Mudstone	35027	57.8	59.2	1.4	550	.8	300	50	70	62
		- banded/layered on mm scale and cm scale	35028	59.2	60.5	1.3	5	.4	55	56	60	99
		- dark grey/black	35029	60.5	61.3	0.8	135	.4	75	16	38	45
		- 3 - 5% pyrite as euhedral cubes (≤1 cm)	35030	61.3	62.9	1.6	60	.8	75	81	148	77
		- milky white quartz vein near middle of section, which as been sheared	35031	62.9	64.4	1.5	5	.4	65	63	52	94
		- foliation ranges from 30° - 55° to core										
		- foliation can be extremely crenulated adjacent to milky white qtz veins (<1 cm)										
		- slickensides + clay alt'd on some foliations										
		- slightly calcareous										
		- white ankerite porphyroblasts (up to 0.5 cm) aligned with foliation, in some places up to 25% of the core										
		- pyrite also seems to be aligned with foliation										
		60.5 - 61.3 quartz Vein										
		- milky white with up to 10% ankerite										
		- most contacts missing, but vein seems to cut core at shallow angle										
		- 75% quartz vein, remainder phyllite which has euhedral pyrite (5%) up to 0.5 cm										
		- vein "broken up" near middle (fault?)										
64.4	74.5 m	Quartzite	35032	64.4	66.4	2.0	65	.2	60	26	20	43
		- less than 20% sericite schist, primarily towards end of section	35033	66.4	67.4	1.0	5	.8	90	51	22	96
		- pale grey/green colour	35034	67.4	69.0	1.6	55	.8	35	19	40	68
			35035	69.0	69.7	0.7	495	1.0	135	19	66	33

DRILL HOLE LOG

HOLE NO.: 89-12

PAGE NO.: 4 of 6.

From	To	Description	Sample	From	To	Length	Au	Ag	As	Cu	Pb	Zn
		- approximately 10% milky white qtz veins with up to 15% ankerite in places and 5% pyrite	35036	69.7	71.4	1.7	<5	.2	60	14	12	55
		- veins generally cut core at 30° - 50°	35037	71.4	72.2	0.8	155	.2	150	4	8	29
		- trace mariposite in quartzite	35038	72.2	73.5	1.3	5	.2	110	16	20	52
		66.3 - 66.4 Quartz Vein	35039	73.5	74.5	1.0	35	.4	75	17	40	37
		- 3 - 5% pyrite in selvage at upper contact which cuts core at 40°										
		- 1 - 3% ankerite										
		67.4 - 67.7 quartz Vein										
		- upper contact missing, lower contact 30° to core, 10 - 15% ankerite										
		69.0 - 69.5 Quartz Vein										
		- upper contact 35° to core										
		- 3 - 5% pyrite (as large as 1 cm) in vein selvages										
		- 10 - 15% ankerite										
		69.6 - 69.7 Quartz Vein										
		- lower contact 40° to core										
		- 10 - 15% ankerite										
		- 3 - 5% pyrite in vein selvages										
		71.4 72.2 Mineralized Qtz Veins										
		- most abundant pyrite (5 - 7%)										
		- two veins 40 cm and 10 cm										
		- first vein lower contact 30° to core										
		- 10 - 15% ankerite near top of vein										
		- lower vein 50° to core, 5% pyrite along upper vein selvage										
74.5	90.8 m	Graphite Rich Phyllitic Mudstone	35040	74.5	76.0	1.5	60	.2	35	46	24	27
		- similar to interval 57.8 - 64.4 m	35041	76.0	77.8	1.8	<5	.4	10	110	146	35
		- dark grey/black	35042	77.8	78.1	0.3	5	1.6	10	73	816	37
		- banded/layered appearance (mm scale - cm scale)	35043	78.1	79.6	1.5	5	.2	5	78	28	62
		- in places shows fine layering with possible flame structures	35044	79.6	81.1	1.5	<5	.2	5	55	54	68
		- some (<10%) coarser grained layers of sericite schist with minor quartzite	35045	81.1	82.6	1.5	5	<.2	<5	58	22	100
			35046	82.6	84.1	1.5	<5	<.2	<5	48	22	102
			35047	84.1	85.6	1.5	5	<.2	<5	35	12	57

DRILL HOLE LOG

HOLE NO.: 89-12

PAGE NO.: 5 of 6.

From	To	Description	Sample	From	To	Length	Au	Ag	As	Cu	Pb	Zn
		- pyrite 3 - 5% as euhedral cubes as large as 1 cm, aligned with foliation which cuts core at 40° - 50° (but can be crenulated in places)	35048	85.6	87.8	2.2	5	.4	<5	38	50	61
		- one 30 cm mineralized quartz vein that contains 1% Galena, 3% Pyrite along selvages and trace Sphalerite - clay alt'd on foliation planes	35049	87.8	90.8	3.0	5	.4	<5	59	52	28
		- in sericite schist white ankerite porphyroblasts up to 0.5 cm and 20% of rock, aligned with foliation										
		- minor carbonate										
		77.8 - 78.1 Mineralized Quartz Vein										
		- 1% Galena										
		- 3 - 5% Pyrite along vein selvages										
		- trace sphalerite										
		- upper contact 25° to core, lower contact 30° to core										

90.8

E.O.H.

KEEWATIN ENGINEERING INC.

CORE RECOVERY LOG

D.D.H. #:89-12

RECOVERY: 68%

DATE: 13/11/89

Marked Interval	Measured Interval	Core Loss	Marked Interval	Measured Interval	Core Loss
5.2 - 5.5	0.03	0.27			
5.5 - 8.5	0.3	2.7			
8.5 - 11.6	1.8	1.3			
11.6 - 14.6	2.6	0.4			
14.6 - 17.7	1.8	1.3			
17.7 - 20.7	2.6	0.4			
20.7 - 23.8	2.2	0.9			
23.8 - 26.8	2.8	0.2			
26.8 - 29.9	1.6	1.5			
29.9 - 32.9	3.0	—			
32.9 - 36.0	2.7	0.4			
36.0 - 39.0	1.3	1.7			
39.0 - 42.1	0.9	2.2			
42.1 - 45.1	1.2	1.8			
45.1 - 48.2	1.2	1.9			
48.2 - 51.2	2.5	0.5			
51.2 - 54.3	3.1	—			
54.3 - 57.3	2.8	0.2			
57.3 - 60.4	2.5	0.6			
60.4 - 63.4	2.8	0.2			
63.4 - 66.4	1.7	1.3			
66.4 - 69.5	1.8	1.3			
69.5 - 72.5	3.0	—			
72.5 - 75.6	3.0	0.1			
75.6 - 78.6	2.9	0.1			
78.6 - 81.7	3.1	—			
81.7 - 84.7	3.0	—			
84.7 - 87.8	1.6	1.5			
87.8 - 90.8	0.9	2.1			
90.8 - E.O.H.					

KEEWATIN ENGINEERING INC.

CORE RECOVERY LOG

D.D.H. #: 89-13

RECOVERY: 45%

DATE: 17/1189

Marked Interval	Measured Interval	Core Loss	Marked Interval	Measured Interval	Core Loss
12.2 - 14.9	1.0	1.7			
14.9 - 18.0	1.2	1.9			
18.0 - 21.0	1.7	1.3			
21.0 - 24.1	1.6	1.5			
24.1 - 27.1	0.3	2.7			
27.1 - 30.2	1.6	1.5			
30.2 - 33.2	1.7	1.3			
33.2 - 36.3	1.2	1.9			
36.3 - 39.3	0.3	2.7			
39.3 - 42.4	2.0	1.1			
42.4 - 45.4	2.4	0.6			
45.4 - E.O.H.					

DRILL HOLE LOG

HOLE NO.: 89-14

PAGE NO.: 3 of 5.

From	To	Description	Sample	From	To	Length	Au	Ag	As	Cu	Pb	Zn
		- veins (<1 cm) cut core at 30° - 45° and contain up to 10% ankerite and 1% pyrite										
		34.3 - 34.7 m Mineralized Quartz Vein										
		- milky white quartz Vein(s)?										
		- upper contact 45° to core, lower contact irregular										
		- 10% pyrite, predominantly towards lower contact in almost massive bands										
		34.7 - 38.5 Qtz Veined Sericite Schist + Quartzite										
		- 10% milky white qtz veins that cut core at 35° - 45°										
		- veins (1 - 10 cm) average 2 cm										
		- trace galena, sphalerite, up to 5% pyrite in some vein selvages										
		- trace scheelite?										
38.5	66.8	Interbanded Sericite Schist + Quartzite	35096	38.5	39.4	0.9	35	.3	102	33	33	69
		- a distinctive waxy green to pale green, well foliated sericite schist and quartzite	35097	39.4	40.9	1.5	15	.2	21	37	11	71
		- foliation near top of interval 30° - 40°	35098	40.9	42.4	1.5	5	.2	9	26	9	100
		- white ankerite porphyroblasts aligned with foliation (up to 0.5 cm and 30%)	35099	42.4	43.9	1.5	5	.4	7	55	8	89
		- foliation steepens to 60° near 45 m and continues to end of hole	35100	43.9	45.4	1.5	5	.2	22	17	10	97
		- 10% milky white quartz veins from 1 cm - 70 cm, with up to 10% ankerite and cut core at 30° - 45°	35101	45.4	46.1	0.7	15	.1	70	10	8	84
		- some quartz veins contain up to 5% pyrite and 1% pyrrhotite	35102	46.1	47.5	1.4	5	.2	70	44	10	52
		- 2.7 m wide quartzite band contains 1% Sphalerite and Galena in qtz veinlets	35103	47.5	49.0	1.5	5	.3	80	11	10	81
		- towards end of hole sericite schist becomes enriched in chlorite giving it a darker green appearance	35104	49.0	50.5	1.5	5	.1	84	27	9	64
		- 39.1 - 39.2 m Quartz Vein	35105	50.5	52.1	1.6	5	.2	89	36	12	80
		- milky white, up to 10% ankerite	35106	52.1	52.7	0.6	70	.2	36	5	4	12
		- cuts core at 30°	35107	52.7	53.7	1.0	10	.2	96	21	11	54
		39.3 - 39.4 m Fault	35108	53.7	54.6	0.9	20	.2	74	26	10	39
		- clay alt'd and quartz rubble over 10 cm	35109	54.6	55.3	0.7	10	.2	37	72	14	33
			35110	55.3	56.3	1.0	5	.3	81	36	22	46
			35111	56.3	57.6	1.3	20	.2	58	15	13	47
			35112	57.6	59.3	1.7	255	.5	101	16	23	43
			35113	59.3	60.6	1.3	15	3.0	33	21	(.17)	(.12)
			35114	60.6	62.0	1.4	10	.5	24	22	34	49
			35115	62.0	63.5	1.5	10	.2	27	36	19	62
			35116	63.5	64.8	1.3	10	.3	12	36	34	55

KEEWATIN ENGINEERING INC.

CORE RECOVERY LOG

D.D.H. #: 89-14

RECOVERY: 95%

DATE: 19/11/89

Marked Interval	Measured Interval	Core Loss	Marked Interval	Measured Interval	Core Loss
6.1 - 8.8	2.7	—			
8.8 - 11.9	2.8	0.3			
11.9 - 14.9	2.8	0.2			
14.9 - 18.0	2.3	0.8			
18.0 - 21.0	2.3	0.7			
21.0 - 24.1	3.0	0.1			
24.1 - 27.1	3.0	—			
27.1 - 30.2	2.9	0.2			
30.2 - 33.2	2.7	0.3			
33.2 - 36.3	3.1	—			
36.3 - 39.3	3.0	—			
39.3 - 42.4	2.9	0.2			
42.4 - 45.4	3.0	—			
45.4 - 48.5	3.1	—			
48.5 - 51.5	3.0	—			
51.5 - 54.6	3.1	—			
54.6 - 57.6	3.0	—			
57.6 - 60.7	3.1	—			
60.7 - 63.7	3.0	—			
63.7 - 66.8	3.1	—			
66.8 - E.O.H.					

DRILL HOLE LOG

HOLE NO.: 89-15

PAGE NO.: 2 of 6.

From	To	Description	Sample	From	To	Length	Au	Ag	As	Cu	Pb	Zn
		9.3 m Fault Gouge										
		-graphite rich clay over 5 cm minor quartz veining										
		10.5 - 11.0 m Fault/Alteration Zone										
		-strong clay alt'd in two places over 10 cm										
		11.0 - 13.3 m Qtz Veined Sericite Schist + Quartzite										
		- 20% milky white quartz veins (0.5 cm - 20 cm) cut core at steep angles										
		14.1 - 14.9 m Quartzite										
		- grey/green colour										
		- quartz eyes 0.2 cm										
		- minor white ankerite porphyroblasts in some sericite schist bands										
		- foliation 70° to core axis										
		17.9 - 18.7 m Fault/Alteration Zone										
		- strong clay alteration of pale green sericite schist, minor qtz veining										
		19.0 - 19.1 m Quartz Vein										
		- milky white qtz vein upper contact 60° to core, lower contact (fault contact) at approximately 45° to core										
		24.0 - 24.1 m Quartz Vein										
		- milky white quartz vein with up to 10% ankerite, cuts core at 45°										
		24.1 - 26.6 m Qtz Veined Phyllitic Mudstone										
		- graphitic bands (<1 cm) and milky white qtz veins (<1 cm) are crenulated giving the core a "swirled appearance"										
		- 1 - 3% pyrite up to 0.5 cm, probable fault at lower contact										
26.6	75.9 m	Interbanded Sericite Schist + Quartzite	35136	26.6	28.1		<5	.1	26	12	89	28
		- green/grey to waxy green colour and better foliated as you go down the section	35137	28.1	29.3	1.2	<5	.3	53	35	84	14
		- foliation 45° - 60°	35138	29.3	30.4	1.1	<5	.1	86	15	67	23
		- white ankerite porphyroblasts (0.1 - 0.5 cm) especially large in waxy green sericite schist up to 30% in places	35139	30.4	31.0	0.6	10	.2	51	7	47	91
			35140	31.0	32.5	1.5	<5	.1	35	21	56	30
			35141	32.5	34.0	1.5	10	.2	13	109	34	242

KEEWATIN ENGINEERING INC.

CORE RECOVERY LOG

D.D.H. #: 89-15

RECOVERY: 98%

DATE: Nov 20/89

Marked Interval	Measured Interval	Core Loss	Marked Interval	Measured Interval	Core Loss
4.6 - 5.8	0.2	1.0			
5.8 - 8.8	2.7	0.3			
8.8 - 11.9	3.1	---			
11.9 - 14.9	3.0	---			
14.9 - 18.0	3.1	---			
18.0 - 21.0	3.0	---			
21.0 - 24.1	3.1	---			
24.1 - 27.1	3.0	---			
27.1 - 30.2	3.1	---			
30.2 - 33.2	3.0	---			
33.2 - 36.3	3.1	---			
36.3 - 39.3	3.0	---			
39.3 - 42.4	3.1	---			
42.4 - 45.4	3.0	---			
45.4 - 48.5	3.1	---			
48.5 - 51.5	3.0	---			
51.5 - 54.5	3.0	---			
54.5 - 57.6	3.1	---			
57.6 - 60.7	3.1	---			
60.7 - 63.7	3.0	---			
63.7 - 66.8	3.1	---			
66.8 - 69.8	3.0	---			
69.8 - 72.8	3.0	---			
72.8 - 75.9	3.1	---			
75.9 - E.O.H.					

DRILL HOLE LOG

HOLE NO.: 89-16

PAGE NO.: 2 of 6.

From	To	Description	Sample	From	To	Length	Au	Ag	As	Cu	Pb	Zn
		18.0 - 19.3 m Quartzite										
		- 80% grey quartzite, remainder sericitic schist, particularly towards end of section foliated 70° to core										
		- porphyroblasts of ankerite in sericite schist up to .4 cm										
		- one 5 cm milky white qz vein cuts core at 55°, seen to splay then join again										
		- trace to 1% py										
19.3	40.0 M	Qz Veined, Graphite - Rich Sericite Schist and Quartzite	32884	19.3	20.4	1.1 m	<5	.1	49	10	107	10
		- light grey/green to black graphitic bands up to 1 m wide and 25% of the interval	32885	20.4	21.3	0.9 m	<5	.2	61	24	47	21
		- 20% milky white qz veins that average 2 cm wide near upper half of section, but average .5 m downhole and contain up to 10% py. Veins cut core at 50 - 60°	32886	21.3	21.7	0.4 m	<5	.1	56	13	82	9
		- foliation generally 60 - 80°, with fold nose at 29.5 m	32887	21.7	22.4	0.7 m	<5	.1	7	12	26	16
		- local crenulations near qz veins	32888	22.4	24.1	1.7 m	<5	.1	33	14	73	6
		- .3 cm white/creamy ankerite porphyroblasts within sericite schist	32889	24.1	24.8	0.7 m	20	.7	41	98	60	28
		- 3 - 5% in graphitic bands as euhedral cubes up to .6 cm	32890	24.8	25.6	0.8 m	<5	.2	18	26	83	7
		- 3 - 5% pyrite cubes up to 0.6 cm	32891	25.6	27.2	1.6 m	<5	.2	43	23	61	8
		- 10% quartz veinlets (0.3 cm)	32892	27.2	28.8	1.6 m	<5	.3	68	48	74	15
		- foliation crenulated	32893	28.8	30.3	1.5 m	<5	.2	41	29	76	12
		- very similar to above	32894	30.3	31.7	1.4 m	60	.3	18	21	40	47
		- foliation crenulated but averages 60° to core axis	32895	31.7	32.1	0.4 m	(1.15)	.5	10	29	49	375
		- lower contact faulted	32896	32.1	33.3	1.2 m	25	.3	49	11	48	53
		- grey/green, clay altered	32897	33.3	34.2	0.9 m	(1.05)	.2	32	19	19	148
		- weakly graphitic	32898	34.2	35.0	0.8 m	50	.4	143	26	95	51
		- qz veins (<1 cm), 1 - 3% py	32899	35.0	35.5	0.5 m	(2.03)	1.2	11	73	23	821
		- light grey/green	32900	35.5	37.0 m	1.5 m	40	.5	68	43	67	90
		- small fractures that give a darker grey appearance	32901	37.0	38.0 m	1.0 m	40	.2	5	7	18	26
			32902	38.0	38.4	0.4 m	15	.1	24	13	24	86
			32903	38.4	39.3	0.9 m	458	.2	7	133	27	166
			32904	39.3	40.0	0.7 m	365	.2	3	19	31	74

DRILL HOLE LOG

HOLE NO.: 89-16

PAGE NO.: 5 of 6.

From	To	Description	Sample	From	To	Length	Au	Ag	As	Cu	Pb	Zn
40.0	60.7 m	Interbanded Sericite Schist and quartzite	32905	40.0	41.5	1.5 m	<5	.2	19	62	29	40
		- pale green/grey to waxy green sericite schist towards end of hole	32906	41.5	43.0	1.5 m	<5	.3	16	95	30	18
			32907	43.0	44.5	1.5 m	<5	.2	58	31	68	45
		- foliation cuts core at steep angles (80 - 90°) near top of interval, flattening to 60° toward end of hole	32908	44.5	46.0	1.5 m	<5	.2	44	22	73	26
			32909	46.0	47.5	1.5 m	<5	.3	38	31	95	24
		- ankerite porphyroblasts up to .5 cm in waxy green schist (up to 30%)	32910	47.5	49.0	1.5 m	<5	.3	42	32	59	18
			32911	49.0	50.5	1.5 m	<5	.4	75	17	76	43
		- minor quartz veining (<5%) particularly toward top of section where there is some silica flooding	32912	50.5	52.0	1.5 m	20	.3	24	19	53	21
			32913	52.0	53.6	1.6 m	<5	.4	50	18	68	19
		- weakly graphitic near upper contact	32914	53.6	55.2	1.6 m	<5	.2	55	15	70	22
		- trace galena and sphalerite in qz veinlet near upper contact	32915	55.2	56.8	1.6 m	<5	.3	8	11	77	21
			32916	56.8	58.4	1.6 m	<5	.5	37	74	36	8
		- trace pyrite overall	32917	58.4	59.9	1.5 m	<5	.5	31	106	27	20
			32918	59.9	60.7	0.8 m	<5	.3	28	15	29	42

KEEWATIN ENGINEERING INC.

CORE RECOVERY LOG

D.D.H. #: 89-16

RECOVERY: 97%

DATE: 21/11/89

Marked Interval	Measured Interval	Core Loss	Marked Interval	Measured Interval	Core Loss
6.1 - 8.8 (2.7)	1.7				
8.8 - 11.9 (3.1)	3.1				
11.9 - 14.9 (3.0)	3.0				
14.9 - 18.0 (3.1)	3.0	0.1 m			
18.0 - 21.0 (3.0)	3.0				
21.0 - 24.1 (3.1)	3.0	0.1 m			
24.1 - 27.1 (3.0)	2.9	0.1 m			
27.1 - 30.2 (3.1)	2.9	0.2 m			
30.2 - 33.2 (3.0)	2.6	0.4 m			
33.2 - 36.3 (3.1)	3.1				
36.3 - 39.3 (3.0)	3.0				
39.3 - 42.4 (3.1)	3.1				
42.4 - 45.4 (3.0)	3.0				
45.5 - 48.5 (3.1)	3.1				
48.5 - 51.5 (3.0)	3.0				
51.5 - 54.6 (3.1)	3.1				
54.6 - 57.6 (3.0)	3.0				
57.6 - 60.7 (3.1)	3.1				
60.7 - E.O.H.					

DRILL HOLE LOG

LOCATION: Hibernian

HOLE NO.: 89-17

PAGE NO.: 1 of 5.

AZIM.: 235°

ELEV.: 1351 m

INCLINATION: -60°

LENGTH: 75.9 m

CORE SIZE: BGM

METERAGE

SURVEYS

AZIMUTH INCLINATION CORR.INCLIN.

EOH

59°

PROPERTY: Craze Creek

CLAIM NO.: Chaput Option

SECTION: 550N

LOGGED BY: A. Travis

DATE LOGGED: 22/11/89

DRILLING CO.: Falcon

ASSAYED BY: Eco-Tech

STARTED: 21/11/89

COMPLETED: 22/11/89

PURPOSE: To test Hibernian mineralization at depth

CORE RECOVERY: 99%

From	To	Description	Sample	From	To	Length	Au	Ag	As	Cu	Pb	Zn
0.0	6.1 m	Casing/Overburden										
5.1	75.9 m	Interbanded Sericite Schist + Quartzite	32919	6.1	7.6	1.5	<5	.2	33	12	45	10
		- grey/green colour, slightly graphitic near upper half,	32920	7.6	8.3	0.7	<5	.1	14	10	16	7
		downhole it seems to be slightly greener	32921	8.3	8.6	0.3	<5	.2	23	9	63	3
		- foliation 40 - 60° although it can be crenulated, especially	32922	8.6	10.1	1.5	<5	.1	41	8	62	13
		where graphitic adjacent to quartz veining	32923	10.1	11.6	1.5	<5	.1	59	9	91	10
		- fault/alteration zones are found above and below quartz	32924	11.6	13.1	1.5	<5	.2	33	11	43	25
		veins (mineralized and non-mineralized)	32925	13.1	14.1	1.0	<5	.1	32	12	74	15
		- mineralized veins have up to 5% pyrite, trace galena,	32926	14.1	15.0	0.9	<5	.2	46	14	43	27
		sphalerite and arsenopyrite and minor pyrrhotite	32927	15.0	16.5	1.5	<5	1.0	8	227	27	42
		- towards the end of the hole the sericite schist is an	32928	16.5	17.7	1.2	<5	.2	22	10	16	30
		almost waxy green colour with white (up to 0.4 cm)	32929	17.7	18.9	1.2	<5	.2	29	25	46	26
		porphyroblasts of ankerite up to 25%, aligned with	32930	18.9	20.4	1.5	<5	.3	58	9	73	9
		foliation which is 40° towards end of hole	32931	20.4	21.5	1.1	<5	.2	26	10	62	10
		83. - 8.6 m quartz Vein	32932	21.5	23.2	1.7	<5	.2	21	11	33	14
		- milky white upper contact 20° to core, lower contact	32933	23.2	24.7	1.5	<5	.2	37	10	94	8
		missing	32934	24.7	26.2	1.5	<5	.3	23	13	81	10
		- fault towards lower contact	32935	26.2	27.7	1.5	<5	.2	25	21	109	10
		- fault cuts core at 75°	32936	27.7	29.0	1.3	<5	.3	33	14	104	15

DRILL HOLE LOG

HOLE NO.: 89-17

PAGE NO.: 4 of 5.

From	To	Description	Sample	From	To	Length	Au	Ag	As	Cu	Pb	Zn
		55.8 - 57.0 m Mineralized Qtz Vein										
		- 75% qtz vein (milky white) upper contact irregular approximately 20° to core										
		- 3 - 5% pyrite, trace sphalerite 1 - 3% ankerite										
		- lower contact 60° to core										
		- sphalerite at lower contact										
		57.5 - 60.0 m Mineralized Qtz Veins										
		- 50% quartz veins in sericite schist and quartzite (veins 10 cm - 20 cm)										
		- 1% pyrite in milky white qtz veins that cut core at approximately 40°										
		- foliation 45° to core										
		60.0 - 61.5 m Fault/Alteration Zone										
		- broken, clay alt'd sericite schist + quartzite										
		- 40% quartz veins (0.5 cm - 7 cm)										
		- fault seems to cut core at 50°										
		- one 7 cm qtz vein cuts core at 40° and contains 1% pyrite and trace galena										
		61.5 - 75.9 m Interbanded Sericite Schist and quartzite										
		- a distinctive waxy green colour, particularly towards top of section										
		- foliation varies from 60° near the top to 40° at end of section										
		- two mineralized quartz veinlets (0.5 cm) near top of interval (40° to core, up to 50% Galena)										

75.9

E.O.H.

KEEWATIN ENGINEERING INC.

CORE RECOVERY LOG

D.D.H. #: 89-17

RECOVERY: 99%

DATE: 22/11/89

Marked Interval	Measured Interval	Core Loss	Marked Interval	Measured Interval	Core Loss
6.1 - 8.8	2.7	--			
8.8 - 11.9	3.1	--			
11.9 - 14.9	3.0	--			
14.9 - 18.0	3.1	--			
18.0 - 21.0	3.0	--			
21.0 - 24.1	2.7	0.4			
24.1 - 27.1	3.0	--			
27.1 - 30.2	2.6	0.5			
30.2 - 33.2	3.0	--			
33.2 - 36.3	3.1	--			
36.3 - 39.3	3.0	--			
39.3 - 42.4	3.1	--			
42.4 - 45.4	3.0	--			
45.4 - 48.5	3.1	--			
48.5 - 51.5	3.0	--			
51.5 - 54.6	3.1	--			
54.6 - 57.6	3.0	--			
57.6 - 60.6	3.0	--			
60.6 - 63.7	3.1	--			
63.7 - 66.8	3.1	--			
66.8 - 69.8	3.0	--			
69.8 - 72.8	3.0	--			
72.8 - 75.9	3.1	--			
75.9 - EOH					