PHYSICAL WORK, GEOLOGICAL AND GEOCHEMICAL

REPORT ON THE

JOY PROPERTY

Liard Mining Division, British Columbia
NTS 104B/10W & 11E
Latitude: 56°-44'N
Longitude: 130°-59'W

Prepared for

BIG M RESOURCES LTD.
Vancouver, B.C.

Prepared by

Rex Pegg, BASc., P.Eng.
KEEWATIN ENGINEERING INC.
#800 - 900 West Hastings Street
Vancouver, B.C.
V6C 1E5

January 10, 1991

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Province of British Columbia

RECEIPT

605612 J

THE SUM OF nil DOLLARS $ nil

ON ACCOUNT OF Assess. Rpts. JOY 1-2

Land

RECEIVED FROM Dewatering Engineering Ltd. ON Mar 1 19 91

ISSUING OFFICE Vancouver

ISSUING OFFICER'S SIGNATURE

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INTRODUCTION

The Joy property is located within the 'Iskut Gold Camp' which hosts the mesothermal, shear/vein Snip and Skyline deposits. The Snip deposit presently has ore reserves, cut and diluted, of 1.032 million tons grading 0.875 oz/t gold (Vancouver Stockwatch, November 7, 1989). The Joy property is situated approximately 23 km north-northeast of the Snip deposit.

During May of 1990, Keewatin Engineering Inc. was engaged by Big M Resources Ltd. for the purpose of conducting a reconnaissance exploration program on the property. The target was economic gold ± silver ± base metal mineralization.

1. Location, Access, Physiography and Climate

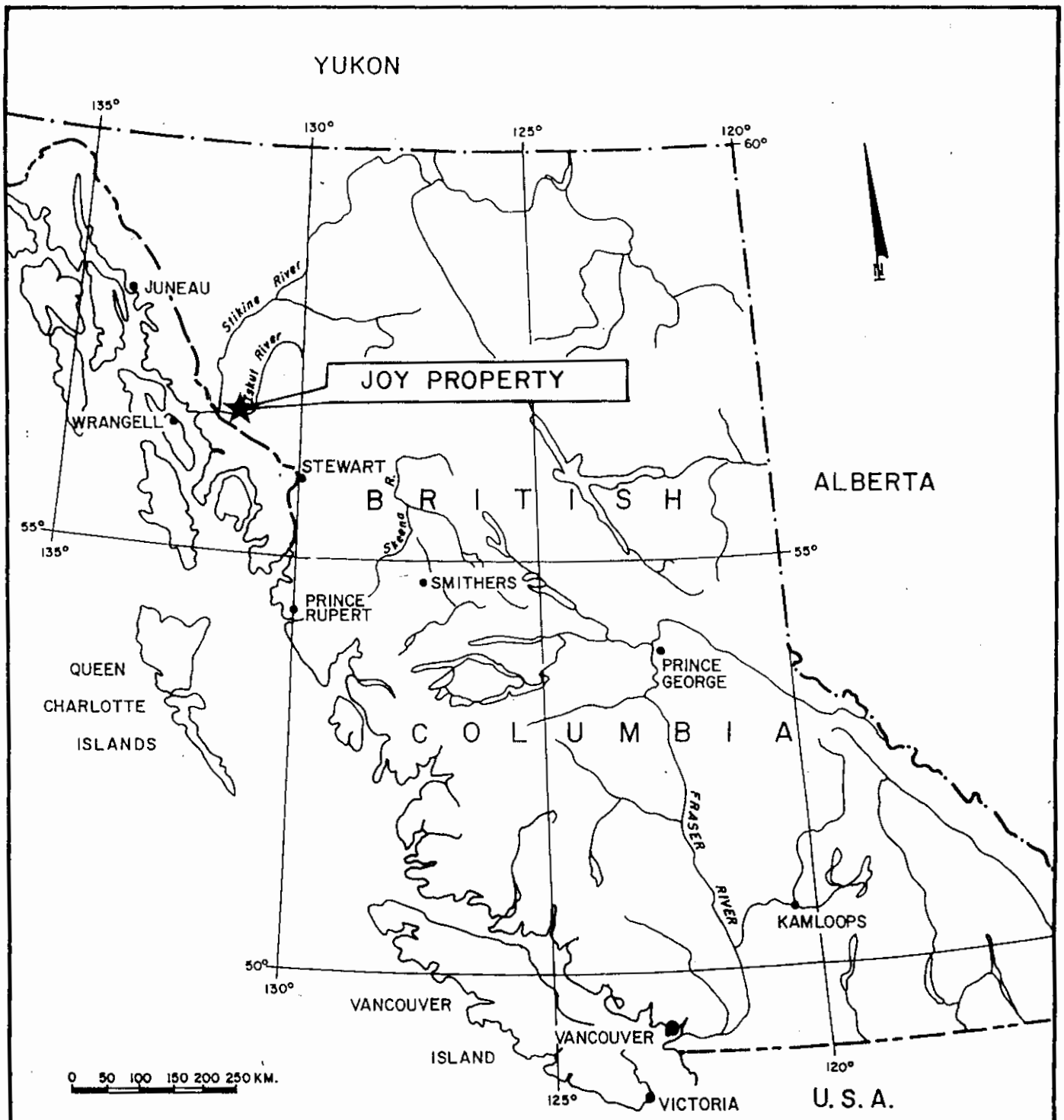
The property is located in northwestern British Columbia, approximately 113 km northwest of the town of Stewart, B.C. (Figure 1). The claims are centred at latitude 56° - 44' North and longitude 130° - 59' West. This is within the 104B/10W and 11E NTS map sheets.

Access is by fixed-wing aircraft from Smithers or Terrace (290 km to the southeast) to the Bronson Creek airstrip. Transprovincial Airlines Ltd. of Terrace provided daily scheduled trips into the area and would land at Bronson on request. Central Mountain Airlines of Smithers serviced the area with trips on Monday, Wednesday and Friday, as well as numerous unscheduled supply flights. Alternative fixed-wing access is from Wrangell, Alaska which is located at tidewater, 80 km to the west of the property. The Bronson Creek airstrip was lengthened to 1,600 metres during 1988 and is now capable of accommodating Hercules aircraft.

Access throughout the property is via helicopter from the airstrip to the helipads and toe-ins established in 1987, 1988 and 1990 or to the open areas above treeline.

Future road access to the area will follow the Iskut River Valley from Bob Quinn Lake on the Stewart-Cassiar Highway to Bronson Creek. This road, whose construction was announced by the B.C. government in 1990, will pass within 10 km of the Joy property.

The claims straddle the Verrett River extending north from the Ian property and range in elevation from less than 224 m along the Verrett River to over 1,950 m in the northeast corner of the property. The topography is fairly steep, characterized by numerous cliffs and terraces. Most of the



PROPERTY LOCATION MAP

Figure 1

KEEWATIN ENGINEERING INC.

major drainages have deeply incised canyons. The majority of the property is covered by mature spruce and hemlock, with devil's club, huckleberry and slide alder common in several areas. The far eastern quarter of the property is above treeline, which is transitional at, approximately the 1,200 metre elevation. Permanent glacial ice and snow is found in the northeast corner of the property.

The climate is typified by cold, snowy winters and warm, wet summers. Snow accumulations at the higher elevations normally exceed five metres.

2. Property Status and Ownership

The Joy property comprises two contiguous mineral claims (40 units). These claims are registered in the name of the Ridgeway Petroleum Corp. (nee Brenwest Mining Ltd.) of Calgary, Alberta and are located within the Liard Mining Division. Their status (see Figure 2) is summarized as follows:

TABLE 1: Claim Status

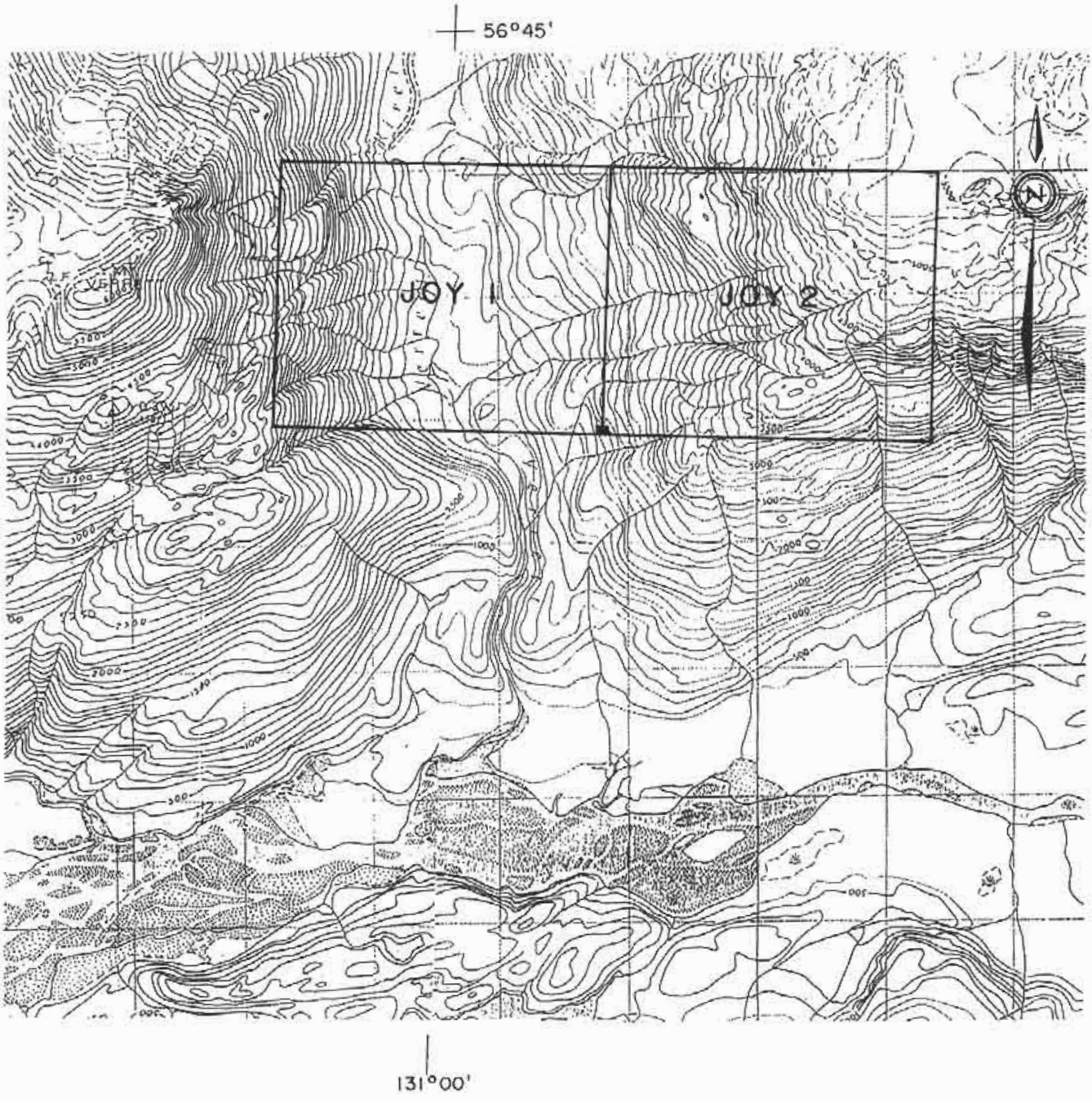
Claim Name	No. of Units	Record No.	Date Recorded	Expiry Year
Joy 1	20	3734	December 5, 1986	2000
Joy 2	20	3735	December 5, 1986	2000

It should be noted that the claims were located by a common Legal Corner Post only due to steep terrain and deep snow conditions at the time of staking.

The claims are apparently subject to an agreement between the claim holder and Big M Resources Ltd.

3. History of Exploration

The earliest exploration in the region appears to have been carried out by prospectors who worked their way up to the Iskut River from the Stikine during the early 1900's. During the mid 1960's, several companies explored the area in their search for porphyry copper deposits. Since that time discoveries of gold deposits at Skyline, Snip and Eskay Creek have been made.



JOY 1 & 2 CLAIMS

CLAIM MAP

LIARD MINING DIVISION B.C.

104 B/10W, 11E

Figure 2

KEEWATIN ENGINEERING INC.

The first record of any exploration work done on the area now occupied by the present Joy property appears to be in 1980. At that time DuPont of Canada Exploration Ltd. staked the BAX claim which covered a small portion of the Joy 2 claim and most of the adjoining Ian 4 claim, to the south. This claim was staked to cover an anomalous gold result obtained from a small creek during their regional heavy mineral stream sediment survey. The claim was allowed to lapse in spite of only completing two days of follow-up work. This was probably the result of the dramatic drop in the price of gold and the subsequent demise of the company.

In December of 1986, the Joy 1 and 2 claims were staked.

In 1987, Brenwest Mining Ltd. optioned the property, conducted geochemical, geophysical and geological surveys. A total of 128 rock, 202 soil and 39 silt samples were collected and analyzed for faa gold and a six element ICP package (Cu, Pb, Zn, Ag, As and Sb). The soil sampling was confined to a 6.4 line-km grid on the Joy 2 claim where a narrow, auriferous shear zone in altered, intermediate volcanics was discovered. Grab samples from this zone returned values up to 5.542 oz/ton gold, 6.6 oz/ton silver and 5,701 ppm copper. A 6.5 km geophysical survey consisting of VLF-EM and mag was also carried out over this grid. Brenwest also reported the discovery of several other sulphide-bearing shear zones, quartz veins and zones of intense clay alteration elsewhere on the Joy 2 claim.

During 1988, International Wildcat Resources Ltd. optioned the Joy property from Brenwest. Geological mapping, prospecting, geochemical sampling and diamond drilling programs were conducted. The diamond drilling consisted of four holes, totalling 302.7 metres, drilled in the area of the auriferous shear zone discovered in 1987. The drill results were very disappointing. The only intercept of note was 0.145 oz/ton gold over a core length of 0.6 metres, which included 0.330 oz/ton gold over 0.2 metres, from hole 88DHB03.

No work was recorded on the Joy property during 1989.

4. 1990 Work Program Summary

During the period of May to September, Keewatin personnel carried out geological mapping, prospecting and geochemical surveys (see Table 2) on the property. The east side of the property was designated as the focus of exploration. This work included soil, rock and silt sampling, as well as grid

and helipad establishment. A number of geochemical anomalies and several previously discovered mineral occurrences were investigated.

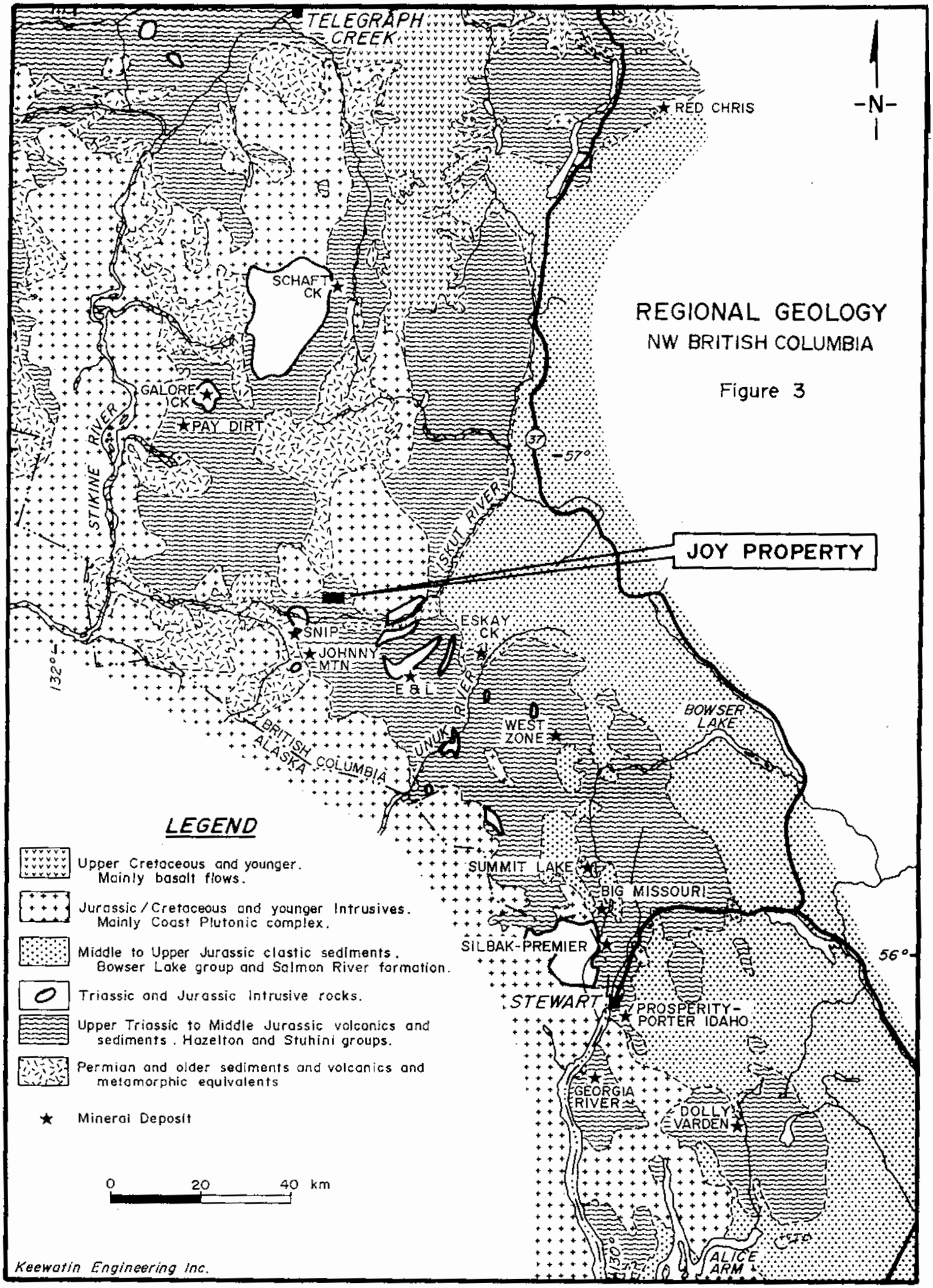
TABLE 2: Summary of 1990 Field Work	
Type of Work	**Description**
Linecutting	3.225 line-km compassed, cut, hip chained and flagged - (NB/L and B/L)
Grid Establishment	15.625 line-km compassed, hip chained and flagged; east side of Joy 2 claim
Contour Traverses	11.575 km hip chained and flagged; west side of Joy 2 and east side of Joy 1 claim
Helipads Established	3
Helicopter Toe-ins Established	8
Soil Sampling	881 samples
Silt Sampling	3 samples
Grab/Chip Sampling	174 samples
Geochemical Anomaly Investigations	63 (56 soils and 7 rocks)
Geological Mapping and Prospecting	Extensive; on east side of Verrett River only (1:5,000 and 1:1,000)

GEOLOGY

1. Regional Geology (see Figure 3)

The Iskut River area lies within the Intermontane tectono-stratigraphic belt - one of five, parallel, northwest/southeast trending belts which comprise the Canadian Cordillera. This belt of Permian to Middle Jurassic volcanic and sedimentary rocks defines the Stikinia/Stikine terrane. This is bounded on the west by the Coast Plutonic Complex and overlapped on the east by sediments of the Bowser Basin. The belt has been intruded by at least four episodes of plutonic rocks, from Late Triassic to Oligocene-Miocene.

Recently, released geologic mapping by the BCDM (Logan et al., 1990) indicates that the northern 80% of the Joy property is underlain by volcanics of Mississippian to Pennsylvanian age.


TELEGRAPH CREEK
RED CHRIS
N
SCHAFT CK
GALORE CK
PAY DIRT
STIKINE RIVER
37
57°
ISKUT RIVER
JOY PROPERTY
SNIP
JOHNNY MTN
ESKAY CK
E & L
132°
BRITISH COLUMBIA
ALASKA
UNUK RIVER
WEST ZONE
BOWSER LAKE
SUMMIT LAKE
BIG MISSOURI
SILBAK-PREMIER
56°
STEWART
PROSPERITY-PORTER IDAHO
GEORGIA RIVER
DOLLY VARDEN
ALICE ARM
REGIONAL GEOLOGY
NW BRITISH COLUMBIA
Figure 3
LEGEND
Upper Cretaceous and younger. Mainly basalt flows.
Jurassic / Cretaceous and younger Intrusives. Mainly Coast Plutonic complex.
Middle to Upper Jurassic clastic sediments. Bowser Lake group and Salmon River formation.
Triassic and Jurassic Intrusive rocks.
Upper Triassic to Middle Jurassic volcanics and sediments. Hazelton and Stuhini groups.
Permian and older sediments and volcanics and metamorphic equivalents
Mineral Deposit
0 20 40 km
Keewatin Engineering Inc.

These are separated from Permian metavolcanics and metasediments to the south by a west-southwest trending fault structure. The intrusive bodies in the property area are interpreted to be Jurassic in age.

2. Property Geology

Bedrock exposures on the east side of the Verrett River are plentiful, especially at the higher elevations. This area is underlain mainly by intermediate volcanics which have been intruded by a variety of dykes, stocks and plugs. Sediments were observed locally, near the property's southern boundary. A brief description of the various rock types is as follows:

Sediments

The majority of the sediments are found in the south-central portion of the property. These consist mainly of interbedded dark grey to black siltstones, sandstones and argillites. These fine-grained sediments are locally brecciated and/or silicified. Exposures of massive, creamy grey to white, crystalline limestone were also observed. At one locality, in the southeast portion of the Joy 2 claim, a small skarn occurrence was found at the contact of the limestones with a monzodiorite dyke. Locally, tuffaceous horizons are interbedded with the sediments.

Intrusions

These consist mainly of monzodiorite, lesser feldspar porphyry and minor diorite plugs, stocks and dykes. Locally, these are cut by narrow, late stage aplite and mafic dykes.

Two large monzodiorite bodies were observed in the north-central and eastern portions of the Joy 2 claim. These are commonly propylitically altered and strongly bleached. Locally, zenoliths of fine-grained, siliceous volcanics/sediments(?) and feldspar porphyry/granodiorite were noted in sizes up to 20 cm in diameter. Fine-grained magnetite in amounts up to 2% is fairly common.

The feldspar porphyries are characteristically light brown weathering. Feldspar phenocrysts appear to be plagioclase and/or orthoclase. Numerous, feldspar porphyry dykes, up to 0.5 metres wide, are common within the Joy 2 claim.

The aplite dykes are white and pink in colour and fine-grained. They are usually 0.5 metres wide but were observed to 5 metres. The mafic dykes, some of which are diabasic in composition, are commonly 1 to 2 metres wide. These are fine-grained and weather a pale grey colour.

Volcanics

In general, intermediate lapilli tuffs and reworked agglomerates, with lesser crystal tuffs, dominate the north-central and eastern portions of the Joy 2 claim. To the west and south, ash tuffs, andesites and minor crystal to lapilli tuffs are most common.

The agglomerates are typically greenish grey in colour and are intermixed with the crystal tuffs. Their bleached volcanic fragments are subrounded, usually less than 10 cm in diameter and are variably altered to epidote. The crystal tuffs are typically pale green to greyish green in colour. Feldspar phenocrysts, to 0.5 cm, and minor 1 to 2 mm hornblende crystals are common.

The ash tuffs are fine-grained and dark green to greyish green in colour. Locally, these contain small gossanous, cherty fragments. The andesites are medium to dark green in colour and are occasionally porphyritic. Euhedral to anedral feldspar phenocrysts were observed ranging in size from 1 to 2 mm.

The volcanics host numerous, discontinuous quartz veins, especially near the property's northern boundary (see economic geology section). These veins are usually less than 10 cm wide and milky white in colour.

3. Mineralization

Sulphide mineralization, at least in minor amounts, is fairly widespread throughout the investigated portion of the Joy property. Most of the mineralization is related to quartz veins and shears and to volcanic/sediment-intrusive contacts.

The discontinuous and narrow (0.02 to 0.60 metres) quartz veins were observed to contain up to 10% pyrite and 5% combined chalcopyrite-malachite-azurite. These are fairly abundant and are hosted by both the volcanics and the intrusions. Near the northern property boundary, a concentration of partially mineralized veins was discovered (see economic geology).

A number of discontinuous shear and fracture zones were also noted within the volcanics. These vary from a few centimetres to up to 3 metres wide but can rarely be traced for over 20 metres. These zones typically carry a variable amount of quartz and carbonate vein material and minor pyrite. Locally, up to 30% disseminated pyrite, 3% chalcopyrite and trace amounts of pyrrhotite were observed.

Intrusive related mineralization includes pyrite as disseminations and fracture fillings and the development of skarn minerals. Pyrite, up to 7%, has been observed, locally, within the siltstones, tuffs, feldspar porphyries and monzodiorites. A skarn is developed in the southeast portion of the property (see economic geology). Magnetite disseminations and rare 2 mm x 5 cm lenses were noted locally, in amounts up to 5%, within some of the agglomerates and the monzodiorites.

4. Structure and Alteration

Most of the major creeks and gullies within the Joy property appear to be trending, roughly, east-west, and are following fault structures. Numerous other variably oriented, topographic depressions noted throughout the property may also be reflecting underlying structures. The measurements of the observed shears are quite variable (060°-130°/41°-81°N). In contrast the quartz veins that occur in the swarm near the northern property boundary have attitudes of 015°-040°/75°-90° SE. The quartz veins are cut by 120° trending, right lateral faults with maximum displacements of 5 metres. In the southeastern portion of the property, a major north-south trending creek structure appears to be right lateral with a displacement of 6 to 7 metres. Jointing of the volcanics and intrusions is extensive and quite variable.

Propylitic alteration, especially chlorite and epidote, is widespread throughout the property, particularly in the vicinity of the volcanic-intrusive contacts. Contact metasomatism, the formation of hornfels and skarn, was noted in the southern portions of the claims. Locally, silicification was observed to varying degrees in all rock types.

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GEOCHEMISTRY

1. Sampling

A total of 881 soil, 3 silt and 174 rock samples were collected during the 1990 field season.

The majority of the soil samples (see Appendix 3) were collected at twenty-five metre intervals along the contour lines and a couple of the grid lines. Several reconnaissance style soil samples were also collected. Follow-up soil sampling of anomalous soil results utilized a sample interval of 12.5 metres on lines spaced approximately 25 metres apart (see Appendix 5). The soil samples, which included duplicate samples, were generally collected from the 'B' horizon with the use of a long handled shovel.

The silts were generally collected from the active portion of the sampled drainages.

The rocks represent grab/chip samples of mineralized and/or altered/veined outcrops and boulders observed during the course of geological mapping and prospecting.

2. Analysis

All of the samples were shipped to Min-En Laboratories in Smithers for preparation and then to their lab in North Vancouver for analysis. This analysis consisted of faa Au and an eight element ICP package (Ag, As, Cu, Mo, Pb, Sb, Zn and Hg). Twenty-two of the rock samples were also fire assayed for gold.

3. Discussion of Soil Horizon Development

Soil horizons on the Joy property are moderately to poorly developed. The 'A' horizon, if present, is usually up to 10 cm thick. The 'B' horizon is typically a medium red to orange-brown colour and found at depths of 0 to 25 cm. Where present, it is 10 to 60 cm thick and averages 35 to 40 cm. Angular rock fragments are commonly found in this horizon.

The terrain within the property consists mainly of steep slopes, with numerous talus fields, and terraces. As a result, colluvium and groundwater seeps are fairly widespread.

At the higher elevations, bedrock exposures are plentiful and overburden cover consists mainly of glacial till.

4. Description and Discussion of Results

Soil sampling on the eastern side of the Verrett River returned numerous geochemically anomalous to elevated values. Results of up to 1,280 ppb gold, 9.7 ppm silver, 160 ppm arsenic, 896 ppm copper, 682 ppm lead, 483 ppm zinc, 14 ppm antimony, 185 ppm molybdenum and 5,250 ppb mercury were obtained. Nearly all of the higher results underwent further investigation (Appendix 5). In a number of instances, the original results could not be duplicated. In nearly all cases, no source for the high soil results could be located. The few rock samples collected from these areas, generally returned results at background levels. The combination of the property's steep slopes, numerous topographic depressions and swampy terraces appears to indicate that transported soils and groundwater may have resulted, at least in part, in local and erratic concentrations of the various elements. The presence of intrusive bodies and gullies nearby a number of the soil anomalies may indicate some, unknown contribution from shear and/or contact related mineralization. Only four of the soil anomalies were not followed up, see end of Table 3.

The three silt samples returned values up to 22 ppb gold, 1.4 ppm silver, 29 ppm arsenic, 80 ppb copper, 65 ppm lead, 99 ppm zinc, 1 ppm antimony, 148 ppm molybdenum and 145 ppb mercury. None of these are of immediate interest.

Rock sample results ran as high as 4.929 oz/ton gold, 93.7 ppm silver, 100 ppm arsenic, 14,026 ppm copper, 145 ppm lead, 458 ppm zinc, 17 ppm antimony, 230 ppm molybdenum and 585 ppb mercury. The majority of the highest gold, silver and copper results were obtained from the numerous, narrow and discontinuous shears and quartz veins observed throughout the property. Of the twenty-two samples which returned over 1,000 ppb gold, all but two are from the three investigated areas detailed in the economic geology section of this text. The highest silver and copper results are also from these areas. The remaining two samples, 90A112C-025 and 90A112R-028, assayed 0.046 and 0.072 oz/ton gold, respectively, and were obtained during investigations of anomalous 1988 rock samples (Appendices 4 and 5). The former sample is a 50 cm chip from a silicified tuff which contained a 5 cm quartz vein and up to 10% pyrite. The latter is a grab sample collected from a discontinuous shear zone containing numerous 0.5 to 2.0 cm quartz veinlets and hosted by andesitic tuff. A nearby sample of similar material ran 685 ppb gold.

ECONOMIC GEOLOGY

During the course of the field season, three areas were identified as having potential to host economic gold mineralization. These were thoroughly investigated and are summarized as follows:

i) Skarn Occurrence (Figures 4a and 4b and Map 1)

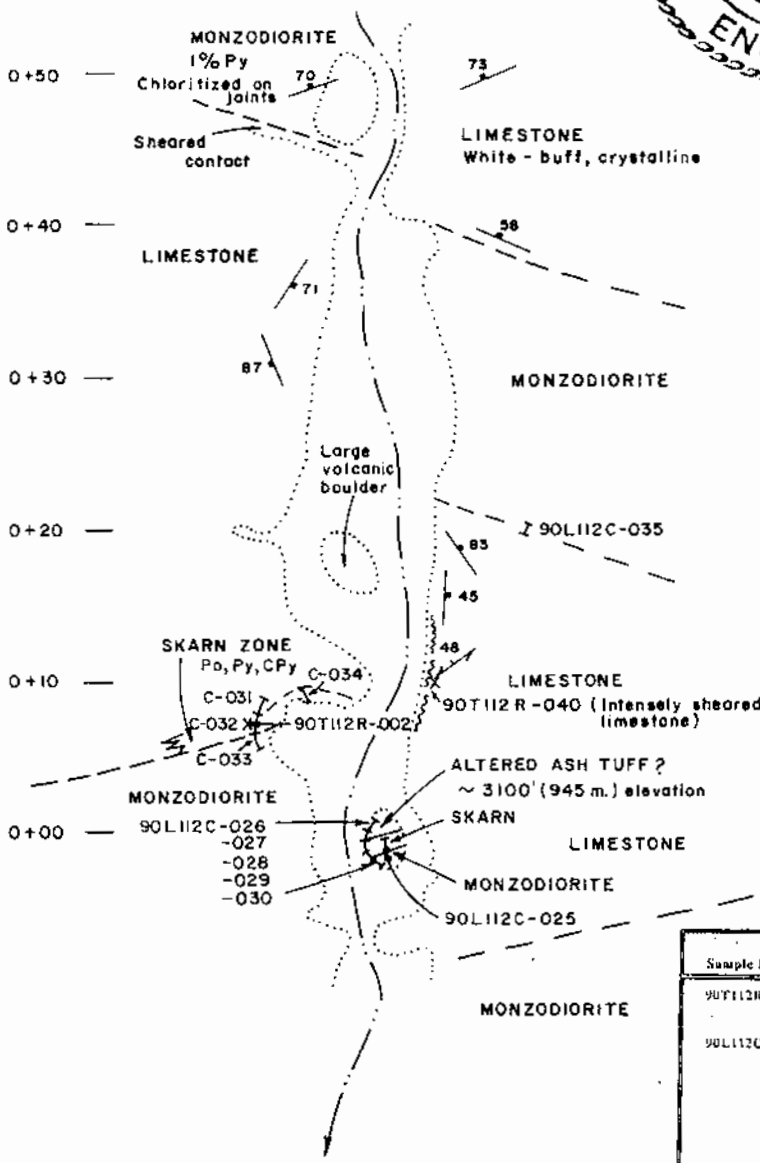
This occurrence was discovered in the southeast corner of the property at, approximately, the 3,000 foot elevation. Skarn mineralization occurs at the contact of white crystalline limestone with a monzodiorite dyke. The skarn zone ranges from 1 to 3 metres wide, but could only be traced along strike for, approximately, 10 metres. The zone is found beside a north-south trending creek which appears to be related to a structure displaying right lateral movement with a displacement of 6 to 7 metres. Shears measured in the limestone and the skarn are oriented at 202°/48°NW. The skarn displays a sharp contact with the monzodiorite but is gradational with the limestone. The mineralization itself is irregular, poddy and discontinuous and consists of 5 to 30% pyrrhotite and less than 5% pyrite.

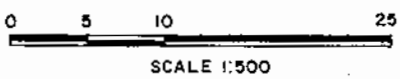
The original chip sample, collected from a high grade, sulphide-bearing, skarn pod, assayed 0.327 oz/ton gold across 1.00 metre. Subsequently a total of 11 chip samples were collected and the best result, which was taken in close proximity to the original sample, was 0.280 oz/ton gold over 1.00 metre. Analysis of the chip samples returned up to 1,726 ppm copper, while the lead, zinc and arsenic were, generally, at background levels. The results indicate that the gold grades are erratic and discontinuous along strike and are restricted to the skarn zone and/or its' immediate hangingwall strata.

ii) Auriferous Shear (Figure 5 and Map 1)

This structure is located in the north-central portion of the Joy 2 claim at, approximately, the 4,600 foot elevation. It was apparently first discovered in 1987, by grab samples taken from a shear that assayed up to 5.542 oz/ton gold. During 1988, three poorly oriented drill holes were completed to test the auriferous structure. The holes failed to intersect significant gold mineralization.

The shear is hosted by intermediate tuffs and has an attitude of 114°/70° NE to NW. It varies from 0.70 to 1.20 metres wide and was traced for, approximately, 25 metres.





SCALE 1:500

LEGEND

- Outcrop.
- Creek.
- Geological contact (approx).
- Foliation.
- Joint.
- x Grab sample.
- Chip sample.

Sample No.	(m) Length	(oz/t) ppb Au	ppm Ag	ppm Cu	ppm Pb	ppm Zn	ppm As
90T112R-002	1.00	(0.327)	2.5	1,412	17	25	5
-040	grab	24	2.3	19	69	31	44
90L112C-025	1.00	217	2.9	1,726	19	22	1
-026	1.00	288	1.4	310	22	20	1
-027	1.00	(0.064)	2.1	1,134	20	24	1
-028	1.00	456	1.6	239	19	17	1
-029	1.00	44	2.6	126	8	27	1
-030	1.00	71	2.8	245	8	39	1
-031	1.00	((0.066)	3.5	256	10	39	1
-032	1.00	(0.260)	2.5	645	15	29	1
-033	1.00	102	2.8	38	9	30	1
-034	1.00	742	2.2	226	19	18	1
-035	1.00	63	1.4	18	17	73	1

JOY PROJECT
SKARN OCCURRENCE
GEOLOGY & GEOCHEMISTRY

Figure 4a

GEOLOGY BY P. Lutynski & A. Travis
July 27, 1990.

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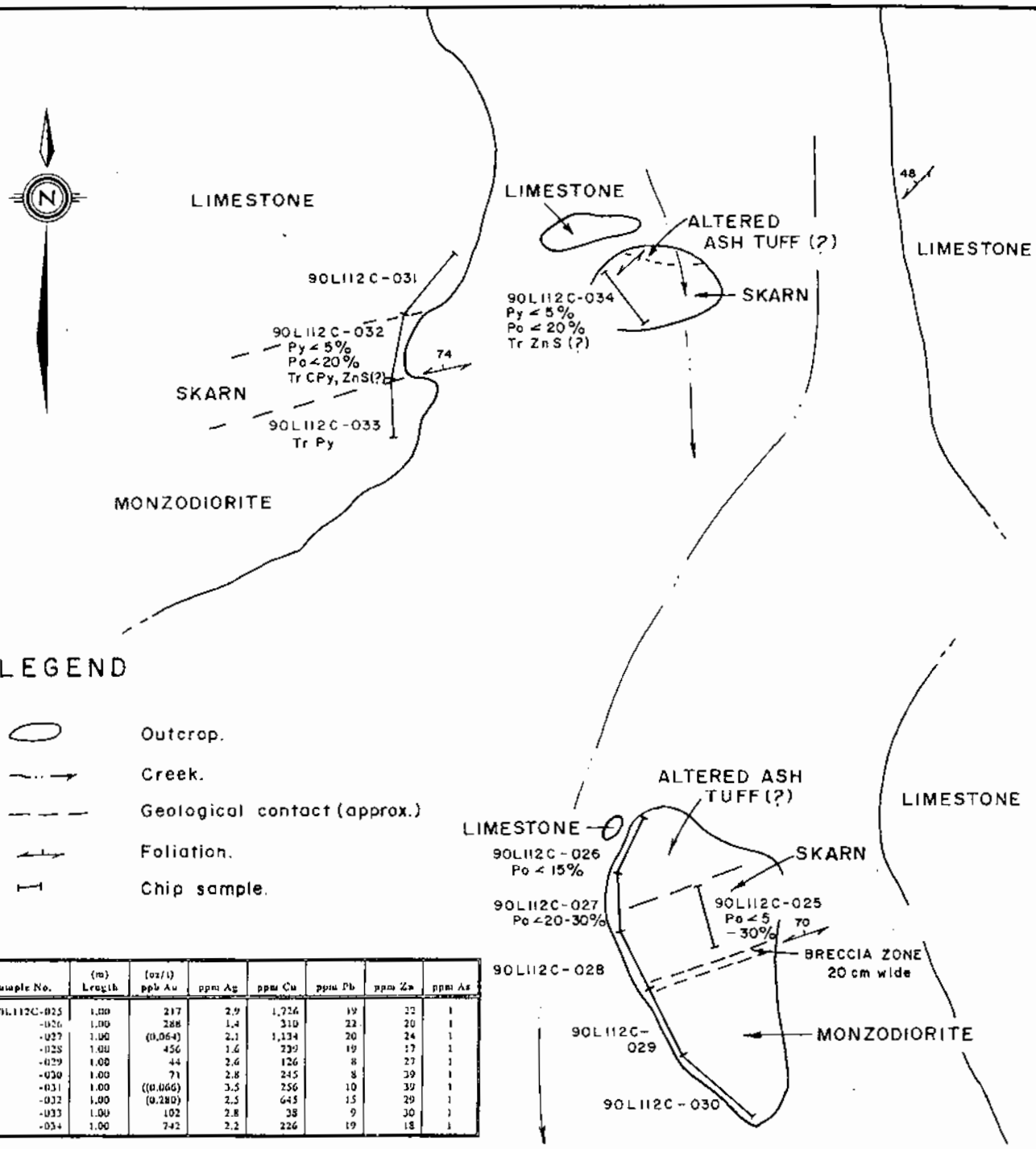

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-027	1.00	(0.064)	2.1	1,134	20	24	1
-028	1.00	456	1.6	239	19	17	1
-029	1.00	44	2.6	126	8	27	1
-030	1.00	71	2.8	245	8	39	1
-031	1.00	((0.066)	3.5	256	10	39	1
-032	1.00	(0.280)	2.5	645	15	29	1
-033	1.00	102	2.8	38	9	30	1
-034	1.00	742	2.2	226	19	18	1

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
REX PEGG

JOY PROJECT
SKARN OCCURRENCE
DETAILED GEOLOGY & GEOCHEMISTRY

Figure 4b

GEOLOGY BY P. Lutynski & A. Trovis.
July 27, 1990.

KEEWATIN ENGINEERING INC.

Contained within the shear is a 10 cm wide quartz vein which carries up to 30% disseminated pyrite. Chip sample gold results range from 0.051 oz/ton over 0.80 metres to 1.633 oz/ton gold across 0.85 metres. The results indicate a drastic decrease in gold content along strike.

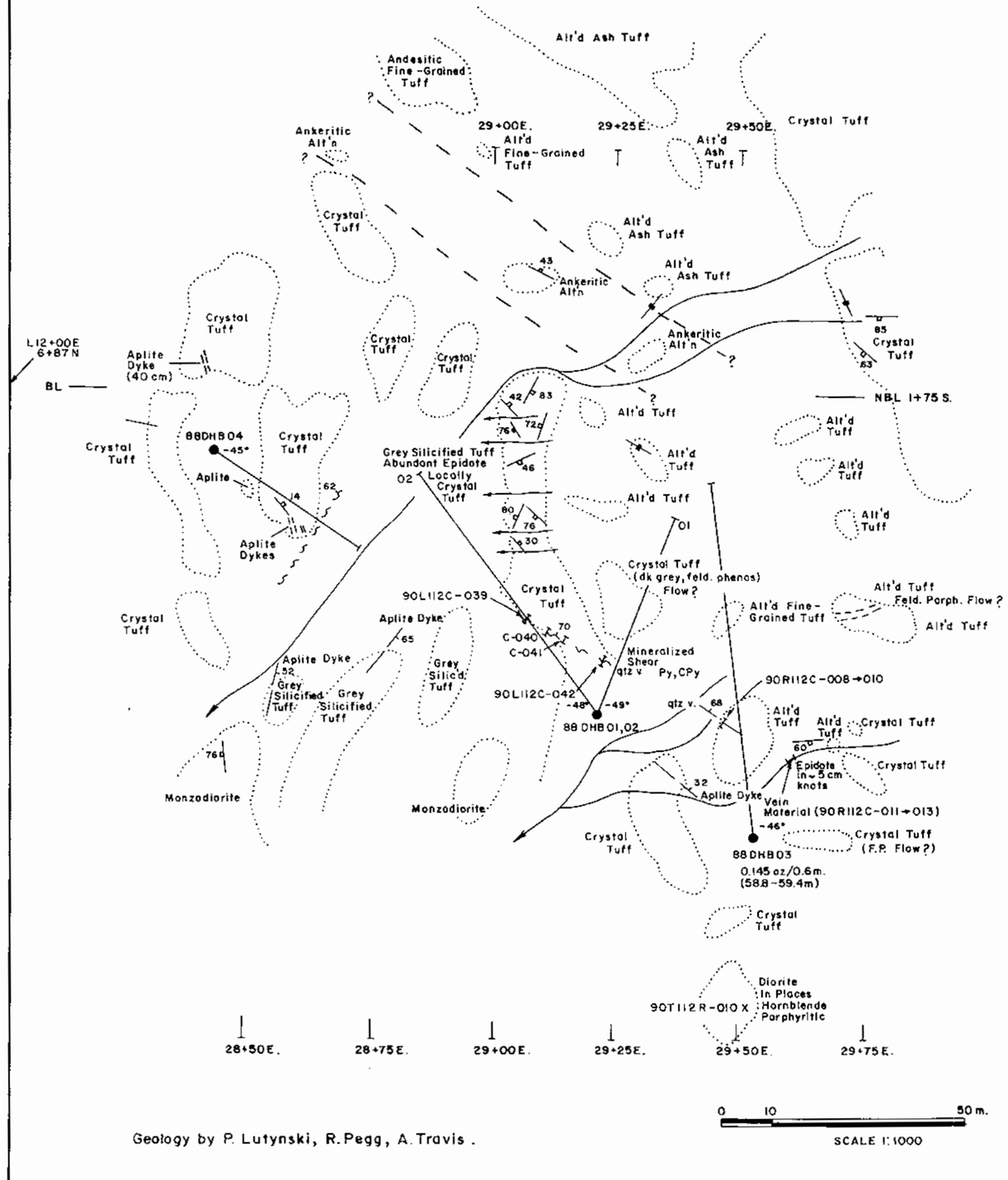
The shear appears to pinch out to the northwest but to the southeast, approximately 25 metres along strike, a 0.61 metre shear was observed. This structure was traced, intermittently, for 15 metres where it also appears to pinch out. It is composed of sheared tuff, minor quartz lenses, 1 to 2% disseminated pyrite and a trace of pyrrhotite. The last exposure to the southeast displays a lack of quartz vein material. Chip sample results are low in gold and drop to background levels at the last exposure.

iii) Quartz Vein Area (Maps 1, 5 and 6)

Near the approximated north-central boundary of the Joy 2 claim, between the 4,700 and 5,100 foot elevation, field personnel discovered a quartz vein swarm. This area was visited as a result of a follow-up investigation of a quartz boulder which contained a speck of visible gold and assayed 0.356 oz/ton gold. Old paint markings revealed that this area had been sampled previously by some unknown individuals. It appears that their sampling was restricted to only the vein material.

At least 15 quartz veins were observed within the 270 by 200 metre area. They are generally oriented at 210°/80° NW and are hosted by intermediate crystal tuffs and reworked agglomerates. Individual veins were rarely traced for over 25 metres and are relatively narrow and discontinuous. They pinch and swell along strike, averaging 10 cm wide but swell up to 0.60 metres. Most of the veins consist of barren bull quartz but three of them carry up to 5% pyrite and locally, 5% chalcopyrite, malachite and minor azurite. A very minor amount of visible gold was observed in one of the veins. The hangingwall and footwall strata are commonly unmineralized and unaltered.

Chip sample results indicate that only a few of the veins carry significant gold values. These grades appear to be erratic along strike and are generally restricted to the veins themselves. The results also indicate that elevated silver and copper values accompany the higher gold but there is no direct correlation between them. A few elevated arsenic results were also obtained, but they do not correlate with the gold values.



Geology by P. Lutynski, R. Pegg, A. Travis.

LEGEND

- Outcrop.
- Shear, fault.
- Vein / dyke attitude.
- Joint.
- Geological contact.
- 1988 drill hole.
- 1990 grid.
- Creek.
- Chip sample.
- x Grab sample.

Sample No.	(m) Length	(oz/t) ppb Au	ppm Ag	ppm Cu	ppm Pb	ppm Zn	ppm As
90T112R-010	grab	13	2.3	110	13	25	1
90L112C-039	0.80	(0.051)	7.3	1,874	28	179	1
-040	0.85	(1.633)	93.7	2,072	27	178	1
-041	1.20	(0.239)	12.3	1,129	22	125	1
-042	0.80	(0.073)	8.0	623	18	60	1
90R112C-008	1.00	35	0.9	92	13	31	22
-009	0.61	(0.058)	4.6	357	17	133	24
-010	1.00	38	1.9	95	18	104	1
-011	0.42	49	1.1	100	19	60	31
-012	1.00	10	0.5	46	16	27	16
-013	1.00	12	1.3	101	12	72	6

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
REX PEGG

JOY PROJECT
AURIFEROUS SHEAR
GEOLOGY & GEOCHEMISTRY

Figure 5

KEEWATIN ENGINEERING INC.

CONCLUSIONS

Soil sampling and the subsequent investigation of anomalous values failed to locate any mineralized sources of significance. The geochemically elevated to anomalous results may, in fact, be due, at least in part, to colluvial and groundwater concentration of the various elements. All but four of the 1990, first pass, anomalous soil results have been investigated.

Prospecting and geological mapping on the east side of the Verrett River identified three styles of gold mineralization. These include gold-copper bearing quartz veins, auriferous shears and skarn zones. Unfortunately, these occurrences are too erratic in grade and too narrow and discontinuous to be of economic interest, at this time.

The exploration coverage of the east side of the property appears to have adequately tested this area's potential to host economic mineralization, although a small amount of follow-up work is still required. No work was performed on the property, west of the Verrett River, during 1990.

RECOMMENDATIONS

A small program of prospecting and geological mapping is recommended to cover the untested area of the property, west of the Verrett River. This work should concentrate on the numerous east flowing creek drainages where bedrock exposures should be relatively abundant. In conjunction with this, the four unchecked soil anomalies from the east side of the property should be thoroughly investigated.

Respectfully submitted,

KEEWATIN ENGINEERING INC.

Rex Pegg, BASc., P.Eng.

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Vancouver Stockwatch

APPENDIX 1

Statement of Qualifications

STATEMENT OF QUALIFICATIONS

I, REX STEPHEN PEGG, of #1 - 410 Mahon Avenue in the District of North Vancouver in the Province of British Columbia, do hereby certify that:

1) I am a graduate of the University of Toronto, BA.Sc. (1976) in Geological Engineering (Exploration option) and have practised my profession continuously since graduation.

2) I have over 14 years of experience in exploration for base and precious metals in the Canadian Cordillera.

3) I am a member in good standing of the Association of Professional Engineers of British Columbia.

4) I am an independent consulting geologist with an office at #1-410 Mahon Avenue, North Vancouver, British Columbia.

5) I am presently under contract to Keewatin Engineering Inc. with offices at Suite 800 - 900 West Hastings Street, Vancouver, British Columbia.

6) I am the author of the report entitled "Physical Work, Geological and Geochemical Report on the Joy Property, Liard Mining Division, British Columbia", dated January 10, 1991.

7) I have personally performed or supervised the work referenced in this report and I am familiar with the regional geology and geology of nearby properties.

8) I do not own or expect to receive any interest (direct, indirect or contingent) in the property described herein nor in the securities of Big M Resources Ltd., in respect of services rendered in the preparation of this report.

9) I consent to and authorize the use of the attached report and my name in the Company's Statement of Material Facts or other public document.

Dated at Vancouver, British Columbia this 10th day of January, 1991.

Respectfully submitted,

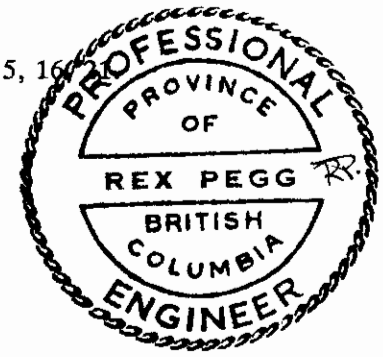
Rex S. Pegg, BA.Sc., P.Eng.

APPENDIX 2

Summary of Field Personnel

SUMMARY OF FIELD PERSONNEL

R. Pegg, Senior Geologist	May 29-31; June 4, 8, 12; July 31; August 10, 18, 19, 22, 29; September 4, 11, 16, 21.
R. Honsinger, Project Geologist	May 28-31; June 5-8, 10; August 2-6, 25-28; September 4.
A. Travis, Project Geologist	May 28-31; June 4-8; July 27; August 1-7, 14, 29; September 3, 10, 11.
P. Lutynski, Geologist	May 29-31; June 5-8, 10-13; July 27; August 2-4, 6, 7, 14, 27, 29, 30.
A. Muirhead, Prospector	May 28-31; June 1, 5-10, 30; July 28; August 1-4, 8, 14, 15, 17-19, 27-29; September 3, 10, 11.
S. Novak, Technician	August 27-29.
R. Geszler, Assistant	May 29-31; June 5-13; August 14, 27, 29, 30; September 3.
S. Sheffield, Assistant	May 29-31; June 5-8, 10; July 27; August 2, 10, 14, 27.
K. Burk, Assistant	May 28-31; June 4, 9-12.
T. Mortison, Assistant	May 29-31; June 5-12.
V. Malo, Assistant	May 28-31; June 5-9, 13; August 14, 18, 19, 25, 27, 29.
J. Leonard, Assistant	May 28-31; June 1, 5-10.
A. Kaplan, Assistant	May 29-31; June 5-8; July 27; August 17
T. Paquette, Assistant	August 27, 29-31.
S. McTague, Assistant	August 4, 8, 17-19, 21; September 11.
D. Barker, Assistant	August 1-6, 10, 14, 20, 22, 25-30; September 3, 10.
J. Cleland, Assistant	August 2-7, 14.
P. Dunlevy, Assistant	September 18.
S. Patterson, Cook/1st Aid Attendant	September 21.
S. Chandler, Cook/1st Aid Attendant	May 27-31; June 4-7, 11; July 27; August 2-4, 6, 14, 27, 29; September 3.
V. Hutchings, Draftswoman	August 22, 28, 29; September 1, 5, 16, 21.
F. Ferguson, Technician	May 28-30.



APPENDIX 3

Soil and Silt Sample Descriptions

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy — Results Plotted By: _____

Area (Grid): S (south of Bingo Line) — Map: _____ N.T.S.: 104B/10 and 11

Collectors: V.M. — Date June 5/1990

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90M11 2S-S:	2100 F	0+25 S	start at BL 1/10 E OS	45°	S			X						B	25		X		X	MB
		0+50 S		45°	S			X						B	30	X				MRB
		0+75 S	From river bed (1m above river)	50°	S				X					B	30	X			X	MRB
		1+00 S	From river bank (10m above river) above steep zone	50°	NW				X					B	90	X			X	MB
		1+25 S		5°	W				X					B	15	X		X		MRB
		1+50 S		5°	W				X					B	90	X				ORO
		1+75 S		25°	W				X					B	30	X				MRB
		2+00 S		5°	SW				X					B	30	X			X	MRB
		2+25 S		5°	NW			X						B	30	X				MRB
		2+50 S		5°	W			X						B	30	X				MRO
		2+75 S		5°	S			X						B	30	X				MRB
		3+00 S		30°	W			X						B	35	X			X	MRB
↓		3+25 S		10°	W			X						B	50	X				MRB
N/S		3+50 S	creek + swamp																	
90M11 2S-S:		3+75 S	2m above small creek	5°	NW			X						B	90	X				MRB
		4+00 S		5°	W			X						B	30	X				MRB
		4+25 S		5°	S			X						B	60	X				MB
		4+50 S	E edge of talus slope	15°	W			X						B	90	X			X	MRO
		4+75 S	below cliff	15°	W			X						A	90		X		X	OB
		5+00 S	below cliff (station at 2090 F)	45°	W			X						A	100		X		X	OB
↓		5+25 S	below cliff (station at 2060 F)	25°	W			X						B	70	X				MB
N/S		5+50 S	below cliff / no soil development																	
90M11 2S-S:		5+75 S	(station at 1960 F)	20°	W			X						B	30	X			X	MRO
		6+00 S	" " "	20°	W			X						B	60	X			X	MRO
↓	↓	6+25 S	at bottom of cliff (station at 1960 F)	20°	W			X						B	55	X			X	MRO

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104B/10+11

Collectors: S S — Date June 6/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90Q1125-S:	1600 E/	0+00 S			W			X						B	35	X				M.R Br.
N/S		0+25 S	A horizon only																	
90Q1128-S:		0+50 S			W			X						B	15	X				M.R Br.
		0+75 S			W			X						B	25	X			X	MR. Br.
		1+00 S	2 meters back from station		W			X						B	20					MRB
		1+25 S	side of creek		SW			X						B	10		X			MRB
		1+50 S			W			X						B	30	X		X		MRB
		1+75 S			W			X						B	30	X				MRB
		2+00 S	side of creek 70% float		NW			X						B	40		X			Br.
		2+25 S			W			X						B	30	X				MRB
		2+50 S			W		X	X						B	25	X				MRB
		2+75 S	20-30% ↓ fragments		W			X						B	40		X		X	MRB
		3+00 S			W			X						B	40		X			DRB
		3+25 S			W			X						B	25	X				MRB
		3+50 S			W			X						B	35	X				MRB
		3+75 S			W			X						B	30	X				MRB
		4+00 S			W			X						B	30	X		X		MRB
		4+25 S					X							B	40	X				MRB
		4+50 S	swampy		W			X						B	50		X			DRB
		4+75 S			W			X						B	30	X			X	MRB
		5+00 S			W			X						B	30	X			X	MRB
		5+25 S	side of creek		SW			X						B	30		X		X	MRB
		5+50 S	side of creek		NW			X						B	20	X				LRB
		5+75 S	75% Broken fragments		W			X						B	30		X			MRB
		6+00 S	from overturned tree		W			X						B	10		X			MRB
		6+25 S			W			X						B	40	X				MRB
		6+50 S	from overturned tree		W			X						B	10	X		X		MRB
		6+75 S			W			X						B	15	X				MRB
		7+00 S			W			X						B	30	X				MRB
		7+25 S			W			X						B	25	X				MRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy
Area (Grid):
Collectors: S.S.

Results Plotted By:
Map: N.T.S.: 104 B/10, 11
Date June 6/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90Q/11 25-S2	1600 E	7+50S	from base of overturned tree		N				X					B	10	X				MRB
		7+75 S	50% fragments		W				X					B	30		X		X	MRB
		8+00 S	20m off line		W				X					B	25	X				LRB
		8+25 S			W				X					B	25	X				LRB
		8+50 S	X		W				X					B	30		X		X	MRB
		8+75 S	X 30% frag-angular		W				X					B	30				X	MRB
N/S		9+00 S	Bedrock only																	
90Q/11 25-S1		9+25 S			W				X					B			X		X	LRB
		9+50 S			W				X					B	20	X			X	MRB
		9+75 S			NW				X					B	25	X			X	MRB
		10+00 S			W				X					B	25	X			X	MRB
		10+25 S			W				X					B	30	X			X	MRB
N/S		10+50 S	Bedrock only																	
90Q/11 25-S3		10+75 S			SW				X					B	30		X			LRB
		11+00 S			NW				X					B	30	X		X		MRB
		11+25 S	side of creek		W				X					B	10			X		MRB
		11+50 S			S				X					B	35		X		X	LRB
		11+75 S			W				X					B	30	X		X		MRB
		12+00 S			W				X					B	30	X			X	MRB
		12+25 S			W				X					B	20	X				MRB
		12+50 S			W				X					B	20	X				MRB
		12+75 S			W				X					B	30	X				MRB
		13+00 S			W				X					B	30	X				MRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Day 112

Area (Grid): N (North of B/L)

Collectors: Andrew Kaplan

Results Plotted By:

Map: N.T.S.: 104B/10&11

Date June 5th & 6th

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90K112S-N:	2100E	0+00N		30°	SW			X						B	40+	X			X	mrb
		0+25N	outcrop 10 meters above	30°	SW			X						B	40	X			X	mrb
		0+50N		15°	SW			X						B	40	X			X	Drb
		0+75N		20°	SW			X						B	25	X			X	mrb
		1+00N		15°	SW			X						B	30	X			X	drb
		1+25N	beside creek	10°	SW			X						B	30	X			X	Drb
		1+50N		15°	SW			X						A	70		X		X	
		1+75N		15	SW			X						B	50	X			X	Drb
↓		2+00N	hollow outcrop, hole 10 FT from tag	35°	SW			X						B	50	X			X	mrb
N/S		2+25N	poor devpmt ie from A⇒C horizon																	
N/S		2+50N	from A⇒C horizon																	
		2+75N		15°	W			X						B	30	X			X	mrb
N/S		3+00N	No soil dupnt A⇒C horizon																	
		3+25N	logged down 60 FT to 2050	20°	SW				X					B	30		X		X	drb
		3+50N		20°	SW				X					B	30	X			X	mrb
N/S		3+75N	extensive A Thick goes to clay																	
N/S		4+00N	Stream wash/talus/Devil's Club																	
		4+25N		20	W			X						B	40	X			X	Drb
		4+50N		10°	SW			X						B	40	X			X	mrb
		4+75N		10°	SW			X						B	40	X			X	drb
		5+00N		20°	S			X						B	30		X		X	mrb
		5+15N	hole is 10 FT below tag	45°	S			X						B	40	X			X	drb
		5+50N	hole 10 FT below tag	40	SW			X						B	40	X			X	mrb
		5+75N	creek is 10 FT	30°	SW			X						B	40		X		X	mrb
N/S		6+00N	2nd creek & Talus																	
N/S		6+25N	no soil development																	
		6+50N		10°	N			X						B	45	X			X	Light brown
		6+75N	up to 2080 FT	10°	N			X						B	45	X			X	mrb
N/S		7+00N	No soil development																	
1115																				

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Jay 112
Area (Grid): N (north of B/L)
Collectors: Andrews Kaplan

Results Plotted By:
Map: N.T.S.: 104B/10 & 11
Date June 5 & 6th

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90K1125-N:	2100'	7+25N		10°	NW			X						B	40	X			X	mrb
		7+50N		10°	NW			X						B	30	X			X	lrb
		7+75N		15°	NW			X						B	40	X			X	mrb
		8+00N		20°	W			X						B	80	X			X	mrb
		8+25N		20°	SW			X						B	45	X			X	mrb
		8+50N		10°	SW			X						B	45	X			X	mrb
		8+75N		10°	SW			X						B	40	X			X	mrb
		9+00N		20°	SW			X						B	45	X			X	mrb
N/S		9+25N	Talus																	
90K1125-N:		9+50N		20°	SW			X						B	30	X			X	lrb
		9+75N		20°	SW			X						B	40	X			X	mrb
N/S		10+00N	huge river (see map) on other side of ravine																	
90K1125-N:		10+25N		20°	SW			X						B	30	X			X	mrb
		10+50N		45°	SW			X						B	60	X			X	mrb
N/S		10+75N	EOL grade Too Steep, back on in (60')																	
90K1125-N:																				

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy
Area (Grid): Joy 2
Collectors: J.L.

Results Plotted By: _____
Map: _____ N.T.S.: 104 B/10+11
Date June 6 1990

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon: Development: Good	Soil Data: Horizon: Development: Poor	Soil Data: Parent: Drift	Soil Data: Parent: Bedrock Material	Soil Data: Colour
90IU12S-S	2100E	6+50S	Beside Helipad		35°W			X						B	40cm			X		OB
↓	↓	6+75S			40°SW				X					B	30cm	X			X	OB
↓	↓	7+00S			45°SW			X						B	20cm	X			X	OB
↓	↓	7+25S	Beside Creek		50°W			X						B	23cm		X	X		OB
N/S	↓	7+50S	Outcrop																	
90IU12S-S	↓	7+75S			53°W			X						B	30cm	X			X	OB
↓	↓	8+00S			42°W			X						B	33cm			X		OB
↓	↓	8+25S			38°W			X						B	35cm			X		OB
↓	↓	8+50S			40°W			X						B	27cm	X			X	OB
↓	↓	8+75S			36°W			X						B	24cm	X		X		OB
↓	↓	9+00S			34°W			X						B	30cm	X		X		OB
↓	↓	9+25S			46°W			X						B	28cm	X			X	OB
↓	↓	9+50S			36°SW			X						AB	24cm		X		X	B

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy — Results Plotted By: _____

Area (Grid): N (north of BL) — Map: _____ N.T.S.: 104B/10 and 11

Collectors: V.M. — Date June 6/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development Good	Soil Data: Horizon Development Poor	Soil Data: Parent Material Drift	Soil Data: Parent Material Bedrock	Soil Data: Colour
90M11 2S-N:	1600 E	0+25N	began at BL 2100 W	5°	W			X						B	35	X				MRB
		0+50N		15°	SW			X						B	35	X				MRB
		0+75N		5°	SW			X						B	35	X				MRB
		1+00N		5°	S			X						B	30	X		X		MRB
		1+25N		10°	W			X						B	50	X		X		MRB
		1+50N	grey layer above B-horizon	5°	SW			X						B	30	X				MRB
N/S		1+75N	grey layer until bedrock																	
90M11 2S-N.		2+00N		15°	W			X						B	30	X				MRB
		2+25N		10°	W			X						B	35	X				MRB
		2+50N	thick, wet A-horizon (swamp)	5°	W			X						B	60	X				MB
		2+75N	from fallen tree	10°	SW			X						B	10					MRB
		3+00N	" " " on edge of cliff	10°	W			X						B	5					MRB
N/S		3+25N	bottom of cliff (no soil development)																	
90M11 2S-N.		3+50N	" " " on talus slope	10°	W			X						B	35	X			X	MRB
		3+75N		10°	W			X						B	30	X			X	MRB
		4+00N		10°	W			X						B	30	X			X	MRB
		4+25N		5°	W			X						B	40	X			X	MRB
		4+50N		5°	W				X					B	30	X				MRB
		4+75N	in swampy channel	10°	W				X					B	30		X			MRB
		5+00N		2°	W				X					B	30	X			X	MRB
		5+25N		X					X					B	35	X				MRB
		5+50N		10°	W				X					B	40	X				MRB
		5+75N		5°	W				X					B	35	X				MRB
		6+00N		10°	W				X					B	35	X			X	MRB
		6+25N		5°	W				X					B	35	X			X	MRB
		6+50N		2°	NW					X				B	30	X				LRB
		6+75N		5°	W				X					B	40	X			X	MRB
		7+00N		5°	W				X					B	30	X				MRB
		7+25N		5°	SW				X					B	30	X				MRB
		7+50N		10°	W				X					B	30	X				MRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Jay

Area (Grid): N (north of BL)

Collectors: V.M.

Results Plotted By: _____

Map: _____ N.T.S.: 104A/10 and 11

Date June 6/90

Sample Number	Sample Location		Notes	Topography				Vegetation						Soil Data						
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development: Good	Horizon Development: Poor	Parent Material: Drift	Parent Material: Bedrock	Colour
90M11ZS-N1	1600 E	7+75 N		5°	NW			X						B	30	X			X	MRB
		8+00N		5°	W			X						B	30	X				MRB
		8+25N		15°	W				X					B	40	X			X	MRB
		8+50N		5	W				X					B	60	X				MRB
		8+75N		5°	W				X					B	40	X				MRB
N/S		9+00N	creek																	
90M11ZS-N:		9+25N		5°	W				X					B	40	X				MRB
		9+50N		5°	W				X					B	30	X				MRB
		9+75N		5°	W				X					B	60	X				MRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy
Area (Grid): N (north of B/L)
Collectors: S.S.

Results Plotted By:
Map: N.T.S.: 104 B/10, 11
Date June 7/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent: Drift	Soil Data: Parent: Bedrock Material	Soil Data: Colour
90QU12S-N	2600 E	0+25 N	Side of creek in alder		W				X					A/B	40		X			DRB
		0+50			W			X						B	30		X		X	DRB
		0+75			W				X					B/C	45		X		X	DRB
		1+00	Small creek at 115m		W			X						B	35		X			DRB
		1+25			W			X						B/C	40			X		DRB
		1+50			W			X						B	40		X			DRB
		1+75			W			X						B	50		X			Br
		2+00			W			X						B	30		X			Br
		2+25	taken in slide alder		W				X					B	50		X	X		Br
		2+50	" " " "		W				X					B	50	X		X		MRB
		2+75			W				X					B/C	50		X			Br
N/S		3+00	A horizon only																	
90QU12S-N		3+25	taken in slide alder		NW				X					B	30	X		X		MRB
		3+50			W			X						B	30	X				DRB
		3+75	possible A/B mix		NW			X						A/B	60		X			DRB
N/S		4+00	A horizon only																	
N/S		4+25	Bedrock																	
N/S		4+50	Bedrock																	
90QU12S-N		4+75			W		X	X						B	30	X				MRB
		5+00			SW			X						B	40	X				MRB
		5+25	organics down to 50cm, weak B at 10cm		NW			X						B	10	X				MRB
		5+50			W			X						A/B	40		X			DRB
		5+75	slide alder		W				X					B	60		X	X		DRB
		6+00	slide alder		NW				X					B	40		X	X		DRB
N/S		6+25	Bedrock																	
90QU12S-N		6+50	Alder		W				X					B	40	X				
		6+75	taken between 675-700 station		W			X						B	30		X		X	DRB
		7+00	B under grey horizon		SW			X						B	70	X				MRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Jog 112
Area (Grid): S (South of B/L)
Collectors: Andrew Kaplan

Results Plotted By:
Map: N.T.S.: 104B/10 & 11
Date June 7/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90K112S-	S:1100E/	0+25S		30	SW			X						B	40	X			X	mrb
		0+50S		30	SW			X						B	30	X			X	mrb
		0+75S		30	SW			X						B	30	X			X	drb
		1+00S		30	SW			X						B	30	X			X	drb
		1+25S		20	SW			X						B	30	X			X	mrb
		1+50S	hole 10FT below tag	20	SW			X						B	40	X			X	mrb
		1+75S		20	SW			X						B	40	X			X	mrb
		2+00S		20	SW			X						B	30	X			X	mrb
		2+25S		30	SW			X						B	40	X			X	mrb
		2+50S		30	SW			X						B	40	X			X	mrb
		2+75S		30	W			X						B	30	X			X	mrb
		3+00S		30	W			X						B	40	X			X	mrb
		3+25S		20	W			X						B	40	X			X	mrb
		3+50S		30	W			X						B	40	X			X	mrb
		3+75S		30	W			X						B	40	X			X	mrb
N/S		4+00S	a Silt sample was taken (in River)	n/a	W															
90K112S-	S:1100E/	4+25S		20	W			X						B	40	X			X	drb
		4+50S		20	W			X						B	30	X			X	mrb
		4+75S	below outcrop	30	W			X						B	40	X			X	mrb
		5+00S		30	W			X						B	40	X			X	mrb
		5+25S		20	W			X						B	30	X			X	mrb
		5+50S		20	W			X						B	40	X			X	mrb
		5+75S		20	W			X						B	40	X			X	mrb
		6+00S		20	SW			X						B	30	X			X	mrb
		6+25S		20	SW			X						B	40	X			X	mrb
		6+50S		20	SW			X						B	40	X			X	mrb
		6+75S		20	SW			X						B	30	X			X	mrb
		7+00S		20	SW			X						B	40	X			X	drb
		7+25S		20	SW				X					B	40	X			X	mrb
		7+50S		20	SW			X						B	40	X			X	mrb

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy
Area (Grid): Joy 2
Collectors: J.L

Results Plotted By:
Map: N.T.S.: 104B/10 11
Date June 7 1990

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90JJ125-S	2600E	0+00 S			32° SW			X						B	40cm	X			X	OB
		0+25 S			30° W			X						B	37cm	X			X	OB
		0+50 S	Just Before a Creek		28° SW				X					B	42cm	X		X		OB
		0+75 S			SW			X						B	53cm	X			X	OB
		1+00 S			36° W			X						B	34cm	X			X	OB
		1+25 S			40° W			X						B	28cm	X			X	OB
		1+50 S			43° W			X						B	41cm	X			X	OB
		1+75 S			44° W			X						B	37cm	X			X	OB
		2+00 S			30° W			X						B	33cm	X			X	OB
		2+25 S			41° W			X						B	34cm	X		X		OB
		2+50 S			40° W			X						B	41cm	X			X	OB
		2+75 S			37° W			X						B	36cm	X		X		OB
		3+00 S			32° W			X						B	31cm	X			X	OB
		3+25 S			26° W			X						B	33cm	X			X	OB
		3+50 S			17° W			X						B	36cm	X			X	OB
		3+75 S			21° SW			X						B	34cm	X			X	OB
		4+00 S			42° SW			X						B	29cm	X			X	OB
N/S		4+25 S	Talus																	
90JJ125-S		4+50 S			50° W			X						B	38cm		X		X	B
		4+75 S			47° W			X						B	50cm		X	X		OB
		5+00 S			43° W			X						B	27cm		X	X		OB
		5+25 S			46° W			X						B	32cm		X	X		OB
		5+50 S			51° W				X					B	30cm		X		X	LOB
N/S		5+75 S	Talus																	
N/S		6+00 S	Talus																	
90JJ125-S		6+25 S			48° W			X						B	31cm		X		X	B
		6+50 S			52° W			X						B	15cm		X		X	B
		6+75 S			43° W			X						B	30cm		X		X	B
		7+00 S			40° W				X					B	30cm	X			X	OB
		7+25 S			42° W			X						B	27cm	X			X	OB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy — Results Plotted By: _____

Area (Grid): Joy2 — Map: _____ N.T.S.: 104B/10W

Collectors: J.L. — Date June 7 1990

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90J1125-S:	2600F	7+50S			38°W			X						B	32cm	X			X	OB
		7+75S			38°W			X						B	30cm	X			X	OB
		8+00S			40°W			X						B	26cm		X		X	OB
		8+25S			38°W			X						B	30cm	X			X	OB
		8+50S			43°W			X						B	26cm	X			X	OB
		8+75S			50°W			X						B	13cm		X		X	B
		9+00S			47°W			X						B	17cm		X		X	OB
		9+25S			52°W			X						B	15cm		X		X	B
		9+50S			49°W			X						B	20cm		X		X	OB
		9+75S			43°W			X						B	31cm	X		X		OB
		10+00S	In Dip		W			X						B	35cm	X			X	OB
		10+25S			45°W			X						B	26cm	X			X	OB
		10+50S			40°W			X						B	32cm	X		X		OB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy — Results Plotted By: _____

Area (Grid): N (north of base line) — Map: _____ N.T.S.: 104B/10 and 11

Collectors: V.M. — Date June 7/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90M112S-N	1100E	0+00N	started at BL 9+85W	10°	W			X						B	20	X				MRB
		0+25N		10°	SW			X						B	15	X			X	MRB
		0+50N		20°	SW			X						B	30	X			X	MRB
		0+75N	from fallen tree / 10m below station	15°	SW			X						B	20				X	MRB
		1+00N		10°	W			X						B	30	X			X	MRB
		1+25N		5°	W			X						B	10		X		X	MRB
		1+50N		10°	W			X						B	40	X			X	MB
		1+75N	from fallen tree / talus slope / 5m below station	5°	W			X						B	10				X	MRB
		2+00N	mineralized rock found in hole	5°	W			X						B	35	X			X	MRB
		2+25N		10°	W			X						B	30	X			X	MRB
		2+50N	from fallen tree	10°	W			X						B	10					MRB
		2+75N		10°	W			X						B	35	X			X	MRB
		3+00N	large A-horizon (swampy)	10°	W			X						B	40	X				MB
		3+25N	4m N of station	5°	W			X						B	15					MRB
		3+50N		15°	W			X						B	35	X			X	MRB
		3+75N	from fallen tree	10°	W			X						B	10					ORB
		4+00N		15°	W			X						B	50	X			X	MB
		4+25N		5°	W			X						B	35	X			X	MRB
		4+50N		5°	W			X						B	40	X			X	MRB
		4+75N		20°	W			X						B	30		X		X	MB
		5+00N		5°	W			X						B	20	X			X	MRB
		5+25N					X	X						B	30	X				MRB
		5+50N		5°	W			X						B	25	X				MRB
		5+75N	from fallen tree / 5m N of station	5°	W			X						B	10				X	MRB
		6+00N		5°	W			X						B	30	X				MRB
		6+25N	from under tree	10°	W			X						B	30	X				MRB
		6+50N		X				X						B	50	X				MRB
		6+75N		10°	SW			X						B	30	X				MRB
		7+00N	from base of outcrop	15°	W			X						B	50		X			MB
V	V																			

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy 112
Area (Grid): S (cont'd)
Collectors: Andrew Kaplan

Results Plotted By:
Map: N.T.S.: 104B/10&11
Date June 7/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90K112S	S: 1100 E	7+75S		20	W			X						B	40	X			X	7.5YR 6/6
		8+00S		30	W			X						B	50	X			X	7.5YR 6/6
		8+25S		30	W			X						B	40	X			X	7.5YR 6/6
		8+50S		30	W			X						B	40	X			X	7.5YR 6/6
		8+75S		40	W			X						B	50	X			X	7.5YR 6/6
		9+00S		45	W			X						B	30	X			X	7.5YR 6/6
		9+25S		50	W			X						B	40	X			X	7.5YR 6/6
		9+50S		45	W			X						B	30	X			X	7.5YR 6/6
		9+75S		30	W			X						B	40	X			X	7.5YR 6/6
↓	↓	10+00S		30	W			X						B	40	X			X	7.5YR 6/6

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Jay 112 — Results Plotted By: _____

Area (Grid): N (North of Baseline) — Map: _____ N.T.S.: 104B/10 & 11

Collectors: Andrew Kaplan — Date June 8th

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90K112S-N:	3100E/	0+00N		30	SW				X					B	30	X			X	drb
		0+25N		30	SW				X					B	35	X			X	drb
		0+50N		45	SW				X					B	40	X			X	mrb
		0+75N		40	SW				X					B	40	X			X	drb
N/S		1+00N	No B horizon (80cm), 50° grade	50	SW															
90K112S-N:		1+25N		20	SW			X						B	30	X			X	mrb
		1+50N		20	SW			X						B	50	X			X	drb
		1+75N		15	SW			X						B	50	X			X	drb
		2+00N		20	SW			X						B	50		X		X	drb
		2+25N		20	SW			X						B	40		X		X	drb
		2+50N		30	SW			X						B	30	X			X	mrb
		2+75N	Just past creek	30	SW			X						B	40	X			X	mrb
		3+00N	between 2 creeks (105ft apart)	30	SW			X						B	40	X			X	drb
		3+25N		30	SW			X						B	30	X			X	mrb
		3+50N	right beside & below waterfall	30	SW			X						B	40	X			X	mrb
		3+75N		30	SW			X						B	40	X			X	drb
		4+00N		30	SW			X						B	30	X			X	drb
		4+25N		30	SW			X						B	40	X			X	drb
		4+50N		30	SW			X						B	40	X			X	drb
		4+75N		40	SW			X						B	50	X			X	drb
N/S		5+00N	Too steep, below outcrop	55	SW															
90K112S-N:		5+25N		40	SW			X						B	30	X			X	drb
N/S		5+50N	in slide Alder, below cliff, only A horizon	45	SW															
N/S		5+75N	same as above dug 60cm	45	SW															
N/S		6+00N	same as above dug 60cm	45	SW															
N/S		6+25N	same as above dug 80cm	45	SW															
90K112S-N:		6+50N	Alder Ended	30	SW			X						B	30	X			X	drb
N/S		6+75N	back in Alder, below cliff	40	SW															
N/S	↓	7+00N	below cliff, No B horizon	45	SW															

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy 112 — Results Plotted By: _____

Area (Grid): N (North of B/L) (Cont'd) — Map: _____ N.T.S.: 104B/10811

Collectors: Andrew Kaplan — Date: June 8th

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90K112S-N:	3100E	7+25N		30	SW				X					B	40		X		X	dr b
		7+50N		20	SW				X					B	40	X	X		X	dr b
		7+75N		20	SW				X					B	40	X			X	dr b
		8+00N	10Ft before Tag	35	W				X					B	30	X			X	dr b
		8+25N		30	SW				X					B	30	X			X	dr b
		8+50N	below outcrop	30	SW				X					B	40	X			X	dr b
		8+75N		30	SW				X					B	50	X			X	dr b
N/S		9+00N	Talus & below cliff, west to river	20	SW															
90K112S-N:		9+25N		20	SW				X					B	40	X			X	dr b
		9+50N		40	SW				X					B	30	X			X	dr b
		9+75N		30	SW				X					B	50	X			X	dr b
		10+00N		30	SW				X					B	40	X			X	mr b
		10+25N		20	SW				X					B	30	X			X	mr b
		10+50N		20	SW				X					B	50	X			X	mr b
		10+75N		30	SW				X					B	50	X			X	mr b
		11+00N		30	SW				X					B	40	X			X	mr b
		11+25N		30	SW				X					B	30	X			X	mr b
		11+50N		20	SW				X					B	40	X			X	mr b

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy — Results Plotted By: _____

Area (Grid): Joy 2 — Map: _____ N.T.S.: 104B/10W

Collectors: J.L. — Date June 8

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90J1125-S	3100 E	0+25 S			46° W				X					B	30cm	X			X	OB
		0+50 S			44° W				X					B	21cm	X		X		LOB
		0+75 S			43° W			X						B	33cm	X		X		OB
		1+00 S			55° W			X						B	13cm		X		X	OB
		1+25 S			50° W			X						B	15cm		X		X	B
		1+50 S			49° W			X						B	12cm	X			X	OB
		1+75 S			51° W			X						B	18cm		X		X	B
		2+00 S			40° W			X						D	31cm	X			X	OB
		2+25 S			46° W			X						B	39cm	X			X	OB
		2+50 S	Just Before a Creek		44° W			X						B	34cm	X		X		OB
		2+75 S	Just Before small Creek		46° W			X						B	27cm	X		X		OB
		3+00 S			42° W			X						B	39cm	X			X	OB
		3+25 S			35° W			X						B	46cm	X			X	OB
		3+50 S			47° W			X						B	28cm	X		X		OB
		3+75 S			50° W			X						B	34cm	X			X	OB
		4+00 S			56° W				X					B	12cm		X	X		B
N/S		4+25 S	Cliff																	
N/S		4+50 S	Talus																	
N/S		4+75 S	Talus																	
N/S		5+00 S	Cliff																	
90J1125-S		5+25 S			54° W				X					B	33cm	X			X	OB
		5+50 S			54° W				X					B	27cm	X			X	OB
		5+75 S			40° W			X						B	35cm	X			X	OB
		6+00 S			44° W			X						B	43cm	X			X	OB
		6+25 S			40° W			X						B	45cm	X			X	OB
		6+50 S			43° W			X						B	33cm	X			X	OB
		6+75 S			41° W			X						B	41cm	X			X	OB
		7+00 S	In Dip		34° W			X						B	29cm	X			X	OB
		7+25 S			33° W									B	47cm	X			X	OB
		7+50 S			39° W									B	31cm	X		X		OB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy — Results Plotted By: _____

Area (Grid): Joy 2 — Map: _____ N.T.S.: 104B/10 11

Collectors: J.L. — Date June 8 1990

	Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
N/S	90J1125-S	3100 E	7+75 S																		
			8+00 S	5m From Station Because Snow		40°W			X						B	37cm	X		X		OB
			8+25 S			48°W			X						AB	20cm		X	X		B
			8+50 S			45°W			X						B	26cm	X			X	OB
			8+75 S			41°W			X						B	31cm	X			X	OB
			9+00 S			47°W			X						B	30cm	X			X	OB
			9+25 S			49°W			X						B	26cm	X		X		OB
	N/S		9+50 S	Bedrock																	
	90J1125-S		9+75 S			43°W			X						B	30cm	X			X	OB
			10+00 S			48°W			X						B	13cm		X	X		OB
			10+25 S			44°W			X						B	10cm		X		X	B
			10+50 S			46°W			X						B	31cm	X			X	OB
			10+75 S			43°W			X						B	40cm	X			X	OB
			11+00 S			48°W			X						B	36cm	X			X	OB
			11+25 S			37°W			X						B	20cm	X		X		OB
			11+50 S			26°W			X						B	33cm	X		X		OB
	N/S		11+75 S	Outcrop																	
	90J1125-S		12+00 S			37°W			X						B	42cm	X			X	OB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy

Area (Grid): N (north of BL)

Collectors: V-M

Results Plotted By:

Map: N.T.S.: 104 B/10 and 11

Date June 8/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90M112S-N:	1100 E	7+25 N		10°	W			X						B	30	X			X	MRB
		7+50N	from fallen tree	8°	SW				X					B	20					MRB
		7+75N		35°	SW				X					B	35		X		X	MRB
		8+00N		50°	SW				X					B	80	X			X	MRB
		8+25N		35°	NW				X					A	70	X			X	MRB
		8+50N	from fallen tree / talus slope	15°	W				X					B	30				X	MRB
		8+75N	80% angular fragments	10°	W				X					B	100		X		X	MB
		9+00N	from fallen tree	10°	W				X					B	30				X	MRB
↓		9+25N		10°	W				X					B	40	X			X	MRB
N/S		9+50N	talus slope																	
90M112S-N:		9+75N		5°	W				X					B	40	X			X	MRB
		10+00N		5°	W				X					B	35	X			X	MB
		10+25N	sandy texture	5°	W				X					B	40	X				MRB
		10+50N	from old river bed	2°	SW				X					B	60		X			MRB
		10+75N	2m above river	5°	SE				X					B	30	X			X	MRB
		11+00N		5°	SE				X					B	35	X				MRB
		11+25N		10°	E				X					B	30	X				MRB
		11+50N		5°	NE				X					B	90	X			X	MRB
		11+75N	white layer above B-horizon	5°	NE				X					B	20		X		X	OB
		12+00N		5°	SW				X					B	35	X			X	MRB
		12+25N		2°	S				X					B	35	X				MRB
		12+50N		5°	SE				X					B	60	X				MRB
		12+75N		3°	SE				X					B	35	X				MRB
		13+00N		3°	SE				X					B	30	X			X	MRB
		13+25N		5°	N				X					B	30	X				MRB
		13+50N		5°	E				X					B	30	X				MRB
		13+75N		10°	E				X					B	30	X				MRB
		14+00N		5°	E				X					B	30	X				MRB
		14+25N		10°	S				X					B	35	X				MB
↓	↓	14+50N		5°	S				X					B	30	X			X	MRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy

Area (Grid): N (north of BL)

Collectors: V.M.

Results Plotted By: _____

Map: _____ N.T.S.: 104B/10 and 11

Date June 9/90

Sample Number	Sample Location		Notes	Topography				Vegetation						Soil Data							
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development: Good	Horizon Development: Poor	Parent Material: Drift	Parent Material: Bedrock	Colour	
90M11ZS-N	1100E	14+75N		A°	S			X						B	30	X				MRB	
		15+00N		15°	E			X						B	40	X				MB	
		15+25N		5°	E			X						B	30	X				MRB	
		15+50N		5°	E			X						B	30	X			X	MRB	
		15+75N		5°	S			X						B	30	X			X	MRB	
		16+00N		10°	S			X						B	30	X				MRB	
		16+25N		10°	S			X						B	30	X			X	MRB	

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy

Area (Grid): N (north of B/L)

Collectors: S.S

Results Plotted By:

Map: N.T.S.: 104 B/10, 11

Date June 8/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
N/S	2600E/	7+25 N	Bedrock and A horizon only																	
900112S-N1		7+50 N		30°	W			X						B	30		X			DRB
"		7+75 N		40°	NW			X						B	40	X			X	DRB
N/S		8+00 N	Bedrock and cliffs/dropped below cliffs																	
900112S-N1		8+25 N	Surface B horizon at base of cliffs	25°	NW				X					B	5cm		X		X	DRB
		8+50 N	base of tree	30°	SW			X						R	10		X		X	DRB
		8+75 N	Base of cliff in angular rock frag	25°	W			X						B	15		X		X	DRB
		9+00 N	75% angular frags / 25% soil	35°	NW			X						B	30		X		X	DRB
		9+25 N	base of cliff	25°	W			X						B	30	X			X	DRB
↓		9+50 N		25	W			X						B	30	X				LRB
N/S		9+75 N	Bedrock / cliffs	45°																
N/S	↓	10+00 N	Bedrock / cliffs																	

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Ian

Area (Grid): E (east of Vorlett river)

Collectors: J.L.

Results Plotted By:

Map: N.T.S.: 104B/10-11

Date June 9

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90J1125-S	2100E	9+75S			42°W			X						B	21cm		X	X		OB
↓		10+00S			31°W			X						B	43cm	X			X	OB
↓		10+25S			41°W			X						B	37cm	X			X	OB
N/S		10+50S	Bedrock																	
90J1125-S		10+75S			53°W			X						B	20cm	X			X	LOB
		11+00S			51°W			X						B	27cm		X		X	OB
		11+25S			50°W			X						B	33cm	X		X		OB
		11+50S			52°W			X						B	20cm		X		X	OB
		11+75S			47°W			X						B	24cm	X		X		OB
↓	↓	12+00S			40°W			X						B	32cm	X		X		OB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy

Area (Grid): South

Collectors: Adam + John

Results Plotted By:

Map:

N.T.S.: 104 B/10+11

Date: August 4/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Horizon Development: Good	Horizon Development: Poor	Parent Material: Drift	Parent Material: Bedrock	Colour
90T1125-S:	16+00E	3+00 S			5°SW				✓					B	15		✓	✓		MB
↓		4+65 S			15°N				✓					B	20		✓		✓	MB
90T1125-003			30 m @ 315° From 450S		5°SE				✓					B	10		✓	✓		MB
-004			35 m @ 255° From 525S		5°S				✓					B	10		✓	✓		MB
-005			7m W of 6+50S		10°NW				✓					B	10		✓	✓		MB
-006			~20 m SSE of 7+50S		15°S				✓					B	10		✓		✓	MB
-007			~10 m S of 8+00S		20°N			✓						B	20		✓		✓	MB
-008	~16+00E	8+95 S			15°N			✓						B	15	✓			✓	MB
-009	~15+90E	8+25 S			5°S			✓						B	10	✓			✓	HRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104 B/10+11

Collectors: S.M. — Date Aug. 4, 90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development Good	Soil Data: Horizon Development Poor	Soil Data: Parent Drift	Soil Data: Parent Bedrock	Soil Data: Material Colour
90LL1125-S:	14+00 E	0+00 S			8° W							X		B	25	X			X	LB
↓		0+25 S			10° NW							X		B	30	X			X	LB
N/S		0+50 S																		
90LL1125-S:		0+75 S			10° S				X					B	25	X			X	B
		1+00 S			15° SW				X					B	35	X			X	B
		1+25 S			20° S							X		B	20	X			X	LB
		1+50 S			25° S							X		B	15	X			X	LB
↓		1+75 S	W of creek		25° S							X		B	15	X			X	LB
N/S		2+00 S																		
90LL1125-S:		2+25 S			12° SW							X		B	30		X		X	LB
		2+50 S			15° SW							X		B	30	X			X	B
		2+75 S			20° SW				X					B	20	X			X	B
		3+00 S			15° SW				X					B	15	X			X	LB
		3+25 S	North of small creek		20° SW							X		B	20	X			X	LB
		3+50 S	South of creek		15° SW							X		B	20	X			X	LOB
		3+75 S			12° SW							X		B	20	X			X	LOB
		4+00 S			10° SW							X		B	15	X			X	LB
		4+25 S	Talus at 30 cm		25° S							X		B	25	X			X	OB
		4+50 S	Small rock (sandy)		30° S							X		B	30	X			X	
		4+75 S			5° SW							X		B	20	X			X	
		5+00 S			15° SW							X		B	15	X			X	
		5+25 S			15° S							X		B	20	X			X	
		5+50 S			20° SW							X		B	30	X			X	
		5+75 S			20° S				X					B	15	X			X	
↓		6+00 S			25° W							X		B	30	X			X	
N/S		6+25 S	missed placed, not sent in for assay		20° S							X		B	20	X			X	
90LL1125-S:		6+50 S			15° W							X		B	25	X			X	
N/S		6+75 S	undeveloped B Horizon																	
90LL1125-S:		7+00 S			20° W							X		B	30	X			X	
↓	↓	7+25 S	Bedrock at 15 cm		25° W							X		B	15	X			X	

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Jay — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104 B/10+11

Collectors: S.M. — Date Aug. 4, 90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90LL125-S:	14+00 E	7+50 S	good veg. cover		15% W							X		B	25	X			X	LGB
		7+75 S			?						?	?	?							
90LL125-S:		8+00 S			20% W						?	X	?	B	30	X			X	LGB
		8+25 S			?						?	?	?							
90LL125-S:		8+50 S			5% W						?	X	?	B	20	X			X	LGB
n/s		8+75 S																		
n/s		9+00 S																		
90LL125-S:		9+25 S			30% S			X						B	25	X			X	LB
		9+50 S			30% S			X						B	20	X			X	DB
↓		9+75 S			5% S			X						B	30	X			X	DB
n/s		10+00 S																		
n/s	↓	10+25 S																		

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy

Area (Grid):

Collectors: D.B.

Results Plotted By:

Map: N.T.S.: 104B 10/11

Date Aug 4, 90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
N/S 90H1125-5	18+00E	0+00	No Sample																	
	N/S																			
90H1126-5	18+00E	3+00S	Plateau on 30° slope		5°S		X		X					B	12		X		X	LOB
	N/S																			
90H1125-5	18+00E	6+25S			5°S				X					B	15		X		X	LOB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104B 10/11

Collectors: D. B. — Date Aug 5, 90

Sample Number N/S	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90H11 25-S	L22+00E	0+75N																		
	↓	↓																		
		N/S																		
90H11 25-S	22+00E	3+25S			40S							X		B	7	X		X		MOB
90H11 25-S	22+00E	3+50S			30S							X		B	0	X		X		LOB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: JOY

Area (Grid): SOUTH

Collectors: TRAVIS

Results Plotted By: _____

Map: _____ N.T.S.: 104 B/10 & 11

Date August 7/90

Sample Number	Sample Location		Notes	Topography				Vegetation						Soil Data						
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development: Good	Horizon Development: Poor	Parent Material: Drift	Parent Material: Bedrock	Colour
90T112S90			~4M NORTH OF 11+25S		15°W				✓					B	35		✓	✓		MB
S011			~12+00E / 2+87.5S		15°SW				✓					B	25		✓	✓		LB
			ON RIDGE 5m before steep slope into creek that is to the south																	

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy - 112 Results Plotted By: _____

Area (Grid): South Map: _____ N.T.S.: 104B/10e11

Collectors: P. Lutyusky Date Aug. 7th/90

Sample Number	Sample Location		Notes	Topography				Vegetation						Soil Data						
	Line	Station		Valley Bottom	Direction of slope	Hill Top	Level Ground	Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Horizon Sampled	Depth to Horizon Sample	Horizon Development: Good	Horizon Development: Poor	Parent Material: Drift	Parent Material: Bedrock	Colour
90LL125-001			6+25S 12+50E		25°NW				✓					B	25	✓				BR
90LL125-002			7+00S 12+25E		45°NW				✓					B	25	✓			v(?)	BR
90LL125-003			8+75 S 12+30 E		15°NW				✓					B	30	✓				BR

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: 112 — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104B10/11

Collectors: Dave Barker — Date Aug 25/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon: Good	Soil Data: Horizon: Poor	Soil Data: Development	Soil Data: Parent: Drift	Soil Data: Parent: Bedrock	Soil Data: Material	Soil Data: Colour
90HII25-N	3100E	3+87.5N		10°	S.E.			X						B	35	✓				✓	MRB	
	3070E	3+87.5N					✓	X						B	40	✓				✓	MRB	
	3070E	3+75N		10°	S			X						B	30	✓			✓	✓	LRB	
	3070E	3+62.5N		5°	W			X						B	25	✓				✓	MRB	
	3100E	3+62.5N		10°	W			X						A-B	30		✓			✓	LB	
↓	3150E	3+62.5N	Level on 35° W slope				✓	X						B	20	✓				✓	MRB	
N/S	3150E	3+75N	No B horizon to be found in 3 testholes																			
90HII25-N	3150E	3+87.5N		25°	W			X						B	25	✓				✓	LRB	
↓	3100E	3+75N		10°	SW			✓						B	30	✓				✓	DRB	
N/S																						
90HII25-N	3100E	3+12.5N	Creek 2m to North	10°	E			X						B	30	✓				✓	LRB	
↓	3030E	3+12.5N	Sample taken 3m to S.W. of Sta.	15°	W			X						B	30	✓				✓	MRB	
N/S	3030E	3+00N	hitting bedrock steep slope to creek Into S.E. to N.																			
90HII25-N	3030E	2+87.5N		5 to 10°	N			X						B	30	✓				✓	DRB	
N/S	3030E	2+62.5	mossy watery land / cauliflowering B horizon																			
90HII25-N	3100E	2+62.5N	mossy / 6m to S. of sta	15°	W			X						B	40	✓					MRB	
	3170E	2+62.5N		15°	W			X						A-B	50	✓				✓	LRB	
	3170E	2+75N	70% bedrock				✓	X						B	35	✓				✓	LRB	
	3170E	2+87.5N		20°	W			X						B	30	✓				✓	DRB	
	3170E	3+00N		15°	W			X						B	30	✓				✓	MRB	
	3130E	2+87.5N		20°	SW			X						C	35		✓	✓	✓	✓	MB	
	3030E	2+75N		10°	W			X						B	30	✓				✓	DRB	
	3100E	3+00N	Previous sample not found	25°	SW			✓						B	33		✓			✓	MB	
↓	3100E	2+75N		15°	SW			✓						B	30	✓				✓	MRB	
90HII25-N	3170E	3+12.5N		20°	W			X						B	35	✓				✓	MRB	

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: 112 — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104 B 10/11

Collectors: Dave Barker — Date Aug 25/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90H11 25-N:	3130E	6+50		50°	SW.			X						B	50		✓		✓	MB
	3100E	6+37.5N		50°	SW			X						B	35		✓		✓	MB
	3100E	6+62.5N		40°	SW			X						B	60		✓		✓	MB
↓	3130E	6+62.5N		40	SW			X						B	60		✓		✓	MB
N/S	3130E	6+50N	cliff																	
N/S	3130E	6+37.5N	cliff																	
90H11 25-N:	3160E	6+62.5N		45°	SW			X						A-B	75		✓		✓	MB
N/S	3160E	6+50N	No soil development																	
90H11 25-N:	3190E	6+50N		20°	SW.			X						A-B	10		✓		✓	MB
N/S	3170E	6+37.5N	Top of cliff No soil development																	

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy 112 — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104B 10/11

Collectors: Dave Barker — Date Aug 26/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swamp	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development Good	Soil Data: Horizon Development Poor	Soil Data: Parent Material Drift	Soil Data: Parent Material Bedrock	Soil Data: Colour
90HILLS-N	3160E	1700N		35°	SW			X						A-B	40		✓		✓	MMS
	3100E	1+12N		50°	SW			✓						B	35	✓			✓	MRB
	3060E	1+18N		30°	SW			✓						B	40	✓			✓	MRB
	3070E	1700N	Creek 3m to N	35°	SW			✓						B	35	✓		✓	✓	MRB
	3040E	0+88N	Creek 3m to N	40°	NW			✓						B	20	✓			✓	MRB
	3100E	0+86N		45°	S				X					B	25	✓			✓	MRB
	3160E	0+78N	Creek 10m to N	90°	S				✓					B	30	✓			✓	LRB
↓	3160E	1700N	Creek 3m to S	20°	S				✓					B	40	✓			✓	MRB
90HILLS-N	3110E	1+12N		40°	SW				X					B	40	✓			✓	MRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Jay 112 — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104B 10/11

Collectors: Dave Barker — Date Aug 26/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90HH25-N1	3100E	2+25N	Grassy land, swampy, wet land	20°	W			X				✓	✓	B	45	✓			✓	MRB
	3100E	2+37N		20°	W			X				✓	✓	B	40	✓			✓	MRB
N/S	3040E	2+37N	Idle land, Spring, water to First horizon																	
90HH25-N2	3060E	2+25N		15°	W			X						C-B	40		✓			MRB
	3060E	2+13N	Sample 4m to N, big creek 2m to S.	25°	W				✓			✓		B	20	✓			✓	LRB
	3100E	2+13N		20°	W				✓			✓	✓	A-B	40		✓		✓	MRB LRB
	3160E	2+13N	Marsh, creek 1m to N, Sample 2m to N	20°	W				✓			✓		B	40	✓			✓	MRB
	3150E	2+25N		25°	W			X						B	40	✓			✓	MRB
90HH25-N3 N/S	3150E	2+37N	Mature Forest	25°	W				✓					B	30	✓			✓	DRB
90HH25-N4	3100E	1+75N		20°	W				✓			✓	✓	A-B	50		✓		✓	MRB
	3100E	1+87N		15°	W			X				✓	✓	B	50	✓			✓	LRB
	3040E	1+57N		15°	W			X				✓	✓	B	45	✓			✓	MRB
	3040E	1+75N		20°	W				✓					B	30	✓				DRB
	3070E	1+63N		15°	W			X						B	50	✓			✓	LRB
	3100E	1+63N		10°	W			X					✓	B	40	✓			✓	LRB
	3140E	1+63N		10°	W			X					✓	B	20	✓			✓	MRB
	3140E	1+75N	Creek 4m to N	10°	W				✓					B	35	✓			✓	MRB
90HH25-N5 N/S	3140E	1+87N		15°	W			X						A-B	40		✓		✓	LRB
90HH25-N6	3100E	1+50N		5°	W				✓					B	30	✓			✓	MB
	3040E	1+50N		10°	W				✓					B	45	✓			✓	DB
	3040E	1+38N		20°	W				✓					B	40	✓				DRB
	3100E	1+38N		15°	W				✓					B	40	✓				DRB
	3140E	1+38N		25°	W			X						B	35	✓			✓	MRB
90HH25-N7	3140E	1+56N		25°	W				✓					B	30	✓			✓	LRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Jay 112 — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104B/10 and 11

Collectors: Tim Paquette — Date Aug. 27 '90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Scarsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90L112S-N:	1100F	3+75 N	taken From uproot tree	30°	E				✓					B	1		✓		✓	ORB
	1100 F	3+62.5 N		35°	E				✓					B	25	✓			✓	MRB
	1125 F	3+62.5 N		5°	E				✓					B	40		✓		✓	LRB
	1126 F	3+75 N		5°	E				✓					B	30		✓		✓	MRB
	1125 F	3+87.5 N		30°	N				✓					B	20	✓			✓	MRB
	1100 F	3+87.5 N		25°	E				✓					B	20		✓		✓	MRB
	1090 F	3+87.5 N		5°	E				✓					B	30	✓		✓		MRB
	1090 F	3+75 N		5°	E				✓					B	35	✓		✓		MRB
	1090 F	3+62.5 N	swampy, in depression	5°	NE				✓					B	30		✓	✓		B
	1100 F	6+75 N		10°	E				✓					B	25	✓			✓	MRB
	1100 F	6+87.5 N		15°	E				✓					B	30	✓			—	LRB
	1100 F	6+62.5 N		10°	E				✓					B	30	✓			—	MRB
	1100 F	6+50 N					✓		✓					B	25	✓		✓		MRB
	1100 F	6+37.5 N					✓		✓					B	35	✓		✓		MRB
	1115 F	6+37.5 N		25°	E				✓					B	30	✓		✓		MRB
	1115 F	6+50 N		25°	E				✓					B	35	✓		✓		MRB
	1115 F	6+62.5 N	3m North station	25°	E				✓					B	30	✓		✓		MRB
	1115 F	6+75 N		30°	E				✓					B	20	✓			✓	MRB
	1115 F	6+87.5 N		25°	E				✓					B	30	✓			—	MRB
	1090 F	6+87.5 N		10°	E				✓					B	30	✓			—	MRB
	1090 F	6+75 N		20°	E				✓					B	—	✓		✓		MRB
	1090 F	6+62.5 N		15°	E				✓					B	45	✓		✓		MRB
	1090 F	6+50 N		20°	E				✓					B	35	✓		✓		MRB
	1090 F	6+37.5 N		15°	E				✓					B	30		✓		✓	LRB
	1100 F	7+50 N		15°	E				✓					B	35	✓			✓	LRB
	1100 F	7+37.5 N	takes, 5m West station	15°	E				✓					B	30	✓			✓	MRB
	1100 F	7+62.5 N	takes, 5m West station	25°	E				✓					AB	30		✓		✓	B
	1100 F	7+75 N	From uprooted tree	40°	E				✓					B	—	✓			✓	MRB
	1100 F	7+87.5 N	takes slope, 5m S stat, from uproot tree	45°	E				✓					B	—	✓			✓	MRB
90L112S-N:	1090 F	7+87.5 N					✓		✓					B	35	✓			✓	MRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Jay 112 — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104B/10 and 11

Collectors: Tim Paquette — Date Aug. 27/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development Good	Soil Data: Horizon Development Poor	Soil Data: Parent Material Drift	Soil Data: Parent Material Bedrock	Soil Data: Colour
N/S	1090 F	7+75 N	talus slope N50																	
90L112S-N:	1090 F	7+62.5 N		20°	E				✓					B	20		✓		✓	MRB
↓	1090 F	7+50 N		30°	E				✓					B	30	✓			✓	MRB
	1090 F	7+37.5 N	base cliff, outcrop	15°	E				✓					B	30	✓			✓	MRB
90L112S-N:	1125 F	7+37.5 N	base cliff, outcrop	15°	E				✓					B	25		✓		✓	MRB
N/S	1125 F	7+50 N	on cliff, outcrop N50																	
N/S	1125 F	7+62.5 N	on cliff, outcrop N50																	
90L112S-N:	1125 F	7+75 N	base outcrop	45	E				✓					B	25		✓		✓	MRB
↓	1125 F	7+87.5 N		10°	E				✓					B	20	✓			✓	Org
	1100 F	13+87.5 N		5°	W				✓					B	40	✓		—		MRB
	1100 F	14+00 N					✓		✓					B	35	✓		—		MRB
	1100 F	14+12.5 N					✓		✓					B	35	✓		—		MRB
	1095 F	14+12.5 N		5°	W				✓					B	30	✓		—		MRB
	1095 F	14+00 N		5°	W				✓					B	40	✓		—		MRB
	1095 F	13+87.5 N		5°	W				✓					B	45	✓		—		MRB
	1105 F	13+87.5 N					✓		✓					B	35	✓		✓		MRB
	1105 F	14+00 N					✓		✓					B	30	✓		—		MRB
	1105 F	14+12.5 N					✓		✓					B	30	✓		—		MRB
	1100 F	13+50 N					✓		✓					B	35	✓		—		MRB
	1100 F	13+62.5 N					✓		✓					B	40	✓		—		MRB
	1100 F	13+37.5 N					✓		✓					B	45	✓		—		MRB
	1100 F	13+62.5 N					✓		✓					B	25	✓		—		MRB
	1105 F	13+50 N					✓		✓					B	35	✓		—		MRB
	1105 F	13+37.5 N					✓		✓					B	35	✓		—		MRB
	1090 F	13+37.5 N	gravelly				✓		✓					B	20		✓	✓		MRB
↓	1090 F	13+62.5 N					✓		✓					B	30		✓	✓		MRB
90L112S-N:	1090 F	13+50 N					✓		✓					B	30	✓		✓		MRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Jay (112) — Results Plotted By:

Area (Grid): S. — Map: — N.T.S.: 104B 10/11

Collectors: Randy Gaszto — Date Aug. 27/90.

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90HH112S-5	3100E	8+875		35	W			✓						R	25	✓		✓		B/E
	3040E	8+875		35	W			✓						B/W	25	✓		✓		B/E
	3040E	8+755		35	W			✓						B/W	20	✓		✓		R
	3040E	8+635		30	W			✓						R	30	✓		✓		R
	3040E	8+50		30	W			✓						B	20	✓		✓		R/B
	3040E	8+385		20	W			✓						B	35	✓			✓	B
	3100E	8+395		30	W			✓						B/G	30		✓		✓	B
	3140E	8+385		30	W			✓						B	35		✓	✓		B
	3140E	8+875		30	W			✓						B/W	40	✓		✓		B
	3100E	5+635		20	W			✓						B/W	30	✓		✓		B/R
	3120E	5+755		25	W			✓						B	35	✓		✓		B/R
	3120E	5+735		20	W			✓						B	30	✓		✓		B/R
	3120E	5+875		20	W			✓						B	35	✓		✓		B/R
	3100E	5+875		25	W			✓						B/W	35	✓		✓		DR
	3050E	5+875		30	W			✓						B	30	✓		✓		DR
	3000E	5+635		15	W			✓						B	35	✓		✓		DR
	3110E	3+385		20	SW			✓						B/G	30	✓		✓		R/B
	3110E	3+255		20	SW			✓						B/G	35	✓		✓		B
↓	3110E	3+125		20	SW			✓						R	15	✓		✓		DR

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy

Area (Grid):

Collectors: Dave Baker, Rick Harding, Randy Kasper

Results Plotted By:

Map: N.T.S.: 104B 10/11

Date: Aug 27/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90H1125-S:	3100F	5+75S		30°	N			✗						B	40	✓			✓	MRB
	3060F	5+75S		50°	N			✗						B	30	✓			✓	MRB
	3100F	3+25S		15°	SW			✗						B	45	✓			✓	MRB
	3100F	3+38S		15°	SW			✗						B	40	✓				MBB
	3050F	3+38S		[illegible]	SW			✗						B	25	✓			✓	LRB
	3050F	3+25S		45°	SW				✓					B	25	✓			✓	LRB
	3050F	3+12S		25°	SW			✗						B	30	✓			✓	LRB
	3100F	3+12S		15°	SW				✓					B	90	✓			✓	LRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Jay

Area (Grid):

Collectors: Dave Parker, Rick Hovinger, Cordy Lessier

Results Plotted By:

Map:

N.T.S.: 109B 10/11

Date: Aug 27/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Horizon Development: Good	Horizon Development: Poor	Parent Material: Drift	Parent Material: Bedrock	Colour
90H1125-S:	3100F	10+25S		25°	W			X						B	30	✓			✓	LRB
	3050F	10+37.5S		20°	SW			X						B	25	✓			✓	MRB
	3050F	10+25S		>5°	W			X						B	30	✓			✓	WRB
	3050F	10+12.5S					✓	X						B	40	✓			✓	MRB
	3100F	10+12.5S	25% Angular fragments	50°	SW			X						B	30	✓			✓	LRB
	3140F	10+12.5S		40°	W			X						B	30	✓			✓	MRB
	3140F	10+25S		45°	SW			X						B	40	✓			✓	DRB
	3140F	10+37.5S		15°	SW			X						B	35	✓			✓	DRB
	3100F	10+37.5S		20°	SW			X						B	25	✓			✓	MRB
	3100F	8+75S		20°	W			X						B	45	✓			✓	MRB
	3100F	8+63S		35°	W			X						B	35	✓			✓	MRB
	3100F	8+50S		25°	SW				✓					B	25	✓			✓	MRB
	3140F	8+50S		35°	W			X						B	30	✓			✓	MRB
	3140F	8+63S		40°	W			X						B	20	✓			✓	LRB
	3140F	8+75S		35°	W			X						A-B	30	✓			✓	MB
	3100F	5+25S		45°	N			X						B	35	✓			✓	LRB
	3100F	5+12S		60°	N			X						B	30	✓			✓	MRB
	3150F	5+12S		45°	N			X						B	30	✓			✓	MRB
	3150F	5+25S					✓	X						B	40	✓			✓	DRB
	3150F	5+38S		75°	N			X						B	45	✓			✓	DRB
	3180F	5+38S		10°	N			X						B	50	✓			✓	DRB
	3180F	5+25S		10°	N			X						B	45	✓			✓	MRB
	3180F	5+12S		25°	NW			X						B	40	✓			✓	MB
N/S	3100F	5+38S	Bedrock 60° N to Creek, mossy																	

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy (112)
Area (Grid): S
Collectors: V.M.

Results Plotted By:
Map: N.T.S.: 104B/10+11
Date Aug. 27/1990

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90A1125-S:	1575F	12+97.5S		5°	SW				X					B	30	X				MRB
		13+00S		8°	S				X					B	30		X		X	ORB
	↓	13+12.5S	talus slope / below outcrop / 80% ang frags	20°	W				X					B	35		X		X	MRB
	1600F	12+97.5S		35°	W				X					B	25		X		X	MRB
		13+00S	sample below outcrop	30°	W				X					B	35	X			X	MRB
	↓	13+12.5S	" " " / talus slope	25°	W				X					B	60		X		X	MRB
	1625F	12+87.5S	talus slope / below outcrop / grey soil in sample	35°	W				X					B	45		X		X	MRB
		13+00S	" " / " "	35°	W				X					B	20		X		X	MRB
↓	↓	13+12.5S	" " / " " / 50% ang frags.	30°	W				X					B	60		X		X	MB
90A1125-S:	1575F	11+12.5S		15°	S			X						B	30	X				MRB
		11+25S	3m W of creek	10°	S			X						B	30	X			X	MRB
	↓	11+37.5S		20°	SW			X						A/B	40		X		X	OB
	1600F	11+12.5S	3m above creek / below outcrop	20°	S				X					B	35		X		X	MRB
		11+25S		20°	W				X					B	30		X		X	MRB
	↓	11+37.5S	from under fallen tree	20°	W			X						B	10		X		X	MRB
	1625F	11+12.5S	" " " "	5°	W			X						B	30		X		X	MRB
		11+25S	" " " "	15°	W				X					B	30		X		X	MB
↓	↓	11+37.5S	talus slope	10°	SW				X					A/B	45		X		X	OB
90A1125-S:	1575F	8+12.5S	below outcrop	5°	W				X					B	30	X			X	MRB
		8+25S	" "	5°	W				X					B	30	X			X	MRB
	↓	8+37.5S	below/on outcrop	5°	W				X					B	25	X				MRB
	1600F	8+12.5S	on cliff/outcrop / from exposed soil	45°	W				X					B	15		X		X	MRB
		8+25S	surrounded by outcrop	30°	W				X					B	45	X			X	MRB
	↓	8+37.5S	sample on outcrop	30°	W				X					B	20		X		X	ORB
	1625F	8+12.5S	" " / above outcrop	5°	W				X					B	30	X				MRB
		8+25S	" above outcrop	10°	W				X					B	30	X				MRB
↓	↓	8+37.5S		5°	NW				X					B	30	X				MRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Jay (112) Results Plotted By:

Area (Grid): S Map: N.T.S.: 104B/10+11

Collectors: V.M. Date Aug 27/1990

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swamp	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90A1125-S:	1525 E	6+375S	talus slope/below outcrop/50% ang. frags.	20°	E			X						A/B	60		X		X	MB
		6+50S		10°	E			X						B	25	X		X		MRB
	↓	6+62.5S		5°	SE			X						B	30	X			X	LRB
	1600 E	6+375S	sample below outcrop	5°	E			X						B	30		X		X	MBB
		6+50S		5°	E			X						B	30		X			MAB
	↓	6+62.5S	in area of minor blowdown	5°	E			X						B	30	X				MBB
	1625 E	6+375S		5°	E			X						B	30	X				MRB
		6+50S	sample on outcrop	0°	E			X						B	30	X				ORB
	↓	6+62.5S		5°	SE			X						B	30	X				MRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy 112 — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104B10/11

Collectors: Dave Baker & Sean Novak — Date Aug. 28/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Colour
90M125-S:	1600F	4+25S					X		X					B	35	X			X	MRB
	1600F	4+37.5S					X		X					B	30	X			X	MRB
	1575F	4+37.5S		5°	SW				X					B	25	X			X	MRB
	1575F	4+25S		5°	NW				X					B	20	X			X	MRB
	1575F	4+12.5S		10°	NW				X					B	25	X			X	MRB
	1600F	4+12.5S					X		X					A/B	55	X			X	MRB
	1625F	4+12.5S		25°	W				X					B	40	X			X	MRB
	1625F	4+25S		5°	W				X					B	25	X			X	MRB
	1625F	4+37.5		15°	W				X					B	30	X			X	MRB
	1600F	3+25S		25°	W				X					B	30	X			X	MRB
	1600F	3+37.5S		30°	W				X					B	25	X			X	LRB
	1575F	3+37.5S		10°	W				X					B	30	X			X	DRB
	1575F	3+25S		5°	W				X					B	20	X			X	LRB
	1575F	3+12.5S					X		X					B	30	X			X	LRB
	1600F	3+12.5S		15°	W				X					B	35	X			X	LRB
	1625F	3+12.5S		30°	W				X					B	30	X			X	MRB
	1625F	3+25S		25°	W				X					B	30	X			X	LRB
N/S	1625F	3+37.5S	UNABLE TO FIND B HORIZON - BOULDERS																	

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy 112 — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 109B 10/11

Collectors: Dave Barber, Sean Novak — Date Aug 28/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90A1125-S:	1600 F	6+00 S		25°	NW			X						B	15	X			X	LRB
	1600 F	5+87 S		25°	N			X						B	20	X			X	MRO
	1600 F	5+75 S	MAJOR CREEK 25m NORTH	35°	N			X						B	30	X			X	MRB
	1600 F	5+63 S		40°	N			X						B	30	X			X	MRO
	1625 F	5+62.5 S		5°	NW			X						B	30	X			X	MRB
	1625 F	5+75 S					X	X						B	35	X			X	MRB
	1625 F	5+87.5 S		5°	S.E.				X					B	35	X			X	DRB
	1625 F	6+00 S					X	X						B	30	X			X	MRB
	1625 F	6+12.5 S					X	X						B	25	X			X	MRB
	1600 F	6+12.5 S		5°	N			X						B	35	X			X	MRB
	1575 F	6+12.5 S		5°	N			X						B	40	X			X	MRB
	1575 F	6+00 S		5°	N			X						B	70	X			X	DRB
	1575 F	5+87 S		5°	NE				X					B	35	X			X	LRB
N/S	1575 F	5+75 S	TOO CLOSE TO CREEK, BOULDERS																	
90A1125-S:	1600 F	5+37 S		60°	N				X					B	10	X			X	LRB
	1600 F	5+25 S		45°	S				X					B	40	X			X	MRO
	1600 F	5+12.5 S		35°	NE			X						B	20	X			X	LRB
	1600 F	5+00 S		35°	NE			X						B	10	X			X	MRB
	1600 F	4+87.5 S		30°	NE				X					B	20	X			X	MRB
	1625 F	4+87.5 S		10°	NE				X					B	50	X			X	MRB
	1625 F	5+00 S					X	X						B	40	X			X	MRO
	1625 F	5+12.5 S	MAJOR CREEK 5m SOUTH	20°	S			X						B	25	X			X	MRO
	1625 F	5+25 S		5°	NE			X						B	40	X			X	DRB
	1625 F	5+37.5 S		50°	S			X						B	40	X			X	MRB
	1575 F	5+37.5 S		35°	NE			X						B	30	X			X	LRB
	1575 F	5+62.5 S		45°	N				X					B	35	X			X	LRB
	1575 F	5+25 S		30°	NE			X						B	35	X			X	LRB
	1575 F	5+12.5 S		15°	NE			X						B	40	X			X	DRB
	1575 F	5+00 S					X	X						B	30	X			X	DRB
90A1125-S:	1575 F	4+87.5 S					X	X						B	40	X			X	MRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Jog 112 — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104 B / 10 and 11

Collectors: Tim P — Date Aug 29 90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
N/S	2100 F	1+87.5 S																		
90L112S-S:	2110 F	1+87.5 S		15°	E				✓					B	30	✓			✓	MRB
	2110 F	2+00 S	bog creek 1m South	10°	E				✓					B	20		✓	✓		MRB
	2110 F	2+12.5 S		10°	SE				✓					B	20	✓		✓		MRB
	2085 F	2+12.5 S		20°	S				✓					B	15	✓		✓		MRB
	2085 F	2+00 S	bog creek	30°	S				✓					B	20		✓		✓	MRB
	2085 F	1+87.5 S		10°	E				✓					B	15	✓			✓	MRB
	2100 F	2+00 S	bog creek base outcrop	✓					✓					B	20		✓		✓	MRB
90L112S-S:	2100 F	2+12.5 S		5°	S				✓					B	20	✓		—		MRB
90L112S-S:	2100 F	3+87.5 S		5°	SE				✓					B	30	✓		—		MRB
	2100 F	4+00 S		5°	E				✓					B	35	✓		✓		MRB
	2100 F	4+12.5 S		5°	E				✓					B	30	✓		✓		MRB
	2090 F	4+12.5 S		5°	E				✓					B	40		✓	✓		LRB
	2090 F	4+00 S		5°	E				✓					B	30	✓		✓		LRB
	2090 F	3+87.5 S		5°	E				✓					B	30	✓		✓		LRB
	2110 F	3+87.5 S		5°	E				✓					B	35	✓		✓		MRB
	2110 F	4+00 S		5°	E				✓					B	30	✓		✓		ORB
	2110 F	4+12.5 S		5°	E				✓					B	30	✓		✓		MRB
	2100 F	6+62.5 S		5°	E				✓					B	35	✓		—		MRB
	2100 F	6+75 S	top cliff over creek	20°	E				✓					B	20		✓		✓	LRB
	2100 F	6+87.5 S	above cliff	20°	E				✓					B	15		✓		✓	LRB
90L112S-S:	2100 F	7+00 S		60°	E				✓					B	20		✓		✓	LB
N/S	2100 F	7+12.5 S	talus slope, base cliff 5m from creek.																	
90L112S-S:	2100 F	7+25 S	1m From creek, valley wall	75°	E				✓					B	30		✓		✓	DB
	2100 F	7+37.5 S		60°	E				✓					B	20		✓		✓	DB
	2130	7+37.5 S	taken From between talus	60°	E				✓					B	—		✓		✓	MRB
	2130	7+25 S		55°	SE				✓					B	25		✓		✓	MRB
	2130	7+12.5 S		50°	SE				✓					AB	25	✓			✓	BLK.
	2130	7+00 S	taken From between talus	✓					✓					AB	—		✓		✓	MB
90L112S-S:	2130	6+87.5 S	taken From between rocks.	85°	N				✓					B	—		✓		✓	MRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Jay .112 — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104 B / 10 and 11

Collectors: Tim Paquette — Date Aug. 29/90

Sample Number	Sample Location STATION	Sample Location LINE	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Colour
90L112S-S:	6+75 S	2130 E		10°	NE				✓					B	20	✓			✓	MRB
N/S	6+62.5 S	2130 E	base outcrop, USD																	
N/S	6+62.5 S	2070 E	cliff outcrop																	
90L112S-S:	6+75 S	2070 E	taken From rocks	55°	N				✓					B	–		✓		✓	MRB
N/S	6+87.5 S	2070 E	talus, below cliff																	
N/S	7+00 S	2070 E	creek																	
N/S	7+12.5 S	2070 E	talus, USD																	
N/S	7+25 S	2070 E	talus, USD, base cliff																	
N/S	7+37.5 S	2070 E	Fine talus, USD																	
90L112S-S:	7+75 S	2100 E		50°	SE				✓					B	20		✓		✓	MRB
	7+62.5 S	2100 E	taken From crack in rocks	85°	E				✓					B	–		✓		✓	MRB
	7+62.5 S	2120 E		5°	SE				✓					B	20	✓		✓		MRB
	7+75 S	2120 E		5°	SE				✓					B	20	✓		—		MRB
	7+87.5 S	2120 E		5°	SE				✓					B	5	✓			✓	MRB
	7+87.5 S	2100 E		15°	E				✓					B	15	✓		✓		MRB
	9+12.5 S	2600 E		10°	E				✓					B	30	✓			✓	MRB
	9+25 S	2600 E	65% angular Frags, talus slope	25°	E				✓					B	15		✓		✓	MRB
	9+37.5 S	2600 E		15°	E				✓					B	15	✓			✓	DRB
	9+37.5 S	2580 E		15°	E				✓					B	10		✓	✓		MRB
	9+25 S	2580 E		15°	E				✓					B	30		✓	✓		MRB
	9+12.5 S	2580 E		15°	E				✓					B	20	✓		✓		MRB
	9+12.5 S	2620 E		10°	E				✓					B	35	✓		✓		MRB
	9+25 S	2620 E					✓		✓					B	30	✓		—		MRB
90L112S-S	9+37.5 S	2620 E					✓		✓					B	30	✓		—		MRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

23

Project: Joy 112 — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104B 10 + 11

Collectors: SHAWN NOVAK, DAVE BARKER, VAUN MALO — Date: Aug. 29, 1990

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon: Good	Soil Data: Horizon: Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90AII25-N:	1625F	1+12.5N		10°	SW				X					B	30	X			X	MRB
	1625F	1+25N					X		X					B	35	X			X	LRB
	1625F	1+37.5N		5°	SW				X					B	30	X			X	LRB
	1600F	2+87.5N		40°	W				X					B	20	X			X	LOB
	1600F	3+00N		30°	W				X					B	35	X			X	LOB
N/S	1600F	3+12.5N	CLIFF AT STATION																	
90AII25-N	1625F	2+87.5N		10°	W				X					B	30	X			X	MOB
	1625F	3+00N		5°	S				X					B	45	X			X	LOB
NS	1625F	3+12N	CLIFF																	
NS	1625F	2+87N																		
NS	1575F	3+00N																		
NS	1575F	3+12N																		
NS	1575F	2+87N																		
	1575F	4+12.5N	BOTTOM OF OUTCROP	5°	W				X					B	30	X			X	MRB
	1575F	4+25N		5°	W				X					B	35	X			X	MB
	1575F	4+37.5N					X		X					A/B	30		X		X	LRB
	1600F	4+12.5N		5°	W			X						B	25	X			X	DRB
	1600F	4+25N		10°	W				X					B	45	X			X	MRB
	1600F	4+37.5N	2m EAST AT STUMP	10°	W				X					B	10	X			X	MRB
	1625F	4+12.5N		10°	W				X					B	30	X			X	MRB
	1625F	4+25N					X		X					B	35	X			X	LRB
	1625	4+37.5N					X		X					B	10	X			X	MRB
N/S	1575F	6+87.5N																		
90AII25-N:	1575F	7+00N		5°	S				X					A/B	30		X		X	DB
	1575F	7+12.5N					X		X					B	30	X			X	LB
	1575F	7+25N					X		X					B	40	X			X	MRB
	1575F	7+37.5N					X		X					A/B	40		X		X	MB
	1600F	7+00N		10°	S				X					B	20	X			X	DOB
	1600F	6+87.5N		10°	SE				X					B	35	X			X	MRB
	1600F	7+12.5N		10°	S				X					B	40	X			X	MRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy 112 — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104B 10+11

Collectors: SHAWN NOWAK, DAVE BARKER, VAUN MALC — Date Aug 29, 1990

Sample Number	Sample Location: Line	Sample Location: Station	Note:	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90AII25-S:	1575F	1+12.5S	ON OUTCROP / GREY LAYER ABOVE 'B' H.	40°	W				X					B	30		X		X	MRB
	1575F	1+25 S	GREY LAYER ABOVE B HORIZON	20°	SW				X					B	35		X		X	LRB
	1575F	1+37.5S		15°	SW				X					B	35	X			X	LRB
	1600F	1+12.5		40°	W			X						A/B	20		X		X	LOB
	1600F	1+25 S	BELOW OUTCROP FROM EXPOSED SOIL	55°	W				X					B	15		X		X	MB
	1600F	1+37.5S		20°	SW				X					B	40	X			X	LRB
N/S	1625F	1+12.5S																		
	1625F	1+25 S		40°	W				X					B	30	X			X	LOB
	1625F	1+37.5S	10m TO CREEK N W.	20°	SW				X					A/B	15		X		X	LB
	1575F	0+37.5S		15°	W				X					B	40	X			X	LB
N/S	1575F	0+50S	ROCKY NO B HORIZON																	
90AII25-S:	1575F	0+62.5S		20°	W				X					B	40	X			X	MRB
	1575F	0+75 S		15°	SE				X					B	35	X			X	LRB
	1575F	0+87.5S	CREEK 4m TO SOUTH	20°	S				X					B	30	X			X	LRB
	1600F	0+37.5S		15°	W				X					B	40	X			X	LOB
	1600F	0+50S		15°	W				X					B	30	X			X	LRB
	1600F	0+62.5S		10°	W				X					B	40	X			X	LOB
	1600F	0+75S		10°	SW				X					B	45	X			X	MRB
N/S.	1600F	0+87.5S	BEDROCK																	
90AII25-S:	1625F	0+37.5S		10°	W				X					B	25	X			X	DOB
	1625F	0+50S		20°	W				X					B	30	X			X	LOB
	1625F	0+62.5S	30% ROCK FRAGMENTS	15°	W				X					B	35	X			X	DOB
	1625F	0+75S		20°	SW				X					B	30	X			X	LRB
	1625F	0+87.5S		20°	SW				X					B	35	X			X	MRO
90AII25-N:	1575F	1+12.5N					X		X					B	40	X			X	MRB
	1575F	1+25N		10°	SW				X					B	35	X			X	MRO
	1575F	1+37.5N		20°	SW				X					B	40	X			X	LRO
	1600F	1+12.5N		15°	SW				X					B	35	X			X	LRB
	1600F	1+25N		15°	SW				X					B	45	X			X	LRB
	1600F	1+37.5N		15°	SW				X					B	35	X			X	LRB

✓ 15

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: JOY 112

Area (Grid):

Collectors: SHAWN NOVAK, DAVE BARKER, VAUN MALO.

Results Plotted By:

Map: N.T.S.: 104B/10+11

Date Aug 29, 1990

Sample Number	Sample Location: Line	Station	Notes	Topography: Valley Bottom	Direction of slope	Hill Top	Level Ground	Vegetation: Heavily Wooded	Sparsely Wooded	Burnt	Logged	Grassland	Swampy	Soil Data: Horizon Sampled	Depth to Horizon Sample	Horizon Development: Good	Poor	Parent Material: Drift	Bedrock	Colour
90A1125N:	1600F	7+25N		5°	S				X					B	30	X			X	mRB
	1600F	7+37.5N					X		X					B	25	X			B	-
	1625F	6+87.5N					X		X					B	30	X			B	LOB
	1625F	7+00N		20°	N				X					B	30				B	moB
	1625F	7+12.5N					X		X					B	50	X			B	ROB
	1625F	7+25N		10°	W				X					B	40	X			B	LOB
	1625F	7+37.5N	← [illegible]		-				X					B	-	X			-	moB
	1575F	7+87.5N	''	15°	SW				X					B	30	X			X	mRB
N/S	1575F	8+00N	BEDROCK																	
	1575F	8+12.5N		10°	W				X					B	25	X			X	mRB
	1600F	7+87.5N					X		X					B	40	X			X	DRB
	1600F	8+00N		5°	SE			X						B	25	X			X	mRB
	1600F	8+12.5N		15°	W			X						B	30	X			X	RB
	1625F	7+87.5N		10°	W				X					B	40	X			X	mRB
	1625F	8+00N					X		X					B	50	X			X	mRO
	1625F	8+12.5N					X		X					B	40	X			X	DRB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Jay — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104B 10/11

Collectors: Dave Barker — Date: Aug 30/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development: Good	Soil Data: Horizon Development: Poor	Soil Data: Parent Material: Drift	Soil Data: Parent Material: Bedrock	Soil Data: Colour
90L125-N:	2600F	9+12.5N	Below a 70° Cliff	15°	W			X						A/B	25		X		X	LRB
	2600F	9+00N	1.5m W from Cliff 65% A.F.	55°	W			X						B	50	X			X	LOB
	2600F	8+87.5N		45°	W			X						B	30	X			X	MRB
	2600F	8+75N		75°	W				X					B	35	X			X	LOB
↓	2600F	8+62.5N		45°	W				X					B	25	X			X	LOB
N/S	2585F	8+62.5N	TALUS																	
	2585F	8+75N	TALUS																	
↓	2585F	8+87.5N	TALUS																	
90L125-N:	2585F	9+00N		30°	W			X						A/B	40		X		X	LRB
N/S	2585F	9+12.5N	hitting bedrock unable to find B horizon																	
90L125-N:	2700F	9+12.5N		25°	S.E.				X					B	40	X			X	MRB
	2700F	9+00N		30°	S.E.				X					B	45	X			X	MRB
	2700F	8+87.5N		25°	S.E.				X					A/B	30		X		X	MRB
	2700F	8+75N	5m to S. of sta	30°	S				X					A/B	30		X		X	LRB
	2700F	8+62.5N		40°	E				X					B	25		X		X	LRB
	2600F	8+37.5N		50°	W				X					B	30		X		X	LRB
	2600F	8+25N		40°	W				X					B	40	X			X	MRB
↓	2600F	8+12.5N		40°	W			X						A/B	50		X		X	MRB
N/S	2570F	8+12.5N	H.W. Akkerman hitting bedrock																	
N/S	2570F	8+25N	No B Horizon to be found																	
	2570F	8+37.5N		34°	W			X						A/B	20		X		X	LRB
	2100F	9+37.5N	mature forest	10°	SW			X						B	40	X			X	MOB
	2100F	9+50N		15°	SW			X						B	30	X			X	MOB
	2100F	9+62.5N		15°	SW			X						B	35	X				MOB
	2090F	9+62.5N	Swampy	>5°	SW			X						A/B/C	55		X			LOB
	2090F	9+50N	indepression				✓	X						A/O	30		X			MB
	2090F	9+37.5N	Leached				✓	X						B	50	X			X	GRBX
	2110F	9+37.5N		5°	NE			X						B	40	X			X	MRB
	2110F	9+50N					✓	X						B	40	X			X	MOB
	2110F	9+62.5N		5°	S			X						O	45	X			X	MOB

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Joy — Results Plotted By: _____

Area (Grid): _____ — Map: _____ N.T.S.: 104B/10A 11

Collectors: Dave Barker — Date Aug 30/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swampy	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development Good	Soil Data: Horizon Development Poor	Soil Data: Parent Material Drift	Soil Data: Parent Material Bedrock	Soil Data: Colour
90L1125-1	2100E	4+75N	Mature forest, light under bush, Huckleberries	15° S.E.					✓					B	40	✓			✓	MOB
	2100E	4+62.5N	Devils Club	> 5° S					✓					B	50	✓			✓	MB
	2115E	4+62.5N	Mature forest Mossy	20° S					✓					B	50	✓			✓	ORB
	2115E	4+75N		> 5° E				X						B	30	✓			✓	MRB
	2100E	4+87.5N		20° S					✓					B	40	✓			✓	MOB
	2090E	4+87.5N					✓		✓					B	25	✓			✓	MOB
	2090E	4+75N					✓		✓					B	30	✓			✓	MOB
	2090E	4+62.5N					✓		✓					B	40	✓			✓	MOB
90L1125-5	2600E	2+37.5S		15° W				X						B	30	✓			✓	MRB
	2600E	2+50S	Mature forest, Mossy	15° W				X						B	40	✓			✓	MRB
	2560E	2+62.5S		20° W				X						B	35	✓			✓	MOB
	2580E	2+62.5S		20° W				X						B	25	✓			✓	LOB
	2580E	2+50S		10° NW				X						B	30	✓			✓	MBB
	2580E	2+37.5S		10° NW				X						B	40	✓			✓	MDB
	2620E	2+37.5S		10° W				X						B	40	✓			✓	MRB
	2620E	2+50S		10° NW				X						B	30	✓			✓	MRB
	2620E	2+62.5S	Mature forest, Mossy	> 5° NW				X						B	40	✓			✓	ORB
N/S	2115E	4+87.5N	hitting bedrock																	
N/S	2700E	8+37.5N	Cliff No sta																	
N/S	2700E	8+25N	Cliff " "																	
N/S	2700E	8+12.5N	Cliff " "																	

KEEWATIN ENGINEERING INC.

SOIL SAMPLES

Project: Jay (112) Results Plotted By:

Area (Grid): Map: N.T.S.: 104 B/10 + 11

Collectors: Dave Barker / Steve McTague Date Sept 10/90

Sample Number	Sample Location: Line	Sample Location: Station	Notes	Topography: Valley Bottom	Topography: Direction of slope	Topography: Hill Top	Topography: Level Ground	Vegetation: Heavily Wooded	Vegetation: Sparsely Wooded	Vegetation: Burnt	Vegetation: Logged	Vegetation: Grassland	Vegetation: Swamp	Soil Data: Horizon Sampled	Soil Data: Depth to Horizon Sample	Soil Data: Horizon Development Good	Soil Data: Horizon Development Poor	Soil Data: Parent Material Drift	Soil Data: Parent Material Bedrock	Soil Data: Colour
90T112S-5:	1100E	7+50S	Mature forest, uplift tree by station				✓		X					B	25	✓			✓	MOB
	1100E	7+37.5S	" " dead trees laying on ground				✓		X					B	35	✓				LOB
	1110E	7+37.5S		5°	W				X					B	20	✓			✓	LRB
	1110E	7+50S		10°	NW				X					B	60	✓				MOB
	1110E	7+62.5S		5°	W				X					A-B	45		✓		✓	LRB
	1100E	7+62.5S					✓	✓						A-B	36		✓			DRB
	1090E	7+62.5S		>5°	W				X					B	40	✓			✓	LRB
	1090E	7+50S	Ash layer above B Hor	20°	NW				X					B	35	✓				OB
	1090E	7+37.5S		25°	NW				X					B	20	✓				OB
	1100E	9+50S	Thick Young forest mossy	>5°	NW			✓						B	20	✓			✓	MOB
	1100E	9+37.5S	" "	10°	NW			✓						B	30	✓			✓	LOB
	1110E	9+37.5S	" "	15°	NW			✓						B	35	✓			✓	LRB
	1110E	9+50S	Young forest	20°	NW				X					B	15	✓			✓	LRB
	1110E	9+62.5S	Mature forest	10°	NW				X					B	25	✓			✓	MRB
	1100E	9+62.5S		15°	NW				X					B	20	✓			✓	LRB
	1090E	9+62.5S		>5°	NW				X					B	20	✓			✓	LRB
	1090E	9+50S	hole 9m to E, of sta	15°	W			✓						B	25	✓			✓	LRB
	1090E	9+37.5S	Young forest	15°	W				X					B	30	✓			✓	MRB

KEEWATIN ENGINEERING INC.

STREAM SEDIMENTS

Project: JOY

Area (Grid): JOY (SOUTH)

Collectors: A. TRAVIS A. KAPLAN

Results Plotted By: _____

Map: _____ N.T.S.: 104B 10 + 11

Date: JUNE 7/90

Sample Number	NOTES	SEDIMENT DATA					STREAM DATA					SPRING	DRY GULLY				
		Gravel	Sand	Silt	Clay	Organic	Bank	Active	Width	Depth	Velocity						
90TIL8001	Doing soil line 90K11 2S-S: 1100E AT 4100 S IN MIDDLE OF CREEK SO TAKE SILT		✓					✓	2m	10cm	F						

KEEWATIN ENGINEERING INC.

STREAM SEDIMENTS

Project: Jay 112 Results Plotted By: _____

Area (Grid): _____ Map: _____ N.T.S.: 104 B / 10 and 11

Collectors: Tim Paquette Date: Aug. 27/90

Sample Number	NOTES	SEDIMENT DATA					STREAM DATA					SPRING	DRY GULLY				
		Gravel	Sand	Silt	Clay	Organic	Bank	Active	Width	Depth	Velocity						
90L112Lxx	elevation 1100 F at 6+62.5N	✓	✓	✓				✓	1m	8cm	M						

KEEWATIN ENGINEERING INC.

STREAM SEDIMENTS

Project: Jay 112 Results Plotted By: _____

Area (Grid): _____ Map: _____ N.T.S.: 104B 10 and 11

Collectors: Tim Paquette Date: Aug 27 90

Sample Number	NOTES	SEDIMENT DATA					STREAM DATA					SPRING	DRY GULLY				
		Gravel	Sand	Silt	Clay	Organic	Bank	Active	Width	Depth	Velocity						
90C1125-002	taken From Line elv. 2070FE. at 7+00S	~	~	~				~	2m	½m	fast						

APPENDIX 4

Rock Sample Descriptions

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy
Area (Grid): Joy 2
Collectors: A. TRAVIS, K. BURKE

Results Plotted By:
Map: NTS: 104 B 10+11
Date: JUNE 4/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
	970 m ELEVATION IN CREEK							SKARN	TAKEN OVER 4 feet but pod pinches to	
90T112R-001	WHICH RUNS N-S ALONG			1.4				ALT'D	nothing IN 5 feet above sample, weathers	
	EASTERN BOUNDARY			POD				SEDIMENT?	darker brown, fresh: dark green ≤30% Py, 10% Py, TR Cpy	
	7m upstream from							SKARN	TOOK CHIP OVER 3 FEET, BEST MINZ'D ZONE	
" R-002	R-008 in FIELD			1.0				ALT'D	≤1 feet, IRREGULAR, PINCHES+SWELLS, THIS	
	(PROBABLY R-001)			POD				SEDIMENT	PARTICULAR POD MAXIMUM 5'x3'. SIMILAR	
									MINERALOGY TO R-001, NOTE: WAS PREVIOUSLY	
									SAMPLED AS 87MR-13	
									NOTE: R-001 LABELLED AS 90T111R-008	
									IN THE FIELD, R-002 LABELLED AS	
									90T111R-009 IN THE FIELD.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy 1
Area (Grid): N of Baseline
Collectors: R. Hansinger

Results Plotted By:
Map: 1:5000 BASE NTS: 104 B/10, 11
Date: June 5/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH)					ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
			GRAB	CHIP	CHANNEL	CORE	FLOAT			
90H112R-001	2100' ELEV, 1+80 N		✓					ANDESITE	~2% Py, Locally gossan, minor qtz stringers	
90H112R-002	2100' ELEV, 1+95 N	RHJ06	✓					ANDESITE	2-5% Py, CPY, chlorite, possible mafic intrusive, not silicified	
90H112R-003	2100' ELEV, 2+05 N	RHJ07	✓					QTZ VEIN	7.5cm wide(?), chert hosted, oxidized fracture surfaces, ~5% pr fracture filling	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JOY
Area (Grid):
Collectors: P Lutynski

Results Plotted By:
Map: NTS: 104 B/10, 11
Date: June 5th, 90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90L112C-013	1+00S 2092 Feet elev.			0.5m				Shear zone Alt. diorite	Alterated zone, sheared, diorite (andesite) composition Pyrite mineralization 2-3%, epidot 1%	
90L112C-014	1+01S 2100 Feet elev.			1.2m				Shear zone Alt. diorite(?)	Alterated sheared rock, yellowish in colour, sulfides (pyrite) up to ~2%	
90L112R-015	6+00S 2100 Feet elev		✓					Shear zone.	Zone is very narrow up to ~10 cm wide. sulfides (pyrite and less pyrrhotite) < 2%.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JOY
Area (Grid):
Collectors: A. TRAVIS S. SHEFFIELD

Results Plotted By:
Map: NTS: 104 B 10 & 11
Date: JUNE 5/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
	~3400' IN CREEK,							SHEAR	GOSSANOUS, 3' WIDE, 3-5% PYRITE	
90T112R-003	NORTH FORK IN MIDDLE			1.0				ZONE IN	PRIMARILY AS BLEBS	
	OF JOY 2							DIORITE		
	~3100' IN SAME CREEK							SHEAR	THIN VENLETS OF SPHALERITE (<0.5cm)	
" R-004	NORTH SIDE, NEAR		✓					ZONE IN	Seam to be associated with shearing,	
	CREEK JUNCTION							INTRUSIVE?	subcrop, no attitudes or strike length determined	
	~305D' almost due							Qtz FLOODED	Malachite STAINED, UP TO 3% chalcopyrite,	
" R-005	WEST OF R-004		✓					SHEAR ZONE	Subcrop, possible extension downslope through	
								IN INTRUSIVE?	slide chute (gossanous soil) TRENDS ~90°	
	20m EAST OF							DARK GREEN	MASSIVE SPHALERITE BAND *(UP TO 2cm only)	
" R-006	Sample R-005		✓					ALTERED	with 1% chalcopyrite, subcrop, no attitudes	
								INTRUSIVE?	could be determined, width minimal (<6")	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JOY
Area (Grid): S. (South of B/L)
Collectors: A. MUIRHEAD

Results Plotted By:
Map: NTS: 104B/10 & 11
Date: June 6, 1990 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90A112R-002	CONTOUR S:2100 F SOUTH ≈ 7+30S.		✓					ANDESITE	SLIGHTLY SHEARED GOSSANOUS BRECCIA. SILICIC/ARGILLIC. W ≈ 3% Py BLEBS & FILS	
90A112R-003.	CONTOUR S:2100 F @ 8+30 S		✓					FELSIC/INT VOLCANICS	AS ABOVE (NOT SHEARED) 3-4% Py DISSEM. AND QTZ CHL. STRINGERS.	
								NOTE: Sample # 90A112R-001 not collected		

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy 1
Area (Grid): N of Baseline
Collectors: R. Honsinger

Results Plotted By:
Map: 1:5000 Base NTS: 104B/10,11
Date: June 6/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90H112R-004	2070' ELEV, 9+95 N	RHJ16	✓					Ash Tuff?	Abundant blebs of Py on fracture surfaces and as disseminations ~ 5%, Host rock dk grey in color.	
90H112R-005	2075' ELEV, 9+90 N	RHJ17	✓					Ash Tuff?	Bleached, goesbitized, limonitic with abundant blebs and dissemination of Py.	
90H112R-006	2075' ELEV, 9+85 N	RHJ18	✓					Intrusive (Possible Extrusive, Dacite?)	Light greenish grey with 2% Py 5cPy. (Trace Cpy).	
90H112R-007	2075' ELEV, 9+78 N	RHJ19	✓					Silicified Intrusive	Similar to 90H112R-006, but silicified.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JOY
Area (Grid): JOY (NORTH)
Collectors: A. TRAVIS A. KAPLAN

Results Plotted By:
Map: NTS: 104 B 10 & 11
Date: JUNE 9/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90T112R-008	3100E/6410N		✓					SILICIFIED TUFF	FINE GRAINED, SLIGHTLY GOSSANOUS, IN PLACES BRECCIATED WITH UP TO 1% PY +/-PO, FORMS CLIFF FACE AT 290/85N CLOSE TO CONTACT WITH MONZODIORITE INTRUSIVE.	
									NOTE: 90T112R-007 NOT COLLECTED	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JOY

Area (Grid): S.

Collectors: MUIRHEAD

Results Plotted By:

Map: NTS: 104 B/10E 11

Date: JUNE 6 1990 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
10A11ZR-004	S:3100E - 4+00S. NORTH WALL OF GORGE		✓					PORPHYRITIC ANDESITE	WEAK SHEAR IN ANDESITE ≈0.5M WIDE. QTZ/CARB FILL W 5-7% Py BLEBS & DISSEM JR-0.5% Sp.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JOY

Area (Grid): N. (north of B/L)

Collectors: MUIRHEAD/

Results Plotted By:

Map: NTS: 104 B/10&11.

Date: JUNE 9 1990 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90A112-005	GOSSAN CLIFFS		✓					ANDESITE/	BROKEN (MILD SHEAR) RUSTY ANDESITE.	*
	≈600 M. N. OF B.L.							DACITE	3% DISS Py + LARGE BLEBS Py/QTZ	
	ELEV. ≈ 3400'-3500'								≈ 3% + [illegible] IN SUGAR ZONE	
90A112-00[illegible]	"		✓					ANDESITE	BRECCIATED - REHEALED w/ QTZ/CARB.	
									1-2% DISS Py POSS. TR. Sp	
									HYDROZINCITE ?	
								* [illegible]	[illegible] ZONE APPROX 0.5m WIDE	
								[illegible]	[illegible] OVER ≈ 3m EXPOSURE LENGTH	
								[illegible]	[illegible] ZONE CUT OFF @ S END.	
								[illegible]	COVER @ N.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy 1
Area (Grid): E (of the Verrett River)
Collectors: R. Honsinger

Results Plotted By:
Map: 1:5000 Base NTS: 104 B/10, 11
Date: June 10th/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH): GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
904112-005	2140' elevation on S side of major creek 130m due south from Joy 1 N claim line	RHJ-30	✓					Silicified Tuff	Sheared appearance, remnant lapilli frags 2% py, [illegible] cpy, 8% angular mafic frags. Hematite and CaCO3 fracture surface coatings	
904112-009	Between sample #'s 007 & 006 (2100' level contour, 9+80N)		✓					Shear	15cm wide shear zone, gougy, heavily oxidized, leached, vuggy, [illegible] py and gouged, powdered. N.B. Ungouged portions silicified	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: 704 112
Area (Grid): S. (South of B/L)
Collectors: C Lutynski

Results Plotted By: _____
Map: _____ NTS: 104 B/10E, 11.
Date: 10.06.90 Surface ✓ Underground ___

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH)					ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
			GRAB	CHIP	CHANNEL	CORE	FLOAT			
704112R-016	Elev 1030 feet		✓					Dacite(?)	Rock is alterated in the sheared zone, wall rock	
	~ m S from B.L.								little magnetic, Pyrite-5%	
	N side of the creek									
704112R-017	Elev 1025 feet		✓					Mafic volc/Ash	Rock alterated, some epidot, pyrite up to	
	~ m S from B.L.							tuff	2 10% not magnetic	
	N side of the creek									
704112R-018	Elev. 1020 feet		✓					Dacite(?)	Rock not alterated. Pyrite 10-15%	
	~ m S from B.L.								Not magnetic, Pyroxene, Hornblende, maybe	
	N side of the creek								minerals, well developed	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: 112 Joy

Area (Grid):

Collectors: P. Lutyański

Results Plotted By:

Map: NTS: 104 B/10,11

Date: June 11th 90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90L112 R-019	Elev. 1560 Feet		✓					Porphyry.	Porphyry type rock with feldspat phenocrysts.	
	10+75E B.L.								tr. Pyrite ≤3% disseminated.	
90L112 R-020	Elev. 1900 Feet		✓					Limestone	Limestone v. poorly mineralized ≪1% pyrite	
	0+70N from 12+50E B.L.							+ Tuff.	+ tuff. (pumice) Ech serpentinized and sericitized.	
90L112 R-021	Elev. 2050 Feet		✓					Breccia.	Breccia/sharn. (?). Abundant carbonate	
	0+20N from 13+25E B.L.								Pyrite up to 20%, probably also pyrrhotite	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy

Area (Grid):

Collectors: [illegible]

Results Plotted By:

Map: NTS: 104 B/10, 11

Date: 12.06.90   Surface ✓   Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
YCL 112 R-022	13175E (North BL) @ 0+50N		✓					Tuff (Breccia)	Ash tuff with [illegible] magnetite mineralization, carbonates, epidote.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: 112 Joy

Area (Grid):

Collectors: C. Kuiyoshi

Results Plotted By:

Map: NTS: 104 B/10,11

Date: 13.06.90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90L112C023	Elev 2980 Feet 7+25E (middle BL) 0+45N, N side of the creek			1m				Monzodiorite	Altered rock with a shear zone running through the rock (zone). Rock is reddish brown (gossan type(?)) No mineralization was seen.	
90L112C024	Elev 3510 Feet Across the creek running S of the helipad ~2750m (N of middle BL)			10m				G.F. Porphyry(?)	Strongly silicified rock, yellowish in colour. No mineralization was seen, strongly fractured.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JCY - 112
Area (Grid):
Collectors: P. Lutynski, A. Kaplan, S. Sheffield & Harris

Results Plotted By:
Map: NTS: 104 B/10 & 11
Date: July 27th/90 Surface 4 Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
JCLH2C 025	~21+02E, ~9+22S			1m				Skarn	from S-N: 30cm of bleached sulfides (~20-30%) in altered rock, 20cm of semi massive ~30% of pyrrhotite, 50cm of Altered ash tuff (<5% sulfides (pyrrhotite)	
JCLH2C 026	~21+00E, ~9+20S			1m				Altered ash tuff (?)	Rock appears to be locally chloritized with <15% pyrrhotite mineralization.	
JCLH2C 027	~21+00E, ~9+21S			1m				Altered ash tuff (?)	Rock appears to be strongly chloritized Rock contains 20-30% pyrrhotite mineralization seems to follow altitude 240/80°NW	
JCLH2C 028	~21+00E, ~9+22S			1m				Altered ash tuff (?)	Rock appears to be strongly chloritized and oxidized on joint surfaces. At the contact with sample C-029, ~20cm wide breccia zone with a altitude 252/70°N	
JCLH2C 029	~21+00E, ~9+23S			1m				Monzodiorite	Rock appears to be more greenish on the north side (contact with sample C-028) Contact with sample C-027 has an altitude 252/70°N	
JCLH2C 030	~21+00E, ~9+24S			1m				Monzodiorite	Almost fresh monzodiorite	
JCLH2C 031	~20+95E, ~9+15S			1m				LIMESTONE	Hanging wall? JOINTED 236/85 NW, FIRST 10cm (near mineralized pod) consists of goss. pyrrhotite + pyrite ~25% trace Cpy, ZnS	
JCLH2C 032	~20+96E, ~9+15S			1m				LIMESTONE SKARN	MINERALIZED POD (MAX 1m WIDE 2m long?) with ~25% pyrrhotite + pyrite (Po>Py), trace Cpy, ZnS? VERY IRREGULAR, DISCONTINUOUS, PREVIOUS SAMPLE 90TH ROCK (.327 opt)	
JCLH2C 033	~20+97E, ~9+15S			1m				Monzodiorite	Footwall? WELL JOINTED, SLIGHTLY GOSSANOUS Towards mineralized pod with trace sulphides, lightly bleached, above sample goss. irregular fractures	
JCLH2C 034	~20+99E, 9+15S			1m				LIMESTONE SKARN	CHIP ACROSS MIN'D POD + JOINT PLANE (CUTTING POD) Pyrrhotite + Pyrite ~25%, TRACE Cpy, ZnS? DARK GREEN COLOUR.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy · 112

Area (Grid):

Collectors: P. [illegible] / A. TRAVIS

Results Plotted By:

Map: NTS: 104B/10 & 11

Date: July 27th/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
JC112 CE35	~21+00E, 8+85S			1m				Monzodiorite – Limestone (contact zone)	Sample taken from 1m wide zone of a contact of Monzodiorite & Limestone Rock. within the zone appears to be altered, well jointed. No mineralization was seen	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy
Area (Grid): DETAILED (AU/Qtz VEINS)
Collectors: TRAVIS

Results Plotted By:
Map: NTS: 104 B/10 & 11
Date: SEPT 3/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
								Qtz VEIN	10 cm qtz vein, off-white with no visible	
90T112C-034	9+65N / 15+15E			1.0m				IN TUFF	Sulphides, green tuff agglomerate wallrock	
								Agglomerate	4m South from cpy/malachite noted in vein selvage	
								Qtz VEIN	chip includes 9 cm qtz vein, 20/44SE	
C-035	9+52N / 15+13E			0.7m				IN TUFF	same vein as sampled in C-034, no	
								Agglomerate	sulphides noted, wallrock green agglomerate	
								SHEAR	Quartz/Carbonate Veining in Shear Zone	
R-036	9+45N / 15+10E		✓					IN TUFF	(~20 cm wide?) 342/30NE, 1-3% Pyrite	
								Agglomerate	strongly chloritized	
								Qtz VEIN	includes 11cm qtz vein 210/82E, wall	
C-037	10+10N / 14+93E			1.0m				IN TUFF	rock inside quartz vein heavily	
								Agglomerate	chloritized, no sulphides noted	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy
Area (Grid): South
Collectors: TRAVIS / BARKER / M'TAGGE

Results Plotted By:
Map: NTS: 104 B/10+11
Date: SEPT 10/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
	1090E / 7+355								aplite with trace - 1% pyrite, located	
90TI2B-038	(DETAILED GRID AROUND 1100E / 7+50S)		✓					APLITE	on cliff face, occasional muscovite, slightly gossanous along fractures	
	1100E / 9+625S							ALT'd	brecciated?, fractured, pyrite ~1%	
R-039	(DETAILED GRID AROUND 1100E / 9+50S)		✓					SILTSTONE	gossanous, hard to get fresh surface	
	275m upstream of creek								pyrite rich (~5-7%) along fractures + disseminated	
R-041	junction, ~100m downstream of 1100E / 7+00S	SIMS					✓	MONZONITE	0.3cm laths of hornblende, orthoclase up to 1cm located in creek bed	

NOTE: NO R-040 because it was previously taken out of sequence. (July 27/90)

KEEWATIN E' INEERING INC.

ROCK SAMPLES

Project: JOY.
Area (Grid): Q.V. DETAIL.
Collectors: MUIRHEAD/GESZLER.

Results Plotted By:
Map: NTS: 104 B/10, 11
Date: SEPT 3/1990 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90AII2 C-040	10+01N / 15+17E			0.6m				q.v. T/Aggl.	CHIP INCLUDES 9cm HEM. STAINED q.v. Ch1 + 1-3% Py IN MOD PROPYL T/Aggl.	
90AII2 C-041	13+99E / 10+02N			1m				"	INCLUDES 2 (SPLAYS) 5 cm q.v.s 2% Py + 2.5cm Py/Po IN WALL ROCK. OF PATCHY PROPYL T/Aggl.	
90AII2 R-042	9+78N / 13+56E		✓					Xtal T q.v.	COMPOSITE GRAB OF 3m X 3m GOSSENOUS ZONE AROUND q.v. (WALL EXPOSURE.) 5cm q.v. + 5cm WALL ROCK 3-5% Py.	
~~90AII2 C-043~~ 90AII2 C-043	9+99N / 13+07E			1m				T/Aggl q.v.	CHIP INCLUDE 7cm. q.v. 3-5% COARSE Py IN MOD PROPYL. T/Agglom.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy
Area (Grid):
Collectors: TRAVIS

Results Plotted By:
Map: NTS: 104B/10 #1
Date: July 27/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
			✓					HEAVILY	STRONG SHEAR TRENDS ~N-S up creek,	
90T112R-040								SHEARED	on eastern bank of creek, shear	
								LIMESTONE	traced for ~30m difficult to tell exact width ~2m?	
									trace sulphides? very sheared/hard to	
									distinguish mineralogy, clay altn.	
									NOTE: SAMPLE IS OUT OF SEQUENCE	
									LAST SAMPLE TAKEN 90T112R-008	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy

Area (Grid): L1

Collectors: MUCKERD

Results Plotted By:

Map: _____ NTS: 104 B/10 E/11

Date: AUG 1/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90AUG-007	L 12+00E/ 2+50N.	—					✓	ALT'D AND/T	PROPYLITIC ANDESITE X'tal TUFF LARGE ANGULAR BOULDER. TR-1% PY/PO TO 3% ±1% CPY MAL	
90AUG-008	AT OLD SAMPLE ## BDK-034 ± 11+70E/ N			2m				AND T	2m CHIP ACROSS FE/CARB ALT'D SHEAR WITH A FEW MINOR ±1cm Q.V.'s. 2-3% PY SHEAR TRENDS ±260°.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy
Area (Grid):
Collectors: TRAVIS

Results Plotted By:
Map: NTS: 104 B/ 10 + 11
Date: August 1/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90T112C-cut	~ 11+75E 2+40N			1.0m				Monzodiorite	Chip across 1m, PREVIOUS SAMPLES 87BKR-11 AND 88BJR-005, gossanous fractured monzodiorite, can be only traced for ~5m zone seems to trend ~90°, 3-5% PYRITE (silvery coloured) traced Chalcopyrite?	
R-010	DETAILED GRID (OFF N.B.L) 29+53E 2+95S		✓					ALTERED TUFF	PALE GREEN/GREY, HORNBLENDE PORPHYRITIC, POSSIBLE INTRUSION? PYRITE ALONG FRACTURES (3-5%)	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy 112
Area (Grid): BL 0+00 /18+2 E
Collectors: B. Honsinger D. Barker

Results Plotted By:
Map: 1:5000 Base NTS: 104B/10 & 11
Date: Aug 2/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90H112C-010	BL 0+00 / 18+20 E	/		0.5				Gossan	Heavily bleached / oxidized locally silic. gossanous vn. Heavily fractured / friable < 1% Py.	

KEEWATIN ENGINEERING INC.
ROCK SAMPLES

Project: Joy -112
Area (Grid):
Collectors: P. Lutyasker

Results Plotted By:
Map: NTS: 104B/10+11
Date: August 2nd, 1990 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90LN2R-036	0+50N / 0+03E		✓					F.porphyry (?).	White yellowish rock with veinlets on hematite, up to 2mm wide & 10cm long. Hematite occurs in small outcrop 1m × 0.7m within F.porphyry yellowish/brown rock without mineralization.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy - 112 Results Plotted By:

Area (Grid): Map: NTS: 104B/10d11

Collectors: D. Lutynski Date: Aug. 3rd./90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH)					ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
			GRAB	CHIP	CHANNEL	CORE	FLOAT			
JOL112R-037	14+00 E / 1+00N Sample taken from wall rock and bed of the small creek.		✓					Monzodiorite	Rock appears to be oxidized on the surface. Strongly silicified. Sample was taken from contact zone of Monzodiorite and mafic volcanic. No mineralization was seen. Contact appears to have an attitude 222/68°SE	
JOL112R-038	14+10 E / 2+25 E Sample taken from the bed of the creek.		✓					Cornanous rock.	Cornanous rock occurs as tuffaceous type of rock. No mineralization was seen, but rock is strongly oxidized and bleached what indicates presence of sulfides Cornan up to 0,5 m wide and appears to have an attitude 237/70NW	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: 104I
Area (Grid): E
Collectors: MURPHEAD

Results Plotted By:
Map: NTS: 104 B/10 & 11
Date: Aug 3/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90AHZR-009	± 13+10 E/ 10+10 N	R-AHZ-9	✓				✓	Q.V.	10-15 cm WIDE Q.V. IN LARGE ANGULAR BLDR. VEIN WALLS 1cm. THICK CPY/PY 2 MAL 2 CHALCOCITE. APPROX. 15% OF VEIN. BLEB ± 1-2mm V. Gold IN QTZ. IN 200m X 200m AREA OF Q.V. SWARMS.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy
Area (Grid): South east area
Collectors: P. Lutinski

Results Plotted By:
Map: NTS: 104 B/10&11
Date: 20 08 1990 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90LKR-064	Elev. 2300 Feet, ~7+25S		✓					Limestone.	Limestone ~10m wide min. 15m high. On both sides fine (ash & lapilli) Tuff (greenish). Both contacts covered by overburden but rock close to the contacts (tuffaceous rock) contains <4% diss pyrite. Joints in LST (could be bedding) 206/48°E	
90LKR-065	Elev 2100 Feet. ~7+75S		✓					Tuff	a. Tuff 'Lapilli Tuff. Strongly silicified and oxidized on the joint surfaces as well as within matrix (brownish). Silicified brownish tuff appears to be ~12m wide and ~15m high. Dissem pyrite <1%.	
90LKR-066	Elev. 2602 Feet, 9+25S		✓					Tuff.	Sample taken from the contact area of Tuffaceous rock (a. Tuff) and Monzodiorite (Exact contact is coverd by the overburden). Tuff appears to be mineralized with pyrite <1% (disseminated) A main joint system 230°/78°SE	
	Samples 62 & 63 [illegible]									

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Jov
Area (Grid): North (mid central) area
Collectors: T. Lutynski

Results Plotted By:
Map: NTS: 104B/10E11
Date: Aug 30th, 1990 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90LH2R-067	2608 Feet / 8+87.5N		✓					Tuff. (Andesite)	silicified a. Tuff. contact zone with diorite). Attitude of joints 269/64°S mm. width 2m max height 7m. Dissem. pyrite. <2% also pyrite in the fractures.	
90LH2R 068	2608 Feet / 8+66 N		✓					Monzodiorite(?)	Rock appears to be siliceous. Mm. 0.7m width, 0.5m high covered by overburden, oxidized on the surface. Disseminated pyrite <3%	
90LH2R-069	2593 Feet / 8+87N		✓					Tuff. (Andesite)	siliceous Tuff. (contact zone with diorite). Dissem pyrite <2% also pyrite in the fractures. Mx width ~2m mm height of the zone. 7m.	
90LH2R-070	2630 Feet / 8+94N		✓					Diorite(?) (or andesite)	Attitude of major joint system 120/50°N Dissem pyrite <2-4% pyrite in the fractures 1-2%	
90LH2R-071	2110 Feet / 9+65N		✓					Crystal/lithic Tuff (Andesite)	Main joint attitude 223/42 SE Dissem. v fine pyrite (or arsenopyrite). Mineralization also on joint surfaces.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy 112

Area (Grid): 1+00S / 18+25E

Collectors: R. Hoersinger, D. Barker

Results Plotted By:

Map: 1:5000 Base NTS: 104 B/10, 11

Date: Aug 3, 1990 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90H112C-011	1+00S / 18+25E (approx)			2.5m				Gossan	Heavily oxidized, silicified, locally qtz flooded. No visible sulphides. Shear related (094/65S)	
90H112C-012	0+97S / 18+25E (approx)			1m				Gossan Host Rx, Feldspar Porphyry	Feldspar Porphyry w plag phenos up to 4mm set in dk grey fg groundmass w scattered hornblende x-tals. Scattered 2% Py as <1mm blebs. Not altered.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JOY
Area (Grid):
Collectors: TRAVIS

Results Plotted By:
Map: NTS: 104B/10 & 11
Date: Aug 3/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH)					ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
			GRAB	CHIP	CHANNEL	CORE	FLOAT			
	25m @ 295° FROM							TUFF	ONE 7.6cm and ONE 12.7 cm quartz vein	
90TIINC-011	16+00 E 9+50m			1.0M				Agglomerate	trend ~10° DIPS 50-90° NW, SAMPLED ACROSS	
									BOTH WALL ROCK FOR TOTAL 1.0M. VEINS have	
									malachite staining, ±3% Chalcopyrite, 1-3%	
									pyrite, wallrock consists of crystal tuffs	
									and tuff agglomerate with trace	
									to 1% pyrite and chalcopyrite,	
									epidotized	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JOY
Area (Grid): SOUTH
Collectors: TRAVIS

Results Plotted By:
Map: NTS: 104 B/10 & 11
Date: Aug 4/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
	N10m WEST OF								FRACTURED, GOSSANOUS, PATCHY FOR	
90T112R-001	L 16000E / 7175S		✓					Monzodiorite	~5m, CARBONATE + EPIDOTE VEINLETS	
									WITH UP TO 3% PYRITE	
									NOTE: SAMPLE # OUT OF SEQUENCE	
									LAST SAMPLE TAKEN 90T112C-011	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy 1/2
Area (Grid): S of 0+00 B.L.
Collectors: R. Honsinger

Results Plotted By:
Map: 1:5000 NTS: 104 B/10,11
Date: Aug 5 / 90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90HH2C-013	0+70N / 21+87E			1.8m				Alt'd Monzo-diorite	Ahd, chl, ep, silic alt monzodiorite (?) w/ cal ff + blebs <1% Py. Weathers Tan brown. Sh 1.8 m wide	
90HH2C-014	2+00S / 21+50E			1.0m				Bleached Volc	Bleached silicified (cherty), locally gossanous "plus" volcanic. Local 2% Py. FeOx, Mn ff. Monzodiorite host. Zone 25x25 m wide.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy 112
Area (Grid): B.L. EAST
Collectors: B. HONSINGER

Results Plotted By:
Map: 1:5000 BASE NTS: 104 B/10 & 11
Date: Aug 6/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90H112R-015	~1+50N/23+50E		✓					SHEARED QUARTZ-DIORITE	Select grab of shrd. silicified mafic dyke w/ a 2.5 cm wide 95% Py, 5% qtz vein. Overall 20% Py, 2% magnetite, vein 065/42W	
90H112C-016	3+28N/24+00E			1M				SILICIFIED ASH TUFF / SAT (?)	silicified ash tuff / lith x-cut by boudinaged stockworked 1-3mm wide qtz veins. 1-2% Py	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy - 112
Area (Grid):
Collectors: P. Lutynski

Results Plotted By:
Map: NTS: 104B/10W11
Date: Aug. 6th/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90LI12C-039				0,8m				Qtz vein	Qtz v. ~10 cm wide, malachite mineralization in 15cm wide	
wrong no. in the									zone on both sides of qtz v. Sample taken across qtz v. malachite	
field C-037									zone & wall rock. (Tuff)	
90LI12C-040				0,8m				Qtz. vein	Qtz v. ~10 cm wide, malachite mineralization 15 to 40 cm	
wrong no in the									wide zone on both sides of qtz v. Sample taken across qtz v.	
field C-038									with semi massive Pyrite <25%, malachite zone & wall rock Tuff.	
90LI12C-041				1,2m				Qtz. vein	Qtz. v ~10 cm wide & 15cm wide. Sample taken across two	
wrong no. in the									shears with qtz and malachite mineralization + wall rock.	
field C-039									for 20 cm on both sides. and 10cm in the middle of the shears	
90LI12C-042				0,8m				Qtz. vein	Qtz v. ~10 cm wide with pyrite < 5%, malachite < 2% (?)	
wrong no in the									rock is strongly sheared in 0,5m wide zone. Sample	
field C-040									taken from shearal zone + wall rock on both sides (Tuff).	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy
Area (Grid): SOUTH
Collectors: TRAVIS

Results Plotted By: _____
Map: _____ NTS: 104 B/10 & 11
Date: August 7/90 Surface ✓ Underground ___

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
	~3400' IN CREEK							SHEARED	Intensely sheared with 0.5cm gossanous	
90TI12C-012	100m WEST OF			1.4m				Intrusive	fractures that have quartz infilling, shear	
	L 12100E / 5100S								trends 206° DIPS 52°N (87 BSR 44 5m above)	
	~3400' IN CREEK							Alt'd	Quartz Veins (~<5cm) trend ~N-S, sheared but	
C-013	100m WEST OF			1.0m				Intrusive	not as intense as in sample C-012, chipped	
	L 12100 E/5100S								across veins (~E-W), intense propylitic alt'n	
	~3300' IN CREEK							Alt'd	FLOAT SAMPLE FROM TALUS COMING FROM	
R-014	~125m WEST OF						✓	GRANODIORITE	NORTHERN CLIFFS, 3-5% PYRITE PRINCIPALLY ALONG	
	L 12100E / 4700S								FRACTURES, TR-1% ASPY	
	~3100' IN NORTHERN CREEK							Alt'd	3-5% PYRITE, TRACE CHALCOPYRITE, SPHALERITE?	
R-015	~200m WEST OF		✓					Volcanic	IN A QUARTZ FLOODED INTENSELY ALT'D	
	L 12100E / 4100S								FINE-GRAINED GREEN VOLCANIC, TRENDS 060°?	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy - 112
Area (Grid): South
Collectors: P. Lutynski

Results Plotted By:
Map: NTS: 104B/10011
Date: Aug 7th/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90L112R-043	8+755 12+35E		✓					Tuff(?)	V. well bedded rock. (220°/66NW), soft black with <8% of mica (muscovite ?), Min. width .25 cm max width 1m, min length 1m. No mineralization.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JOY
Area (Grid): E (DETAIL)
Collectors: MUIRHEAD / MALO.

Results Plotted By:
Map: NTS: 104 B/10 & 11
Date: AUG 14 1990 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90A112 C-010	15+36E / 10+08N			✓ 1m				Q.V. in T-CONGL	1m CHIP INCLUDING 8cm q.v. w 3-4% BLEB Py ≤1% Cpy ± Mal. STAIN - HEMATITIC.	SAME VEIN
90A112 C-011	15+34E / 10+04N			✓ 1m				"	1m CHIP INCLUDES 10cm q.v. 3% BLEB Py, ~~TR~~-1% Cpy	SAME VEIN
90A112 C-012	15+32E / 9+97N			✓ 1m				"	1m CHIP INCLUDES 9cm q.v. 2-3% BLEB Py. ~~&~~ 2-4% Cpy MAINLY IN CHL ± CHALCOCITE IN E-W	SAME VEIN
90A112 C-013	(CONTINUOUS CHIP)			0.5m				T-CONGL	HANGING WALL (~~EAST~~ WEST) XTAL T/CONGL. TR. Py MILDLY PROPYLITIC MAL. STAIN FRACT'S NEAR Q.V.	
90A112 C-014	15+36E / 9+88N CONTINUOUS CHIP (SAME VEIN)			0.2m				q.v.	20 cm q.v. 3-5% Py (LARGE XTALS, BLEBS) 2-3%+ Cpy + Mal, Az POSS CHALCOCITE. + CHL.	
90A112 C-015	(CONTINUOUS CHIP)			0.5m				T-CONGL.	AS C-013 ~~#~~ F-W. (~~W~~EAST.	
90A112 C-016	(CONTINUOUS CHIP)			1m				T-CONGL.	1m. HANGING WALL TUFF CONGL. MILDLY PROPYLITIC. Mal STAIN ± TR Cpy FRACT'S NEAR VEIN.	
90A112 C-017 ~~90A112~~	15+35E / 9+86N CONTINUOUS.			0.2m				q.v.	20 cm Q.V. (HEMATITE RED) 7% BLEB Py 5% Cpy BLEB MAL & Az STAINS.	
90A112 C-018				1m				T-CONGL.	AS C-016 APPROX. 20 cm CHLORITIC (SHEAR) CONTACT ZONE w 8-10% MAL.	
90A112 C-019	15+33E / 9+82N			1m				q.v. / T-CONGL.	MILDLY PROP. T-CONGL 12 cm q.v. SPLIT. 0.5% BLEB Py. 1-2% Py	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy
Area (Grid):
Collectors: TRAVIS

Results Plotted By:
Map: NTS: 104 B 10/11
Date: Aug 14/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90TM2C-016	13+70E/10+23N			0.5M				CRYSTAL TUFF	FOOTWALL? WESTERN SIDE DARK GREEN, FELDSPAR PHENO'S UP TO 3mm NO SIGNIFICANT MIN'N	
-017	AS ABOVE			0.33M				QUARTZ VEIN	WHITE WITH SOME MINOR ORANGE-BROWN, SUBGOSSANOUS FRACTURES	
-018	AS ABOVE			0.5M				CRYSTAL TUFF	Hangingwall, Feldspar up to 2mm, lighter gray than is FOOTWALL, NO SIGNIFICANT MIN'N, TRACE PYRITE	
-019	13+75E/10+38N			0.5M				CRYSTAL TUFF	GRAY/GREEN NO SIGNIFICANT MINERALIZATION NOTED	
-020	AS ABOVE			0.4M				QUARTZ VEIN	Slightly gossanous, trace cpy	
-021	AS ABOVE			0.5M				CRYSTAL TUFF	SIMILAR TO -019	
-022	13+90E/10+55N			1.0M				CRYSTAL TUFF	Chip across 1m includes 10cm semi-gossanous quartz vein, pyrite ~3% in vein, wall rock crystal tuff but some fragments up to 3cm	
-024	14+05E/10+50N			1.0M				CRYSTAL TUFF	1m chip centred on 12cm quartz vein, trace chalcopyrite, slightly gossanous, wall rock dark green/grey crystal tuff	
-025	13+90E/10+22N			1.0M				CRYSTAL TUFF	1m chip includes one 5cm quartz vein and one 8cm quartz vein (same vein just split) Py 3-5% in middle gossanous vein, tuff agglomerate 2m away	
									NOTE: NO SAMPLE #22 AS WAS PREVIOUSLY USED OUT OF ORDER.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy
Area (Grid):
Collectors: TRAVIS

Results Plotted By:
Map: NTS: 104 B/10+11
Date: Aug 14/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90TJ112C-026	13+66E / 10+70N			2.0M				CRYSTAL TUFF	grey/green crystal tuff (propylitically alt'd) malachite stained near vein contact	
-027	AS ABOVE			0.35M				QUARTZ VEIN	slightly gossanous on fractures, trace malachite, trends ~50°	
-028	AS ABOVE			2.0M				CRYSTAL TUFF	SIMILAR TO C-026 NO SIGNIFICANT MIN'N NOTED	
-029	13+40E/10+55N			2.0M				CRYSTAL TUFF	FOOTWALL, PYRITE CUB (EUHEDRAL) up to 0.5cm near vein	
-030	AS ABOVE			0.60M				QUARTZ VEIN	LARGEST WIDTH OF VEIN(S) NO SIGNIFICANT MIN'N NOTED, ~2m AWAY VEIN splits in two are 40cm + 15cm	
-031	AS ABOVE			0.70M				CRYSTAL TUFF	Hangingwall, grey/green crystal tuff, NO significant min'n noted	
-032	14+40E / 10+30N			2.0M				TUFF Agglomerate	Chip includes a 8cm qtz vein, vuggy no significant min'n, hosted in tuff agglomerate bombs up to 15cm	
-033	14+17E / 10+32N			2.0M				CRYSTAL TUFF	INCLUDES TWO VEINS ONE 9cm the other 5cm. 5cm veinlet is gossanous, vuggy, rotten pyrite cubes up to 0.5cm, Tr CPY?	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy
Area (Grid): North area (east side)
Collectors: P Lutynski

Results Plotted By:
Map: NTS: 104B/10W11
Date: Aug 14th /90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90LH2C 043	14+03E /8+85N			1m				Qtz. vein	8cm wide qtz. vein.	
									Chalcop. <6% Malachite.	
									Wall rock crystal tuff.	
90LH2C-044	13+98E /8+85N			1m				Qtz. vein	10 cm wide qtz v.	
									Chalcop. <7%, Malachite.	
									Wall rock crystal tuff.	
90LH2C045	13+95E / 8+90N			1m				Qtz. vein.	6 cm wide qtz vein.	
									No mineralization.	
									Wall rock - tuff agglomerate	
90LH2C-046	14+08E / 8+80N			1m				Qtz. vein	10 cm wide qtz vein (same as 90LH2C-043)	
									Chalcop. <5%, Malachite	
									Wall rock Tuff agglomerate.	
90LH2C-047	14+18E /8+84N			1m				Qtz. vein.	3-6 cm wide qtz vein	
									Chalcop < 3%, malachite.	
									Wall rock tuff agglomerate	
90LH2C-048	14+22E /8+90N			1m				Qtz. vein	5-10 cm wide qtz v.	
									Malachite, Chalcopyrite <3%	
									Crystal tuff - wall rock.	
90LH2C-049	14+54E /9+05N			1m				Tuff agglomerate	Crystal Tuff. (E side of the vein).	
									15 cm along the qtz vein wall rock contain <1% malachite	
90LH2C-050	14+53E /9+05N			15cm				Qtz vein	15 cm wide qtz vein.	
									Chalcopyrite <8%, Malachite > Azurite	
90LH2C-051	14+54E /9+05N			1m				Tuff agglomerate	Crystal tuff. (west side of the vein)	
									7cm along the qtz vein wall rock contain <<1% malachite	
90LH2C-052	14+52E /9+05N			1m				Qtz. vein.	8 cm wide qtz vein.	
									Chalcopyrite <7%, Malachite	
									Wall rock crystal tuff	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Joy
Area (Grid):
Collectors: P. Lutynski

Results Plotted By:
Map: NTS: 104 B/10+11
Date: Aug. 14th/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90L112C-053	13+61E 8+91 N			1m				Qtz. vein	8-9 cm white quartz vein Pyrite in cubes < 4% wall rock - ash tuff / Lapilli tuff	
90L112C-054	13+60E / 8+86N			1m				Qtz. vein.	10 cm wide qtz vein. No mineralization. wall rock - crystal (ash) tuff	
90L112C-055	13+48E / 8+71N			1m				Qtz. vein.	8 cm wide qtz vein Pyrite in cubes < 4% no mineralization Wall rock - tuff agglomerate	
90L112C-056	13+33E / 8+83N			1m				Qtz. vein	9 cm wide qtz vein Pyrite < 5% in cubes tuff agglomerate - wall rock.	
90L112C-057	13+32E / 8+83N			1m				Qtz. vein	9 cm wide qtz vein Pyrite < 4% in cubes Wall rock Tuff Agglomerate.	
90L112C-058	13+41E / 8+92N			1m				Qtz vein	8 cm wide qtz vein. Pyrite < 4% in cubes Wall rock - crystal tuff	
90L112C 059	13+24E / 8+80N			1.m				Qtz. vein.	9 cm wide qtz vein. Pyrite < 2% in cubes. wall rock - tuff agglomerate	

KEEWATIN ENGINEERING INC.
ROCK SAMPLES

Project: 301
Area (Grid): E
Collectors: MUIRHEAD (KAPLAN)

Results Plotted By:
Map: NTS: 104 B/10, 11
Date: 17/08/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90A112	≈ 13+00E/15+00N			0.75m				~~Alt'd~~	75cm CHIP ACROSS 40cm MOD. SHR	
C-020								~~And.~~	Py RICH SILIC ZONE	
								MDi	3-5% Py + POSS TR Cpy 4/70°	
90A112	≈ 13+00E/15+05N.		✓					ALT'D	ALT'D (CHL + SILIC) AND? WITHIN	
B-021								AND.	MDi: 5-7% Py DISS. POSS TR Cpy	
									DK GREEN c̄ BLEACHED PATCHES.	
90A112	13+25E/15+20N		✓					ALT'D	BLEACHED SILIC/STRNG ZONE @	
B-022	(30m @ 285° FROM							And?	CONTACT w/ MDi Bx'd TO 15%	
	DETAIL 29+50E/3+00S)								SUBH DISS'N Py.	
90A112	14+40N/14+75W			0.5m.				ALT'D	0.5m CHIP ACROSS FRACTURE/ZONE	
C-023	BEST CANDIDATE							And	ROCK IS POSS XENOLITH IN MDi	
	90A112B-C07 ORIGIN								1 QTZ STRNG ≈ 1cm BLEBS Py	
									TO 5% TR Cpy ± Mal STAIN.	
									ZONE ≈ 0.5m X PATCH, DISCONT	
									8m.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JC/

Area (Grid): E.

Collectors: MURHEAD / McTAGUE.

Results Plotted By:

Map: _____ NTS: 104 B/10,11 /

Date: 18/08/90. Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90AH2 R-024	17+15E / 9+45N						✓	Q.V. (PLT'D And.)	0.4m DIAM X 15cm THICK BLDR SOMEWHAT ROUNDED (DISTAL) 5-15% Py DISS & BLEB	
90AH2 C-025	18+30E/5+25N.			0.5m				T/ Q.V.	0.5 m CHIP ACROSS LIGHT GREY GREEN SILIC TUFF. W 5cm q.v. (046°/23°S.E) TO 10% Py	
90AH2 C-026	18+35E/5+24N			0.5m.				"	AS ABOVE q.v. @ 034°/65°S.E 15cm SWELL VN AVG 6-8cm. THESE TWO SAMPLES ARE RECHECK OF BGR-015	
90AH2 R-027	17+65E / 4+20N		✓					SILIC T	COMPOSITE REP GRAB. ≈ 30X-40m Bx/WK SHR ZONE INTENSE SILIC ALTN - LIGHT WEATHERING, GREY TO GREEN FINE TUFF MANY FINE FRACT'S Py + V FINE DISS Py + VNLTS & BLEBS. AVG 2-3% Py NUMEROUS 0.5-2cm RUSTY q.v.'s	
90AH2 R-028	17+65E / 4+40N.		✓					"	AS ABOVE HIGH GRADE / Py VNLTS & BLEBS TO 10-15%.	
90AH2 R-029	20+20 E/0+95N.						✓	ALT'D And.	PROPYLITIC AND ANGULAR BLDR ZONES TO 30% Py	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JOY
Area (Grid):
Collectors: RP + V.M.

Results Plotted By:
Map: NTS: 104B/10+11
Date: Aug. 18, 1990 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH)					ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
			GRAB	CHIP	CHANNEL	CORE	FLOAT			
90R112R-001	just below snow, beside runoff ck.		✓					And Tuff + Monzodi	1-3% Py (±Po) f.f. + diss;	
90R112R-002	within the glacier			1.0				Qtz vein + Polylith Lapilli Tuff	1% Py + tr Mal; 7cm qtz vein swells to 12cm	
90R112R-003	within the glacier			1.0				Crystal Tuff + Qtz Veins	<1% Py, tr. CPy + Mal; ≈7 hairline qtz veinlets (up to 2cm wide); most min. in the veinlets	
90R112R-004	beside R-003			1.0				as above	<1% Py, tr CPy + Mal; qtz veinlets (up to 7cm)	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JCY
Area (Grid): E
Collectors: C. INGHAM

Results Plotted By:
Map: NTS: 104B/10,11
Date: 14/08/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90AII2 R-030	19+30E / 3+25N		✓					Alt'd Hod T.	BOUGH GRAB/CHIP OVER 0.6m. INCL 0.4m SHR ZONE. GOSSANOUS W SEVERAL 0.5-1cm QSTRS 35% Py.	
90A 112 R-031	22+37E / 1+58N.		✓					"	LOCAL PATCHY HIGH GRADE Py FRACT'S & VNLTS IN V SILIC And T W QSTRS. ≈ 15-20% Py + Epid.	
90A 112 R-032	22+37E / 1+56N.		✓					"	BLEACHED SILIC & CALCAREOUS ZONE ≈ 2-3% Py W 1cm QTZ/CARB VEIN ≈ 30% SPEC-HEM.	
90A 112 R-033.	22+50E / 2+00N.		✓					"	FRACT'D SILIC AND T. W MANY EPIDOTE STRINGERS 3-4% Py (AVERAGE MIN. FOR AREA OF 3 SAMPLES)	
90A112 C-034	16+35E / 1+70 S			0.3m.				And T	V SILIC And. W 6cm qtz VEIN/SWARM ≤ 1m LONG (SAMPLE 88BGR-028) ≈ 3-5% Py *(NOT WORTH IT)*	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JOY
Area (Grid):
Collectors: RP + VM

Results Plotted By:
Map: NTS: 104B/10 + 11
Date: Aug. 19, 1990 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH)					ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
			GRAB	CHIP	CHANNEL	CORE	FLOAT			
90B112C-005	just above small gulley with snow + run off			1.00				Andesitic Agglom	tr. Cpy, Mal + Az ; shrd + fract	
90B112R-006	west of L16+00E, 7+00N		✓					Calc, Silicified Fract Zone	tr. Po, gossanous ; 2-3 m wide ; carb f.f. + patches	
90B112R-007	edge of the snow gulley		✓					Andesitic Agglom	<1% Py, > tr. Mal, Az + Cpy along f.f. + qtz veinlets ; mion carb + hem f.f.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JOY
Area (Grid):
Collectors: RP & D.B.

Results Plotted By:
Map: NTS: 104B/10 & 11
Date: Aug. 22, 1990 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90R112C-008				1.0				Sheared Volcanic	≤1% Po f.g., dissems; f/w to Au shear; bleached & fract.; minor epidote patches	
90R112C-009	just below previous sample 88BDR-046			0.61				Shear Zone	1-2% f.g., diss. Po & tr. Py; shrd. volcs & qtz lenses	
90R112C-010				1.00				Altered Agglom.	≤1% f.g., diss. Po; h/w to Au shear; not as bleached as f/w; fract.	
90R112C-011	Au shear along strike to east; in creek			0.42				Shear Zone	1-2% f.g., diss. Po; fract. & shrd.; oxidized & most intensely shrd section 5cm wide	
90R112C-012				1.00				Fractured Tuff	1% f.g., diss Po; fract. ash to lapilli tuff + a 15cm Mafic dyke; h/w to shr. zone; minor ep. alt.	
90R112C-013				1.00				Fractured Tuff	≤1% Po f.g., dissems; f/w to the shear; fractured	
90R112R-014			✓					Sheared Tuff	1-3% f.g., dissem Po & ≤1% f.g. diss. Py; oxidized, fractured & sheared; minor ep. alt	
90R112R-015			✓					Feldspar Porphyry	2-4% dissem Po, + f.f.; oxidized; near contact with crystal tuff; minor v. narrow (to 3cm) qtz veinlets & f.f.	

KEEWATIN ENGINEERING INC.
ROCK SAMPLES

Project: Joy 112
Area (Grid): 3100 F soil contour trav (off 6+75 E BL)
Collectors: R. Honsinger, V. Mazo, D. Barker

Results Plotted By:
Map: 1:5000 NTS: 104B10/11
Date: Aug 25/90 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90H112C-017	3100F/6+52 N			1m				Silic slt	Silicified, bleached highly fractured locally gossanous slt to √3% local Py, ½2% overall (mainly as 1mm discontinuous stringers. Fracture zone ~4m wide 2m N of soil anomaly 90K1135-N: 3100F/6+50 N which ran 300ppb Au, 249ppm Cu 22 ppm As.	
90H112R-018	315OF/3+65 N (25m upslope from 3100F/3+75 N soil anomaly)		✓					Silic lap T	Light cream green silic lap Tuff 1% Po, 1% Py, x cut by 1mm wide Py/Qtz/carb veinlets. Rare 1mm blood red hematite blebs.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Tok 112

Area (Grid): 3160F, 11 cotton off B.L.

Collectors: [illegible] Honsinger, D. Baker

Results Plotted By:

Map: 1:5000 Base NTS: 104 B10/11

Date: Aug 26, 1990 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90H112R-019	3040F / 0+94N	90H112R-019						Alt'd Diorite	Propylitically altered diorite, in varying mafic phases, 2-3% Py in alt'd fractures, 1-2% magnetite accessory	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: Fox
Area (Grid): North west
Collectors: [illegible]

Results Plotted By:
Map:
NTS: 104 B/10 & 11
Date: Aug 27th, 1990
Surface: ✓
Underground:

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90L112R-060	10+96 East / 6+65N		✓					Andesite	In dark green aphanitic matrix up to 3mm big euhedral	
	W bank of the creek.							(Epiporphyritic	Feldspar phenocrysts are placed.	
								tuff or flow)	Dissem. Pyrite < 6%, outcrop 1m wide 1m long	
90L112R-061	11+00 East / 6+20N		✓					Andesite	Dark green aphanitic matrix with poorly seen F.	
								(Epiporphyritic	phenocrysts (<15%)	
								tuff or flow)	Diss. pyrite < 4% Outcrop 1m x 1m.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JOY
Area (Grid): [illegible]
Collectors: [illegible]

Results Plotted By:
Map: NTS: 104B/10 & 11
Date: Aug 27/1990 Surface: ✓ Underground:

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90R112 R-035	6m DOWNSLOPE FROM 1600E/13+12.5S		✓					MDi	MEDIUM GRAINED HBLND MDi SLIGHTLY O.P. 1-2% Py/Po DISS. & FRACTURES.	
90R112 R-036	SOUTH CLAIM LINE @ 1950' ELEV		✓					T Ch?	FINE GREY T (Poss Bnd Ch) VERY WELL FRACT'D & JOINTED DISCONT. VNLTS/KNOTS & BLCK Py + 1-2% DISS AVG Py 5-7% + Tr Po BIG GOSSAN CLIFF. 50% JOY 50% IAN.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JOY
Area (Grid): S-
Collectors: MURHEAD.

Results Plotted By:
Map: NTS: 104 B/10,11
Date: 28 AUG 1990 Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90AH2 R-037.	≈7 m UPSLOPE FROM L1600E/5+87.5S.		✓					ALT'D And T.	Chl ALT'D And T w 1.5 cm QTZ + 35% Py FRACT./VEIN.	
90AH2 R-038	≈12 m UPSLOPE FROM L1600E/ 5+62.5S		✓					Di/ Q.V.	4cm q.v. w 5-10% Py + TR Cpy IN ALT'D Di COARSE GRAIN 2-3% Py COARSE DISS.	

KEEWATIN ENGINEERING INC.

ROCK SAMPLES

Project: JOY
Area (Grid): S-
Collectors: MUIRHEAD

Results Plotted By:
Map:
NTS: 104 B/10,11
Date: AUG 29 1990
Surface ✓ Underground

SAMPLE NUMBER	LOCATION NOTES	REP. SAMPLE NUMBER	SAMPLE TYPE (LENGTH) GRAB	CHIP	CHANNEL	CORE	FLOAT	ROCK TYPE	SAMPLE DESCRIPTION	MAP SHEET
90A112 R-039	≈6m UPSLOPE FROM L1600E/1+25S.	112R039	✓?				✓?	Di (POSS. ALT'D XT?).	MED GREEN, MED GRAIN, LIMONITE STAIN 3-5% FINE DISS Py + ≈1% DISS AsPy.	

APPENDIX 5

Geochemical Anomaly Investigations

TABLE 3: Soil Anomaly Investigations		
Location	**Original Result (Duplicate Result)**	**Remarks**
90J3100F/10+25S	11 (1) ppm As	surrounding detailed soil results up to 71 ppm As; area underlain by limestone, downslope of its' contact with lapilli tuffs.
90J3100F/8+75S /8+50S	16 (13) ppm As 551 (682) ppm Pb	detailed soil results up to 61 ppm As and 236 ppm Pb; highest results located beside gully which appears to separate feldspar porphyry from lapilli tuffs
90J3100F/5+75S	5.9 (5.0) ppm Ag	surrounding soil results up to 4.2 ppm Ag; higher results in vicinity of small gully
90J3100F/5+25S	5.3 (5.2) ppm Ag	results up slope up to 2.0 ppm Ag; at/or near lapilli tuff-feldspar porphyry contact
90J3100F/3+25S	4.9 (5.4) ppm Ag	surrounding soils up to 9.7 ppm Ag; nearby outcrop of monzodiorite
90K3100F/1+00N	18 (6) ppm As	surrounding results up to 46 ppm As; higher results beside a creek gully; area underlain by diorite/ monzodiorite
90K3100F/1+75N /1+50N	12 (6) ppm As 14 (1) ppm As	surrounding soils up to 32 ppm As; very marshy area with lapilli tuff and monzodiorite float
90K3100F/2+25N	15 (44) ppm As	surrounding results up to 54 ppm As; marshy area with minor lapilli tuff float
90K3100F/2+75N /3+00N	23 (1) ppm As 22 (32) ppm As	surrounding soils up to 34 ppm As; soil at 3030F/2+75N returned 110 ppb Au; outcrop of lapilli tuff and minor siltstone in swampy area
90K3100F/3+75N	18 (19) ppm As	detailed results up to 39 ppm As; highest results beside gully; outcrop of lapilli tuff upslope
90K3100F/6+50N	300 (12) ppb Au, 249 (305) ppm Cu, 22 (1) ppm As	few surrounding soils up to 75 ppb Au, 513 ppm Cu and 117 ppm As; sample collected at base of cliffs; large exposures of fractured siltstone/ash tuff and lapilli tuff with up to 3% Py and local silicification; rock samples ran 2 ppb Au, 31 ppm Cu and 22 ppm As
90J2600F/9+25S	5.0 (3.7) ppm Ag	surrounding results up to 2.9 ppm Ag; beside contact of ash tuff with monzodiorite; rock sample returned 1.0 ppm Ag
90J2600F/2+50S	13 (21) ppm As	detailed soils up to 100 ppm As; a couple of andesitic outcrops; beside a creek
90Q2600F/8+25N	517 (150) ppm Cu	few other soils up to 170 ppm Cu; near base of cliff; sample of monzodiorite ran 91 ppm Cu

TABLE 3: Soil Anomaly Investigations		
Location	**Original Result (Duplicate Result)**	**Remarks**
90Q2600F/8+75N /9+00N	245 (210) ppm Cu 225 (128) ppm Cu, 23 (10) ppm As	detailed results up to 189 ppm Cu and 45 ppm As; taken near base of cliff; outcrops of siltstone and tuff/monzodiorite(?); 3 rock samples ran up to 96 ppm Cu and 30 ppm As
90J2100F/7+75S /7+25S /7+00S /6+75S	90 (2) ppb Au 210 (283) ppm Cu 377 (41) ppm Cu 108 (118) ppm As	detailed soils up to 348 ppb Au, 336 ppm Cu and 138 ppm As; duplicate result from 7+25S also ran 670 ppb Au and 64 ppm As; area underlain by andesitic tuffs and limestone and cut by gullies; best Au results from the limestone area; sample of limestone ran 2 ppb Au, 37 ppm Cu and 100 ppm As; sample of tuff ran 3 ppb Au, 34 ppm Cu and 48 ppm As
90M2100F/4+00S	11 (107) ppm As	surrounding results up to 65 ppm As; area between 2 gullies; small tuffaceous exposure upslope
90M2100F/2+00S	14 (89) ppm As	detailed soils up to 67 ppm As; area of andesitic tuff outcrops; beside a creek gully
90K2100F/4+75N	4.9 (4.6) ppm Ag	surrounding results up to 5.2 ppm Ag; a number of andesitic tuff outcrops in area
90K2100F/9+50N	4.1 (5.2) ppm Ag	detailed results up to 4.5 ppm Ag; sample from small crystal tuff outcrop ran 1.8 ppm Ag; depression and creek gully nearby
90Q1600F/13+00S	6.1 (2.1) ppm Ag	surrounding soils up to 3.6 ppm Ag; area underlain by monzodiorite; rock sample ran 0.7 ppm Ag; prominent depression nearby
90Q1600F/11+25S	50 (38) ppb Au, 113 (131) ppm As	detailed soils up to 50 ppb Au and 135 ppm As; an exposure of ash tuff and creek in vicinity
90Q1600F/8+25S	50 (4) ppb Au	surrounding soils up to 22 ppb Au; numerous exposures of ash tuff and andesitic tuffs
90Q1600F/6+50S	60 (2) ppb Au	best detailed result is 12 ppb Au; andesitic tuffs nearby
90Q1600F/6+00S /5+75S	4.2 (1.0) ppm Ag 322 (172) ppm Cu	surrounding results up to 3.5 ppm Ag and 162 ppm Cu; below large exposure of andesitic tuff with sample result of 2.1 ppm Ag and 14 ppm Cu; to north are monzodiorites; sample of 4 cm quartz vein in the diorites ran 2.6 ppm Ag and 1,249 ppm Cu

TABLE 3: Soil Anomaly Investigations		
Location	**Original Result (Duplicate Result)**	**Remarks**
90Q1600F/5+25S /5+00S	241 (284) ppm Cu 4.1 (3.0) ppm Ag	detailed soils up to 5.3 ppm Ag and 103 ppm Cu; exposures of altered andesite cut by diorite, monzodiorite and felsite dykes and large creek (fault)
90Q1600F/4+25S	4.7 (1.1) ppm Ag	best detailed result is 4.9 ppm Ag (upslope); exposures of andesitic tuff and monzodiorite nearby; several depressions in area
90Q1600F/3+25S	42 (2) ppb Au	best surrounding result is 4 ppb Au; no outcrops
90Q1600F/1+25S	12 (63) ppm As	highest detailed result is 37 ppm As (downslope); beside large creek and abundant exposures of crystal tuff and andesitic tuff; possible boulder sample ran 52 ppm As
90Q1600F/0+75S /0+50S	4.2 (3.4) ppm Ag 4.6 (4.1) ppm Ag	best detailed result is 7.5 ppm Ag (upslope); several exposures of tuff and lapilli tuff and gullies in the area
90M1600F/1+25N	4.4 (3.4) ppm Ag	highest surrounding result is 2.3 ppm Ag; abundant lithic and crystal tuffs
90M1600F/3+00N	4.0 (3.7) ppm Ag	best detailed result is 4.0 ppm Ag (upslope); abundant crystal tuff exposures
90M1600F/4+25N	120 (5) ppb Au	highest surrounding result is 30 ppb Au (downslope); several outcrops and abundant talus of andesite, crystal and lithic tuff
90M1600F/7+00N /7+25N	283 (235) ppm Cu 4.0 (4.4) ppm Ag	best detailed results are 5.5 ppm Ag (upslope) and 76 ppm Cu (downslope); no outcrop in the area
90M1600F/8+00N	4.0 (3.8) ppm Ag	highest result is 5.2 ppm Ag (upslope); several outcrops of crystal to lithic tuff upslope
90K1100F/9+50S	122 (33) ppb Au	best detailed result is 153 ppb Au; area of contact between feldspar porphyry and sediments; sample of fractured siltstone returned 2 ppb Au
90K1100F/7+50S	5.8 (5.1) ppm Ag	best result is 7.6 ppm Ag (downslope); near creek gully; altered andesitic tuffs downslope; rock sample ran 0.8 ppm Ag
90M1100F/3+75N	230 (293) ppb Au	highest result is 76 ppb Au (downslope); beside depression and exposures of andesitic tuff
90M1100F/6+50N /6+75N	4.4 (4.6) ppm Ag 5.0 (4.6) ppm Ag	surrounding results up to 4.0 ppm Ag; a few exposures of andesite and creek/depressions in area; 2 rock samples returned 1.4 and 2.2 ppm Ag
90M1100F/7+50N /7+75N	4.4 (3.6) ppm Ag 42 (2) ppb Au	highest results are 5 pb Au and 5.9 ppm Ag; exposures of andesite and tuff throughout area

TABLE 3: Soil Anomaly Investigations		
Location	**Original Result (Duplicate Result)**	**Remarks**
90M1100F/13+50N	5.5 (2.7) ppm Ag	highest detailed result is 3.6 ppm Ag; no outcrop in area
90M110F/14+00N	4.8 (5.3) ppm Ag	best surrounding result is 5.0 ppm Ag (downslope); nearby a depression and several andesite outcrops
90LL-S: 14+00E/7+75S	1,280 ppb Au	Not followed up; sample was collected on a terrace near a small pond; ash tuffs in the area
90LL-S: 14+00E/9+25S /9+50S	4.2 ppm Ag 5.1 ppm Ag	Not investigated; exposures of ash to crystal tuff nearby
90T112S-009 (15+90E/8+40S)	6.4 ppm Ag	Not followed up; outcrops of feldspar porphyry in the area

Joy PROJECT

PREVIOUS SOIL ANOMALY (As) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 3100E/10+25S

2) **Previous Value(s):** 11ppm

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 27/90

5) **Investigator(s):** Dave Barker

6) **Description of Previous Sample Collected:**
90J1125-S: 3100E/10+25S
B-horizon 20cm depth good soil development
Colour = medium red brown

7) **Description of New Sample:**
90H1125-S: 3100E/10+25S
B-horizon 25cm depth good soil development
angular fragments in sample
Colour = medium red brown

8) **Description of Topography:**
25°W
Sample was taken in medium wooded mature forest with light under bush.

9) **Results of Investigation.**

Massive cream white lat bordered to the NE by andesitic lap tuffs were found in the area.

10) **Conclusions:**

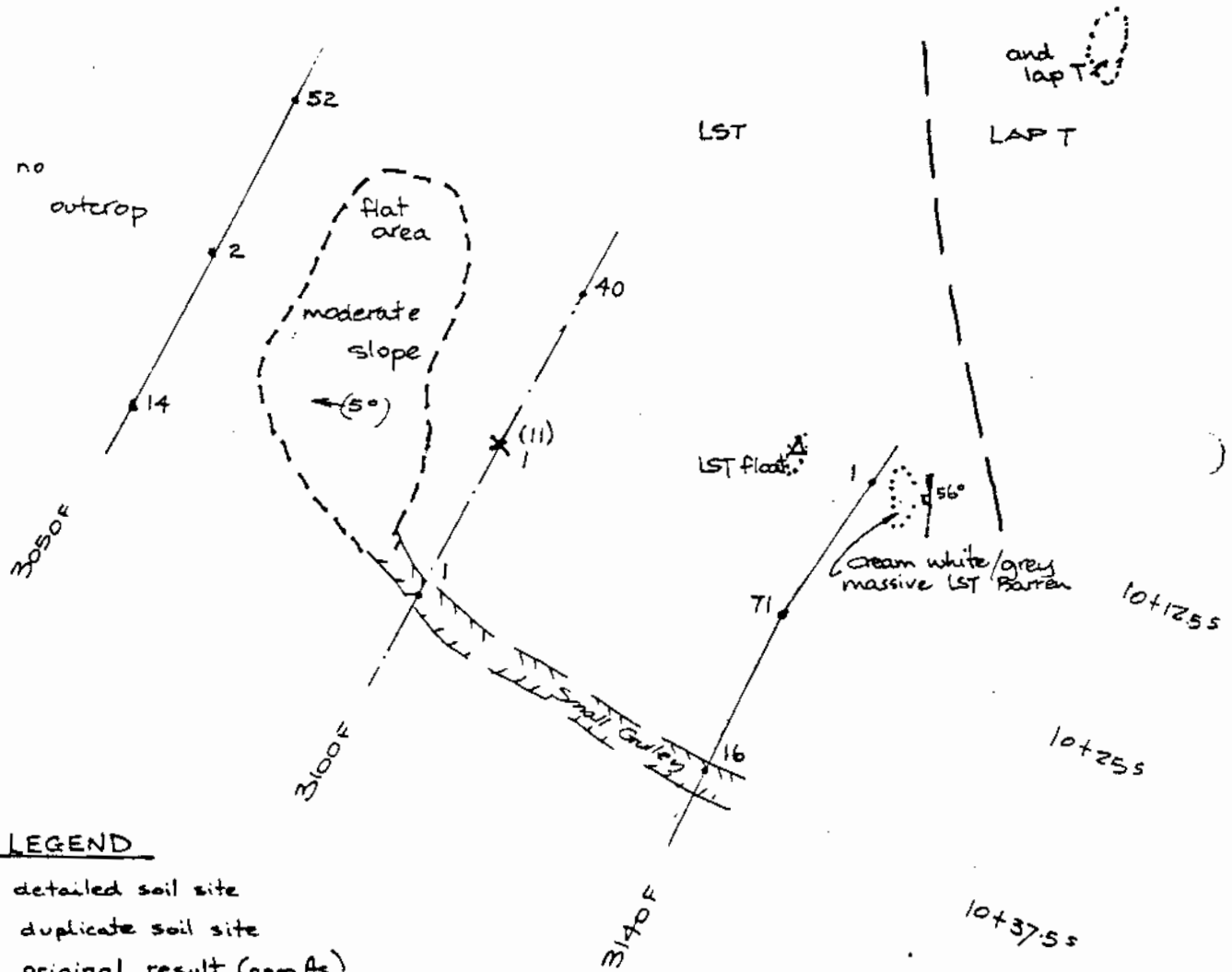
The possibility of intrusives to the NE, apophyses within the lat may have produced minor scarn material enriched in As. (MDc were noted further N 500m in Lap T. @ 5+25N/3100E).

Keewatin Engineering Inc.

JOY PROPERTY

SOIL ANOMALY FOLLOW-UP

PREVIOUS SOIL ANOMALY: 3100E/10+25S
ANOMALOUS VALUE: 11 ppm As
FOLLOW-UP DATE: Aug 27/90 Aug. 27/90
P. HONSINGER, R. GESZLER, D. BARKER



Joy PROJECT

PREVIOUS SOIL ANOMALY (As) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 3100E/8+75S

2) **Previous Value(s):** 16ppm

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 27/90

5) **Investigator(s):** Dave Barker

6) **Description of Previous Sample Collected:**
90J1125-5: 3100E/8+75N
B-horizon 35cm depth good soil development
colour = medium red orange

7) **Description of New Sample:**
90H1125-5: 3100E/8+75N
B-horizon 45cm depth good soil development
angular fragments in sample
colour = medium red orange

8) **Description of Topography:**
20°W
sample was taken in medium wooded, mature forest, light underbush and was mossy with ferns.

9) **Results of Investigation:**

F.P. locally propylitic silicified is found 25m westerly (east) of the anomaly centre.

10) **Conclusions:**

No apparent cause for the As in soil anomaly was determined

Joy PROJECT

PREVIOUS SOIL ANOMALY (Pb) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 3100E/8+50S

2) **Previous Value(s):** 55/ppm

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 27/90

5) **Investigator(s):** Dave Bonder

6) **Description of Previous Sample Collected:**
90J1125-5: 3100E/8+50S
B-horizon 25cm depth good soil development
colour = medium red brown

7) **Description of New Sample:**
90H1125-5: 30cm depth good soil development
B-horizon
angular fragments in sample
colour = medium red brown

8) **Description of Topography:**
20° W slope, moderately to heavily wooded.

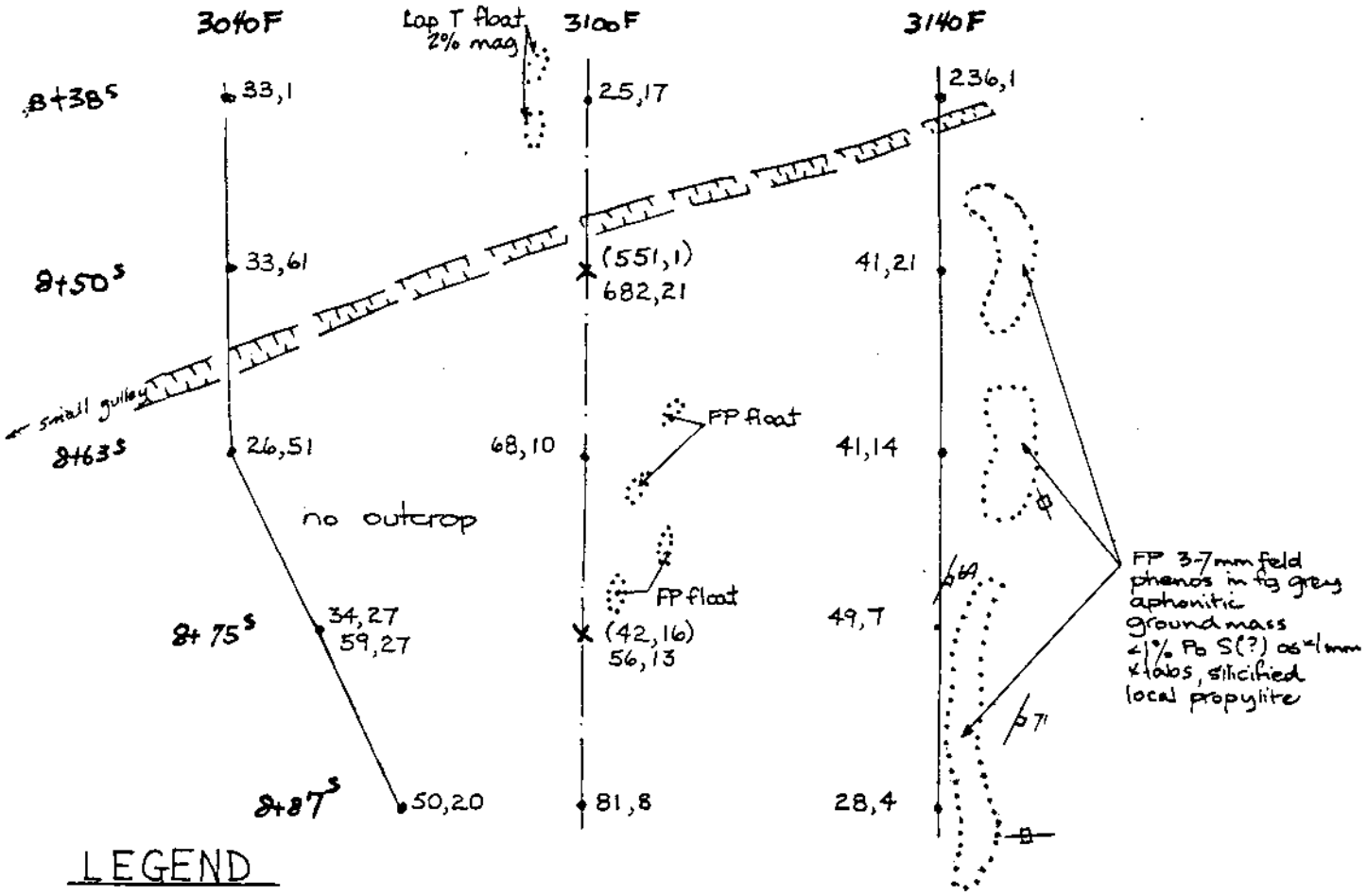
9) **Results of Investigation:**
F.P., silicified and locally recrystallized was found up slope 25m to the east of the anomaly which appears to contain <1% of TR PbS as <1mm sized scattered x-tals.

10) **Conclusions:**
The PbS in F.P. appears responsible for the anomaly. Due to extremely small x-tal size, it could not be determined with certainty if these x-tals were galena (possible Ag).

JOY PROPERTY
SOIL ANOMALY FOLLOW UP

PREVIOUS SOIL ANOMALY: 3100F/8+50S, 8+75S
ANOMALOUS VALUE: 551ppm Pb (8+50S), 16 ppm As (8+75S)
FOLLOW-UP DATE: Aug 27, 1990
R. HONSINGER, R. GESZLER, D. BARKER

Aug. 27/90



LEGEND

- • detailed soil grid
- X duplicate soil site
- (551,1) original result (ppm Pb, As)
- FP feldspar porphyry
- Lap T lapilli tuff

0 5 10 15 20 25 M

1:500

Joy 112 PROJECT

PREVIOUS SOIL ANOMALY (Ag) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 3100E / 5+755

2) **Previous Value(s):** 5.9 ppm Ag

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 27/90

5) **Investigator(s):** Dave Bowker

6) **Description of Previous Sample Collected:**
90J112S-S: 3100E/5+755
B-horizon 30cm depth good soil development
Colour = Light red brown

7) **Description of New Sample:**
90H116S-S: 3100E/5+755
B-horizon 40cm depth good soil development
angular fragments in sample
colour = medium red brown

8) **Description of Topography:**
30°N
sample taken in a medium wooded mature forest with light underbush and was mossy.

9) **Results of Investigation.**

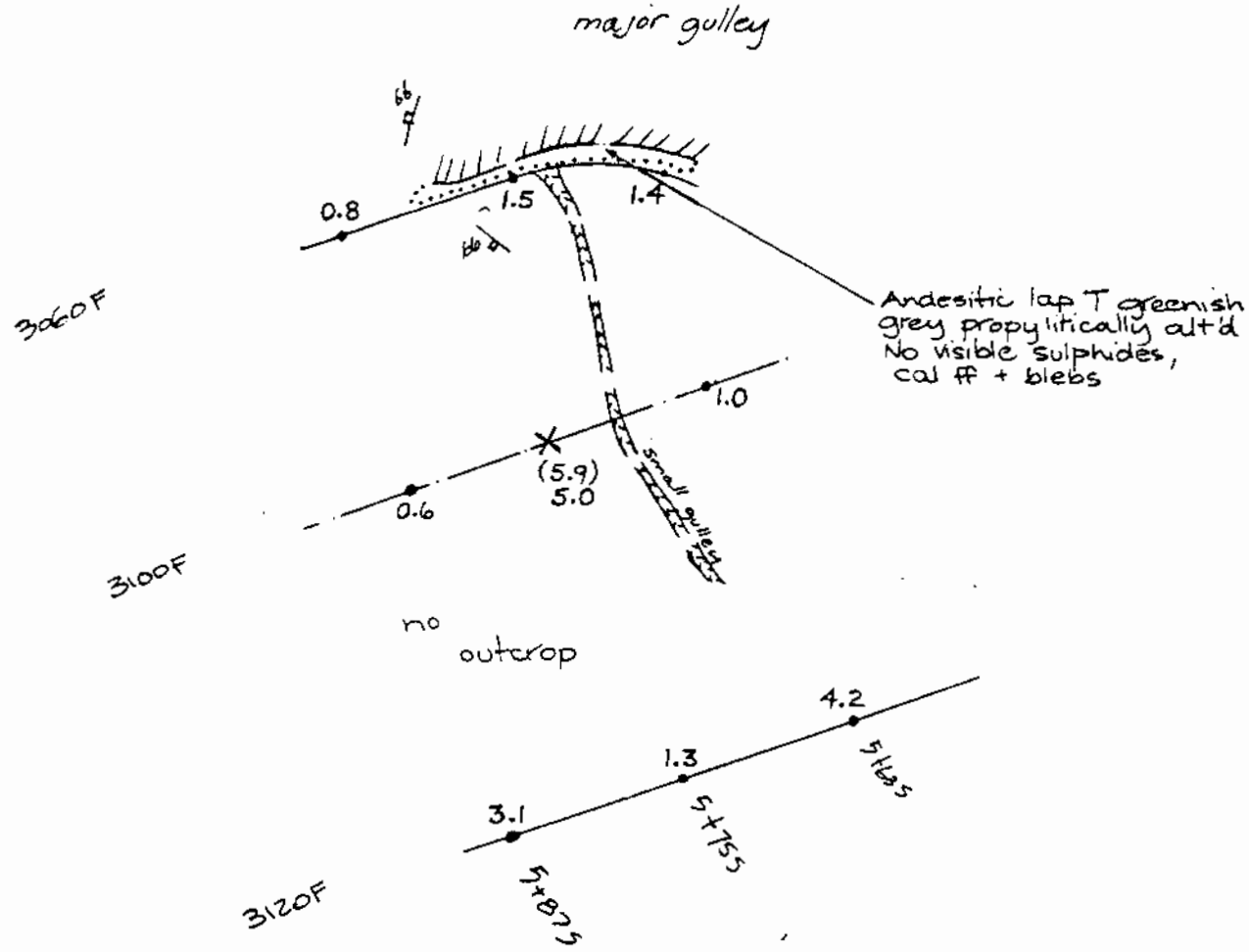
Prospectively alt'd host rock are found downslope from the soil anomaly, no outcrop was found within 40m upslope.

10) **Conclusions:**

No apparent cause for the Ag in soil anomaly was determined.

JOY PROPERTY
SOIL ANOMALY FOLLOW UP

PREVIOUS SOIL ANOMALY: 3100F/5+75S
ANOMALOUS VALUE: 5.9 ppm Ag Aug. 27/90
FOLLOW-UP DATE: Aug 27/90
R. HOWSINGER, R. GLEZLER, D. BATEKLER



LEGEND

- • detailed soil site
- X duplicate soil site
- (5.9) original results (ppm Ag)
- ⁘ outcrop
- LapT lapilli tuff

0 5 10 15 20 25 M
1:500

Soy PROJECT

PREVIOUS SOIL ANOMALY (Ag) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 3100E/5+25S

2) **Previous Value(s):** 5.3ppm

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 27/90

5) **Investigator(s):** Dave Barker

6) **Description of Previous Sample Collected:**
90J1125-5: 3100E/5+25S
B-horizon 35cm depth good soil development
Colour = Light red brown

7) **Description of New Sample:**
90H1125-5: 3100E/5+25S
B-horizon 40cm depth good soil development
angular fragments in sample
Colour = light red brown

8) **Description of Topography:**
45°N
Sample in medium wooded mature forest, light under bush and mossy.

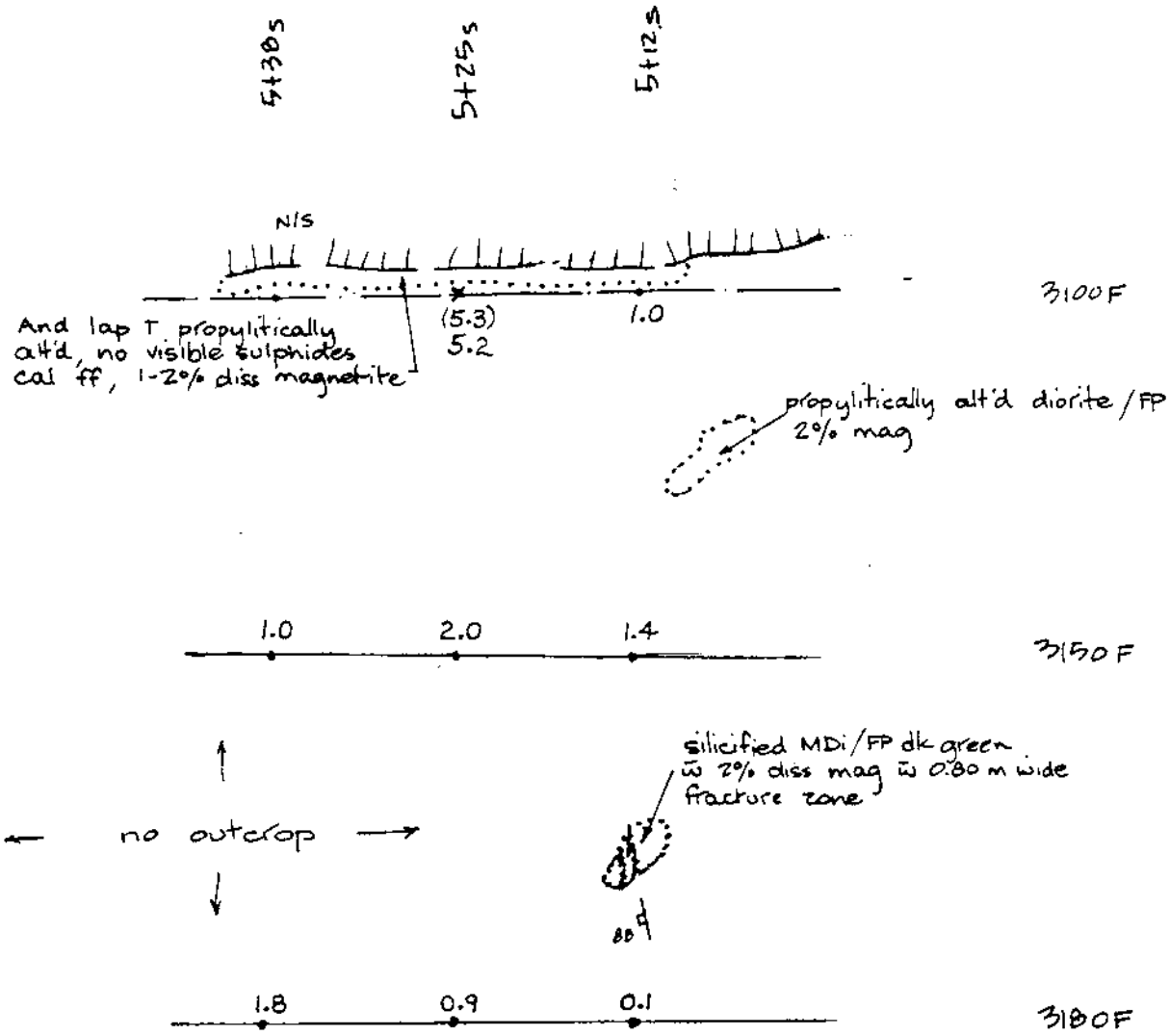
9) **Results of Investigation:**
The anomalous soil sample was collected from the upper plateau of a steep cliff bordering a major creek.

10) **Conclusions:**
No apparent cause for the silver in soil anomaly was determined.

JOY PROPERTY
SOIL ANOMALY FOLLOW UP

PREVIOUS SOIL ANOMALY: 3100F/5+25S
ANOMALOUS VALUE: 5.3 ppm Ag
FOLLOW-UP DATE: Aug 27, 1990
R. HONSINGER, R. GESZLER, D. BARKER

Aug. 27/90



LEGEND

- • detailed soil site
- X duplicate soil site
- (5.3) original result (ppm Ag)
- :::: outcrop
- FP feldspar porphyry
- MDi monzodiorite
- N/S no sample

0 5 10 15 20 25 M

1:500

Joy 112 **PROJECT**

PREVIOUS SOIL ANOMALY (Ag) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 3100E/3425S

2) **Previous Value(s):** 4.9ppm

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 27/90

5) **Investigator(s):** Dave Barker

6) **Description of Previous Sample Collected:**
90J1125-S:
B-horizon 35cm depth good soil development
colour=Light red brown

7) **Description of New Sample:**
90H1125-S: 45cm depth good soil development
angular fragments in sample
colour = medium red brown

8) **Description of Topography:**
15° S.W
sample in medium wooded mature forest and was mossy

9) **Results of Investigation:**

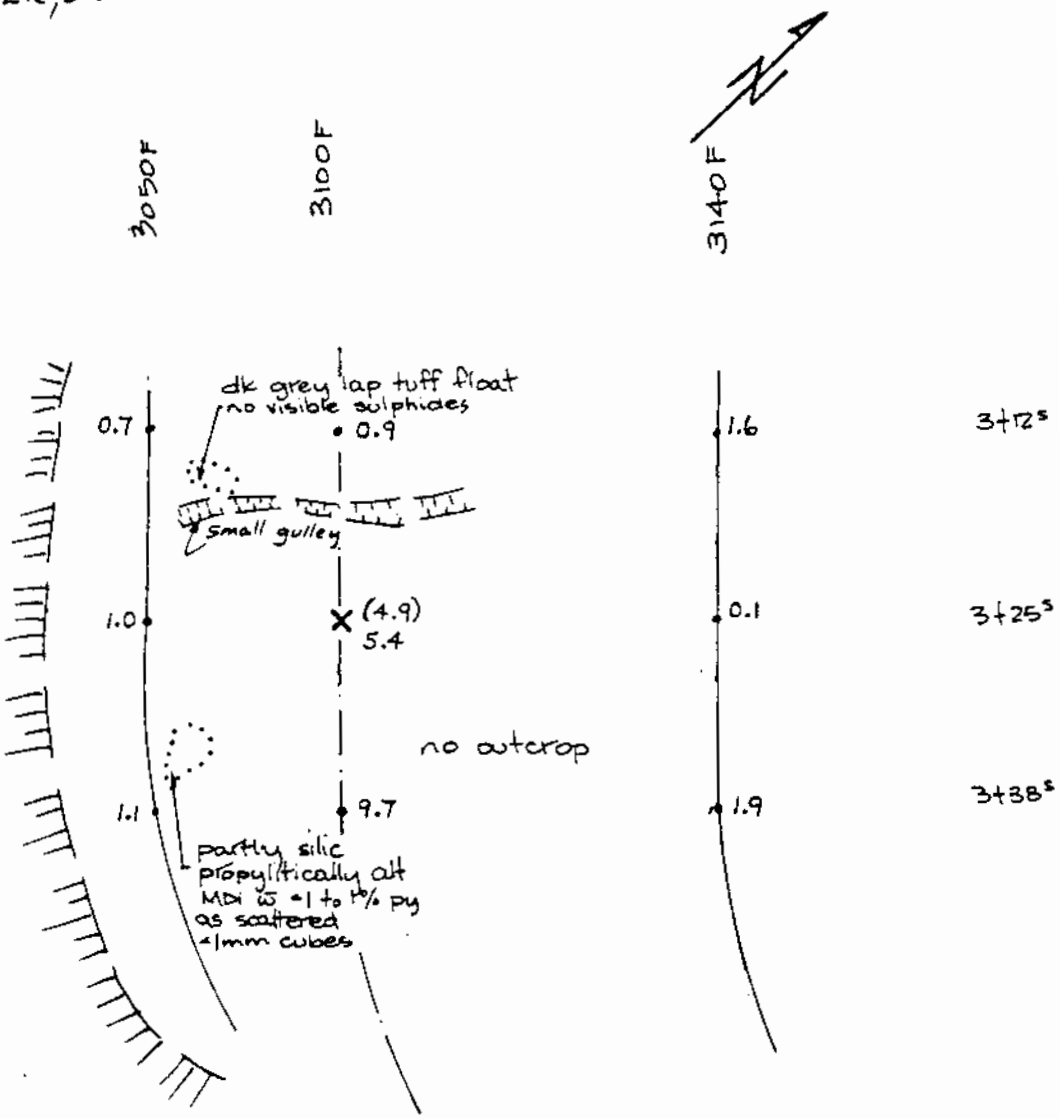
Partly silic, porphyritically alt'd M.Di w <1 to 1%
Px were found 12m south of the anomaly

10) **Conclusions:**

No apparent cause for the Ag in soil anomaly
was determined.

JOY PROJECT
SOIL ANOMALY FOLLOW UP

EVIDAS SOIL ANOMALY: 3100F/3+25S
ANOMALOUS VALUE: 4.9 ppm Ag
FOLLOW-UP DATE: Aug 27/90 Aug. 27/90
R. HONSINGER, R. GLESZLER, D. BARKLEY



LEGEND

- • detailed soil site
- X duplicate soil site
- (4.9) original result
- MDi monzodiorite

0 5 10 15 20 25 M
1:500

Joy PROJECT

PREVIOUS SOIL ANOMALY (As) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 3100F/1400N

2) **Previous Value(s):** 18 ppm As

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 26/90

5) **Investigator(s):** Dave Barker

6) **Description of Previous Sample Collected:**
90K1125-N: 3100F/1400N
B-horizon good soil development
30cm depth Colour = medium red brown

7) **Description of New Sample:**
90H1125-N: 3100F/1400N
A-B horizon mix 40cm depth poor soil development
angular fragments in sample
Colour = medium red brown

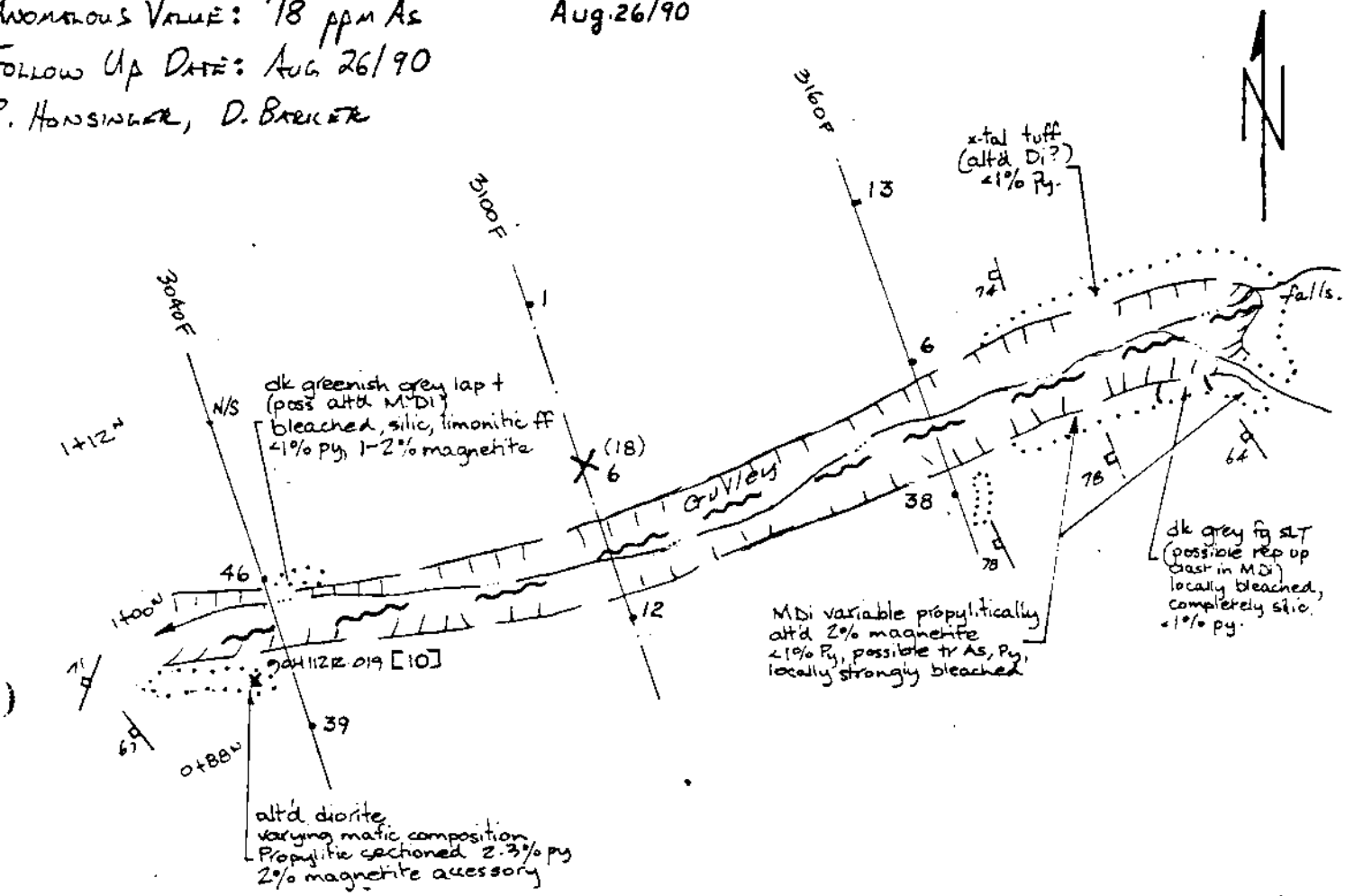
8) **Description of Topography:**
35° S.W.
sample in heavy Alder, creek 4m to south.

9) **Results of Investigation:**
Large gulley/creek, bordered by propylitically alt'd MDi is found in the area, w 2-3% Py as 2mm scattered blebs.

10) **Conclusions:**
The Py enriched alt'd MDi is probably the source of the anomaly.

JOY PROPERTY
SOIL ANOMALY FOLLOW UP

DEVILS SOIL ANOMALY: 90K 113S-N: 3100F/1700N
ANOMALOUS VALUE: 18 ppm As Aug.26/90
FOLLOW UP DATE: Aug 26/90
R. HONSINGER, D. BARKER



LEGEND

- • detailed soil site
- X duplicate soil site
- (18) original result (ppm As)
- N/S no sample
- ⁘ outcrop
- x90H112R-019 rock sample
- lap t lapilli tuff
- MDi monzodiorite
- x-tal crystal
- SLT siltstone

0 5 10 15 20 25 M

1:500

Joy PROJECT

PREVIOUS SOIL ANOMALY (As) - 90 INVESTIGATION
Element(s) Year

1) Location: 3100F/1+50N

2) Previous Value(s): 14 ppm As

3) Year Collected: 1990

4) Date of Investigation: Aug 26/90

5) Investigator(s): Dave Barker

6) Description of Previous Sample Collected:
90H/12 5-N; 3100F/1+50N
B-horizon 30 cm depth good soil development
angular fragments in sample
colour = medium brown

7) Description of New Sample:
90H/12 5-N; 3100F/1+50N
B-horizon 35cm depth good soil development
angular fragments in sample
colour = medium brown

8) Description of Topography:
5°W
sample was in a clearing, mossy grass land and was light wooded.

9) Results of Investigation:

See previous pg. (3100F/1+75N)

10) Conclusions:

See pg. (3100F/1+75N)

Jay PROJECT

PREVIOUS SOIL ANOMALY (As) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 3100E/1+75N

2) **Previous Value(s):** 12 ppm As

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 26/90

5) **Investigator(s):** Dave Barker

6) **Description of Previous Sample Collected:**
90K1125-N: 3100E/1+75N
B-horizon 35cm depth good soil development
medium red brown

7) **Description of New Sample:**
90H1125-N: 3100E/1+75N
A-B horizon mix 50cm depth poor soil development
colour = medium red brown

8) **Description of Topography:**
20° W
sample was taken in a light wooded, swampy and grassy land.

9) **Results of Investigation:**

Alt'd M.Di float ≤ 1% Py was found in the area, which is swampy and marshy.

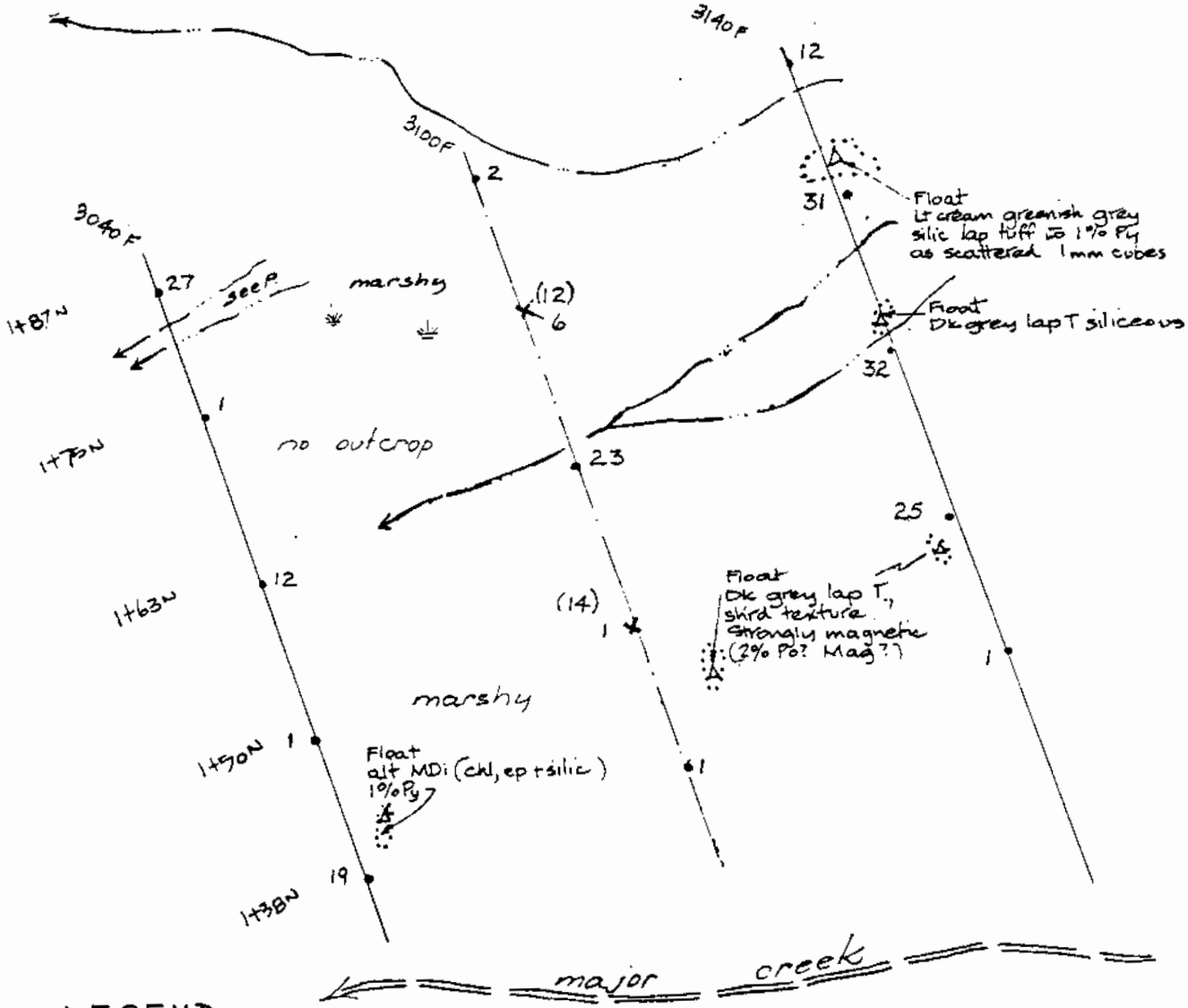
10) **Conclusions:**

Swampy, marshy ground along with possible alt'd M.Di outcrop is probably responsible for the anomaly.

Joy PROPERTY

Soil Anomaly Follow Up

Previous Soil Anomalies: 90K 1135-N: 3100F/ 1+75N & 1+50N
Anomalous Values: 12ppm As (1+75N) & 14 ppm As (1+50N)
Follow-Up Date: Aug 26/90 Aug. 26/90
R. Honsinger, D. Barker



LEGEND

- • detailed soil site
- X duplicate soil site
- (12) original result (ppm As)
- LapT lapilli tuff
- MDi monzodiorite

0 5 10 15 20 25 M

1:500

Joy PROJECT

PREVIOUS SOIL ANOMALY As (Element(s)) - 90 (Year) INVESTIGATION

1) **Location:** 3100F/2+25N

2) **Previous Value(s):** 15ppm As

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 26/90

5) **Investigator(s):** Dave Barker

6) **Description of Previous Sample Collected:**
90K1125-N: 3100F/2+25N
Not found

7) **Description of New Sample:**
90H1125-N: 3100F/2+25 N
B-horizon 45cm depth good soil development
angular fragments in sample
colour = medium red brown

8) **Description of Topography:**
20°W
sample was in a clearing surrounded by a mature forest, swampy mossy land.

9) **Results of Investigation:**

The area is characterized by swampy marshy ground with no outcrop. Dk grey Lap T boulder float was found 25m NE of the anomally centre which contained 1% Py.

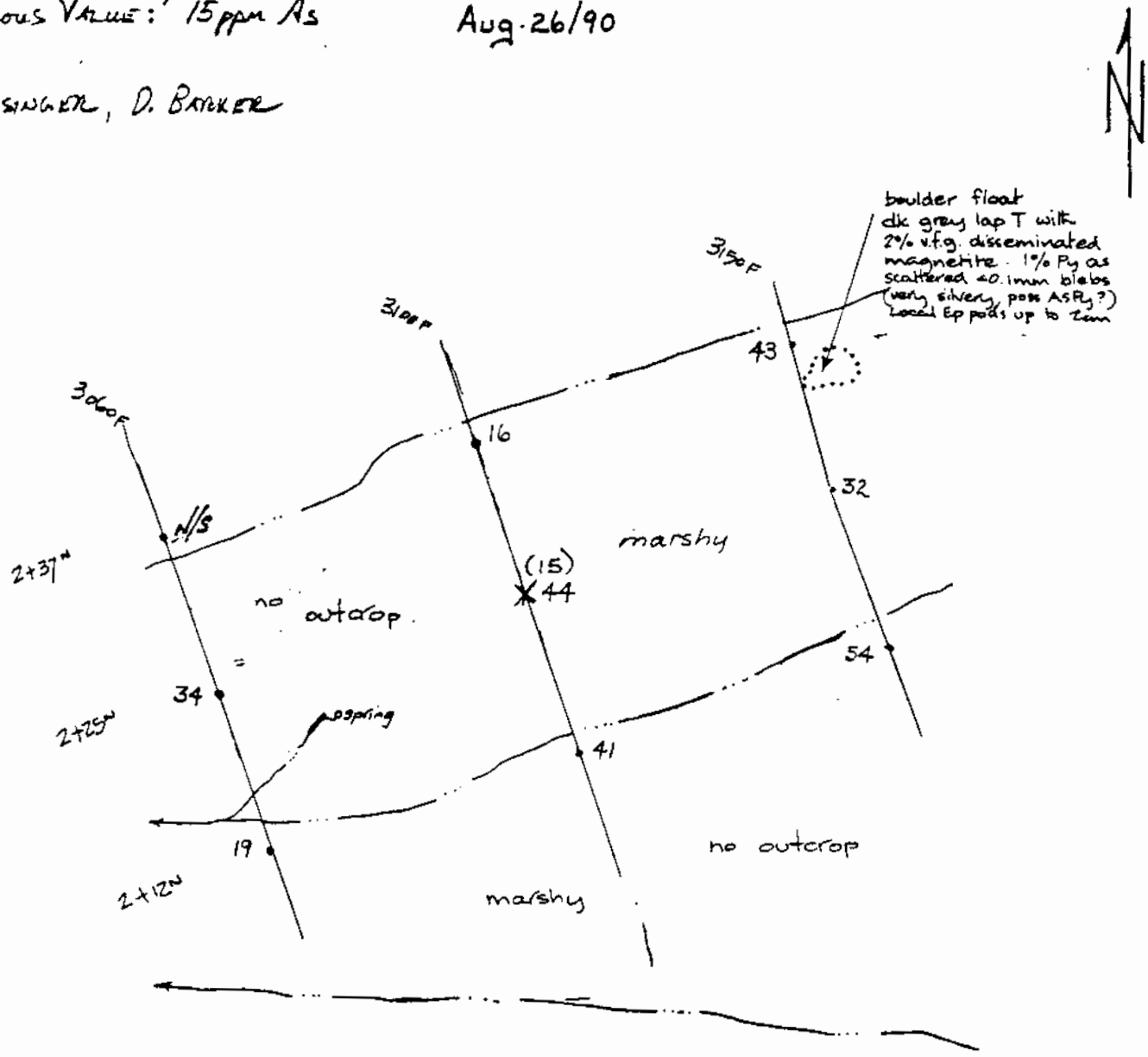
10) **Conclusions:**

Swampy marshy ground and mineralized local float (1% Py) could be the cause of the anomaly.

JOY PROJECT
SOIL ANOMALY FOLLOW UP

PREVIOUS SOIL ANOMALY: 90K/13 S-N: 3100E/2+25N
ANOMALOUS VALUE: 15ppm As Aug. 26/90

P. HONSINGER, D. BARKER



LEGEND

- • detailed soil site
- X duplicate soil site
- (15) original result (ppm As)
- N/S no sample

0 5 10 15 20 25 M

1:500

Joy PROJECT

PREVIOUS SOIL ANOMALY (As) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 3100F/2+75N

2) **Previous Value(s):** 23ppm As

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug. 25/1990

5) **Investigator(s):** Vann Malo, Dave Barker, Rick Hensinger

6) **Description of Previous Sample Collected:**
90K/12S-N 3100F/2+75N
B-horizon 25 cm depth good soil development
colour = medium-red brown

7) **Description of New Sample:**
90H/12S-N: 3100F/2+75N
B-horizon 30 cm depth good soil development
semi-angular fragments in sample
colour = medium-red brown

8) **Description of Topography:**
15° SW
creeks on either side of sample ⇒ 2+90N
2+60N

sample below alder patch

9) **Results of Investigation:**

See pg (3100F/3100N anomaly)

10) **Conclusions:**

See pg (3100F/3100N anomaly).

Joy PROJECT

PREVIOUS SOIL ANOMALY (As) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 3100E/3+00N

2) **Previous Value(s):** 22ppm As

3) **Year Collected:** 1990

4) **Date of Investigation:** aug. 25/1990

5) **Investigator(s):** Vaun Malo, Dave Barker, Rick Honsinger

6) **Description of Previous Sample Collected:**
90K112S-N: 3100E/3+00N
not found

7) **Description of New Sample:**
90H112S-N: 3100E/3+00N
B-horizon 35cm depth poor soil development
angular fragments in hole
colour = medium brown thick A-horizon

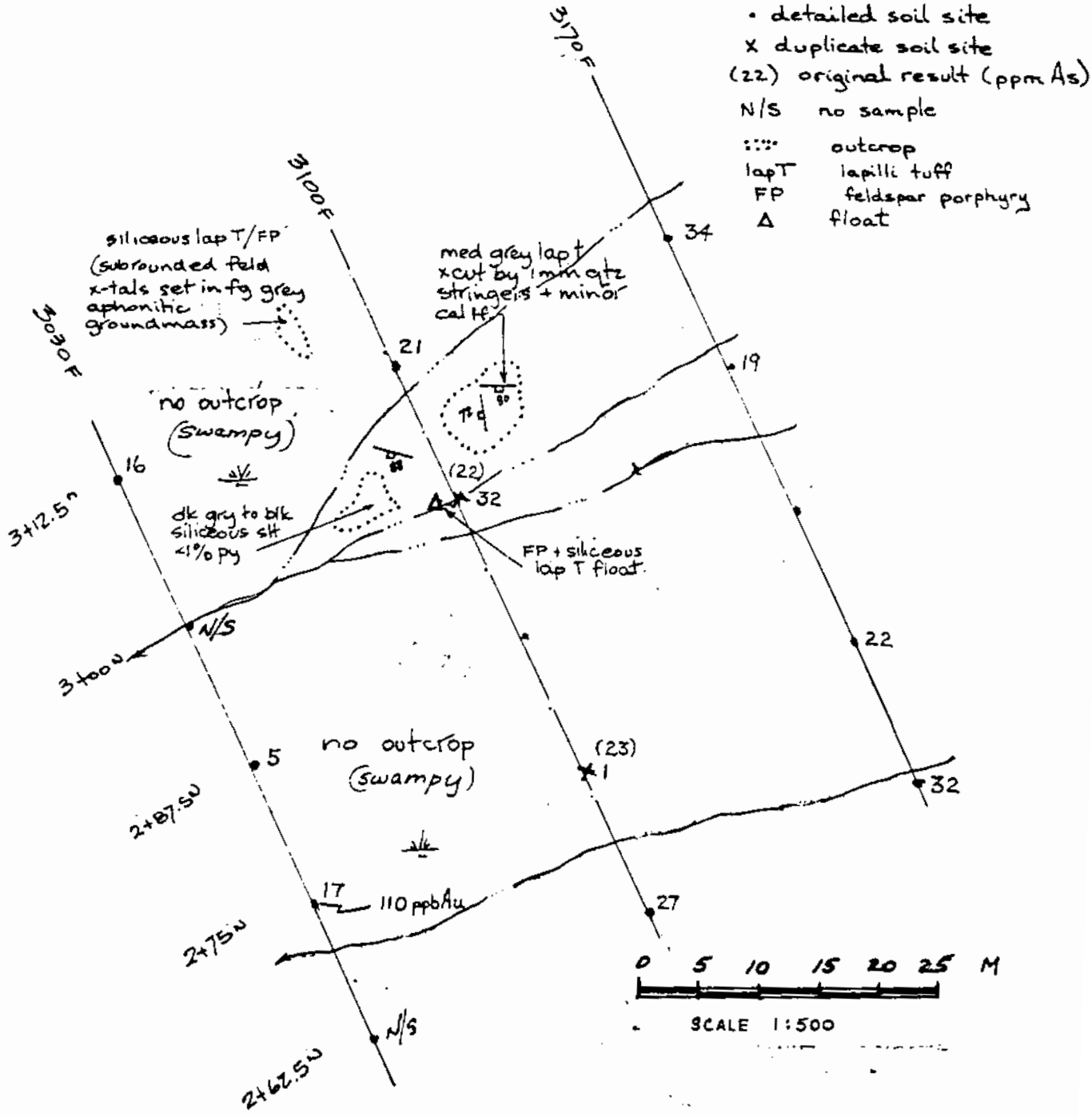
8) **Description of Topography:**
25° SW
creeks on either side of sample ⇒ 3+05N
2+90N

9) **Results of Investigation:**
The area is characterized by extensive drainage, seepage creeks and swampy ground with minor lap T ≤1% Py locally siliceous

10) **Conclusions:**
Swampy ground has probably concentrated As in the soils.

Joy PROPERTY
Soil Anomaly Follow Up

Previous Soil Anomalies: 90K 113S-N: 3100F/2+75N & 3+75N
Anomalous Values: 22ppm As (@2+75N), 23ppm As (@3+00N)
Follow-Up Date: Aug 25/90 Aug. 25/90
R. Honsinger, V. Malo, D. Barker



Jay PROJECT

PREVIOUS SOIL ANOMALY (As) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 3100 F/3+75N

2) **Previous Value(s):** 14 ppm As

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug. 25/1990

5) **Investigator(s):** Vaun Malo, Dave Barker, Rick Honsinger

6) **Description of Previous Sample Collected:**
90K1125-N: 3100F/3+75N
not found

7) **Description of New Sample:**
90H1125-N 3100F/3+75N
B-horizon 30cm depth good soil development
angular fragments in hole
colour = dark-red brown

8) **Description of Topography:**
10° SW
sample 20m below cliff/outcrop
creeks on either side of sample ⇒ 3+50N
3+85N

9) **Results of Investigation:**

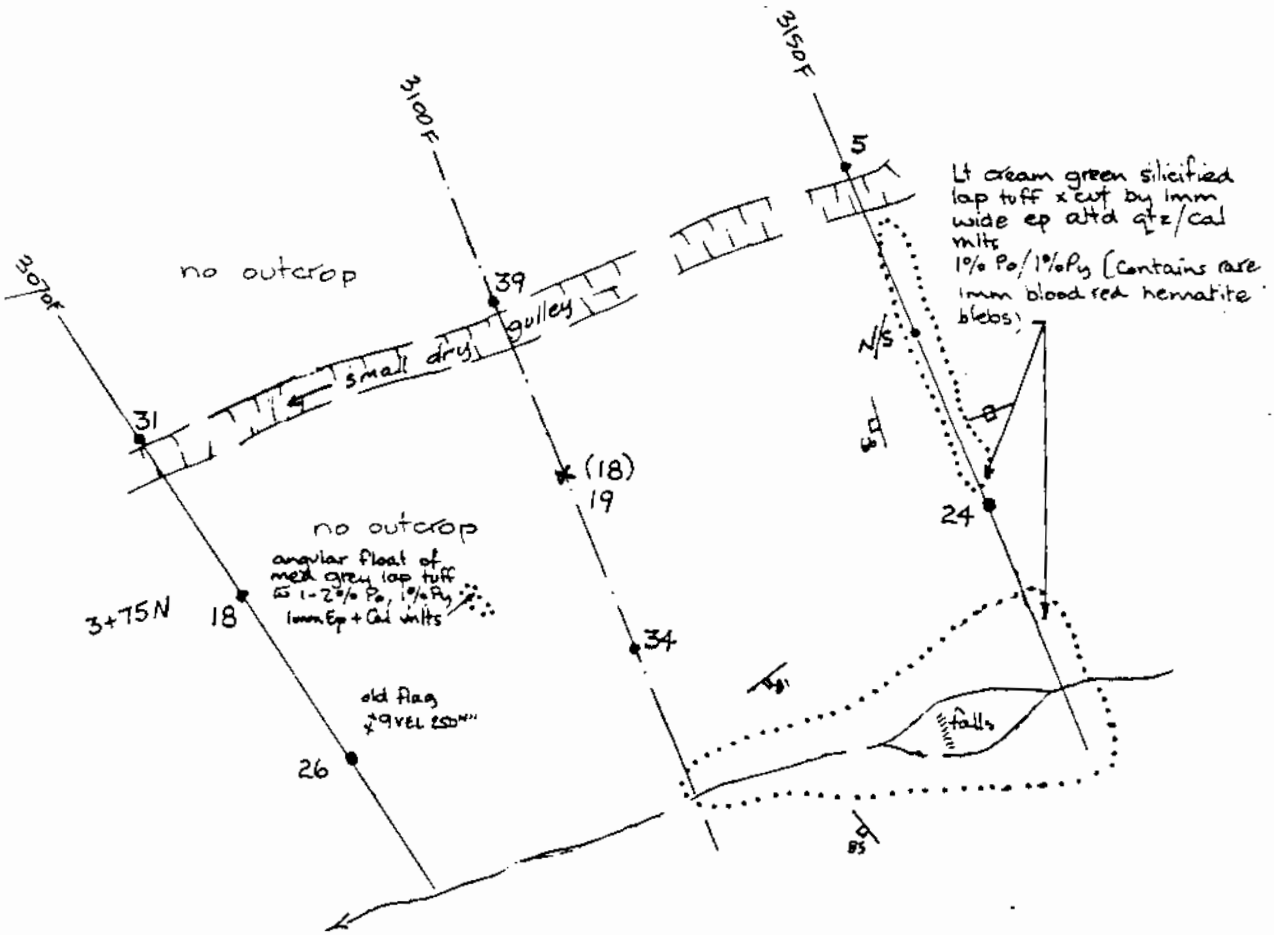
Lt green silic hop T. are found in the area which contain 1% Po/1% Py a small dry gulley trending NNE is located 12m north of the anomaly.

10) **Conclusions:**

Relatively Py enriched outcrop and a possible shear/fault expressed topographically as a small gulley may be the source of the As in soil anomaly.

JOY PROJECT
SOIL ANOMALY FOLLOW UP

PREVIOUS SOIL ANOMALY: 90K 1135-N: 3100 F/3+75N
ANOMALOUS VALUE: 18 ppm As
FOLLOW-UP DATE: Aug 25/90 Aug. 25/90
P. HOUSINGER, V. MILO, D. BARKER



LEGEND

- • detailed soil site
- X duplicate soil site
- (18) original result (ppm As)
- N/S no sample

0 5 10 15 20 25

Joy PROJECT

PREVIOUS SOIL ANOMALY (Au, Cu, As) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 3100F/6+50N

2) **Previous Value(s):** 300 ppb Au 249 ppm Cu 22 ppm As

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 25/1990

5) **Investigator(s):** Vaun Malo, Dave Barker, Rick Honsinger

6) **Description of Previous Sample Collected:**
90K1125-N: 3100F/6+50N
not found

7) **Description of New Sample:**
90H1125-N: 3100F/6+50N
B-horizon 50 cm depth poor soil development
angular fragments in sample
colour = medium brown

8) **Description of Topography:**
50° SW
sample at base of rusty cliff which runs along contour
slide alder below sample

9) **Results of Investigation:**

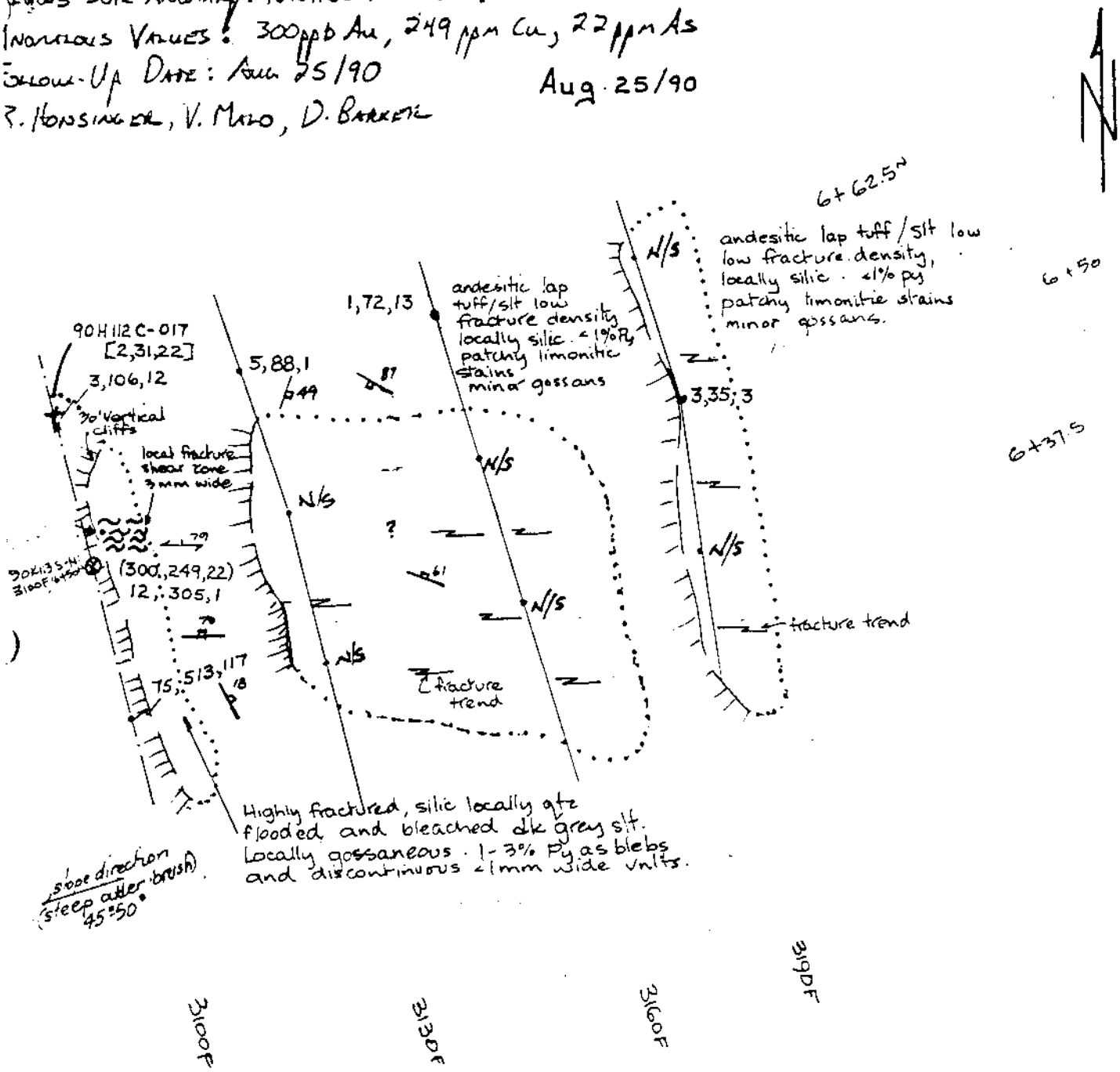
Cooperdown limonite, locally shrd cliffs are found in the immediate vicinity, locally enriched in Py (1-3%). Sample 90H112C-017 was collected (1m chip) see sketch.

10) **Conclusions:**

cliffs above (E) of the anomaly are locally enriched in Py (1-3%) and should be investigated further pending soil and rock geochem/assay results.

JOY PROPERTY
SOIL ANOMALY FOLLOW UP

Previous Soil Anomaly: 90K1135-N: 3100F/6+50 N
Anomalous Values: 300ppb Au, 249 ppm Cu, 22 ppm As
Follow-Up Date: Aug 25/90 Aug. 25/90
R. Honsinger, V. Malo, D. Barrette



LEGEND

- • detailed soil site
- ⊗ duplicate soil site
- (300,249,22) original result (ppb Au, ppm Cu & As)
- N/S no sample
- slt siltstone
- x 90H112C-017 rock sample

0 5 10 15 20 25 M

1:500

Jag - 112 PROJECT

PREVIOUS SOIL ANOMALY (Ag) - 90 INVESTIGATION
Element(s) Year

1) **Location:** L 2600 F 9+25 S

2) **Previous Value(s):** 5.0 ppm

3) **Year Collected:** 90

4) **Date of Investigation:** Aug. 29/90

5) **Investigator(s):** Tim Paquette, Pietre, Randy

6) **Description of Previous Sample Collected:**
taken From 10cm deep, B horizon, medium red brown, bedrock, poor dev, From 65% angular Frag. 90J112S-S: 2600F/9+25S

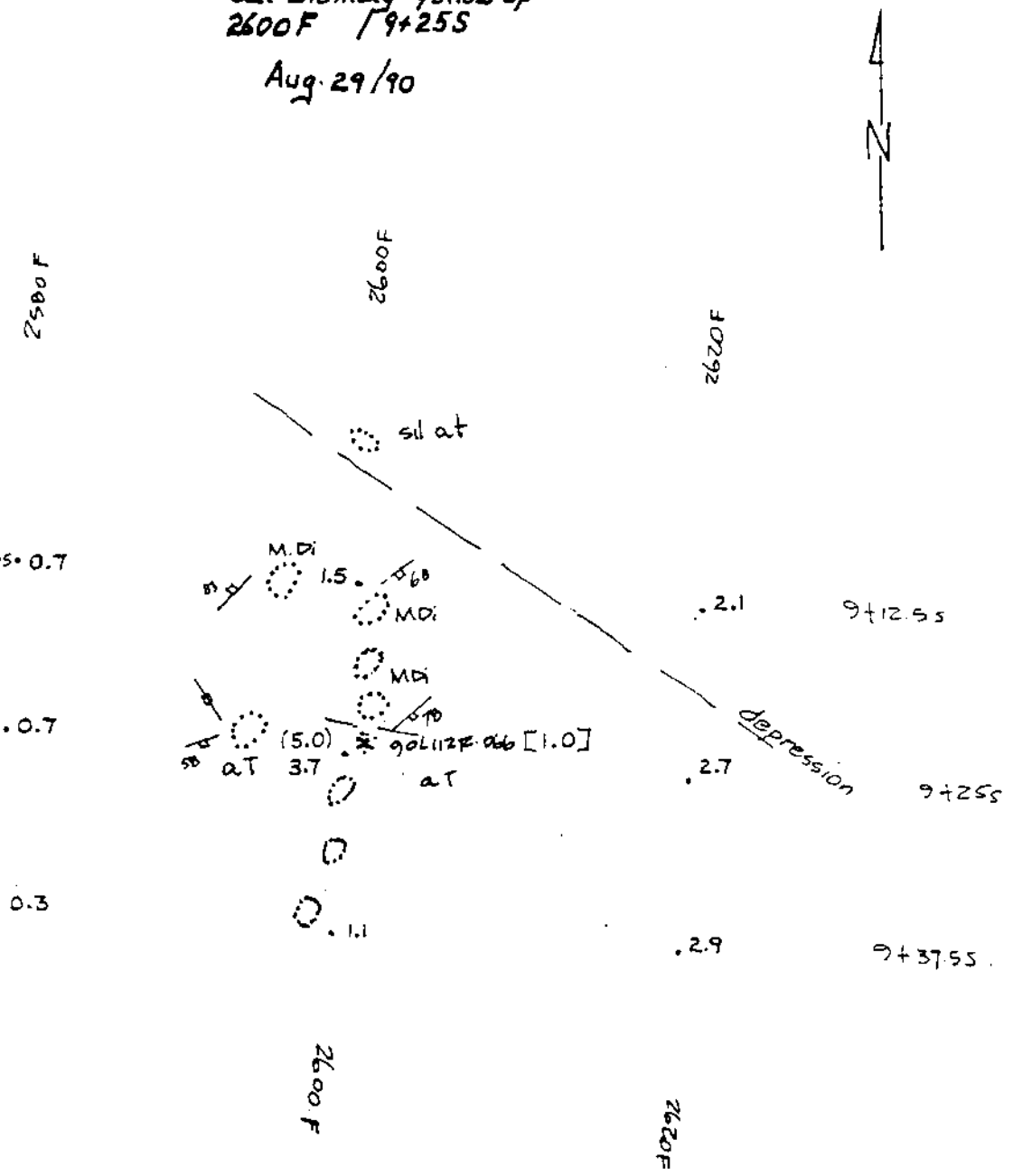
7) **Description of New Sample:**
taken From 15cm deep, B horizon, mrb, bedrock, poor dev., From 65% angular frag. soil 90L112S-S: 2600F/9+25S

8) **Description of Topography:**
Slope at 25° E in medium wooded Forest.

9) **Results of Investigation:**
Investigated area consists of monzodiorite and ash Tuffs. Contact of these units is not exposed sample 90L112R-066 was taken close to the contact

10) **Conclusions:**
No immediate source of the mineralization was found

Jot property
Soil anomaly follow up
2600F / 9+25S
Aug. 29/90



Prefix 90L112 S-S:

LEGEND

- • detailed soil site
- x duplicate soil site
- (5.0) original result (ppm Ag)
- ∴ outcrop
- x 90L112R-066 rock sample
- aT ash tuff
- MDi monzodiorite

0 5 10 15 20 m

Scale 1:500

Joy PROJECT

PREVIOUS SOIL ANOMALY (As) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 2600F/2+50S

2) **Previous Value(s):** 13ppm

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 30/90

5) **Investigator(s):** Dave Barbeau

6) **Description of Previous Sample Collected:**
90J1125-S: 2600F/2+50S
B-horizon 40 cm depth good soil development
angular fragments in sample
colour = medium red brown

7) **Description of New Sample:**
90L1125-S: 2600F/2+50S
B-horizon 45cm depth good soil development
angular fragments in sample
colour = medium red brown

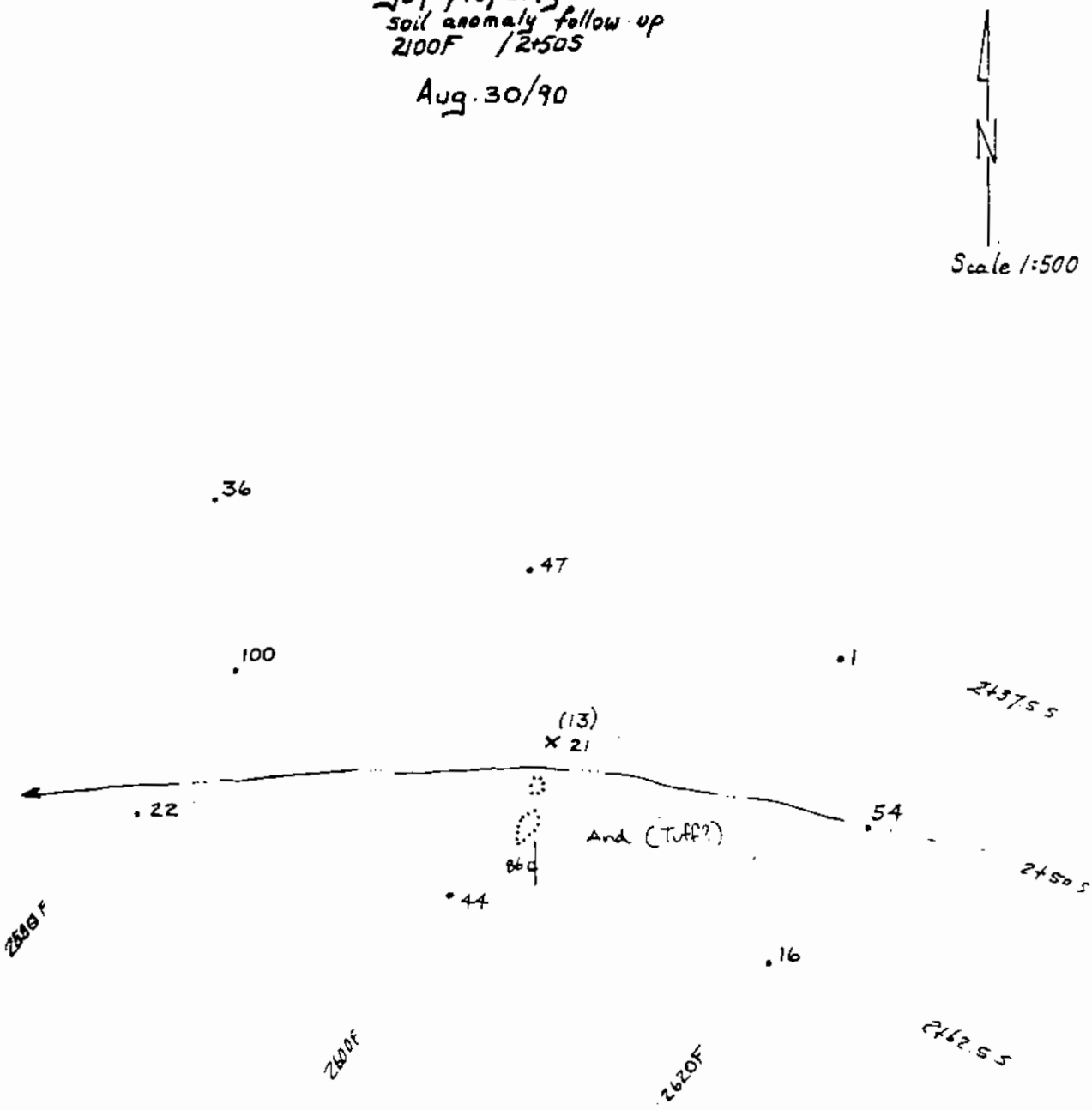
8) **Description of Topography:**
15°W
Sample was taken in a medium wooded
Mature forest and was mossy.

9) **Results of Investigation:**
Investigated area consists two outcrops of Andesite (or Tuff andesite).

10) **Conclusions:**
No immediate source of the mineralization was found.

Joy property
soil anomaly follow up
2100F /2+50S

Aug. 30/90



Prefix 90L1125-S:

LEGEND

- • detailed soil site
- × duplicate soil site
- (13) original result (ppm As)
- :::: outcrop
- And andesite

Joy PROJECT

PREVIOUS SOIL ANOMALY (Cu) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 2600F/8+25N

2) **Previous Value(s):** 517ppm

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 30/90

5) **Investigator(s):** Dave Barker

6) **Description of Previous Sample Collected:**
902112S-N: 2600F/8+25N
Not found

7) **Description of New Sample:**
90L112S-N: 2600F/8+25N
B-horizon 40cm depth good soil development
angular fragments in sample
colour = medium red brown

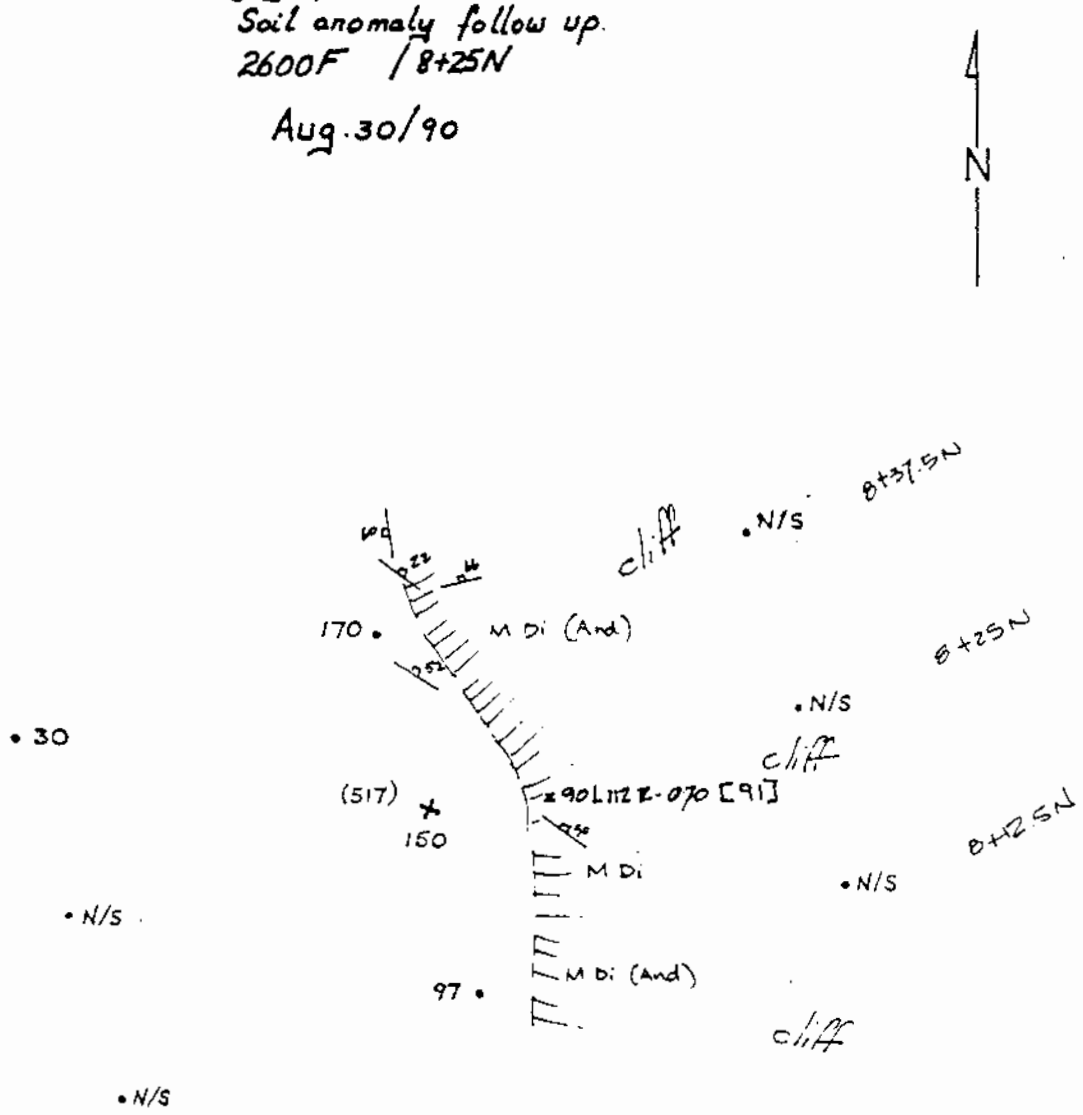
8) **Description of Topography:**
90° W Light wood, cliffy where sample was taken

9) **Results of Investigation:**
Investigated area consisted of M.Di. Locally rock appears to look like andesite.
Sample 90L112R-070
Rock contains locally 2-4% dissem. Pyrite.

10) **Conclusions:**
No immediate source of the mineralization was found.

Joy property
Soil anomaly follow up.
2600F / 8+25N

Aug. 30/90



Prefix 90L/12S-N:

LEGEND

- • detailed soil site
- X duplicate soil site
- (517) original result (ppm Cu)
- N/S no sample
- x 90L112R-070 rock sample
- MDi monzodiorite
- And andesite

Jay PROJECT

PREVIOUS SOIL ANOMALY (Cu) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 2690F/8+75N

2) **Previous Value(s):** 245ppm

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 30/90

5) **Investigator(s):** Dave Barker

6) **Description of Previous Sample Collected:**
90Q1125-N: 2600F/8+75N
B-horizon 30cm depth good soil development
Colour = light orange brown

7) **Description of New Sample:**
90L1125-N: 2600F/8+75N
B-horizon 35cm depth good soil development
angular fragment in sample
Colour - light orange brown

8) **Description of Topography:**
70° W Cliff, light wood, light underbush
was where sample was taken

9) **Results of Investigation:**
see soil anomaly 2600F/9+00N

10) **Conclusions:**
see soil anomaly 2600F/9+00N

Joy PROJECT

PREVIOUS SOIL ANOMALY (As, Cu) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 2600E/9+00N

2) **Previous Value(s):** 23ppm As, 225ppm Cu

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 30/90

5) **Investigator(s):** Dave Barker

6) **Description of Previous Sample Collected:**
90Q1125-N: 2600E/9+00N
B-horizon 30cm depth good soil development
Colour- Medium orange brown

7) **Description of New Sample:**
90L1125-N1: 2600E/9+00N
B-horizon 50cm depth good soil development
angular fragments in sample
Colour- light orange brown

8) **Description of Topography:**
55° W 1.5m from outcrop, cliff, mossy ground where sample was taken

9) **Results of Investigation:**
Investigated area consists of: andesite (andesite Tuff), siliceous Tuff and Monzodiorite. Locally rock contains disseminated pyrite < 2%. Contacts between M Diorite and Tuff (Andesite) are difficult to follow.
Rock samples: 90L112R-067 - R-069

10) **Conclusions:**
No immediate source of the mineralization was found.

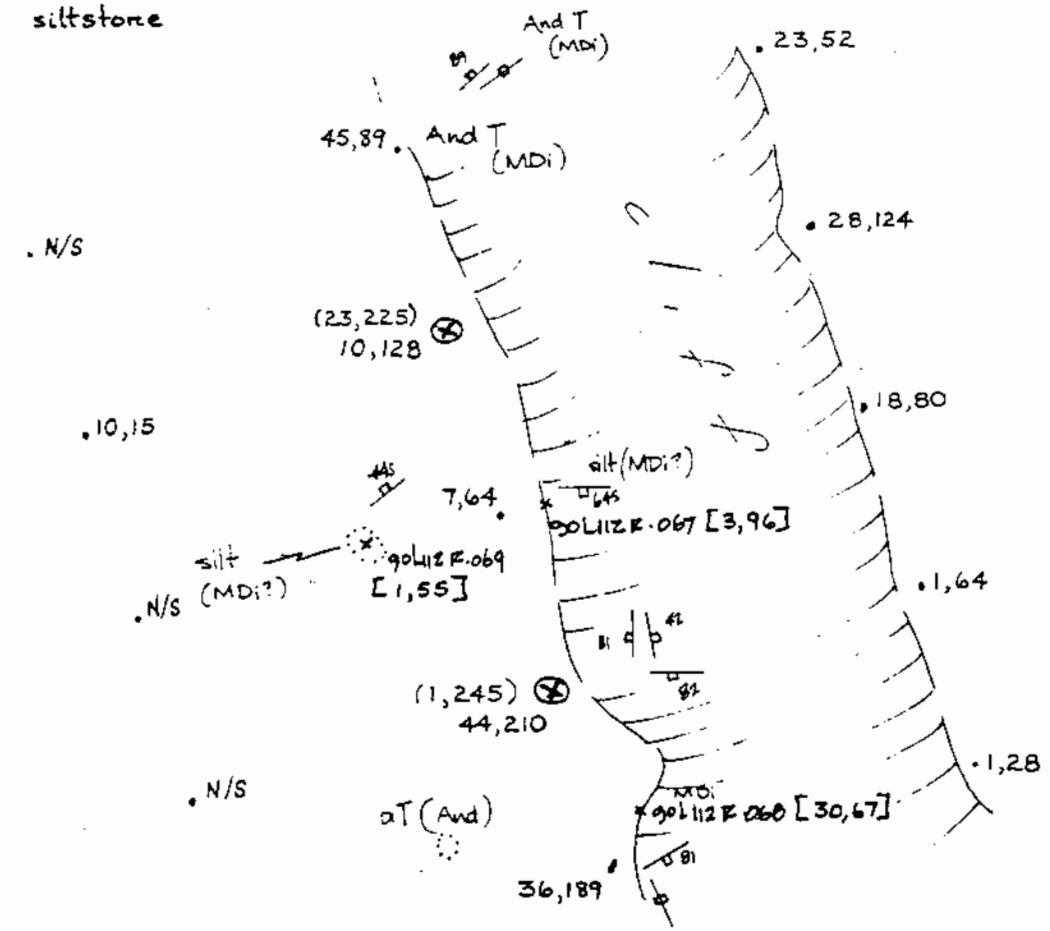
Joy property
Soil anomaly follow up
2600F / 9+00N + 8+75N
Aug. 30/90

N

Scale 1:500

LEGEND

- • detailed soil site
- ⊗ duplicate soil site
- (23,225) original result (ppm As, Cu)
- N/S no sample
- x 90L112R-067 rock sample
- ::: outcrop
- AndT andesitic tuff
- MDi monzodiorite
- silt siltstone



Joy 112 PROJECT

PREVIOUS SOIL ANOMALY (Au) - 90 INVESTIGATION
Element(s) Year

1) **Location:** L2100 F 7+75 S

2) **Previous Value(s):** 90 ppb

3) **Year Collected:** 90

4) **Date of Investigation:** Aug. 29/90

5) **Investigator(s):** Tim Paquette, Piotre, Randy

6) **Description of Previous Sample Collected:**
taken 15 cm deep, bedrock, mrb, B hor.
fair dev.
90J112S-S: 2100F / 7+75S

7) **Description of New Sample:**
taken 20 cm deep, bedrock, mrb, B horizon, fair dev.
90L112S-S: 2100F / 7+75S

8) **Description of Topography:**
slope of 50° SE, medium wooded

9) **Results of Investigation:**
see soil anomaly follow up L2100F 6+75S

10) **Conclusions:**
The source of the mineralization was not found

Jay 112 PROJECT

PREVIOUS SOIL ANOMALY (Cu) - 90 INVESTIGATION
Element(s) Year

1) **Location:** L 2100 F 7+25 S

2) **Previous Value(s):** 210 ppm

3) **Year Collected:** 90

4) **Date of Investigation:** Aug. 29/90

5) **Investigator(s):** Tim Paquette, Piotr, Randy.

6) **Description of Previous Sample Collected:**
taken 25cm deep, poor dev., dark brown. in bedrock, B horizon.

90J1125-S: 2100F / 7+25S

7) **Description of New Sample:**
taken 30cm deep, poor dev., dark brown, in bedrock, B hor.

90C1125-S: 2100F / 7+25S

8) **Description of Topography:**
taken 1m from creek on valley wall, medium wooded. Slope of 75° E on valley wall.

9) **Results of Investigation:**
See soil anomaly follow-up L 2100F 6+75S

10) **Conclusions:**
The source of the mineralization was not found.

Jay 112 PROJECT

PREVIOUS SOIL ANOMALY (Cu) - 90 INVESTIGATION
Element(s) Year

1) **Location:** L 2100 F 7+00 S

2) **Previous Value(s):** 377 ppm

3) **Year Collected:** 90

4) **Date of Investigation:** Aug. 29/90

5) **Investigator(s):** Tim Paquette, Piotr, Randy

6) **Description of Previous Sample Collected:**
taken From 15 cm deep, B hor. mrb soil, bedrock, fair devisions.
90J112S-S: 2100F / 7+00S

7) **Description of New Sample:**
taken From 20 cm deep, B hor, mrb soil, bedrock, Fair devisions

90K112S-S: 2100F / 7+00S

8) **Description of Topography:**
taken From 50° SE slope, medium wooded

9) **Results of Investigation:**
see soil anomaly follow-up L 2100 East 6+75S.

10) **Conclusions:**
No immediate source was found.

Joy 112 PROJECT

PREVIOUS SOIL ANOMALY (As) - 90 INVESTIGATION
Element(s) Year

1) **Location:** L 2100F 6+75 S

2) **Previous Value(s):** 108 ppm

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug. 29/90

5) **Investigator(s):** Tim Paquette, Piotr, Randy

6) **Description of Previous Sample Collected:**
taken 15cm deep From B hor. in bedrock
light red brown sample, fair dev.

90J112S-5: 2100F 6+75 S

7) **Description of New Sample:**
taken 20cm deep From B hor, bedrock,
light red brown sample, fair dev.

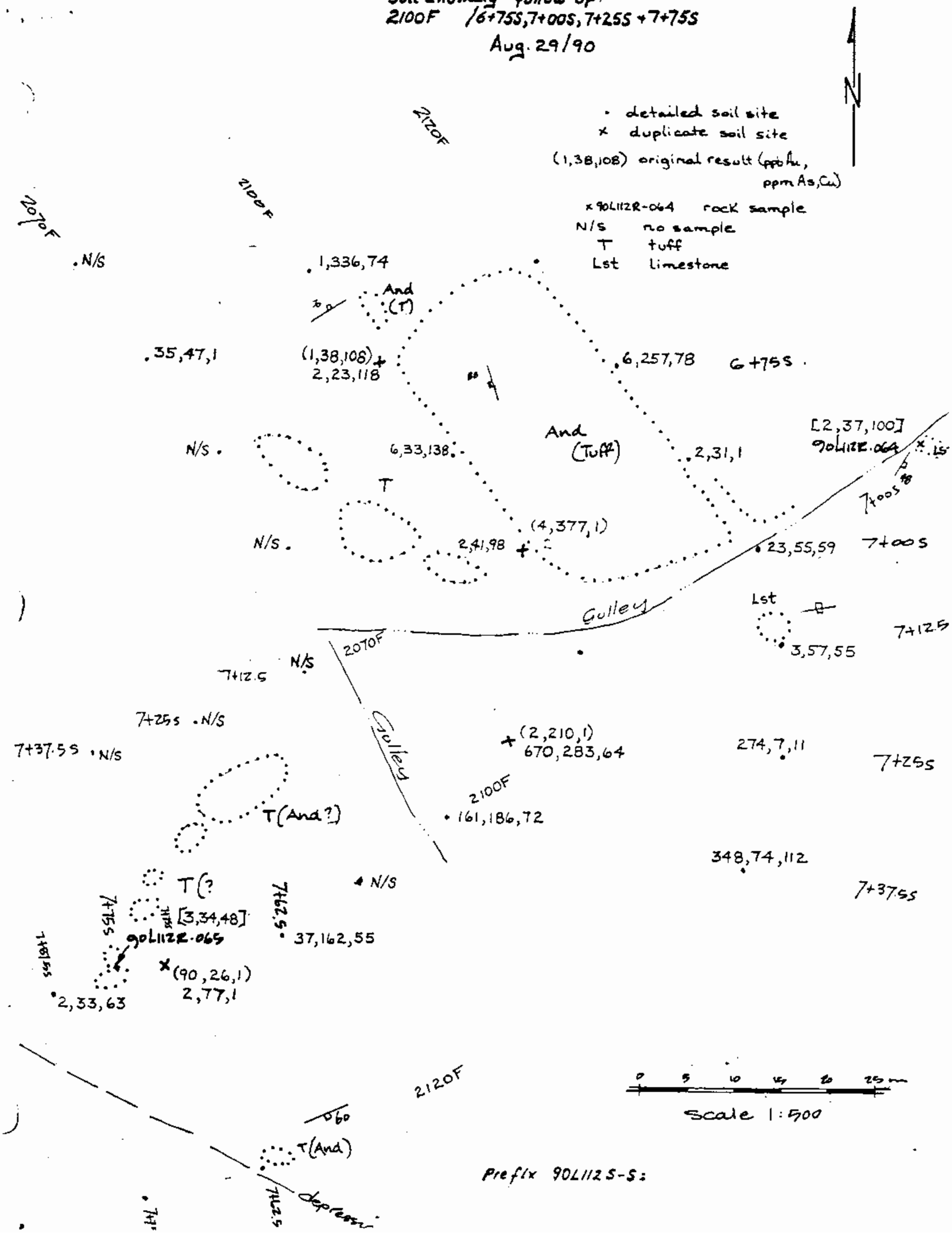
90L112S-5: 2100F 6+75S.

8) **Description of Topography:**
Sloped 20° E in medium wooded Forest
top cliff over creek

9) **Results of Investigation:**
Investigated area consists of andesite (tuf andesite).
Rock is dark green with locally poorly seen phenocrysts.
~30m up the creek (NE) a limestone occurence was mapped.
Locally mineralization of disseminated pyrite is present
in andesite/tuff.
Samples: 90L112R-064 (taken from Limestone)
90L112R-065 (taken from tuff/andesite).

10) **Conclusions:**
No immediate source of the mineralization was found.

Joy property
soil anomaly follow up.
2100F /6+75S, 7+00S, 7+25S + 7+75S
Aug. 29/90


N
• detailed soil site
× duplicate soil site
(1,38,108) original result (ppb Au, ppm As, Cu)
× 90L112R-064 rock sample
N/S no sample
T tuff
Lst limestone
2120F
2100F
2070F
N/S
1,336,74
And
(T)
35,47,1
(1,38,108)
2,23,118
6,257,78
6+75S
And
(Tuff)
[2,37,100]
90L112R-064
Ls
N/S
6,33,138
2,31,1
T
7+00S
N/S
(4,377,1)
2,41,98
23,55,59
7+00S
Gulley
Lst
3,57,55
7+12.5
2070F
N/S
7+12.5
7+25S
N/S
7+37.5S
N/S
(2,210,1)
670,283,64
274,7,11
7+25S
Gulley
2100F
161,186,72
T(And?)
348,74,112
T(?
N/S
7+37.5S
7+62.5
[3,34,48]
7+75S
90L112R-065
37,162,55
(90,26,1)
2,77,1
2,33,63
2120F
0 5 10 15 20 25 m
Scale 1:500
60
T(And)
7+62.5
depression

Prefix 90L112S-S:

Jacq 112 PROJECT

PREVIOUS SOIL ANOMALY (As) - 90 INVESTIGATION
Element(s) Year

1) **Location:** L 2100 F 4+00 S

2) **Previous Value(s):** 11 ppm

3) **Year Collected:** 90

4) **Date of Investigation:** Aug. 29/90

5) **Investigator(s):** Tim Paquette, Piotr, Randy

6) **Description of Previous Sample Collected:**
taken 30 cm deep, bedrock, mrb soil, drift, good dev.
90J112S-S: 2100F/4+00S

7) **Description of New Sample:**
taken 35 cm deep, bedrock, mrb soil, drift, good dev. B hor.

90L112S-S. 2100F / 4+00S

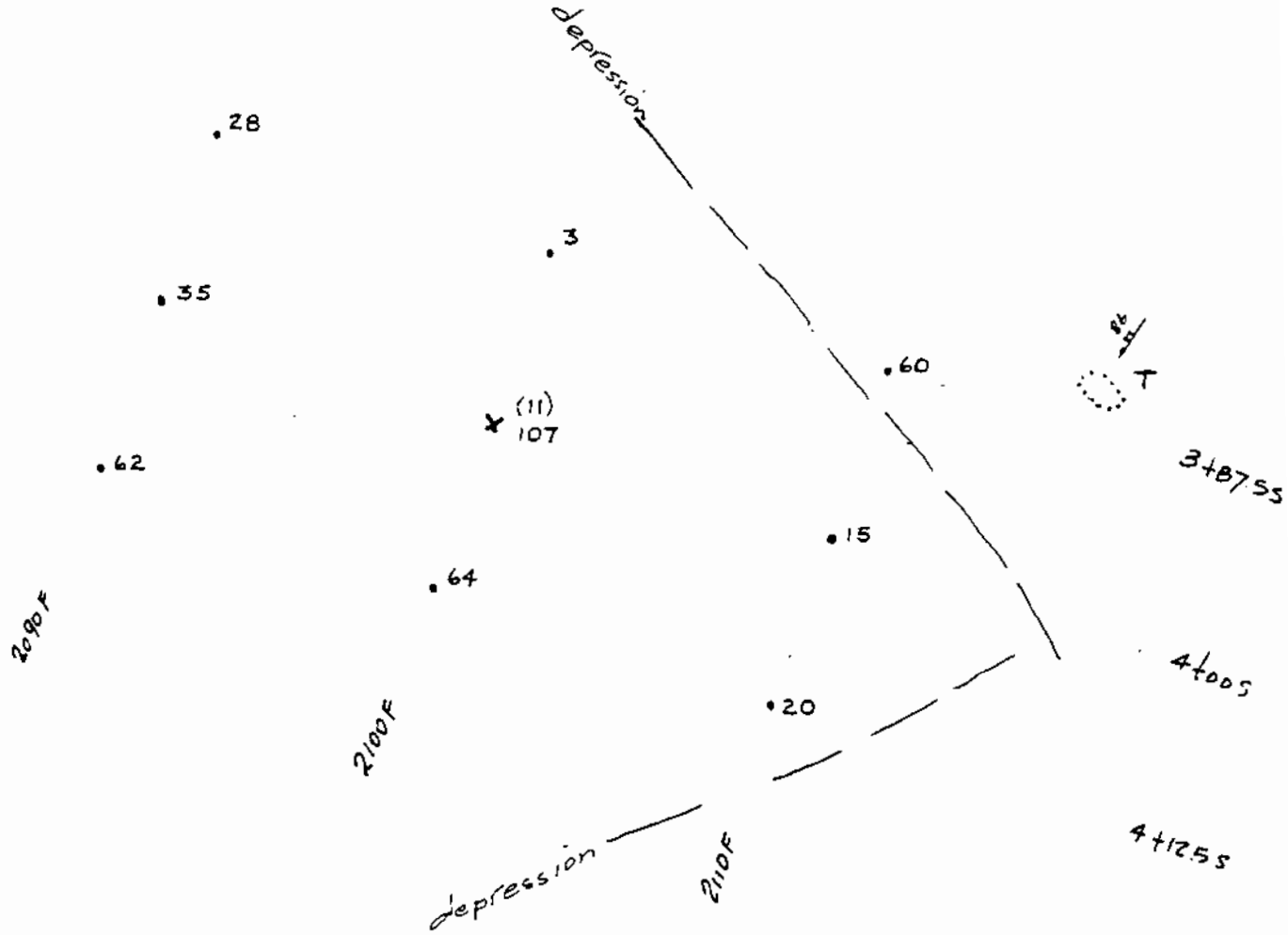
8) **Description of Topography:**
Slope at 5°E in medium wooded Forest

9) **Results of Investigation:**
There is no outcrop within investigated area. Tuffaceous rocks was mapped North East from the investigated area.

10) **Conclusions:**
No immediate source of the mineralization was found.

Joy property
Soil anomaly follow up
2100F / 4+00S

Aug. 29/90



Prefix 90L 112 S-S:

LEGEND

- • detailed soil site
- X duplicate soil site
- (11) original result (ppm As)
- ::: outcrop
- T tuff

0 5 10 15 20 25 m

Scale 1:500

Joy 112 PROJECT

PREVIOUS SOIL ANOMALY (As) - 90 INVESTIGATION
Element(s) Year

1) **Location:** L 2100F 2+00S

2) **Previous Value(s):** 14 ppm

3) **Year Collected:** 90

4) **Date of Investigation:** Aug 29/90

5) **Investigator(s):** Tim Paquette, Pietra, Randy

6) **Description of Previous Sample Collected:**
taken 20cm deep in bedrock, Fair dev.
~~bedrock~~ mrb, B hor.
90J112S-S: 2100F / 2+00S

7) **Description of New Sample:**
taken 20cm deep, in bedrock, Fair dev, bedrock, mrb.
B hor.
90L112S-S: 2100F / 2+00S

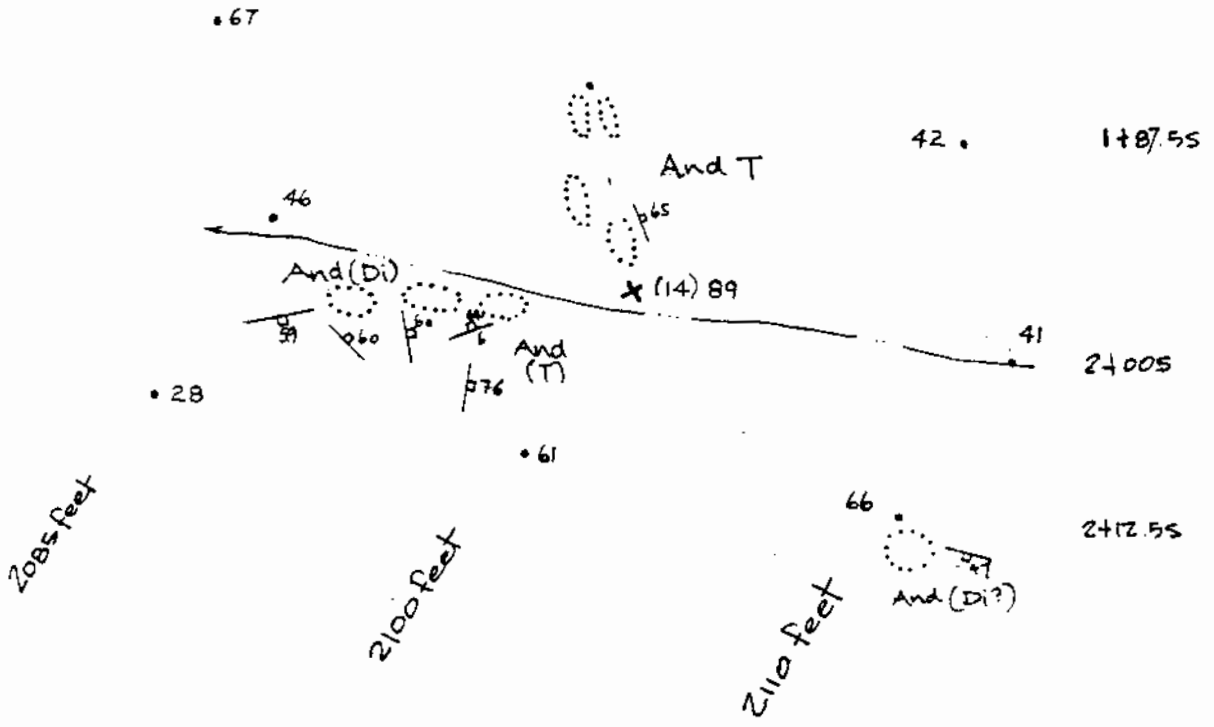
8) **Description of Topography:**
near creek, base outcrop, in valley bottom, medium wooded

9) **Results of Investigation:**
Investigated area is underlain by andesite (andesite tuff).
In one outcrop rock appears to have crystaline structure and could be classified as diorite (?)

10) **Conclusions:**
No immediate source of the mineralization was found.

Joy Property
soil anomaly follow-up.
2600E / 2400S

Aug. 29/90



Prefix 90L112S-S

LEGEND

- • detailed soil site
- X duplicate soil site
- (14) original result (ppm As)
- ::: outcrop
- AndT andesitic tuff
- Di diorite

0 5 10 15 20 25m

Scale 1:500

Jay PROJECT

PREVIOUS SOIL ANOMALY (Ag) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 2100F/4+75N.

2) **Previous Value(s):** 4.9ppm

3) **Year Collected:** 1990

4) **Date of Investigation:** August 30/90

5) **Investigator(s):** Dave Barker

6) **Description of Previous Sample Collected:**
90K1125-N: 2100F/4+75N
B-horizon 30cm depth good soil development
angular fragments in sample
colour= medium orange brown

7) **Description of New Sample:**
90L1125-N: 2100F/4+75N
B-horizon 40cm depth good soil development
angular fragments in sample
colour= medium orange brown

8) **Description of Topography:**
180 S.E.
Sample taken in light wooded mature forest, with little ground vegation and huckleberry bushes.

9) **Results of Investigation:**
Investigated area is underline by andesite (ash Tuff - Tuff andesite)
Rock appears to be magnetic.

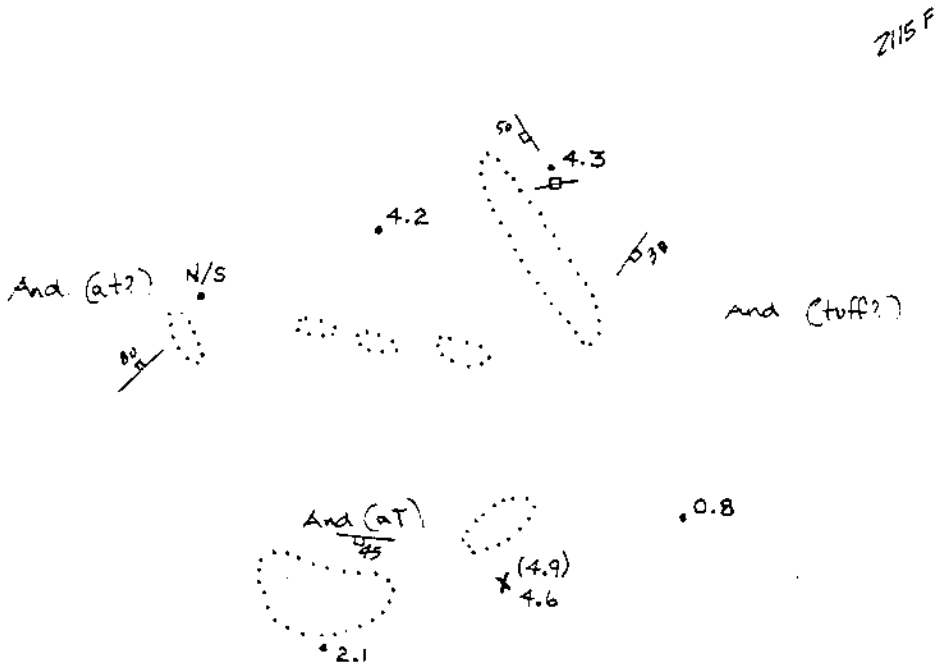
10) **Conclusions:**
No immediate source of the mineralization was found.

Joy property
soil anomaly follow up
2100F / 4+75N
Aug. 30/90

Tim, Dove, Piotr
Aug. 30th, 1990

N

Scale 1:500



LEGEND

- • detailed soil site
- X duplicate soil site
- (4.9) original result (ppm Ag)
- N/S no sample
- ::: outcrop
- And andesite
- aT ash tuff

Jay PROJECT

PREVIOUS SOIL ANOMALY (Ag) - 90 INVESTIGATION
Element(s) Year

1) Location: 2100E/9+50N

2) Previous Value(s): 4.1ppm

3) Year Collected: 1990

4) Date of Investigation: Aug 30/90

5) Investigator(s): Dave Barker

6) Description of Previous Sample Collected:
90KII25-N: 2100E/9+50N
B-horizon 25cm depth good soil development
angular fragments in sample
colour = medium red brown

7) Description of New Sample:
90LII25-N: 2100E/9+50N
B-horizon 30cm depth good soil development
angular fragments in sample
colour = medium orange brown

8) Description of Topography:
15° SW
The sample was taken in a medium wooded mature forest, that was mossy and had Huckleberry bushes.

9) Results of Investigation:
Small outcrop. in North western part of the investigated area contains crystal / Lithic tuff. Rock contains dissem pyrite mineralization 4%. Sample 90LII2 R-071

10) Conclusions:
No immediate source of mineralization was found

Joy property
Soil anomaly follow up
2100F / 9+50N
Aug. 30/90

N

LEGEND

- • detailed soil site
- ⊗ duplicate soil site
- (4.1) original result (ppm Ag)
- X90L112R-071 rock sample
- ⁘ outcrop
- Δ float
- x/Lit T crystal/lithic tuff

9+62.5N

9+50N

9+37.5N

90L112R-071 ⁘ x/Lit T.
[1.8]

3.6

3.8

depression

4.5

And (T?)

2110E

3.6

(4.1) ⊗
5.2

(And (T?)

2.1

2100E

0.8

2.1

0.8

2090E

Prefix 90L 112 S-N:

0 5 10 15 20 25 m

Scale 1: 500 m

Joy PROJECT

PREVIOUS SOIL ANOMALY (Ag) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1600 E / 13+00 S

2) **Previous Value(s):** 6.1 ppm Ag

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug. 27/1990

5) **Investigator(s):** Vann Male, Sean Novak, Andy Muir Lead

6) **Description of Previous Sample Collected:**
90Q/12S-S: 1600E/13+00S
B-horizon 30cm depth good soil development
angular fragments in hole
colour: medium-red-brown

7) **Description of New Sample:**
90A/12S-S: 1600E/13+00S
B-horizon 35cm depth good soil development
angular fragments in hole
colour: medium-red-brown sample from previous hole

8) **Description of Topography:**
30° West
Sample below outcrop
dry gulley at 12+75S (runs E/W)

9) **Results of Investigation:**

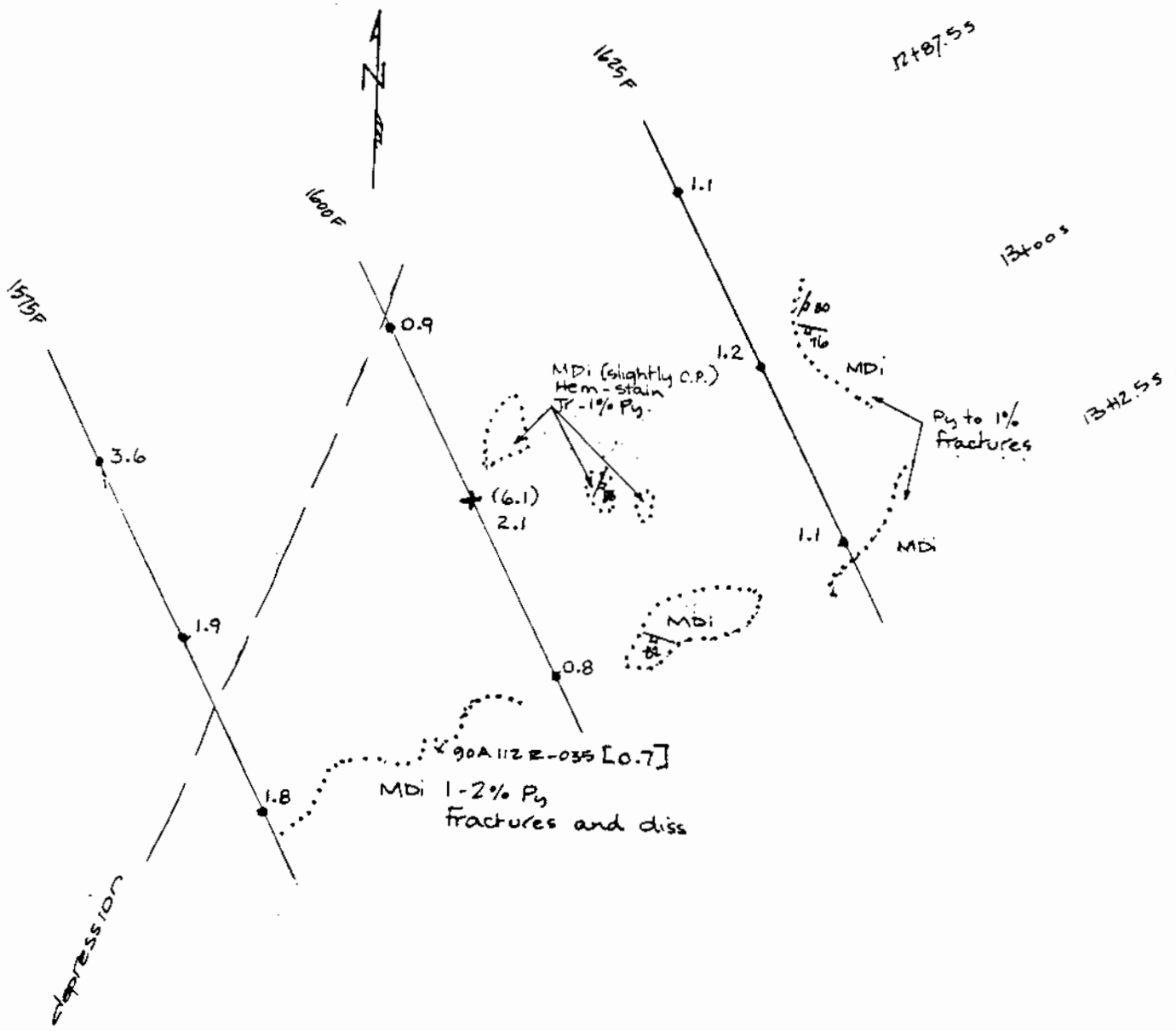
MAPPING OF SPARSE OUTCROP FOUND WELL JOINTED HEMATITIC SLIGHTLY ORTHOCLASE PORPHYRITIC MDi WITH TR - 1% Py DISSEM AlG.

SAMPLE 90A/12R-035 (DOWN SLOPE FROM ANOM) HAD 1-2% Py MAINLY AS FRACTURE FILL.

10) **Conclusions:**

NO IMMEDIATE SOURCE FOR ANOMALY FOUND.

SOIL ANOMALY FOLLOW UP.
JOY PROPERTY



LEGEND

- • detailed soil site
- X original soil site
- (6.1) original result (ppm Ag)
- x 90API2R-035 rock sample
- :::: outcrop
- MDi monzodiorite

0 5 10 15 20 25m

Scale 1:500

Joy PROJECT

PREVIOUS SOIL ANOMALY (As, Au) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1600E/11+25S

2) **Previous Value(s):** 113 ppm As 50ppb Au

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug. 27/1990

5) **Investigator(s):** Vaun Malo, Sean Novak, Andy Muirhead.

6) **Description of Previous Sample Collected:**
90 11+25-S:1600E/11+25S
B-horizon 20cm depth poor soil development
angular fragments in hole
colour = medium-brown

7) **Description of New Sample:**
90A 11+25-S:1600E/11+25S
B-horizon 30cm depth poor soil development
angular fragments in hole
colour = medium-brown sample from previous hole.

8) **Description of Topography:**
20° West
heavily wooded in general
creek at 11+55, flows SW

9) **Results of Investigation:**

LOCALLY NO OUTCROP IS FOUND AT OR UPSLOPE FROM ANOMALY SITE. ONE OUTCROP OF aT (POSS Ch.) NOTED ACROSS A SMALL CREEK SHOWED ONLY TR Py. POOR SOIL DEVELOPMENT AMONG ANGULAR FRAGMENTS & BOULDERS OF VARIOUS COMPOSITION.
INDICATES POSSIBLE DOWNSLOPE TRANSPORT.

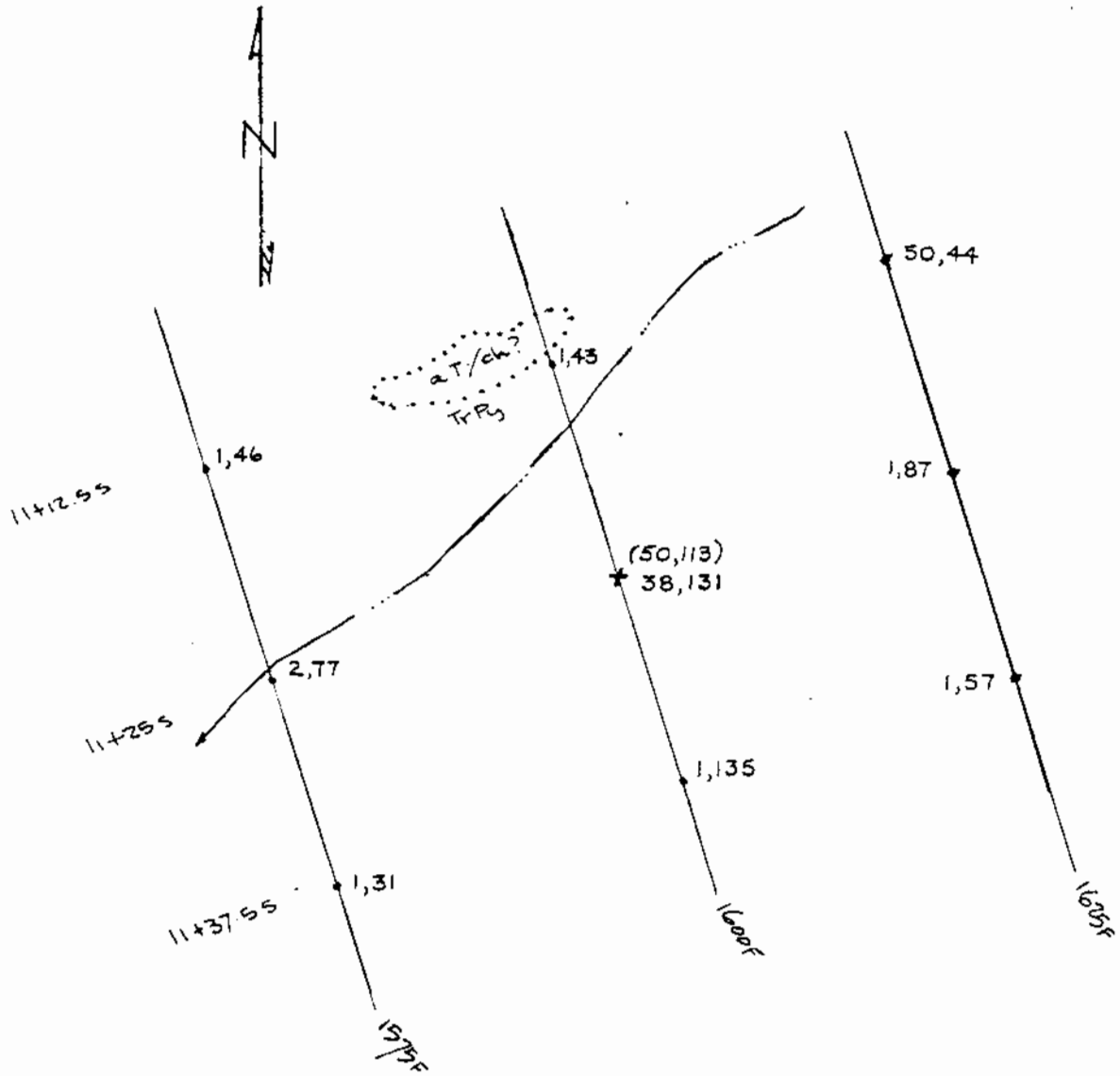
10) **Conclusions:**

NO IMMEDIATE SOURCE LOCATED.

SOIL ANOMALY FOLLOW UP

JOY PROPERTY

PREVIOUS SAMPLE 90Q1125-S: 1600F/11+25S



LEGEND

- • detailed soil site
- X duplicate soil site
- (50,113) original result (ppbAu, ppmAs)
- outcrop
- aT/ch ash tuff/chert

0 5 10 15 20 25m

Scale 1:500

Joy PROJECT

PREVIOUS SOIL ANOMALY (Au) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1600 F/8+25 S

2) **Previous Value(s):** 50 ppb Au

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug. 27/1990

5) **Investigator(s):** Vaun Mala, Sean Novak, Andy Muirhead

6) **Description of Previous Sample Collected:**
90 Q 112 S-S: 1600 F/8+25 S
B-horizon 35 cm depth good soil development
angular fragments in hole
colour = medium-red-brown

7) **Description of New Sample:**
90 A 112 S-S: 1600 F/8+25 S
B-horizon 45 cm depth good soil development
angular fragments in hole
colour = medium-red-brown grey layer above B-horizon

8) **Description of Topography:**
30° West
sample surrounded by outcrop

9) **Results of Investigation:**
ABUNDANT C/C And T/aT sil/chl ALT'D.
ONLY TR - 1% DISSEM. Py

10) **Conclusions:**
NO IMMEDIATE SOURCE LOCATED.

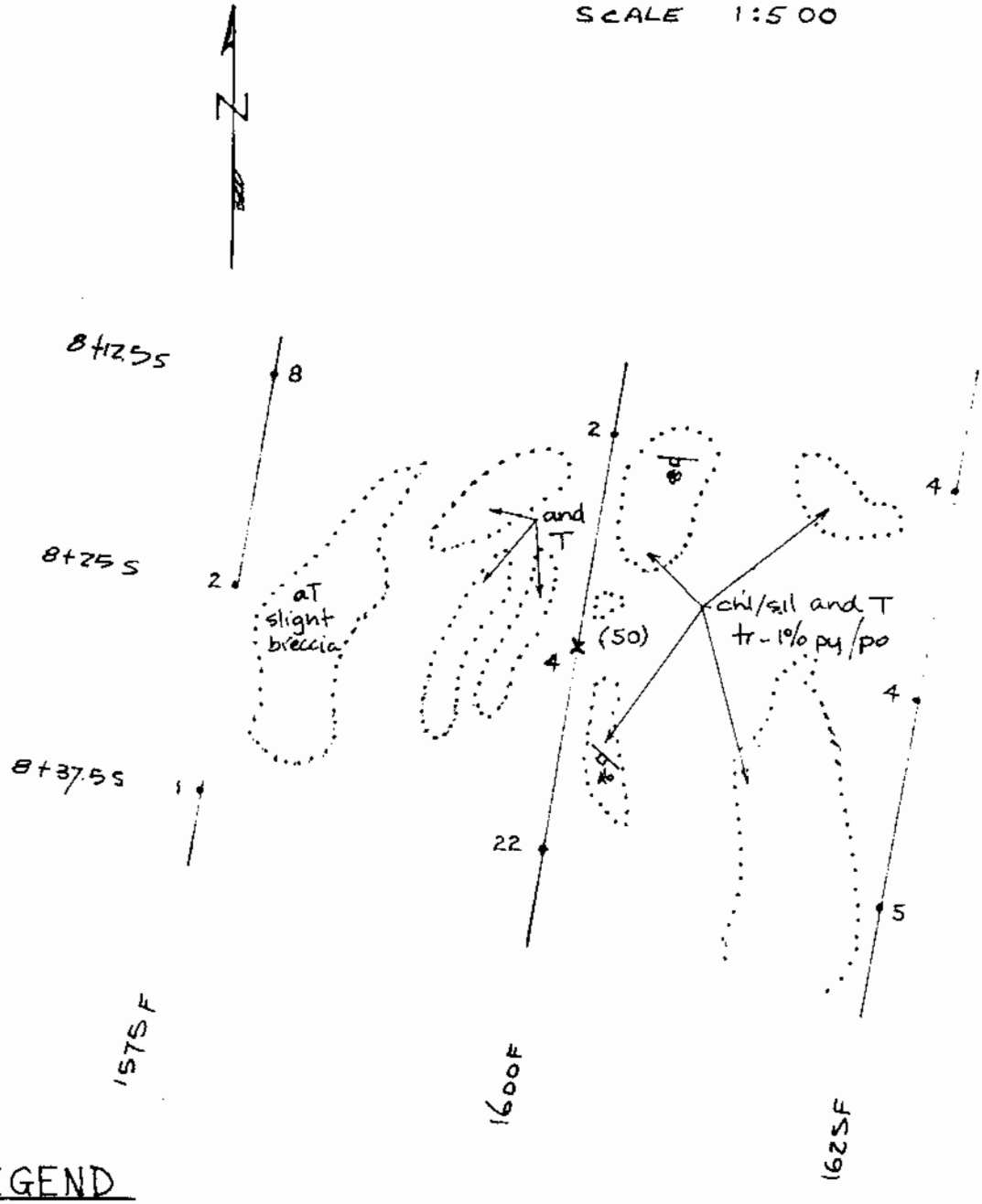
SOIL ANOMALY FOLLOW-UP

PREVIOUS SAMPLE 90G1125-S: 1600F/8+25S

JOY PROPERTY

0 5 15 25 m

SCALE 1:500



LEGEND

- • detailed soil site
- X duplicate soil site
- (50) original result (ppb Au)
- ∴ outcrop
- aT ash tuff
- andT andesitic tuff

0 5 10 15 20 25m

Scale 1:500

Joy PROJECT

PREVIOUS SOIL ANOMALY (Au) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1600 E/6+50 S

2) **Previous Value(s):** 60 ppb Au

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 27/1990

5) **Investigator(s):** Vaun Malo, Sean Novak, Andy Muirhead

6) **Description of Previous Sample Collected:**
90Q1125-S: 1600E/6+50S
B-horizon 10 cm depth
angular + rounded fragments in hole
colour = medium - red - brown sample from fallen tree

7) **Description of New Sample:**
90A1125-S: 1600E/6+50S
B-horizon 30 cm depth poor soil development
colour = medium - red - brown

8) **Description of Topography.**
5° West
outcrop 10 m SE of anomaly

9) **Results of Investigation:**
[illegible]
WITH TR - 1% PY SOME [illegible] / FRACT FILL [illegible] + TR [illegible]

10) **Conclusions:**

NO IMMEDIATE SOURCE LOCATED.

Keewatin Engineering Inc.

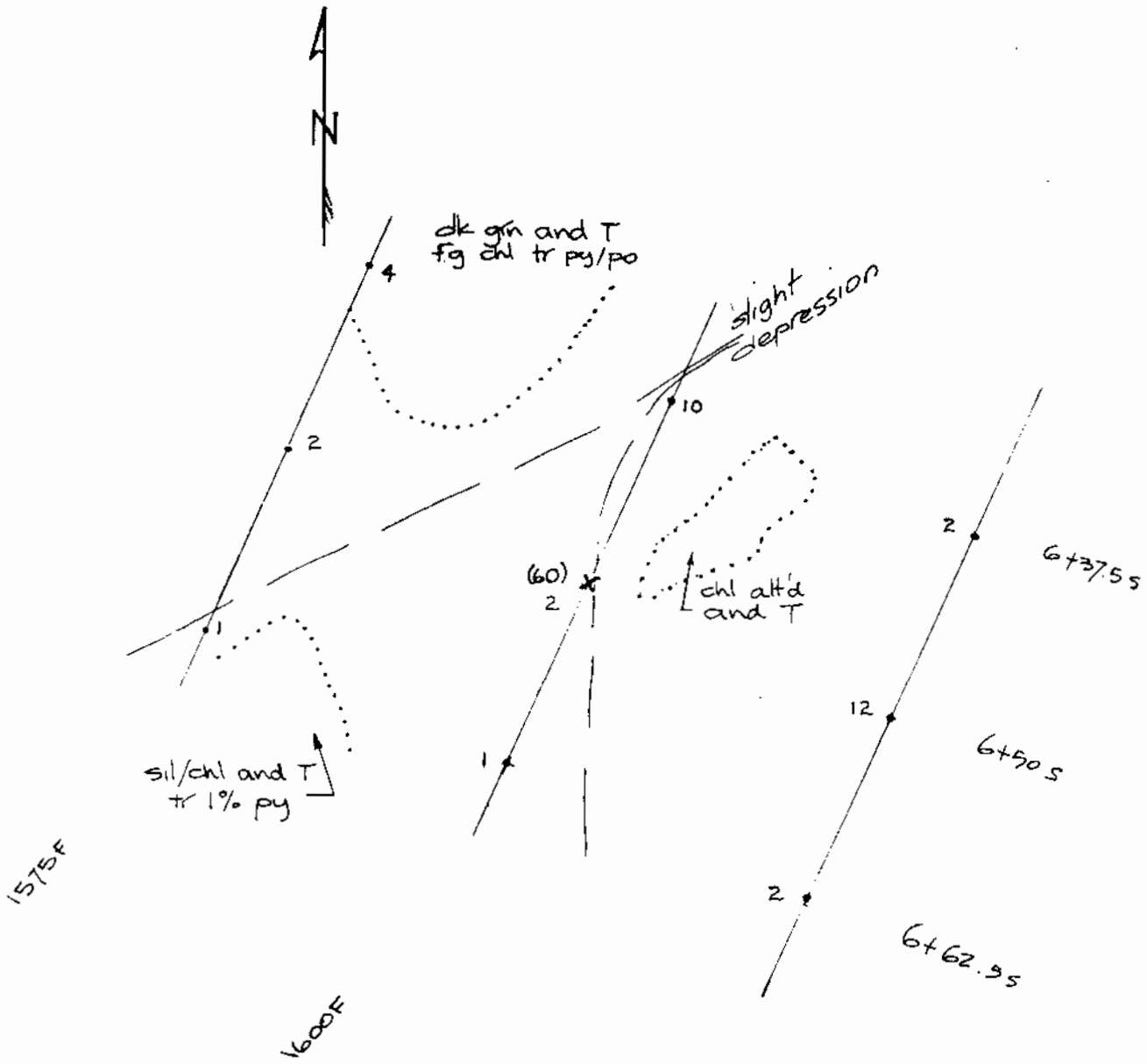
SOIL ANOMALY FOLLOW-UP

PREVIOUS SAMPLE 900 11 2 5-S: 1600F/6+50 S

JOY PROPERTY

0 5 15 25 m

SCALE = 1:500



LEGEND

- • detailed soil site
- X duplicate soil site
- (60) original result (ppb Au)
- ∴ outcrop
- and T andesitic tuff

0 5 10 15 20 25 m

Scale 1:500

Joy PROJECT

PREVIOUS SOIL ANOMALY (Ag) - 90 INVESTIGATION
(Element(s)) (Year)

1) **Location:** 1600E/6+00S

2) **Previous Value(s):** 4.2 ppm Ag.

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 28/1990

5) **Investigator(s):** Dave Barker, Sean Novak, Andy Muirhead

6) **Description of Previous Sample Collected:**
90G1125-S: 1600E/6+00S
Not found

7) **Description of New Sample:**
90A1255

B-horizon 15cm depth good soil development
angular fragments in sample
colour = light red brown

8) **Description of Topography:**
25° NW

Sample was taken just below a outcrop of rock it
was a light wooded forest that was mature.

9) **Results of Investigation:**

EXPOSURES ARE MAINLY silicified AND TUFFS
WITH TR-1% Py + Po - OCCASIONAL FRACTS & BLEBS.
Py/Po UPSLOPE OF ANOM.

10) **Conclusions:**

POSSIBLY A RESULT OF ELEVATED SULPHIDES
NO OBVIOUS Ag SOURCE.

Joy PROJECT

PREVIOUS SOIL ANOMALY (Cu - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1600E/5+755

2) **Previous Value(s):** 322 ppm Cu.

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 28/1990

5) **Investigator(s):** Dave Berkey, Sean Novak, Andy Whitehead

6) **Description of Previous Sample Collected:**
90-1125-S; 1600E/5+755
B-horizon 30cm depth good soil development
colour = medium red brown

7) **Description of New Sample:**
90-1125-S; 1600E/5+755
B-horizon, 40cm depth good soil development
angular fragments in sample
colour = medium red brown

8) **Description of Topography:**
35° N
Sample was taken in medium wooded mature forest
major creek 25m to N

9) **Results of Investigation:**
AREA HAS EXPOSURES OF COARSE MDi/Di
AND. Sil/chl And. -
MDi IS GENERALLY WELL MINERALISED W 2-4% COARSE
Py + TR Cpy.
And IS GENERALLY WKLY MIN'D.
A 4cm q.v. WITH 5% Py + 1-2% Cpy WAS FOUND JUST DOWN SLOPE. (4CA11ER-038)

10) **Conclusions:**
ANOMALY APPEARS TO HAVE COME FROM THE AREA OF INTRUSIVE CONTACT. AS CPy MINERALISATION IS PRESENT. THE SOURCE OF THE ANOMALY IS PROBABLY LOCAL.

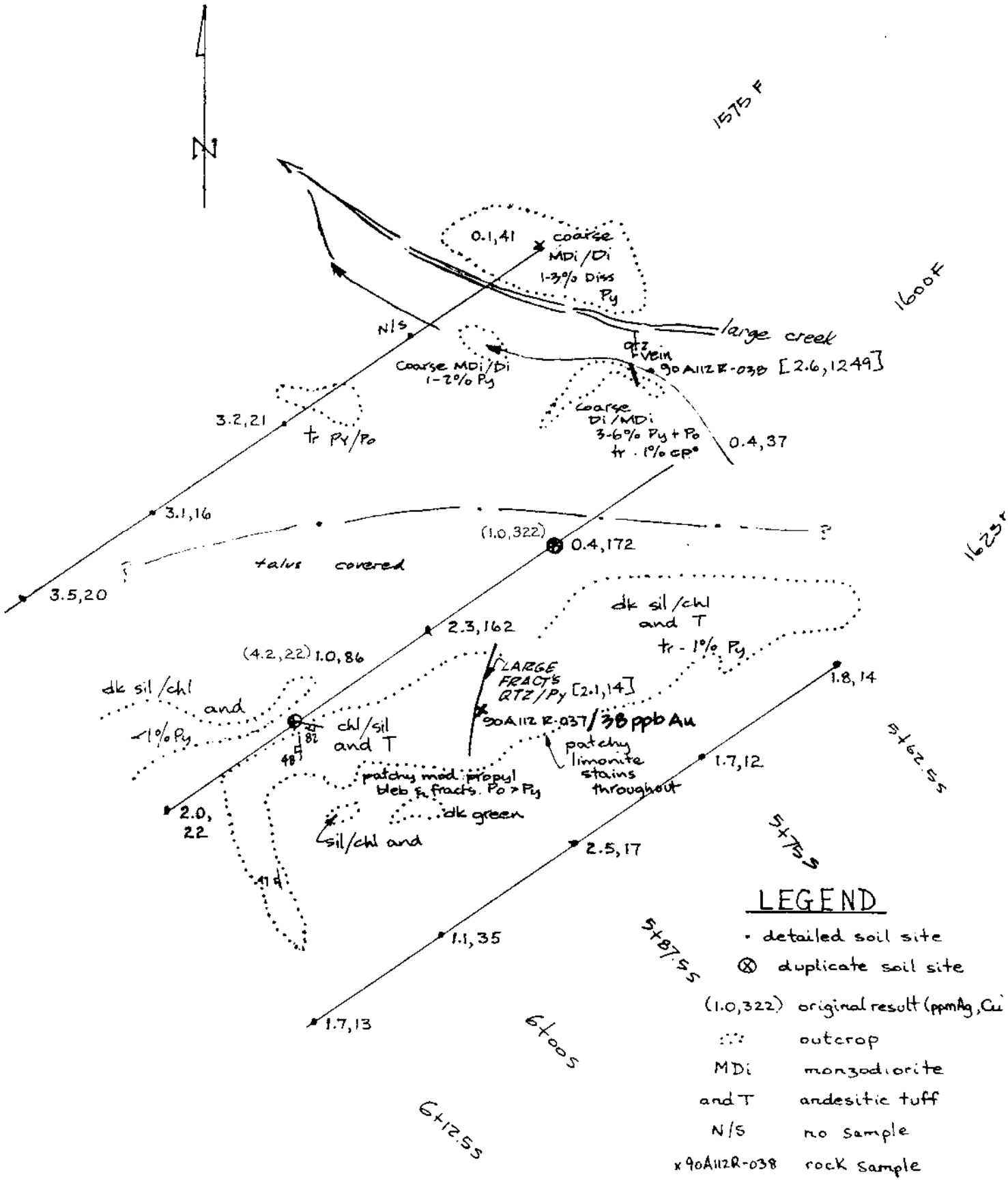
SOIL ANOMALY FOLLOW-UP

JOY PROPERTY

PREVIOUS SAMPLES 90Q112 S-S: 1600F/6+00S & 1575 S+75S

0 5 15 25 m

SCALE = 1:500



LEGEND

- detailed soil site
- ⊗ duplicate soil site
- (1.0,322) original result (ppm Ag, Cu
- ::: outcrop
- MDi monzodiorite
- and T andesitic tuff
- N/S no sample
- x 90A112R-038 rock sample

Joy PROJECT

PREVIOUS SOIL ANOMALY (Cu) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1600E/5+25S

2) **Previous Value(s):** 241 ppm Cu

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 28/90

5) **Investigator(s):** Dave Barker, Sean Novak, Andy Muirhead

6) **Description of Previous Sample Collected:**
90Q1125-S: 1600E/5+25S
B-horizon 40cm depth good soil development
colour = medium red orange

7) **Description of New Sample:**
90A1125-S: 1600E/5+25S
B-horizon 45cm depth good soil development
angular fragments
colour = medium red orange

8) **Description of Topography:**
45°S
sample was taken in light wooded mature forest.

9) **Results of Investigation:**
POSSIBLE STRUCTURE IN CREEK DOWNSLOPE OF SAMPLE
And TUFFS AND Di
- A SMALL ZONE OF Py + TR Cpy FINE FRACT'S/VNLTS FOUND JUST UPSLOPE OF ANOM.

10) **Conclusions:**
ANOMALY POSSIBLY A RESULT OF LOCALLY ELEVATED Py/CPy MIN

Jay PROJECT

PREVIOUS SOIL ANOMALY (Ag) - 90 INVESTIGATION
Element(s)

1) **Location:** 1600E/5400S

2) **Previous Value(s):** 4.1 ppm Ag.

3) **Year Collected:** 1990

4) **Date of Investigation:** aug 28/1990

5) **Investigator(s):** Dave Barker, Sean Novak, Andy Mainhead

6) **Description of Previous Sample Collected:**
90G1125-S: 1600E/5400S
Not found think sample may have been taken from up lifted tree.

7) **Description of New Sample:**
90A1125-S: 1600E/5400S
B-horizon 10cm depth accu soil development
angular fragments in sample
colour = medium red brown

8) **Description of Topography:**
25°NE
Medium wooded mature forest, mossy and light underbush

9) **Results of Investigation.**
LITTLE C/C WKLY PY MINERALIZED (TR-1%)
& Chl ALT'D TUFFS.

10) **Conclusions:**
No OBVIOUS SOURCE.

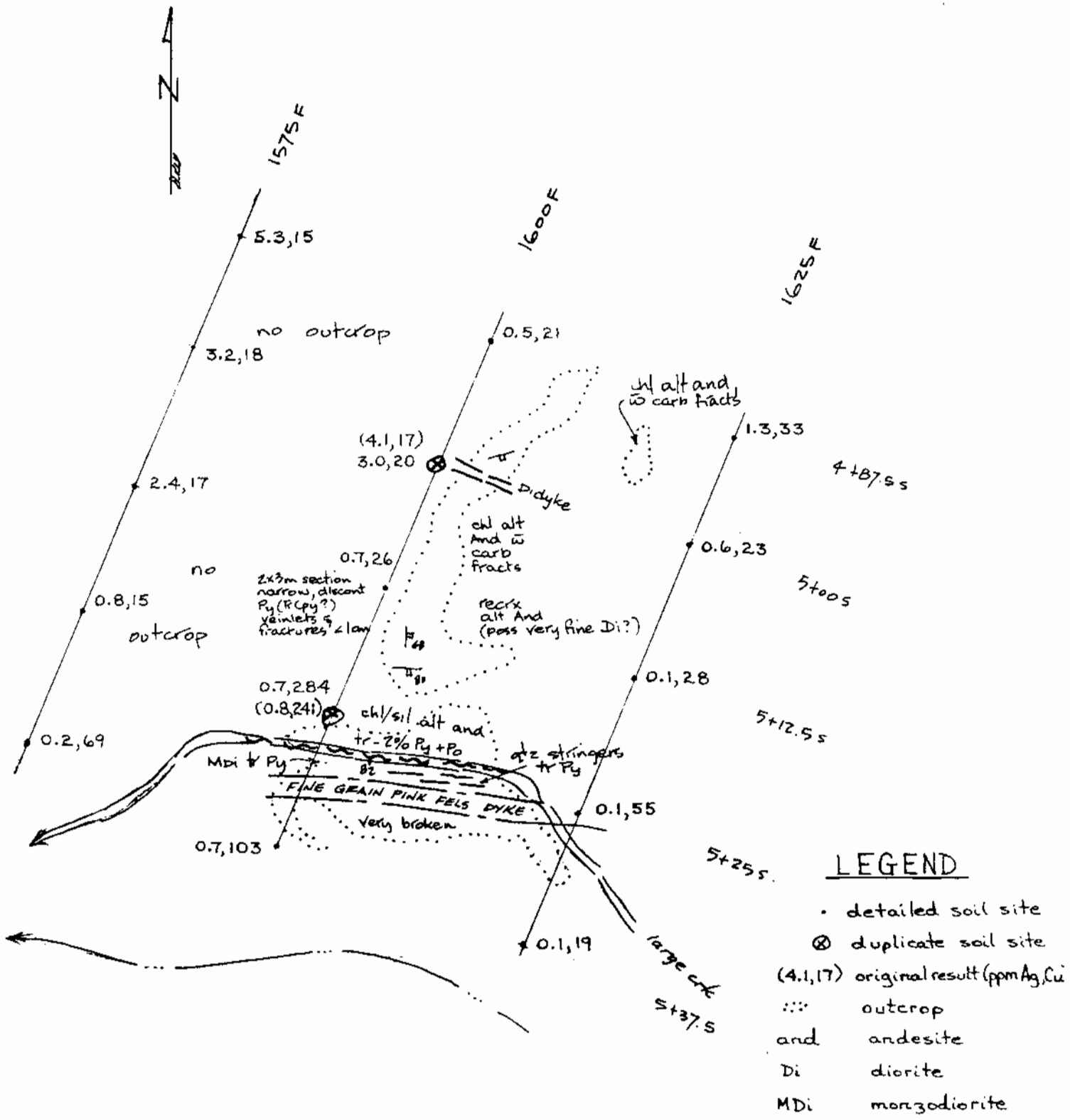
SOIL ANOMALY FOLLOW-UP

JOY PROPERTY

PREVIOUS SAMPLES: 90G1125-S: 1600E/5+25S & /5+00S.

0 5 15 25 M

SCALE 1:500



LEGEND

- · detailed soil site
- ⊗ duplicate soil site
- (4.1,17) original result (ppm Ag, Cu
- ::: outcrop
- and andesite
- Di diorite
- MDi monzodiorite

Joy PROJECT

PREVIOUS SOIL ANOMALY (Ag) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1600 F/41+25S

2) **Previous Value(s):** 4.7 ppm Ag.

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 28 1990

5) **Investigator(s):** SHAWN NOVAK, DAVE BARKER, ANDY MURHEAD

6) **Description of Previous Sample Collected:**
90Q1125-S:/1600F/41+25S
B HORIZON 40cm. DEPTH GOOD SOIL DEVELOPMENT
COLOR = MEDIUM RED BROWN.

7) **Description of New Sample:**
90A1125-S:/1600F/41+25S
B HORIZON 45cm. DEPTH GOOD SOIL DEVELOPMENT
ANGULAR FRAGMENTS COLOR = MEDIUM RED BROWN

8) **Description of Topography:**
LEVEL GROUND. SAMPLE TAKEN IN A
MEDIUM WOODED MATURE FOREST WITH
LIGHT UNDERBRUSH.

9) **Results of Investigation:**
MAPPING FOUND NO DYKES OR SILICIFIED T
TR - 1% Py

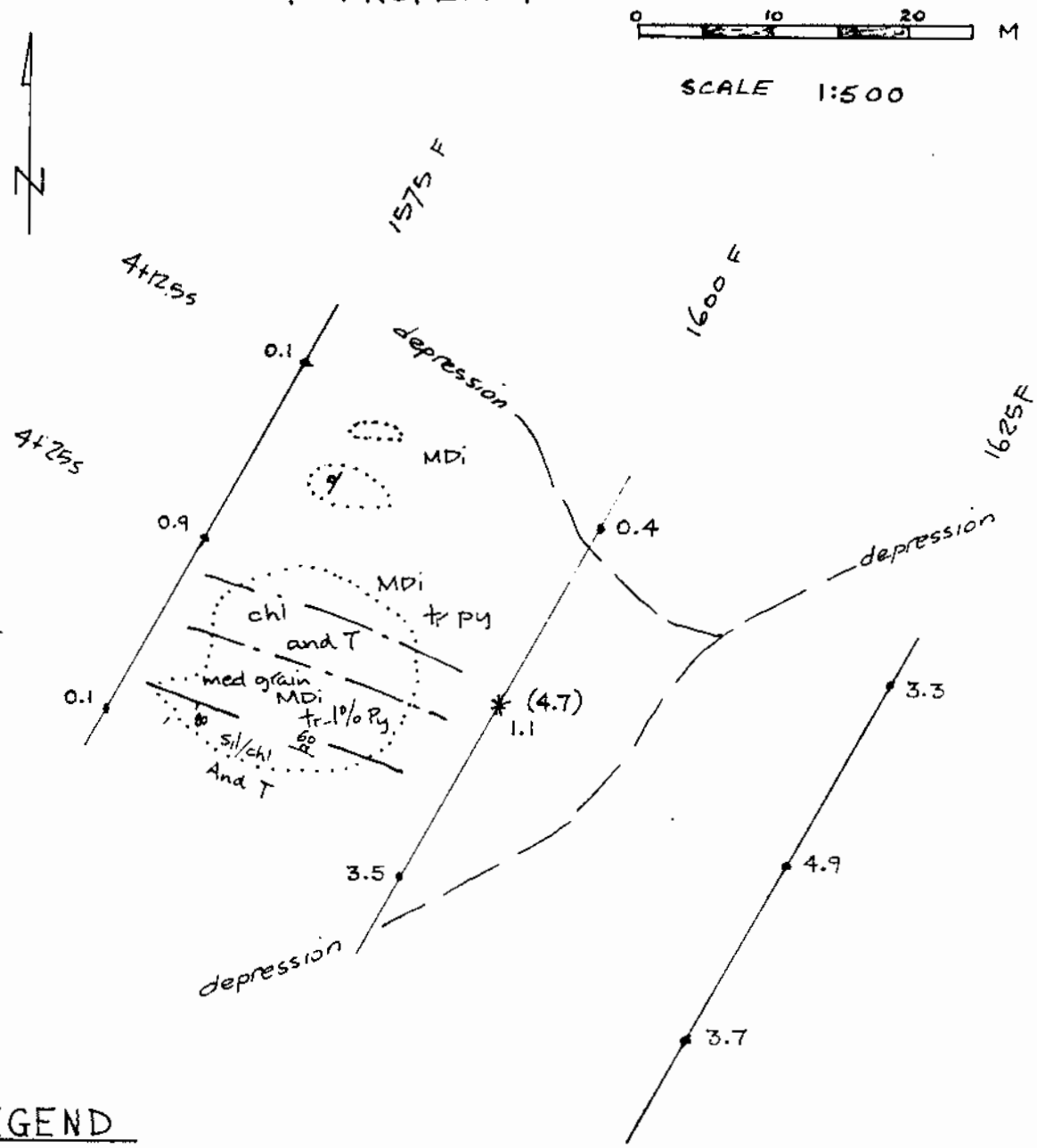
10) **Conclusions:**

NO IMMEDIATE SOURCE FOUND

SOIL ANOMALY FOLLOW UP

PREVIOUS SAMPLE : 90Q 112 S-5: 1600F / 4+25S.

JOY PROPERTY



LEGEND

- • detailed soil site
- * duplicate soil site
- (4.7) original result (ppm Ag)
- ::: outcrop
- AndT andesitic tuff
- MDi monzodiorite

Joy PROJECT

PREVIOUS SOIL ANOMALY (Au) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1600F/3+25S

2) **Previous Value(s):** 42 ppb

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug. 28, 1990

5) **Investigator(s):** SHAWN NOVAK, DAVE BARKER, ANDY MUIRHEAD

6) **Description of Previous Sample Collected:**
90Q1125-5:/1600F/3+25S
B HORIZON 25cm. DEPTH GOOD SOIL DEVELOPMENT
COLOR: MEDIUM RED BROWN BEDROCK PARENT MATERIAL

7) **Description of New Sample:**
90A1125-5:/1600F/3+25S
B HORIZON 30cm. DEPTH GOOD SOIL DEVELOPMENT
BEDROCK PARENT MATERIAL COLOR = MEDIUM RED BROWN

8) **Description of Topography:**
25' WEST. SAMPLE TAKEN IN A MEDIUM WOODED, MOSSY, DEVILS' CLUB COVERED AREA.

9) **Results of Investigation:**

NO OUTCROP IN AREA

10) **Conclusions:**

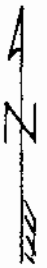
POSSIBLE DOWNSLOPE TRANSPORT / TILLS DERIVED?

SOIL ANOMALY FOLLOW UP.

PROJECT 90G112 E-F : 1600F/3+25 S

0 5 15 25 M

JOY PROPERTY SCALE 1:500



NO OUTCROP

3+12.5 S

• 1

• 1

• 2

3+25 S

• 2

90A112 E-F : 1600F/3+25S

2 (42)

• 1

3+37.5 S

• N/S

• 2

• 4

1625

1600

1575

LEGEND

- • detailed soil site
- ⊗ duplicate soil site
- (42) original result (ppb Au)
- N/S no sample

Jay PROJECT

PREVIOUS SOIL ANOMALY (As) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1600E/11+25S

2) **Previous Value(s):** 12ppm As

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug. 29/1990

5) **Investigator(s):** Vaun Male, Dave Barker, Sean Novak, Andy Muirhead

6) **Description of Previous Sample Collected:**
90C112S-S: 1600E/1125S
B-horizon 15 cm depth poor soil development
angular fragments in hole
colour: medium brown from exposed soil

7) **Description of New Sample:**
90A112S-S: 1600E/1125S
same as above

8) **Description of Topography:**
55° W
creek at 1+19S, runs W/SW
large gully with cliff/outcrop on both sides
sample below outcrop on side of cliff

9) **Results of Investigation:**
MATTED EXPOSURES ARE MODERATELY PROPYLITIC ANDESITE TUFFS, XTAL TUFFS WITH AVG 1-2% DISS & FINE Py. ONE SUBCROP (POSSIBLY BOULDER) DIRECTLY UPSLOPE FROM ANOMALY SITE HAD 5-8% DISS Py + 1-2% FISSY. SAMPLE 90A112R-039

10) **Conclusions:**
AS ANOMALY MOST LIKELY ORIGINATES AT 90A112R-039.

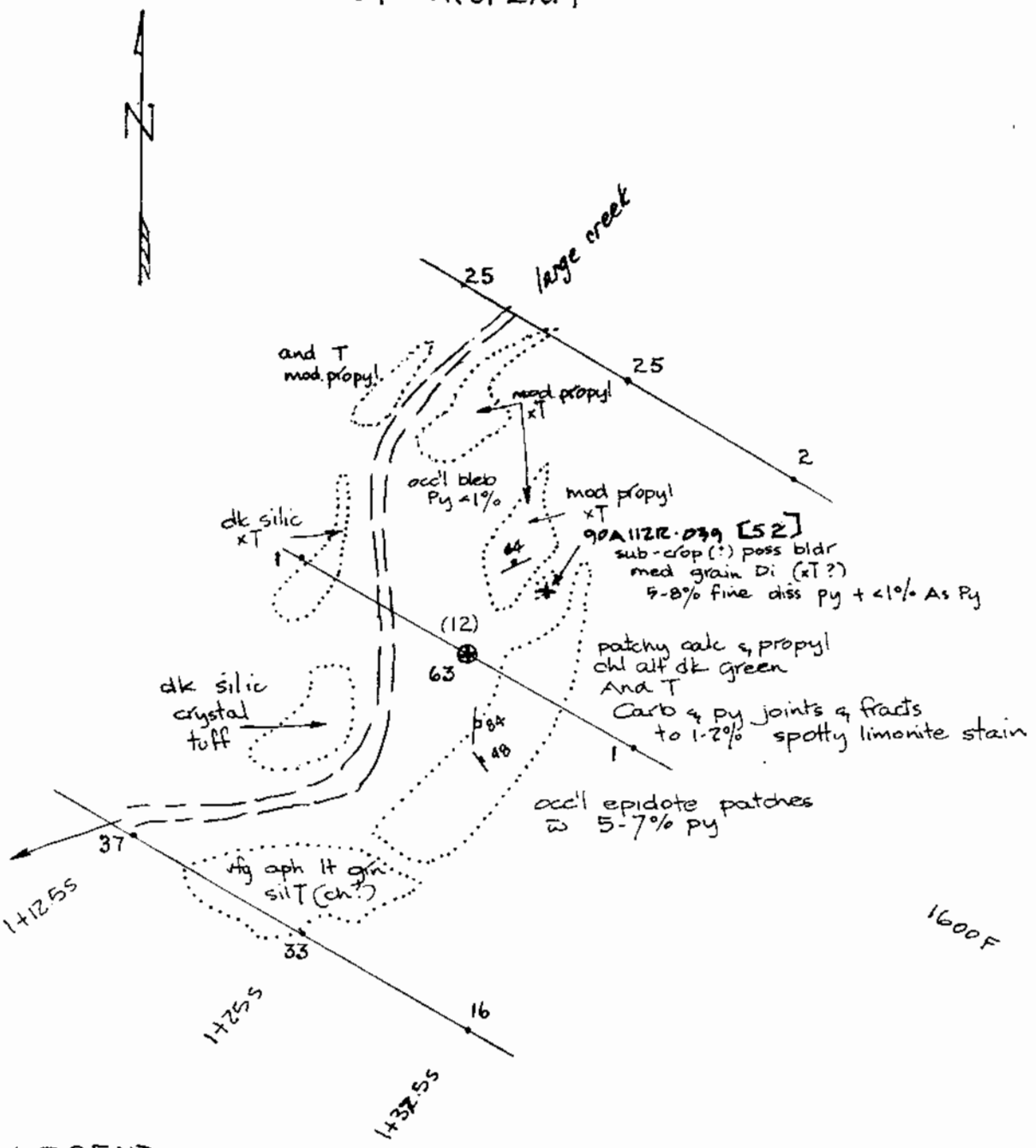
SOIL ANOMALY FOLLOW-UP

1600F/1+25S

0 10 20 M

SCALE 1:500

JOY PROPERTY



LEGEND

- • detailed soil site
- ⊗ duplicate soil site
- (12) original result (ppm As)
- X90A112R-039 rock sample
- ::: outcrop
- andT andesitic tuff
- xT crystal tuff

Joy PROJECT

PREVIOUS SOIL ANOMALY (Ag) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1600E/0+75S

2) **Previous Value(s):** 4.2 ppm Ag.

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 29/1990

5) **Investigator(s):** Dave Barker, Sean Novak, Dawn Malo, Andy Muirhead

6) **Description of Previous Sample Collected:**
90Q1125-5; 1600E/0+75S
B-horizon 40cm depth good soil development
colour = medium red orange

7) **Description of New Sample:**
90A1125-5; 1600E/0+75S
B-horizon 45cm depth good soil development
colour = medium red orange, angular fragments
in sample

8) **Description of Topography:**
10° SW
light wooded moisture forest were sample was taken

9) **Results of Investigation:**

As 0+50S.

10) **Conclusions:**

SEY PROJECT

PREVIOUS SOIL ANOMALY (Ag Element(s) ppm) INVESTIGATION

1) **Location:** 1600F/0+50S

2) **Previous Value(s):** 4.6 ppm Ag.

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug. 29, 1990

5) **Investigator(s):** SHAUN NOVAK, DAVE BARKER, VAUN MALO

6) **Description of Previous Sample Collected:**
90G1125-S:/1600F/0+50S
20cm DEPTH. LIGHTLY WOODED
15° SLOPE WEST B HORIZON. GOOD SOIL DEVELOPMENT.
COLOR = LIGHT RED BROWN

7) **Description of New Sample:**
90A1125-S:/1600F/0+50S
B HORIZON. 30cm DEPTH. GOOD SOIL DEVELOPMENT.
BEDROCK PARENT MATERIAL. COLOUR: LIGHT RED B...

8) **Description of Topography:**
15° WEST
SAMPLE TAKEN IN ORIGINAL HOLE, IN A LIGHTLY WOODED AREA WITH LITTLE UNDERBRUSH.

9) **Results of Investigation:**

SPARSE O/C And SILT & LITT.

WITH VERY LITTLE. (TR - 1%) Py MIN.

10) **Conclusions:**

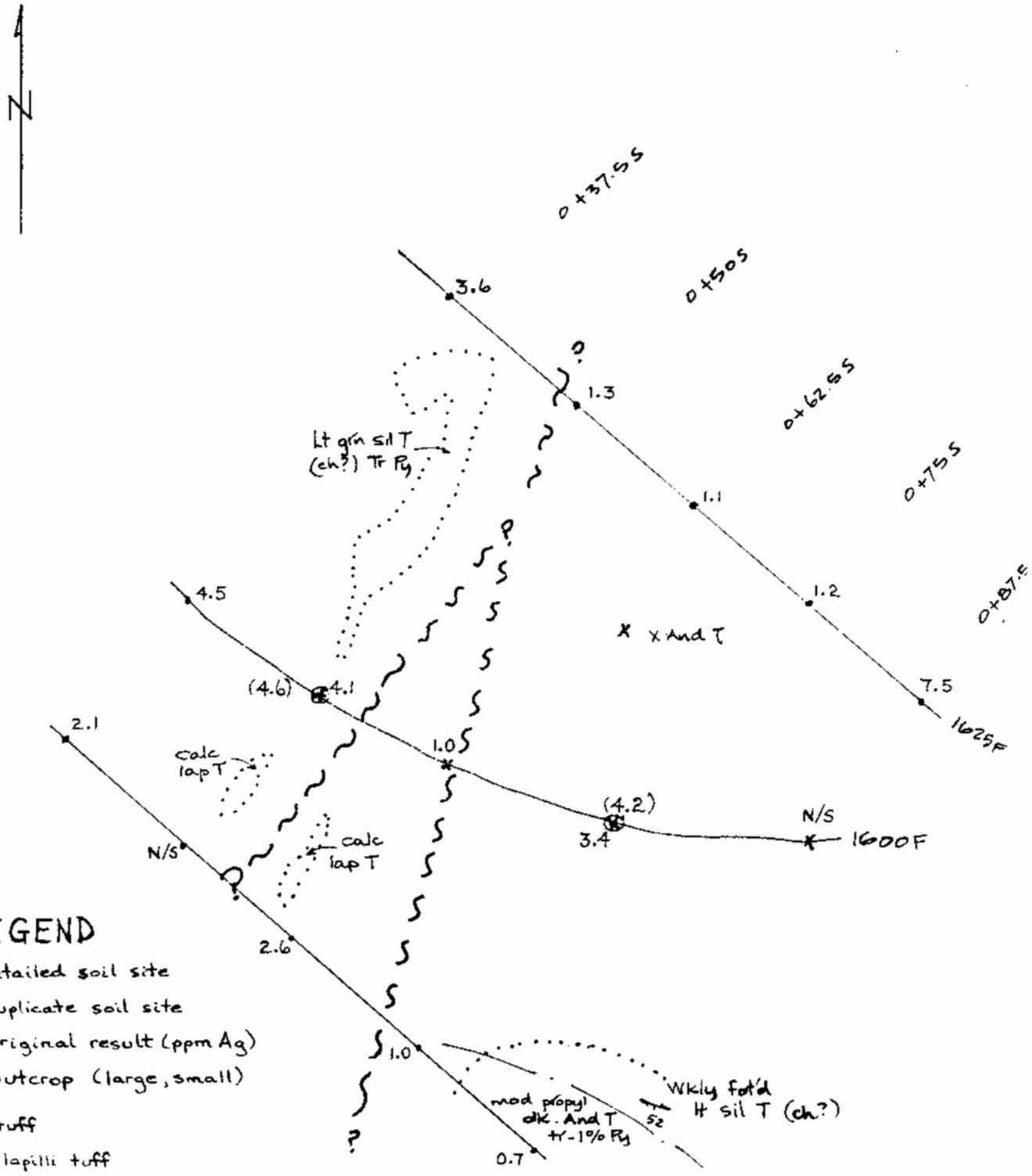
NO IMMEDIATE SOURCE FOUND.

SOIL ANOMALY FOLLOW UP

1600 F / 0+75 S
℄ / 0+50 S

SCALE 1: 500

JOY PROPERTY



LEGEND

- • detailed soil site
- ⊗ duplicate soil site
- (4.6) original result (ppm Ag)
- ::;X outcrop (large, small)
- T tuff
- lapT lapilli tuff
- AndT andesitic tuff
- N/S no sample
- ~~ gullies

0 5 10 15 20 25 m

Scale 1-500

Joy PROJECT

PREVIOUS SOIL ANOMALY (Ag Element(s) 90 INVESTIGATION

1) **Location:** 1600E/1+25N

2) **Previous Value(s):** 4.4 ppm Ag

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 29/1990

5) **Investigator(s):** Dave Barker, Sean Novak, Kaun Malo, Andy Muirhead

6) **Description of Previous Sample Collected:**
90M.125-S: 1600E/1+25N
B-horizon 40 cm depth good soil development
colour = light red brown

7) **Description of New Sample:**
90.1125-S: 1600E/1+25N
B-horizon 45cm depth good soil development
angular fragments in sample
colour = medium red brown

8) **Description of Topography:**
15° SW

Sample was taken in light wooded mature forest that was mossy and had huckleberry bushes

9) **Results of Investigation:**
MATTET EXPOSURES ARE ANDESITIC. TOLY LITHIC TUFF. AND CHLORITIC TUFFS. WITH TR - 1% PY

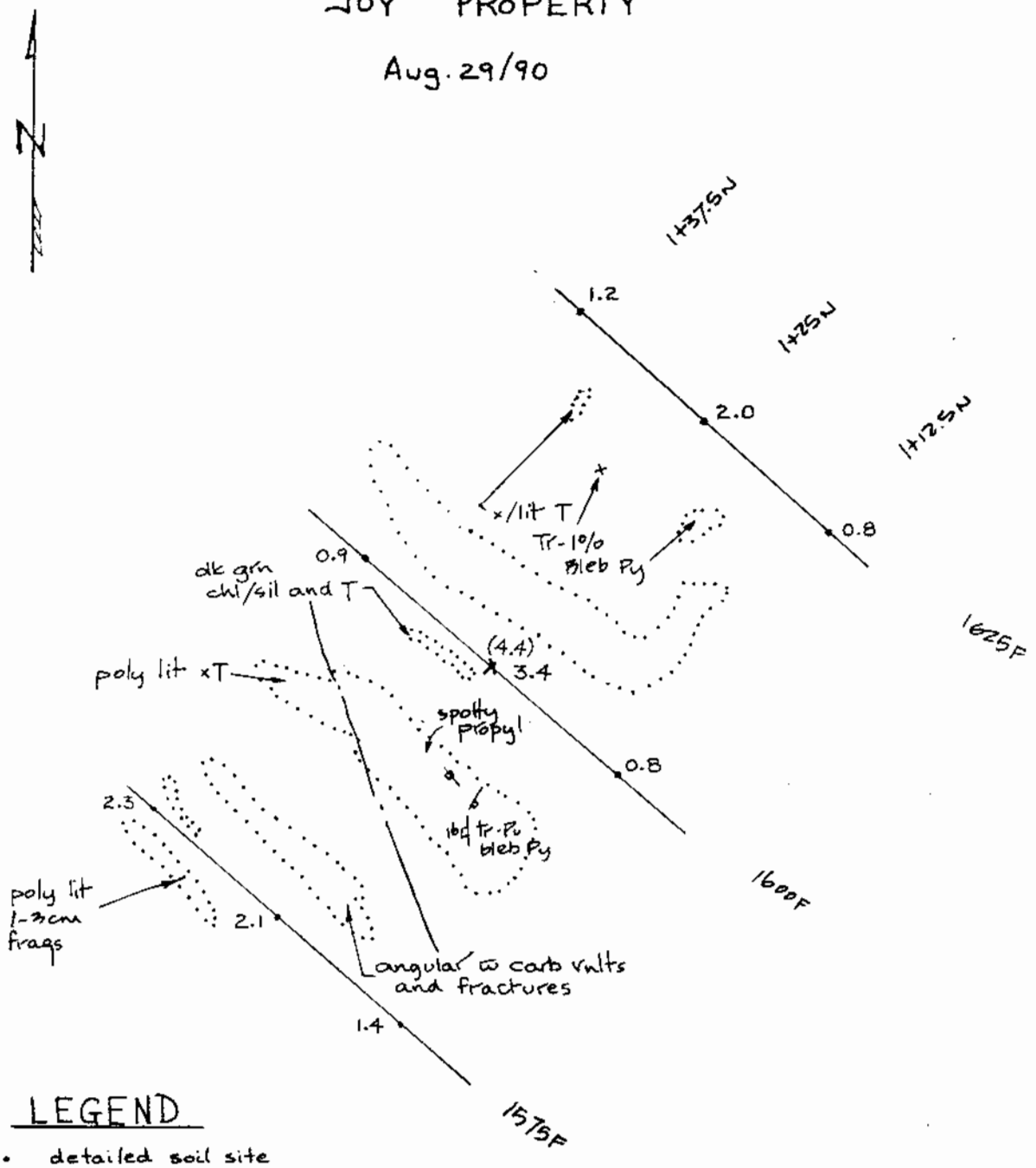
10) **Conclusions:**
NO OBVIOUS SOURCE FOR ANOMALY FOUND

SOIL ANOMALY FOLLOW UP

1600F/1+25N

JOY PROPERTY

Aug. 29/90



LEGEND

- • detailed soil site
- x duplicate soil site
- (4.4) original result (ppm Ag)
- ∴∵ outcrop
- andT andesitic tuff
- litT lithic tuff
- xT crystal tuff

SCALE 1:500

Joy PROJECT

PREVIOUS SOIL ANOMALY (Ag 90 INVESTIGATION
Element(s) Year

1) **Location:** 1600E/3+00N

2) **Previous Value(s):** 4.0 ppm Ag

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug. 29, 1990

5) **Investigator(s):** SHAWN NOVAK, DAVE BARKER, VAUN MALO.

6) **Description of Previous Sample Collected:**
90m 1125-N: / 1600E / 3+00N
SAMPLE TAKEN AT TOP OF CLIFF, AT BASE OF STUMP.
DEPTH: 20cm HORIZON: B GOOD SOIL DEVELOPMENT.
COLOR = LIGHT ORANGE BROWN.

7) **Description of New Sample:**
90A 1125 N: / 1600E / 3+00N
HORIZON: B 35cm. DEPTH. GOOD SOIL DEVELOPMENT.
BEDROCK PARENT MATERIAL. COLOUR: LIGHT ORANGE BROWN.
30° WEST.

8) **Description of Topography:**
SAMPLE TAKEN AT TOP OF 1cm. CLIFF THAT IS
MOSS COVERED AND SAMPLE IS NOT TAKEN AT
BASE OF STUMP

9) **Results of Investigation:**
OUTCROP MAPPED WAS And Xtal T.
WITH RARE Py FRACT'S & INCLTS.

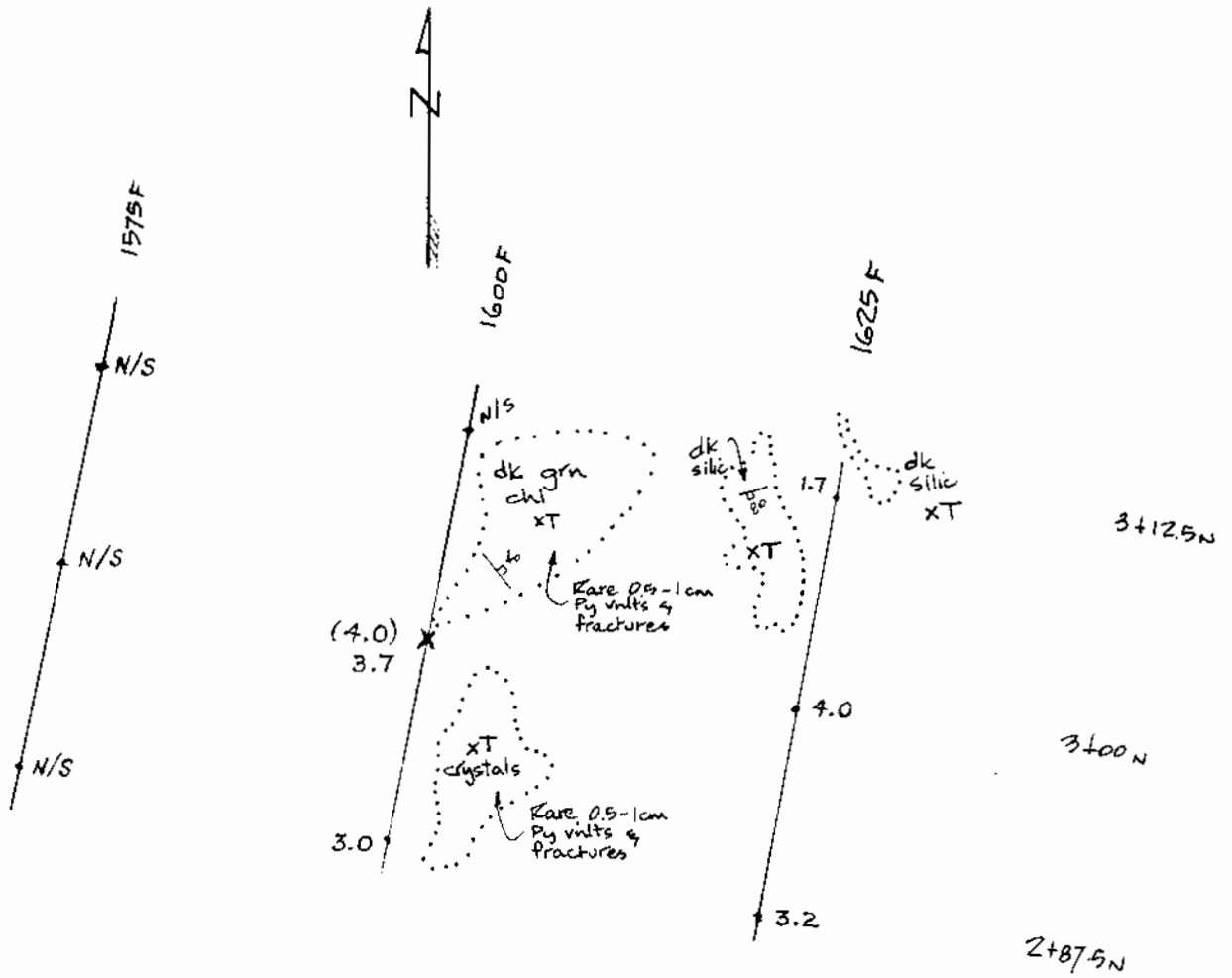
10) **Conclusions:**
NO IMMEDIATE SOURCE FOUND.

1600F/3+00N

JOY PROPERTY

0 5 15 25 M

SCALE 1:500



LEGEND

- • detailed soil site
- X duplicate soil site
- (4.0) original result (ppm Ag)
- :::: outcrop
- XT crystal tuff
- N/S no sample

Joy PROJECT

PREVIOUS SOIL ANOMALY (*Au* **) - *90* INVESTIGATION**
Element(s) Year

1) **Location:** *1600E/4+25N*

2) **Previous Value(s):** 120 ppb Au.

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 29/1990

5) **Investigator(s):** Dave Barker, Vaun Malo, Sean Novak, Andy Muirhead

6) **Description of Previous Sample Collected:**
90M1125-N: 1600E/4+25N
B-horizon 40 cm depth good soil development
colour = medium red brown

7) **Description of New Sample:**
90A1125-N: 1600E/4+25N
B-horizon 45cm depth good soil development
colour = medium red brown

8) **Description of Topography:**
15° W
Sample was taken in heavy wooded forest
Surrounded by devils club.

9) **Results of Investigation:**
MAPPING OF VERY SCARCE O/C FOUND DARK CHL ALT'D And T
AND xtal/lit T.
AREA MOSTLY COVERED WITH LARGE ANGULAR BOULDERS
OF MORE PYRITIC AND.

10) **Conclusions:**
ANOMALY POSSIBLY TRANSPORTED /DERIVED FROM
BOULDERS.

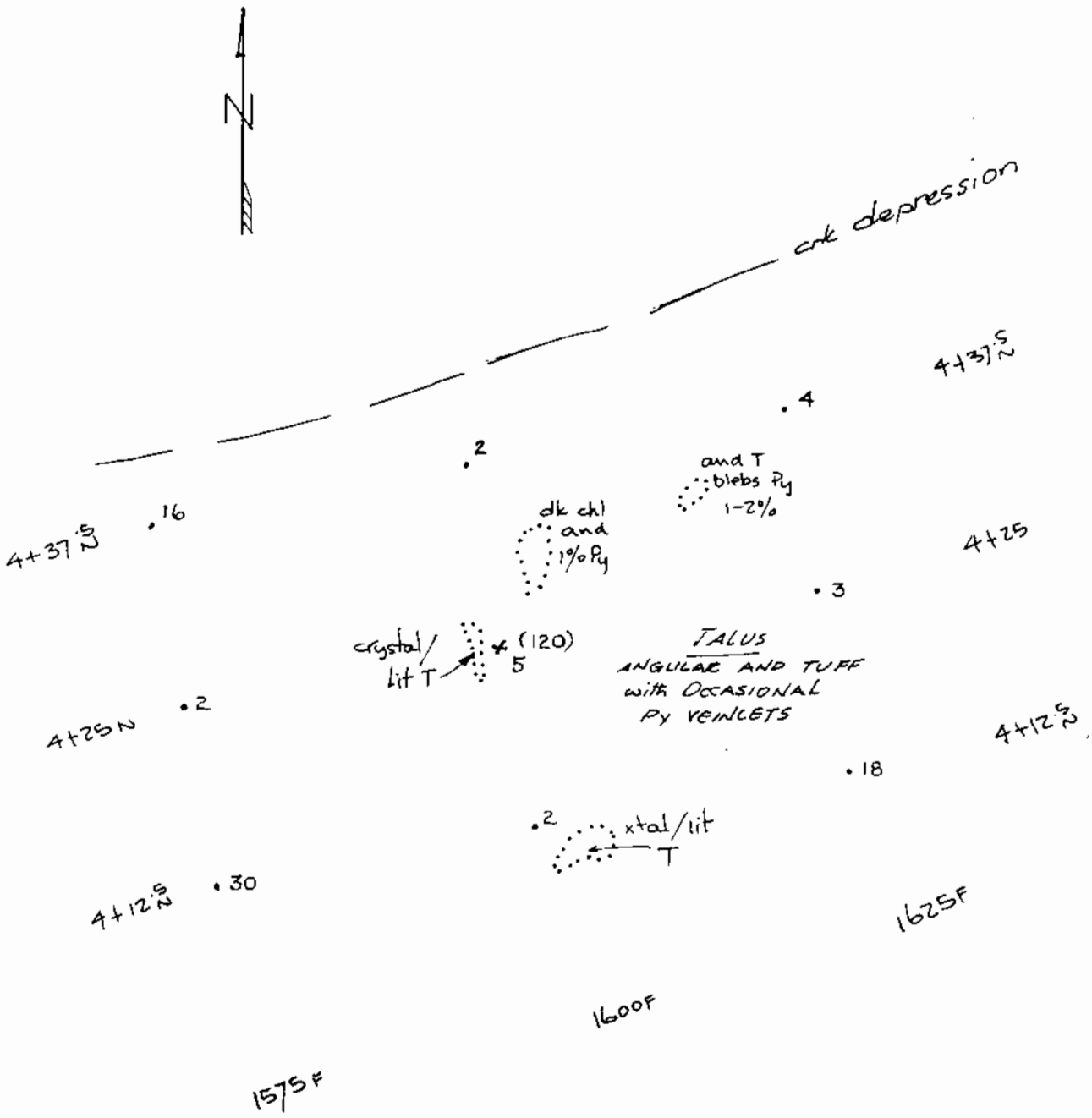
Keewatin Engineering Inc.

SOIL ANOMALY FOLLOW UP

1600F/4+25N

0 5 15 25 M

JOY PROPERTY SCALE 1:500



LEGEND

- • detailed soil site
- x duplicate soil site
- (120) original result (ppb Au)
- ::: outcrop
- and T andesitic tuff
- lit T lithic tuff
- xtal T crystal tuff

0 5 10 15 20 25m

Scale 1:500

Joy PROJECT

PREVIOUS SOIL ANOMALY (Cu - 1990 INVESTIGATION
Element(s) Year

1) **Location:** 1600E/7+00N

2) **Previous Value(s):** 283 ppm Cu.

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 29, 1990.

5) **Investigator(s):** SHAWN NOVAK, DAVE BARKER, VAUN MALO.

6) **Description of Previous Sample Collected:**
90M1125-N:/1600E/7+00N
ORIGINAL HOLE: 20cm DEPTH. COLOR: DARK ORANGE BROWN.
B HORIZON. GOOD SOIL DEVELOPMENT.
BEDROCK PARENT MATERIAL.

7) **Description of New Sample:**
90A1125-N:/1600E/7+00N.
B HORIZON. 35cm DEPTH. GOOD SOIL DEVELOPMENT.
COLOR = LIGHT ORANGE BROWN.
BEDROCK PARENT MATERIAL.

8) **Description of Topography:**
LESS THAN 10° SOUTH. SAMPLE TAKEN IN ORIGINAL HOLE AT A DEPTH OF 35cm. AREA WAS SPARSLEY WOODED, COVERED BY MOSS, WITH LITTLE UNDERBRUSH.

9) **Results of Investigation:**

NO OUTCROP FOUND.

10) **Conclusions:**

POSSIBLY BURIED LOCAL SOURCE.

Joy PROJECT

PREVIOUS SOIL ANOMALY (Ag - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1600E/7+25N

2) **Previous Value(s):** 4.0 ppm Ag

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 29/90

5) **Investigator(s):** Dave Barker, Dawn Malo, Sean Novak, Andy Muirhead

6) **Description of Previous Sample Collected:**
90M1125N: 1600E/7+25N
B horizon 25cm depth good soil development
colour = medium red brown

7) **Description of New Sample:**
90A1125-N: 1600E/7+25N
B-horizon 30cm depth good soil development
angular fragments in sample
colour = medium red brown

8) **Description of Topography:**
>5°S
Sample was taken in light wooded mature forest.

9) **Results of Investigation:**

As 7+00N

10) **Conclusions:**

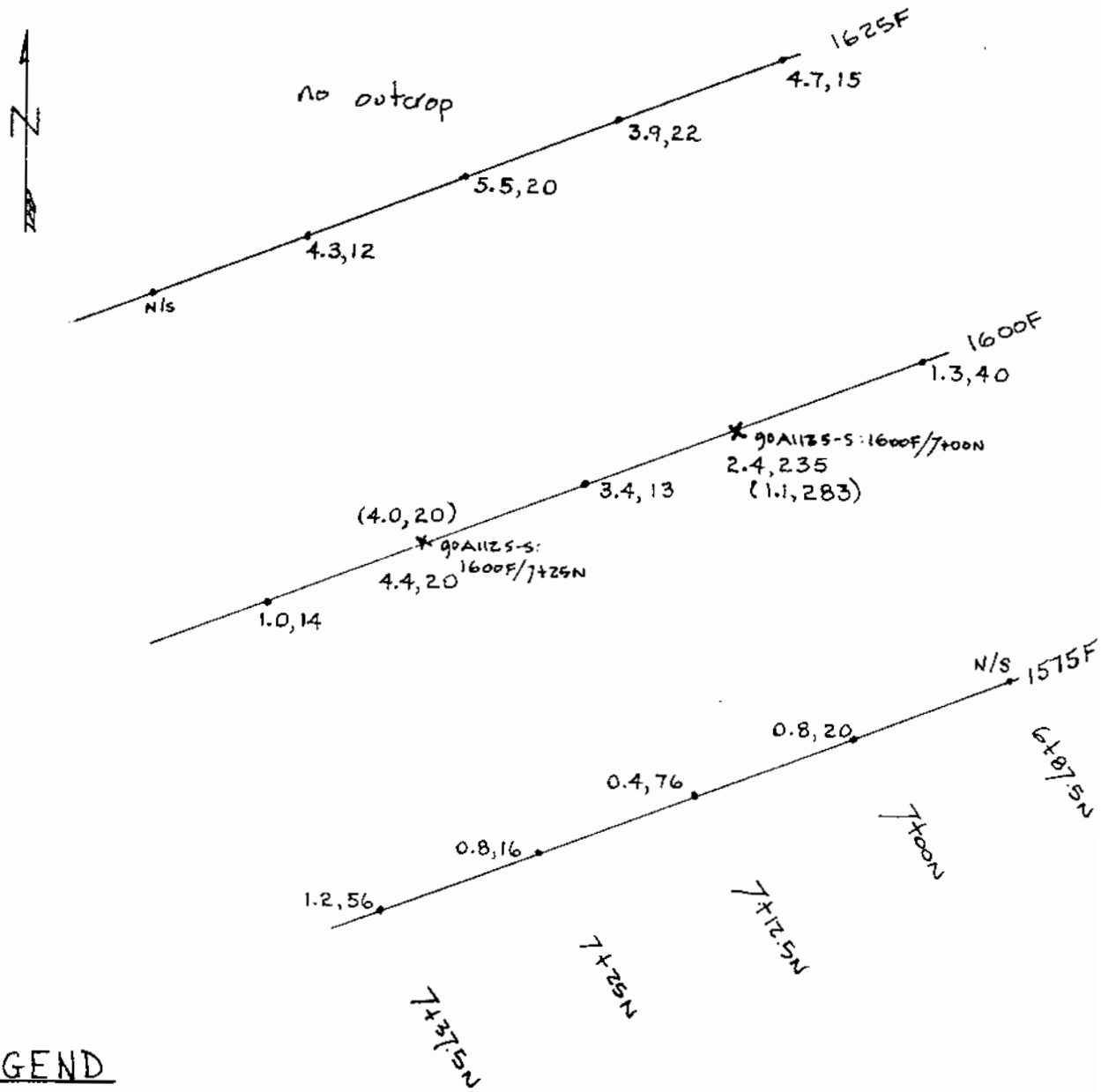
SOIL ANOMALY FOLLOW UP

PREVIOUS SAMPLE : 90AII12 S-S: 1600F/7+00N

0 5 15 25 M

JOY PROPERTY /7+25N

SCALE 1:500



LEGEND

- • detailed soil site
- x duplicate soil site
- (1.1,283) original result (ppm Ag, Cu)
- N/S no sample

Joy [illegible]

PREVIOUS SO[illegible] Ag 90 INVESTIGATION

1) **Location:** 1600/8400N

2) **Previous Value(s):** 4.0 ppm Ag.

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 29/90

5) **Investigator(s):** Dave Barker, Vaun Wilson, Sean Novak, Andy Muirhead

6) **Description of Previous Sample:**
90-1125-N. 1600E/8400N
B-horizon 25cm depth good soil development
Colour = medium red brown

7) **Description of New Sample:**
90-1125-N. 1600E/8400N
B-horizon 35cm depth good soil development
angular fragments in sample
Colour = medium red brown

8) **Description of Location:**
5°S.E.
Sample was taken in heavy wooded mature forest.

9) **Results of Investigation:**
VERY LITTLE C/C.
Xtal/Lit T = Tr - 1% F/.

10) **Conclusions:**
NO IMMEDIATE SOURCE FOUND.

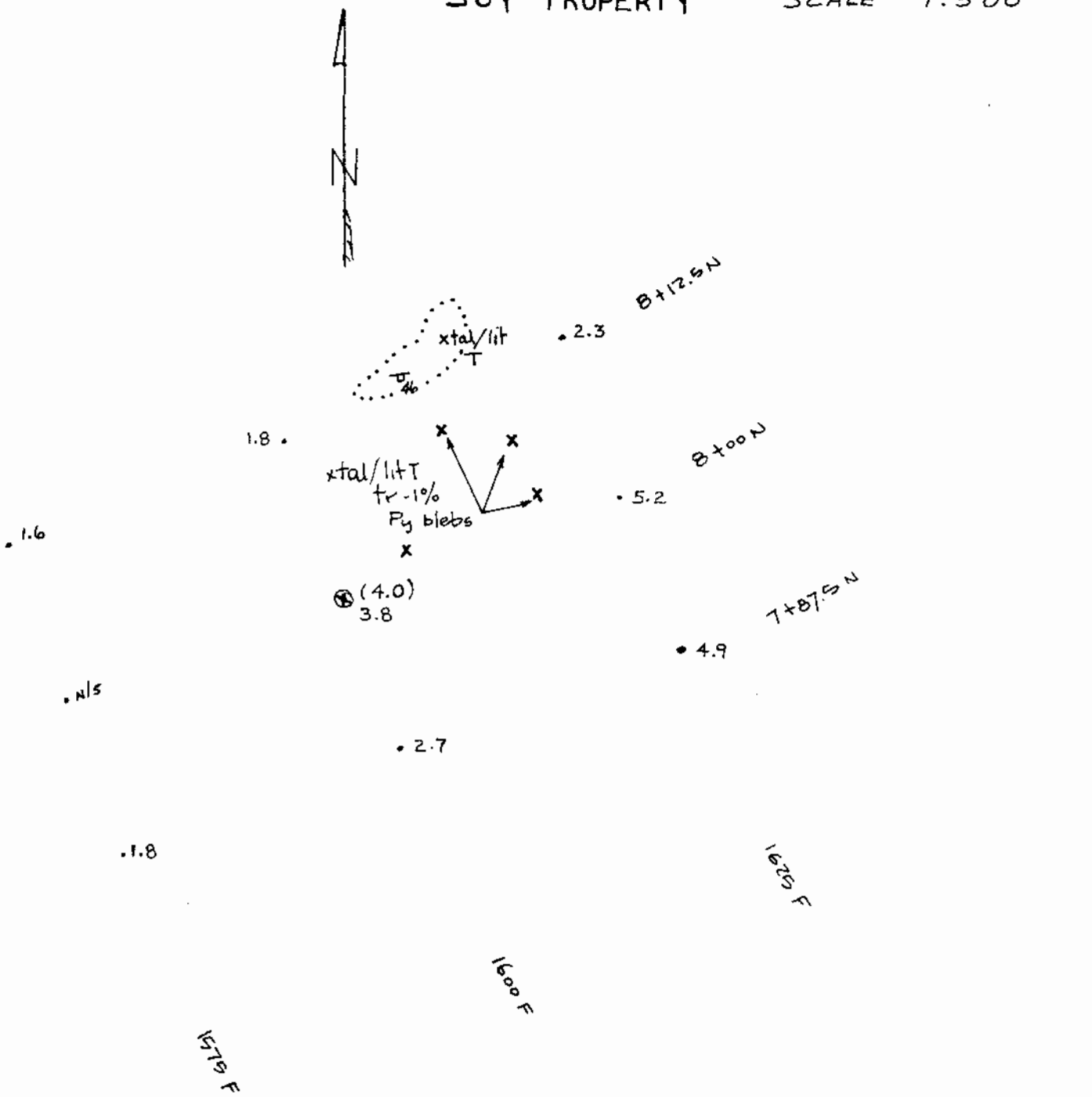
[illegible] Engineering Inc.

SOIL ANOMALY FOLLOW UP

1600F/8+00N

0 5 15 25 m

JOY PROPERTY SCALE 1:500



LEGEND

- • detailed soil site
- ⊗ duplicate soil site
- (4.0) original result (ppm Ag)
- ∴, x outcrop (large, small)
- xtal/litT crystal/lithic tuff
- N/S no sample

0 5 10 15 20 25m

1:500

Joy **PROJECT**

PREVIOUS SOIL ANOMALY (Au) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1100E/9150S

2) **Previous Value(s):** 120 ppb Au

3) **Year Collected:** 1990

4) **Date of Investigation:** SEPT 10/90

5) **Investigator(s):** R. TRAVIS, S. McTague, D. Barker

6) **Description of Previous Sample Collected:**
90K1125-S 1105E/9150S
o/c sample not found
POSSIBLY TAKEN NEAR/ON TREE ROOT ?

7) **Description of New Sample:**
90T1125-S. 1100E/9150S
B-horizon 20cm depth good soil development
angular fragments in sample
Color = medium orange brown

8) **Description of Terrain:**
Less than 5°NW Heavy wooded thick young forest and MOSS.

9) **Results of Investigation:**
A feldspar porphyry (monzodiorite) outcrop occurs in the NE corner of the investigated area. Limited, small outcrops of hornfelsed ? fractured siltstone/argillite occur within the detailed area.

10) **Conclusions:**
Anomalous value may be attributed to contact of intrusive rocks with sediments.

Sept. 10/90
A Travis
D Barker
S McTague

JOY
SOIL ANOMALY
1100 E / 9+50 S

1090 E

33 • SLT/SST
Poorly exposed outcrop with tr. Py

SLT/SST
• 4

Fract alt SLT/ARG

10
Smooth outcrop covered by moss little relief
SLT/SST

1100 E

• 153

(122)
× 33

fract alt SLT/ARG
3 • 90T112R-039 [2]
(NOTE: Labelled R-040 in field)

1110 E

36 • FP (MDi)
alt FP

• 7

2 • fract alt ARG?

9+37.5S

9+50S

9+62.5S

LEGEND

- • detailed soil site
- × duplicate soil site
- (122) original result (ppb Au)
- 33 ppb Au
- × 90T112R-039 rock sample
- ⋰⋱ outcrop
- Δ float
- ARG argillite
- FP feldspar porphyry
- MDi monzodiorite
- SLT siltstone
- SST sandstone

fract alt ARG?

0 5 10 15 20 m
SCALE 1:500

Joy **PROJECT**

PREVIOUS SOIL ANOMALY (Ag) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1100E/ 7+50S

2) **Previous Value(s):** 5.8 ppm Ag

3) **Year Collected:** 1990

4) **Date of Investigation:** SEPT 10/90

5) **Investigator(s):** A. Kravis, S. McTaggart, D Barker

6) **Description of Previous Sample Collected:**
90K1125-5: 1100E/7+50S
Not found sample may have been taken from uplift tree stump.

7) **Description of New Sample:**
90T1125-5: 1100E/7+50S
B-horizon 25cm depth good soil development
angular fragments in sample
color = medium orange brown

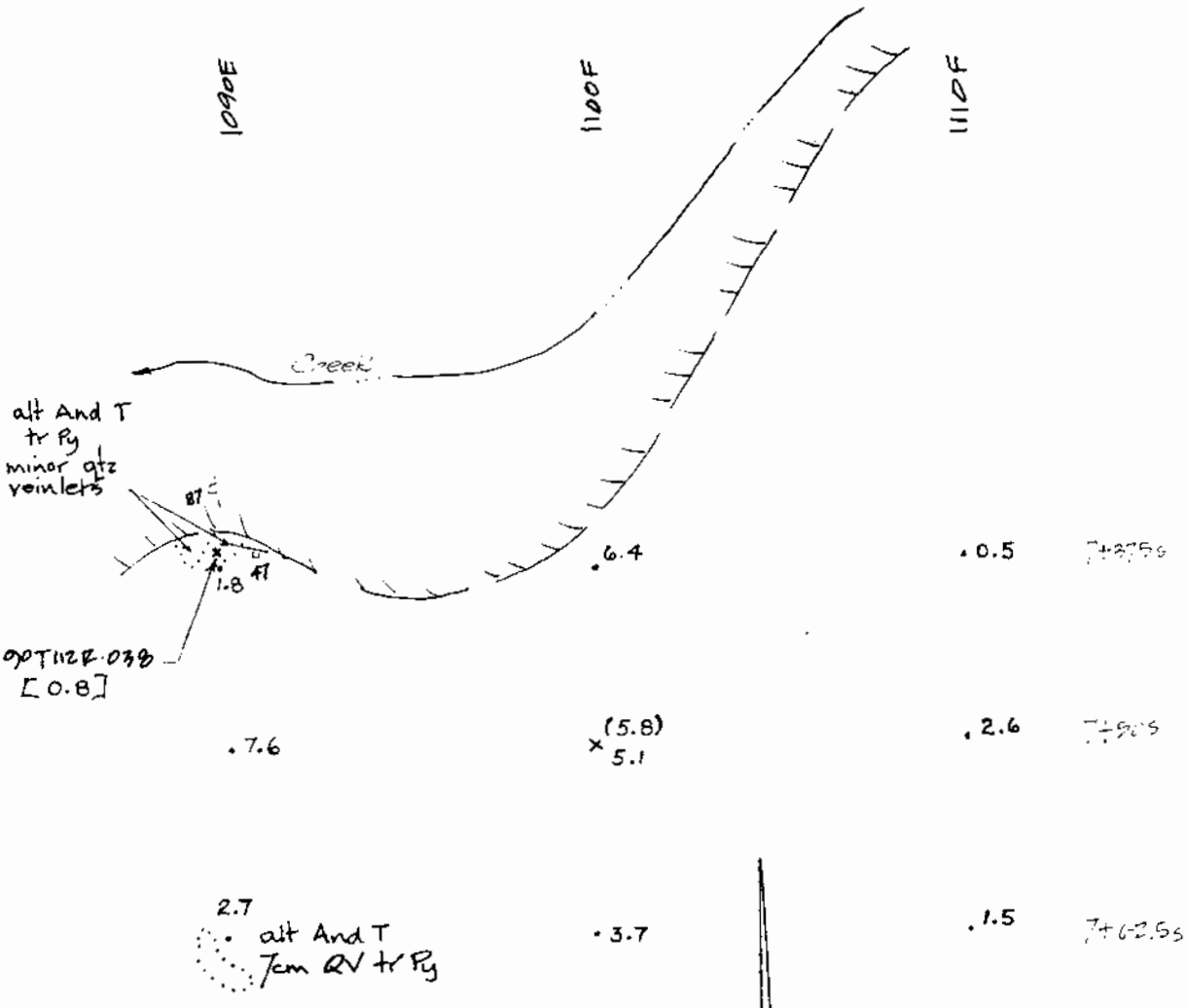
8) **Description of Sample Area:**
Level medium wooded mature forest that was mossy and had Huckleberry bushes.

9) **Results of Investigation:**
VERY LITTLE OUTCROP WAS FOUND IN THE INVESTIGATED AREA. OUTCROP WAS FOUND AT THE BREAK IN SLOPE TO A CREEK. HERE AN APLITE DYKE WAS FOUND CUTTING ANDESITE AND ANDESITE TUFF.

10) **Conclusions:**
Anomalous value may be attributed to contact of aplite dykes with andesitic tuffs.

JOY PROPERTY
SOIL ANOMALY
1100F / 7+50S

sept 10 90
A. Travis, S. McTague
D. Baker



LEGEND

- • detailed soil site
- × duplicate soil site

(5.8) original result (ppm Ag)

6.4 ppm Ag

×90T112R-038 rock sample

outcrop

And T andesitic tuff

Jay 112 PROJECT

PREVIOUS SOIL ANOMALY (Au) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1100 E 3+75 N

2) **Previous Value(s):** 230 ppb

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug. 27 /90

5) **Investigator(s):** Tim Paquette , Poitr , Randy

6) **Description of Previous Sample Collected:**
taken from tree roots , dark red brown sample.
bedrock, B horizon , Fair divisions
90K112S-S: 1100 E / 3+75N

7) **Description of New Sample:**
taken from roots of fallen tree, dark red brown sample,
bedrock, B horizon , fair devisions
90K112S-R1 1100E / 3+75 N

8) **Description of Topography:**
Slope runs 30° E, medium wooded

9) **Results of Investigation:**
Investigated area consists of andesite (volcanic tuff?)
Rock appears to be often often siliceous, small, < 1 mm long
Ephenocrysts are ocassionally seen.
Locally euhedral pyrite < 1% occures.

10) **Conclusions:**
No immediate source of the mineralization was found

Joy property

Soil anomaly follow up

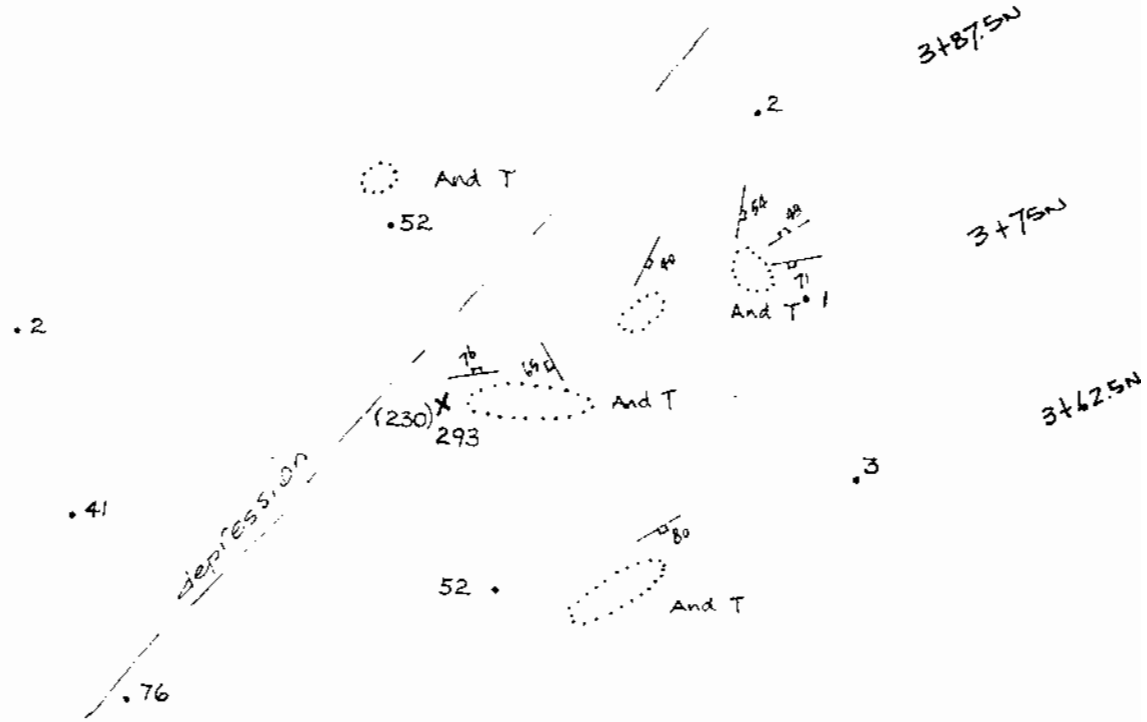
Elev. 1100 Feet / 3+75N

Aug. 27/90

N

LEGEND

- • detailed soil site
- X duplicate soil site
- (230) original result (ppb Au)
- 52 ppb Au
- ∴ outcrop
- AndT andesitic tuff



Prefix 90L112 S-N:

Jay 112 PROJECT

PREVIOUS SOIL ANOMALY (Ag) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1100 F 6+50 N

2) **Previous Value(s):** 4.4 ppm

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug 27 /90

5) **Investigator(s):** Tim Paquette, Peter, Randy

6) **Description of Previous Sample Collected:**
taken 20cm deep, drift, medium red brown sample, good decisions, B horizon sampled
90L112 S-S. 1100F / 6+50N

7) **Description of New Sample:**
taken from 25 cm, drift, medium red brown sample, good decisions, B horizon sampled
90L112S-S 1100F / 6+50N

8) **Description of Topography:**
level ground, medium wooded

9) **Results of Investigation:**
Andesite with locally well developed F[illegible] was mapped within investigated area.
Locally fine disseminated pyrite up to 4% occurs.

10) **Conclusions:**
No immediate source of the mineralization was found
Samples 90L112R-060 & 90L112R-061 were taken
Mineralization could be related to the structure followed by the creek.

Keewatin Engineering Inc.

Jay 112 PROJECT

PREVIOUS SOIL ANOMALY (Ag - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1100E 6+75N

2) **Previous Value(s):** 5.0 ppm

3) **Year Collected:** 90

4) **Date of Investigation:** Aug 27/90

5) **Investigator(s):** Tim Paquette, Pietr, Randy

6) **Description of Previous Sample Collected:**
from B horizon, good devisions, medium red brown, bedrock

90K112S-S 1100E / 6+75N

7) **Description of New Sample:**
good devisions, From B horizon, medium red brown, bedrock.

90L112S-S 1100E / 6+75N

8) **Description of Topography:**
Sloped 10° E in medium wooded Forest.

9) **Results of Investigation:**
See previous page

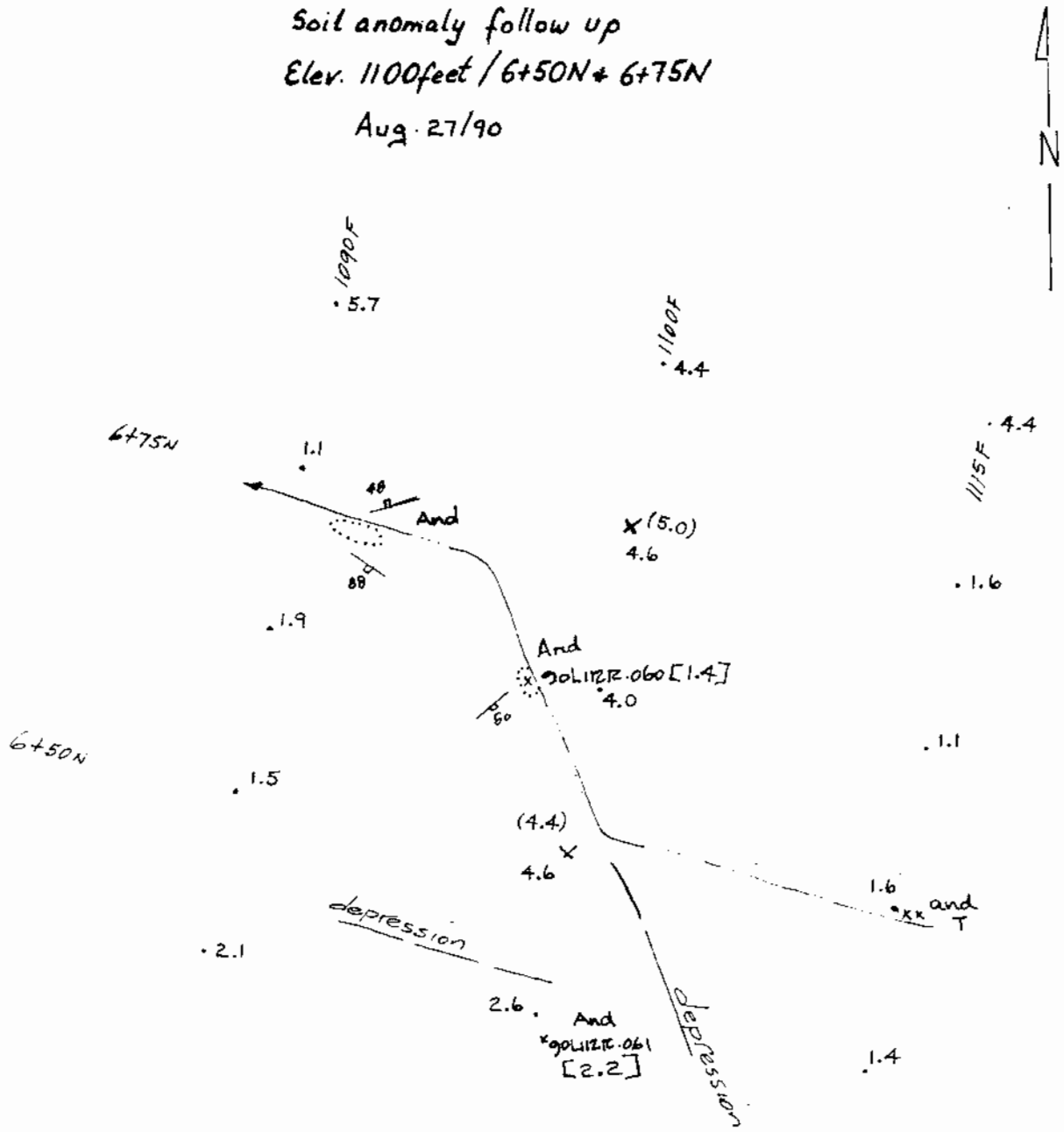
10) **Conclusions:**
See previous page.

Joy property

Soil anomaly follow up

Elev. 1100feet / 6+50N & 6+75N

Aug. 27/90



Prefix 90L112S-N:

LEGEND

- • detailed soil site
- X duplicate soil site
- (4.4) original result (ppm Ag)
- 2.1 ppm Ag
- × 90L112R-060 rock sample
- ∴ outcrop
- And andesite

0 5 10M

Scale 1:500

Jag 112 PROJECT

PREVIOUS SOIL ANOMALY (Ag) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1100 E 7+50 N

2) **Previous Value(s):** 4.4 ppm

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug. 27/90

5) **Investigator(s):** Tim Paquette, Pietr, Randy

6) **Description of Previous Sample Collected:**
taken 30 cm deep, bedrock, light red brown, good dev., B horizon sampled

90K112S-5 1100E / 7+50N

7) **Description of New Sample:**
taken 35 cm deep, bedrock, light red brown, good devisions, B horizon sampled

90L112S-5 1100E / 7+50 N

8) **Description of Topography:**
Sloped at 15° E, medium wooded

9) **Results of Investigation:**
Investigated area consists of andesite (andesite tuff) locally 1% of pyrite and 1% of epidote occurs.

10) **Conclusions:**
No immediate source of the mineralization was found.

Jay 112 PROJECT

PREVIOUS SOIL ANOMALY (Au) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1100 F 7+75 N

2) **Previous Value(s):** 42 ppm

3) **Year Collected:** 90

4) **Date of Investigation:** Aug. 27/90

5) **Investigator(s):** Tim Paquette, Piotr, Randy

6) **Description of Previous Sample Collected:**
taken From uproot tree, B horizon. medium red brown sample, bedrock

9061125-S: 1100F / 7+75N

7) **Description of New Sample:**
taken From uproot tree, B horizon. medium red brown, bedrock

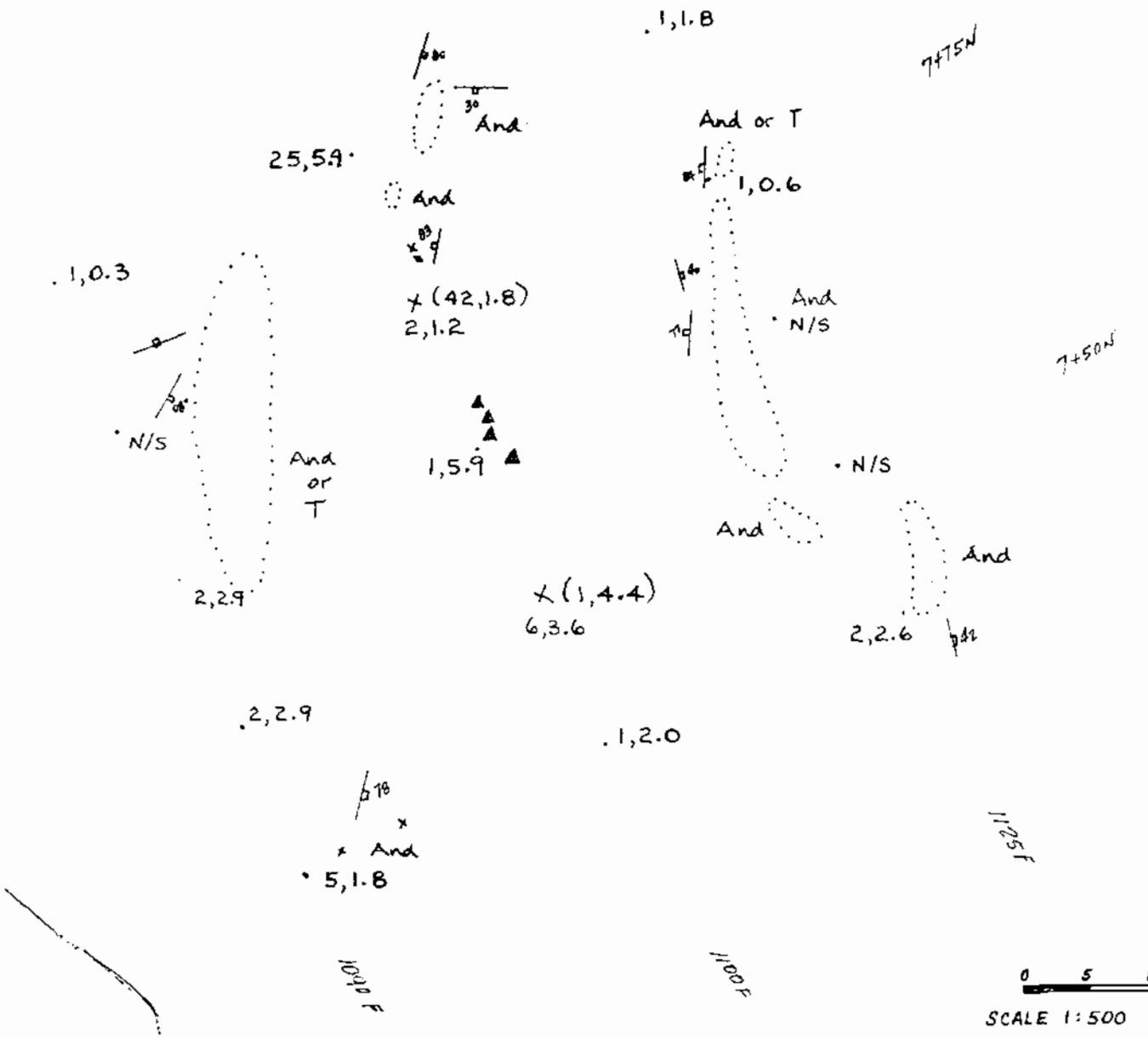
9061125-S. 1100F / 7+75N

8) **Description of Topography:**
Sloped 40°E in medium wooded Forest.

9) **Results of Investigation:**
-see previous page

10) **Conclusions:**
-see previous page

Jay property
Soil anomaly follow up
Elev. 1100Feet / 7+50N & 7+75N
Aug. 27/90



Prefix 90L1125-N:

LEGEND

- . detailed soil site
- X duplicate soil site
- (1,4.4) original result (ppb Au, ppm Ag)
- ⋰, x outcrop (large, small)
- And andesite
- T tuff
- Δ float
- N/S no sample

Jay 112 PROJECT

PREVIOUS SOIL ANOMALY (Ag - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1100F 13+50 N

2) **Previous Value(s):** 5.5 ppm

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug. 27/90

5) **Investigator(s):** Tim Paquette, Piotr, Randy

6) **Description of Previous Sample Collected:**
taken 30cm deep, medium red brown, good devision, B hor. sampled.
90K1125-S. 1100F / 13+50N

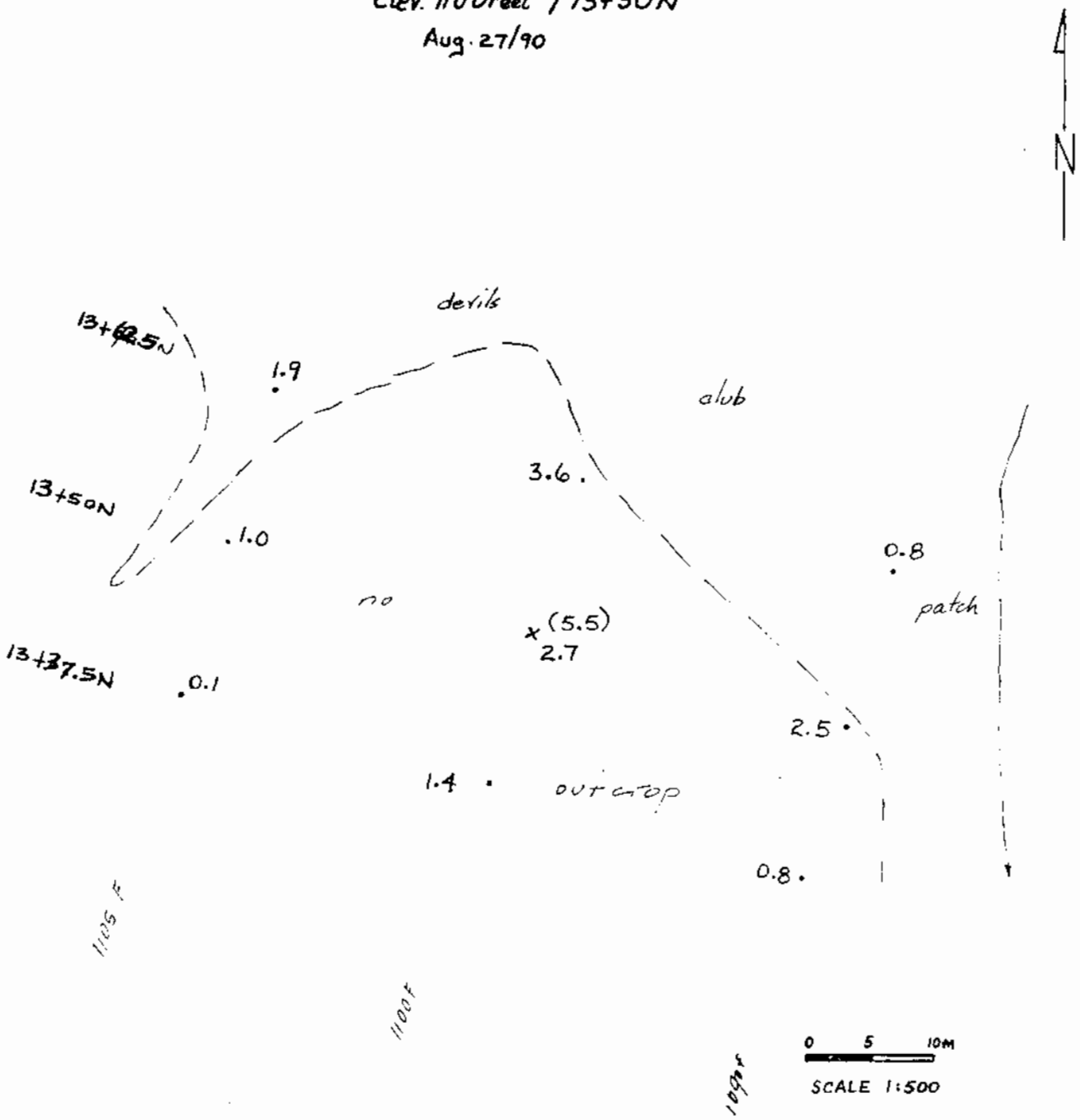
7) **Description of New Sample:**
taken 35 cm deep, medium red brown, good devision, B horizon sampled.
90L1125-S 1100F / 13+50N

8) **Description of Topography:**

9) **Results of Investigation:**
Area covered by overburden

10) **Conclusions:**
No immediate source of the mineralization was found.

Joy property
Soil anomaly follow up
Elev. 1100 Feet / 13+50N
Aug. 27/90



~~ edge of devils club field
Prefix 90L112 S-N:

LEGEND

- • detailed soil site
- X duplicate soil site
- (5.5) original result (ppm Ag)

Jay 112 PROJECT

PREVIOUS SOIL ANOMALY (Ag) - 90 INVESTIGATION
Element(s) Year

1) **Location:** 1100E 14+00 N

2) **Previous Value(s):** 4.8 ppm

3) **Year Collected:** 1990

4) **Date of Investigation:** Aug. 27 /90

5) **Investigator(s):** Tim Paquette . Piotre , Randy

6) **Description of Previous Sample Collected:**
taken 30 cm deep, good devision , medium red brown , B horizon sampled

904125-S 1100E /1400N

7) **Description of New Sample:**
taken 35 cm deep , good devision , medium red brown , B horizon sampled.

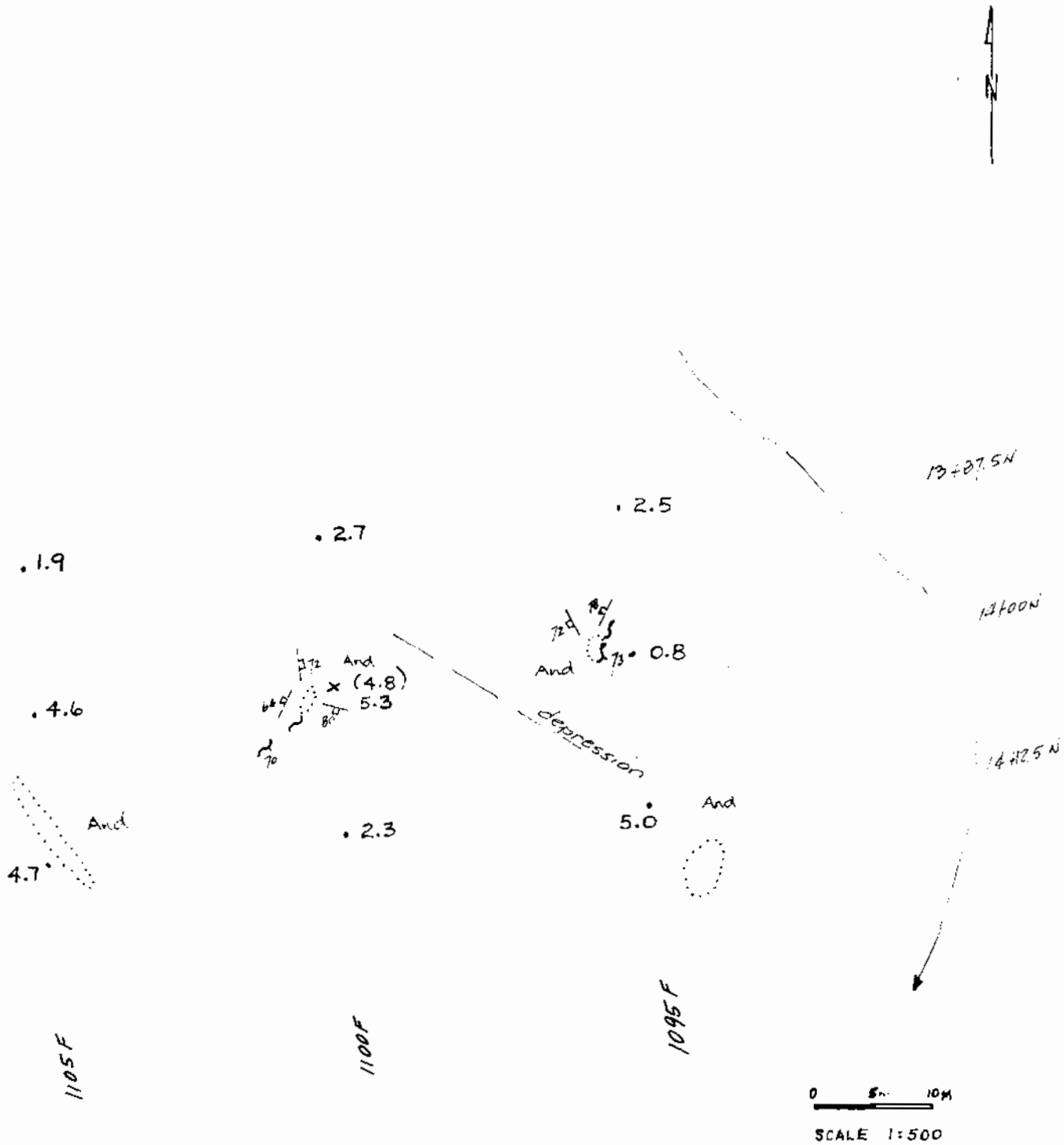
90L125-S: 1100E /1400N

8) **Description of Topography:**
level ground in medium wooded Forest.

9) **Results of Investigation:**
Investigated area is underlied by andesite (andesite tuff) rock appears to be greenish-black, massive, locally with poorly defined Fplanarity
<1% pyrite and <2% of epidote occasionally occures

10) **Conclusions:**
No immediate source of the mineralization was found

Joy property
Soil anomaly follow up
Elev. 1100F / 14+00N
Aug. 27/90



Prefix 90L112S-N:

LEGEND

- • detailed soil site
- X duplicate soil site
- (4.8) original result (ppm Ag)
- ::: outcrop
- And andesite

JOY-112 **PROJECT**

PREVIOUS ROCK **ANOMALY (** Au **) -** 1990 **INVESTIGATION**
Element(s) Year

1) **Location:** Elev 3780, JOY 2

2) **Previous Value(s):** 1050 ppb

3) **Year Collected:** 1987

4) **Date of Investigation:** June 13th 90.

5) **Investigator(s):** P. Lutynski

6) **Description of Previous Sample Collected:**
Sample 87BR 8 was taken from dark grey rock of andesite composition.
(80 feet above sample 87 BR 9)

7) **Description of New Sample:**

8) **Description of Topography:**
Slope just above a cliff lying to ~ 80 m high

9) **Results of Investigation:**

Rock appears to be dark grey with poorly seen phenocrystals. It could be andesite type or Epoxy(?) rock - slightly magnetic

10) **Conclusions:**

JOY-112 **PROJECT**

PREVIOUS ROCK **ANOMALY (** Au **) -** 1990 **INVESTIGATION**

Element(s) **Year**

1) Location: JOY-2 Elev 3500 Feet

2) Previous Value(s): 210 ppb

3) Year Collected: 1987

4) Date of Investigation: June 13th 1990

5) Investigator(s): [illegible]

6) Description of Previous Sample Collected:

87 BR9 was taken 130 feet above sample 87BR11 from the same structure (F Porphyry). It was impossible to establish the exact place where the sample was taken

7) Description of New Sample:

8) Description of Topography:

[illegible] part of a cliff.

9) Results of Investigation:

Investigated rock appears to be yellowish brown, strongly silicified at the F porphyry type [illegible] [illegible] [illegible] rock [illegible] [illegible] present.

Rock is strongly fractured - 350/[illegible]

10) Conclusions:

Future investigation depends on the result from sample 90 L 112 C 034

→ ran 9 ppb Au

Joy - 112 **PROJECT**

PREVIOUS ROCK ANOMALY (Au) - 1990 INVESTIGATION
Element(s) Year

1) **Location:** Elev 3370 Feet . JOY 2

2) **Previous Value(s):** 780 ppb

3) **Year Collected:** 1987

4) **Date of Investigation:** June 13 th 90

5) **Investigator(s):** P. Kutjuski

6) **Description of Previous Sample Collected:**
87 BR 11 . Sample probably taken from narrow qtz vein (lens) - 5-10 cm wide .

7) **Description of New Sample:**
Sample 90L 112 C-C24 taken within a F Porphyry Rock [illegible] be
altered (yellowish brown colouring) and it is v difficult to establish exact
origin of the rock. This type of the rock was seen in several places close
to the monzodiorite intrusion and on the contacts with [illegible] This
observation can lead to conclusion that mentioned [illegible] altered monzodiorite
([illegible])

8) **Description of Topography:**
Bottom of a cliff

9) **Results of Investigation:**
The structure is aprox 10 m wide and contains a highly silicified, yellowish-
brown, altered porphyry and has gradational contacts with a wall rock like F. Porphyry
This rock contains white q'z lenses up to 3 cm diameter.

Main joint system 310/64°E

10) **Conclusions:**
Structure can be again investigated depending on the result from
sample 90L 112 C-C24 → ran 9 ppb Au

JOY (112) PROJECT

PREVIOUS ROCK ANOMALY (Au) - 1988 INVESTIGATION
Element(s) Year

1) **Location:** 17+65E/41+10-54+20N

2) **Previous Value(s):** 3980ppb (88BCR-03), (88BBR-07) 1600ppb

3) **Year Collected:** 1988

4) **Date of Investigation:** AUG 18 - 1990

5) **Investigator(s):** MUIRHEAD.

6) **Description of Previous Sample Collected:**
UNABLE TO DETERMINE EXACT SAMPLE LOCATION FOR 88BBR07 OR FLAG FOR 88BCR03 (PLOTTED AS SAMPLE LOCATION)

7) **Description of New Sample:** 90A112R-027 & R-028 IN GENERAL AREA A 15m x 40m BRECCIA/SHEAR ZONE OF BLEACHED & SILICIC GREY-GREEN TUFF MANY FINE Py FRACTS ALSO BLEBS VNLTS AND NUMEROUS 0.5 - 2cm qtz VNLTS & SWEATS.

8) **Description of Topography:**
BLUFFY BARE ROCK & TALUS/MORAINE COVER.

9) **Results of Investigation:**
INTERESTING AREA BUT NO SPECIFIC SOURCE FOR ANOMALY
90A112R-027 ran 685 ppb Au
90A112R-028 assayed 0.072 oz/ton gold

10) **Conclusions:**
DEFENDANT UTION RESULTS OF NEW SAMPLING CHIPS/CHANNELS MAY BE REQUIRED TO FURTHER EVALUATE POTENTIAL

JOY (1 1 2) PROJECT

PREVIOUS ROCK ANOMALY (Au) - 88 INVESTIGATION
Element(s) Year

1) **Location:** 18+30E/5+25N.

2) **Previous Value(s):** 1010 ppb Au.

3) **Year Collected:** 1988. (88 BGR 15)

4) **Date of Investigation:** Aug 18, 1990.

5) **Investigator(s):** A. MUIRHEAD.

6) **Description of Previous Sample Collected:**
APPEARS TO BE A COMPOSITE GRAB OF 2 6-8 cm QTZ VNS w ± 10% COARSE Py

7) **Description of New Sample:** SEPARATE 0.5 m CHIPS ACROSS EACH VEIN INCLUDING WALLROCK EITHER SIDE - LIGHT GREY-GREEN VERY SILICK TUFFS.
90A 112C-025 & C26

8) **Description of Topography:**
BLUFFY PARTLY MORAINE/TALUS COVERED

9) **Results of Investigation:**

- SELECTED, HIGHER GRADE, SAMPLES TAKEN FROM SEPARATE VEINS. DIFFICULT TO EVALUATE.

90A 112C-025 ran 0.046 oz/ton gold

90A 112C-026 ran 274 ppb gold

- veins 5-15cm wide

10) **Conclusions:**
THESE VEINS ARE OF PINCH/SWELL TYPE, ERRATICALLY MINERALISED, AND OF VERY SHORT APPARENT STRIKE (< 10m) — NOT PROSPECTIVE

JOY (112) PROJECT

PREVIOUS ROCK ANOMALY (Au) - 1988 INVESTIGATION
Element(s) Year

1) **Location:** 18+35E / 1+70S

2) **Previous Value(s):** 4700 ppb Au.

3) **Year Collected:** 1988 (88 BCR-028)

4) **Date of Investigation:** Aug. 1990/1990

5) **Investigator(s):** MUIRHEAD.

6) **Description of Previous Sample Collected:**
GRAB OF QTZ VEIN 25% Py.

7) **Description of New Sample:** 90A112C-034
0.5 m CHIP INCLUDING VEIN IN SILIC And T.

8) **Description of Topography:**

9) **Results of Investigation:**
VEIN IS MAX 6cm WIDE APPARENT STRIKE LENGTH < 2m.

- chip sample returned 162 ppb Au

10) **Conclusions:**

NOT PROSPECTIVE.

APPENDIX 6

Geochemical Results

COMP: KEEWATIN ENGRG.
PROJ: 112
ATTN: R.NICHOLS/R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0430-SJ12
DATE: 90/09/11
* SILT * (ACT:)

SAMPLE NUMBER	AU PPB	AG PPM	AS PPM	CU PPM	MO PPM	PB PPM	SB PPM	ZN PPM	HG PPB
90L 112 L001	20	1.2	29	19	148	28	1	5	70
90L '112 L002	22	1.1	28	21	106	65	1	4	65

COMP: KEEWATIN ENGINEERING
PROJ: JOY 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0079-SJ14
DATE: 90/06/23
* SOIL * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	CU PPM	MO PPM	PB PPM	SB PPM	ZN PPM	AU PPB	HG PPB
90K 1100F 3+75S	2.3	1	50	29	34	1	188	1	265
90K 1100F 4+25S	1.5	1	32	3	23	1	73	2	365
90K 1100F 4+50S	2.3	1	36	6	30	1	86	1	375
90K 1100F 4+75S	1.2	1	15	4	18	1	27	3	150
90K 1100F 5+00S	1.8	1	13	4	34	1	119	1	255
90K 1100F 5+25S	1.3	1	19	3	27	1	25	2	495
90K 1100F 5+50S	1.5	1	15	6	29	1	64	2	195
90K 1100F 5+75S	2.8	1	28	3	22	1	63	3	395
90K 1100F 6+00S	2.4	1	33	12	43	1	188	1	265
90K 1100F 6+25S	1.8	1	14	6	25	2	30	1	155
90K 1100F 6+50S	1.5	1	19	10	27	4	33	3	215
90K 1100F 6+75S	.3	1	28	3	18	1	28	2	100
90K 1100F 7+00S	2.1	1	22	35	35	1	57	1	265
90K 1100F 7+25S	3.9	1	13	9	35	1	78	3	465
90K 1100F 7+50S	5.8	1	10	14	42	1	71	1	355
90K 1100F 7+75S	2.8	1	27	21	36	1	91	2	285
90K 1100F 8+00S	1.3	1	9	8	30	1	42	2	85
90K 1100F 8+25S	3.1	1	34	7	38	2	181	1	170
90K 1100F 8+50S	2.2	1	51	3	44	2	187	1	560
90K 1100F 8+75S	1.6	1	24	3	35	1	168	1	150
90K 1100F 9+00S	2.7	1	119	5	52	1	202	2	355
90K 1100F 9+25S	1.3	4	41	3	42	1	90	2	760
90K 1100F 9+50S	1.7	1	31	3	40	1	91	122	165
90K 1100F 9+75S	2.8	1	37	2	169	1	137	4	425
90K 1100F 10+00S	2.0	1	154	2	50	1	262	2	265
90T 112L 00[illegible]	1.4	4	80	9	33	1	99	2	145

COMP: KEEWATIN ENGINEERING
PROJ: JOY 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0079-SJ12+13
DATE: 90/06/23
* SOIL * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	CU PPM	MO PPM	PB PPM	SB PPM	ZN PPM	AU PPB	HG PPB
90Q 1600F 1+25S	.9	12	67	6	27	1	62	1	115
90Q 1600F 1+50S	.9	1	35	6	20	1	66	2	460
90Q 1600F 1+75S	1.6	1	23	23	24	1	72	2	265
90Q 1600F 2+00S	.8	1	37	10	26	1	128	4	225
90Q 1600F 2+25S	2.2	1	28	26	36	1	87	1	340
90Q 1600F 2+50S	3.4	1	39	9	39	1	149	2	395
90Q 1600F 2+75S	3.6	1	49	6	34	1	156	3	200
90Q 1600F 3+00S	2.1	1	25	32	27	2	105	2	65
90Q 1600F 3+25S	2.7	1	35	11	33	2	122	42	165
90Q 1600F 3+50S	3.2	1	194	40	34	2	319	3	205
90Q 1600F 3+75S	1.0	1	69	9	24	1	127	2	110
90Q 1600F 4+00S	1.3	1	18	19	23	1	77	1	130
90Q 1600F 4+25S	4.7	1	23	7	32	1	73	1	355
90Q 1600F 4+50S	1.7	1	30	29	43	1	138	2	115
90Q 1600F 4+75S	2.0	1	56	32	29	1	110	24	135
90Q 1600F 5+00S	4.1	1	17	6	38	1	67	3	150
90Q 1600F 5+25S	.8	1	241	185	27	1	36	15	50
90Q 1600F 5+50S	1.0	1	52	7	33	1	84	2	90
90Q 1600F 5+75S	1.0	1	322	26	30	2	89	6	80
90Q 1600F 6+00S	4.2	1	22	13	37	2	116	2	120
90Q 1600F 6+25S	3.4	1	43	7	38	1	110	1	195
90Q 1600F 6+50S	2.4	7	59	4	35	1	149	60	150
90Q 1600F 6+75S	2.4	1	39	5	32	1	99	1	175
90Q 1600F 7+00S	1.1	1	84	9	31	1	113	2	300
90Q 1600F 7+25S	2.7	1	20	8	37	3	106	2	205
90Q 1600F 7+75S	1.5	1	74	3	30	1	80	8	165
90Q 1600F 8+00S	1.9	1	13	3	61	1	218	2	180
90Q 1600F 8+25S	1.5	1	72	3	37	1	122	50	160
90Q 1600F 8+50S	.9	1	27	4	27	1	69	1	140
90Q 1600F 8+75S	.1	1	87	1	21	1	58	2	125
90Q 1600F 9+25S	.4	1	32	3	44	1	56	1	80
90Q 1600F 9+50S	2.6	1	39	4	32	1	90	2	285
90Q 1600F 9+75S	1.6	1	19	4	50	1	142	4	145
90Q 1600F 10+00S	1.2	1	33	5	26	1	45	1	120
90Q 1600F 10+25S	1.3	1	35	3	30	1	68	2	90
90Q 1600F 10+75S	2.6	1	73	13	40	1	220	1	160
90Q 1600F 11+00S	3.8	1	27	3	37	1	95	6	295
90Q 1600F 11+25S	2.9	113	96	9	41	1	313	50	110
90Q 1600F 11+50S	1.0	1	48	6	59	1	193	2	75
90Q 1600F 11+75S	3.2	1	92	5	48	1	149	1	120
90Q 1600F 12+00S	.8	1	51	12	32	1	62	3	125
90Q 1600F 12+25S	1.0	1	22	6	32	1	63	1	95
90Q 1600F 12+50S	2.2	1	28	4	33	1	144	1	75
90Q 1600F 12+75S	3.1	1	27	15	34	1	96	3	140
90Q 1600F 13+00S	6.1	1	42	12	39	1	89	29	80
90K 1100F 0+25S	2.7	1	26	7	34	1	70	2	155
90K 1100F 0+50S	2.2	1	17	36	35	1	121	2	80
90K 1100F 0+75S	.6	1	10	15	27	1	70	3	145
90K 1100F 1+00S	2.4	1	42	1	13	1	105	1	130
90K 1100F 1+25S	1.6	1	13	25	29	1	64	4	160
90K 1100F 1+50S	3.4	1	18	8	39	1	97	2	255
90K 1100F 1+75S	2.9	1	17	15	33	1	139	1	90
90K 1100F 2+00S	3.6	1	23	9	49	4	107	2	200
90K 1100F 2+25S	2.1	1	48	10	24	1	112	1	120
90K 1100F 2+50S	2.5	1	18	23	39	1	110	2	160
90K 1100F 2+75S	2.3	1	52	9	22	1	96	1	195
90K 1100F 3+00S	3.0	1	29	14	27	1	98	2	70
90K 1100F 3+25S	3.1	1	24	9	39	2	88	3	125
90K 1100F 3+50S	3.3	1	25	9	40	2	88	1	155

COMP: KEEWATIN ENGINEERING
PROJ: JOY 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0079-SJ10+11
DATE: 90/06/23
* SOIL * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	CU PPM	MO PPM	PB PPM	SB PPM	ZN PPM	AU PPB	HG PPB
90M 1600F 9+50N	.9	1	28	2	44	2	40	2	915
90M 1600F 9+75N	3.4	1	20	5	37	1	59	3	520
90M 2100F 0+25S	.5	1	81	3	26	1	56	16	95
90M 2100F 0+50S	1.3	1	35	5	27	1	68	3	300
90M 2100F 0+75S	1.5	1	85	17	29	1	69	1	225
90M 2100F 1+00S	.6	1	115	9	23	1	61	2	195
90M 2100F 1+25S	.5	1	46	12	29	1	68	1	140
90M 2100F 1+50S	1.9	1	24	4	46	2	57	2	590
90M 2100F 1+75S	2.1	1	17	6	31	1	46	3	530
90M 2100F 2+00S	2.0	14	46	8	35	1	109	2	240
90M 2100F 2+25S	2.1	1	22	4	29	1	43	4	390
90M 2100F 2+50S	2.6	1	15	4	33	1	165	1	510
90M 2100F 2+75S	2.4	1	17	3	29	1	78	2	440
90M 2100F 3+00S	.6	1	22	32	32	2	71	1	265
90M 2100F 3+25S	3.6	1	22	5	39	1	95	4	175
90M 2100F 3+75S	2.6	1	23	12	39	1	73	1	410
90M 2100F 4+00S	3.4	1	22	7	39	11	44	2	515
90M 2100F 4+25S	3.3	1	22	22	42	5	63	1	525
90M 2100F 4+50S	1.1	1	24	6	34	1	66	2	935
90M 2100F 4+75S	.1	1	16	2	30	1	36	1	200
90M 2100F 5+00S	.2	1	10	4	23	1	33	1	515
90M 2100F 5+25S	.4	1	97	3	24	1	56	3	750
90M 2100F 5+75S	.6	1	35	3	26	1	65	2	245
90M 2100F 6+00S	1.6	1	23	5	17	1	104	1	160
90M 2100F 6+25S	.6	1	19	6	21	1	59	3	220
90Q 2600F 0+25N	.5	1	42	13	24	1	42	1	145
90Q 2600F 0+50N	1.4	1	40	12	27	2	46	4	340
90Q 2600F 0+75N	1.1	1	21	17	31	1	79	2	85
90Q 2600F 1+00N	.4	1	15	10	28	1	42	2	105
90Q 2600F 1+25N	.7	1	52	7	34	1	76	5	165
90Q 2600F 1+50N	.5	1	29	16	28	1	64	2	140
90Q 2600F 1+75N	1.3	1	27	13	26	1	56	1	220
90Q 2600F 2+00N	2.0	1	23	8	36	1	46	2	305
90Q 2600F 2+25N	1.2	1	32	13	27	1	43	1	130
90Q 2600F 2+50N	.8	3	41	7	25	1	57	1	125
90Q 2600F 2+75N	1.3	4	20	48	41	4	67	2	95
90Q 2600F 3+25N	1.2	10	9	18	38	6	77	1	110
90Q 2600F 3+50N	.3	1	31	4	20	1	42	2	260
90Q 2600F 3+75N	1.3	1	38	8	34	1	54	1	165
90Q 2600F 4+75N	1.4	1	15	5	34	3	52	1	255
90Q 2600F 5+00N	.8	1	39	4	24	1	38	1	265
90Q 2600F 5+25N	.5	1	18	2	27	1	36	2	335
90Q 2600F 5+50N	.7	1	56	13	24	1	77	1	280
90Q 2600F 5+75N	1.9	4	65	14	33	5	73	1	135
90Q 2600F 6+00N	.7	1	41	5	35	1	55	4	200
90Q 2600F 6+50N	.6	6	73	4	28	1	74	3	175
90Q 2600F 6+75N	1.0	1	46	4	21	1	46	1	200
90Q 2600F 7+00N	1.0	1	33	3	30	2	49	2	425
90Q 2600F 7+50N	.6	2	57	4	26	1	35	3	205
90Q 2600F 7+75N	1.3	1	82	1	22	1	21	1	320
90Q 2600F 8+25N	.6	1	517	5	24	1	26	2	310
90Q 2600F 8+50N	.7	1	187	4	20	1	45	1	210
90Q 2600F 8+75N	1.9	1	245	6	45	1	150	1	120
90Q 2600F 9+00N	1.5	23	225	4	103	1	173	2	220
90Q 2600F 9+25N	1.6	1	58	3	26	1	49	2	145
90Q 2600F 9+50N	3.2	1	35	5	36	4	34	1	645
90Q 1600F 0+00S	3.0	1	24	13	30	1	162	1	410
90Q 1600F 0+50S	4.6	1	20	9	48	4	55	2	330
90Q 1600F 0+75S	4.2	1	27	8	38	1	85	1	345
90Q 1600F 1+00S	1.3	5	53	8	26	1	67	1	145

COMP: KEEWATIN ENGINEERING
PROJ: JOY 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0079-SJ8+9
DATE: 90/06/23
* SOIL * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	CU PPM	MO PPM	PB PPM	SB PPM	ZN PPM	AU PPB	HG PPB
90M 1100F 10+00N	.8	1	21	4	23	1	122	1	375
90M 1100F 10+25N	.1	1	7	1	13	1	25	2	115
90M 1100F 10+50N	.3	1	74	11	30	1	44	2	175
90M 1100F 10+75N	.7	1	109	2	20	1	58	4	140
90M 1100F 11+00N	1.0	1	16	1	33	5	27	1	240
90M 1100F 11+25N	3.6	1	27	4	32	1	52	1	170
90M 1100F 11+50N	.1	1	6	1	15	1	11	2	75
90M 1100F 11+75N	.8	1	14	2	21	1	17	1	95
90M 1100F 12+00N	1.1	1	11	5	30	3	59	2	140
90M 1100F 12+25N	2.3	1	15	5	26	1	65	1	205
90M 1100F 12+50N	.5	1	13	4	29	4	36	1	185
90M 1100F 12+75N	1.5	1	19	9	37	6	61	1	130
90M 1100F 13+00N	.7	1	39	2	19	1	66	2	125
90M 1100F 13+25N	3.1	1	9	2	25	1	13	1	330
90M 1100F 13+50N	5.5	1	15	2	51	4	22	1	615
90M 1100F 13+75N	2.8	1	16	4	35	1	141	1	210
90M 1100F 14+00N	4.8	1	13	4	34	1	83	3	345
90M 1100F 14+25N	1.5	1	18	1	22	1	58	2	75
90M 1100F 14+50N	2.4	1	31	3	25	1	49	1	310
90M 1100F 14+75N	2.8	1	16	5	28	1	80	1	295
90M 1100F 15+00N	.4	1	20	4	21	1	23	2	175
90M 1100F 15+25N	1.6	1	12	2	27	1	40	1	420
90M 1100F 15+50N	1.5	1	28	1	37	1	31	1	415
90M 1100F 15+75N	.6	6	31	2	23	1	48	2	245
90M 1100F 16+00N	2.3	1	35	2	34	5	49	1	500
90M 1100F 16+25N	2.6	6	33	4	36	5	50	1	210
90M 1600F 0+25N	1.9	1	30	38	35	6	109	1	150
90M 1600F 0+50N	2.2	1	39	15	30	5	68	2	120
90M 1600F 0+75N	2.4	1	17	5	31	1	89	1	265
90M 1600F 1+00N	1.9	1	28	3	23	1	83	1	145
90M 1600F 1+25N	4.4	1	16	3	35	1	96	1	475
90M 1600F 1+50N	.1	1	17	3	20	1	60	34	210
90M 1600F 2+00N	2.2	1	23	6	27	1	69	2	635
90M 1600F 2+25N	3.1	1	21	5	29	1	168	1	265
90M 1600F 2+50N	3.2	1	10	24	38	1	101	2	165
90M 1600F 2+75N	2.6	1	40	6	30	1	119	1	215
90M 1600F 3+00N	4.0	1	25	5	38	3	137	1	190
90M 1600F 3+50N	3.6	1	31	4	36	3	73	2	290
90M 1600F 3+75N	1.8	1	82	5	29	1	110	2	395
90M 1600F 4+00N	1.5	1	40	12	32	1	110	3	485
90M 1600F 4+25N	1.2	1	117	17	34	1	152	120	215
90M 1600F 4+50N	1.8	1	37	6	30	1	73	1	515
90M 1600F 4+75N	2.0	1	35	15	32	1	117	2	390
90M 1600F 5+00N	2.2	1	27	6	33	1	91	1	365
90M 1600F 5+25N	3.4	1	15	3	34	1	73	4	445
90M 1600F 5+50N	1.8	1	18	3	34	1	94	2	310
90M 1600F 5+75N	2.0	1	26	2	30	1	61	1	575
90M 1600F 6+00N	1.7	1	131	4	30	1	97	2	320
90M 1600F 6+25N	.6	1	50	12	26	1	110	5	190
90M 1600F 6+50N	1.0	1	14	2	31	2	127	2	365
90M 1600F 6+75N	.3	1	31	3	26	1	113	1	305
90M 1600F 7+00N	1.1	1	283	3	35	1	132	3	220
90M 1600F 7+25N	4.0	1	20	2	36	1	52	2	1040
90M 1600F 7+50N	2.6	1	12	4	35	2	69	1	270
90M 1600F 7+75N	2.4	1	16	3	30	1	87	1	320
90M 1600F 8+00N	4.0	1	17	4	34	4	161	2	345
90M 1600F 8+25N	2.5	1	109	1	21	1	104	38	100
90M 1600F 8+50N	1.5	1	13	10	34	3	107	2	245
90M 1600F 8+75N	.7	1	12	11	33	2	85	1	205
90M 1600F 9+25N	2.1	1	14	4	36	1	40	3	415

COMP: KEEWATIN ENGINEERING
PROJ: JOY 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0079-SJ6+7
DATE: 90/06/23
* SOIL * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	CU PPM	MO PPM	PB PPM	SB PPM	ZN PPM	AU PPB	HG PPB
90K 3100F 4+50N	1.1	1	25	5	26	1	63	2	190
90K 3100F 4+75N	.5	1	33	5	28	1	35	3	380
90K 3100F 5+25N	1.0	1	53	6	24	1	71	2	150
90K 3100F 6+50N	2.1	22	249	2	203	12	93	300	2125
90K 3100F 7+25N	.1	1	84	1	37	1	41	1	535
90K 3100F 7+50N	.6	1	56	3	57	1	49	3	3750
90K 3100F 7+75N	.2	1	42	1	88	1	84	2	1870
90K 3100F 8+00N	1.6	1	33	1	31	1	47	1	1320
90K 3100F 8+25N	1.1	1	39	4	32	1	36	2	170
90K 3100F 8+50N	2.5	1	15	3	35	1	24	3	380
90K 3100F 8+75N	2.0	1	22	2	58	5	22	2	2375
90K 3100F 9+25N	.3	1	25	31	35	1	57	3	230
90K 3100F 9+50N	.3	1	11	16	29	3	30	1	225
90K 3100F 9+75N	.1	1	22	10	20	1	28	1	130
90K 3100F 10+00N	.8	1	17	38	33	5	25	2	235
90K 3100F 10+25N	1.1	1	20	15	24	1	43	4	185
90K 3100F 10+50N	.9	1	21	7	30	8	29	5	190
90K 3100F 10+75N	.7	1	27	29	26	1	33	1	255
90K 3100F 11+00N	2.3	1	30	84	36	3	99	2	185
90K 3100F 11+25N	2.4	1	40	16	38	4	39	2	315
90K 3100F 11+50N	3.2	1	58	7	32	1	42	1	285
90M 1100F 0+00N	1.4	1	13	41	30	2	45	3	120
90M 1100F 0+25N	1.2	1	21	3	11	1	108	2	90
90M 1100F 0+50N	.6	1	40	20	15	1	152	1	225
90M 1100F 0+75N	1.6	1	27	20	26	1	110	2	205
90M 1100F 1+00N	1.6	1	34	22	27	1	141	1	130
90M 1100F 1+25N	.8	1	14	31	23	1	83	1	175
90M 1100F 1+50N	1.1	1	32	4	14	1	47	3	85
90M 1100F 1+75N	2.1	1	50	14	24	1	96	1	205
90M 1100F 2+00N	1.1	1	18	3	20	1	65	2	95
90M 1100F 2+25N	.5	1	24	23	19	1	59	2	100
90M 1100F 2+50N	1.9	1	58	53	29	1	113	1	195
90M 1100F 2+75N	1.3	1	148	51	31	1	212	1	250
90M 1100F 3+00N	1.0	1	82	12	30	1	113	3	105
90M 1100F 3+25N	3.7	1	17	8	33	3	108	4	275
90M 1100F 3+50N	1.3	1	19	6	30	1	84	1	265
90M 1100F 3+75N	2.4	1	80	46	14	1	59	230	165
90M 1100F 4+00N	1.5	1	53	3	18	1	143	1	155
90M 1100F 4+25N	1.8	1	26	4	24	1	54	4	170
90M 1100F 4+50N	1.4	1	28	10	26	1	43	2	245
90M 1100F 4+75N	2.2	1	38	27	10	1	66	1	155
90M 1100F 5+00N	2.9	1	21	5	32	1	131	1	130
90M 1100F 5+25N	1.7	1	16	4	25	1	86	2	335
90M 1100F 5+50N	.9	1	53	3	20	1	69	1	205
90M 1100F 5+75N	.8	1	23	3	27	1	60	2	175
90M 1100F 6+00N	1.6	1	56	3	17	1	45	2	375
90M 1100F 6+25N	1.9	1	52	29	19	1	64	1	400
90M 1100F 6+50N	4.4	1	19	12	34	1	75	2	210
90M 1100F 6+75N	5.0	1	31	5	30	2	36	2	305
90M 1100F 7+00N	1.0	1	50	6	31	1	197	2	140
90M 1100F 7+25N	2.2	1	22	7	35	1	146	1	175
90M 1100F 7+50N	4.4	1	23	4	28	1	59	1	475
90M 1100F 7+75N	1.8	1	59	5	26	1	64	42	205
90M 1100F 8+00N	1.5	1	113	2	19	1	68	5	110
90M 1100F 8+25N	1.3	1	30	3	27	1	72	2	150
90M 1100F 8+50N	1.0	1	22	4	27	1	98	1	230
90M 1100F 8+75N	.1	1	14	1	21	1	56	1	150
90M 1100F 9+00N	.5	1	67	1	37	1	137	2	220
90M 1100F 9+25N	.4	1	18	2	19	1	88	3	240
90M 1100F 9+75N	.1	1	21	2	19	1	101	1	165

COMP: KEEWATIN ENGINEERING
PROJ: JOY 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0079-SJ4+5
DATE: 90/06/23
* SOIL * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	CU PPM	MO PPM	PB PPM	SB PPM	ZN PPM	AU PPB	HG PPM
90J 2600F 10+25S	1.6	1	17	5	44	1	61	2	470
90J 2600F 10+50S	1.4	1	27	12	32	2	51	1	330
90J 3100F 0+25S	1.8	5	27	11	37	4	103	1	250
90J 3100F 0+50S	1.6	4	20	6	31	1	56	2	330
90J 3100F 0+75S	.8	1	26	7	32	1	53	3	205
90J 3100F 1+00S	1.5	1	30	7	38	3	58	1	440
90J 3100F 1+25S	.8	1	16	5	32	1	60	1	335
90J 3100F 1+50S	.7	1	8	4	32	1	43	2	330
90J 3100F 1+75S	.4	1	9	2	24	1	20	3	315
90J 3100F 2+00S	.8	1	43	14	36	1	57	1	420
90J 3100F 2+25S	.5	1	21	5	24	1	40	1	225
90J 3100F 2+50S	.3	1	27	8	25	1	35	4	300
90J 3100F 2+75S	.5	1	17	6	31	1	36	2	330
90J 3100F 3+00S	1.9	1	10	6	37	1	43	2	315
90J 3100F 3+25S	4.9	1	13	6	42	1	25	1	380
90J 3100F 3+50S	1.3	1	60	3	26	1	60	1	170
90J 3100F 3+75S	3.2	1	16	5	33	1	34	3	375
90J 3100F 4+00S	.1	1	88	17	51	1	86	1	130
90J 3100F 5+25S	5.3	1	25	7	36	3	48	2	285
90J 3100F 5+50S	1.6	1	26	4	21	1	29	1	255
90J 3100F 5+75S	5.9	1	20	6	38	1	43	3	310
90J 3100F 6+00S	2.3	1	14	8	30	1	41	5	270
90J 3100F 6+25S	.5	1	35	5	23	1	51	1	350
90J 3100F 6+50S	.3	1	18	4	27	1	33	2	265
90J 3100F 6+75S	1.1	1	19	6	33	1	44	1	295
90J 3100F 7+00S	.5	1	35	7	25	1	49	1	200
90J 3100F 7+25S	.6	1	42	5	27	1	42	3	290
90J 3100F 7+50S	.4	1	21	6	21	1	36	1	250
90J 3100F 8+00S	.3	1	38	7	15	1	31	2	205
90J 3100F 8+25S	.3	1	12	1	22	1	20	1	620
90J 3100F 8+50S	1.6	1	102	3	551	1	124	2	150
90J 3100F 8+75S	1.6	16	16	9	42	7	50	1	95
90J 3100F 9+00S	1.5	1	22	7	28	1	36	2	220
90J 3100F 9+25S	.7	1	22	6	27	1	31	1	310
90J 3100F 9+75S	.3	1	25	4	30	1	59	2	185
90J 3100F 10+00S	.1	4	23	7	26	3	51	1	265
90J 3100F 10+25S	1.0	11	15	7	33	4	48	2	285
90J 3100F 10+50S	.7	10	150	18	73	1	379	1	150
90J 3100F 10+75S	1.4	1	16	5	29	1	36	1	240
90J 3100F 11+00S	1.1	1	15	8	36	2	62	2	265
90J 3100F 11+25S	1.4	1	57	5	25	1	66	3	270
90J 3100F 11+50S	1.3	1	20	4	24	1	57	1	330
90J 3100F 12+00S	2.5	1	13	6	29	1	78	1	140
90K 3100F 0+00N	.8	8	20	8	25	2	42	2	120
90K 3100F 0+25N	.1	9	9	7	28	1	46	3	85
90K 3100F 0+75N	2.1	1	27	8	15	1	62	1	115
90K 3100F ~~1+00N~~ 0+50	.3	18	32	4	28	3	30	1	110
90K 3100F 1+25N	2.5	1	26	9	35	5	39	2	380
90K 3100F 1+50N	.6	14	15	21	22	4	50	1	105
90K 3100F 1+75N	.7	12	17	28	28	3	55	3	45
90K 3100F 2+00N	.9	1	25	13	21	1	48	1	100
90K 3100F 2+25N	.3	15	37	19	21	1	38	1	85
90K 3100F 2+50N	.5	8	17	15	26	2	34	2	120
90K 3100F 2+75N	.9	23	14	35	26	8	46	1	70
90K 3100F 3+00N	.1	22	57	14	22	2	24	4	125
90K 3100F 3+25N	.4	2	64	5	23	1	71	1	85
90K 3100F 3+50N	.4	1	48	5	17	1	58	1	70
90K 3100F 3+75N	1.4	18	32	9	24	4	65	2	250
90K 3100F 4+00N	.1	10	24	9	20	1	56	1	115
90K 3100F 4+25N	.1	9	25	8	19	1	57	2	95

COMP: KEEWATIN ENGINEERING
PROJ: JOY 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0079-SJ2+3
DATE: 90/06/23
* SOIL * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	CU PPM	MO PPM	PB PPM	SB PPM	ZN PPM	AU PPB	HG PPB
90K 2100F 10+50N	.6	6	19	6	28	5	49	2	20
90J 2100F 6+50S	.4	1	13	7	26	6	50	3	5
90J 2100F 6+75S	1.1	108	38	7	35	5	44	1	45
90J 2100F 7+00S	1.9	1	377	15	24	1	80	4	90
90J 2100F 7+25S	2.0	1	210	9	70	1	95	2	135
90J 2100F 7+75S	1.6	1	26	5	32	1	81	90	75
90J 2100F 8+00S	.1	1	16	4	22	1	41	2	65
90J 2100F 8+25S	2.3	1	16	7	35	1	74	1	155
90J 2100F 8+50S	.1	1	23	1	27	1	182	2	60
90J 2100F 8+75S	3.8	1	46	3	31	1	121	3	165
90J 2100F 9+00S	1.5	1	18	4	26	1	68	2	35
90J 2100F 9+25S	.7	1	19	1	42	1	233	1	45
90J 2100F 9+50S	.5	1	123	1	58	1	129	2	195
90J 2100F 9+75S	.1	1	30	17	33	2	74	1	140
90J 2100F 10+00S	1.1	1	54	7	33	1	243	2	320
90J 2100F 10+25S	2.2	1	28	4	30	1	52	3	105
90J 2100F 10+75S	.4	1	40	1	25	1	30	2	55
90J 2100F 11+00S	.4	1	21	2	26	1	40	1	85
90J 2100F 11+25S	.1	1	36	1	21	1	92	1	125
90J 2100F 11+50S	.2	1	51	3	44	1	97	1	85
90J 2100F 11+75S	.5	1	51	10	57	1	113	3	105
90J 2100F 12+00S	2.0	1	87	5	36	1	137	1	120
90J 2600F 0+00S	.1	1	31	6	19	1	53	3	40
90J 2600F 0+25S	2.3	1	12	4	30	1	58	1	140
90J 2600F 0+50S	.7	1	24	13	32	2	53	1	195
90J 2600F 0+75S	1.7	1	21	7	25	1	58	2	115
90J 2600F 1+00S	1.0	1	19	7	28	2	57	4	195
90J 2600F 1+25S	.5	1	22	12	19	1	47	1	60
90J 2600F 1+50S	1.3	1	23	12	38	6	63	1	145
90J 2600F 1+75S	1.7	1	22	8	35	1	78	2	305
90J 2600F 2+00S	1.8	1	40	10	30	1	70	4	280
90J 2600F 2+50S 2+25	1.2	13	15	34	36	6	55	1	275
90J 2600F 2+75S	1.1	4	32	6	31	3	43	2	430
90J 2600F 3+00S	.8	1	14	8	26	1	45	3	440
90J 2600F 3+25S	1.8	1	25	6	33	2	39	1	320
90J 2600F 3+50S	.8	1	20	9	35	1	77	3	155
90J 2600F 3+75S	1.6	1	25	5	33	1	61	1	495
90J 2600F 4+00S	.3	2	19	7	25	1	50	1	180
90J 2600F 4+50S	.4	1	31	4	21	1	45	2	330
90J 2600F 4+75S	2.1	1	42	8	28	1	50	1	300
90J 2600F 5+00S	1.3	1	47	3	22	1	44	3	280
90J 2600F 5+25S	1.7	1	55	7	28	1	54	2	200
90J 2600F 5+50S	.9	5	21	15	34	1	50	1	120
90J 2600F 5+75S	.7	2	33	8	32	3	62	3	195
90J 2600F 6+25S	.8	1	32	2	34	1	39	1	670
90J 2600F 6+50S	.1	4	24	1	74	1	72	2	4625
90J 2600F 6+75S	1.1	5	164	6	30	1	37	3	235
90J 2600F 7+00S	.6	6	36	7	34	2	80	4	115
90J 2600F 7+25S	3.2	1	31	6	34	1	43	1	305
90J 2600F 7+50S	1.5	1	20	8	34	2	44	5	240
90J 2600F 7+75S	3.1	6	37	13	39	8	98	1	220
90J 2600F 8+00S	2.3	1	69	8	51	1	165	2	1330
90J 2600F 8+25S	2.8	1	26	7	44	4	73	1	275
90J 2600F 8+50S	2.2	1	50	5	85	1	78	2	1460
90J 2600F 8+75S	.8	1	40	5	21	1	43	1	195
90J 2600F 9+00S	1.3	10	50	6	106	2	86	5	5250
90J 2600F 9+25S	5.0	4	51	11	168	1	90	1	170
90J 2600F 9+50S	1.5	9	19	6	31	3	58	1	330
90J 2600F 9+75S	.7	1	22	3	28	1	45	2	145
90J 2600F 10+00S	3.6	1	13	5	32	1	55	2	530

COMP: KEEWATIN ENGINEERING
PROJ: JOY 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0079-SJ1
DATE: 90/06/23
* SOIL * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	CU PPM	MO PPM	PB PPM	SB PPM	ZN PPM	AU PPB	HG PPB
90K 2100F 0+00N	1.9	1	27	5	20	1	99	2	205
90K 2100F 0+25N	1.2	1	68	4	22	1	90	1	175
90K 2100F 0+50N	1.2	1	50	8	29	1	62	1	75
90K 2100F 0+75N	2.2	1	28	6	35	2	85	2	145
90K 2100F 1+00N	.6	1	54	4	24	1	60	1	100
90K 2100F 1+25N	1.1	1	145	9	34	2	148	2	105
90K 2100F 1+50N	.1	2	6	1	13	1	79	3	100
90K 2100F 1+75N	1.3	1	19	3	23	1	79	1	315
90K 2100F 2+00N	2.6	1	32	16	35	1	63	4	110
90K 2100F 2+75N	1.3	1	17	4	27	1	53	1	125
90K 2100F 3+25N	.6	1	18	4	17	1	45	3	30
90K 2100F 3+50N	.5	1	51	6	21	1	78	6	155
90K 2100F 4+25N	1.2	1	79	7	37	1	124	2	215
90K 2100F 4+50N	2.7	1	17	6	40	1	57	1	225
90K 2100F 4+75N	4.9	1	15	5	32	1	73	1	150
90K 2100F 5+00N	1.6	1	19	1	16	1	87	1	75
90K 2100F 5+25N	1.3	1	63	1	19	1	81	2	50
90K 2100F 6+50N	.9	1	18	18	27	1	111	1	110
90K 2100F 6+75N	1.3	1	22	4	20	1	77	2	35
90K 2100F 7+25N	.1	1	19	3	21	1	48	3	210
90K 2100F 7+50N	1.1	1	21	4	25	1	56	1	285
90K 2100F 7+75N	.1	1	16	8	22	1	50	2	90
90K 2100F 8+00N	1.1	1	31	4	25	1	49	5	195
90K 2100F 8+25N	1.1	7	18	16	32	1	111	1	90
90K 2100F 8+50N	2.5	1	32	7	26	1	101	3	100
90K 2100F 8+75N	3.9	1	34	8	32	1	64	2	90
90K 2100F 9+00N	.7	1	41	4	13	1	38	1	45
90K 2100F 9+50N	4.1	1	25	5	30	1	53	1	190
90K 2100F 9+75N	1.8	1	24	5	23	4	31	2	60
90K 2101F 10+25N	3.1	1	18	7	36	4	60	1	85
90K 2101F 5+50N	2.5	1	38	6	31	2	93	1	300
90K 2101F 5+75N	2.3	1	31	5	25	1	84	2	245

COMP: KEEWATIN ENGINEERING
PROJ: JOY 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0079-SJ3+4
DATE: 90/06/23
• SOIL • (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	CU PPM	MO PPM	PB PPM	SB PPM	ZN PPM	AU PPB	HG PPB
90J 2600F 2+00S	1.8	1	40	10	30	1	70	4	280
90J 2600F 2+25S	1.2	13	15	34	36	6	55	1	275
90J 2600F 2+50S	1.1	4	32	6	31	3	43	2	430
90J 2600F 2+75S	.8	1	14	8	26	1	45	3	440
90J 2600F 3+00S	1.8	1	25	6	33	2	39	1	320
90J 2600F 3+25S	.8	1	20	9	35	1	77	3	155
90J 2600F 3+50S	1.6	1	25	5	33	1	61	1	495
90J 2600F 3+75S	.3	2	19	7	25	1	50	1	180
90J 2600F 4+00S	.4	1	31	4	21	1	45	2	330
90J 2600F 4+50S	2.1	1	42	8	28	1	50	1	300
90J 2600F 4+75S	1.3	1	47	3	22	1	44	3	280
90J 2600F 5+00S	1.7	1	55	7	28	1	54	2	200
90J 2600F 5+25S	.9	5	21	15	34	1	50	1	120
90J 2600F 5+50S	.7	2	33	8	32	3	62	3	195
90J 2600F 6+25S	.8	1	32	2	34	1	39	1	670
90J 2600F 6+50S	.1	4	24	1	74	1	72	2	4625
90J 2600F 6+75S	1.1	5	164	6	30	1	37	3	235
90J 2600F 7+00S	.6	6	36	7	34	2	80	4	115
90J 2600F 7+25S	3.2	1	31	6	34	1	43	1	305
90J 2600F 7+50S	1.5	1	20	8	34	2	44	5	240
90J 2600F 7+75S	3.1	6	37	13	39	8	98	1	220
90J 2600F 8+00S	2.3	1	69	8	51	1	165	2	1330
90J 2600F 8+25S	2.8	1	26	7	44	4	73	1	275
90J 2600F 8+50S	2.2	1	50	5	85	1	78	2	1460
90J 2600F 8+75S	.8	1	40	5	21	1	43	1	195
90J 2600F 9+00S	1.3	10	50	6	106	2	86	5	5250
90J 2600F 9+25S	5.0	4	51	11	168	1	90	1	170
90J 2600F 9+50S	1.5	9	19	6	31	3	58	1	330
90J 2600F 9+75S	.7	1	22	3	28	1	45	2	145
90J 2600F 10+00S	3.6	1	13	5	32	1	55	2	530
90J 2600F 10+25S	1.6	1	17	5	44	1	61	2	470
90J 2600F 10+50S	1.4	1	27	12	32	2	51	1	330
90J 3100F 0+25S	1.8	5	27	11	37	4	103	1	250
90J 3100F 0+50S	1.6	4	20	6	31	1	56	2	330
90J 3100F 0+75S	.8	1	26	7	32	1	53	3	205
90J 3100F 1+00S	1.5	1	30	7	38	3	58	1	440
90J 3100F 1+25S	.8	1	16	5	32	1	60	1	335
90J 3100F 1+50S	.7	1	8	4	32	1	43	2	330
90J 3100F 1+75S	.4	1	9	2	24	1	20	3	315
90J 3100F 2+00S	.8	1	43	14	36	1	57	1	420
90J 3100F 2+25S	.5	1	21	5	24	1	40	1	225
90J 3100F 2+50S	.3	1	27	8	25	1	35	4	300
90J 3100F 2+75S	.5	1	17	6	31	1	36	2	330
90J 3100F 3+00S	1.9	1	10	6	37	1	43	2	315
90J 3100F 3+25S	4.9	1	13	6	42	1	25	1	380
90J 3100F 3+50S	1.3	1	60	3	26	1	60	1	170
90J 3100F 3+75S	3.2	1	16	5	33	1	34	3	375
90J 3100F 4+00S	.1	1	88	17	51	1	86	1	130
90J 3100F 5+25S	5.3	1	25	7	36	3	48	2	285
90J 3100F 5+50S	1.6	1	26	4	21	1	29	1	255
90J 3100F 5+75S	5.9	1	20	6	38	1	43	3	310
90J 3100F 6+00S	2.3	1	14	8	30	1	41	5	270
90J 3100F 6+25S	.5	1	35	5	23	1	51	1	350
90J 3100F 6+50S	.3	1	18	4	27	1	33	2	265
90J 3100F 6+75S	1.1	1	19	6	33	1	44	1	295
90J 3100F 7+00S	.5	1	35	7	25	1	49	1	200
90J 3100F 7+25S	.6	1	42	5	27	1	42	3	290
90J 3100F 7+50S	.4	1	21	6	21	1	36	1	250
90J 3100F 8+00S	.3	1	38	7	15	1	31	2	205
90J 3100F 8+25S	.3	1	12	1	22	1	20	1	620

COMP: KEEWATIN ENGINEERING
PROJ: 112S
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0V-1185-SJ1+2
DATE: 90/08/24
* SOIL * (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90LL-S:14+00E0+00S	1	1.3	44	38	99	1	1	1	155
90LL-S:14+00E0+25S	2	2.0	12	39	105	1	1	1	170
90LL-S:14+00E0+75S	1	.9	21	33	60	1	1	1	200
90LL-S:14+00E1+00S	1	1.7	13	28	53	1	1	1	270
90LL-S:14+00E1+25S	3	.1	18	13	59	1	1	1	325
90LL-S:14+00E1+50S	2	.1	19	38	74	1	1	1	275
90LL-S:14+00E1+75S	1	.1	43	25	91	1	1	1	240
90LL-S:14+00E2+25S	1	2.1	10	26	127	1	1	1	175
90LL-S:14+00E2+50S	1	2.6	14	28	82	1	1	1	225
90LL-S:14+00E2+75S	2	.3	45	16	59	1	1	1	220
90LL-S:14+00E3+00S	1	3.5	9	22	96	1	1	1	175
90LL-S:14+00E3+25S	1	2.7	20	36	91	1	1	1	240
90LL-S:14+00E3+50S	1	2.9	9	17	98	1	1	1	205
90LL-S:14+00E3+75S	3	2.9	15	30	99	1	1	1	235
90LL-S:14+00E4+00S	1	1.5	12	29	68	1	1	1	255
90LL-S:14+00E4+25S	1	.1	18	36	63	1	1	1	295
90LL-S:14+00E4+50S	2	.1	59	23	73	1	1	1	305
90LL-S:14+00E4+75S	1	.5	16	22	52	1	1	2	185
90LL-S:14+00E5+00S	1	2.8	12	25	53	1	1	1	340
90LL-S:14+00E5+25S	1	2.4	10	24	58	1	1	1	265
90LL-S:14+00E5+50S	1	2.8	10	24	78	1	1	1	270
90LL-S:14+00E5+75S	1	3.3	15	43	54	1	1	1	430
90LL-S:14+00E6+00S	2	1.2	18	32	104	1	1	1	270
90LL-S:14+00E6+50S	1	3.8	11	42	85	1	1	1	245
90LL-S:14+00E7+00S	1	2.0	16	25	67	1	1	1	245
90LL-S:14+00E7+25S	1	.8	12	22	33	1	1	1	280
90LL-S:14+00E7+50S	1	2.3	11	18	70	1	1	1	290
90LL-S:14+00E7+75S	1280	2.6	19	42	56	1	1	1	310
90LL-S:14+00E8+25S	2	1.4	9	17	17	1	1	3	210
90LL-S:14+00E9+25S	4	4.2	26	29	46	1	1	1	235
90LL-S:14+00E9+50S	1	5.1	28	39	58	1	1	1	305
90LL-S:14+00E9+75S	3	3.0	19	28	43	1	1	1	310
90T-S:16+00E3+00S	1	1.9	23	32	93	1	1	1	195
90T-S:16+00E4+65S	1	.3	57	21	94	1	1	1	200
90T-S:003	2	1.3	19	31	104	1	1	1	145
90T-S:004	3	.8	12	24	54	1	1	1	245
90T-S:005	1	1.3	19	30	66	1	1	1	260
90T-S:006	2	3.6	13	20	43	1	1	1	285
90T-S:007	1	2.6	22	23	58	1	1	1	220
90T-S:008	1	1.4	16	31	24	1	1	2	255
90T-S:009	1	6.4	16	19	22	1	1	1	325

COMP: KEEWATIN ENGINEERING
PROJ: 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0302-SJ3
DATE: 90/08/22
* SOIL * (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90H 18+00E 3+00S	2	3.4	17	36	117	1	1	1	195
90H 18+00E 6+00S	4	1.2	53	26	57	1	1	1	200
90H 22+00E 3+25S	15	.9	61	24	85	1	1	1	235
90H 22+00E 3+50S	8	1.5	52	30	97	1	1	1	220
90L001 6+25E/12+50E	2	.8	35	20	59	1	1	1	270
90L002 7+00S/12+25E	3	1.2	18	27	70	1	1	1	210
90L003 8+75S/12+30E	4	1.1	40	15	57	1	1	1	220
90T010 4M S OF 1+25	2	1.5	13	18	52	1	1	1	275
90T011 12+00/2+87S	42	1.9	11	23	56	1	1	1	255

COMP: KEEWATIN ENGRG.
PROJ: 112
ATTN: R.NICHOLS/R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0392-SJ1+2
DATE: 90/09/07
• SOIL • (ACT:)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90H112 3010F3+87.5N	2	2.2	20	29	64	45	1	9	260
90H112 3030F2+75N	110	1.4	19	30	73	17	1	21	205
90H112 3030F2+87.5N	2	1.6	24	27	63	5	1	22	240
90H112 3030F3+12.5N	1	1.8	46	8	56	16	1	3	295
90H112 3030F6+62.5N	5	1.4	88	27	75	1	1	1	365
90H112 3040F0+88N	2	.9	39	10	42	39	1	5	200
90H112 3040F1+00N	1	.4	75	18	73	46	1	4	240
90H112 3060F1+12N	2	.7	29	8	39	1	1	5	335
90H112 3070F3+62.5N	2	.7	44	20	61	26	1	4	105
90H112 3070F3+75N	2	.9	47	8	71	18	1	6	135
90H112 3070F3+87.5N	1	.5	41	16	59	31	1	4	320
90H112 3100F0+88N	3	.3	25	15	83	12	1	6	120
90H112 3100F1+00N	2	.6	65	15	45	6	1	5	170
90H112 3100F1+12N	1	.2	27	23	41	1	1	1	225
90H112 3100F2+62.5N	1	1.7	9	22	80	27	1	11	175
90H112 3100F2+75N	1	1.0	16	16	74	1	1	28	110
90H112 3100F3+00N	5	.3	48	14	45	32	1	11	300
90H112 3100F3+12.5N	42	.6	63	27	80	21	1	12	240
90H112 3100F3+62.5N	1	.8	70	22	80	34	1	10	180
90H112 3100F3+75N	1	1.5	28	44	75	19	1	12	205
90H112 3100F3+87.5N	1	1.1	41	8	85	39	1	7	120
90H112 3100F6+37.5N	75	1.9	513	72	255	117	1	5	170
90H112 3100F6+50N	12	2.2	305	23	195	1	1	5	400
90H112 3100F6+62.5N	3	.6	106	13	55	12	1	4	210
90H112 3150F3+62.5N	4	1.3	52	25	65	24	2	3	170
90H112 3150F3+87.5N	2	.8	45	19	57	5	1	3	185
90H112 3160F0+88N	1	.4	34	26	61	38	1	7	175
90H112 3160F1+00N	1	.7	17	15	25	6	1	3	160
90H112 3160F1+12N	1	1.3	26	20	42	13	1	9	205
90H112 3160F6+62.5N	1	1.2	72	33	59	13	1	1	375
90H112 31702+67.5N	1	.8	32	20	65	32	1	9	190
90H112 3170F2+75N	2	.3	33	22	63	22	1	6	180
90H112 3170F3+00N	1	.8	21	19	58	19	1	12	215
90H112 3170F3+12.5N	1	1.9	18	20	56	34	1	15	255
90H112 3170F87.5N	2	2.2	20	29	64	45	1	9	260
90H112 3190F 6+50N	3	1.5	35	26	42	3	1	2	445

COMP: KEEWATIN ENGRG.
PROJ: 112
ATTN: R.NICHOLS/R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0474-SJ1+2
DATE: 90/09/16
* SOIL * (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90M112SN16257+37.5N	138	.4	282	38	102	9	3	4	140
90L112SW20904+62.5N	2	4.8	20	37	60	96	1	8	300
90L112SW20904+75N	1	1.2	19	51	40	15	12	6	290
90L112SW20904+87.5N	1	5.2	18	35	65	78	1	6	245
90L112SN20909+37.5N	10	.8	28	26	87	23	1	14	120
90L112SN20909+50N	12	2.1	77	23	122	25	1	36	170
90L112SN20909+62.5N	1	.8	33	33	101	36	1	49	130
90L112SN21004+62.5N	2	.8	29	32	169	3	1	13	155
90L112SN21004+75N	1	4.6	16	44	74	80	4	9	255
90L112SN21004+87.5N	2	2.1	17	36	48	1	3	8	160
90L112SN21009+37.5N	1	2.1	30	21	59	61	1	15	175
90L112SN21009+50N	1	5.2	25	42	68	65	1	6	330
90L112SN21009+62.5N	1	3.6	19	46	48	40	11	5	305
90L112SN21109+37.5N	1	4.5	26	44	52	76	5	10	420
90L112SN21109+50N	2	3.8	23	57	63	63	9	9	265
90L112SN21109+62.5N	1	1.5	27	30	31	53	2	7	200
90L112SN21154+62.5N	1	4.3	15	40	95	110	2	6	515
90L112SN21154+75N	1	4.2	14	37	86	97	4	5	210
90L112SN25708+37.5N	1	1.1	30	15	41	1	1	1	285
90L112SS25802+37.5S	2	2.1	33	38	113	36	3	19	90
90L112SS25802+50S	5	3.8	23	35	95	100	3	46	150
90L112SS25802+62.5S	2	1.1	20	27	74	22	3	20	120
90L112SN25859+00N	1	2.4	15	26	32	10	1	5	175
90L112SS26002+37.5S	10	.4	44	21	74	47	1	8	140
90L112SS26002+50.0S	2	.8	23	31	38	21	3	8	250
90L112SS26002+62.5S	22	.7	36	36	49	44	4	19	220
90L112SN26008+12.5N	12	.1	97	46	70	27	1	20	235
90L112SN26008+25.0N	5	.5	150	42	45	37	1	6	230
90L112SN26008+37.5N	4	.4	170	28	47	33	1	8	240
90L112SN26008+62.5S	22	.6	189	30	43	36	1	5	265
90L112SN26008+75N	3	.8	210	64	167	44	1	5	160
90L112SN26008+87.5N	9	1.1	64	26	72	7	1	5	240
90L112SN26009+00N	32	.5	128	65	106	10	1	6	330
90L112SN26009+12.5N	29	2.7	89	29	88	45	1	6	340
90L112SN26202+37.5N	2	1.2	37	43	71	1	1	34	360
90L112SN26202+50S	5	1.2	38	26	49	54	3	6	290
90L112SN26202+62.5S	3	.7	34	23	44	16	1	5	425
90L112SN27008+62.5N	2	2.9	28	62	31	1	1	4	180
90L112SN27008+75N	50	1.8	64	28	44	1	1	5	200
90L112SN27008+87.5N	20	1.1	80	29	35	18	2	4	325
90L112SN27009+00N	9	1.3	124	41	47	28	5	7	300
90M112SN27009+12.5N	3	1.3	52	26	28	23	2	5	295

COMP: KEEWATIN ENGRG.
PROJ: 112
ATTN: R.NICHOLS/R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0534-SJ2
DATE: 90/09/24
• SOIL * (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
TS-S:10+90F/7+37.5	3	1.8	19	35	66	1	1	2	285
TS-S:10+90F/7+50.0S	1	7.6	14	27	70	22	1	2	380
TS-S:10+90F/7+62.5S	6	2.7	16	31	100	1	1	15	185
TS-S:10+90F/9+37.5S	33	.9	60	58	112	1	1	2	200
TS-S:10+90F/9+50.0S	4	1.2	51	55	95	1	1	2	190
TS-S:10+90F/9+62.5S	10	1.1	144	122	240	1	1	3	165
TS-S:11+00F/7+37.5S	1	6.4	14	35	56	1	1	13	330
TS-S:11+00F/7+50.0S	3	5.1	14	38	59	1	1	21	280
TS-S:11+00F/7+62.5S	1	3.7	9	19	98	1	1	25	190
TS-S:11+00F/9+37.5S	153	1.2	69	82	176	1	1	1	200
TS-S:11+00F/9+50.0S	33	1.1	33	21	99	1	1	3	160
TS-S:11+00F/9+62.5S	3	.5	100	261	314	1	1	2	195
TS-S:11+10F/7+37.5S	62	.5	30	10	86	1	1	4	120
TS-S:11+10F/7+50.0S	2	2.6	43	27	98	1	1	14	145
TS-S:11+10F/7+62.5S	1	1.5	14	24	67	1	2	53	195
TS-S:11+10F/9+37.5S	36	.4	97	79	265	1	1	3	175
TS-S:11+10F/9+50.0S	7	.2	19	23	37	1	1	2	225
TS-S:11+10F/9+62.5S	2	.9	48	41	94	1	1	1	210

COMP: KEEWATIN ENGRG.
PROJ: 112
ATTN: R.NICHOLS/R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0430-SJ11
DATE: 90/09/11
* SOIL * (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
H112SS3140F8+63S	1	2.8	45	41	55	14	6	9	390
H112SS3140F8+75S	1	1.1	113	49	69	7	3	3	115
H112SS3140F8+87.5S	2	.9	39	28	59	4	3	6	155
H112SS3140F10+12.5S	12	.1	40	88	239	1	1	5	395
H112SS3140F10+25S	1	.5	58	43	114	71	1	7	440
H112SS3140F10+37.5S	1	.6	32	46	165	16	1	7	205
H112SN3140F1+~~12.5~~N 63	1	.6	35	35	82	32	5	18	150
H112SN3140F1+~~25~~N 75	2	.1	24	33	52	31	3	13	175
H112SN3140F1+~~37.5~~N 87	3	.1	48	19	62	12	1	7	155
H112SN3140F1+38N	3	2.8	24	27	54	1	4	18	145
H112SN3140F1+50N	5	2.5	18	34	67	25	5	13	235
H112SS3150F5+12S	1	1.4	22	41	47	16	3	10	190
H112SS3150F5+25S	2	2.0	19	34	61	36	6	10	465
H112SS3150F5+38S	3	1.0	17	28	41	5	1	8	375
H112SN3150F2+13N	242	.2	114	19	64	54	2	15	225
H112SN3150F2+25N	20	.8	59	20	54	32	3	10	200
H112SN3150F2+37N	2	1.8	23	39	56	43	7	23	240
H112SS3180F5+12S	1	.1	28	37	64	20	4	4	205
H112SS3180F5+25S	1	.9	16	41	64	1	10	9	240
H112SS3180F5+38S	1	1.8	24	34	64	2	11	10	320

COMP: KEEWATIN ENGRG.
PROJ: 112
ATTN: R.NICHOLS/R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0430-SJ9+10
DATE: 90/09/11
* SOIL * (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
L112SS2580F9+37.5S	3	.3	28	37	80	16	2	9	170
L112SS2600F9+12.5	2	1.5	18	22	61	62	1	8	210
L112SS2600F9+25S	10	3.7	70	133	99	1	1	11	135
L112SS2600F9+37.5S	4	1.1	18	29	55	1	2	7	115
L112SS2620F9+12.5S	2	2.1	34	29	110	3	3	13	105
L112SS2620F9+25S	1	2.7	19	38	66	56	5	6	285
L112SS2620F9+37S	1	2.9	19	37	70	98	1	9	290
H112SW3040F1+~~12.5N~~ 63	1	1.2	11	32	72	12	6	11	145
H112SW3040F1+~~25N~~ 75	2	1.1	23	36	82	1	6	25	220
H112SW3040F1+~~37.5N~~ 87	1	1.5	17	34	96	27	4	16	100
H112SW3040F1+38N	1	.3	40	29	46	19	2	4	295
H112SW3040F1+50N	2	.9	35	36	55	1	3	13	155
H112SS3040F8+37.5S	1	1.1	56	33	63	1	4	9	285
H112SS3040F8+50S	1	1.7	38	33	58	61	2	6	310
H112SS3040F8+63.5S	1	1.7	33	26	61	51	1	4	340
H112SS3040F8+75S	1	1.3	34	59	47	27	2	6	330
H112SS3040F8+87.5S	1	1.3	55	50	72	20	5	9	340
H112SS3050F3+12S	10	.7	40	24	70	53	1	5	110
H112SS3050F3+25S	4	1.0	81	28	91	49	1	6	90
H112SS3050F3+38S	2	1.1	107	36	68	6	1	6	125
H112SS3050F10+12.5S	1	2.0	17	39	54	52	4	9	225
H112SS3050F10+25S	3	.6	13	42	80	2	7	12	275
H112SS3050F10+37.5S	1	1.3	19	28	48	14	7	10	530
H112SW3060F2+12N	2	.9	49	23	73	19	1	6	160
H112SW3060F2+25N	1	2.6	14	40	64	34	5	14	140
H112SS3060F5+63S	1	1.4	31	18	50	57	1	4	265
H112SS3060F5+75S	1	1.5	27	21	54	44	1	5	300
H112SS3060F5+87S	1	.8	23	22	54	27	1	6	210
H112SW3100F1+38N	2	1.0	31	49	53	1	11	8	375
H112SW3100F1+50N	1	1.4	13	38	66	1	7	38	475
H112SW3100N1+~~12.5N~~ 63	1	1.5	24	37	104	23	3	18	120
H112SW3100F1+~~25N~~ 75	1	1.3	22	34	93	6	4	21	95
H112SW3100F1+~~37.5N~~ 87	1	.8	19	36	113	2	4	32	134
H112SW3100F2+13N	1	1.5	17	26	135	41	3	29	100
H112SW3100F2+25N	2	1.1	35	28	95	44	2	19	175
H112SW3100F2+37N	4	1.5	21	32	63	16	5	14	185
H112SS3100F3+12S	3	.9	32	21	39	61	1	4	450
H112SS3100F3+25S	1	5.4	15	44	58	114	6	10	625
H112SS3100F3+38S	1	9.7	21	55	90	140	6	12	335
H112SS3100F5+12S	2	1.0	50	22	37	24	1	4	175
H112SS3100F5+25S	1	5.2	23	39	61	71	3	8	185
H112SS3100F5+63S	1	1.0	27	26	40	49	1	7	365
H112SS3100F5+75S	1	5.0	17	47	60	104	7	11	350
H112SS3100F5+87S	2	.6	21	26	40	14	1	5	305
H112SS3100F8+37.5S	1	.5	75	25	44	17	3	6	365
H112SS3100F8+50S	1	1.3	81	682	145	21	3	6	380
H112SS3100F8+63S	1	1.5	22	68	75	10	4	7	410
H112SS3100F8+75S	1	2.6	17	56	64	13	7	11	345
H112SS3100F8+87.5S	1	2.4	32	81	80	8	10	8	295
H112SS3100F10+12.5S	1	.1	58	83	210	40	8	39	125
H112SS3100F10+25S	1	1.0	14	44	48	1	5	10	365
H112SS3100F10+37.5S	14	.1	11	24	46	1	1	10	150
H112SS3120F5+63S	1	4.2	23	34	57	87	1	9	190
H112SS3120F5+75S	3	1.3	19	30	50	31	1	7	165
H112SS3120F5+87S	1	3.1	18	38	58	56	3	7	180
H112SS3140F3+12S	2	1.6	14	42	39	30	8	8	275
H112SS3140F3+25S	1	.1	15	22	38	24	2	5	270
H112SS3140F3+38S	1	1.9	14	44	69	48	9	13	195
H112SS3140F8+37.5S	2	4.5	60	236	66	1	8	8	370
H112SS3140F8+50S	3	1.5	42	41	65	21	2	5	200

COMP: KEEWATIN ENGRG.
PROJ: 112
ATTN: R.NICHOLS/R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0430-SJ7+8
DATE: 90/09/11
* SOIL * (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
A112SS1625F6+37.5S	2	1.3	13	43	153	59	2	10	175
A112SS1625F6+50S	12	1.9	14	28	53	35	1	6	210
A112SS1625F6+62.5S	2	3.5	24	37	122	73	1	7	305
A112SS1625F11+12.5S	50	1.8	104	51	173	44	1	10	230
A112SS1625F11+25S	1	2.8	172	63	468	87	1	12	318
A112SS1625F11+37.5	1	1.3	77	35	307	57	1	13	305
A112SS1625F12+87.5S	2	1.1	24	31	43	11	2	19	80
A112SS1625F13+00S	1	1.2	48	29	59	48	1	22	185
A112SS1625F13+12.5S	4	1.1	30	36	43	4	1	19	100
A112SN1625F1+12.5N	1	.8	13	34	52	3	7	7	130
A112SN1625F1+25N	3	2.0	14	44	66	21	4	9	195
A112SN1625F1+37.5N	5	1.2	12	31	73	3	1	7	75
A112SN1625F2+87.5N	32	3.2	24	30	150	116	1	9	165
A112SN1625F3+00N	3	4.0	24	43	100	151	1	10	285
A112SN1625F3+12.5N	2	1.7	41	20	83	105	1	6	165
A112SN1625F6+87.5N	2	4.7	15	35	149	95	2	7	150
A112SN1625F7+00N	1	3.9	22	27	101	108	1	5	330
A112SN1625F7+12.5N	1	5.5	20	32	129	90	1	7	460
A112SN1625F7+25N	1	4.3	12	39	93	55	3	6	430
A112SN1625F7+87.5N	12	4.9	17	32	125	86	1	6	325
A112SN1625F8+00N	5	5.2	24	34	206	101	1	8	245
A112SN1625F8+12.5N	8	2.3	26	39	55	31	3	4	485
L112SS2070F6+75S	35	2.9	47	11	86	1	1	1	150
L112S2S085F1+87.5S	1	2.6	17	31	66	67	5	9	220
L112S2S085F2+00S	1	.3	29	40	47	46	1	7	170
L112S2S085F2+12.5S	2	.7	13	27	40	28	2	8	95
L112SS2090F3+87.5S	6	.4	19	36	63	28	6	8	170
L112SS2090F4+00S	2	.7	19	27	48	35	2	5	175
L112SS2090F4+12.5S	4	2.5	20	46	75	62	3	8	210
L112SS2100F2+00S	4	1.0	37	28	98	89	1	11	110
L112SS2100F2+12.5S	2	2.1	16	30	49	61	1	10	310
L112SS2100F3+87.5S	1	.6	15	31	44	3	3	6	255
L112SS2100F4+00S	4	4.2	22	41	73	107	2	9	425
L112SS2100F4+12.5S	5	.7	20	14	50	64	1	7	205
L112SS2100F6+62.5S	1	.3	336	31	89	74	1	12	235
L112SS2100F6+75S	2	5.1	23	36	85	118	3	7	115
L112SS2100F6+87.5S	6	6.7	33	38	72	138	1	7	120
L112SS2100F7+00S	2	4.2	41	31	76	98	1	6	165
L112SS2100F7+25S	670	1.9	283	25	83	64	1	14	100
L112SS2100F7+37.5S	161	2.2	186	73	93	72	1	13	90
L112SS2100F7+62.5S	37	3.1	162	309	123	55	5	13	325
L112SS2100F7+75S	2	.1	77	66	105	1	1	8	110
L112SS2100F7+87.5S	2	2.0	33	41	93	63	4	9	175
L112SS2110F1+87.5S	1	1.5	23	25	64	42	1	9	195
L112SS2110F2+00S	1	1.0	41	20	53	41	1	6	160
L112SS2110F2+12.5S	3	1.1	27	26	54	66	1	7	140
L112SS2110F3+87.5S	2	2.4	14	32	60	60	3	7	285
L112SS2110F4+00S	1	.5	29	27	108	15	1	36	130
L112SS2110F4+12.5S	8	1.2	19	38	69	20	4	6	165
L112SS2110F7+62.5S	1	1.8	23	39	169	18	6	13	120
L112SS2110F7+75S	1	2.3	19	47	69	58	8	12	265
L112SS2110F7+87.5S	3	1.9	21	61	80	65	9	8	240
L112SS2130F6+75S	6	.5	257	55	116	78	1	11	115
L112SS2130F6+87.5S	2	1.6	31	37	48	1	9	9	200
L112SS2130F7+00S	23	1.7	55	37	72	59	2	8	195
L112SS2130F7+12.5S	3	.5	57	33	88	55	1	6	500
L112SS2130F7+25S	274	.2	7	13	8	11	1	1	145
L112SS2130F7+37.5S	348	4.0	74	52	92	112	1	8	190
L112SS2580F9+12.5S	2	.7	21	43	70	19	1	7	195
L112SS2580F9+25S	12	.7	18	27	60	1	3	9	140

COMP: KEEWATIN ENGRG.
PROJ: 112
ATTN: R.NICHOLS/R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0430-SJ5+6
DATE: 90/09/11
• SOIL • (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
A112SS1600F5+37.5S	10	.7	103	21	59	39	1	33	80
A112SS1600F5+62.5S	2	.4	37	22	46	29	1	9	80
A112SS1600F5+75S	2	.4	172	28	93	68	1	47	100
A112SS1600F5+87.5S	40	2.3	162	34	67	50	9	33	130
A112SS1600F6+00S	10	1.0	86	23	35	14	8	138	125
A112SS1600F6+12.5S	2	2.0	22	29	64	38	3	14	210
A112SS1600F6+37.5S	10	2.8	24	35	111	54	1	9	95
A112SS1600F6+50S	2	4.8	27	29	136	117	1	11	70
A112SS1600F6+62.5S	1	4.9	20	35	139	100	1	10	180
A112SS1600F11+12.5S	1	1.0	46	33	95	43	1	6	155
A112SS1600F11+25S	38	2.9	71	42	273	131	1	13	225
A112SS1600F11+37.5S	1	2.5	28	29	483	135	1	13	245
A112SS1600F12+87.5S	1	.9	26	28	78	24	2	7	105
A112SS1600F13+00S	2	2.1	50	31	122	52	1	11	105
A112SS1600F13+12.5S	3	.8	39	53	55	13	2	18	115
A112SS1600F8+12.5S	2	.8	56	21	42	152	1	10	160
A112SS1600F8+25S	4	.5	30	24	70	62	1	6	130
A112SS1600F8+37.5S	22	.4	29	22	37	10	1	2	110
A112SN1600F1+12.5N	2	.8	11	27	48	1	3	27	80
A112S1600F1+25N	2	3.4	15	56	82	63	5	7	255
A112SN1600F1+37.5N	1	.9	8	31	41	1	5	4	120
A112SN1600F2+87.5N	24	3.0	68	32	94	92	1	11	190
A112SN16+00F3+00N	1	3.7	25	32	139	110	3	8	110
A112SN1600F6+87.5N	1	1.3	40	28	101	18	1	5	235
A112SN1600F7+00N	1	2.4	235	32	101	76	1	6	290
A112SN1600F7+12.5N	1	3.4	13	50	48	62	10	5	445
A112SN1600F7+25N	1	4.4	20	44	49	120	1	9	840
A112SN1600F7+37.5N	1	1.0	14	29	41	25	1	6	265
A112SN1600F7+87.5N	29	2.7	30	54	153	70	4	6	250
A112SN1600F8+00N	1	3.8	19	30	130	50	3	6	355
A112SN1600F8+12.5N	2	1.8	19	27	86	44	3	4	320
A112SS1625F0+37.5S	2	3.6	21	31	79	90	1	8	205
A112SS1625S0+50S	1	1.3	18	17	36	14	2	10	40
A112SS1625F0+62.5S	3	1.1	82	27	102	52	1	17	115
A112SS1625F0+75S	2	1.2	44	22	73	42	1	5	85
A112SS1625F0+87.5S	1	7.5	19	41	54	142	2	8	205
A112SS1625F1+12.5S	5	.6	85	20	62	25	1	10	50
A112SS1625F1+25S	2	.6	31	13	36	25	1	6	100
A112SS1625F1+37.5S	1	1.6	14	26	30	2	6	8	105
A112SS1625F3+12.5S	1	2.4	53	34	70	60	1	30	200
A112SS1625F3+25S	2	2.2	43	30	73	49	3	31	110
A112SS1625F4+12.5SN	18	3.1	21	33	85	68	1	11	285
A112SS1625F4+25SN	3	1.1	23	40	67	41	6	15	170
A112SS1625F4+37.5SN	4	3.3	35	33	79	46	6	7	150
A112SS1625F4+12.5SD	1	3.3	44	50	85	14	3	11	250
A112SS1625F4+25SDUP	1	4.9	25	42	79	77	1	9	850
A112SS1625F4+37.5SD	3	3.7	24	41	80	66	1	8	340
A112SS1625F4+87.5S	2	1.3	33	17	68	56	1	5	160
A112SS1625F5+00S	1	.6	23	18	73	31	1	9	130
A112SS1625F5+12.5S	3	.1	28	12	31	27	1	7	50
A112SS1625F5+25S	74	.1	55	24	87	40	1	9	35
A112SS1625F5+37.5S	32	.1	19	18	34	1	1	7	40
A112SS1625F5+62.5S	4	1.8	14	42	59	2	14	15	160
A112SS1625F5+75S	1	1.7	12	29	40	8	5	13	105
A112SS1625F5+87.5S	2	2.5	17	34	132	68	2	19	245
A112SS1625F6+00S	5	1.1	35	18	54	31	1	12	175
A112SS1625F6+12.5S	10	1.7	13	34	46	1	6	25	85
A112SS1625F8+12.5S	4	1.9	20	27	63	61	1	8	95
A112SS1625F8+25S	4	3.5	25	29	97	117	1	9	170
A112SS1625F8+37.5S	5	4.9	47	37	143	117	1	8	140

COMP: KEEWATIN ENGRG.
PROJ: 112
ATTN: R.NICHOLS/R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0430-SJ3+4
DATE: 90/09/11
* SOIL * (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
A112SS1575F1+37.5S	2	.2	15	18	36	16	3	12	110
A112SS1575F3+12.5S	2	1.2	26	30	107	27	3	43	100
A112SS1575F3+25S	1	3.7	37	34	145	74	1	15	130
A112SS1575F3+37.5S	4	1.4	32	26	88	57	1	18	110
A112SS1575F4+12.5N	30	1.6	23	28	62	50	1	10	160
A112SS1575F4+25N	2	4.4	8	36	128	74	1	8	125
A112SS1575F4+37.5N	16	1.1	21	26	108	46	1	7	155
A112SS1575F4+12.5SD	36	.1	489	31	171	64	1	11	630
A112SS1575F4+25SDUP	8	.9	202	44	195	27	1	15	370
A112SS1575F4+37.5SD	3	.1	557	57	330	1	1	31	275
A112SS1575F4+87.5S	1	5.3	15	38	54	128	1	8	330
A112SS1575F5+00S	2	3.2	18	30	38	71	1	7	270
A112SS1575F5+12.5S	2	2.4	17	37	59	61	1	8	155
A112SS1575F5+25S	4	.8	15	21	46	27	1	8	105
A112SS1575F5+37.5S	2	.2	69	17	29	10	1	15	65
A112SS1575F5+62.5S	2	.1	41	12	78	69	1	5	105
A112SS1575F5+87.5S	1	3.2	21	33	76	68	1	9	115
A112SS1575F6+00S	3	3.1	16	30	75	52	1	8	280
A112SS1575F6+12.5S	1	3.5	20	32	79	87	1	10	180
A112SS1575F6+37.5S	4	.5	32	28	41	7	1	14	80
A112SS1575F6+50S	2	1.8	38	26	126	57	1	9	130
A112SS1575F6+62.5S	1	2.4	25	23	108	61	1	10	110
A112SS1575F8+12.5S	8	1.3	17	29	80	40	2	4	75
A112SS1575F8+25S	2	3.6	77	26	85	160	1	9	215
A112SS1575F8+37.5S	1	4.7	37	27	116	115	1	8	130
A112SS157511+12.5S	1	3.4	28	38	154	46	1	9	370
A112SS1575F11+25S	2	1.9	75	63	215	77	1	12	310
A112SS1575F11+37.5S	1	1.2	33	33	169	31	1	17	245
A112SS1575F12+87.5S	6	3.6	24	35	93	55	6	13	270
A112SS1575F13+00S	7	1.9	62	37	258	39	3	28	185
A112SN1575F13+12.5S	4	1.8	68	32	169	36	6	56	95
A112SN1575F1+12.5N	21	1.4	20	24	56	106	1	6	150
A112SN1575F1+25N	4	2.1	15	27	119	44	2	7	130
A112SN1575F1+37.5N	4	2.3	10	35	69	60	6	12	140
A112SN1575F7+00N	24	.8	20	19	51	38	1	4	190
A112SN1575F7+12.5N	2	.4	76	44	201	1	1	15	330
A112SN1575F7+25N	71	.8	16	28	67	54	1	7	210
A112SN1575F7+37.5N	2	1.2	56	29	152	34	1	8	175
A112SN1575F7+87.5N	2	1.8	42	28	109	78	1	6	220
A112SN1575F8+12.5N	9	1.6	24	36	188	21	1	5	215
A112SS1600F0+37.5S	1	4.5	24	29	107	123	1	9	255
A112SS1600F0+50S	3	4.1	22	38	62	79	4	12	195
A112SS1600F0+62.5S	7	1.0	75	21	87	48	1	17	60
A112SS1600F0+75S	1	3.4	24	32	84	98	1	11	160
A112SS1600F1+12.5S	8	.4	69	14	62	44	1	10	65
A112SS1600F1+25S	260	.9	896	26	78	46	4	55	85
A112SS1600F1+37.5S	1	2.4	28	43	49	46	7	7	235
A112SS1600F3+12.5S	1	4.5	41	29	79	70	2	15	190
A112SS1600F3+25S	2	1.8	31	29	76	52	1	13	165
A112SS1600F3+37.5S	2	2.0	73	34	168	56	1	22	150
A112SS1600F4+12.5N	2	.1	30	40	132	1	1	79	170
A112SS1600F4+25N	5	3.9	19	31	85	129	1	14	240
A112SS1600F4+37.5N	2	1.4	23	36	150	55	1	32	125
A112SS1600F4+12.5SD	12	.4	38	20	69	28	1	7	315
A112SS1600F4+25SDUP	4	1.1	110	30	154	43	1	11	285
A112SS1600F4+37.5SD	1	3.5	52	27	96	59	1	10	255
A112SS1600F4+87.5S	1	.5	21	28	58	29	1	7	95
A112SS1600F5+00S	2	3.0	20	37	81	86	1	9	120
A112SS1600F5+12.5S	1	.7	26	23	53	41	1	9	160
A112SS1600F5+25S	61	.7	284	26	43	55	1	151	90

COMP: KEEWATIN ENGRG.
PROJ: 112
ATTN: R.NICHOLS/R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0430-SJ1+2
DATE: 90/09/11
* SOIL * (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
L112SN1090F3+62.5N	76	.6	101	31	192	43	1	7	175
L112SN1090F3+75N	41	1.1	24	32	55	43	1	5	140
L112SN1090F3+87.5N	2	5.0	20	42	72	113	1	8	285
L112SN1090F6+37.5N	1	2.1	26	33	65	18	2	5	240
L112SN1090F6+50N	2	1.5	16	24	74	6	1	3	165
L112SN1090F6+62.5N	4	1.9	37	29	109	64	1	10	395
L112SN1090F6+75N	2	1.1	29	27	64	80	3	7	130
L112SN1090F6+87.5N	5	5.7	15	37	79	149	1	9	220
L112SN1090F7+37.5N	5	1.8	54	17	114	93	1	21	325
L112SN1090F7+50N	2	2.9	59	24	125	124	4	9	220
L112SN1090F7+62.5N	2	2.9	59	36	126	92	4	8	250
L112SN1090F7+87.5N	1	.3	20	34	56	37	3	8	425
L112SN1090F13+37.5N	6	.6	79	18	72	42	1	11	60
L112SN1090F13+50N	2	2.5	14	37	47	1	6	11	170
L112SN1090F13+62.5N	1	.8	33	32	67	76	1	4	125
L112SN1[illegible]F13+37.5N	3	1.4	34	32	74	28	1	11	1160
L112SN1095F13+87.5N	2	2.5	9	41	49	66	5	11	375
L112SN1095F14+00N	6	.8	9	35	54	46	2	6	330
L112SN1095F14+12.5N	5	5.0	15	33	122	98	1	7	280
L112SN1100F3+62.5N	52	1.1	26	25	89	80	1	19	220
L112SN1100F3+75N	293	1.6	87	15	77	51	1	56	110
L112SN1100F3+87.5N	52	.8	31	19	113	44	1	7	150
L112SN1100F6+37.5N	2	2.6	18	46	59	109	1	8	515
L112SN1100F6+50N	1	4.6	24	46	105	99	1	10	100
L112SN1100F6+62.5N	5	4.0	22	35	70	87	1	9	220
L112SN1100F6+75N	2	4.6	15	28	78	119	1	6	245
L112SN1100F6+87.5N	1	4.4	23	44	71	98	1	11	280
L112SN1100F7+37.5N	1	2.0	16	45	88	54	8	3	215
L112SN1100F7+50N	6	3.6	15	34	63	118	1	6	280
L112SN1100F7+62.5N	1	5.9	17	39	75	123	1	8	70
L112SN1100F7+75N	2	1.2	20	24	96	16	3	5	285
L112SN1100F7+87.5N	25	5.9	83	36	96	101	1	9	120
L112SN1100F13+50N	1	2.7	12	48	53	76	1	6	335
L112SN1100F13+62.5N	2	3.6	10	37	49	144	1	8	325
L112SN1100F13+87.5N	2	2.7	16	28	163	96	1	6	200
L112SN1100F14+00N	5	5.3	14	25	121	97	1	8	225
L112SN1100F14+12.5N	1	2.3	13	28	72	55	2	7	300
L112SN1105F13+37.5N	2	.1	23	55	104	12	1	11	225
L112SN1105F13+50N	1	1.0	21	34	94	68	1	9	270
L112SN1105F13+62.5N	82	1.9	11	44	56	50	5	7	255
L112SN1105F13+87.5N	1	1.9	10	25	66	87	1	8	235
L112SN1105F14+00N	4	4.6	9	35	121	110	1	9	240
L112SN1105F14+12.5N	2	4.7	16	34	113	96	1	9	190
L112SN1115F6+37.5N	3	1.4	31	28	84	94	1	5	335
L112SN1115F6+50N	2	1.6	62	29	90	68	1	4	150
L112SN1115F6+62.5N	1	1.1	28	10	79	66	1	7	220
L112SN1115F6+75N	4	1.6	119	32	126	80	1	9	215
L112SN1115F6+87.5N	5	4.4	20	39	105	143	1	8	235
L112SN1125F3+62.5N	3	3.1	52	42	82	51	8	14	225
L112SN1125F3+75N	1	2.9	20	40	125	48	8	14	170
L112SN1125F3+87.5N	2	6.1	12	47	98	95	7	11	370
L112SN1125F7+37.5N	2	2.6	66	32	148	60	1	7	260
L112SN1125F7+75N	1	.6	83	31	222	74	1	15	210
L112SN1125F7+87.5N	1	1.8	22	27	62	60	4	6	85
A112SS1575F0+37.5S	3	2.1	24	26	63	29	1	6	210
A112SS1575F0+62.5S	17	2.6	40	22	51	73	1	9	170
A112SS1575F0+75S	17	1.0	23	20	35	35	1	15	65
A112SS1575F0+87.5S	2	.7	155	30	96	59	1	13	205
A112SS1575F1+12.5S	5	.3	28	18	37	37	1	10	110
A112SS1575F1+25S	10	.2	31	24	62	33	1	9	120

COMP: KEEWATIN ENGINEERING
PROJ: JOY 112
ATTN: R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0069-RJ1
DATE: 90/06/19
* ROCK * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	CU PPM	MO PPM	PB PPM	SB PPM	ZN PPM	AU PPB	HG PPB
90A 112R 002	1.0	15	212	1	27	1	92	99	5
90A 112R 003	.3	9	28	2	15	1	67	10	5
90A 112R 004	.1	21	11	3	17	1	39	21	10
90A 112R 005	4.9	22	115	1	47	1	192	545	10
90A 112R 006	1.8	12	46	2	18	1	163	45	5
90H 112R 001	1.7	9	47	1	14	2	35	8	5
90H 112R 002	1.7	5	29	1	10	1	45	466	5
90H 112R 003	1.2	23	201	5	38	1	8	4	5
90H 112R 004	2.4	1	67	1	7	1	65	2	5
90H 112R 005	1.4	4	33	1	7	1	3	3	5
90H 112R 006	1.7	6	17	1	8	1	23	8	10
90H 112R 007	.2	17	15	1	14	1	14	1	15
90H 112R 008	.7	6	14	1	8	1	4	1	5
90H 112R 009	2.5	17	110	4	15	1	6	1	5
90L 112R 013	1.9	10	157	11	19	1	62	29	20
90L 112C 014	1.5	1	49	13	13	1	83	2	5
90L 112R 015	.9	8	10	1	14	1	40	24	35
90L 112R 016	1.5	13	30	2	12	1	78	25	40
90L 112R 017	2.1	11	116	10	11	1	20	1	5
90L 112R 018	1.5	6	58	1	16	1	29	14	5
90T 112R 001	2.5	22	1952	1	7	11	24	542	10
90T 112R 002	2.5	22	1412	1	17	5	25	10000	5
90T 112R 003	1.1	1	30	1	10	1	109	112	5
90T 112R 004	.1	16	69	1	24	1	35	132	15
90T 112R 005	4.4	35	9962	2	40	13	17	31	5
90T 112R 006	.7	27	118	1	53	6	63	14	5
90T 112R 008	1.2	10	41	1	16	1	103	37	5

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

THUNDER BAY LAB.:
TELEPHONE (807) 622-8958
FAX (807) 623-5931

SMITHERS LAB.:
TELEPHONE/FAX (604) 847-3004

RECEIVED
JUN 26 1990

File
Big In - Ton

Assay Certificate

OS-0069-RA1

Company: KEEWATIN ENGINEERING
Project: JOY 112
Attn: R.PEGG

Date: JUN-19-90
Copy 1. KEEWATIN ENGINEERING, VANCOUVER, B.C.
2. KEEWATIN ENGINEERING, SMITHERS, B.C.

He hereby certify the following Assay of 1 ROCK samples submitted JUN-13-90 by R.PEGG.

Sample Number	*AU g/tonne	*AU oz/ton
90T 112R 002	11.20	.327

*AU - 1 ASSAY TON

Certified by _____

MIN-EN LABORATORIES

COMP: KEEWATIN ENGINEERING
PROJ: 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0253-RJ1
DATE: 90/08/14
* ROCK * (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90A 112R-007	12500	32.4	989	43	93	1	1	10	200
90A 112R-009	11000	21.0	14026	40	44	38	17	1	125
90A 112C-008	42	1.4	247	15	19	1	1	1	110
90L 112C-025	217	2.9	1726	19	22	1	1	1	75
90L 112C-026	288	1.4	310	22	20	1	1	1	95
90L 112C-027	1645	2.1	1134	20	24	1	1	1	85
90L 112C-028	456	1.6	239	19	17	1	1	1	95
90L 112C-029	44	2.6	126	8	27	1	1	1	90
90L 112C-030	71	2.8	245	8	39	1	1	1	80
90L 112C-031	2580	3.5	256	10	39	1	1	1	100
90L 112C-032	8750	2.5	645	15	29	1	1	1	90
90L 112C-033	102	2.8	38	9	30	1	1	1	135
90L 112C-034	742	2.2	226	19	18	1	1	1	110
90L 112C-035	63	1.4	18	17	73	1	1	1	105
90L 112R-036	64	.2	13	13	11	1	1	1	125
90L 112R-037	2	.8	5	24	68	1	1	1	130
90L 112R-038	89	.1	99	18	31	1	1	1	340
90T 112C-009	18	.4	8	17	40	1	1	1	135
90T 112C-011	4300	9.2	3022	8	64	1	1	1	245
90T 112R-010	13	2.3	110	13	25	1	1	1	135
90T 112R-022	171	1.5	191	20	41	1	1	1	125
90T 112R-040	24	2.3	19	19	31	44	2	1	130
90H 112C 010	29	.2	25	13	10	1	1	4	155
90H 112C-011	7	2.1	233	12	36	1	1	1	115
90H 112C-012	1	1.1	15	12	51	1	1	1	165
90H 112C-013	2	.7	5	15	21	4	1	1	110
90H 112C-014	123	.6	12	17	24	1	1	1	125

MIN • EN LABORATORIES
(DIVISION OF ASSAYERS CORP.)

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

THUNDER BAY LAB.:
TELEPHONE (807) 622-8958
FAX (807) 623-5931

SMITHERS LAB.:
TELEPHONE/FAX (604) 847-3004

File Big II Joy.

Assay Certificate

0S-0253-RA1

Company: KEEWATIN ENGINEERING
Project: 112
Attn: R.PEGG/R.NICHOLS

Date: AUG-14-90
Copy 1. KEEWATIN ENGINEERING, VANCOUVER, B.C.
2. KEEWATIN ENGINEERING, C/O JAYCOX

We hereby certify the following Assay of 6 ROCK samples submitted AUG-08-90 by R.PEGG.

Sample Number	*AU g/tonne	*AU oz/ton
90A 112R-007	13.60	.397
90A 112R-009	12.20	.356
90L 112D-027	2.20	.064
90L 112D-031	2.25	.066
90L 112D-032	9.60	.280
90T 112D-011	4.02	.117

*AU - 1 ASSAY TON

Certified by ____________

MIN-EN LABORATORIES

COMP: KEEWATIN ENGRG.
PROJ: 112
ATTN: R.NICHOLS/R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0V-1278-RJ1
DATE: 90/09/02
* ROCK * (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90R 112 R 001	2	1.5	64	20	29	11	1	3	100
90R 112 C 002	1	1.4	106	7	66	15	1	1	125
90R 112 C 003	38	1.5	211	9	59	45	1	1	120
90R 112 C 004	235	1.8	468	15	58	40	1	1	135
90A 112 AC 020	20	.1	39	39	11	15	1	6	100
90A 112 AR 021	1	1.0	91	21	16	31	1	3	115
90A 112 AR 022	23	.4	51	27	12	5	1	2	65
90A 112 AC 023	38	1.5	568	51	46	20	1	2	115
90A 112 AC 024	162	.1	8	18	25	30	1	1	75
90A 112 AC 025	1600	4.8	650	19	30	39	1	9	105
90A 112 AC 026	274	1.1	1556	21	58	47	2	4	60
90A 112 AR 027	685	1.1	36	14	11	4	1	1	135
90A 112 AR 028	2500	1.8	29	24	20	15	1	1	90
90A 112 AR 029	39	.7	70	14	13	1	1	1	185

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

THUNDER BAY LAB.:
TELEPHONE (807) 622-8958
FAX (807) 623-5931

SMITHERS LAB.:
TELEPHONE/FAX (604) 847-3004

Assay Certificate

OV-1278-RA1

Company: **KEEWATIN ENGRG.**
Project: 181
Attn: R.NICHOLS/R.PEGG

Date: SEP-02-90
Copy 1. KEEWATIN ENGRG., VANCOUVER, B.C.
2. KEEWATIN ENGRG., C/O JAYCOX

We hereby certify the following Assay of 2 ROCK samples submitted AUG-25-90 by R.PEGG.

Sample Number	AU g/tonne	AU oz/ton
90A 112 AC 025	1.58	.046
90A 112 AR 028	2.46	.072

Certified by _____

MIN-EN LABORATORIES

COMP: KEEWATIN ENGINEERING
PROJ: 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0370-RJ1
DATE: 90/09/04
* ROCK * (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90R112C-005	20	1.9	791	14	67	7	1	1	65
90R112C-006	2	.1	13	17	22	7	1	1	90
90R112C-007	264	2.9	1454	12	38	22	1	1	115
90R112C-008	35	.9	92	13	31	22	1	2	70
90R112C-009	2000	4.6	357	17	133	24	1	5	185
90R112C-010	38	1.9	95	18	104	1	1	1	130
90R112C-011	49	1.1	100	19	60	31	1	2	70
90R112C-012	10	.5	46	16	27	16	1	1	75
90R112C-013	12	1.3	101	12	72	6	1	1	130
90R112C-014	2	.5	5	12	13	11	1	1	110
90R112C-015	3	1.0	52	17	31	9	1	1	120
90R112R-030	2	1.1	60	12	39	10	1	5	165
90R112R-031	24	.9	636	18	17	1	1	1	110
90R112R-032	10	.8	62	23	32	43	1	2	100
90R112R-033	317	.9	37	17	29	12	1	1	145
90R112R-034	625	2.6	96	20	34	1	1	1	195

MIN
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(DIVISION OF ASSAYERS CORP.)

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

THUNDER BAY LAB.:
TELEPHONE (807) 622-8958
FAX (807) 623-5931

SMITHERS LAB.:
TELEPHONE/FAX (604) 847-3004

Assay Certificate

OS-0370-RA1

Company: KEEWATIN ENGINEERING
Project: 112
Attn: R.PEGG/R.NICHOLS

Date: SEP-04-90
Copy 1. KEEWATIN ENGINEERING, VANCOUVER, B.C.
2. KEEWATIN ENGINEERING, C/O JAYCOX

We hereby certify the following Assay of 1 ROCK samples submitted AUG-26-90 by R.PEGG.

Sample Number	*AU g/tonne	*AU oz/ton
90R112C-009	1.98	.058

*AU - 1 ASSAY TON

Certified by _____

MIN-EN LABORATORIES

COMP: KEEWATIN ENGINEERING
PROJ: 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0077-RJ1
DATE: 90/06/23
* ROCK * (ACT:F31)

SAMPLE NUMBER	AG PPM	AS PPM	CU PPM	MO PPM	PB PPM	SB PPM	ZN PPM	AU PPB	HG PPB
90L 112R 019	1.6	1	68	1	9	1	50	6	35
90L 112R 020	2.0	74	5	2	40	7	52	1	45
90L 112R 021	.9	49	28	2	40	8	95	512	5
90L 112R 022	1.3	48	38	3	29	7	18	5	35
90L 112R 023	.8	1	25	14	18	1	18	16	45
90L 112R 024	.1	9	10	2	19	1	68	9	15

COMP: KEEWATIN ENGINEERING
PROJ: 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0282-RJ1
DATE: 90/08/17
* ROCK * (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90L112C-039	1800	7.3	1874	28	179	1	1	1	125
90L112C-040	50000	93.7	2072	27	178	1	1	1	280
90L112C-041	8000	12.3	1129	22	125	1	1	1	215
90L112C-042	2600	8.0	623	18	60	1	1	2	220
90H112R-015	160	2.5	87	21	30	1	1	11	145
90H112L-016	20	1.4	30	14	60	6	1	1	135
90T112C-012	60	.3	19	20	38	1	1	1	100
90T112C-013	27	.3	11	18	35	1	1	1	115
90T112R-014	4	.8	15	16	64	1	1	1	110
90T112R-015	62	.2	1436	33	18	1	1	1	120
90L112R-043	6	4.0	164	8	142	1	1	1	125

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(DIVISION OF ASSAYERS CORP.)

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

THUNDER BAY LAB.:
TELEPHONE (807) 622-8958
FAX (807) 623-5931

SMITHERS LAB.:
TELEPHONE/FAX (604) 847-3004

Assay Certificate

OS-0282-RA1

Company: KEEWATIN ENGINEERING
Project: 112
Attn: R.PEGG/R.NICHOLS

Date: AUG-17-90
Copy 1. KEEWATIN ENGINEERING, VANCOUVER, B.C.
2. KEEWATIN ENGINEERING, C/O JAYCOX

He hereby certify the following Assay of 4 ROCK samples submitted AUG-11-90 by R.PEGG.

Sample Number	*AU g/tonne	*AU oz/ton
90L112C-039	1.74	.051
90L112C-040	56.00	1.633
90L112C-041	8.20	.239
90L112C-042	2.50	.073

*AU - 1 ASSAY TON

Certified by _____

MIN-EN LABORATORIES

COMP: KEEWATIN ENGINEERING
PROJ: 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0302-RJ1+2
DATE: 90/08/22
* ROCK * (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90L112C-043	50	2.1	200	32	36	1	1	1	135
90L112C-044	1000	6.1	1377	29	52	1	1	1	150
90L112C-045	20	2.2	88	16	67	1	1	1	110
90L112C-046	91	2.6	582	16	41	1	1	1	100
90L112C-047	109	2.0	158	19	55	1	1	1	80
90L112C-048	38	2.4	474	15	40	1	1	1	125
90L112C-049	48	1.6	254	12	61	1	1	1	130
90L112C-050	4000	5.9	3882	30	14	1	1	1	105
90L112C-051	283	3.3	730	19	37	1	1	1	135
90L112C-052	5000	2.9	632	15	34	1	1	1	165
90L112C-053	620	2.1	64	14	45	1	1	1	140
90L112C-054	98	2.2	120	24	38	1	1	1	145
90L112C-055	97	3.1	1139	20	31	1	1	1	135
90L112C-056	226	1.8	144	12	43	1	1	1	160
90L112C-057	68	1.8	81	15	45	1	1	1	140
90L112C-058	3	1.7	45	23	38	1	1	1	195
90L112C-059	20	1.9	163	12	50	1	1	1	150
90T112C-016	2	2.2	92	12	64	1	1	1	125
90T112C-017	65	.5	21	31	10	11	1	1	130
90T112C-018	44	2.7	134	13	55	1	1	1	120
90T112C-019	6	3.0	59	12	66	1	1	1	165
90T112C-020	880	1.4	85	24	29	1	1	1	160
90T112C-021	12	1.8	37	12	63	1	1	1	110
90T112C-023	167	2.0	163	18	60	1	1	1	145
90T112C-024	140	2.1	285	17	51	1	1	1	105
90T112C-025	98	2.1	132	12	40	1	1	1	130
90T112C-026	65	2.8	493	19	61	1	1	1	125
90T112C-027	67	1.1	337	30	12	1	1	1	140
90T112C-028	38	2.6	90	31	52	1	1	1	145
90T112C-029	20	1.8	28	18	51	1	1	1	110
90T112C-030	19	1.7	59	42	40	1	1	1	120
90T112C-031	10	2.5	125	21	55	1	1	1	100
90T112C-032	2	2.8	20	29	52	1	1	1	125
90T112C-033	135	2.8	335	16	53	1	1	1	115
90A112C-010	665	3.9	402	12	51	1	1	1	105
90A112C-011	265	2.8	110	12	35	1	1	1	155
90A112C-012	70	3.2	72	14	52	1	1	1	125
90A112C-013	50	1.3	400	19	43	1	1	1	110
90A112C-014	30000	13.6	1460	36	8	1	1	1	585
90A112C-015	365	3.3	159	12	50	1	1	1	115
90A112C-016	18	3.4	309	12	42	1	1	1	125
90A112C-017	100000	71.3	8954	38	16	1	1	1	250
90A112C-018	5000	8.4	8221	20	43	1	1	1	145
90A112C-019	3350	4.8	621	25	37	1	1	1	135

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NORTH VANCOUVER, B.C. CANADA V7M 1T2
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FAX (604) 980-9621

THUNDER BAY LAB.:
TELEPHONE (807) 622-8958
FAX (807) 623-5931

SMITHERS LAB.:
TELEPHONE/FAX (604) 847-3004

Assay Certificate

OS-0302-RA1

Company: **KEEWATIN ENGINEERING**
Project: 112
Attn: R.PEGG/R.NICHOLS

Date: AUG-22-90
Copy 1. KEEWATIN ENGINEERING, VANCOUVER, B.C.
2. KEEWATIN ENGINEERING, C/O JAYCOX

He hereby certify the following Assay of 7 ROCK samples submitted AUG-16-90 by R.PEGG.

Sample Number	*AU g/tonne	*AU oz/ton
90L112C-044	1.02	.030
90L112C-050	3.98	.116
90L112C-052	4.88	.142
90A112C-014	39.70	1.158
90A112C-017	169.00	4.929
90A112C-018	4.27	.125
90A112C-019	3.29	.096

*AU -1 ASSAY TON

Certified by _____

MIN-EN LABORATORIES

COMP: KEEWATIN ENGINEERING
PROJ: 112
ATTN: R.PEGG/R.NICHOLS

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0424-RJ1
DATE: 90/09/07
* ROCK * (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90H112 C-017	2	1.0	31	25	458	22	1	1	230
90H112 R-018	2	2.6	14	12	25	1	1	1	75
90H112 R-019	1	1.8	24	14	35	10	1	1	95
90A112 R-035	5	.7	11	14	20	6	1	49	60
90A112 R-036	1	1.5	68	14	25	5	1	180	85
90L112 R-060	4	1.4	97	31	95	44	5	1	90
90L112 R-061	2	2.2	104	12	105	1	1	1	80
90L112 R-064	2	2.6	37	40	127	100	9	5	215
90L112 R-065	3	1.2	34	42	94	48	3	1	75
90L112 R-066	1	1.0	18	16	35	24	1	2	65
90L112 R-067	7	1.5	96	15	35	3	1	1	70
90L112 R-068	6	2.3	67	22	11	30	1	1	75
90L112 R-069	3	2.2	55	12	15	1	1	1	75
90L112 R-070	9	1.7	91	17	40	1	1	1	70
90L112 R-071	2	1.8	56	12	25	2	1	1	65

COMP: KEEWATIN ENGRG.
PROJ: 112
ATTN: R.NICHOLS/R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0466-RJ2
DATE: 90/09/13
* ROCK * (ACT:)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90T112C034	87	2.5	93	18	56	48	1	2	70
90T112C035	365	2.1	108	16	46	53	1	2	65
90T112C037	23	1.8	10	16	61	57	1	2	80
90A112C040	108	2.3	70	17	78	56	1	3	55
90A112C041	56	1.7	154	14	48	44	2	2	75

COMP: KEEWATIN ENGRG.
PROJ: 112
ATTN: R.NICHOLS/R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0534-RJ1
DATE: 90/09/24
* ROCK ● (ACT:F31)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90T112R-038	1	.8	8	94	58	39	1	14	75
90T112R-039	2	1.9	131	145	140	1	1	2	95
90T112R-041	3	1.6	31	22	30	10	1	33	65

COMP: KEEWATIN ENGRG.
PROJ: 112
ATTN: R.NICHOLS/R.PEGG

MIN-EN LABS — ICP REPORT

705 WEST 15TH ST., NORTH VANCOUVER, B.C. V7M 1T2
(604)980-5814 OR (604)988-4524

FILE NO: 0S-0466-RJ1
DATE: 90/09/13
* ROCK * (ACT:)

SAMPLE NUMBER	AU PPB	AG PPM	CU PPM	PB PPM	ZN PPM	AS PPM	SB PPM	MO PPM	HG PPB
90T112R036	531	2.6	228	20	53	97	5	3	75
90A112R037	38	2.1	14	30	38	70	5	17	65
90A112R038	63	2.6	1249	25	37	71	7	230	80
90A112R039	28	2.2	136	23	21	52	1	6	95
90A112R042	4080	1.4	75	12	6	43	3	12	70
90A112R043	328	1.8	58	16	60	46	2	3	65

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NORTH VANCOUVER, B.C. CANADA V7M 1T2
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TELEPHONE (807) 622-8958
FAX (807) 623-5931

SMITHERS LAB.:
TELEPHONE/FAX (604) 847-3004

Assay Certificate

OS-0466-RA1

Company: KEEWATIN ENGINEERING
Project: 112
Attn: R.PEGG/R.NICHOLS

Date: SEP-13-90
Copy 1. KEEWATIN ENGINEERING, VANCOUVER, B.C.
2. KEEWATIN ENGINEERING, C/O JAYCOX

We hereby certify the following Assay of 1 ROCK samples submitted SEP-08-90 by R.PEGG.

Sample Number	AU g/tonne	AU oz/ton
90A112R-042	5.11	.149

Certified by _____

MIN-EN LABORATORIES

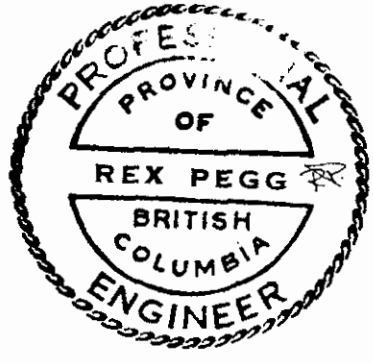
APPENDIX 7

1990 Statement of Expenditures

STATEMENT OF EXPENDITURES

i)	**Pre-Field**			$ 3,486.47
ii)	**Labour**			
	R. Nichols	1.25 days @ $425/day	$ 531.25	
	R. Pegg	13.00 days @ $400/day	5,200.00	
	R. Honsinger	15.00 days @ $335/day	5,025.00	
	A. Travis	16.50 days @ $325/day	5,362.50	
	P. Lutynski	17.50 days @ $325/day	5,687.50	
	A. Muirhead	22.00 days @ $300/day	6,600.00	
	S. Novak	3.00 days @ $225/day	675.00	
	R. Geszler	14.00 days @ $250/day	3,500.00	
	S. Sheffield	9.50 days @ $200/day	1,900.00	
	K. Burk	4.50 days @ $190/day	855.00	
	T. Mortison	8.00 days @ $190/day	1,520.00	
	V. Malo	12.00 days @ $(185/215)/day	2,400.00	
	J. Leonard	6.00 days @ $165/day	990.00	
	A. Kaplan	5.50 days @ $160/day	880.00	
	T. Paquette	4.00 days @ $175/day	700.00	
	S. McTague	7.00 days @ $(160/175)/day	1,135.00	
	D. Barker	17.50 days @ $(160/175)/day	2,830.00	
	J. Cleland	7.00 days @ $160/day	1,120.00	
	V. Hutchings	7.00 days @ $225/day	1,575.00	
	P. Dunlevy	1.00 days @ $175/day	175.00	
	S. Chandler	14.00 days @ $260/day	3,640.00	
	S. Patterson	1.00 days @ $260/day	260.00	
				52,561.25
iii)	**Geochemical Analysis** (faa Au + 8 element ICP)			
	Soils	881 samples @ $11.30 each	$ 9,955.30	
	Silts	3 samples @ $11.30 each	33.90	
	Rocks	174 samples @ $13.75 each	2,392.50	
	Au assays	22 assays @ $8.80 each	193.60	
				12,575.30
iv)	**Helicopter** (Hughes 500D)	21.2 hours @ $705/hour		14,946.00
v)	**Room & Board**	213.5 man days @ $60/day (includes pilot)		12,810.00
vi)	**Rentals** (binocular microscope, radios, rock saw, generator, field equipment, truck, ATV, copier, etc. - split)			6,141.25
vii)	**Consumables** (sample bags, tags, copies, paint, flagging, etc.)			2,680.13
viii)	**Fixwing Support** (split)			4,741.47
ix)	**Expediting** (split)			1,291.81

x)	**Travel** (split)	1,250.05
xi)	**Camp Costs** (fuel, etc. - split)	1,194.52
xii)	**Courier Charges** (split)	95.66
xiii)	**Mobilization/Demobilization**	5,845.48
xiv)	**Telephone**	102.64
xv)	Report (compilation, drafting, word processing, copying)	4,000.00
TOTAL EXPENDITURES:		**$123,722.03**



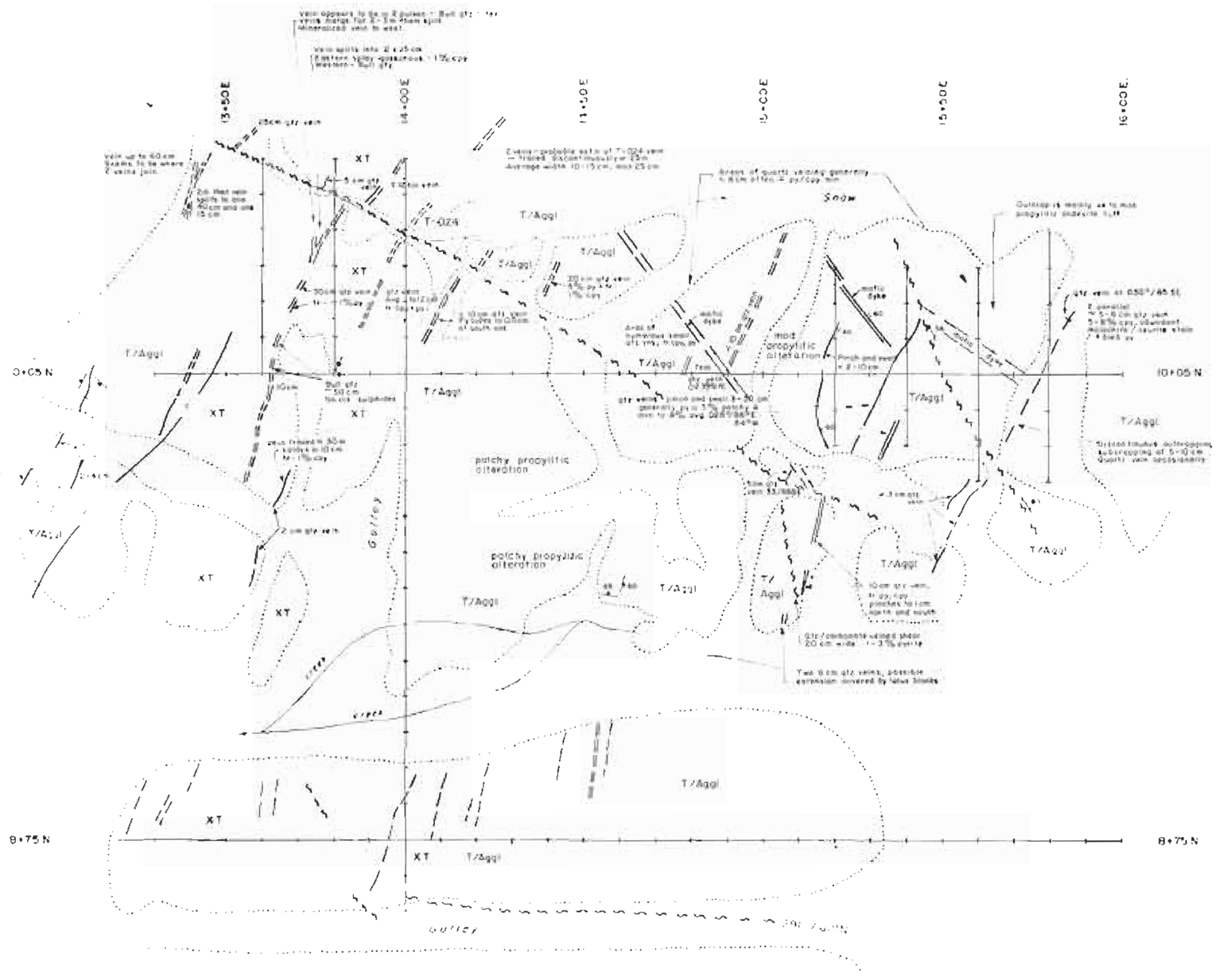
131° 01'
131° 00'
130° 59'
130° 58'
130° 57'
130° 56'
Verrett River
JOY 1
JOY 2
SEE MAP 2
56° 44'
5500
3000
2500
N
0 100 200 500m
GEOLOGICAL BRANCH
ASSESSMENT REPORT
21,042
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
REX MEGG
LEGEND
Aggl : agglomerate
alt : altered
And : andesite
Arg : argillite
aT : ash tuff
bd : bedded
carb : carbonate
ch : chert
chl : chlorite
Dac : dacite
ep : epidote
ff : fracture filling
fpp : feldspar porphyry
int : intruding
Lapl : lapilli tuff
Lpf : lithic tuff
Lst : limestone
MBX : monzodiorite
qtz : quartz
sheid : sheared
sil : silicified
slic : silicified
SLT : siltstone
SST : sandstone
xtl T : crystal tuff
bedding
foliation
joint
shear/fault
cleavage
geological contact (approx.)
mineral occurrence
helipad
helicopter base
1000 — drill hole collar location
GEOLOGY BY: R. Hornsinger, P. Lagowski, A. Muirhead, R. Megg, A. Trevor
NOTE: Claim boundary taken from government claim map.
BIG M RESOURCES LTD.
JOY PROPERTY
GEOLOGY MAP
DATE: Jan. / 1991
PROJECT: 112
SCALE: 1:5000
NTS: 104 B/10W + 11E
DRILL LOG: R. Megg
Vancouver, B.C. Engineering Inc. MAP NO. 1

131° 01'
131° 00'
130° 59'
130° 58'
130° 57'
130° 56'
56° 44'
56° 44'
Verrett River
JOY 1
JOY 2
N
3000
3000
3000
2500
0 100 200 500 m
GEOLOGICAL BRANCH
ASSESSMENT REPORT
21,042
PROFESSIONAL ENGINEER
LEGEND
Soil sample location
Silt sample location
N/S No sample
Helipad
Helicopter tie-in
3000 100 foot contour interval
NOTE: Claim outline taken from government claim map.
BIG M RESOURCES LTD.
JOY PROPERTY
SOIL and SILT
SAMPLE LOCATION
DATE: Feb., 1991
NTS: 104B/10W + 11E
PROJECT: 112
PROJ. GEOL.: R. Pegg
SCALE: 1:5000
Keewatin Engineering Inc.
MAP No. 2


131° 01'
131° 00'
130° 59'
130° 58'
130° 57'
130° 56'
56° 44'
56° 44'
Verrett River
JOY 1
JOY 2
N
LEGEND
Soil sample location
Silt sample location
N/S No sample
Au ppb / Ag ppm
Helipad
Helicopter tie-in
3000 — 100 foot contour interval
NOTE: Claim outline taken from government claim map.
GEOLOGICAL BRANCH
ASSESSMENT REPORT
21,042
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
REX PEGG
0 100 250 500m
BIG M RESOURCES LTD.
JOY PROPERTY
SOIL and SILT
SAMPLE RESULTS
(Au ppb + Ag ppm)
DATE: Feb., 1991
NTS: 104B/10W, 11E
PROJECT: 112
PROJ. GEOL.: R. Pegg
SCALE: 1:5000
Keewatin Engineering Inc.
MAP No. 3

131° 01'
131° 00'
130° 59'
130° 58'
130° 57'
130° 56'
56° 44'
56° 44'
N
Verrett River
JOY 1
JOY 2
3500
3000
2500
LEGEND
× 1990 grab/chip sample
Δ 1990 float sample
○ 1987 or 1988 rock sample
DDH ⊙ 1988 diamond drill hole
(H) Helipad
(T) Helicopter toe-in
— 3000 — 100 foot contour interval
NOTE: Claim outline taken from government claim map.
0 100 250 500 m
GEOLOGICAL BRANCH
ASSESSMENT REPORT
21,042
ENGINEER
BIG M RESOURCES LTD.
JOY PROPERTY
ROCK SAMPLE
LOCATIONS
DATE: Feb., 1991
NTS 104 B / 10 W + 11 E
PROJECT: 112
PROJ. GEOL.: R. Pegg
SCALE: 1:5000
Kewatin Engineering Inc.
MAP No. 4

21,042



LEGEND

T/Aggl	Tuff breccia agglomerate.
XT	Crystal tuff.
qtz	Quartz.
	Outcrop.
—?—	Geological contact (approximate).
	Shear.
	Quartz vein.
	Joint.
	Foliation.
	Creek

Geology by: P. Lutynski, A. Muirhead, R. Pegg, A. Travis

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
REX PEGG

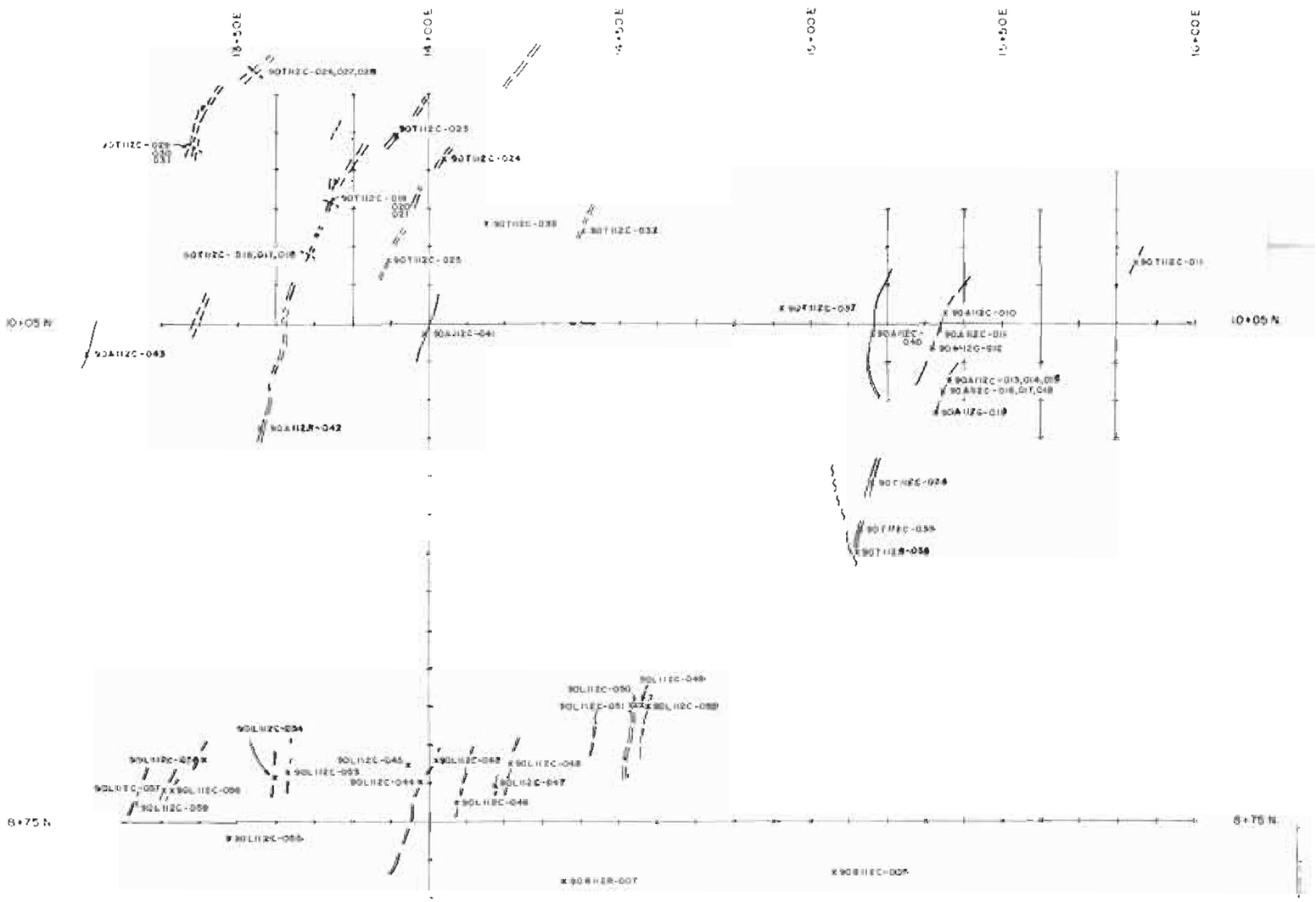
10 0 25 50 Metres

BIG M RESOURCES LTD.

JOY PROPERTY
QUARTZ VEIN AREA
DETAILED GRID

GEOLOGY

DATE: January 30, 1991	SCALE: 1:1000
	NTS: 104 B/10W, 11E
KEEWATIN ENGINEERING INC.	MAP No. 5



Sample No.	(ha) Length	(oz/t) ppb Au	(oz/t) ppm Ag	ppm Cu	ppm As
90R112C-005	1.00	20	1.9	791	9
R-007	grab	384	9.9	1454	22
90A112C-010	1.00	644	4.9	402	5
-011	1.00	345	2.8	150	5
-012	1.00	70	3.2	72	5
-013	0.50	30	1.3	400	5
-014	0.20	(1.138)	13.6	1460	5
-015	0.50	348	3.3	139	5
-016	1.00	18	3.4	309	5
-017	0.20	(4.929)	71.5	8654	5
-018	1.00	(0.725)	6.4	5227	5
-019	1.00	(0.096)	4.8	631	5
-040	0.60	108	4.3	78	56
-041	1.00	56	1.7	154	44
R-042	grab	(0.149)	1.4	75	43
C-043	1.00	328	1.8	58	46
90L112C-043	1.00	50	3.1	200	5
-044	1.00	(0.030)	8.1	1379	5
-045	1.00	20	2.2	88	5
-046	1.00	93	2.6	588	5
047	1.00	109	2.0	158	5
-048	1.00	36	2.4	479	5
-049	1.00	48	1.6	254	5
-050	0.35	(0.110)	5.9	3882	5
-051	1.00	268	3.3	730	5
-052	1.00	(0.142)	2.9	632	5
-053	1.00	620	2.1	84	5
-054	1.00	98	4.2	120	5
-055	1.00	97	3.1	1139	5
056	1.00	226	1.8	144	5
-057	1.00	68	1.5	81	5
-058	1.00	5	1.7	69	5
-059	1.00	80	1.9	163	5
90T112C-011	1.00	(0.117)	9.2	3822	5
-016	0.50	3	2.3	92	5
-017	0.35	69	0.5	21	11
-018	0.50	49	2.1	134	5
-019	0.50	6	3.0	59	5
-020	0.40	280	1.9	85	5
-021	0.50	32	1.9	97	5
-023	1.00	167	2.0	563	5
-024	1.00	340	2.1	285	5
-025	1.00	98	2.5	132	5
-026	1.00	65	2.8	493	5
-027	0.25	67	2.1	337	5
-028	1.00	58	2.6	998	5
-029	1.00	20	1.8	28	5
-030	0.60	19	2.7	59	5
-031	0.70	10	2.5	125	5
-032	1.00	3	2.8	30	5
-033	1.00	335	2.8	335	5
-034	1.00	87	2.5	93	48
-035	0.70	365	2.1	108	58
R-036	grab	591	2.6	228	97
C-037	1.00	33	1.8	16	57

LEGEND

- Quartz vein.
- Grab or chip sample location
- Shear.

BIG M RESOURCES LTD.

JOY PROPERTY
QUARTZ VEIN AREA
DETAILED GRID

ROCK SAMPLE GEOCHEMISTRY

DATE: January 30, 1991
SCALE: 1:1000
NTS: 104 B/10W, 11E

KEEWATIN ENGINEERING INC.
MAP No. 6