



42B01SE0056 2.3720 HORWOOD

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NORTHGATE EXPLORATION LIMITED

FEB - 6 1981

MINING LANDS SECTION

EXPLORATION PROGRAM, 1980

L'ABBE PROSPECT

HORWOOD TOWNSHIP

ONTARIO

CLAIM NUMBERS 551737 - 551743 INCLUSIVE

CLAIM NUMBERS 572629 - 572637 INCLUSIVE

PROCUPINE MINING DIVISION

N.T.S. 42B/1

quation file 2.3162

PETER DADSON,
PROJECT GEOLOGIST.

L.D.

SUMMARY

During the 1980 field season Northgate Exploration Limited undertook a program to evaluate several gold prospects in the Orofino area. As a result of this program the L'Abbe Prospect, owned by M. A. Terrell of Skead, Ontario, was examined by staff personnel which conducted the following surveys in June 1980: geological mapping, VLF-EM, humus and soil sampling, rock trenching and sampling.

The property which is located on the north shore of Hardiman Bay of Horwood Lake in Horwood Township, 96 air kilometres southwest of Timmins Ontario, consists of the following fifteen unleased mining claims 551737 to 551743 inclusive and 572629 to 572637 inclusive.

It was found that the L'Abbe Prospect consisted of three sulphide-rich veins, at or near the contact of a quartz diorite intrusive and basic metavolcanics.

Stripping and re-trenching of the old workings, dating from previous work beginning in 1936 was successful in outlining these zones.

Humus and soil samples, when analyzed for gold delineated the trenched area but only indicated a limited extent of mineralization. An isolated coincident anomaly lying within the intrusive is of particular interest and requires further work.

Geophysically the VLF-EM survey failed to detect any major in-phase anomalies corresponding to sulphide mineralization but it did confirm the contact zone between the quartz diorite and the basic metavolcanics.

Chip sampling of the trenches returned favourable gold assays over narrow widths but certainly worthy of additional examination. The highest assay being 0.336oz Au/ton over 0.5 metres,

The data collected from this evaluation has shown that there are three zones carrying favourable gold mineralization and that a more extensive and intensive exploration program should be initiated in the 1981 field season.

Such a program should expand the coverage of all the surveys and should result in the formulation of a diamond drill program to test the lateral and depth continuity of the mineralized zones.

1.1 INTRODUCTION

The L'Abbe Prospect consists of 15 unleased mining claims in east central Horwood Township approximately 96 air kilometres southwest of Timmins, Ontario.

Michael A. Terrell presently holds the claims, however Northgate Exploration Limited performed a major portion of the exploration program on a right of first refusal basis.

The showing which was first worked in 1936 consists of three sulphide zones lying within a volcanic sequence which has been intruded by a multiphase granitic body.

Exploration began in May, 1980, as part of Northgate's program to evaluate prospects within the Swayze-Deloro Metasedimentary-Metavolcanic Belt.

Geological mapping, humus and soil sampling, VLF-EM and trenching outlined these three mineralized zones. Assay results combined with survey data indicated promising gold mineralization and therefore it is recommended that further work be performed in subsequent field seasons.

2.1 PROPERTY AND OWNERSHIP

The L'Abbe Prospect consists of the following unleased mining claims in Horwood Township (Figure 1):

551737 to 551742 inclusive
572629 to 572637 inclusive

All claims are held by Michael A. Terrell of Skead, Ontario and are in good standing until the following dates:

551737 to 551742 inclusive - February 8, 1980.
572629 to 572637 inclusive - June 17, 1980.

3.1 LOCATION AND ACCESS

The property is located in east central Horwood Township approximately 96 air kilometres southwest of Timmins (Figure 2).

Float plane or boat transport are the only methods of reaching the claims during the summer months while Ski-Doo or air transport can be utilized in winter.

Planes or helicopters can be obtained either at Timmins or Sudbury while various fishing lodges on Horwood Lake have boat and motor rentals.

4.1 AUXILIARY SERVICES

4.1.1. Timber

Some mature timber (Pine, Cedar, and Black Spruce) exists on the claims but most of the ground is covered by Birch and Poplar which have a maximum butt diameter of six inches. Alder, willows and other woody bushes

are common.

Timber or lumber requirements for any major mining would have to be obtained off the property.

4.1.2. Water

Horwood Lake provides a vast supply of fresh water which would be adequate for any mining venture.

4.1.3. Power

The nearest supply of electrical power is located at Palomar on the north shore of Horwood Lake, a distance of eight kilometres.

5.1 TOPOGRAPHY

The major topographical feature on the claims consists of a resistant hill of granitic rock on whose flanks the showing occurs. A gradual slope exists from the lake to the base of the hill, which has steeper slopes and a maximum elevation of 100 feet above the local base level.

On a regional scale the area lies within part of the glaciated Precambrian peneplain, typified by low ridges of rock and glacial debris separated by small areas of level overburden.

6.1 CLIMATE

Horwood Township lies in a belt which experiences a continental climatic pattern.

The Summer season which begins in May and continues to early September is accompanied by warm temperatures which can be as high as 28°C to 30°C for short periods of time. Humidity varies considerably but is generally within an acceptable level.

Although most Summer seasons are quite pleasant, some can be marred with persistent overcast skies, abundant rainfall, and cool temperatures.

Both the Fall and Spring seasons are characterized by sunny, cool days and cold nights with frost.

The Winter season can start as early as mid-October and last into May but more frequently the snow does not usually start until mid to late November and is gone by April.

Snow accumulations can be considerable, up to 3 feet in the bush and temperatures have been known to drop below -40°C.

7.1

PROPERTY HISTORY

The following is a brief outline of past exploration work on this property:

1936: Stripping, trenching, one 90 foot diamond drill hole by A. E. Jerome and W. L'Abbe.

1950: Stripping, trenching, 119 feet of diamond drilling by Cor-Smith Gold Syndicate Limited.

1951: Horlac Mines - trenching, stripping, test pitting and 2 short diamond drill holes.

1952: Horlac Mines Ltd - 17 diamond drill holes (1,043 feet).

1961

To

1963: Queensway Mines Ltd. - trenching and 22 diamond drill holes (4,247 feet).

1980: Property restaked by present owners.

8.1

REGIONAL GEOLOGY (Figure 3.)

The L'Abbe Prospect lies within the east-west trending Swayze-Deloro Metavolcanic-Metasedimentary belt which forms part of the Abitibi sub-province. All rocks are Archean in age with the exception of the middle to late Precambrian diabase dike swarms.

This belt contains two complete sequences of mafic and felsic metavolcanics with associated metasediments. The mafic metavolcanics predominate and consist of massive flows which in many exposures display pillow or amygdaloidal structures. Flows and pyroclastic rocks of rhyolitic, dacitic or trachytic composition form the felsic metavolcanic units with rhyolitic varieties being the most common.

Less than ten percent of the Swayze-Deloro Belt is composed of metasedimentary rocks. In decreasing order of abundance they include greywacke, arkose, conglomerate, quartzite and argillite.

Numerous Algoman granitic intrusives have deformed the belts' margin into an arcuate pattern typical of many Archean greenstone belts.

Mafic and ultramafic intrusions having dioritic, gabbroic and serpentinitic compositions occur throughout the belt. These bodies form as sills or stocks and pre-date the granitic intrusives.

A greenschist facies regional metamorphism predominates over the entire area with epidote-almandine amphibolite grade being present in contact metamorphic aureoles.

9.1. EXPLORATION PROGRAM: 1980 (Figure 4)

The exploration program undertaken by Northgate Exploration Limited included linecutting, geological mapping, geochemistry (soils and humus), geophysics (VLF-EM), trenching and chip sampling.

9.1.1. LINECUTTING

A total of 3.3 kilometres of line were cut on the property to provide ground control for the various other surveys. Figure 5 illustrates the grid and its location to claim posts, Horwood Lake and the three mineralized zones.

9.1.2. GEOLOGICAL MAPPING (Figures 5,6,7,8,9)

The geology of the trenches in Zones 1 and 2 were mapping at a scale of 1 cm to 1 metre.

9.2.1. Mafic Metavolcanics

In the study area these rocks consisted mainly of fine grained, chloritized massive flows which had possibly been intruded by dykes of feldspar porphyry. Lack of rock exposures made contact relationships not readily discernible.

Xenoliths of the mafic metavolcanics occur within the felsic dykes and these were found to be quite chloritized, silicified and often schistose in nature.

9.2.3. Feldspar Porphyry

The feldspar porphyry dyke(s) occur between the mafic metavolcanics to the south and the biotite quartz diorite and granodiorite to the north.

This rock type generally has a fine grained grey or mauve groundmass with feldspar phenocrysts measuring up to one centimetre in diameter. Crystal boundaries have indistinct outlines due to hydrothermal alteration.

Small rounded quartz "eyes" are ubiquitous and are found to occur in the majority of the rock exposures.

Contact relationships with the metavolcanics have not been observed, however, the presence of xenoliths of the latter indicate that the porphyries are intrusive.

No contacts were exposed indicating the relationships between these dykes and the biotite quartz diorite.

9.2.4. Biotite Quartz Diorite and Granodiorite

These rocks comprise a portion of the Horwood Peninsula Pluton as described by Breaks (1978)¹. They are medium to fine grained with a pinkish grey to white weathered surface.

1. Breaks, F.W.; "Geology of the Horwood Lake Area", Ontario Geological Survey, Report 169, 1978.

1.2.4. Structural Geology

The lack of adequate rock exposures has hampered any detailed structural analysis. However, in the trenches the metavolcanics had northeasterly strikes which would be consistent with other exposures throughout the township.

Schistosity again were northeasterly which would reflect the regional structural feature namely the Hardiman Bay Fault.

1.2.5. Mineralization

Three separate zones of mineralization have been delineated and occur (Zone 1 & 2) in the vicinity of the contact between the plutonic and volcanic rocks, while Zone 3 is found within the pluton probably close to another contact with the mafic metavolcanics.

The host rock within these zones is a fine grained grey feldspar porphyry which frequently exhibits "quartz eyes" especially in instances of abundant sulphide mineralization. Quartz veins, although they occur within each zone are most prominent in Zone 3.

Mineralization consists predominantly of pyrite and chalcopyrite, with minor arsenopyrite. Galena has also been observed in one of the trenches. The sulphides which occur as disseminations, blebs or in massive form, define numerous veins that have considerable lateral extent.

1.3. GEOCHEMISTRY

1.3.1. Soil Sampling

Soil sampling was conducted over Zones 1 and 2 only. Samples (60) of the B horizon were taken at 10 metre intervals on the grid lines and these were analyzed for gold(ppb), copper(ppm), lead(ppm), zinc(ppm) and arsenic (ppm), Figure 10.

Due to the lack of developed soil horizons total coverage of the grid was not obtained and no attempt was made at an entire statistical analysis or contouring.

It appears from the results that those samples having more than 20 ppb gold are anomalous. In comparison with the geology map (figure 5) zone 2 can be outlined quite accurately, with samples between 20 to 40 ppb gold lying on or adjacent to geological contacts.

The spot high of 240 ppb gold of sample LSS-40 (L00, 17 N) may possibly indicate a northeasterly extension to zone 2 while samples LSS-54 and LSS-56 may mark a further extension or a contact.

Coverage between trenches 1 and 2 of zone 1 is too sparse to predict the continuity of a single or multiple vein system. However, numerous samples with 10 to 20 ppb gold lie to the southwest of trench 2 and may indicate an extension. Results from LSS-31 and LSS-32 are encouraging but probably represent local contamination.

9.1.3.2. Humus Sampling (Figure 11)

Humus samples (176) were collected over the gridded area and analyzed for gold.

Three first class anomalies (100 ppb Au or more) resulted with all three corresponding to trenched areas. The first and largest of these is centered over pits 4 and 5, on line 20 W and 110 N (Zone 2). This is a fairly broad anomaly and certainly delineates the gold mineralization. However, it is limited in extent even including the adjacent second and third class anomalies. Other assays of 4 to 18 ppb Au on lines 40 W and 60 W may indicate a weak western continuation.

The second major anomaly lies between L 60W and L 20 W at 1 S. This corresponds exactly with the north end of trench two where rock sampling has revealed gold mineralization with sulphides. On line 00 at 1 S an assay of 5 ppb Au was obtained and may represent an easterly extension under considerable overburden. No samples were taken to the west to test any possible western extension.

A one reading high on line 00 at 160 N constitutes the eastern extremity of the trenched area (Zone 1). Further sampling on line 20 E failed to reveal any anomalies.

Numerous second class anomalies (50-99 ppb Au) were found with one on line 20 W at 260-270 N being the most interesting. It corresponds exactly with a significant soil anomaly, lies within the quartz diorite and is considerably removed from the known zones of mineralization.

9.1.4. GEOPHYSICS - VLF-EM (Figure 12)

A Geonics EM-16 unit (see appendix) was utilized for this survey with both the in-phase and quadrature components being measured. Readings (176) were taken over the grid with stations every 10 metres.

With the exception of one weak conductor on L 40 W at 10 S no conductors were found.

A broad positive quadrature anomaly over the middle third of the grid corresponds with the contact zone, between the quartz diorite and the mafic volcanics (Zone 2). A more defined anomaly may have resulted if the feldspar porphyry dyke (?) had not been present.

The mineralized veins in Zone 2 failed to be detected and the weak conductor on L 40 W may indicate the mineralization in trench 2 (Zone 1).

9.1.5. ROCK TRENCHING AND CHIP SAMPLING

All of the old trenches in Zones 1 and 2 were re-trenched in order to expose fresh rock for chip sampling and mapping.

An Atlas Copco Super Cobra rock drill was utilized for the work and in total 48 cubic metres of rock was removed.

The accompanying maps of the various trenches in these zones illustrate the sample locations and results. Identical assay results are tabulated in Table 1.

All samples from Zone 3 were grabs since no detailed work was performed in this area. These results are in Table 2.

0.1 CONCLUSIONS

The L'Abbe Prospect consists of three mineralized zones occurring as sulphide-rich veins lying at or near the contact of Horwood Peninsula Pluton and mafic metavolcanics.

Results from the 1980 exploration program have shown the existence of gold mineralization in relation to the sulphide mineralization and altered feldspar porphyry (Zones 1 and 2). Zone 3 lies within the pluton and contains numerous quartz veins.

Assay results from chip samples are most encouraging while those from soils and humus outline the old workings quite well.

It is therefore recommended that the L'Abbe Prospect should undergo a more intensive and extensive exploration program in subsequent field seasons.

This work should include the expansion of the existing grid, geological mapping, geophysics (EM and MAG), geochemistry (humus), trenching and sampling. Results from this work should be tabulated and form the basis of a diamond drill program to test for lateral and depth continuity of the mineralized zones if warranted.



Peter Dadson,
Project Geologist.



W. W. Weber,
Manager of Exploration.

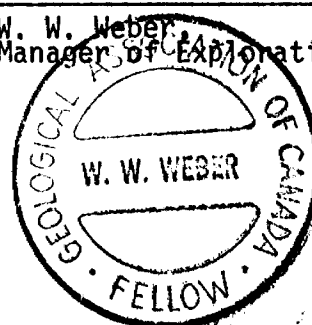


FIGURE 1

Mining Claims, L'Abbe Prospect, Horwood Township, Ontario.

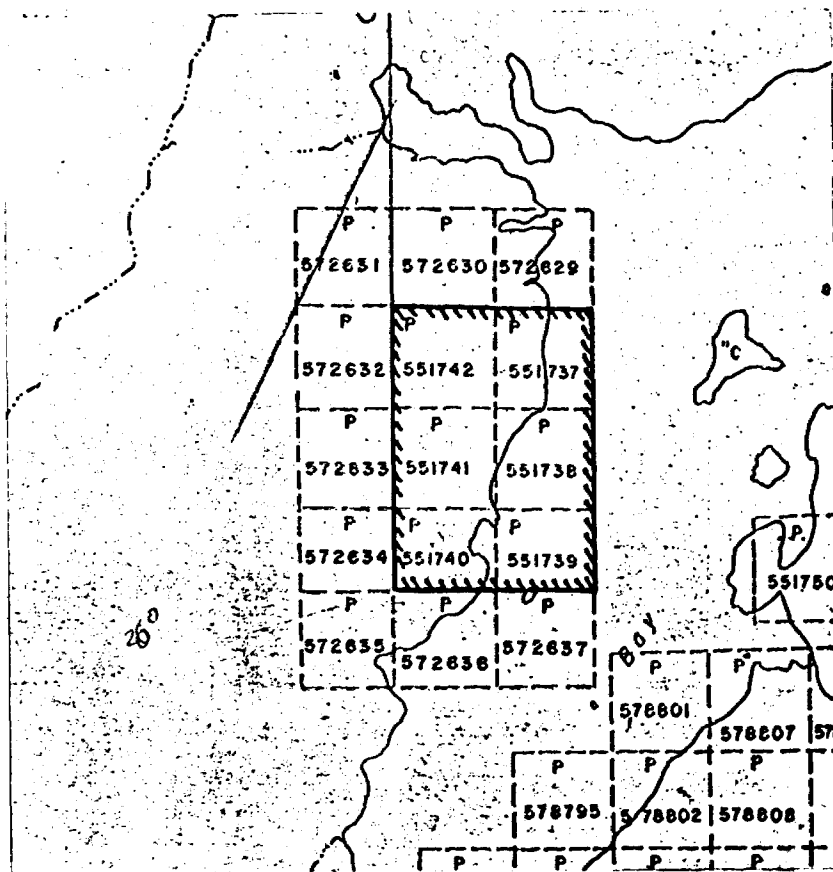
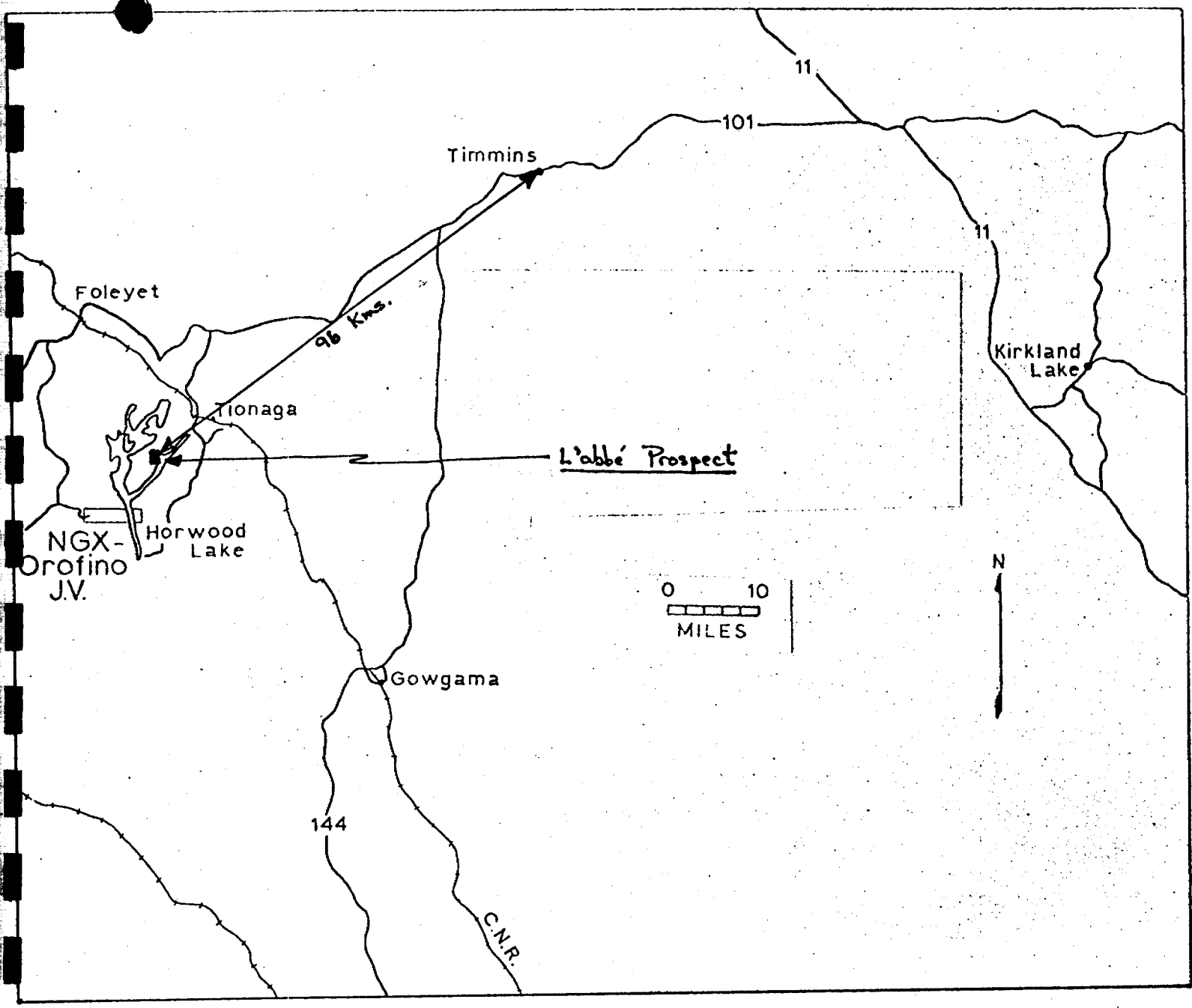
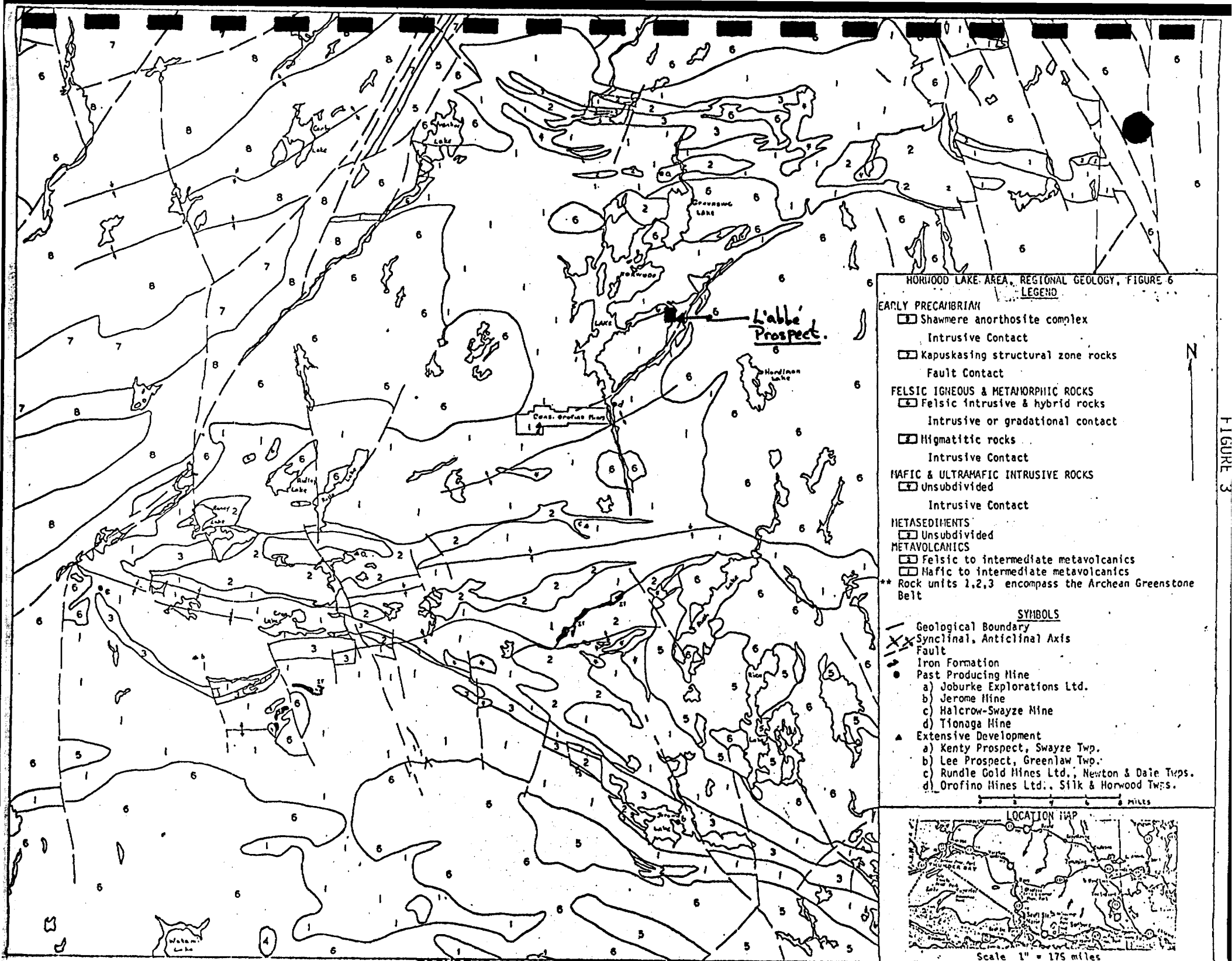


FIGURE 2

Location L'Abbe Prospect





HORWOOD LAKE AREA, REGIONAL GEOLOGY, FIGURE 6
 LEGEND

- EARLY PRECAMBRIAN**
- Shawmere anorthosite complex
 - Intrusive Contact
 - ▤ Kapuskasing structural zone rocks
 - - - Fault Contact
- FELSIC IGNEOUS & METAMORPHIC ROCKS**
- ▤ Felsic intrusive & hybrid rocks
 - - - Intrusive or gradational contact
 - ▤ Migmatitic rocks
 - - - Intrusive Contact
- MAFIC & ULTRAMAFIC INTRUSIVE ROCKS**
- ▤ Unsubdivided
 - - - Intrusive Contact
- METASEDIMENTS**
- ▤ Unsubdivided
- METAVOLCANICS**
- ▤ Felsic to intermediate metavolcanics
 - ▤ Mafic to intermediate metavolcanics
- ** Rock units 1,2,3 encompass the Archean Greenstone Belt
- SYMBOLS**
- - - Geological Boundary
 - - - Synclinal, Anticlinal Axis
 - - - Fault
 - Iron Formation
 - Past Producing Mine
 - a) Joburke Explorations Ltd.
 - b) Jerome Mine
 - c) Halcrow-Swayze Mine
 - d) Tionaga Mine
 - ▲ Extensive Development
 - a) Kenty Prospect, Swayze Twp.
 - b) Lee Prospect, Greenlaw Twp.
 - c) Rundle Gold Mines Ltd., Newton & Dale Twp.
 - d) Orofino Mines Ltd., Silk & Horwood Twp.

Scale 1" = 17.5 miles

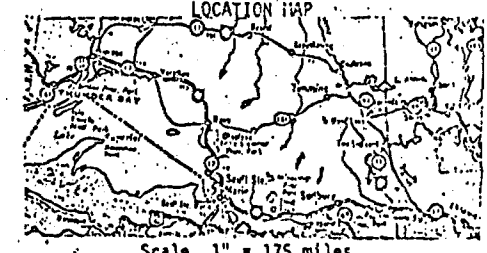


FIGURE 3

FIGURE 3

FIGURE 4

LOCATION OF ASSESSMENT WORK

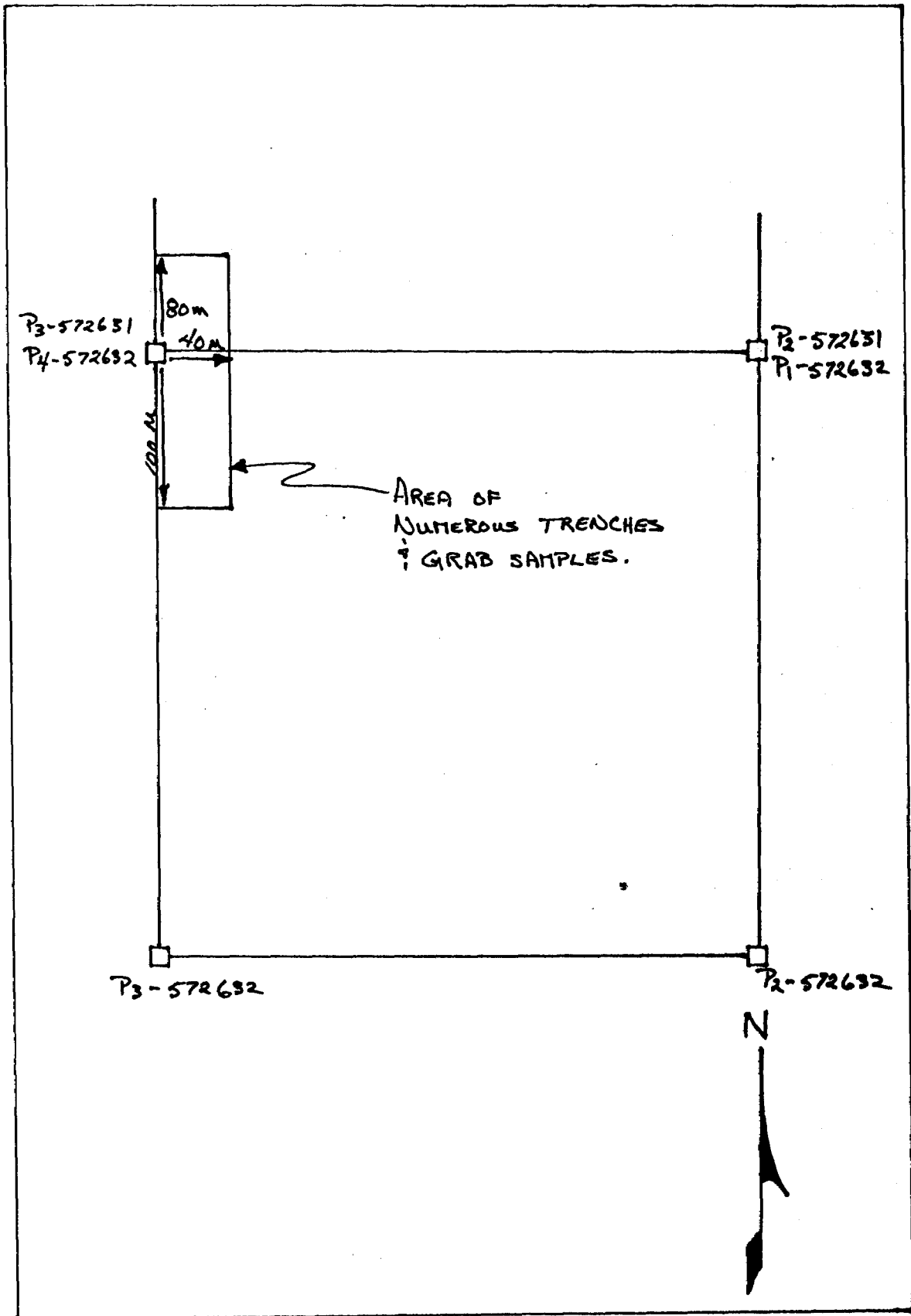


FIGURE 4

LOCATION OF ASSESSMENT WORK

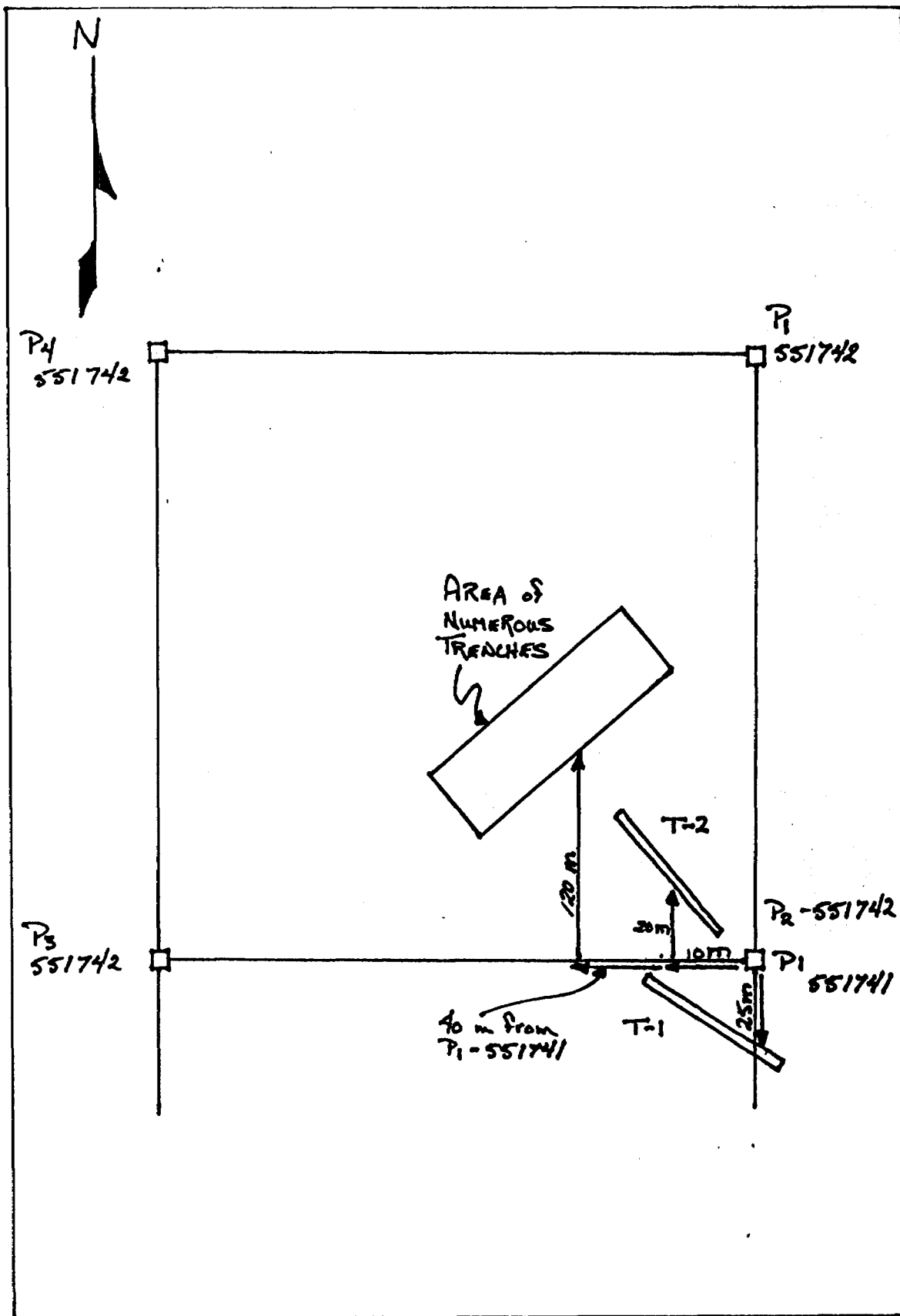


TABLE 1

ASSAY RESULTS ZONES 1 AND 2 - L'ABBE PROSPECTZONE 1

<u>LOCATION</u>	<u>SAMPLE #</u>	<u>LENGTH</u>	<u>ASSAY (Au ppb)</u>	<u>SAMPLE TYPE</u>
Trench 1	7160	1.0 metres	12	Chip
	7161	1.0 "	40	"
	7162	1.7 "	60	"
	7163	1.0 "	70	"
	7164	2.6 "	30	"
	7165	2.2 "	30	"
	7166	2.5 "	35	"
	7167	0.6 "	160	"
	7168	2.5 "	70	"
	7169	1.5 "	165	"
	7170	1.5 "	480	"
	7171	1.0 "	30	"
	7172	2.0 "	100	"
7173	1.6 "	1125	"	
Trench 2	7175	0.8 "	70	"
	7176	0.8 "	5600	"
	7177	0.5 "	380	"
	7178	1.0 "	80	"
	7179	0.8 "	6200	"
	7180	1.3 "	255	"
	7181	1.3 "	500	"
	7182	3.2 "	630	"
	7183	1.5 "	85	"
	7184	2.2 "	135	"
7185	2.7 "	1050	"	
<u>ZONE 2</u>				
Pit 1	7285	0.7 "	610	"
	7286	1.2 "	80	"
	7287	0.5 "	123	"
	7288	0.6 "	700	"
	7289	0.8 "	100	"
	7290	1.3 "	50	"
	7291	1.0 "	70	"
	7292	1.2 "	202	"
	7293	1.0 "	130	"
	7294	0.9 "	190	"
Pit 2	7280	0.8 "	1250	"
	7281	1.4 "	435	"
	7282	1.0 "	225	"
	7283	0.6 "	230	"
	7284	0.4 "	230	"

LOCATIONSAMPLE #LENGTHASSAY (Au ppb)SAMPLE TYPE

Pit 3

7275	0.5 metres	68	Chip
7276	0.3 "	70	"
7277	0.6 "	160	"
7278	0.8 "	19	"
7279	0.1 "	178	"
7264	0.5 "	10500	"
7265	0.4 "	995	"
7266	0.6 "	430	"
7267	0.6 "	1150	"
7268	0.7 "	52	"
7269	0.3 "	80	"
7270	0.7 "	41	"
7271	0.5 "	750	"
7272	0.5 "	3300	"
7273	0.7 "	255	"
7274	1.0 "	100	"
7295	0.6 "	50	"
7296	0.8 "	28	"
7297	1.0 "	31	"
7298	0.7 "	95	"
7299	0.5 "	160	"
7300	0.9 "	1165	"
7151	1.0 "	90	"
7152	1.7 "	130	"
7153	2.0 "	90	"
7154	1.3 "	2020	"
7155	1.2 "	770	"
7174	1.0 "	18	"
7156	1.3 "	340	"
7157	1.5 "	240	"
7158	1.3 "	165	"
7159	1.4 "	140	"

TABLE 2

ASSAY RESULTS ZONE 3 - L'ABBE PROSPECT

ZONE 3

<u>SAMPLE #</u>	<u>SAMPLE TYPE</u>	<u>ASSAY (Au ppb)</u>
7251	grab	95
7252	"	85
7253	"	10
7254	"	21
7255	"	4
7256	"	11
7257	"	542
7258	"	20
7259	"	11
7260	"	10
7261	"	10
7262	"	95
7263	"	30



TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT
FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT
TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s) GEOLOGY, GEOPHYSICS, GEOCHEMISTRY

Township or Area HORWOOD TWP.

Claim Holder(s) MICHAEL A. TERRELL

Survey Company NORTHGATE EXPLORATION LTD.

Author of Report PETER DADSON

Address of Author P.O. BOX 143, 1 FIRST CANADIAN PLACE, TORONTO

Covering Dates of Survey MAY 15/80 - JULY 21/80
(linecutting to office)

Total Miles of Line Cut 3.3 KILOMETRES (1.98 MILES)

MINING CLAIMS TRAVERSED
List numerically

- P- 551737 ✓
(prefix) (number)
P- 551738 ✓
P- 551739
P- 551740
P- 551741 ✓
P- 551742 ✓
P- 572629
P- 572630
P- 572631
P- 572632
P- 572633
P- 572634
P- 572635
P- 572636
P- 572637

If space insufficient, attach list

SPECIAL PROVISIONS
CREDITS REQUESTED

ENTER 40 days (includes
line cutting) for first
survey.

ENTER 20 days for each
additional survey using
same grid.

Table with 2 columns: Geophysical, Geological, Geochemical and 1 column: DAYS per claim. Values: Electromagnetic 1.6, Radiometric, Other, Geological 3.2, Geochemical 5.3

AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)

Magnetometer Electromagnetic Radiometric
(enter days per claim)

DATE: FEB. 6/81 SIGNATURE: Peter Dadson
Author of Report or Agent

Res. Geol. Qualifications

Previous Surveys

Table with 4 columns: File No., Type, Date, Claim Holder. Includes handwritten initials 'H.D.'

TOTAL CLAIMS 15

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey

Number of Stations 181 Number of Readings 176
Station interval 10 METRES Line spacing 20 METRES
Profile scale
Contour interval

MAGNETIC

Instrument
Accuracy - Scale constant
Diurnal correction method
Base Station check-in interval (hours)
Base Station location and value

ELECTROMAGNETIC

Instrument GEONICS EM-16
Coil configuration -
Coil separation -
Accuracy +/- 1%
Method: [X] Fixed transmitter [] Shoot back [] In line [] Parallel line
Frequency 17.8 KHZ CUTLER MAINE, U.S.A.
Parameters measured IN-PHASE ? QUADRATURE

GRAVITY

Instrument
Scale constant
Corrections made
Base station value and location
Elevation accuracy

RESISTIVITY

Instrument
Method [] Time Domain [] Frequency Domain
Parameters - On time Frequency
- Off time Range
- Delay time
- Integration time
Power
Electrode array
Electrode spacing
Type of electrode

GEOCHEMICAL SURVEY - PROCEDURE RECORD

Numbers of claims from which samples taken P-551742, P-551741, P-551737, P-572631, P-572632

ROCK - 85
 SOILS - 58
 Total Number of Samples HUMUS - 176
 Type of Sample SOIL - SILTY-CLAYEY (B HORIZON) // ROCK - CHIP SAMPLES.
HUMUS - FOREST TRASH (A0-HORIZON)
 (Nature of Material)
 Average Sample Weight SOIL: HUMUS - 200-250 gm.
ROCK - 200-500 gm.
 Method of Collection HUMUS: SOIL - GRUB HOE
ROCK - SMALL SLEDGE HAMMERS CHISEL

Soil Horizon Sampled HUMUS - A0; SOIL - B.
 Horizon Development HUMUS - GOOD; SOIL - POOR TO FAIR.
 Sample Depth HUMUS - 2-3 CM.; SOIL - APPROX 15 CM.
 Terrain GENTLE SLOPES, SOME ROCKY HILLS.
 Drainage Development FAIR TO GOOD.
 Estimated Range of Overburden Thickness 2 CM.
TO SEVERAL METRES

SAMPLE PREPARATION

(Includes drying, screening, crushing, ashing)

Mesh size of fraction used for analysis _____
SOILS - 80 MESH.
ROCKS - 100 MESH.
HUMUS - 80 MESH

General _____

ANALYTICAL METHODS

Values expressed in: per cent
 p. p. m. Cu, Pb, Zn, As
 p. p. b. Au
Cu, Pb, Zn, Ni, Co, Ag, Mo, As-(circle)

Others Au
 Field Analysis (_____ tests)
 Extraction Method _____
 Analytical Method _____
 Reagents Used _____
 Field Laboratory Analysis
 No. (_____ tests)
 Extraction Method _____
 Analytical Method _____
 Reagents Used _____

Commercial Laboratory (_____ tests)
 Name of Laboratory SOILS & ROCK - BELL-WHITE
HUMUS - BONDAR-LEGG.
 Extraction Method ROCKS - FIRE ASSAY (Au)
 Analytical Method ROCKS - AA (Au)
 Reagents Used ROCKS - AQUA REGIA (Au)

General _____
EXTRACTION (SOILS) Au - FIRE ASSAY.
ANALYTICAL METHOD (SOILS) Au - AA
Cu, Pb, Zn - AA
As - COLOURIMETRIC
REAGENTS (SOILS) Cu, Pb, Zn - NITRIC + HCL
Au AQUA REGIA.
EXTRACTION (HUMUS) BLACK-ORGANIC LAYER
ANALYTICAL METHOD (HUMUS) CARBON-FURNACE
FLAMELESS AA
TECHNIQUE
REAGENTS USED (HUMUS)
HYDROBROMIC AND BROMINE

KEITH TWP M-962

THE TOWNSHIP OF

HORWOOD

DISTRICT OF SUDBURY

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

DISPOSITION OF CROWN LANDS

- PATENT, SURFACE AND MINING RIGHTS
- " SURFACE RIGHTS ONLY
- " MINING RIGHTS ONLY
- LEASE, SURFACE AND MINING RIGHTS
- " SURFACE RIGHTS ONLY
- " MINING RIGHTS ONLY
- LICENCE OF OCCUPATION
- ROADS
- IMPROVED ROADS
- KING'S HIGHWAYS
- RAILWAYS
- POWER LINES
- MARSH OR MUSKEG
- MINES
- CANCELLED

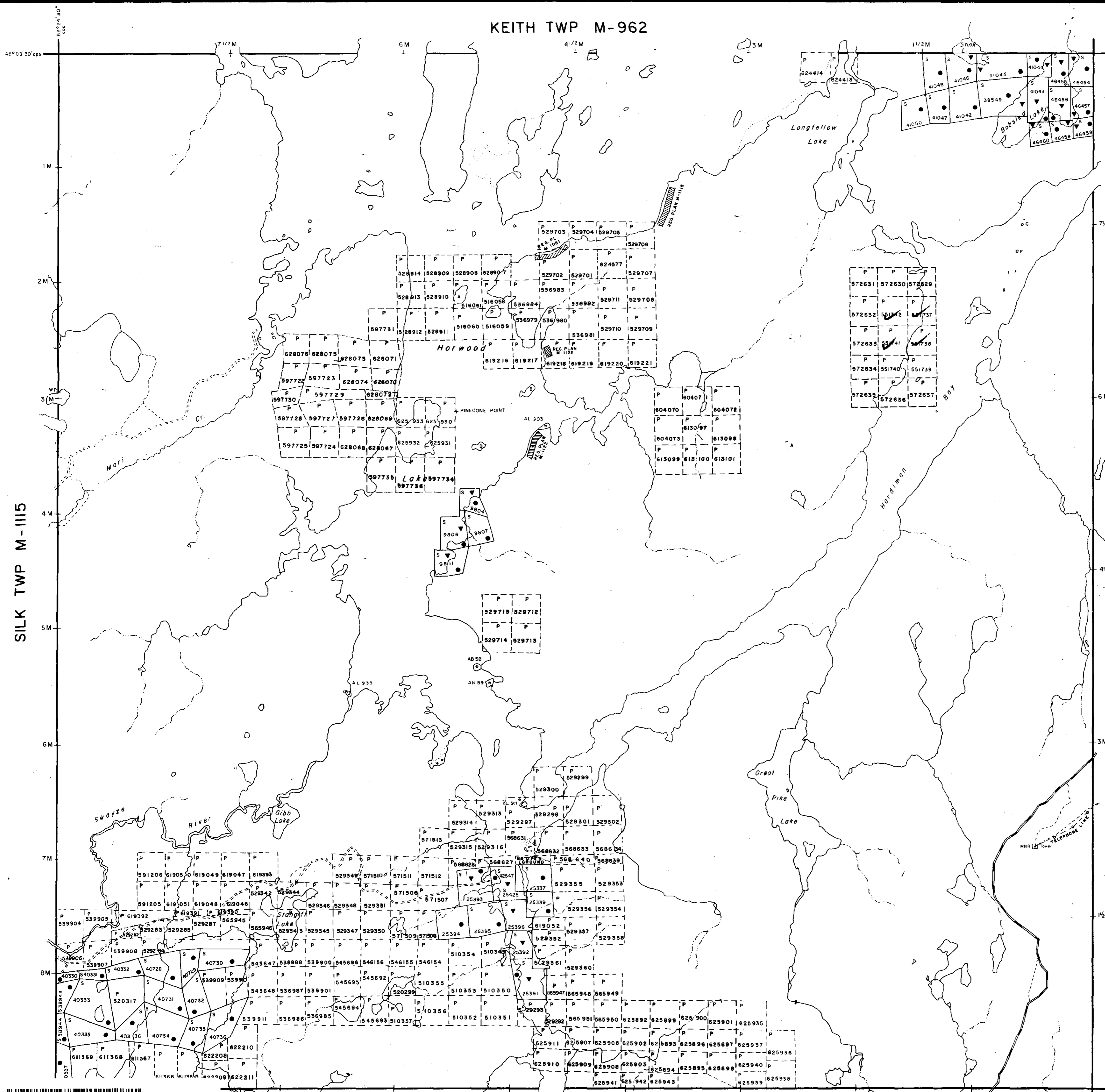
NOTES

400' Surface Rights Reservation along the shores of all lakes & rivers

DATE OF ISSUE
FEB - 4 1982
Ministry of Natural Resources
TORONTO

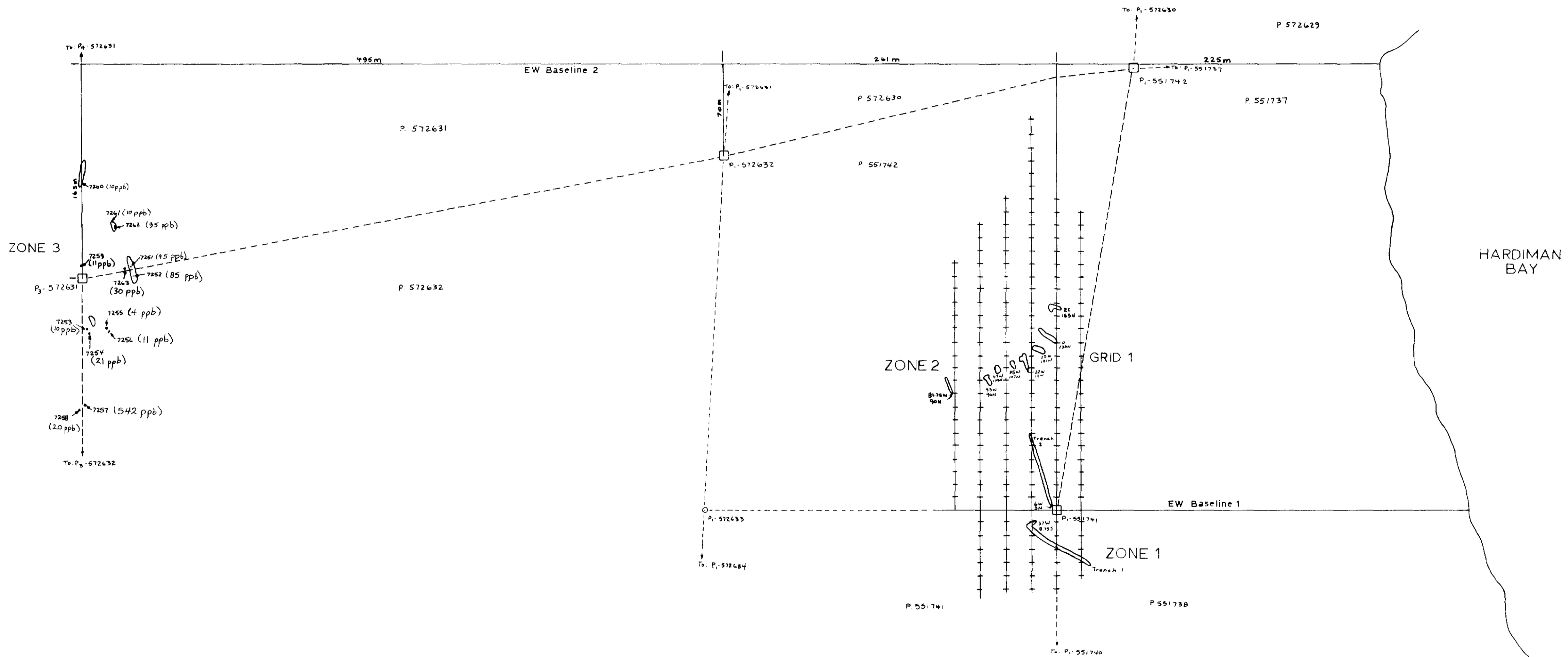
PLAN NO.- M-936

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH



210 ON TWP M-3471

DALE TWP M-2828



LEGEND

- TRENCH/PITS
- CLAIM LINE
- - CLAIM POST, ○ - ASSUMED
- 7250 - SAMPLE No. & ASSAY VALUE (Au)
- (10 ppb) - FOR LOCATION MAP SEE MAP 1

Northgate Exploration Limited

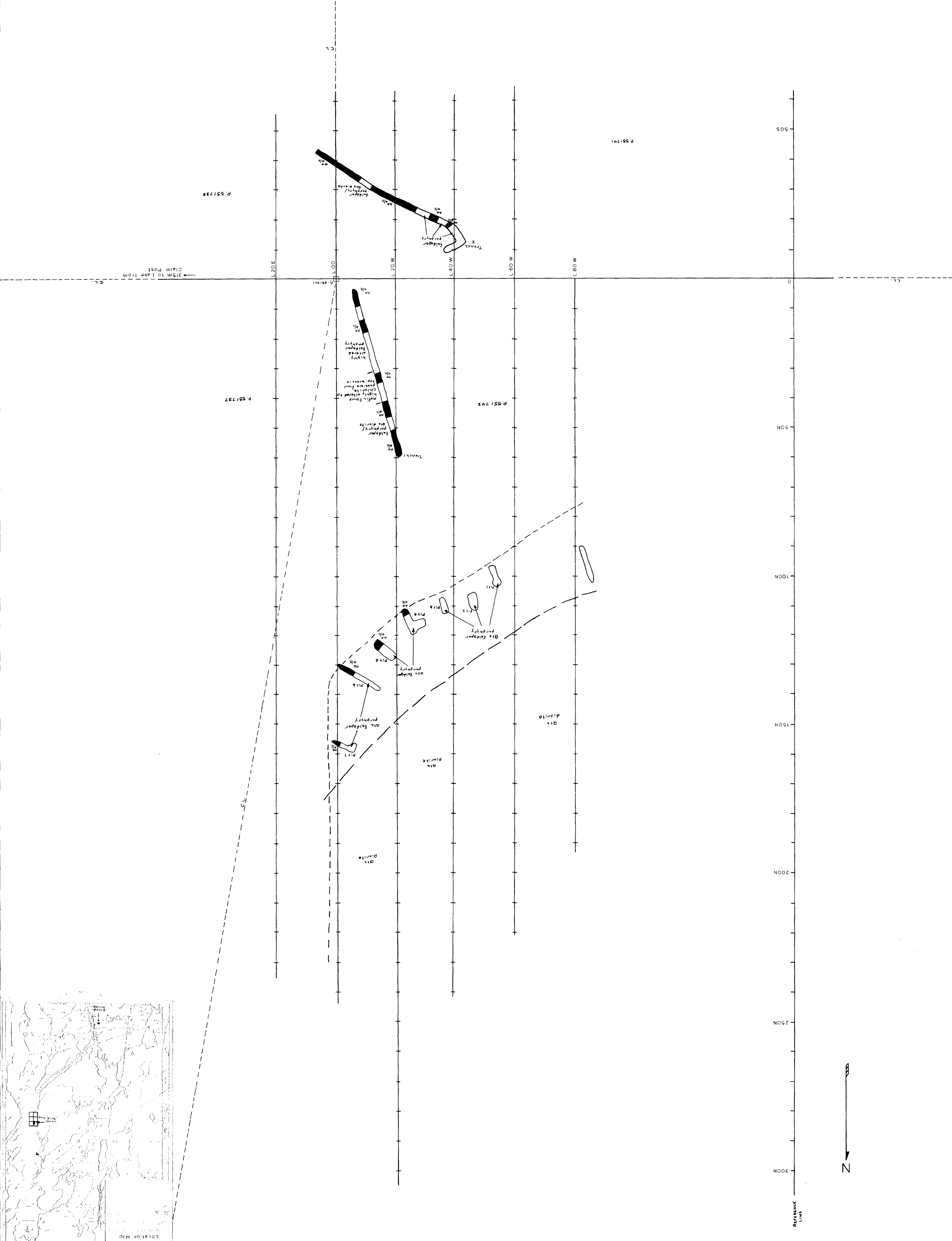
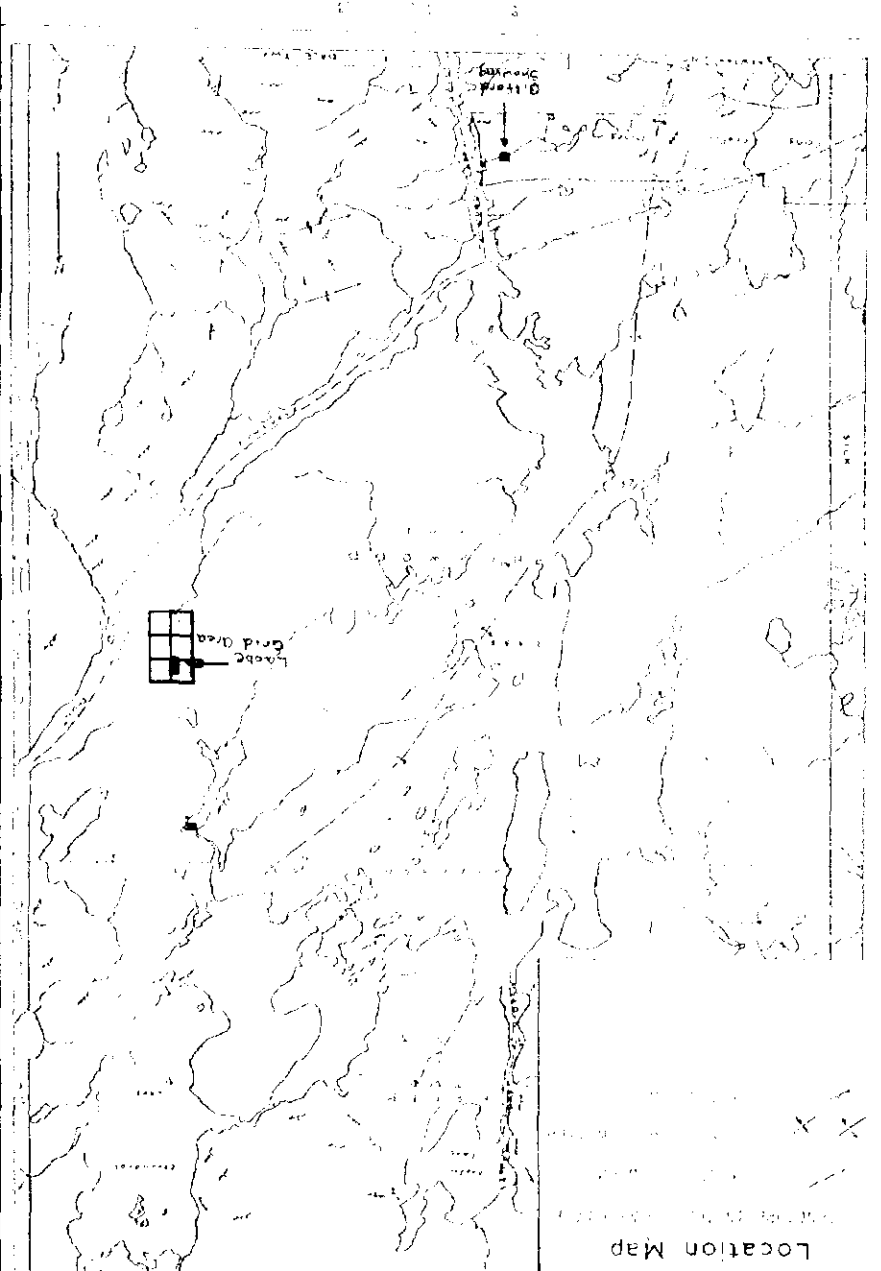
No. 6

LABBE PROSPECT
LOCATION OF ZONES 1,2,3
PITS & TRENCHES

Drawn: SWC.
Date: AUG, 80

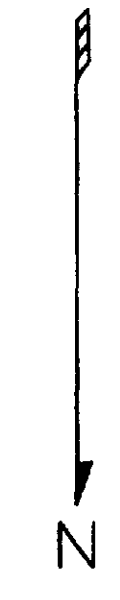
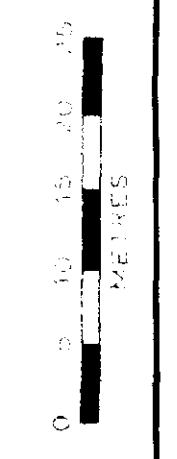
Scale: 1cm = 20m
NTS: 410/16

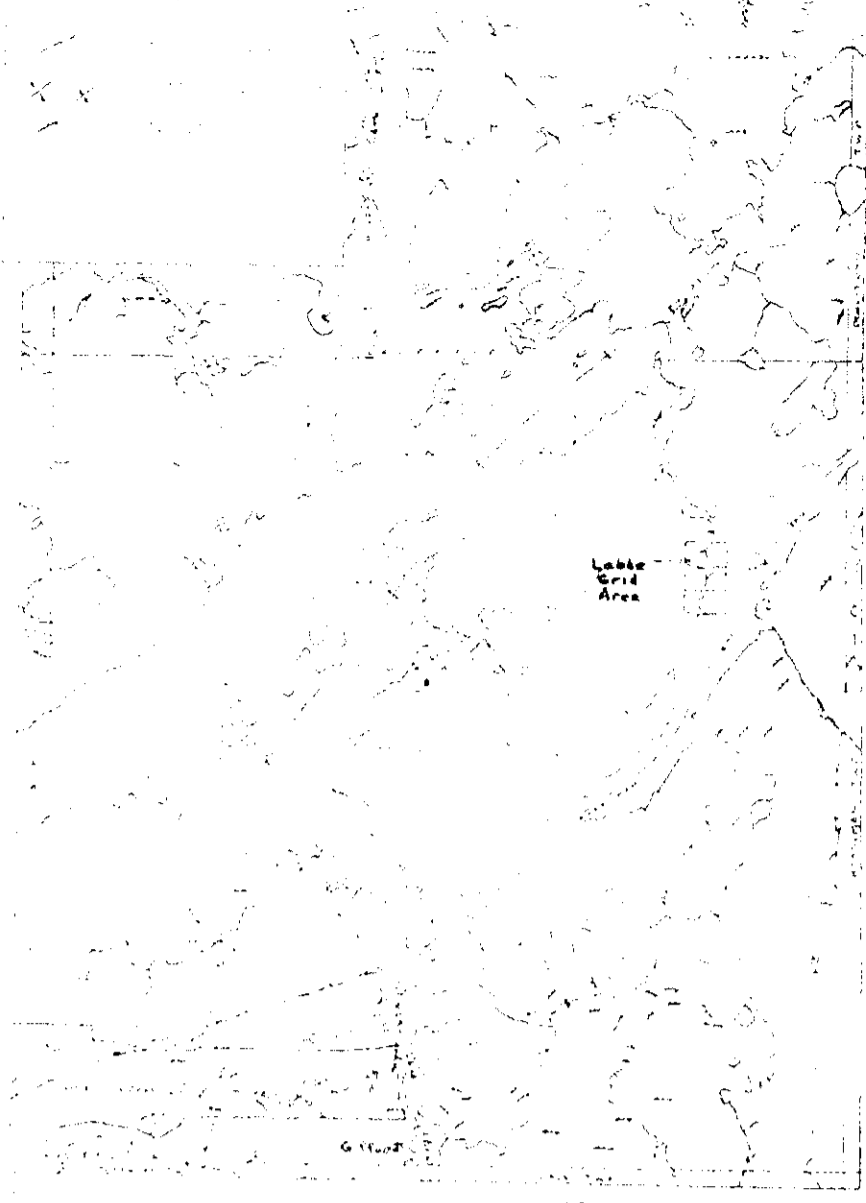




Northgate Exploration Limited
 No. 1
LABBE PROSPECT
 GEOLGY OF
 PITS & TRENCHES

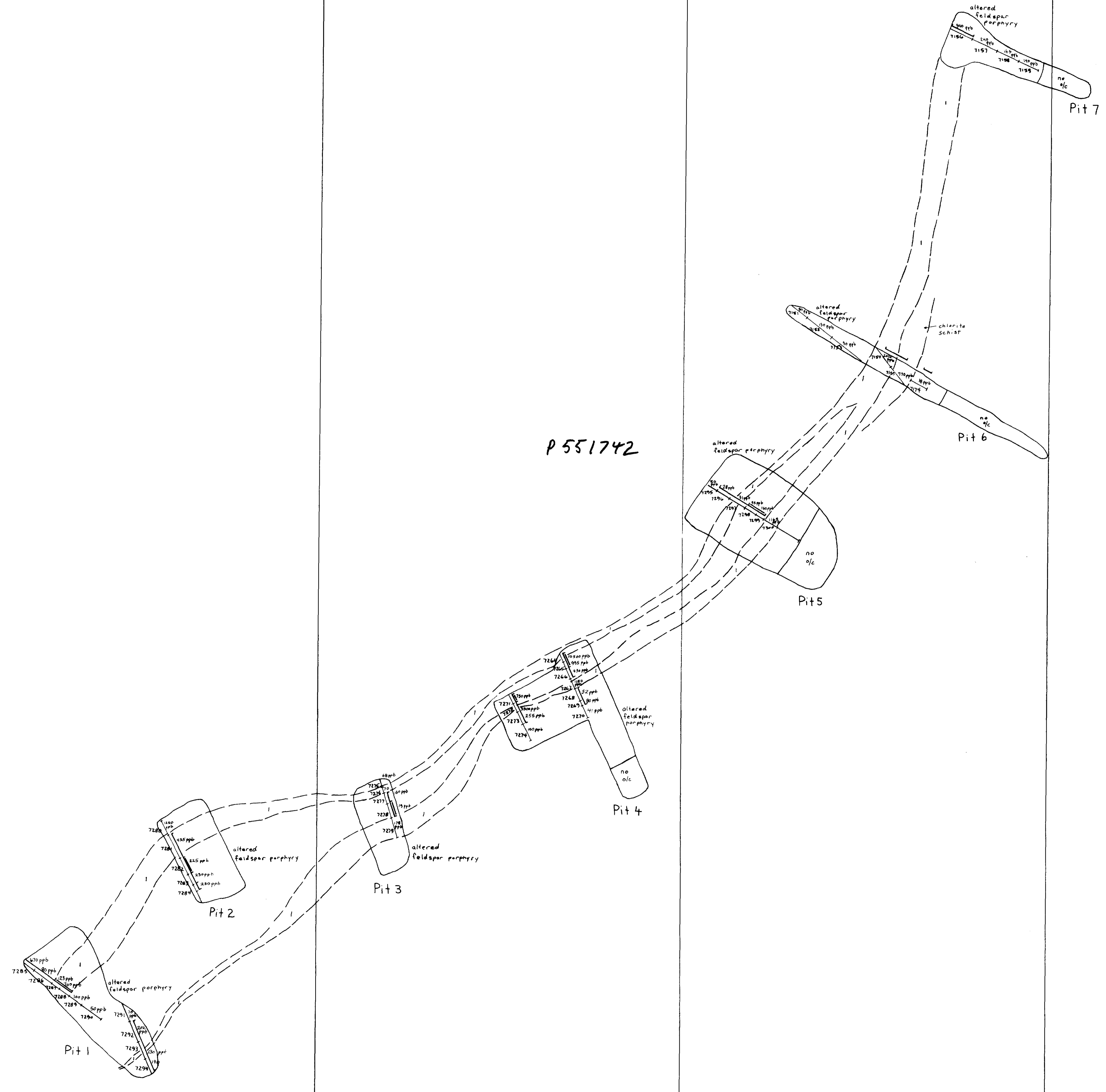
Drawn S.W.C.
 Date JULY 80
 Scale 1cm=5m
 NTS 41/016
 F14/6
 23720





150N
140N
130N
120N
110N
100N
LINE 60W
LINE 40W
LINE 20W
LINE 00

P 551742



LEGEND

- Sample No. (vertical line)
- Sample Width (horizontal line)
- ASSAY VALUE - Au (vertical line with number)
- Qtz Fsp Porphyry (qtz eyes) - mineralized (grey & mauve)
- may be altered (dashed line)
- Gossan Zone (dotted line)
- Mineralized re. ubiquitous sulphides (vertical line with dots)
- Well mineralized re. sulphide vein (vertical line with thick dots)

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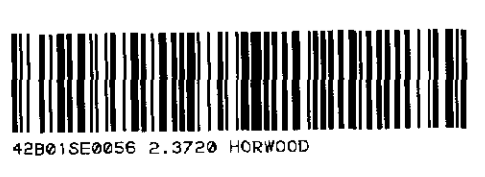
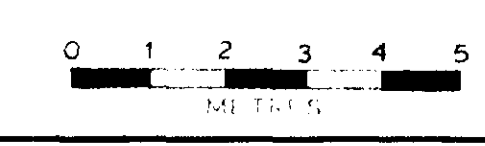
No. 3

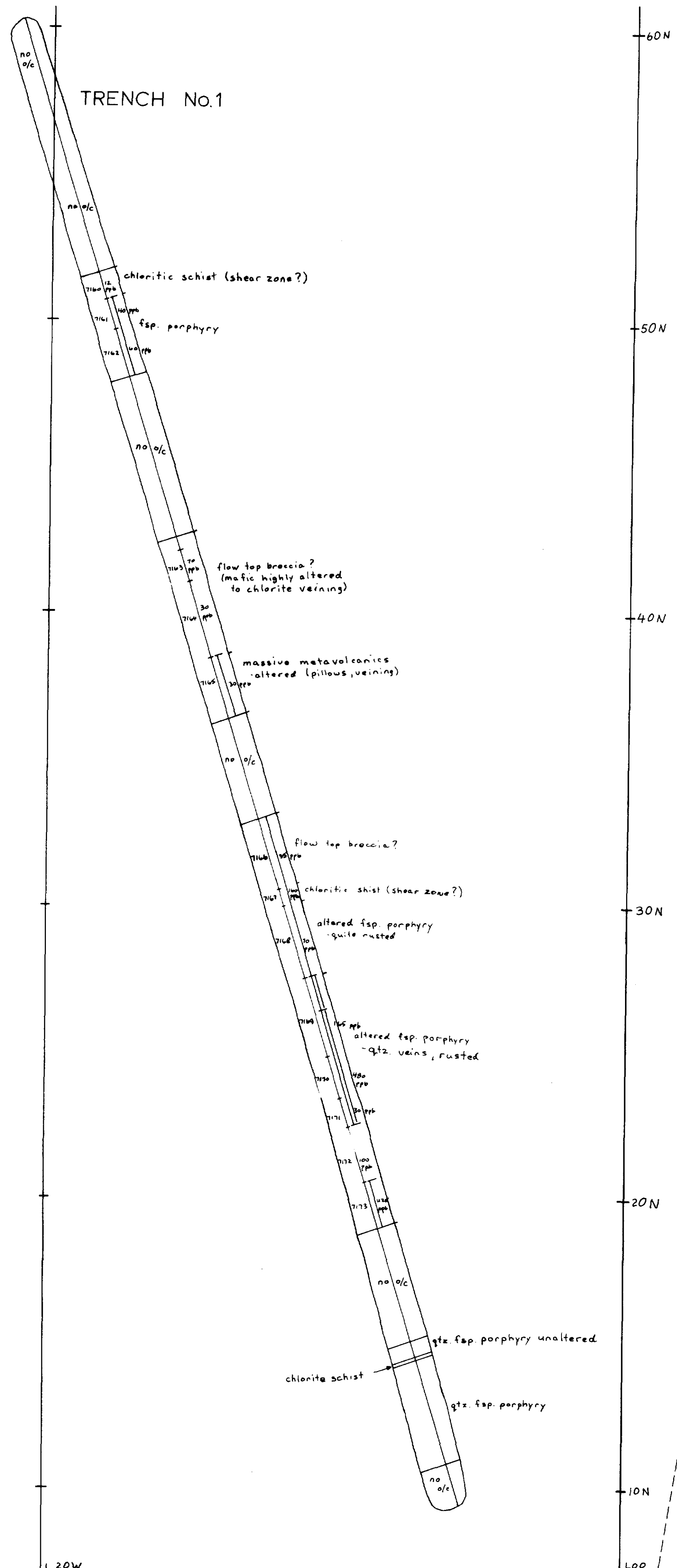
LABBE PROSPECT
MAP OF PITS (ZONE 2)
GEOLOGY AND
ASSAY VALUES

John J. Dado
F 16.7

Drawn S.W.C.
Date: AUG. 80

Scale: 1cm = 1m
NTS: 410/16





P. 551742

P. 551737



LABBE PROSPECT
MAP OF TRENCHES (ZONE 1)
GEOLOGY AND
ASSAY VALUES
-for location see Map No.1



250

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No. 2a

LABBE PROSPECT
MAP OF TRENCHES (ZONE 1)
GEOLOGY AND
ASSAY VALUES

John S. Olson

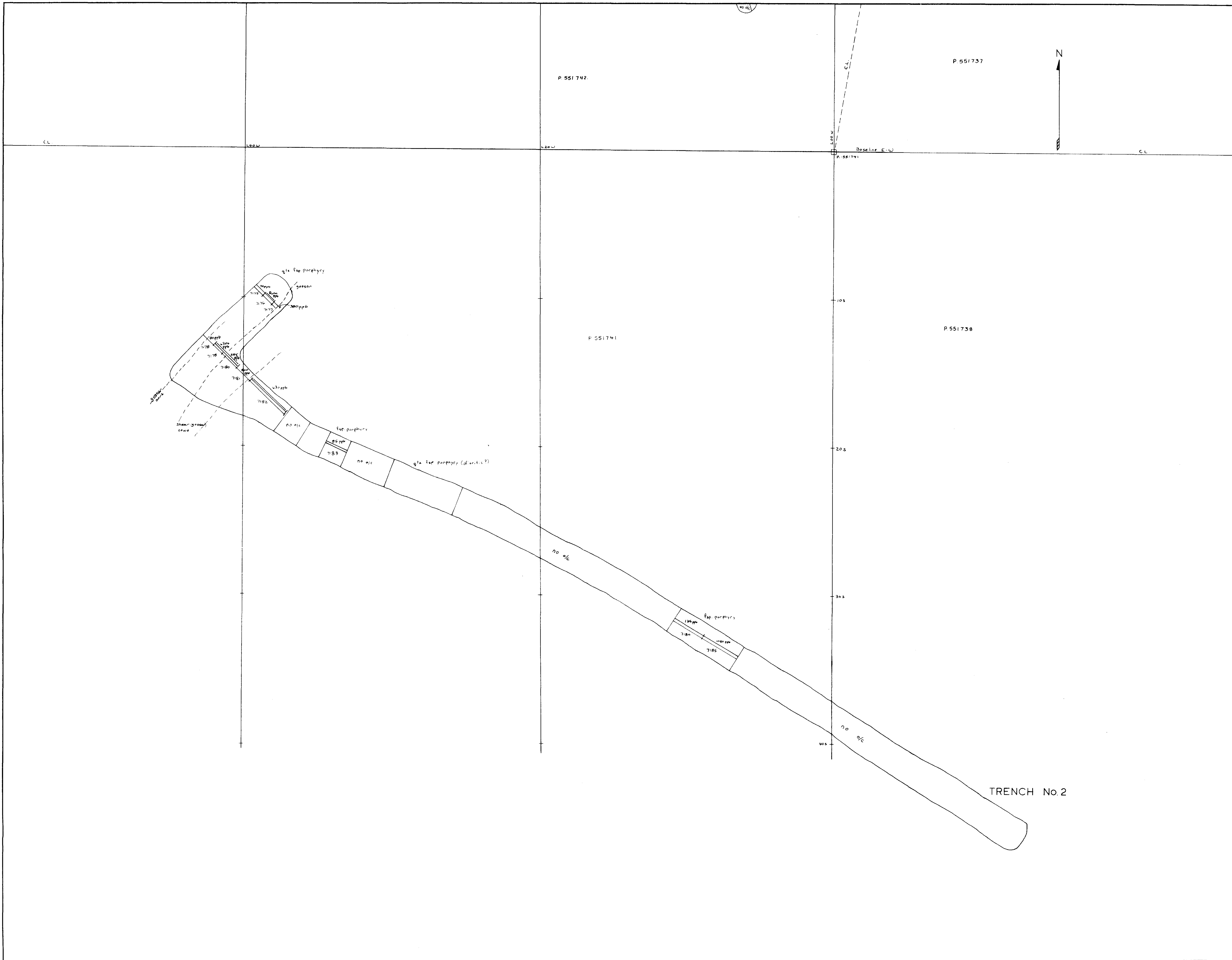


Drawn: S.W.C.
Date: AUG., 80

FIG. 8

Scale: 1cm = 1m
NTS: 410/16

2 3720



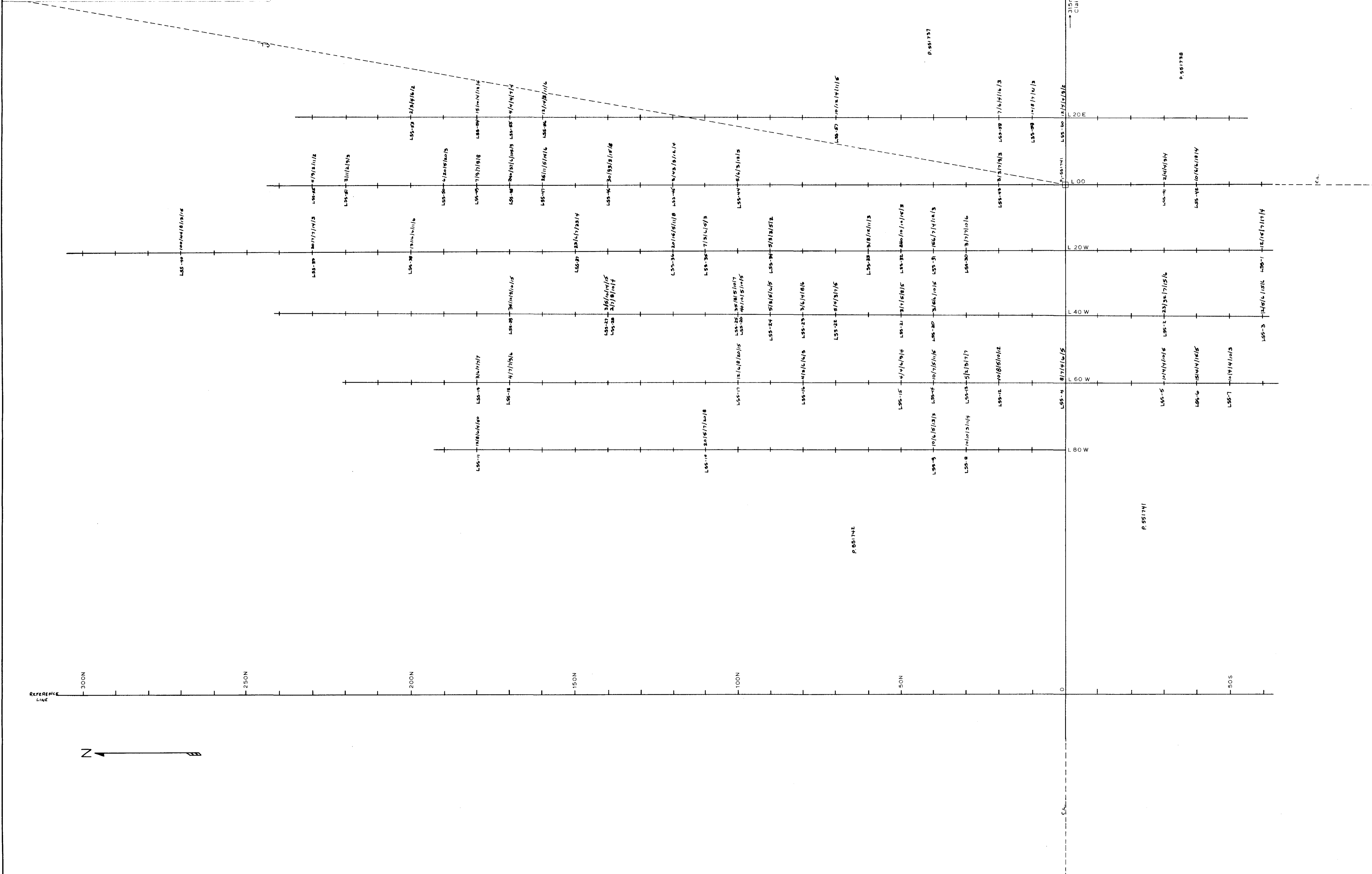
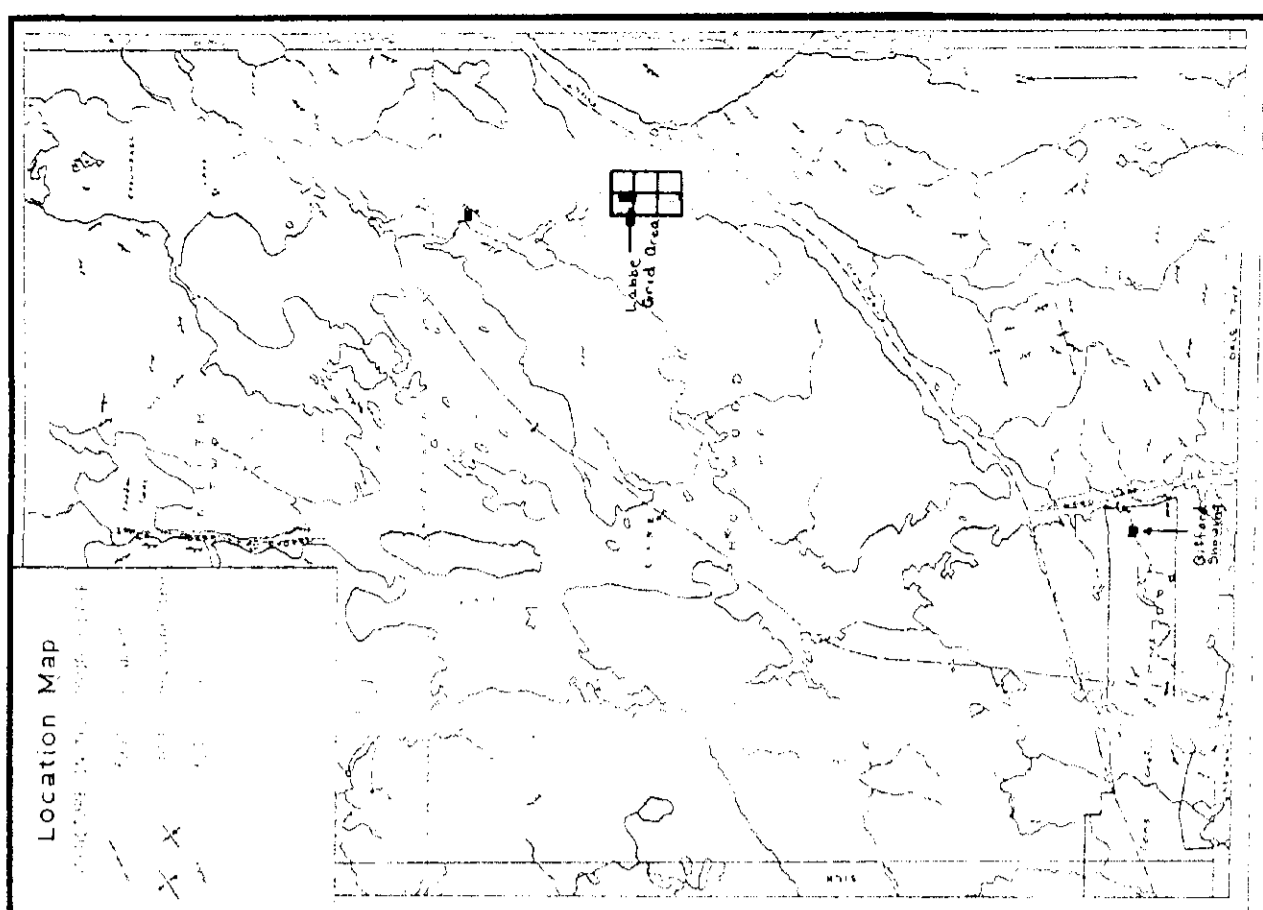
for location see MAP No 1

Northgate Exploration Limited
No. 2b

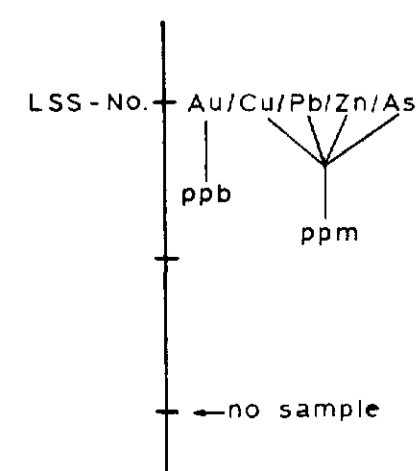
LABBE PROSPECT
MAP OF TRENCHES (ZONE 1)
GEOLOGY AND
ASSAY VALUES

Drawn *[Signature]* Scale
Date FIG 9 NTS





LEGEND



Northgate Exploration Limited

No. 5

LABBE PROSPECT
SOIL SAMPLES

Robert D. Decker

Drawn: S.W.C.
Date: JULY, 80

Scale: 1cm = 5m
NTS: 410718

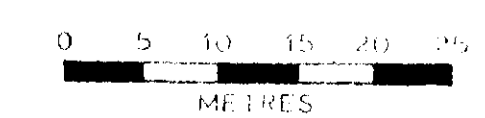
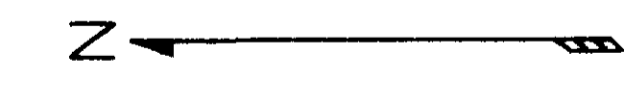
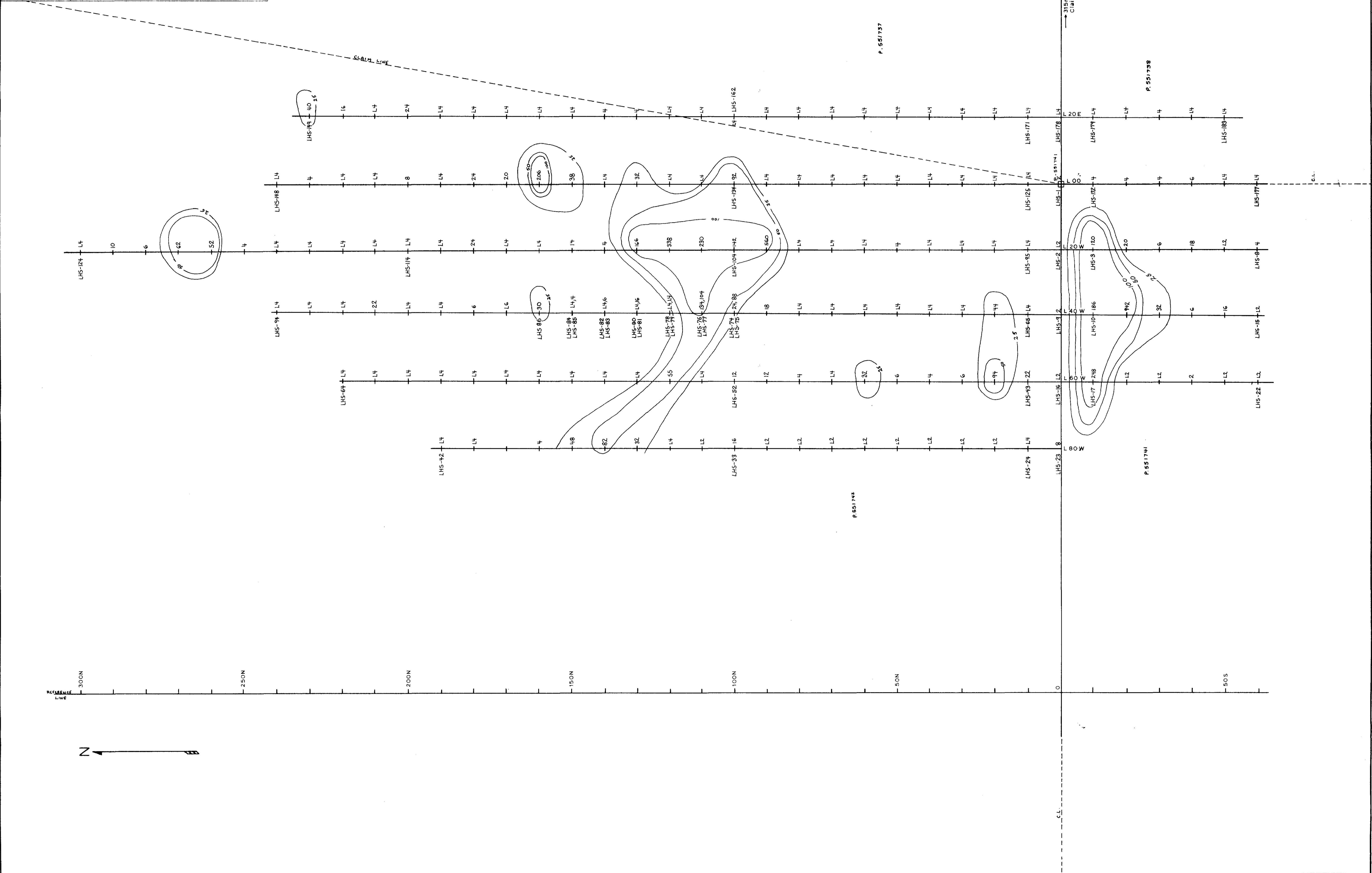
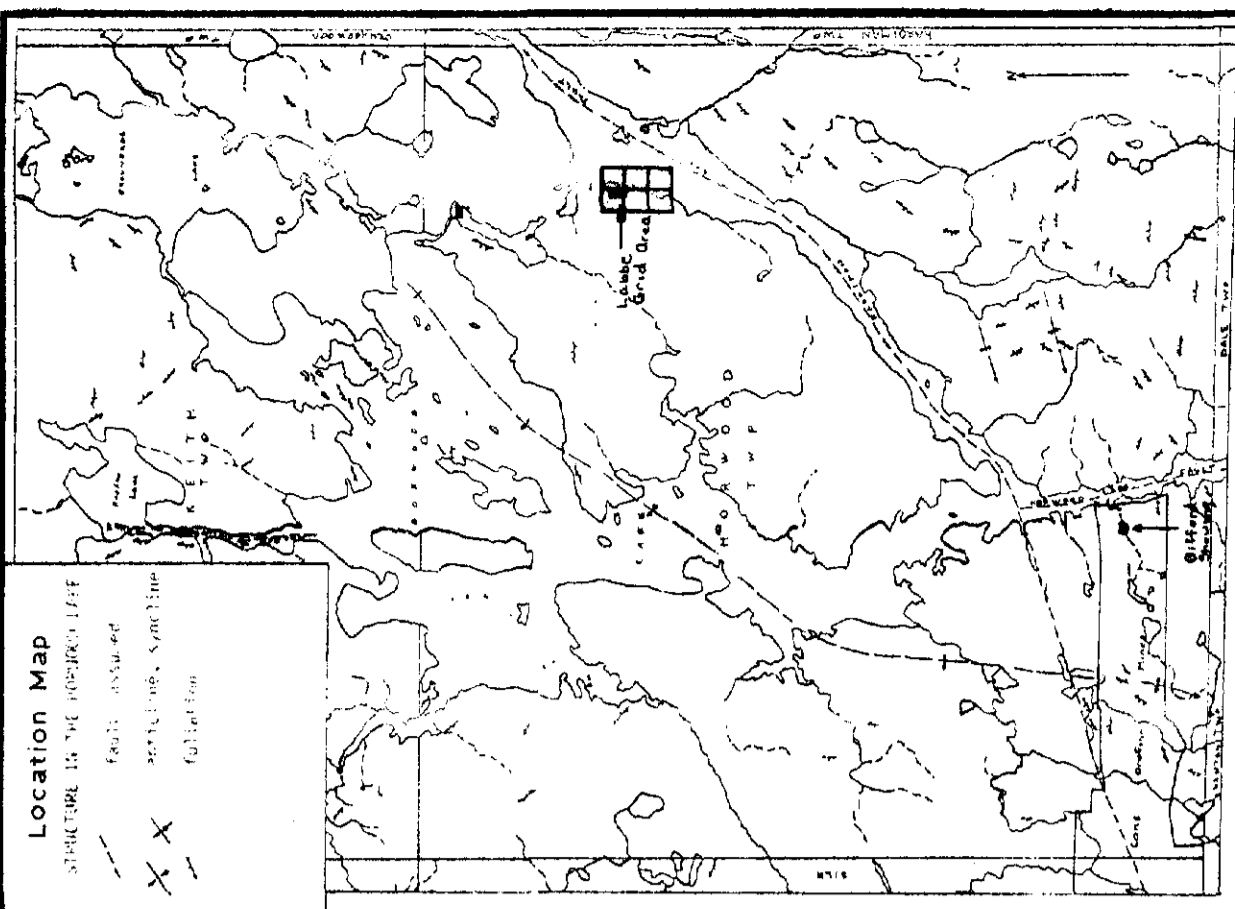


FIG. 10

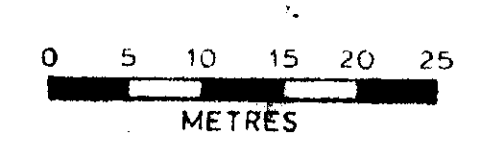




LEGEND

LHS-No. Au/Cu/Pb/Zn/As
 ppb
 ppm
 no sample

Contours in ppbs



Northgate Exploration Limited

No. 4

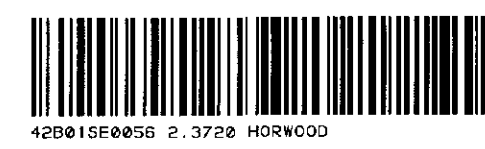
LABBE PROSPECT
 HUMUS SAMPLES

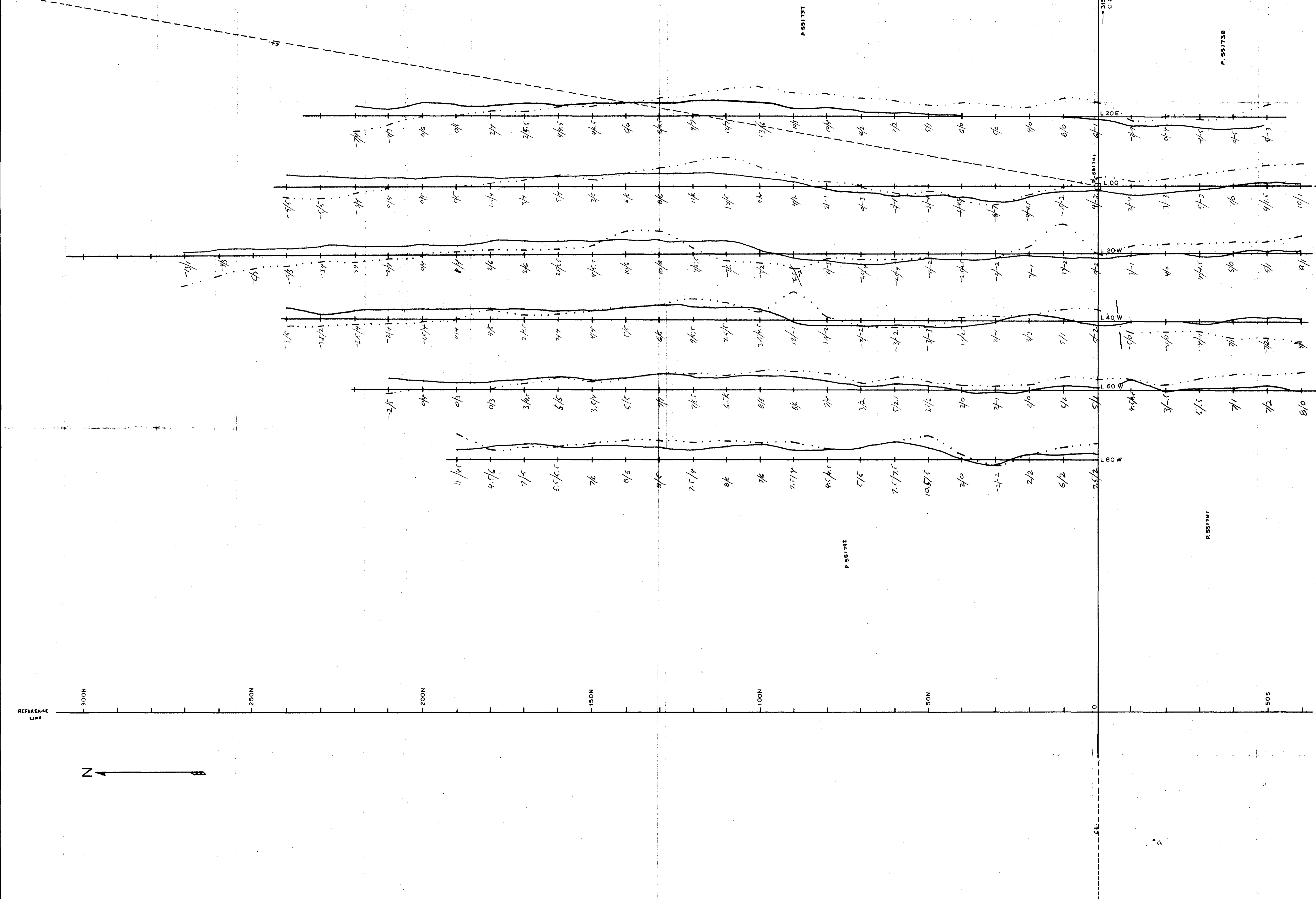
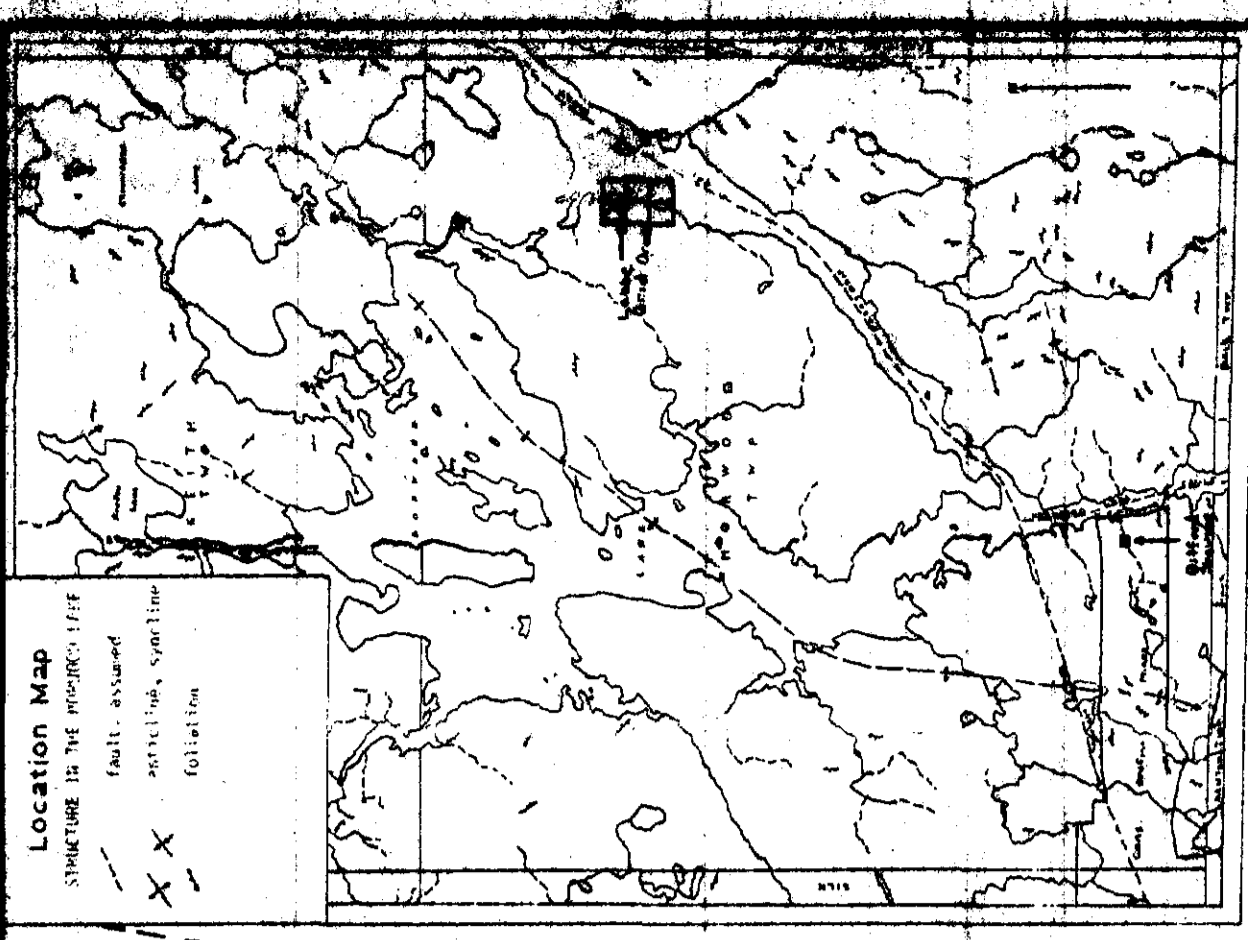
Robert Decker

Drawn: S.W.C.
 Date: JULY, 80

FIG. 11

Scale: 1cm = 5m
 NTS-410/16





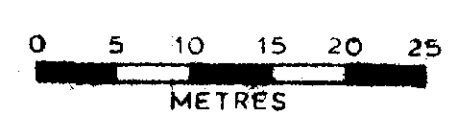
LEGEND

IN-PHASE - DOTTED LINE 1/2
 QUADRATURE - SOLID LINE
 POSITIVE READINGS - RIGHT OF LINE
 NEGATIVE READINGS - LEFT OF LINE
 INSTRUMENT USED - GEONICS EM -16
 TRANSMITTER STATION - CUTLER, MAINE

Northgate Exploration Limited

No. 7

LABBE PROSPECT
 VLF SURVEY
 PROFILE SCALE
 1 cm = 7.5%



Drawn: S.W.C.
 Date: JULY, 80

Fig. 12

Scale: 1cm = 5m
 NTS: 410116

