N.T.S. 31C/11

REPORT OF
GEOLOGY, PROSPECTING, TRENCHING
AND SOIL SAMPLING
BLACK RIVER PROPERTY,
GRIMSTHORPE TOWNSHIP, ONTARIO

PREPARED BY:

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OPAP REGSITRATION No:
OP93-052

SUMMARY

The Black River Property is located in Grimsthorpe Township, 32 km northeast of the town of Madoc, Ontario. Although the Madoc-Bancroft region has shown quite an extensive history of mineral exploration, there is no record of prospecting activities within the area of the Black River property.

The property is underlain by Middle to Late Proterozoic mafic metavolcanic and metasedimentary rocks of the Grenville Structural Province. General trend of these rocks across the property is NW-SE.

During the fall of 1991, a number of gold discoveries were made along the Black River and along a swamp filled extensional lineament to the river. Quartz veins up to 0.5 m wide occur in locally sheared and/or silicified areas of a metasedimentary unit consisting of beds of a quartz-feldspar-biotite rich rock, greywacke, argillites, and graphitic schists. This metasedimentary unit has been traced over 5 kilometres. Some of the gold showings have been traced for distances greater than 700 metres along this trend.

An electromagnetic survey and a magnetic survey have coincidental conductors and anomalies with some of the gold occurrences. The surveys have located other targets along the 5 km trend which may be potential host environments for gold mineralization.

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I. INTRODUCTION

SCOPE

This is a revised work report based on results gathered during the 1992 and 1993 programs of geological mapping, prospecting, trenching and soil sampling on the Black River property, Grimsthorpe Township, Ontario. Maps concerning the results of this work are appended to this report. This report also includes the location and results of prospecting traverses conducted outside the boundary of the property.

LOCATION AND ACCESS

The Black River property is located in Grimsthorpe Township, Ontario (Figure 1). The property is approximately 30 km NE of the town of Madoc. Access can be made by following Highway 62 north from Madoc to the village of Gilmour. 4 km east of Gilmour is the turn for the Skootamatta Lake Access Road. Approximately 10 km SE on this road, the property begins at the turn of the Lingham Lake Access Road.

The property is covered by the N.T.S. sheet 31C/11.

PROPERTY AND STATUS

The property consists of 14 contiguous unpatented mining claims (Figure 2). The claim group totals 28 units of 20 hectare size. The claim numbers are: SO1150984, SO1150985, SO1150986, SO1156635, SO1156636, SO1156650, SO1156653, SO1156654, SO1194942, SO1194943, SO1194973, SO1194974, SO1194975, SO1194976.

All claims are held by Mr. R.J. Dillman of London, Ontario.

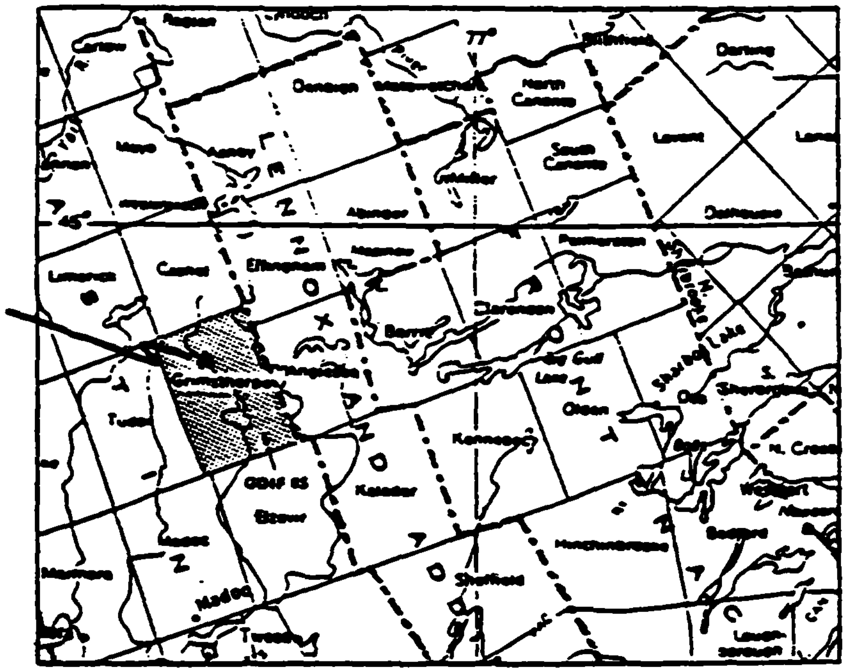
LOGISTICS

During the 1993 program, a previously cut and picketed baseline was extended 900 m making the total length of the baseline 5600 m. Flagged crosslines were established every 100 m and in some areas lines have been flagged every 50 m. The bearing of the baseline is 120° and the crosslines are orientated at 30°.

Geological information with rock sample locations collected within the claim group have been plotted on 3 appended maps, each at the scale of 1:2,500. Trench plans have been plotted on the scale of 1:50 and 1:100. Rock sample locations taken outside the claim group are plotted on 1:5,000 scale maps of the individual lot and concessions are included within the "DESCRIPTIONS, RESULTS, AND LOCATIONS OF ROCK SAMPLES" section of this report. Results of the soil samples collected during the 1993 program have been compiled with results obtained of sampling by Mr. Brian Christie (1992) and plotted are on appended 1:2,500 sheets.

Geological mapping, prospecting, trenching and soil sampling have been preformed by Mr. R.J. Dillman between May 24 to May 28, 1993 and between September 17 to October 31, 1993.

Property
Location



1 inch=16 miles

PROJECT LOCATION

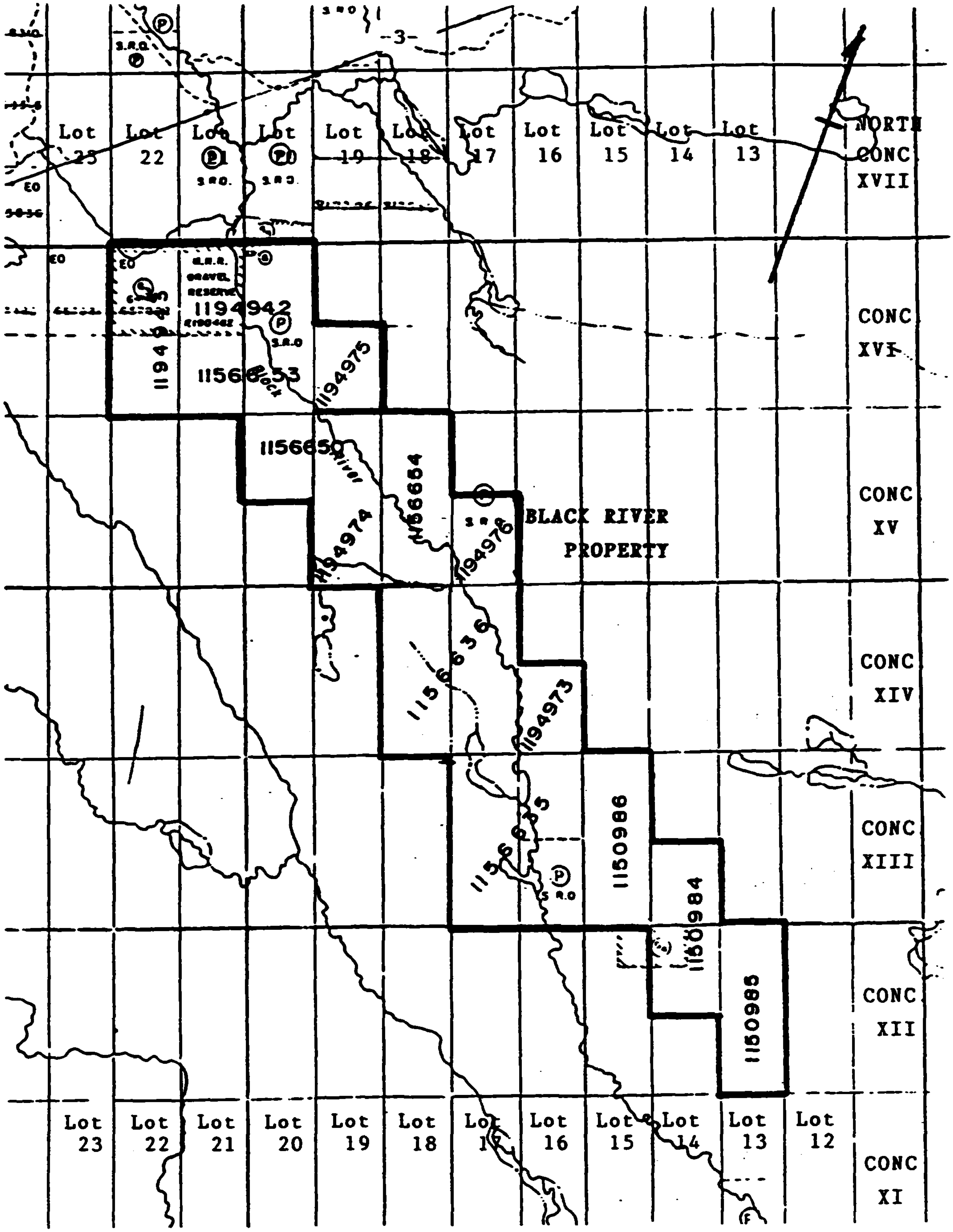


FIGURE 2

BLACK RIVER CLAIM GROUP
GRIMSTHORPE TOWNSHIP, ONTARIO
PLAN: M97

TOPOGRAPHY AND LAND-USE

Airphotos of the property reveal many small ponds and streams, the largest of which is the Black River. These features are confined to topographical lineaments. The strongest, most continual set of lineaments are orientated on a N-NW bearing. In places, these lineaments have been shifted and offset by a less-dominate set of lineaments orientated in a NE direction.

The highest elevations on the property can be found east of the Black River. This area is dominated by large outcrops of mafic metavolcanic rocks and shallow overburden consisting of forest loams and till.

West of the river, the land is much flatter and outcrop exposure decreases to approximately 10%. Outcrops are located in the highest elevations and along the sides of depressions. Large areas of this region are covered by swamps, tills and fluvial-deposited sands and gravels.

Most of the overburden on the property consists of a mixture of forest loams and till. Tills dominating west of the river consist of different-sized angular material made up of locally sourced mafic metavolcanic rock and regional sourced, rounded granite boulders. Striations measured on outcrop surfaces suggest that glacial advancement was from N4 E. Fluvial sourced material consist of well-sorted sands and gravels.

Vegetation on the property is variable. Hardwoods such as birch, maple and oak grow in the highest elevations. White pine, spruce and balsam grow in flatter areas. Jack-pine, balsam and alders grow in the lowest elevations.

There has been several different types of land-use in the Black River area of Grimsthorpe Township. Limited logging activities have occurred in areas west of the Lingham Lake Road. In the northern area of the property there are pits where sand and gravel has been extracted. Several cabins are located over the property which are primarily used for recreational hunting.

PREVIOUS EXPLORATION ACTIVITIES

The Black River area of Grimsthorpe Township has no history of mineral exploration until 1991 when funding was acquired through the OPAP system and claims were staked to cover several gold discoveries made by R. Dillman. Elsewhere in the township, mineral exploration (mainly for gold) had been concentrated in the western and northwestern regions of the township.

At various times between 1909 to 1935, gold was produced at the Gilmour Mine in lot 30, concession 19. This is the only record of gold production in Grimsthorpe Township.

Talc was discovered in 1910 in lots 8,9 and 10, concession 5.

Regional geology was first mapped by Meen and Harding (1942). They reported talc occurrences in lot 13, conc. 4. They also reported numerous sulphide occurrences in meta-sedimentary schists in the Lingham Lake area.

In 1954, Stratmat Limited carried out a ground electromagnetic survey over the talc occurrences in lot 13, conc. 4.

In 1955, drilling was preformed on the claim group referred to as the McMurray Group. A total of 793 feet were drilled to test an arsenic occurrence in lot 33, concession 11.

After 1955, the Gilmour Mine and the area in proximity to the mine appear to be the only area of interest for mineral exploration. Currently this area is held by Homestake Minerals.

In 1990, much of Grimsthorpe Township and neighboring Anglesea Township were mapped by R.M. Easton of the Ontario Geological Survey.

Gold was discovered in the Black River area in 1991 by R.J. Dillman. This resulted in the staking of several claims. He subsequently carried out geological and geophysical surveys over limited portions of the property.

C.A. Wagg of Denbigh, Ontario staked 5 additional claims along the trend of the Black River. These claims were recorded in Dillman's name.

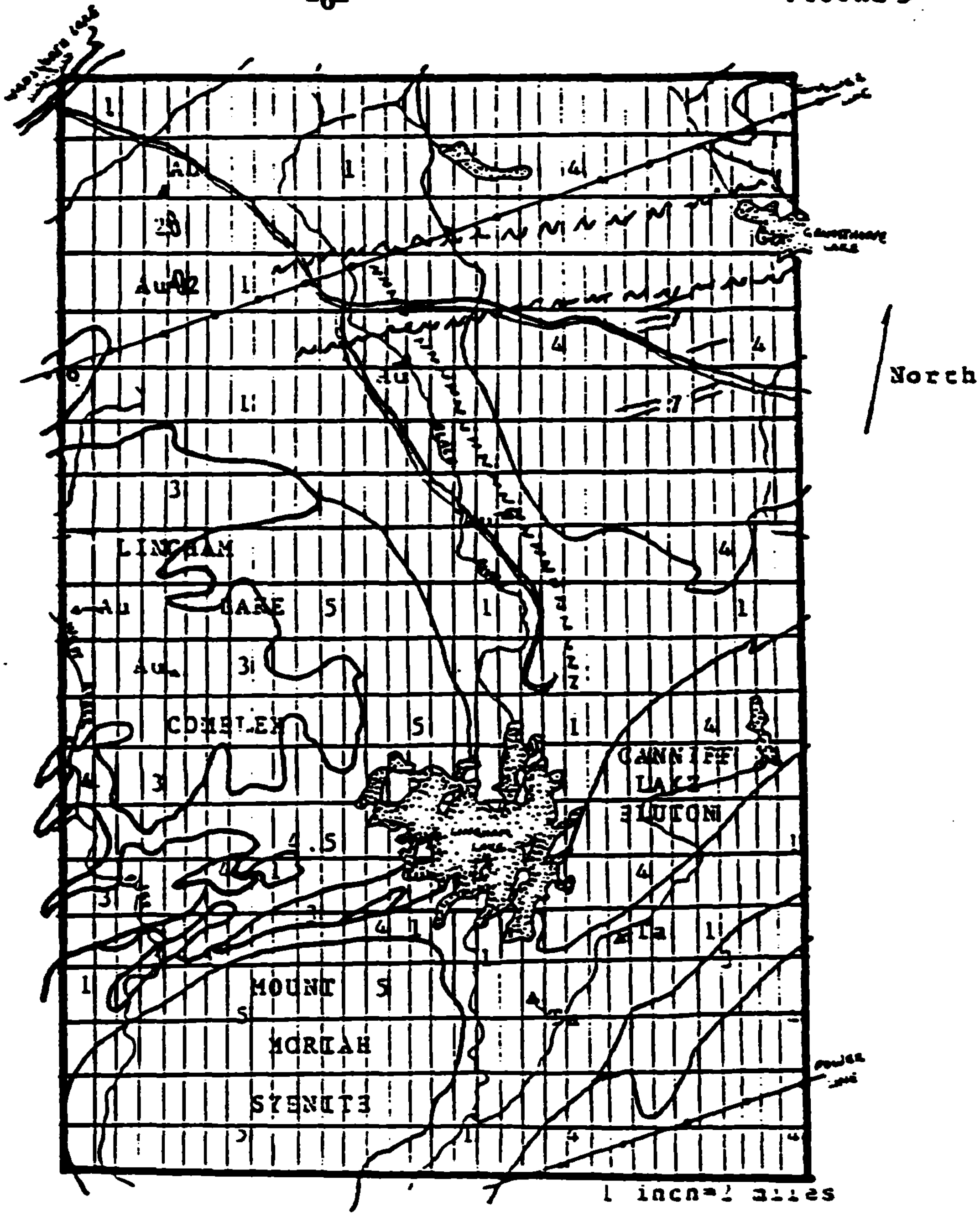
In the summer of 1992, the property was visited by Brian Christie, a geologist representing Homestake Minerals. Mr. Christie undertook limited prospecting, soil sampling, and geological mapping in isolated regions of the claim group. His work led to the discovery of gold in lot 20, concession 16 and what is now known as the Christie Showing. Christie also staked several claims to the north and recorded them in Dillman's name.

Further staking was conducted in the fall of 1992 by Dillman. A grid was constructed over portions of the new claims for control over geological, magnetic, and electromagnetic surveys. This work has led to the discovery of several more gold showings in the Black River area.

REGIONAL GEOLOGY

Grimsthorpe Township is in the Madoc-Bancroft region of the Grenville Structural Province. The geology of the township is summarized in Figure 3. A sequence of formations is presented in Table 1.

FIGURE 3



GEOLOGY OF GRIMSTHORPE TOWNSHIP

7	diabase	▲	mineral occurrence
6	trondhjemite	Au	gold
5	syenite	Ta	talc
4	granite	~~~	fault
3	diorite		
2	metasediment		
1	mafic metavolcanic		

(modified after Easton and Ford, 1991)

TABLE 1

TABLE OF FORMATIONS

CENOZOIC

RECENT
Swamp, lake, and stream deposits.
PLEISTOCENE
Clay, silt, sand, gravel.

UNCONFORMITY

PROTEROZOIC

INTRUSIVE ROCKS
Granitic and syenitic dikes and sills.
Granitic and syenitic rocks.
Mafic dikes and sills.
Mafic intrusive rocks.

INTRUSIVE CONTACT

METASEDIMENT AND METAVOLCANICS
Carbonate metasediments.
Clastic metasediments.
Felsic Metavolcanics.
Mafic metavolcanics.

(modified after Meen, 1942)

Grimsthorpe Township is equally divided between mafic metavolcanic rocks and igneous intrusive complexes. All rocks are of the Middle to Late Proterozoic.

Mafic metavolcanics consist of intrusive and extrusive, fine-grained basaltic and coarser-grained gabbroic flows. Between flows schists may occur which can be sedimentary derived and/or be related to volcanism.

At least five large, separate plutonic bodies intruded into the mafic metavolcanic-metasedimentary sequence. These intrusive bodies vary in composition and range from gabbro, diorite, to tonalite. The result of these intrusions caused two distinct trends of foliation to develop within the mafic metavolcanic-metasedimentary sequences. The two trends are N-NW and NE-SW and they are controlled by proximity to the plutons. In the area north-northeast of Lingham Lake a significant structure may exist that separates the two trends.

During the formation of the plutonic masses, the metavolcanic-metasedimentary sequence was intruded by dikes of either mafic or felsic composition.

Metamorphic grade in Grimsthorpe Township ranges from upper greenschist-facies to middle amphibolite-facies (R.M. Easton, 1990). The range of metamorphism appears to be dependent on the proximity to plutons, such that, amphibolitized metamorphic aureoles exists around some of the plutonic bodies. The presence of biotite is a major accessory mineral in most rocks throughout the township.

A number of faults and shear zones have been recognized within the township (Easton, 1990). As well as these structures, airphoto observations show many topograghic lineaments, some of which are certain to be fault structures. The most dominate direction of the linear features is N-NW. A second preferred orientation is E-NE. This second direction is consistent with a regional structure that cuts across the northern section of the township (Easton, 1990). From field and airphoto observations it is apparent that the E-NE lineaments may post-date N-NW lineaments. This is based on crosscutting relationships.

II. PROPERTY GEOLOGY AND MINERALIZATION

LOGISTICS

Mapping has been carried out on compassed and hip-chained lines and between lines where outcrops occur. All geological data has been compiled on three maps that cover the entire claim group at a 1:2,500 scale. These maps are appended to this report. Table 2 represents a stratagraphic section for the property. Geological mapping was conducted by R.J. Dillman.

TABLE II.

TABLE OF FORMATIONS FOR THE
BLACK RIVER PROPERTY
GRIMSTHORPE TWP. ONTARIO

CENOZOIC

Recent
swamp, lake, and stream deposits

Pleistocene
clay, silt, sand, gravel

Unconformity

PROTEROZOIC

Intrusive Sills and Dikes
gabbro
Intrusive contact
aplite dikes
mafic dikes (diabase?)

Intrusive contact

Metasedimentary and Metavolcanic Rocks
mafic volcanic intrusive/extrusive flows
Unconformity?
carbonate sediments
clastic sediments
mafic volcanic intrusive/extrusive flows

Mafic Metavolcanic Rocks

Mafic metavolcanic rocks occur over approximately 90% of the property. They are believed to be the oldest rock types. This unit is composed of: massive fine-grained flows, coarser grained gabbroic flows, and less abundant agglomerate. Fine-grained massive flows and coarser-grained gabbroic flows are equally distributed over the map area. Defining true contacts for the flows is impossible since they appear to occur as interflows of varying thickness. Fine-grained flows have a basaltic composition that is dark greyish-green on a fresh surface and grey on a weathered face.

There appears to be at least 2 or 3 ages of gabbroic rocks on the property. Interflowed gabbro with basaltic flows tend to occur west of the Black River. These dark green flows are fine to moderate-grained with anhedral textures. East of the river flows tend to be slightly coarser-grained and more massive. Grain composition is more easily recognizable and color differences between feldspar and pyroxenes is obvious. Subhedral crystals of amphiboles are present in these flows and may be a metamorphic feature. A third type of gabbro forms a sill-like body in the vicinity of the river on line 37+00N, lot 20, concession XVI (Map 1C). The gabbro is coarse-grained, and mottled white and grey with easily recognizable plagioclase and pyroxene grains. This gabbro is quite fresh on appearance and does not resemble other gabbroic flows within the map area. It is quite possibly the youngest rock type on the property.

Agglomerates have only been observed in areas west of the river. In these areas their occurrences are limited but become more frequent in the northern sections of the property. They have a massive fine-grained matrix of grey color and various sized, subangular and slightly coarser-grained clasts. Both matrix and fragments appear to be of basaltic composition. Agglomerates are found as interflows with other mafic-metavolcanic rocks.

Mafic schist units are usually found with metasedimentary units. They form somewhat continual formations and occur along contacts with mafic metavolcanic flows. They are dark green in color and aphanitic textured. They appear to be of basaltic composition although a chlorite-sericite unit was observed at 24+50N, 0+35E (Map 1B). Mafic schists are generally well-foliated. This fabric may be caused by shearing.

METASEDIMENTARY ROCKS

Metasedimentary rocks comprise approximately 15% of the map area. They form well-foliated, schistose units that are usually thin but continuous over the property. They are found more frequently along the Black River and in areas to the west and occur in the most recessive topography. Members of this unit include: greywacke, argillite, graphitic schists, and quartz-feldspar-biotite schist. Members can occur together as interbeds although greywacke and argillite are the most dominate metasedimentary type.

Characteristically, metasedimentary schists are rusted on weathered surface. This is primarily due to the abundance of pyrite and lesser amounts of fine-disseminated pyrrhotite. Pyrite occurs as fine-disseminations or as fracture controlled stringers. Sulphide content is up to 10% of the rock. Traces of fine magnetite have been observed in a few localities.

Other accessory minerals found in metasedimentary schists include: biotite, which occurs in fractures and along cleavage plains, quartz, which can be in vein form or as siliceous alteration, hornblende and chlorite.

Gold mineralization associated with arsenopyrite occurs in thin quartz veins and shears in quartz-feldspar-biotite schists and greywacke. Occurrences are described later in this report.

The only other metasedimentary rock type observed on the property is marble. There are several small outcrops occurring on the north side of the swamp that crosses between lines 3N to 7+50S, lot 14, concession XIII (Map 1A). The marble is medium-grained, sucrosic textured and banded by colours that range from white, grey, and rusty brown.

MAFIC DIKES

On the property mafic dikes only have been observed to occur in metasedimentary schists although they occur in volcanic flows outside the property boundary. Frequently, the dikes occur in schists along the river. They can be up to a few metres wide. Two types of mafic dikes have been recognized.

Dark green, coarse-grained, strongly amphibolitized dikes are present in schists hosting some of the gold occurrences. These dikes trend parallel to the metasediments and they also show evidence of being sheared, broken, and offset. Some relationship may exist between gold and coarse-grained dikes since significant gold values have been found in zones of veining, shearing, and silicification occurring in schists proximal or contacting the dikes.

Fine-grained, blackish-green diabase dikes occur along the river. These dikes trend mostly parallel to schistosity but less frequently cut foliations at higher angles. They show little sign of deformation other than well-developed joints at right angles to the trend of the dikes. Cross-cutting relationships suggest that these dikes post-date coarser-grained mafic dikes.

FELSIC DIKES

Fine-grained felsic dikes called aplite dikes can be found along the entire length of the property but are restricted to the metasedimentary-metavolcanic contact along the river.

Aplite dikes consist of a core-phase of fine-grained glassy crystalline to sucrosic quartz and whitish plagioclase feldspar rimmed with very fine-grained aphanitic massive quartz and feldspar. In both phases there are small masses or droplets of quartz consuming a small percentage of the total rock. Flaky, fracture controlled biotite and clotty muscovite also occur in both phases.

White, weakly Fe-carbonated quartz veins up to 10's of centimetres wide commonly occur in these dikes.

Depending on location there are at least 2 common orientations to the dikes. In the northern and central regions of the property this trend is on an average of 150 degrees which is generally parallel to surrounding geology. In the southern regions the average trend is 90 degrees which cross-cuts surrounding geological trends. Further mapping is needed to understand the relationship between the 2 distinct trends.

Aplite dikes show little deformation and crosscut all other rock types on the property. They can be up to a few metres wide.

STRUCTURE AND METAMORPHISM

Based on foliation and contact measurements of the major rock units on the property the general trend of geology is 125 degrees. This conforms to the relative shapes of the plutonic masses on either side of volcanic-metasedimentary sequence on-which the property sits.

Varied foliation, schistosity, and joint measurements suggest that 3 structural events may have occurred on the property:

S1.) Development of a strong foliation/schistosity between 120-1 3 0 degrees that dips SW between 40 degrees and vertical. This direction is present in all rock types. In metasediments it maybe partly due to original bedding as well as being induced by regional metamorphism from plutonism and folding.

S2.) Development of a weak to moderate foliation of 130 to 150 degrees with low to steep dips W to SW. Superimposed on S1. type foliations. Direction observed in most rock types and might be caused by faulting and shearing.

S3.) Foliations of 80 to 100 degrees superimposed on all other foliations. Coincides with less prominent E-W striking structural breaks. This foliation dips steeply south.

Jointing measurements suggest at least two structural phases. One set of joints ranges between 140 to 170 degrees and dips moderately to the S and SW. This set coincides with S2 type foliations and therefore may be a product of localized shearing. This range of jointing is best observed in outcrops along the river lineament and its extension into the southern claims.

A second range of jointing has been measured from 80 to 110 degrees and can dip very steeply N or S. This second set offsets the first set of joints and falls within the range of S3 type foliations. They also appear to coincide with regional E-W faulting. This second range of jointing is commonly seen in mafic metavolcanic outcrops east of the river and within mafic dikes along the river lineament. Joints of this orientation have been observed to break and offset (on a centimetre scale) quartz veins on lines 4+00S to 8+00S, lot 14, concession XII. These veins occur in a meta-sedimentary unit and have significant gold values associated with them.

In the northern section of the claim group a third set of joints was observed in a mafic metavolcanic outcrop along the Lingham Lake Road. This jointing has average orientations of 10 degrees and steep westerly dips. It is not known what is the cause of these features.

Some localized zones of shearing have been located in metasedimentary units within the claim group. The most notable areas of shearing occur along the river lineament and its southern extension in to lot 14, concession XII. These zones, although erratic in width (<3.0 m) and intensity, have been traced up to 400 m trending at low angles to/or parallel foliation. Sheared rock usually consists of quartz-feldspar-biotite schist but shearing, to a lesser degree is present in all other rock types. Shear zones in quartz-feldspar-biotite schist may have quartz veining, silicification, and mylonitization to the host rock, and mineralization consisting of arsenopyrite, pyrite, and gold. Biotite is usually present on cleavages and joints.

Other localized zones of shearing occur along mafic and felsic dike contacts but they are usually thin and discontinuous zones. Some minor shearing has been located in mafic flows but assay results have shown that they economically unimportant.

Metamorphism on the property ranges between high greenschist facies to lower-middle amphibolite facies. Biotite is present in all rock types while chlorite has only been noted in three isolated occurrences. Muscovite is present as clots in aplite dikes. Hornblende is present in most rock types and the frequency of amphibole occurrence increases from east to west across the property suggesting that metamorphism increases in this direction.

PROPERTY MINERALIZATION and ALTERATION

Prospecting has shown that at least four environments exist that return gold values upon assaying:

1. Fine to medium-grained sucrosic quartz veins with arsenopyrite and pyrite.

2. Fracture controlled glassy, grey to blue-smokey, quartz veins with arsenopyrite and pyrite.

3. Disseminated to clotty arsenopyrite and pyrite in silicified shears and vein aureoles.

4. Coarse pyrite in chlorite along contact of quartz veins.

All gold-bearing zones have been found in the quartz-feldspar-biotite schist member of the metasedimentary unit. These zones are all located within the Black River lineament and the extension of this lineament into lots 14 and 15, concessions XII and XIII.

Type 1 gold environments consist of granular, rusty quartz veins with 1-15% clotty to semi-massive arsenopyrite and <5% pyrite. A large percentage of the vein may be biotite-rich fragments of wallrock with fine tourmaline coating and scattered throughout the inclusions. These veins appear to run nearly parallel to host rock yet, no evaluation of strike lengths have been determined for any individual veins. Some veins can be >25 m in length and others up to 0.5m in width. Grab samples of this style of mineralization show up to 2.3-56 g/t gold.

Type 2 mineralization consists of glassy to granular quartz veins, grey to blue to clear in color. These veins are filling fracture systems in quartz-feldspar-biotite schist. The systems conform to the strike of the metasedimentary unit and have been traced <400m in length with possible strike lengths greater than three times that. Width of systems are narrow but variable; 1 to 40cm. In the systems quartz surrounds fragments of wallrock, but unlike type 1 veins, there is very little alteration to the fragments. Sulfides in the systems consist of <5% arsenopyrite occurring as fine smears, disseminations and clots of euhedral crystals. Pyrite totalling <5% forms disseminations to stringers in wallrock and veins and fills crosscutting joints that are <0.5cm wide. Samples of type 2 environments have returned gold values of 1.0-11.5 g/t.

Type 3 style of mineralization consists of silicified quartz-feldspar-biotite schist with some degree of mylonitization. These zones usually occur in combination with type 2 mineralization and occur less with type 1 veins. Quartz stringers <10cm are common in type 3 zones. Distinguishing veins from alteration is sometimes difficult. Dimensions of altered zones are variable and can range up to 1.0m wide. They appear to be poddy zones along trend. Accessory minerals include <5% fine-disseminations of arsenopyrite and clotty to stringered pyrite. Occasional fine-disseminated pyrrhotite is present totalling <3%. Other minerals include fine tourmaline and flaky, fracture-controlled biotite. This type of mineralization has returned values grading from trace-21.6 g/t gold.

Type 4 mineralization is different than types 1 to 3. This mineralization consists of clotty to semi-massive pyrite and chlorite along both contacts of a quartz vein. There has been shearing along the contacts. The quartz is white and crystalline and has traces of pyrite. The mineralization occurs in quartz-feldspar-biotite schist along the river lineament (TR-3). Assays of the vein have shown up to 1.3 g/t gold and only traces in chip samples. Chlorite and pyrite collected together from both contacts have assayed 21.9 g/t gold.

Other quartz veins not previously mentioned occur in various rock types and locations over the property. So far these veins have had negative results when sampled for gold. All these veins are white and crystalline with varying widths of up to 0.5m. Many of the veins occur in metasedimentary horizons and trend parallel to the host rock. These veins can be folded, boudinaged, and carry traces of pyrite. Veins have been noted that are filling fractures in mafic metavolcanic flows. These fracture-veins prefer orientations that are at right-angles to geological trend and could be related to regional or local E-W structures. Quartz veins of widths <0.5m have been seen in aplite dikes but they are generally void of sulfides and may be fracture controlled. Stockwork systems of veining with associated Fe-carbonate have occasionally been observed in Fe-carbonate altered gabbroic flows.

Fe-carbonate altered zones in gabbroic flows are lens shaped and mostly found east of the river. They may contain quartz stockworks, traces of pyrite and magnetite. No gold has been detected with this mineralization.

Pyrite, pyrrhotite, and rarely magnetite are found in most rock types on the property, particularly schist units. Pyrite forms as stringers along cleavages and fractures, and as disseminations with fine pyrrhotite.

Galena occurs in a quartz vein in the south 1/2 of lot 14, concession XIII (TR-4).

III. DESCRIPTIONS, RESULTS, AND LOCATIONS OF ROCK SAMPLES

During the 1993 exploration program 82 rock samples were collected and analyzed for gold. From the total, 71 were collected within the boundaries of the claim group. The remaining 11 samples were collected on regional prospecting and mapping traverses outside the claim group.

All samples have been collected by R. Dillman of London, Ontario between May 25 to May 28, 1993 and September 17 to October 31, 1993.

All rock samples have been sent to Accurassay Laboratories in Kirkland Lake, Ontario. At the laboratory the samples were assayed for gold using a fire assay/atomic absorption method. The samples were jaw crushed and cone crushed to -10 mesh size. From this fraction a 300 gram split was removed and crushed to the -100 mesh size. For analysis, 30 gm were assayed for gold by fire assay/atomic absorption. 5 of the samples were further analyzed with a 29 element ICAP scan.

Sample descriptions, results, locations, and map reference for each sample are summarized in the following charts. Sample locations within the claim group have been plotted on the 1:2,500 scale geological maps that are appended to this report. Samples collected during regional prospecting traverses are plotted on 1:5,000 scale maps that follow the sampling descriptions. Samples taken during trenching are plotted with results on trench plans accompanying this report. The trench plans are at a scale of 1:100 and 1:50.

SAMPLE No.	CLAIM No., LOT/CONC., GRID COOR., MAP REFER.	SAMPLE TYPE/ WIDTH (metres)	GOLD ppb	DESCRIPTION
69751	1156653, S/2 L.20, C.XVI 37+95N, 0+80E MAP 1C	float, 1.2*1.0*0.5m angular	346	sheared+silicified metasedimentary schist, Tr.-5% py, 5% fine disseminated As
69752	1156653, S/2 L.20, C.XVI 37+95N, 0+80E MAP 1C	float, 1.2*1.0*0.5m angular	287	fine-sugary grey quartz patchy fine-grained As <5%, Tr.-1% py. Same float as 69751.
69753	1194975, S/2 L.19, C.XV 31+88N, 6+30E MAP 1C	grab, 0.4 m	6	quartz + Fe-carbonate alteration in coarse-grained metavolcanic, Tr.-5% coarse py in wallrock, 1% py in vein
69754	1194975, S/2 L.19, C.XV 32+20N, 6+25E MAP 1C	float 0.4*0.4*0.4 m, angular	13	quartz + Fe-carbonate alteration in coarse-grained metavolcanic, Tr.-3% py

SAMPLE No.	CLAIM No., LOT/CONC., GRID COOR., MAP REFER.	SAMPLE TYPE/ WIDTH (metres)	GOLD ppb	DESCRIPTION
69755	L.16, C.XVI, N/2, Figure 4	float 0.6*0.5*0.4 m, angular	14	quartz stringers <5 cm wide metased. schist, Tr. cpy, 1% py, 1% po.
69756	L.16, C.XVI, S/2, Figure 4	grab, 2 m	11	quartz + Fe-carbonate stockwork in brecciated + Fe-carb. altered metavolcanic, possible fault zone, Tr-2% py + magnetite.
69757	1194943, N/2 L.22, C.XVI 47+20N, 0+73W MAP 1C	float, 1.0*1.0*1.0 m, angular	7	quartz + Fe-carbonate clotty chlorite + sericite, 1-3% py
69758	L.24, C.XVII, S/2, Figure 5	float 1.2*0.5*0.4 m, angular	12	quartz blocks, several large pieces, weak Fe-carbonate, weak rust, <1% patchy specular hematite.
69759	1150984, N/2 L.14, C.XII 8+70S, 2+85W MAP 1A	float, 0.4*0.4*0.2 m angular, several pieces.	1760	qtz-feld-biotite schist blue-grey qtz stringers <10 cm wide, ,3% As in veins & wallrock, Tr.-10% py in crosscutting fractures.
69760	1150985, N/2 L.13, C.XII 10+70S, 1+00W MAP 1A	float, 0.3*0.3*0.2 m angular, several pieces.	12	biotite-rich greywacke <10% fine-disseminated py.
69761	1150985, S/2 L.13, C.XII 12+68S, 1+50W MAP 1A	float, 0.6*0.4*0.4m angular, many pieces.	12	metasedimentary schist with 5-10% stringered to disseminated py.
69762	1150985, S/2 L.13, C.XII 13+00S, 3+10W MAP 1A	float, 0.5*0.5*0.3m angular, several pieces.	5	amphibolitized greywack with <5% stringered to disseminated py. Local, sugary qtz veins <10 cm wide.
69763	1150985, S/2 L.13, C.XII 13+42S, 4+80W MAP 1A	float, 6-7 fist-sized pieces.	7	loose quartz on outcrop of greywacke and mafic metavolcanics, rusty quartz, Tr. py.

SAMPLE No.	CLAIM No., LOT/CONC., GRID COOR., MAP REFER.	SAMPLE TYPE/ WIDTH (metres)	GOLD ppb	DESCRIPTION
69764	L.12, C.XII S/2 Figure 6 MAP 1A	float, 0.4*0.4*0.3 m angular, several pieces.	17	rusty mafic metavol. schist, Tr. py metavolcanics, rusty quartz, Tr. py.
69765	L.12, C.XI N/2 Figure 7	grab, 3 m	<5	quartz stringers <5 cm wide with Tr. py and specular hematite.
69766	1150984, N/2 L.14, C.XII 5+02S, 1+75W Map 1A	float, 0.3*0.3*0.2 m subangular	689	quartz stringers <.5 cm wide with Tr.-1% py, Tr. As, in swamp.
69767	1150984, N/2 L.14, C.XII 5+02S, 1+76W MAP 1A	float, 0.2*0.2*0.2 m subrounded	703	silicified metased., wide with Tr.-1% py, Tr. As, in swamp.
69768	L.12, C.X N/2 Figure 8	float, 0.5*0.4*0.2 m angular	489	black metasediment, <1.5 cm wide quartz stringers at random orientations, <10% py, Tr. py.
69769	L.12, C.X N/2 Figure 8	float, 0.5*0.4*0.2 m angular	5	greywacke, qtz vein <5 cm wide, <20% py in wallrock.
69770	L.16, C.XII N/2 Figure 9	float, 0.4*0.3*0.3 m angular, several pieces.	<5	blackish, granular quartz, streaks of magnetite <10%, <5% clotty, coarse py.
69771	L.16, C.XII S/2 Figure 9	rep, 0.15 m	6	rusty, crystalline quartz vein <10 cm cutting strike of wallrock, Tr-10% py
69772	L.16, C.XII S/2 Figure 9	float, 0.5*0.4*0.4 m angular, soft	5	chlorite/amphibolite schist, clotty-sugary calcite, Tr. py.
69773	L.19, C.XIII S/2 Figure 10	float, 1.2*0.5*0.4 m angular	11	greywacke with <5% clotty to stringered py
69774	1194942, N/2 L.22, C.XVI 43+15N, 0+35E MAP 1C	float, 0.2*0.2*0.2 m subrounded	26	quartz + semi-massive tourmaline.

LEGEND
(for figures 4-10)

6 FELSIC INTRUSIVES
- a granite
- b granite or apilite dykes

5 MAFIC INTRUSIVES
- a gabbro
- b diorite

4 FELSIC METAVOLCANICS

3 Fe- CARBONATED ROCK

2 SCHISTS
- a mafic schists
- b sedimentary schists

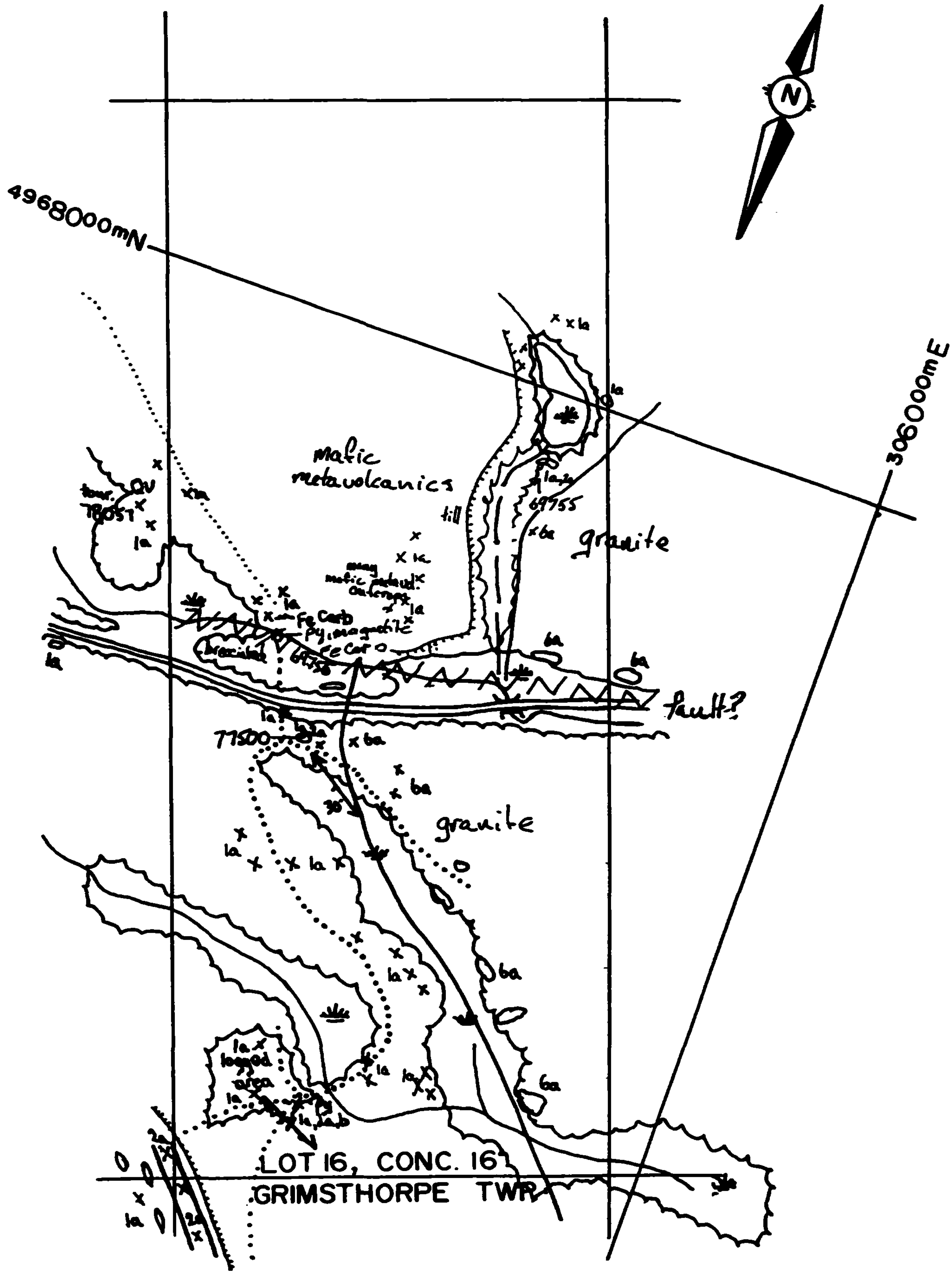
1 MAFIC METAVOLCANICS
- a basalt
- b amphibolitized mafic
- c agglomerate

SYMBOLS

	outcrop
	float
	schistosity
	foliation
	strike & dip
	strike & dip of vein
	contact
	pit
py	pyrite
cpy	chalcopyrite
Qtz	quartz
	scarp, hill top

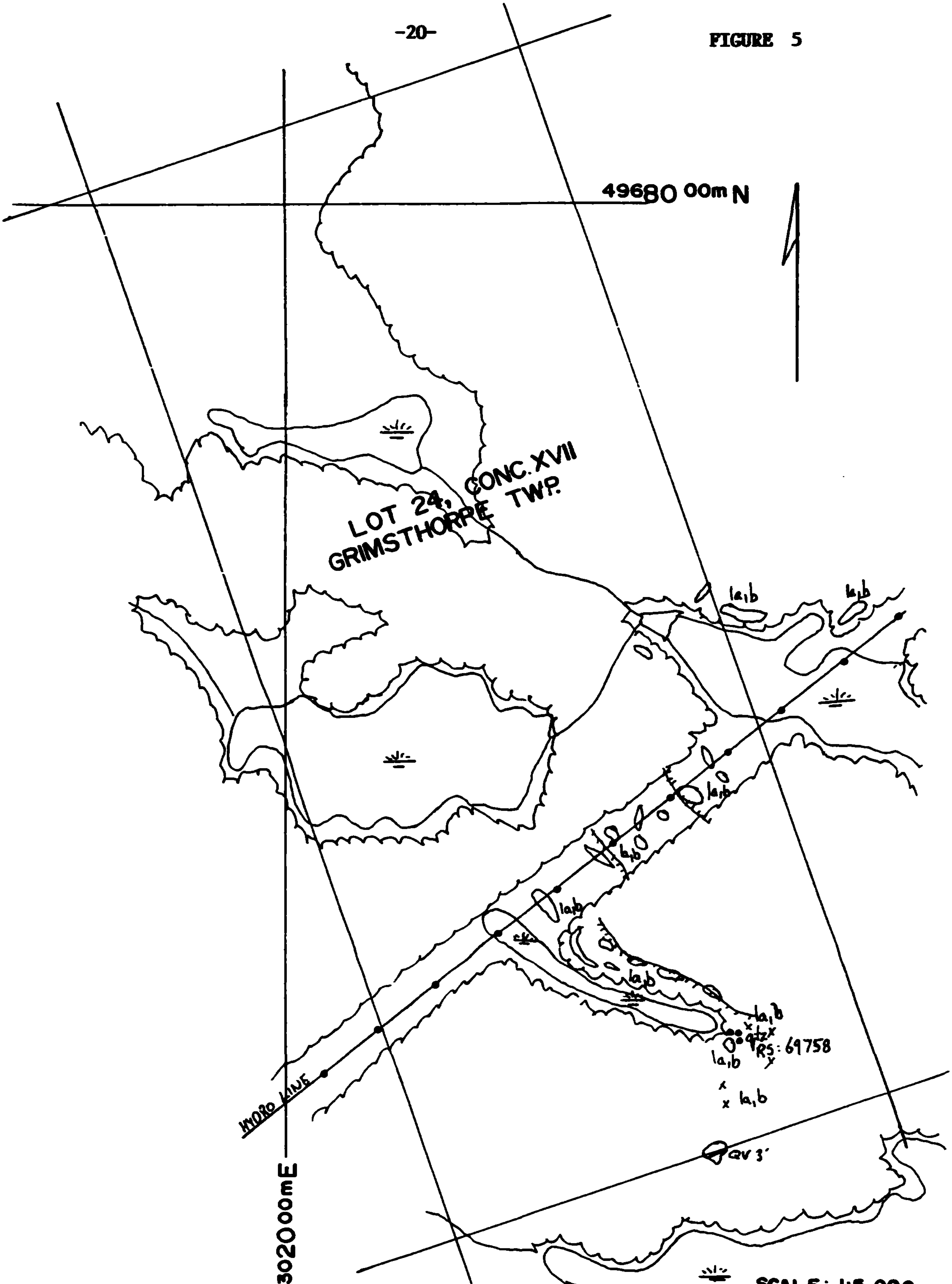
	road
	trail
	cabin
	swamp
	clearing
	VLF conductor
BD	beaver dam
	lake or pond
As	arsenopyrite
mag	magnetite
QV	quartz vein
78111	rock sample number

FIGURE 4



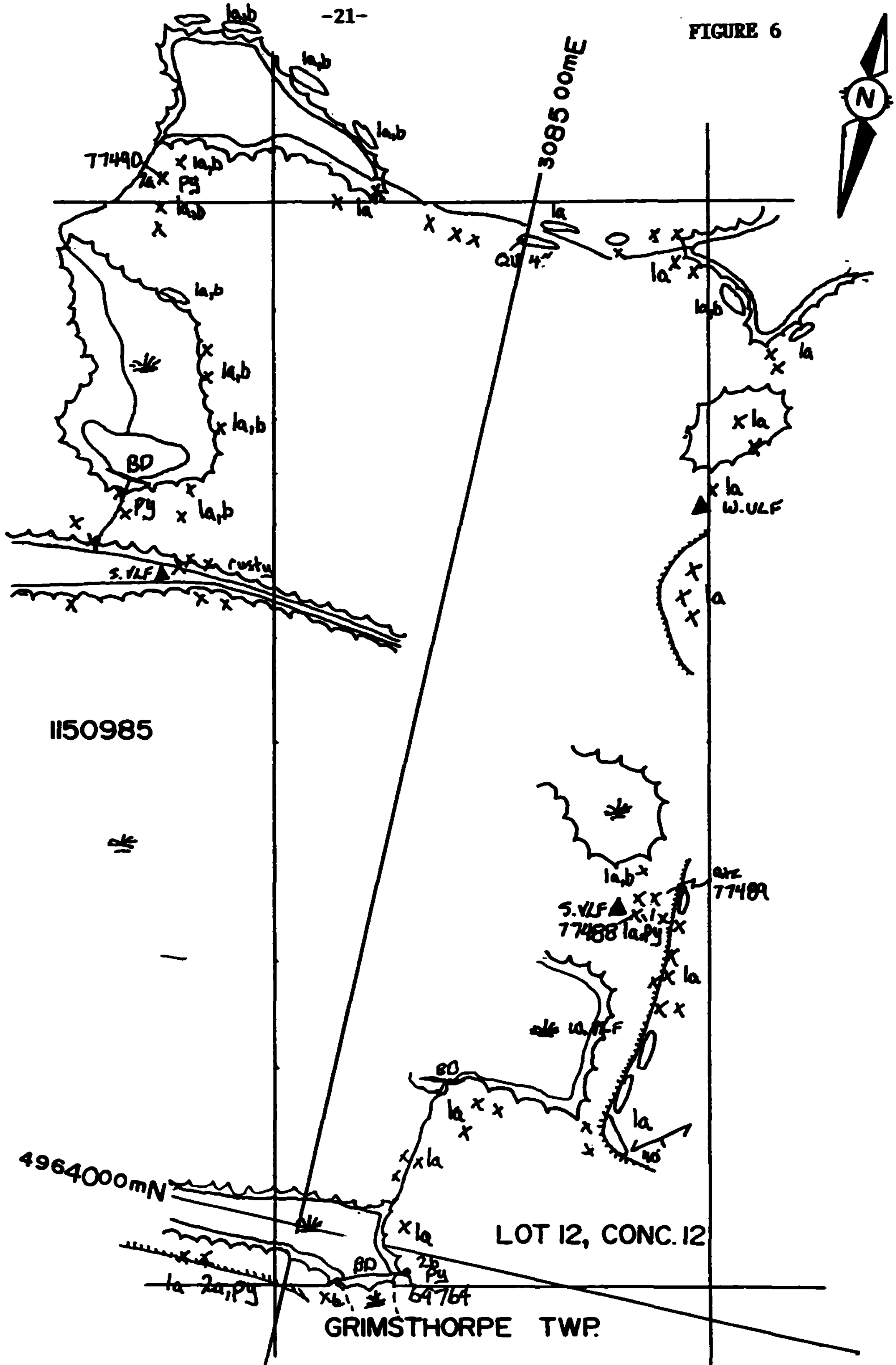
SCALE: 1:5,000

FIGURE 5



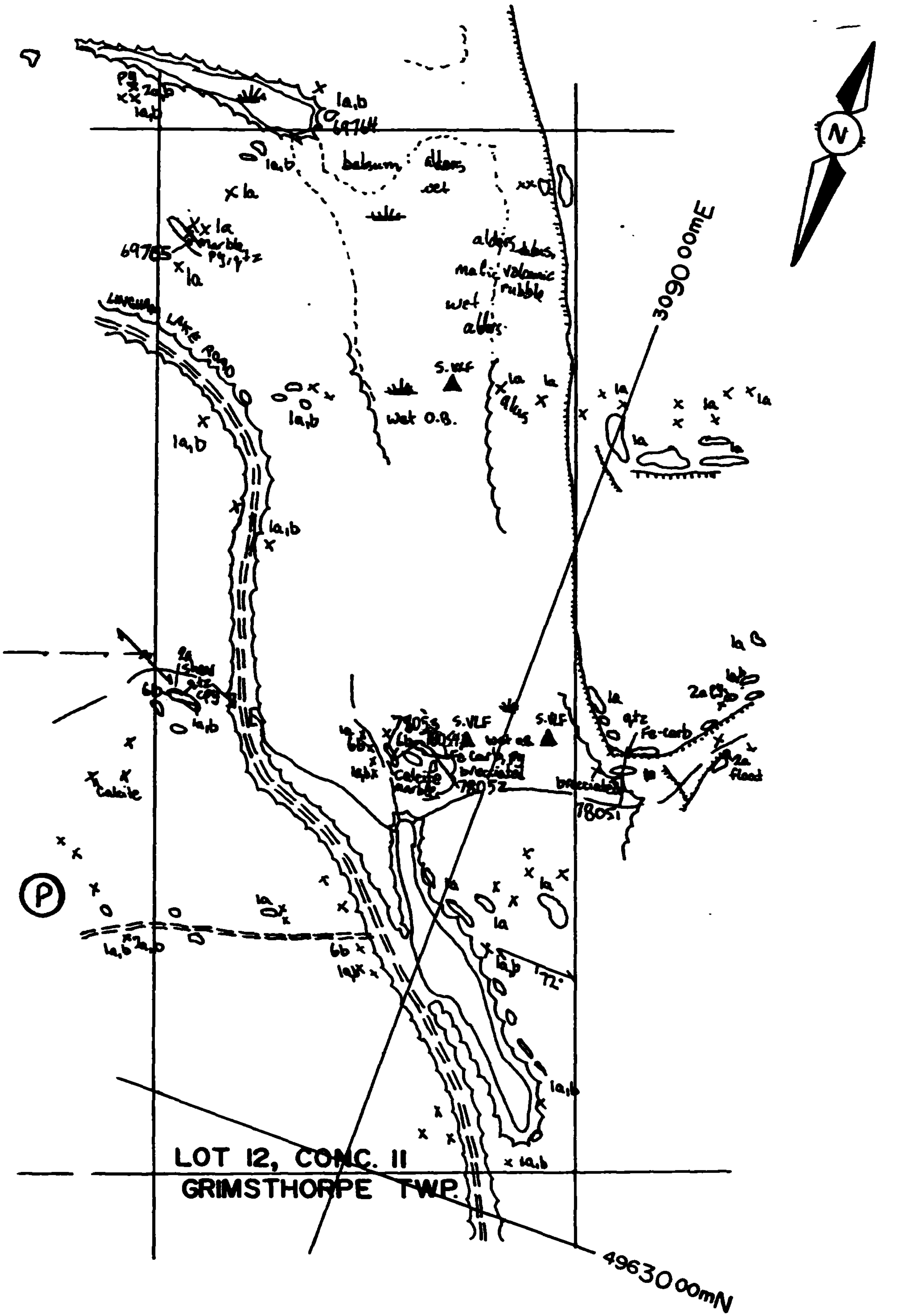
SCALE: 1:5,000

FIGURE 6



SCALE: 1:5,000

FIGURE 7



SCALE: 1:5,000

FIGURE 8

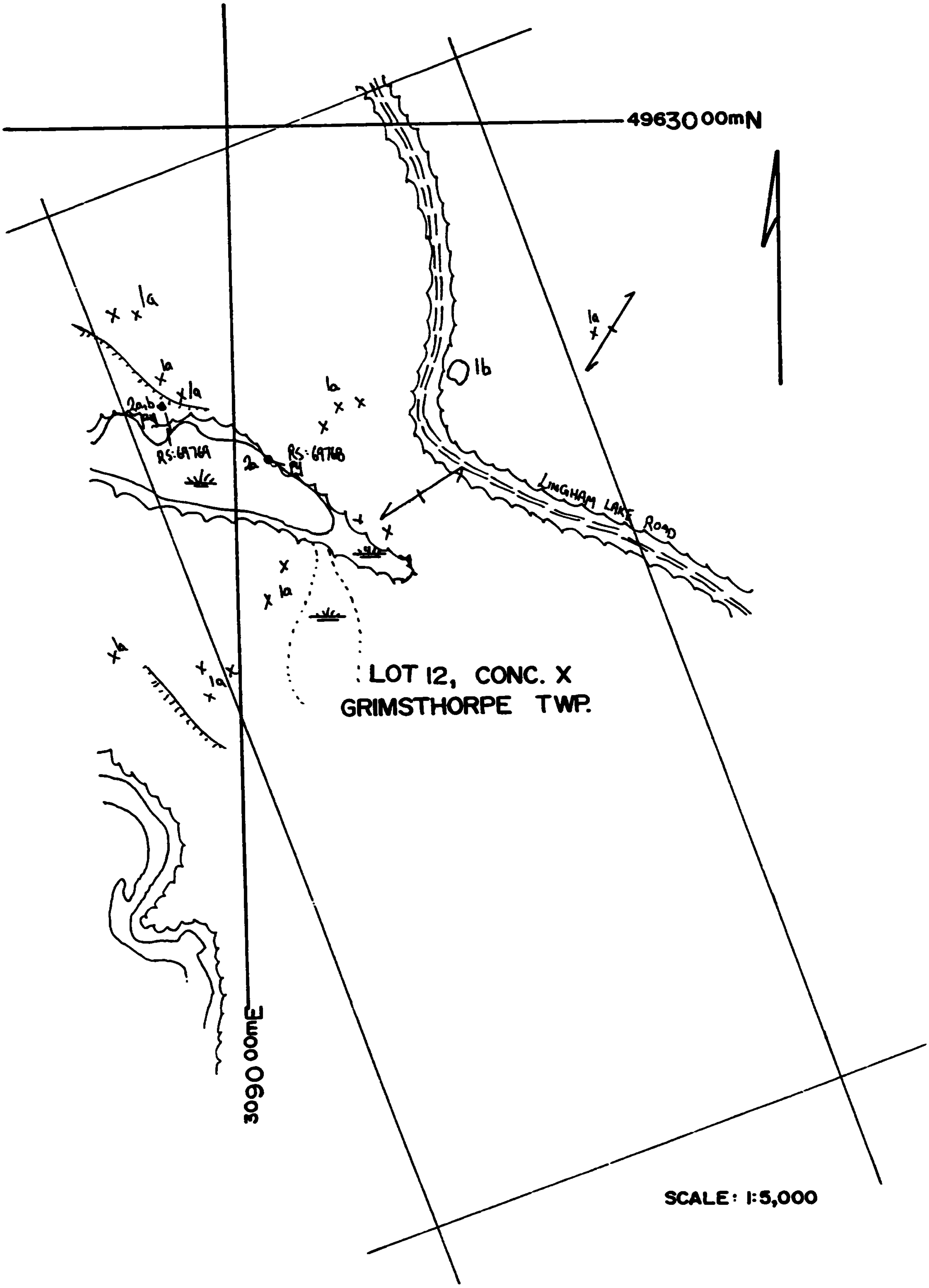
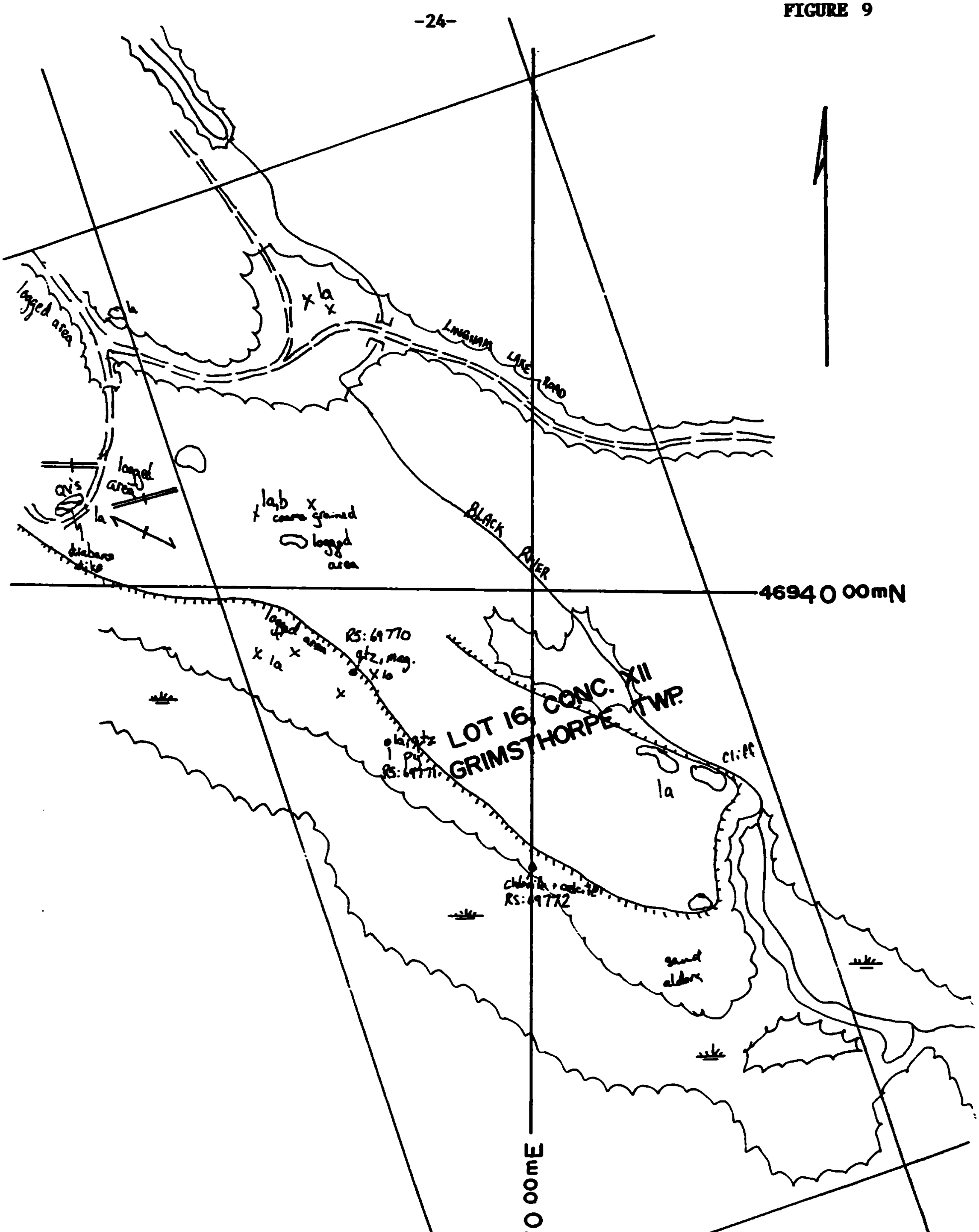
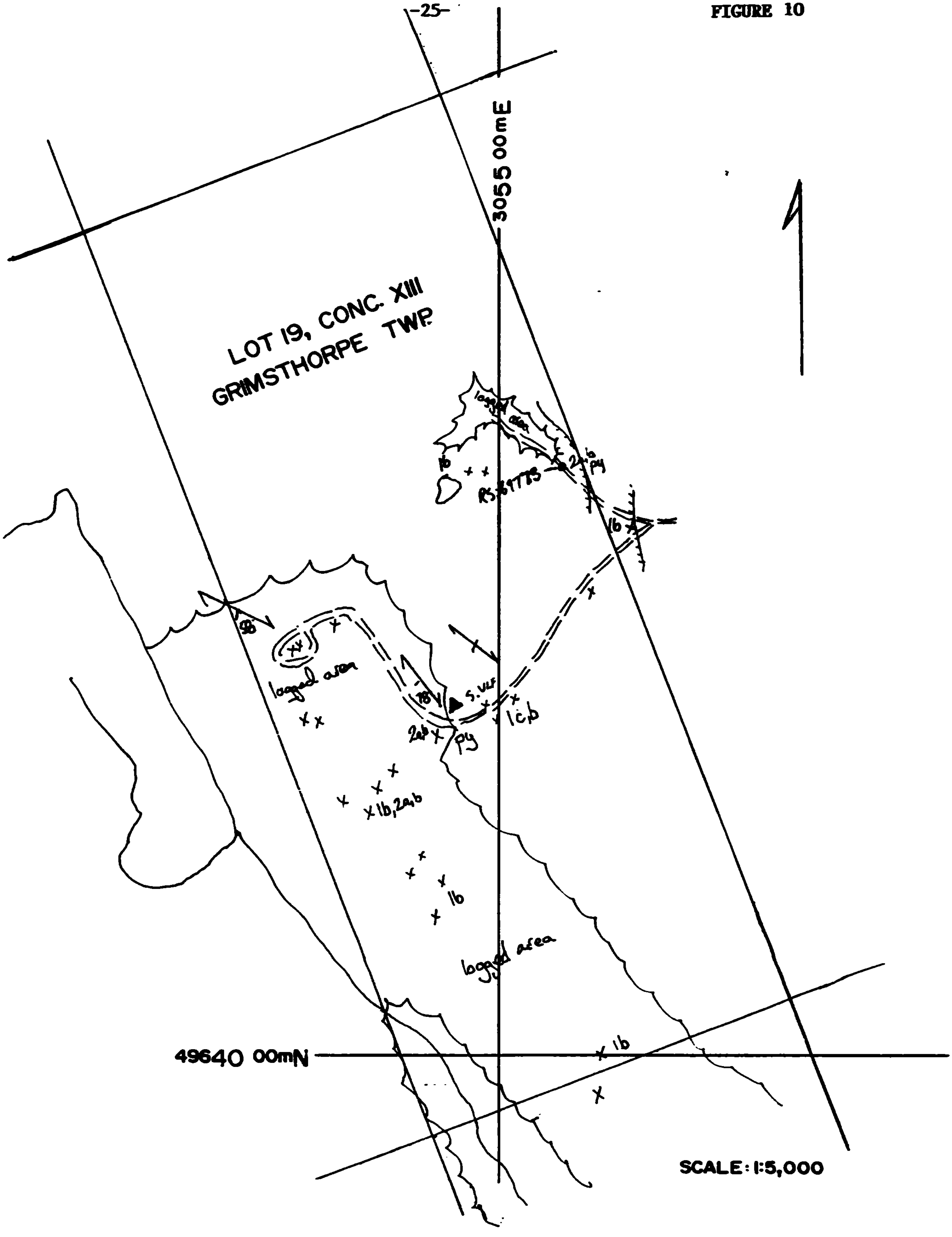

4963000mN
309000mE
LINGHAM LAKE ROAD
RS:69769
RS:69768
1b
LOT 12, CONC. X
GRIMSTHORPE TWP.
SCALE: 1:5,000

FIGURE 9



SCALE: 1:5,000

FIGURE 10


3055 00mE
LOT 19, CONC. XIII
GRIMSTHORPE TWP.
logged area
RS 89785
py
1b
S. VLF
1c,b
2a,b
x 1b, 2a,b
logged area
logged area
49640 00mN
x 1b
SCALE: 1:5,000

SAMPLE No.	CLAIM No., LOT/CONC., GRID COOR., MAP REFER.	SAMPLE TYPE/ WIDTH (metres)	GOLD ppb	DESCRIPTION
69775	1156653, S/2 L.20, C.XVI 36+93N, 0+86E MAP 1C TR-1	float, 0.3*0.3*0.3 m angular, several pieces.	19	quartz, crystalline, rusty, 5-10% py.
69701	1156653, S/2 L.20, C.XVI 36+96N, 0+80E MAP 1C TR-1	float, 0.3*0.2*0.2 m subangular	178	white-rusty quartz with fragments of wallrock, 2-3% As, mineralization not located in trench.
69702	1156653, S/2 L.20, C.XVI 36+96N, 0+80E MAP 1C TR-1	float, many small pieces	57	rusty-red, granular quartz, mineralization not located in trench.
69703	1156653, S/2 L.20, C.XVI 36+76N, 0+78E MAP 1C TR-1	chips, 0.2 m	699	sheared metasedimentary /dike contact with <1cm wide sugary-grey quartz stringers, <10% py in stringers.
69704	1156653, S/2 L.20, C.XVI 36+76N, 0+78E MAP 1C TR-1	chips, 0.15 m	2065	greyish-blue, fine-grained, sugary quartz, <40% As in semimassive bands.
69705	1156653, S/2 L.20, C.XVI 34+72N, 0+08W MAP 1C TR-2	chips, 0.25 m	1620	greyish-blue, fine-grained, sugary quartz, surrounding fragments metasedimentary rock, 15% As in quartz.
69706	1156653, S/2 L.20, C.XVI 36+95N, 0+79E MAP 1C TR-1	chips, 0.3 m	1238	sheared metased/dike contact, sugary quartz lenses <5cm wide, 1-10% clotty-disseminated py, biotite along fractures
69707	1156653, S/2 L.20, C.XVI 36+95N, 0+77E MAP 1C TR-1	chips, 0.25 m	921	sheared metased/dike contact, silicified, well foliated, Tr-5% py, Tr-15% clotty As.
69708	1156653, S/2 L.20, C.XVI 36+95N, 0+81E MAP 1C TR-1	chips, 0.5 m	108	biotite/muscovite filled fracture, weak Fe-carbonate alteration fracture cuts schist, very soft rock.

SAMPLE No.	CLAIM No., LOT/CONC., GRID COOR., MAP REFER.	SAMPLE TYPE/ WIDTH (metres)	GOLD ppb	DESCRIPTION
69709	1156654, S/2 L.20, C.XVI 21+93N, 0+50E MAP 1B	rep, 1.2 m	30	greywacke with Tr-20% stringered py.
69710	1156654, S/2 L.20, C.XVI 22+90N, 0+20E MAP 1B	float, 1.2*1.0*0.3 m subangular	157	rusty, sheared meta-sediment with minor quartz stringers <3cm wide, muscovite clots,
69711	1194942, N/2 L.21, C.XVI 39+70N, 2+10E MAP 1C	float, 0.4*0.3*0.1 m angular	14	brecciated mafic meta-volcanic with fine-grained, Fe-carbonate altered matrix, Tr. py
69712	1194942, N/2 L.21, C.XVI 39+40N, 1+70E MAP 1C	float, 0.3*0.3*0.3 m subangular	13	qtz-feld-biotite schist + quartz stringers <3cm wide, 3-5% clotty py.
69713	1156654, S/2 L.18, C.XV 22+75N, 1+95E MAP 1B	rep. 1.0 m	19	amphibolite-rich mafic metavolcanic with rusty crystalline quartz stringers <1cm wide, Tr. py.
69714	1194942, N/2 L.21, C.XVI 41+30N, 0+90W MAP 1C	float, 0.4*0.4*0.4 m angular, several pieces.	246	sugary, medium-grained quartz filled fractures in mafic metavolcanics, grey-white quartz, 15% py.
69715	1194943, S/2 L.22, C.XVI 41+08N, 4+40W MAP 1C	grab, 2.0 m	13	metasediment with weak shear related quartz, <5% py in wallrock + quartz.
69716	1194943, S/2 L.22, C.XVI 41+10N, 5+68W MAP 1C	grab, 2.0 m	18	siliceous magnetite-rich metasediment, sugary textured, 30% semimassive bands of magnetite.
69717	1194943, S/2 L.22, C.XVI 42+08N, 5+45W MAP 1C	grab, 0.7 m	10	chlorite/biotite-rich metavolcanic cut by <2cm wide, white quartz veins, Tr. py.
69718	1194943, N/2 L.22, C.XVI 42+25N, 1+68W MAP 1C	grab, 0.4 m	13	metasediment with 10 cm wide qtz vein, <5% py. vein, moderate Fe-carb. along contacts.

SAMPLE No.	CLAIM No., LOT/CONC., GRID COOR., MAP REFER.	SAMPLE TYPE/ WIDTH (metres)	GOLD ppb	DESCRIPTION
69719	1156654, S/2 L.18, C.XV 22+22N, 1+70E MAP 1B, TR-3	chip. 0.15 m	3609	rusty, strongly sheared mafic metavolcanic?, moderately chloritized, <5% quartz nodules, Tr. py.
69720	1156654, S/2 L.18, C.XV 22+22N, 1+70E MAP 1B, TR-3	chip. 0.15 m	4010	rusty, strongly sheared mafic metavolcanic?, moderately chloritized, <5% quartz nodules, Tr. py, adjacent to 69719.
69721	1156654, S/2 L.18, C.XV 22+22N, 1+70E MAP 1B, TR-3	chip. 0.15 m	4208	rusty, strongly sheared mafic metavolcanic?, moderately chloritized, material against quartz vein, clotty chlorite with quartz nodules, <5% py, adjacent to 69720.
69722	1156654, S/2 L.18, C.XV 22+22N, 1+71E MAP 1B, TR-3	chip. 1.0 m	334	rusty, crystalline quartz vein in shear, local clotty py and weathered vugs, Tr-5% py.
69723	1156654, S/2 L.18, C.XV 22+22N, 1+71E MAP 1B, TR-3	chip. 0.2 m	1729	very sheared and gossaned mafic meta-volcanic against vein, clots of chlorite with quartz stringers, muscovite along fractures, <10% coarse clotty py.
69724	1156654, S/2 L.18, C.XV 22+22N, 1+71E MAP 1B, TR-3	chip. 0.15 m	38	mafic metavolcanic cut by quartz stringers <3 cm wide, associated clots of chlorite, strong Fe-carbonate alteration, Tr. py.
69725	1156654, S/2 L.18, C.XV 22+20N, 1+70E MAP 1B, TR-3	chip. 0.3 m	1196	sheared mafic meta-volcanic rock against quartz vein, strong Fe-carb. alteration, clots of chlorite + quartz stringers, clotty py <5%.

SAMPLE No.	CLAIM No., LOT/CONC., GRID COOR., MAP REFER.	SAMPLE TYPE/ WIDTH (metres)	GOLD ppb	DESCRIPTION
16901	1156654, S/2 L.18, C.XV 22+20N, 1+70E MAP 1B, TR-3	chip. 0.3 m	268	sheared mafic meta-volcanic rock against quartz vein, strong Fe-carb. + chlorite alteration.
16902	1156654, S/2 L.18, C.XV 22+20N, 1+69E MAP 1B, TR-3	chip. 0.2 m	577	sheared mafic meta-volcanic rock against quartz vein, strong Fe-carb. + chlorite alteration, very gossaned, <10% clotty py.
16903	1194943, N/2 L.22, C.XVI 45+05N, 0+27W MAP 1C	grab, 2.0 m	6	Fe-carb. + quartz in sheared greywacke, patchy chlorite, <5% disseminated py with Fe-carb. alteration.
16904	1194943, N/2 L.22, C.XVI 45+05N, 0+27W MAP 1C	rep., 0.25 m	<5	quartz/ankerite vein 25 cm wide filling shear in greywacke, <3% patchy py in qtz.
16905	1194942, N/2 L.21, C.XVI 41+20N, 2+23E MAP 1C	float, 0.5*0.4*0.4 m subrounded, in ditch.	19	mafic metavolcanic with thin quartz stringers + lenses, 5-30% fine-disseminated + stringered py, Tr. po, Tr. cpy.
16906	1194942, N/2 L.21, C.XVI 41+20N, 2+23E MAP 1C	float, 0.8*0.5*0.4 m angular	106	white, crystalline quartz + Fe-carbonate, rusty along fractures, <2% fine py.
16907	1194942, N/2 L.21, C.XVI 41+02N, 0+92E MAP 1C	float, 0.2*0.2*0.1 m angular	43	white, crystalline quartz, <3% patchy py, Tr. native copper.
16908	1194973, S/2 L.16, C.XIV 10+80N, 0+60E MAP 1A	float, 0.1*0.1*0.1 m angular, many small pieces.	263	rusty quartz with many weathered sulphide vugs, <20% py?
16909	1156653, S/2 L.20, C.XVI 34+71N, 0+07W MAP 1C, TR-2	rep., 0.7 m	126	rusty + weak fractured metasedimentary schist, <15% patchy to stringered py, white quartz vein <5cm wide with 30-60% py.

SAMPLE No.	CLAIM No., LOT/CONC., GRID COOR., MAP REFER.	SAMPLE TYPE/ WIDTH (metres)	GOLD ppb	DESCRIPTION
16910	1156653, S/2 L.20, C.XVI 34+71N, 0+07W MAP 1C, TR-2	rep., 0.3 m	8	sheared muscovite/ biotite with <10cm wide white, muscovite-rich quartz vein, Tr. py.
16911	1156653, S/2 L.20, C.XVI 34+71N, 0+07W MAP 1C, TR-2	rep., 0.15 m	44	sheared muscovite/ biotite contacting with grey-blue quartz vein, rusty, Tr. py.
16912	1156653, S/2 L.20, C.XVI 34+71N, 0+07W MAP 1C, TR-2	rep., 0.2 m	2703	blue-grey, fine-grained sugary quartz vein with fragments of wallrock, 5% As.
16913	1156653, S/2 L.20, C.XVI 34+71N, 0+08W MAP 1C, TR-2	rep., 0.2 m	6218	sugary quartz + sheared contact with metased., strong silicification to wallrock, 10% py, <5% As.
16914	1156653, S/2 L.20, C.XVI 34+71N, 0+08W MAP 1C, TR-2	rep., 1.0 m	342	fine-grained metased., minor shear planes, strong silicification to wallrock, 10% py, <5% As.
16915	1150984, S/2 L.14, C.XIII 3+89S, 1+20W MAP 1A, TR-4	rep., 0.5 m	345	fine-grained metased., cut by <15cm mafic dike thin layer of chlorite/ biotite along fractures and cleavages, Tr.-5% stringered to dissem. py.
16916	1150984, S/2 L.14, C.XIII 3+89S, 1+20W MAP 1A, TR-4	rep., 0.3 m	25	strongly sheared chlorite/biotite schist very soft rock, weak Fe carbonate alteration, rusty nodules <1cm wide
16917	1150984, S/2 L.14, C.XIII 3+89S, 1+21W MAP 1A, TR-4	rep., 0.2 m	1485 170 g/t Ag 970 g/t Pb 2300 g/t Zn	white to red medium- quartz, granular, <30% As in <1cm wide bands, intermingled py <5%, Tr. fine galena, Tr. sphalerite?.
16918	1150984, S/2 L.14, C.XIII 3+89S, 1+21W MAP 1A, TR-4	rep., 0.1 m	445 12 g/t Ag 90 g/t Pb 200 g/t Zn	very gossaned + sheared mica-filled seam within quartz vein, Tr. py, Tr. As, gossaned vugs.

SAMPLE No.	CLAIM No., LOT/CONC., GRID COOR., MAP REFER.	SAMPLE TYPE/ WIDTH (metres)	GOLD ppb	DESCRIPTION
16919	1150984, S/2 L.14, C.XIII 3+89S, 1+21W MAP 1A, TR-4	rep., 0.25 m	990 13 g/t Ag 120 g/t Pb 240 g/t Zn	contact of metasediment + vein, 50% qtz, <2% chlorite in contact, qtz is layered by 20% As/py, Tr. galena.
16920	1150984, S/2 L.14, C.XIII 3+89S, 1+21W MAP 1A, TR-4	rep., 0.3 m	16	weakly sheared + silicified metasediment, <5% patchy/stringered py.
16921	1150984, S/2 L.14, C.XIII 3+89S, 1+21W MAP 1A, TR-4	grab, from rubble pile.	1792	rusty red, granular qtz well mineralized with As and py
16922	1150984, S/2 L.14, C.XIII 5+50S, 1+75W MAP 1A, TR-5	rep., 0.1 m	7366	shear zone cutting schistosity of metased, strong foliation, <2cm wide quartz/As vein in shear.
16923	1150984, S/2 L.14, C.XIII 5+50S, 1+75W MAP 1A, TR-5	rep., 0.3 m	256	metasedimentary 'wedge' between shears, 1-3% clotty to stringered py over width, Tr-5% As in a well foliated zone <10cm wide against chl/ biotite shear.
16924	1150984, S/2 L.14, C.XIII 5+50S, 1+75W MAP 1A, TR-5	rep., 0.45 m	185	shear zone with chl/bio muscovite, weak Fe-carb shear trends same metasediments, quartz vein a well foliated zone 10cm wide in shear.
16925	1150984, S/2 L.14, C.XIII 5+50S, 1+75W MAP 1A, TR-5	rep., 0.1 m	1792	quartz vein, white, crystalline, well mineralized with <20% fine muscovite.
16926	1150984, S/2 L.14, C.XIII 5+50S, 1+74W MAP 1A, TR-5	rep., 1.1 m	8	fractured metased, fine hornblende, chl/ bio/musc. in fractures, weak Fe-carb, Tr. py.
16927	1150984, S/2 L.14, C.XIII 4+50S, 1+62W MAP 1A	float, 0.3*0.3*0.3 m angular, several pieces.	8	white to rusty quartz, crystalline, 40% fine tourmaline.

SAMPLE No.	CLAIM No., LOT/CONC., GRID COOR., MAP REFER.	SAMPLE TYPE/ WIDTH (metres)	GOLD ppb	DESCRIPTION
16928	1150984, S/2 L.14, C.XII 7+75S, 2+27W MAP 1A, TR-6	rep., 0.35 m	626	sugary-wispy quartz vein fragments in meta-sediment, zone cut by mafic dike, <10% py in disseminated to clotty fracture-controlled.
16929	1150984, S/2 L.14, C.XII 7+75S, 2+27W MAP 1A, TR-6	rep., 2.5 m	57	metasediment schist, occasional fracture or stringer of py.
16930	1156653, S/2 L.20, C.XVI 34+71N, 0+08W MAP 1C, TR-2	grab, from rubble pile.	18,178	sugary, rusty-red quartz, type not seen in trench, 30% As.
16931	1156653, S/2 L.20, C.XVI 34+71N, 0+08W MAP 1C, TR-2	grab, 0.4 m	15	selected sample of mica-rich shear in trench, rusty.
16932	1156653, S/2 L.20, C.XVI 34+71N, 0+08W MAP 1C, TR-2	rep., 0.1 m	108	white, crystalline quartz vein in mica rich shear, <20% fine muscovite in quartz.

IV. DESCRIPTION OF TRENCHING AND GOLD OCCURRENCES

During September and October of 1993, 5 new trenches were dug and 2 previously constructed trenches were expanded on several of the gold occurrences on the property. The locations, plans and assay results of this work are appended to this report. The plans are at a scale of 1:100 or 1:50.

BLACK RIVER NORTH ZONE
LOT 20, CONC. XVI, S.1/2
SO1156653
36+54N, 0+70E TO 36+94N, 0+82E
TR-1, MAP 1C

Four trenches follow a fine-grained felsic dike over a distance of 40 m. The dike trends N25°W and only slightly cuts the schistosity of surrounding greywacke. The dike dips 58-68° W and is up to 1.5 m wide. The surrounding metasediments trend N35° W and dip SE at 50-63°.

Metasediments within 0.5 m on either side of the dike are weak to

Several phases of quartz veining are exposed in the trenches:

1.] Medium-grained sugary quartz along the dike/metasediment contact. The vein is pinched and swelled along strike and is not present in every trench. It is well-mineralized with arsenopyrite and contains angular fragments of metasediment wallrock. Samples of the vein have returned 4.5 g/t Au/0.55 m and 56.8 g/t Au in a grab sample.

2.] Fine-grained, blue-grey quartz mineralized with arsenopyrite and pyrite in sheared greywacke along the contact. This type of quartz can be in the form of a distinct vein or as stringers and silicification associated with the shearing. Samples taken of this type of quartz in vein-form returned 921 ppb Au/0.25 m and a sample of silicification with chlorite and shearing along the contact showed 1238 ppb Au/0.3 m.

3.] White-crystalline, pyrite-bearing quartz veins in the metasediments. These veins are boudined along strike. Samples of this quartz did not show any gold.

4.] White-crystalline, muscovite-rich quartz confined to the felsic dike. No gold was detected when sampled.

A biotite-muscovite filled fracture of unknown relationship is exposed in the most northern trench and is cut be the dike. This structure returned low values of 108 ppb Au/0.5 m.

BLACK RIVER NORTH BOULDER OCCURRENCE
LOT 20, CONC. XVI, S.1/2
S01156653
37+87N, 1+05E TO 37+95N, 1+03E
MAP 1C

Prospecting in 1992 led to the discovery of approximately 12 various-sized boulders in glacial drift very close to a flooded section of the Black River. The boulders are angular to subangular and up to 1.0*0.5*0.3 m in dimension. They consist of sugary and grey to blue-smoky quartz veins and silicification in greywacke and related sediments. The quartz and alteration is well-mineralized by arsenopyrite and pyrite and is very similar in appearance to mineralization exposed in the trenches at the Black River North Zone. 7 samples have been taken from some of the float and results range from 287 ppb Au to 3059 ppb Au. An attempt to trench the area was abandoned because of water seepage.

Another piece of float of identical mineralization was found at 39+40N, 1+75E. The piece also occurs in glacial moraine-type tills. A sample of the float assayed 1644 ppb Au (Dillman, 1992).

The float occurrences give evidence that mineralization found at the Black River North Zone may extend 250 m north. This is supported by the results of soil sampling and the trend of rock units in the area.

CHRISTIE ZONE
LOT 20, CONC. XVI S.1/2
SO1156653
34+62N, 0+10W TO 34+87N, 0+11W
TR-2, MAP 1C

Two trenches 15 m apart expose several shears up to 1 m wide in greywacke and argillaceous metasediments. The shears trend between 80-120° and dip from 60°S to vertical. Surrounding wallrock trends 80-135° and dip south to southwest at 30-62°.

The Christie Zone is similar to the Black River North Zone although no felsic dikes have been observed. Sheared metasediments are fractured or jointed, veined, silicified and chlorite has developed on cleavages. Fine biotite and muscovite occur with the shearing.

There are several types of quartz in the trenches:

1.] Fine-grained sugary quartz mineralized with arsenopyrite. This type of vein is only exposed in the southeast trench but it is very similar in texture to the type 1 quartz found at the Black River North Zone. A chip sample of the vein exposed in the southeast trench assayed 2.7 g/t Au/0.3 m. A grab sample of a loose piece of similar quartz found during trenching assayed 18.1 g/t Au.

2.] Fine-grained, sugary to crystalline, grey-white quartz forming as veinlets and matrix material around fragments of wallrock. This type of quartz also occurs as silicification in the sheared wallrock surrounding the veins. The quartz is well-mineralized with arsenopyrite and weaker pyrite. 2 samples of the breccia-vein material from each trench assayed 1.6 g/t Au/0.2 m and 6.2 g/t Au/0.2 m. Samples of 2 parallel shears in the north trench that show weak to moderate silicification, chlorite and arsenopyrite assayed 1263 ppb Au/0.8 m and 1225 ppb Au/0.6 m.

3.] White, crystalline quartz well-mineralized with fine muscovite. This type of quartz is associated with mica-rich rock found with shearing in the south trench. This mica-rich rock is composed of fine muscovite, chlorite and weak biotite. It is a very soft rock, greasy on a dry surface and in some respects, similar to talc. 3 samples of the quartz and surrounding rock assayed less than 44 ppb Au.

The Christie Zone occurs on a strong magnetic anomaly and coincident VLF crossover. The trend of the geophysical response has been traced 550 m. Soil samples taken along the trend show elevated levels of gold in soils directly over the geophysical responses.

BLACK RIVER SOUTH ZONE
LOT 19, CONC. XV, N.1/2
LOT 20, CONC. XVI, S.1/2
SO1156653
30+00N, 0+75E TO 33+50N, 0+80E
MAP 1C

Gold is associated with arsenopyrite in grey to white fracture-related quartz veining, silicification and shearing exposed in several outcrops over a distance of 350 m along the Black River. These outcrops consist of NW trending, SW dipping quartz-feldspar-biotite rich greywacke and argillaceous metasediments. Fine-grained felsic dikes and fine-grained mafic dikes have intruded parallel to schistosity. The dikes appear to post-date gold-bearing mineralization.

The mineralization in this zone is similar to other gold occurrences in the area. No trenching has been preformed on this zone nor has it been tested by soil sampling. Geophysics defines a 450 m long mag/VLF target coincident with gold-bearing outcrops.

Samples of the outcrops have shown low gold values. The best chip sample of quartz assayed 847 ppb Au/1.0 m (Dillman, 1991). A grab sample by Christie (1992) assayed 1201 ppb Au and a similar sample taken 150 m along strike assayed 1097 ppb Au/ 0.35 m (Dillman, 1992).

GOPHER ZONE
LOT 18, CONC. XV, S1/2
SO1156654
22+20N, 1+60E
TR-3, MAP 1B, FIGURE'S 11, 12 & 13

A pit exposes a white, crystalline quartz vein in mafic metavolcanic rocks (Figure 11). The vein strikes N3°E, dips 66E and cuts the surrounding NW trend of geology. It is up to 1.0 m wide and is broken and offset along joint plains thus, giving the vein a blocky appearance. The joints trend N60°W, dip vertically. They possibly represent the last phase of structural movement.

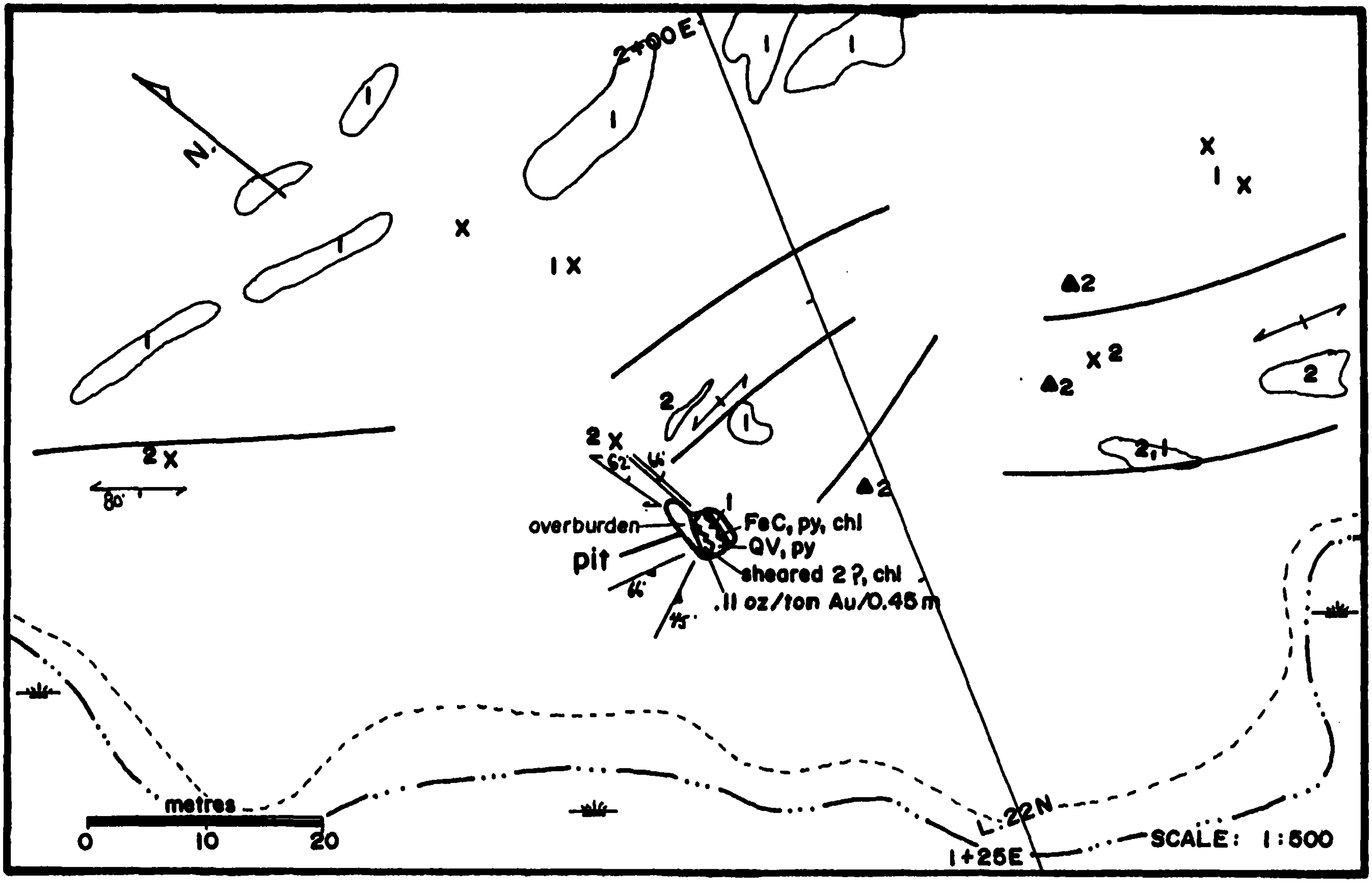
Wallrock along the sides of the vein is mineralized by clotty chlorite, pyrite, thin stringers and blebs of quartz and weak to moderate Fe-carbonate alteration. Jointing also cuts the sheared wallrock.

Gold appears to be associated with the shearing and alteration within the wallrock rather than the vein. 3 consecutive samples of the sheared wallrock along the west contact averaged 3.9 g/t Au/0.45 m. A grab sample also taken from this contact assayed 21.9 g/ t Au. A sample of the contact on the opposite side of the vein assayed 1729 ppb Au/0.2 m. One sample of the vein showed 334 ppb Au/1.0 m.

A detailed magnetic survey established that the pit is situated on a circular-shaped magnetic low although the low is next to an oddly-shaped magnetic high (Figure 12). The anomalies were detected over both metasedimentary rocks and mafic metavolcanics. No explanation for anomalous readings could be explained in the field but it is possible the outline of magnetics is a result of folding and/or faulting.

Soil samples were collected over the area surrounding the pit (Figure 13). Soil samples taken 10 m directly on strike with the vein returned anomalous gold values up to 3x background (assumed to be <5 ppb Au). The sampling also defined a second anomaly trending for 55 m SE from the pit. This anomaly coincides with the trend of anomalous magnetic readings and may following the metavolcanic/metasedimentary contact. The strongest value detected in the soil anomaly is 50 ppb Au and occurs a magnetic environment similar to that detected at the pit.

FIGURE 11



GEOLOGY: GOPHER ZONE

2	GREYWACKE				
1	COARSE-GRAINED MAFIC METAVOLCANIC FLOW				
QV	QUARTZ VEIN	80°	SCHISTOSITY	Au	GOLD
66°	STRIKE + DIP OF VEIN	45°	JOINTING	FeC	Fe-CARBONATE ALTERATION
py	PYRITE	chl	CHLORITE	▲	FLOAT

FIGURE 12

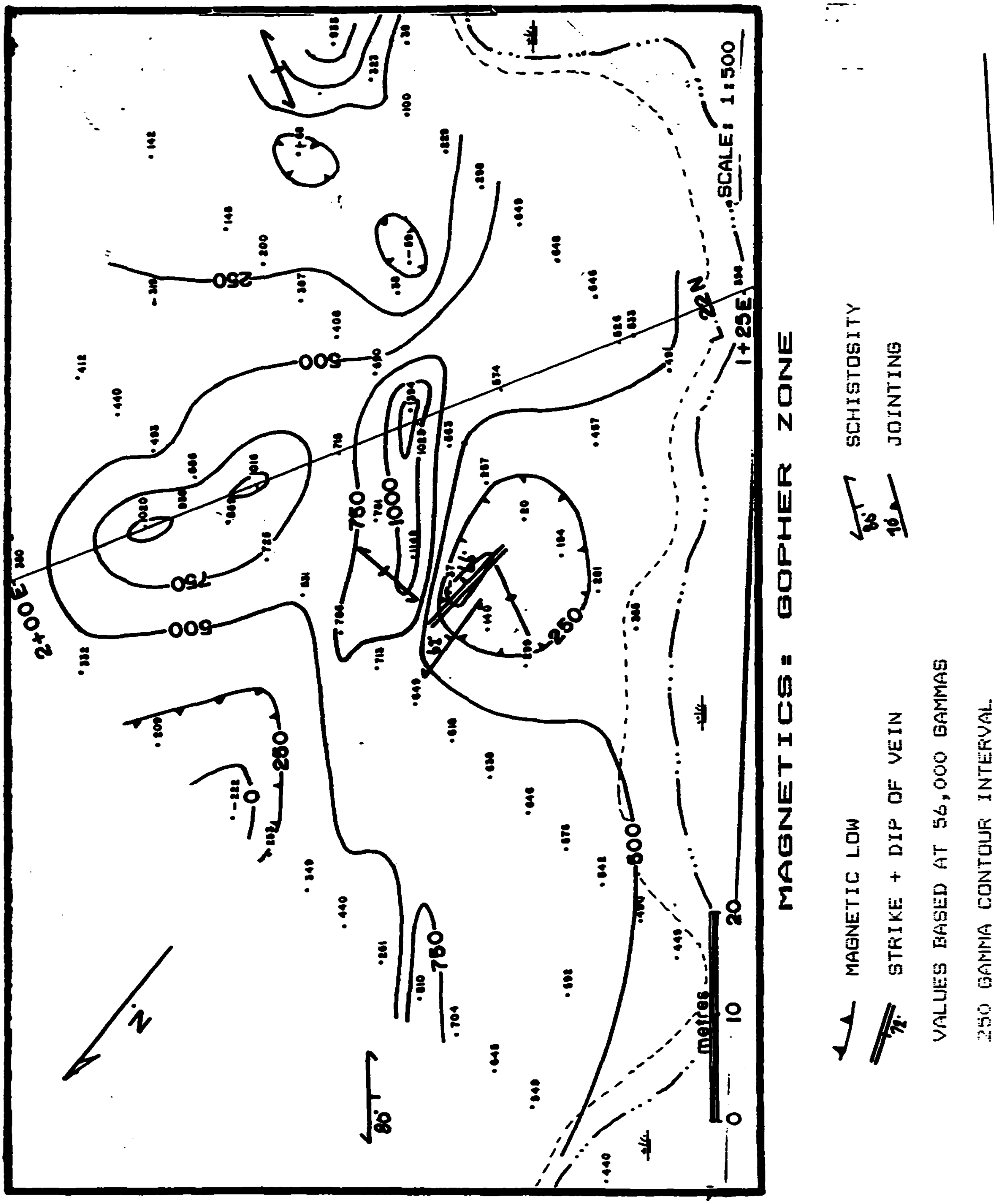
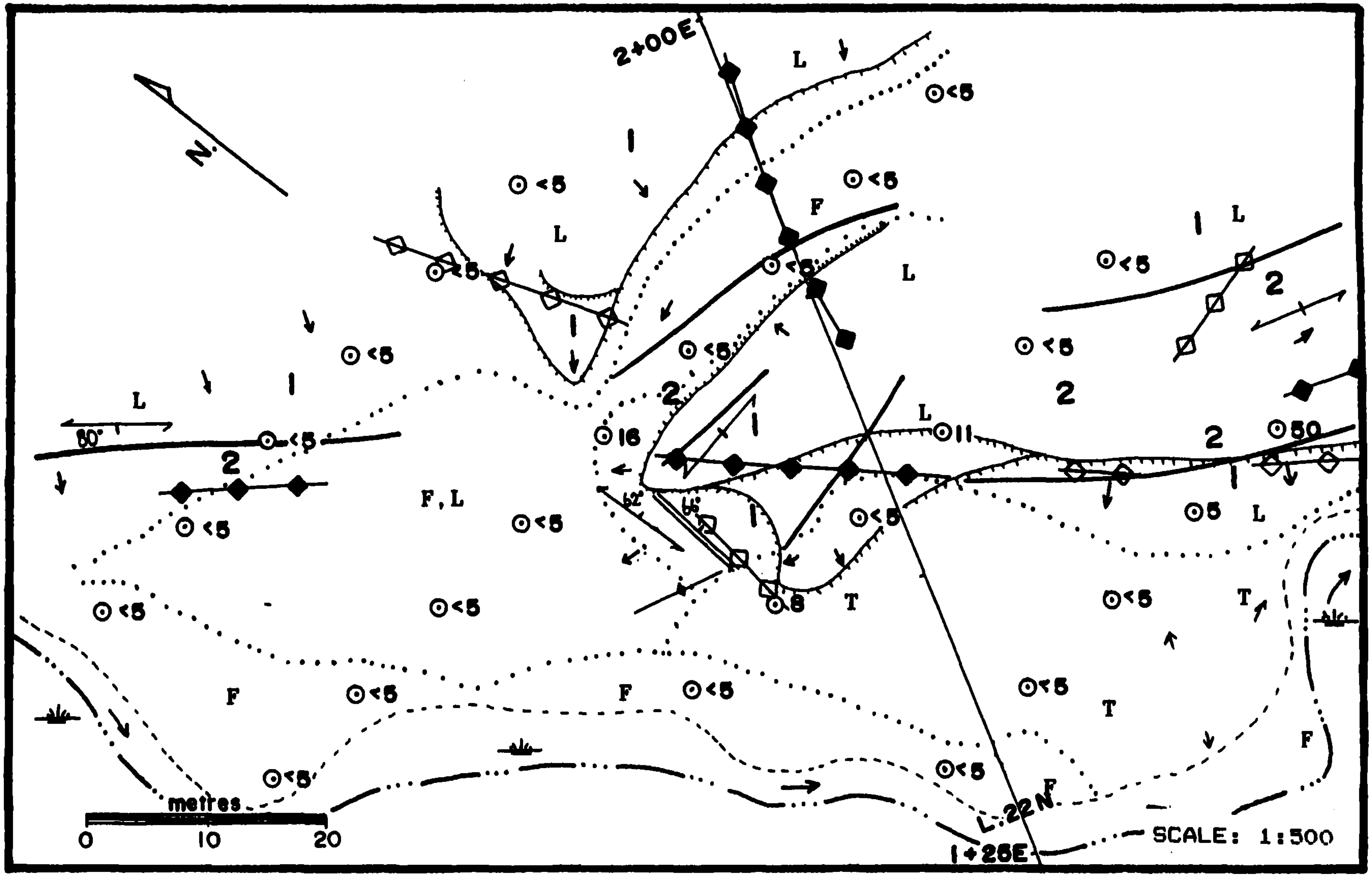
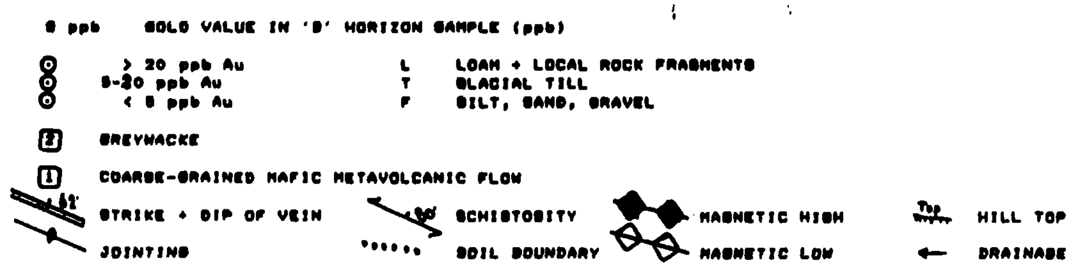

MAGNETICS: GOPHER ZONE
SCALE: 1:500
metres
0
10
20
2+00E
1+25E
22N
N
250
500
750
1000
MAGNETIC LOW
STRIKE + DIP OF VEIN
SCHISTOSITY
JOINTING
VALUES BASED AT 56,000 GAMMAS
250 GAMMA CONTOUR INTERVAL

FIGURE 13



SOIL SAMPLING ≡ GOPHER ZONE



HERON POND NORTH ZONE
LOT 15, CONC. XIII, S.1/2
SO1150986
2+00N, 0+18W TO 2+80N, 0+20E
MAP 1A

The Heron Pond North Zone defines an area where gold values have been detected in float and soil but not in outcrop. The area extends NW for 180 m and follows between the base of a hill and the shore of a long NW trending swamp. Patchy outcrops of quartz-feldspar-biotite schists, greywacke and argillaceous metasediments and marbles follow the base of the slope. Mafic metavolcanic rocks outcrop along the slope and along the shore of the swamp in the NW regions of the zone.

Several various-sized boulders of metasedimentary rock were located between the slope and within the swamp that have returned gold values up to 1.3 g/t Au. It is believed that the immediate area is the source of the float.

The boulders are mineralized with greyish-granular quartz, arsenopyrite and pyrite. The mineralization is identical to that found at both Black River occurrences and the Christie Zone. More importantly, this mineralization is identical to that occurring within the Heron Pond South Zone located 300 m SE.

Soil samples collected within the area appear to confirm the presence of unexposed gold mineralization between the swamp and the base of the slope. Gold values up to 14x background (assumed to be <5 ppb Au) define a strong soil anomaly trending NW for at least 150 m. This is the same trend as the metasedimentary unit. Also, some of the higher gold values coincide with local magnetic anomalies.

HERON POND SOUTH ZONE
L. 14, CONC. XII, N.1/2
L. 14, CONC. XIII, S.1/2
SO1150984
3+80S, 1+27w TO 8+70S, 2+75W
TR-4, TR-5, TR-6, MAP 1A

Float occurrences and several trenches follow a NW trending unit of rusty metasedimentary schists and mafic metavolcanic rocks for a distance over 600 m. The metasedimentary unit is poorly exposed since it follows a swamp-filled lineament. The unit is between 25-50 m wide and dips moderately W-SW. Metasediments consist of quartz-feldspar-biotite rich schists, greywacke and argillite. Marbles occur locally along the NE contact with the metavolcanics. Fine-grained mafic dikes and fine-grained felsic dikes trend across the unit in a E-W direction.

Schistosity measurements along the metasedimentary unit range from 60 to 120° and have been influenced by several structural phases. Along strike, the unit shows evidence of being offset by right-lateral structures trending at 70° and by a weaker set orientated at 100°. Opposing movements in a left-lateral manner occurred along the trend of the metasediments which caused the unit to be twisted so that it now has an en echelon type structure along the unit's trend. This left-lateral movement appears to have offset several of the felsic dikes.

Along the zone, gold-bearing mineralization exposed in the trenches is confined to parallel and en echelon vein/shear structures. There is an association with arsenopyrite and to a lesser extent, pyrite. Mineralization is identical to gold-bearing mineralization at: Heron Pond North Zone, all of the Black River Zones and the Christie Zone.

Quartz veins and shears range in width from a few centimetres to a little more than 1 m wide. There are multiple shears and veins across strike. As with other gold occurrences on the property there are several types of quartz and alteration with the shearing. Gold values vary with type.

1.] White to rusty-red, medium to coarse-grained granular quartz in veins well mineralized with arsenopyrite. Veins have returned assay values of 5525 ppb Au/0.3 m and several grab samples of float have shown up to 21,600 ppb Au. There is usually some degree of silicification to the wallrock surrounding veins. A quartz vein exposed on L.4S is mineralized with galena and sphalerite and averaged 1210 ppb Au, 82 g/t Ag, 502 g/t Pb and 1167 g/t Zn over 0.45 m.

2.] Greyish-blue sugary and crystalline quartz mineralized with arsenopyrite and pyrite. This type of quartz can form as veins up to 10-15 cm wide and as silicification in wallrock in zones up to 1 m wide in wallrock surrounding veins. Pyrite and chlorite fill crosscutting fractures that offset these veins. The fractures maybe related to larger crosscutting structures. This type of grey quartz can surround veins of coarse-granular quartz as described above thus, increasing mineralized widths. Assays of veins and alteration of this type have returned values of 1579 ppb Au/0.5 m and up to 3.9 g/t Au in grab.

3.] Whitish-crystalline, muscovite-rich quartz in mica-rich shears. This type of vein/structure has been observed in at least 2 trenches along the Heron Pond South Zone and is similar to the mica-rich shears in the Christie Zone and the Black River North Zone. Veins of this type are well-mineralized with fine-muscovite, they do not appear to have any sulphide associated with them and the wallrock is very similar to talc although it consists almost entirely of muscovite, biotite and chlorite. Only one significant value of 1792 ppb Au/0.1 m was obtained from quartz.

The relationship between the mica-rich rock and the gold/arsenopyrite mineralization has not been established but the 2 types appear at several occurrences on the property. The contrast between the types of shear-related mineralization suggest that there may have been multiple phases of shear-related hydrothermal activity along the metasediments.

Along the Heron Pond South Zone there are magnetic anomalies and VLF cross-overs with the gold occurrences. These geophysical targets coincide with metasedimentary unit and provide strong evidence that the Heron Pond South Zone extends 500 m NW under the swamp to the area of the Heron Pond North Zone. If this is true then the entire zone would have a strike length of 1300 m.

Soil sampling along the zone has confirmed the presence of gold mineralization but the results have been greatly influenced by [illegible] conditions. Between the occurrences on lines 4S and 5+50S glacial tills blanket outcrops and may have masked any underlying gold occurrences. In areas were overburden is shallow and the formation of soils resulted from outcrop weathering and forest growth, gold values were elevated quite considerably thus making soil sampling a useful tool to further evaluate the zone. There also seems to be an association between higher gold-soil values and magnetic anomalies along the metasedimentary unit.

IV. SOIL SAMPLING PROGRAM

SAMPLING AND ANALYTICAL TECHNIQUES

Between October 13 and October 31, 1993, 145 'B' horizon soil samples were collected from the property. Currently, this brings to a total of 273 soil samples collected from the property; 128 samples were collected by Christie, 1992.

Samples taken during the 1993 program have been collected by R. Dillman of London, Ontario. Samples were collected using a shovel. During the 1993 program, samples were taken at 10 m, 12.5 m and 25 m intervals at 5 separate locations on the property. Locations and results of this program, including Christie's 1992 results, are plotted on 1:2,500 compilation maps appended to this report (Map 4A and 4B).

Samples taken in the field consisted of rusty-red to reddish-brown, 'B' horizon material of either:

1. Silty to sandy forest loam, usually on shallow outcrop and frequently containing locally sourced rock fragments.

2. Glacial tills of moraine type, generally made up both local and distal rock material. In several areas thin loam soils overlay till.

3. Fluvial-deposited sand and gravels. These soils are associated with recent movements of the Black River and surface feeder-streams.

Distinction between areas of the 3 dominate soil types have been plotted on the accompanying soil maps.

The combination of the various processes involved in forming different soils and the effect of ground water movement through the different soil types has played an important factor on interpretation of results. Loams sampled during the 1993 survey returned the best values of gold and are the most trusted results since formation of this soil type is largely dependant on in-situ processes rather than transportational methods.

Samples from both soil programs were analyzed for gold by a fire assay - atomic absorption technique. Samples collected during the 1993 program were sent to Accurassay Laboratories in Kirkland, Ontario. Samples collected by Christie (1992) were analyzed at Barringer Laboratories in Mississauga, Ontario.

Assay certificates of the 1993 soil program preformed by Dillman are appended to this report.

COMPARISON OF RESULTS BETWEEN THE 1993 AND THE 1992 PROGRAM

To correlate and compare between the two soil surveys 8 soil samples were collected during the 1993 program from identical locations sampled during Homestake's 1992 program.

Both surveys show many gold values ranging from < 5 ppb and upwards. In comparison, the 8 duplicate samples of the 1993 program are generally lower than Christie's 1992 samples. A closer comparison of results and soil type however, shows that differences between sample duplicates in forest loams are only slight and may be neglected where as, differences in duplicates taken in fluvial sands and gravels are so wide spread that no correlation can be made.

Comparing further, the overall results show that Christie's 1992 results are erratic and demonstrate no consistency in gold values along lines or between lines, thus making it difficult to define a background range of gold in soils for his survey. Results of the 1993 program however, appear to establish a background of < 5 ppb Au through consistency of gold values along lines. These results also outline anomalous soils by 'peaking' in areas proximal to bedrock occurrences of gold.

DISCUSSION OF RESULTS

BLACK RIVER NORTH ZONE

Samples between lines 34+00N to 38+00N were taken at 12.5 m intervals along 50 m spaced lines. Sampling in this area was also preformed by Christie (1992).

Soil sampling results for the 1993 program outline several distinct soil anomalies within the area covered by sampling. These anomalies consist of soils with a gold content between 2 and 12x background (background assumed: <5 ppb Au) including one significant value of 120x background.

Soil anomalies in the Black River North Zone are reasonably linear and cross several lines. Along these lines the anomalies may be several stations wide (+12.5 m). Outcrops proximal to the soil anomalies consist of metasedimentary schists or anomalous soils occur close to the metasedimentary-mafic metavolcanic contact.

Gold has been noted in bedrock and float in areas of anomalous samples. Anomalies also coincide with magnetic highs, lows and VLF cross-overs.

GOPHER ZONE

Sampling in this area was conducted at 10 m intervals on lines spaced 20 m apart and orientated at N100° E. The sampling was centred on the gold occurrence at 22+20N, 1+60E. A detailed plan of this sampling is presented in Figure 13.

Gold values up to 3x the assumed background level of < 5 ppb were taken at a distance of 10 m in either direction on strike of the gold occurrence. Sampling defined a second related anomaly trending SE from the showing for a distance of 60 m. This direction is consistent with the trend of rock units of the immediate area.

Outcrop exposure is limited along the anomaly but it appears to occur over metasedimentary schists or close to the metavolcanic contact. It has peak-values of 10x background and is coincident with magnetic variations in the rock. Results also suggest that the anomaly is stronger towards the SE and has an open strike extension in this direction.

L.7+50N - L.8+00N

In this area, samples were taken at 25 m intervals on two separate lines spaced 50 m apart. Samples were taken as a follow-up on anomalous samples collected by Christie (1992). Several boulders of metasedimentary rock in this area showed slightly anomalous gold values when assayed.

Results of the 1993 program located soils with gold values up to 10x background. Soils in the area consist shallow loam and till on mafic metavolcanic outcrop. Anomalous soils occur close to a VLF cross-over.

Sampling could not define any anomalies consistent with the local geological trend (assumed at roughly 120°) but an E-W trending and linear anomaly was outlined. This orientation is consistent with structural measurements and topographical features. Some of these features appear to be offsetting geological units.

HERON POND NORTH

Sampling covered a distance of 150 m along the trend of poorly exposed mafic metavolcanic and metasedimentary outcrops. Within this area several boulders of greywacke with quartz have been found that show gold values when assayed. It is believed this float may represent an extension of the gold mineralization in the Heron Pond South Zone.

Sampling was conducted at intervals of 12.5 m on lines 50 m apart that run between the swamp and the base of a steep south-facing slope littered with mafic metavolcanic debris. An old road goes through the area. Soil types in the area consist of shallow formations of loam and till. Both types returned values up to 12 to 14x background.

Some of the highest soil samples were taken over a magnetic high.

HERON POND SOUTH

Samples were taken at 12.5 m intervals on lines 50 m apart to cover a 450 m trend of metasediments containing several vein and shear related gold occurrences. Only several small outcrops of metasediments are exposed. A 200 m section could not be sampled due to swamp.

Soil conditions consist of shallow loam or till. Loam-type soils adjacent to several gold-bearing outcrops show elevated gold values between 3 and 400x background. Anomalous soils also occur over geophysical targets. Tills along the trend show only slightly elevated values. Since they have been transported to the site it is possible they are blanketing other bedrock gold occurrences.

V. CONCLUSIONS AND RECOMMENDATIONS

A number of important similarities exist between all the gold occurrences on the property:

1.] Gold is associated with arsenopyrite in narrow quartz veins and shear zones in metasediments. The only exception to this is at the Gopher Zone where gold is associated with pyrite and shearing on the margins of a quartz vein.

2.] All the occurrences are located in what is believed to be the same stratigraphic horizon.

3.] All the occurrences are located in the same distinctive NW trending topographical lineament. Much of this lineament is filled by the Black River, river-related sediments and swamp. Showings occur on the margins the topographic features so that little to no outcrop exposure exists between most of the showings.

4.] All the occurrences are coincident with geophysical anomalies although gold-bearing mineralization observed is neither excessive enough nor the type to be causing the geophysical anomalies. Therefore it is assumed that the geophysical anomalies represent other properties in the rock rather than the gold-mineralization. Some correlation does exists though between veining and shearing with respect to areas of high and low magnetic variations.

5.] Soil samples taken around all the showings suggest that strike potentials exist. During the survey, 3 types of soils were sampled: loam, tills and fluvial sands and gravel. Tills and fluvial-related sediments may have masked the detection of underlying bedrock occurrences of gold.

To follow-up on the above similarities it is recommended that the entire area along the river be tested for gold by soil sampling methods. Samples should be taken at 10-12.5 m intervals along 25-50 m spaced lines. To overcome the negative effects of deeper overburden it is suggested that a soil auger or an overburden drill be used in areas of swamp or fluvial sediments. Shallow loams need only to be sampled by shovel.

Further evaluation of the property could be accomplished by trenching around all the occurrences and any positive soil, float or magnetic anomalies. It is recommended that a back-hoe be used for this work since most of the gold showings are located in recessive areas. Outcrops should be cleaned with water and sampled.

Eventually, all the known gold occurrences should be drilled to test the potential of depth and strike length. One hole should be drilled at each occurrence. Any proposed hole locations should be based on drilling at an inclination of 45° and anticipating an intersection with the target at a 50 m vertical depth.

The estimated cost for the above program is as follows:

Sample collection, 650 samples @ $10	6,500
Analysis (soil & rock) @ $14	14,000
Backhoe & operator @ $50/hr	2,800
Trench supervision/mapping/sampling @ $200/day	1,400
Diamond drilling, 570 m @ $80/m	45,600
	70,300
Plus contingencies, 20%	14,000
Total	$84,300

Respectfully submitted,

R.J. Dillman, B.Sc.

4 January 1994

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C E R T I F I C A T E

I, ROBERT JAMES DILLMAN, do hereby certify as follows:

[1] THAT I am a Mining Exploration Geologist, and that I reside and carry on business at 42 Springbank Drive, in the City of London, Ontario.

[2] THAT I am a Graduate of the University of Western Ontario, with a Bachelor of Science Degree in Geology, 1992.

[3] THAT I have been practising my profession as a Geologist since 1992.

[4] THAT I have been actively engaged as a prospector in Canada since 1978.

[5] THAT my Report, dated January 4, 1994, on the Black River Property of Grimsthorpe Township is based on information collected by myself between 1991 and to the date of this Report, and from other sources cited in this Report.

[6] THAT I have a 100% interest in the Black River Property and any information given in this Report is as accurate as to the best of my knowledge and THAT I am not making any false statements to better the position of the property for personal gain.

Robert J. Dillman, B. Sc.
Geologist

Dated at London, Ontario
This 4th day of January,
1994

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47185 Certificate of Analysis

Page: 1

Dillman, Mr. R.
42 Springbank Drive
LONDON, Ontario
N6J 1E3

June 16 93

Work Order # : 930064
Project :

SAMPLE NUMBERS Accurassay	Customer	Gold ppb	Gold Oz/T	
930796	69751	346	0.010	
930797	69752	287	0.008	
930798	69753	6	<0.001	
930799	69754	13	<0.001	
930800	69755	14	<0.001	
930801	69756	11	<0.001	
930802	69757	7	<0.001	
930803	69758	12	<0.001	
930803	69758	9	<0.001	Check

ASSOCIATION OF THE CHEMICAL PROFESSION OF ONTARIO
CHARTERED
Dr. G. Duncan
CHEMIST

Per: G. Duncan

LF-30

ORIGINAL

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47670 **Certificate of Analysis**

Page: 1

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October 5 93

Work Order # : 930105
Project :

SAMPLE NUMBERS Accurassay	Customer	Gold ppb	Gold Oz/T	
931076	69701	178	0.005	
931077	69702	57	0.002	
931078	69703	699	0.020	
931079	69704	2065	0.060	
931080	69705	1620	0.047	
931081	69759	1760	0.051	
931082	69760	12	<0.001	
931083	69761	12	<0.001	
931084	69762	5	<0.001	
931085	69763	7	<0.001	
931085	69763	<5	<0.001	Check
931086	69764	17	0.001	
931087	69765	<5	<0.001	
931088	69766	689	0.020	
931089	69767	703	0.020	
931090	69768	489	0.014	
931091	69769	5	<0.001	
931092	69770	<5	<0.001	
931093	69771	6	<0.001	
931094	69772	5	<0.001	
931094	69772	11	<0.001	Check
931095	69773	11	<0.001	
931096	69774	26	0.001	
931097	69775	19	0.001	
931097	69775	18	0.001	Check

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47759

Certificate of Analysis

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Page 1
October 26, 1993

Work Order #: 930105

ICAP	ppm Ag	% Al	ppm As	ppm Au	ppm Ba	ppm Be
69701	0.1	0.14	6095	<3	96	<1
69702	0.2	0.70	234	<3	86	<1
69703	0.6	1.75	5187	<3	114	<1
69704	0.7	0.74	>5%	N/A	69	<1
69705	0.7	2.15	>5%	N/A	168	<1

ICAP	ppm Bi	% Ca	ppm Cd	ppm Co	ppm Cr	ppm Cu
69701	<3	0.05	1	4	31	25
69702	<3	0.09	1	6	449	31
69703	<3	0.21	1	28	42	104
69704	<3	0.13	1	38	441	24
69705	<3	0.25	1	82	57	24

ICAP	% Fe	ppm Hg	ppm La	% Mg	ppm Mn	ppm Mo
69701	2.20	<1	2	0.07	106	2
69702	2.81	<1	4	0.36	247	1
69703	6.08	2	19	0.95	300	6
69704	6.66	2	14	0.31	206	5
69705	7.58	2	20	0.93	318	5

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Per: G. Duncan

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President: Dr. GEORGE DUNCAN, M.Sc., Ph. D., C. Chem (Ont.), C. Chem (U.K.), M.C.I.C., M.R.S.C., A.R.C.S.T.

47760 **Certificate of Analysis**

Mr. Robert Dillman
42 Springbank Drive
LONDON, Ontario
N6J 1E3

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October 26, 1993

Work Order #: 930105

ICAP	% Na	ppm Ni	ppm P	ppm Pb	ppm Sb	% Si
69701	0.01	19	170	9	<2	0.02
69702	0.02	19	525	3	<2	0.02
69703	0.05	68	992	7	12	0.02
69704	0.05	80	731	4	23	0.02
69705	0.15	70	551	8	33	0.02

ICAP	ppm Sr	% Ti	ppm V	ppm W	ppm Zn
69701	3	0.01	12	6	30
69702	3	0.05	24	<2	18
69703	9	0.10	60	10	42
69704	16	0.04	34	10	19
69705	17	0.15	78	24	55

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47781 Certificate of Analysis

Dillman, Mr. R.
42 Springbank Drive
LONDON, Ontario
N6J 1E3

November 3 93

Work Order # : 930110
Project :

SAMPLE NUMBERS Accurassay	Customer	Gold ppb	Gold Oz/T	
931133	16901	268	0.008	
931134	16902	577	0.017	
931135	69706	1238	0.036	
931136	69707	921	0.027	
931137	69708	108	0.003	
931138	69709	30	0.001	
931139	69710	157	0.005	
931140	69711	14	<0.001	
931141	69712	13	<0.001	
931142	69713	15	<0.001	
931142	69713	19	0.001	Check
931143	69714	246	0.007	
931144	69715	13	<0.001	
931145	69716	18	0.001	
931146	69717	10	<0.001	
931147	69718	13	<0.001	
931148	69719	3609	0.105	
931149	69720	4010	0.117	
931150	69721	4208	0.122	
931151	69722	278	0.008	
931151	69722	334	0.010	Check
931152	69723	1729	0.050	
931153	69724	38	0.001	
931154	69725	1196	0.035	
931154	69725	1170	0.034	Check

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Per: G. Duncan

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Dillman, Mr. R.
42 Springbank Drive
LONDON, Ontario
N6J 1E3

November 11 93

Work Order # : 930125
Project :

SAMPLE NUMBERS Accurassay	Customer	Gold ppb	Gold Oz/T	
931280	16903	6	<0.001	
931281	16904	<5	<0.001	
931282	16905	19	0.001	
931283	16906	106	0.003	
931284	16907	43	0.001	
931285	16908	263	0.008	
931286	16909	126	0.004	
931287	16910	8	<0.001	
931288	16911	44	0.001	
931289	16912	2703	0.079	
931289	16912	2574	0.075	Check
931290	16913	6218	0.181	
931291	16914	342	0.010	
931292	16915	345	0.010	
931293	16916	25	0.001	
931294	16917	1485	0.043	
931295	16918	445	0.013	
931296	16919	990	0.029	
931297	16920	16	<0.001	
931298	16921	1782	0.052	
931298	16921	1792	0.052	Check
931299	16922	7366	0.214	
931300	16923	256	0.007	
931301	16924	185	0.005	
931302	16925	1792	0.052	
931303	16926	8	<0.001	
931304	16927	8	<0.001	
931305	16928	57	0.002	
931306	16929	626	0.018	
931307	16930	17842	0.519	
931307	16930	18178	0.529	Check

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Per: G. Duncan

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Dillman, Mr. R.
42 Springbank Drive
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N6J 1E3

November 11 93

Work Order # : 930125
Project :

SAMPLE NUMBERS		Gold	Gold	
Accurassay	Customer	ppb	Oz/T	
931308	16931	15	<0.001	
931309	16932	105	0.003	
931309	16932	86	0.003	Check

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Per: G. Duncan

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Dillman, Mr. R.
42 Springbank Drive
LONDON, Ontario
N6J 1E3

December 20 93

Work Order # : 930125
Project :

SAMPLE NUMBERS Accurassay	Customer	Silver ppm	Lead ppm	Zinc ppm
931294	16917	170	970	2300
931295	16918	12	90	200
931296	16919	13	120	240

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47782 Certificate of Analysis

Dillman, Mr. R.
42 Springbank Drive
LONDON, Ontario
N6J 1E3

November 3 93

Work Order # : 930111
Project :

SAMPLE NUMBERS				Gold	Gold	
Accurassay	Grid Coor		Customer	ppb	Oz/T	
1	L.38N,	0+62E	BR-1	8	<0.001	
2		0+75E	BR-2	7	<0.001	
3		0+87E	BR-3	5	<0.001	
4		1+00E	BR-4	<5	<0.001	
5		1+12E	BR-5	42	0.001	
6		1+25E	BR-6	<5	<0.001	
7		1+37E	BR-7	7	<0.001	
8	L.37+50N,	B.L.	BR-8	19	0.001	
9		0+25E	BR-9	6	<0.001	
10		0+37E	BR-10	5	<0.001	
10			BR-10	5	<0.001	Check
11		0+50E	BR-11	11	<0.001	
12		0+62E	BR-12	<5	<0.001	
13		0+75E	BR-13	<5	<0.001	
14		0+87E	BR-14	21	0.001	
15		1+00E	BR-15	<5	<0.001	
16		1+12E	BR-16	8	<0.001	
17	L.37N,	0+25E	BR-17	<5	<0.001	
18		0+37E	BR-18	15	<0.001	
19		0+50E	BR-19	7	<0.001	
19			BR-19	<5	<0.001	Check
20		0+67E	BR-20	<5	<0.001	
21		0+75E	BR-21	<5	<0.001	
22		0+87E	BR-22	35	0.001	
23		1+00E	BR-23	7	<0.001	
24		1+12E	BR-24	<5	<0.001	
25		1+25E	BR-25	<5	<0.001	
26	L.36+50N,	0+12E	BR-26	<5	<0.001	
27		0+37E	BR-27	<5	<0.001	
28		0+62E	BR-28	11	<0.001	
28			BR-28	<5	<0.001	Check

Per: G. Duncan

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47783 Certificate of Analysis

Dillman, Mr. R.
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N6J 1E3

November 3 93

Work Order # : 930111
Project :

SAMPLE NUMBERS Accurassay	Grid Coor.		Customer	Gold ppb	Gold Oz/T	
29	L.36N,	0+12E	BR-29	40	0.001	
30		0+25E	BR-30	<5	<0.001	
31		0+37E	BR-31	<5	<0.001	
32		0+50E	BR-32	5	<0.001	
33		0+62E	BR-33	<5	<0.001	
34		0+75E	BR-34	<5	<0.001	
35		0+87E	BR-35	<5	<0.001	
35			BR-35	605	0.018	Check

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Per: G Duncan

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Dillman, Mr. R.
42 Springbank Drive
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N6J 1E3

November 24 93

Work Order # : 930126
Project :

SAMPLE NUMBERS Accurassay	Grid Coor.		SAMPLE NUMBERS Customer	Gold ppb	Gold Oz/T	
930338	L.34+50N,	1+12E.	BR-64	<5	<0.001	
930339	L.34N,	0+75W	BR-65	36	0.001	
930340		0+62W	BR-66	5	<0.001	
930341		0+50W	BR-67	30	0.001	
930342		0+37W	BR-68	8	<0.001	
930343		0+25W	BR-69	5	<0.001	
930344		0+25E	BR-70	5	<0.001	
930345		0+37E	BR-71	12	<0.001	
930346		0+50E	BR-72	<5	<0.001	
930346			BR-72	<5	<0.001	Check
930347		0+62E	BR-73	<5	<0.001	
930348		0+75E	BR-74	<5	<0.001	
930349	22+25N,	1+92E	BR-75	<5	<0.001	
930349			BR-75	<5	<0.001	Check

Per: G. Duncan

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47920 **Certificate of Analysis**

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Dillman, Mr. R.
42 Springbank Drive
LONDON, Ontario
N6J 1E3

November 24 93

Work Order # : 930126
Project :

SAMPLE NUMBERS Accurassay	Grid Coor.		Customer	Gold ppb	Gold Oz/T	
930310	L.35+50N,	0+12E	BR-36	6	<0.001	
930311		0+37E	BR-37	<5	<0.001	
930312		0+62E	BR-38	5	<0.001	
930313		0+75E	BR-39	<5	<0.001	
930314		0+87E	BR-40	<5	<0.001	
930315	L.35N,	0+25W	BR-41	<5	<0.001	
930316		0+12W	BR-42	13	<0.001	
930317		B.L.	BR-43	6	<0.001	
930318		0+12E	BR-44	42	0.001	
930319		0+25E	BR-45	<5	<0.001	
930319			BR-45	<5	<0.001	Check
930320		0+37E	BR-46	<5	<0.001	
930321		0+50E	BR-47	<5	<0.001	
930322		0+62E	BR-48	8	<0.001	
930323		0+75E	BR-49	5	<0.001	
930324		0+87E	BR-50	<5	<0.001	
930325	L.34+50N,	0+62W	BR-51	<5	<0.001	
930326		0+50W	BR-52	5	<0.001	
930327		0+37W	BR-53	<5	<0.001	
930328		0+25W	BR-54	49	0.001	
930328			BR-54	61	0.002	Check
930329		0+12W	BR-55	24	0.001	
930330		B.L.	BR-56	5	<0.001	
930331		0+25E	BR-57	7	<0.001	
930332		0+37E	BR-58	7	<0.001	
930333		0+50E	BR-59	11	<0.001	
930334		0+62E	BR-60	15	<0.001	
930335		0+75E	BR-61	5	<0.001	
930336		0+87E	BR-62	5	<0.001	
930337		1+00E	BR-63	6	<0.001	
930337			BR-63	5	<0.001	Check

Per: G. Duncan

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47922 **Certificate of Analysis**

Dillman, Mr. R.
42 Springbank Drive
LONDON, Ontario
N6J 1E3

November 24 93

Work Order # : 930127
Project :

SAMPLE NUMBERS Accurassay	Grid Coor.		Customer	Gold ppb	Gold Oz/T	
931350	22+32N,	1+87E	BR-76	<5	<0.001	
931351	22+40N,	1+81E	BR-77	<5	<0.001	
931352	22+50N,	1+75E	BR-78	<5	<0.001	
931353	22+59N,	1+71E	BR-79	<5	<0.001	
931354	22+68N,	1+65E	BR-80	<5	<0.001	
931355	22+04N,	1+79E	BR-81	<5	<0.001	
931356	22+12N,	1+74E	BR-82	<5	<0.001	
931357	22+22N,	1+69E	BR-83	16	<0.001	
931358	22+30N,	1+64E	BR-84	<5	<0.001	
931359	22+39N,	1+59E	BR-85	<5	<0.001	
931359			BR-85	<5	<0.001	Check
931360	22+50N,	1+55E	BR-86	<5	<0.001	
931361	22+59N,	1+49E	BR-87	<5	<0.001	
931362	21+75N,	1+73E	BR-88	<5	<0.001	
931363	21+84N,	1+67E	BR-89	<5	<0.001	
931364	21+93N,	1+63E	BR-90	11	<0.001	
931365	22+04N,	1+57E	BR-91	<5	<0.001	
931366	22+11N,	1+53E	BR-92	8	<0.001	
931367	22+20N,	1+47E	BR-93	<5	<0.001	
931368	22+00N,,	1+37E	BR-94	<5	<0.001	
931368			BR-94	<5	<0.001	Check
931369	21+92N,	1+41E	BR-95	<5	<0.001	
931370	21+83N,	1+45E	BR-96	<5	<0.001	
931371	21+75N,	1+50E	BR-97	5	<0.001	
931372	21+66N,	1+56E	BR-98	50	0.001	
931373	21+96N,	1+84E	BR-99	<5	<0.001	
931374	21+87E,	1+90E	BR-100	<5	<0.001	
931375	L.2N,	0+12W	BR-101	63	0.002	
931376		BL.	BR-102	39	0.001	
931377		0+12E	BR-103	18	0.001	
931377			BR-103	10	<0.001	Check

Per: G. Duncan

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Certificate of Analysis

Dillman, Mr. R.
42 Springbank Drive
LONDON, Ontario
N6J 1E3

November 24 93

Work Order # : 930127
Project :

SAMPLE NUMBERS Accurassay	Grid Coor.		Customer	Gold ppb	Gold Oz/T	
931378	L.2N,	0+25E	BR-104	<5	<0.001	
931379	L.2+50N,	0+20E	BR-105	<5	<0.001	
931380		BL.	BR-106	14	<0.001	
931381		0+12W	BR-107	19	0.001	
931382	L.3N,	0+27E	BR-108	6	<0.001	
931383		0+10E	BR-109	10	<0.001	
931384		0+12W	BR-110	<5	<0.001	
931385		0+25W	BR-111	5	<0.001	
931386		0+35W	BR-112	5	<0.001	
931386			BR-112	11	<0.001	Check
931387	L.3+50N,	0+12E	BR-113	6	<0.001	
931388		BL.	BR-114	5	<0.001	
931389		0+12W	BR-115	57	0.002	
931389			BR-115	71	0.002	Check

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Per: G. Duncan

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47952

Certificate of Analysis

Dillman, Mr. R.
42 Springbank Drive
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N6J 1E3

November 26 93

Work Order # : 930128
Project :

SAMPLE NUMBERS Accurassay	Grid Coor.		Customer	Gold ppb	Gold Oz/T	
931390	L.3+50N,	0+25W	BR-116	11	<0.001	
931391	L.7+50N,	0+75W	BR-117	49	0.001	
931392		1+00W	BR-118	5	<0.001	
931393		1+25W	BR-119	12	<0.001	
931394		1+50W	BR-120	5	<0.001	
931395		1+75W	BR-121	5	<0.001	
931396	L.8N,	1+75W	BR-122	5	<0.001	
931397		1+50W	BR-123	<5	<0.001	
931398		1+25W	BR-124	5	<0.001	
931399		1+00W	BR-125	7	<0.001	
931399			BR-125	11	<0.001	Check
931400		0+75W	BR-126	5	<0.001	
931401	L.5+50S,	1+37W	BR-127	<5	<0.001	
931402		1+50W	BR-128	26	0.001	
931403		1+62W	BR-129	13	<0.001	
931404		1+75W	BR-130	230	0.007	
931405	L.5S,	1+62W	BR-131	7	<0.001	
931406		1+50W	BR-132	7	<0.001	
931407		1+37W	BR-133	6	<0.001	
931408	L.4+50S,	1+25W	BR-134	5	<0.001	
931408			BR-134	8	<0.001	Check
931409		1+37W	BR-135	8	<0.001	
931410		1+50W	BR-136	7	<0.001	
931411	L.4S,	1+37W	BR-137	5	<0.001	
931412		1+25W	BR-138	2030	0.059	
931413		1+12W	BR-139	14	<0.001	
931414	7+70S,	2+40W	BR-140	36	0.001	
931415	7+80S,	2+30W	BR-141	<5	<0.001	
931416	7+90S,	2+20W	BR-142	22	0.001	
931417	8+30S,	2+38W	BR-143	6	<0.001	
931417			BR-143	5	<0.001	Check

Per: G. Duncan

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47954

Certificate of Analysis

Dillman, Mr. R.
42 Springbank Drive
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November 26 93

Work Order # : 930128
Project :

SAMPLE NUMBERS Accurassay	Grid Coor.		Customer	Gold ppb	Gold Oz/T	
931418	8+22S,	2+50W	BR-144	191	0.006	
931419	8+15S,	2+60W	BR-145	<5	<0.001	
931419			BR-145	<5	<0.001	Check

LF-30

Per: G. Duncan

ORIGINAL

N.T.S. 31C/11

REPORT OF MAGNETIC AND ELECTROMAGNETIC (VLF) SURVEYS ON THE BLACK RIVER PROPERTY, GRIMSTHORPE TOWNSHIP, ONTARIO

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OPAP REGSITRATION No:
OP93-052

SUMMARY

The Black River Property is located in Grimsthorpe Township, 32 km northeast of the town of Madoc, Ontario. Although the Madoc-Bancroft region has shown quite an extensive history of mineral exploration, there is no record of prospecting activities within the area of the Black River property.

The property is underlain by Middle to Late Proterozoic mafic metavolcanic and metasedimentary rocks of the Grenville Structural Province. General trend of these rocks across the property is NW-SE.

During the fall of 1991, a number of gold discoveries were made along the Black River and along a swamp filled extensional lineament to the river. Quartz veins up to 0.5 m wide occur in locally sheared and/or silicified areas of a metasedimentary unit consisting of beds of a quartz-feldspar-biotite rich rock, greywacke, argillites, and graphitic schists. This metasedimentary unit has been traced over 5 kilometres. Some of the gold showings have been traced for distances greater than 700 metres along this trend.

An electromagnetic survey and a magnetic survey have coincidental conductors and anomalies with some of the gold occurrences. The surveys have located other targets along the 5 km trend which may be potential host environments for gold mineralization.

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I. INTRODUCTION

SCOPE

This report is a revised summary based on the compilation of results from magnetic and electromagnetic (VLF) surveys preformed in 1993 with results obtained in 1992 on the Black River property in Grimsthorpe Township, Ontario. Maps showing the results of these surveys are appended to this report.

LOCATION AND ACCESS

The Black River property is located in Grimsthorpe Township, Ontario (Figure 1). The property is approximately 30 km NE of the town of Madoc. Access can be made by following Highway 62 north from Madoc to the village of Gilmour. 4 km east of Gilmour is the turn for the Skootamatta Lake Access Road. Approximately 10 km SE on this road, the property begins at the turn of the Lingham Lake Access Road.

The property is covered by the N.T.S. sheet 31C/11.

PROPERTY AND STATUS

The property consists of 14 contiguous unpatented mining claims (Figure 2). The claim group totals 28 units of 20 hectare size. The claim numbers are: SO1150984, SO1150985, SO1150986, SO1156635, SO1156636, SO1156650, SO1156653, SO1156654, SO1194942, SO1194943, SO1194973, SO1194974, SO1194975, SO1194976.

All claims are held by Mr. R.J. Dillman of London, Ontario.

LOGISTICS

During the 1993 program, a previously cut and picketed baseline was extended 900 m making the total length of the baseline 5600 m. Flagged crosslines were established every 100 m and in some areas lines have been flagged every 50 m. The bearing of the baseline is 120° and the crosslines are orientated at 30° .

Periodically between September 17 and October 31, 1993, magnetic and electromagnetic (VLF) readings were taken over unsurveyed areas of the Black River property. During this time, 5.4 km were traversed with the magnetometer and 9.9 km were covered with a VLF instrument. Added to previously conducted surveys, this brings to a total over the claims of 26.6 km of magnetics and 27.8 km of VLF work.

All surveys have been preformed by Mr. R.J. Dillman of London, Ontario.

FIGURE 1

Property Location

1 inch=16 miles

PROJECT LOCATION

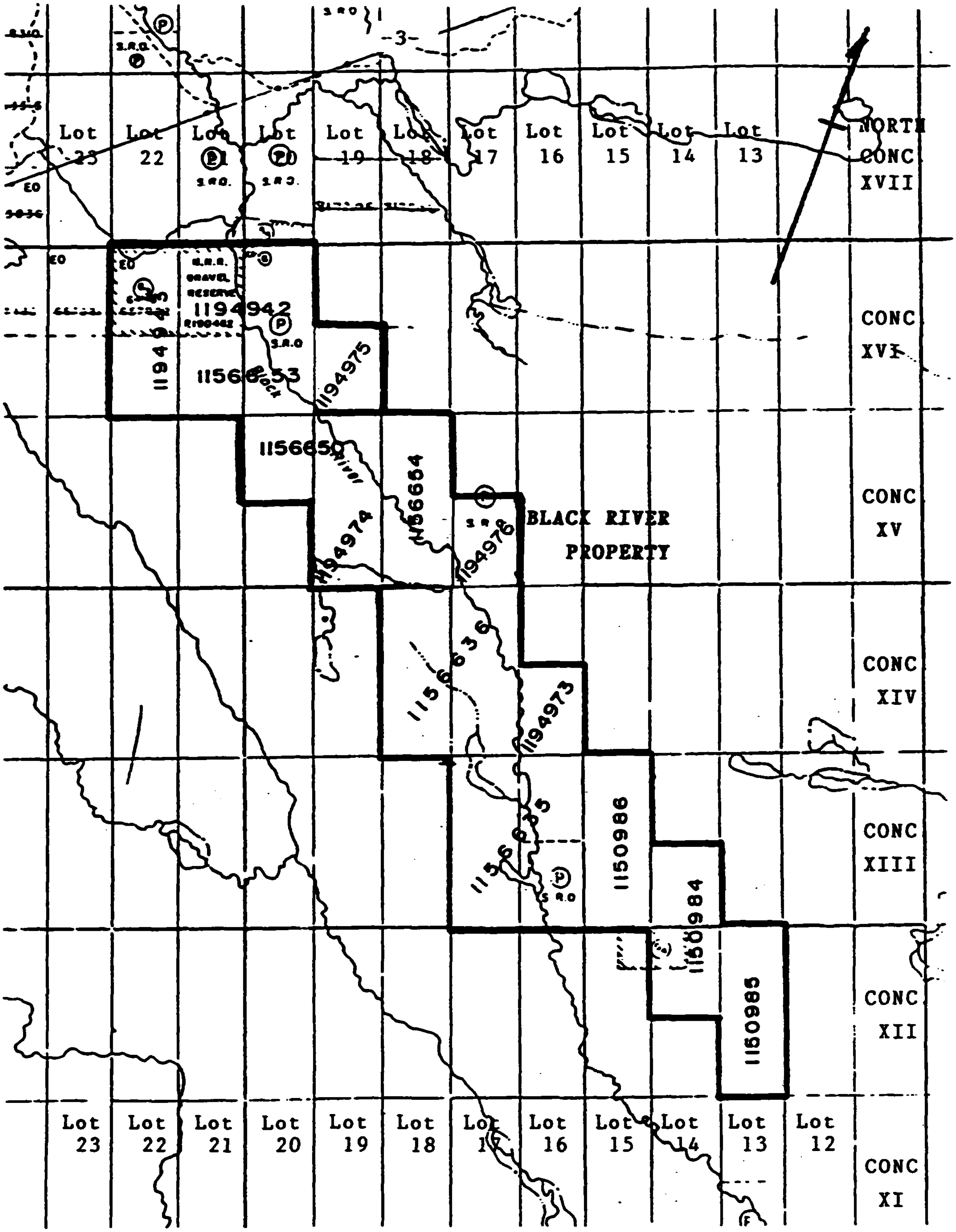


FIGURE 2

BLACK RIVER CLAIM GROUP
GRIMSTHORPE TOWNSHIP, ONTARIO
PLAN: M97

TOPOGRAPHY AND LAND-USE

Airphotos of the property reveal many small ponds and streams, the largest of which is the Black River. These features are confined to topographical lineaments. The strongest, most continual set of lineaments are orientated on a N-NW bearing. In places, these lineaments have been shifted and offset by a less-dominate set of lineaments orientated in a NE direction.

The highest elevations on the property can be found east of the Black River. This area is dominated by large outcrops of mafic metavolcanic rocks and shallow overburden consisting of forest loams and till.

West of the river, the land is much flatter and outcrop exposure decreases to approximately 10%. Outcrops are located in the highest elevations and along the sides of depressions. Large areas of this region are covered by swamps, tills and fluvial-deposited sands and gravels.

Most of the overburden on the property consists of a mixture of forest loams and till. Tills dominating west of the river consist of different-sized angular material made up of locally sourced mafic metavolcanic rock and regional sourced, rounded granite boulders. Striations measured on outcrop surfaces suggest that glacial advancement was from N4°E. Fluvial sourced material consists of well-sorted sands and gravels.

Vegetation on the property is variable. Hardwoods such as birch, maple and oak grow in the highest elevations. White pine, spruce and balsam grow in flatter areas. Jack-pine, balsam and alders grow in the lowest elevations.

There are several different types of land-use in the Black River area of Grimsthorpe Township. Limited logging activities have occurred in areas west of the Lingham Lake Road. In the northern area of the property there are pits where sand and gravel has been extracted. Several cabins are located over the property which are primarily used for recreational hunting.

PREVIOUS EXPLORATION ACTIVITIES

The Black River area of Grimsthorpe Township has no history of mineral exploration until 1991 when funding was acquired through the OPAP system and claims were staked to cover several gold discoveries made by Mr. R. Dillman. Elsewhere in the township, mineral exploration (mainly for gold) had been concentrated in the western and northwestern regions of the township.

At various times between 1909 to 1935, gold was produced at the Gilmour Mine in lot 30, concession 19. This is the only record of gold production in Grimsthorpe Township.

Talc was discovered in 1910 in lots 8,9 and 10, concession 3.

Regional geology was first mapped by Meen and Harding (1942). They reported talc occurrences in lot 13, conc. 4. They also reported numerous sulphide occurrences in meta-sedimentary schists in the Lingham Lake area.

In 1954, Stratmat Limited carried out a ground electro-magnetic survey over the talc occurrences in lot 13, conc. 4.

In 1955, drilling was preformed on the claim group referred to as the McMurray Group. A total of 793 feet were drilled to test an arsenic occurrence in lot 33, concession 11.

After 1955, the Gilmour Mine and the area in proximity to the mine appear to be the only area of interest for mineral exploration. Currently this area is held by Homestake Minerals.

In 1990, much of Grimsthorpe Township and neighboring Anglesea Township were mapped by R.M. Easton of the Ontario Geological Survey.

Gold was discovered in the Black River area in 1991 by R.J. Dillman. This resulted in the staking of several claims. He subsequently carried out geological and geophysical surveys over limited portions of the property.

C.A. Wagg of Denbigh, Ontario staked 5 additional claims along the trend of the Black River. These claims were recorded in Dillman's name.

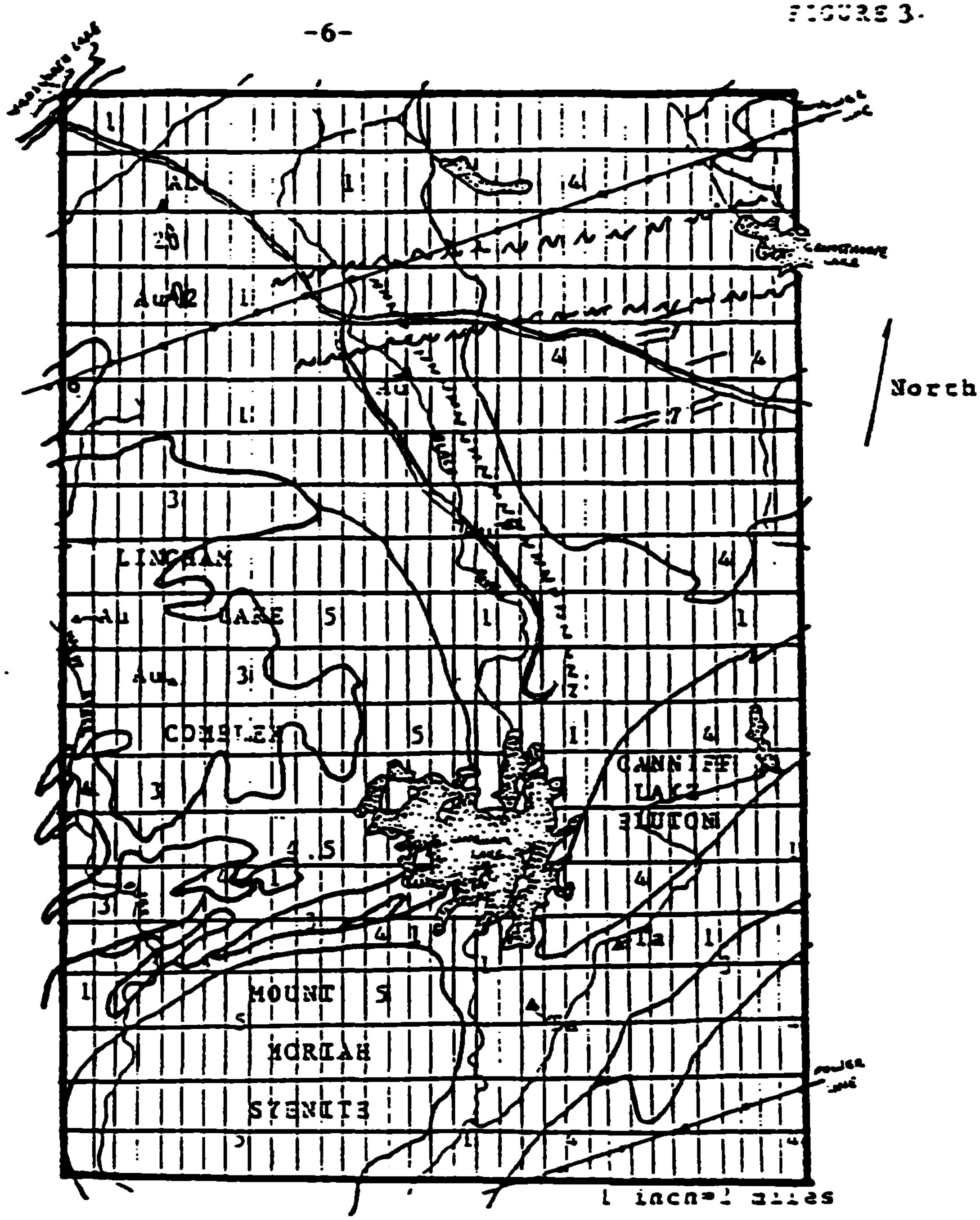
In the summer of 1992, the property was visited by Brian Christie, a geologist representing Homestake Minerals. Mr. Christie undertook limited prospecting, soil sampling, and geological mapping in isolated regions of the claim group. His work led to the discovery of gold in lot 20, concession 16 and what is now known as the Christie Showing. Christie also staked several claims to the north and recorded them in Dillman's name.

Further staking was conducted in the fall of 1992 by Dillman. A grid was constructed over portions of the new claims for control over geological, magnetic, and electromagnetic surveys. This work has led to the discovery of several more gold showings in the Black River area.

REGIONAL GEOLOGY

Grimsthorpe Township is in the Madoc-Bancroft region of the Grenville Structural Province. The geology of the township is summarized in Figure 3. A sequence of formations is presented in Table 1.

FIGURE 3.



GEOLOGY OF GRIMSTHORPE TOWNSHIP

7	diabase	▲	mineral occurrence
6	trondhjemite	Au	gold
5	syenite	Ta	talc
4	granite	^^^	fault
3	diorite		
2	metasediment		
1	mafic metavolcanic		

(modified after Easton and Ford, 1991)

TABLE I.

SUGGESTED
TABLE OF FORMATIONS FOR THE
BLACK RIVER PROPERTY
GRIMSTHORPE TWP. ONTARIO

CENOZOIC

Recent
swamp, lake, and stream deposits

Pleistocene
clay, silt, sand, gravel

Unconformity

PROTEROZOIC

Intrusive Sills and Dikes
gabbro
Intrusive contact
aplite dikes
mafic dikes (diabase?)

Intrusive contact

Metasedimentary and Metavolcanic Rocks
mafic volcanic intrusive/extrusive flows
Unconformity?
carbonate sediments
clastic sediments
mafic volcanic intrusive/extrusive flows

Grimsthorpe Township is equally divided between mafic metavolcanic rocks and igneous intrusive complexes. All rocks are of the Middle to Late Proterozoic.

Mafic metavolcanics consist of intrusive and extrusive, fine-grained basaltic and coarser-grained gabbroic flows. Between flows schists may occur which can be sedimentary derived and/or be related to volcanism.

At least five large, separate plutonic bodies intruded into the mafic metavolcanic-metasedimentary sequence. These intrusive bodies vary in composition and range from gabbro, diorite, to tonalite. During the formation of the plutonic masses, the meta-volcanic-metasedimentary sequence was intruded by dikes of either mafic or felsic composition.

Metamorphic grade in Grimsthorpe Township ranges from upper greenschist-facies to middle amphibolite-facies (R.M. Easton, 1990). The range of metamorphism appears to be dependent on the proximity to plutons.

Airphoto observations show many topograghic linea-ments, some of which are certain to be fault structures. The most dominate direction of the linear features is N-NW. A second preferred orientation is E-NE. This second direction is consistent with a regional structure that cuts across the northern section of the township (Easton, 1990). From field and airphoto observations it is apparent that the E-NE lineaments may post-date N-NW lineaments. This is based on crosscutting relationships.

PROPERTY GEOLOGY AND MINERALIZATION

The property is underlain by Proterozoic mafic meta-volcanic flows, metasedimentary schists, and dikes. These rocks belong to the Grenville Structural Province formed during the late Precambrian.

Mafic metavolcanic flows consist of fine-grained basaltic flows, coarse-grained gabbroic flows, and agglomerates. Thin units of mafic schists may occur between flows.

Metasedimentary rocks are mostly found as schist units that consist of greywacke, argillite, graphite and a member composed of quartz-feldspar-biotite. These schists are characteristically rusty on a weathered surface and contain fine-dissemminated pyrite, pyrrhotite, and magnetite. In the southern areas of the property there are rare occurrences of marble.

Fine-grained mafic dikes and fine-grained aplite dikes occur more frequently in schists. They are most frequently found along the river and to the south.

The general trend of rock units determined from the foliations of schists is NW. Units appear to dip moderately SW to near-vertical. There are at least three recognizable foliations in the schists. The most common, NW, is probably relic bedding. The second is W-NW and may be caused by localized shearing. The third is E-W and may relate to a younger structural phase.

No obvious fault zones have been observed although structural measurements suggest the presence of these structures. Localized areas of shearing occur in all major rock types on the property.

Metamorphism is believed to range from high greenschist to middle amphibolite facies.

Accessory sulphide mineralization in the schists consist of fine-disseminated pyrrhotite and pyrite. Some schists in the NW regions of the property are mineralized with fine magnetite. Quartz veins with arsenopyrite and pyrite occur in metasedimentary schists along the river in the north and central regions of the property and along a lineament in the south area. Gold has been found with this mineralization.

II. DISCUSSION AND RESULTS OF GEOPHYSICS

LOGISTICS

During the 1993 program, a previously cut and picketed baseline was extended 900 m making the total length of the baseline 5600 m. Flagged crosslines were established every 100 m and in some areas lines have been flagged every 50 m. The bearing of the baseline is 120° and the crosslines are orientated at 30° .

Periodically between September 17 and October 31, 1993, magnetic and electromagnetic (VLF) readings were taken over unsurveyed areas of the Black River property. During this time, 5.4 km were traversed with the magnetometer and 9.9 km were covered with a VLF instrument. Added to previously conducted surveys, this brings to a total over the claims of 26.6 km of magnetics and 27.8 km of VLF work.

All surveys have been preformed by Mr. R.J. Dillman of London, Ontario.

The instrument used for the electromagnetic survey was a Geonics EM-16. The station received was Cutler, Maine, USA, which operates at frequency of 24 kHz. During the survey the instrument was orientated at N20° W for all readings. This instrument has a 50 m depth penetration.

For the magnetics survey, the instrument used was a Gem Systems Proton Precession Magnetometer, model GSM-8. This instrument has a penetration depth of 50 m.

CONDUCTOR INTERPRETATION

CONDUCTOR A
LOT 14, CONC. XII, N/2
LOT 15, CONC. XIII, S/2
S01150984, S01150986
9+00S, 2+75W to 1+00N, 1+37W
MAP 3A

Conductor A occurs along creek and swamp with outcrops of metasedimentary schists and mafic metavolcanic schists. Conductor is consistent with geological trend and dips SW at steep to almost vertical angles. Schists are weakly mineralized with disseminated pyrite and pyrrhotite. Sulfide content does not suggest conductivity. There are coincident magnetic highs with the conductor axis. Arsenopyrite/gold-bearing quartz veins and quartz-filled fracture zones have been traced 500m along the schist unit. Some weak to moderate shearing is associated with the zones. Conductor A appears to be offset be E-W trending structures. The conductor may result from a combination of the wet topography plus the change in rock type; mafic metavolcanic flows to mafic and sedimentary schists.

CONDUCTOR B
LOT 14, CONC. XII, N/2
S01150984
8+00S, 1+90W to 8+50S, 1+85W
MAP 3A

Conductor axis occurs at the base of a steep, NW-trending slope. Conductor B is not consistent with the local geological trend. No outcrop is exposed along the conductor although closest outcrops consist of mafic metavolcanic flows. The NW trend of this conductor appears to intersect and offset conductor A. Conductor B may represent a fault that dips vertically or be caused by the topographical changes.

CONDUCTOR C
LOT 15, CONC. XIII, middle
S01150986
0+00N, 0+50W to 1+00N, 0+20W
MAP 3A

Conductor C occurs entirely under swamp. Both conductor and local geological trends are similar. This conductor strikes towards a gold occurrence at 1+75N, 0+12E. This occurrence is very similar to gold showings found along conductor A. The dip of the response is steeply W-SW or near-vertical. This conductor may have resulted from the conductive nature of the swamp or it could be swamp + geologically induced, such that, it may be an extension of conductor A which has been offset by an E-W trending structure.

CONDUCTOR D
LOT 15, CONC. XIII, N/2
SO1150986 2+00N, 0+35W to 3+00N, 0+40W
MAP 3A

Conductor D has been located over swamp. Appears to trend at an angle to the local geological trend. It is possible that the south end of this conductor is associated with conductor C. South end of conductor is very close to auriferous metasedimentary float located at 1+75N, 0+12E. This conductor has probably resulted from the conductive nature of the swamp although its proximity to a known gold occurrence suggests that it should not be so easily attributed to topography.

CONDUCTOR E
LOT 15, CONC. XIII, N/2
SO1150986
2+00N, 1+85W to 3+00N, 1+65W
MAP 3A

Short conductor located over swamp. Closest outcrops consist of mafic metavolcanic flows. South end of conductor has associated magnetic high. May trend parallel to local geology. This conductor may be a weakly conductive shear zone.

CONDUCTOR F
LOT 15, CONC. XIII, N/2
SO1150986
4+00N, 0+10E to 5+00N, 0+20W
MAP 3A

Conductor F occurs at the base of a slope, in dry overburden with outcrops of mafic metavolcanics. Trend of the conductor does not parallel local geology. The VLF response suggest that this conductor could be an effect of topography changes.

CONDUCTOR G
LOT 16, CONC. XIV, S/2
SO1194973
7+00N, 0+10E to 9+00N, 0+30E
MAP 3A

Conductor occurs along a thin unit of metasediment schists in volcanic flows. Unit is weakly mineralized with pyrite and pyrrhotite. Conductor appears to dip steeply SW which is consistent with the schist unit. The cause of the conductor may have resulted from the change in rock types.

CONDUCTOR H
LOT 16, CONC. XIV, S/2
SO1194973
8+00N, 0+87W to 10+00N, 0+95W
MAP 3A

Conductor H occurs in low, wet ground. Although this might be the cause of the VLF response it should be pointed out that the conductor is coincidental with an arsenic soil anomaly with values ranging up to 195 ppm As(Christie,1992).

CONDUCTOR I
LOT 16, CONC. XIV, S/2
SO1194973
8+00N, 1+35W
MAP 3A

Conductor I occurs in wet to dry overburden that is probably conductive. Conductor I, if it is a geologically induced conductor may be of some importance because it occurs over a 2nd arsenic soil anomaly with values grading up to 135 ppm As and 19 ppb gold (Christie, 1992). Metasedimentary float found "down ice" and close to the conductor axis assayed 241 ppb gold (Dillman, 1992)

CONDUCTOR J
LOT 17, CONC. XIV, N/2
SO1156636
15+00N, 1+30E to 16+00N, 1+35E
MAP 3B

This conductor occurs over dry to swampy ground at the base of a slope. Closest outcrop to conductor axis consists of mafic metavolcanic flows. Trend of the conductor is parallel geology and it follows a magnetic low. This conductor may be caused by elevation changes, swamp, or conductive overburden.

CONDUCTOR K
LOT 18, CONC. XV, S/2
SO1156654
24+00N, 1+12E
MAP 3B

Conductor occurs over outcrop of Fe-carbonate altered gabbro with quartz-Fe-carbonate stringer stockwork. The VLF suggests that the conductor is near surface and dips SW at a steep angle. There is an associated magnetic high. The outcrop contains disseminated pyrite and magnetite but they do not appear abundant enough to be conductive. It is possible that the conductor is caused by non-surfacing sulfide mineralization associated with the alteration and stockwork system.

CONDUCTOR L
LOT 18, CONC. XV, S/2
SO1156654
23+00N, 0+60E
MAP 3B

This conductor occurs in a wet to dry swampy area of the river valley. No outcrop is found close to the conductor although metasedimentary schists outcrop within 25m of the conductor axis. There is a magnetic high coincidental with the conductor. This conductor might be caused by the river sediments but it may also be caused by a sulfide target.

CONDUCTOR M
LOT 18, CONC. XV, S/2
LOT 19, CONC. XV, S/2
LOT 19, CONC. XV, N/2
S01156654, S01194974, S01156650
24+00N, 0+30E to 29+00N, 0+65E
MAP 3B

Conductor M is a long, continuous response that dips at a moderate angle SW. The conductor follows a unit of mafic schists that begins to include metasedimentary schists as one progresses northwest along the unit. No sulfides that suggest conductivity have been seen in the schists. There is a magnetic anomaly coincident with the conductor along the north half. The conductor occurs approximately in the dry midpoint of a moderate northeast facing slope of the river valley. Conductor M is related to the schist unit. There may have been faulting or shearing along this unit and possible sulfide zones could be present.

CONDUCTOR N
LOT 18, CONC. XV, N/2
S01156650
28+00N, 1+15E to 29+00N, 1+40E
MAP 3B

This conductor occurs over the river. There are outcrops of mafic metavolcanic flows on either side of the river. An outcrop on the east side of the river is part mafic schist with disseminated pyrite and pyrrhotite and weak silicification. The conductor, because it is not continue with the river, may be induced by shearing within this mafic schist unit or by the VLF reacting to a different rock type.

CONDUCTOR O
LOT 19, CONC. XV, N/2
LOT 20, CONC. XV, N/2
LOT 20, CONC. XVI, S/2
S01156650, S01156653
30+25N, 0+85E to 34+00N, 0+65E
MAP 3C

Conductor O occurs along the river and over outcrops of metasedimentary schists. The schists are weakly mineralized with disseminated pyrite and pyrrhotite. There are thin zones of shearing, veining and fracturing. The fractures are sealed with quartz + weak arsenopyrite mineralization. Anomalous gold values up to 1201 ppb have been taken from this zone. There is a good, strong magnetic anomaly coincidental with this conductor. The trend of conductor O is consistent with the strike of the schists and the conductor appears to be dipping SW at a moderate to steep angle. This is also consistent with geology. Conductor O is in part influenced by the conductive properties of the river as well as having a signature characteristic of a weakly conductive shear zone. It is not certain whether this conduction is partly caused by localized sulfide zones or by the presence of graphite schists.

CONDUCTOR P
LOT 20, CONC. XV, N/2
LOT 20, CONC. XVI, S/2
SO1156650, SO1156653
32+00N, 1+12W to 37+00N, 0+35E
MAP 3C

This conductor follows a unit of metasedimentary schists and minor mafic metavolcanic schists. The dip of the conductor is moderate to shallow in a SW direction and may steepen along the south extent of the axis. Topography over the conductor axis consists of mostly dry overburden, some outcrops, and locally wet swamps. The conductor is coincidental with a magnetic high. The VLF response, in part, suggests faulting or shearing might be the cause of the conductor. Prospecting has revealed localized shearing within the schist unit as well as disseminated pyrrhotite, pyrite, and stringered pyrite. No where has sulfide content been observed that was thought to be massive enough to promote conductivity although, graphite schist has been noted in at least one location along the conductor axis. A trench on the schists has revealed some parallel arsenopyrite-bearing shear zones that carry gold values up to 1263 ppb across 0.8m (Dillman, 1992). Another gold showing proximal to the north end of the conductor has returned values of 56.8 g/t Au in grab samples of a quartz vein within the schist unit. Conductor P represents a locally sheared metasedimentary unit with conductive members (graphite), weak sulfide mineralization, and locally associated gold values.

CONDUCTOR Q
LOT 20, CONC. XVI, S/2
SO1156653
36+00N, 0+95E to 37+00N, 1+05E
MAP 3C

The axis of this conductor occurs over an overburden-filled linear depression. Metasedimentary schists outcrop on the west side of the depression and gabbro occurs on the east side. The trend of the lineament and the conductor is consistent with geology. The dip of the conductor appears to be near-vertical although readings have been influenced by other conductors on either side. Conductor Q might only be caused by conductive overburden in the lineament or, in part, it may be induced by some conductive property along the gabbro/sediment contact.

CONDUCTOR R
LOT 20, CONC. XVI, S/2
SO1156653
35+00N, 1+20E to 37+00N, 1+85E
MAP 3C

Conductor R somewhat follows the river, occurring along the base of the east slope of the river valley. This conductor trends in a more northernly direction than surrounding conductors. The only other conductor that shares this trend is conductor N. There are no outcrops along the axis of the conductor although outcrops of mafic metavolcanic rocks are exposed on the slope east of the conductor and metasediments outcrop along the river west of the conductor. The dip of the conductor is steeply towards the NE. This direction is unusual for the property. The conductor is coincident with a magnetic high. It is almost certain that the VLF is responding to the conductive effects of the river and the severe change in elevation east of the river but in part be reflecting conductive properties in rock as it is coincident with a magnetic body. The different direction to the trend of this conductor relative to other surrounding conductors may be an indication that a change in the trend of local geology is occurring in this area. Then the possibility of a shear or fault zone exists between the south-end of conductor R and conductors O and Q.

CONDUCTOR S
LOT'S 20 & 21, CONC. XVI, N.1/2
SO1194942
40+00N, 2+60E to 41+00N, 2+65E
MAP 3C

The axis of this conductor is located over deep overburden of the river. It is roughly on strike with conductors R and V. There is no magnetics associated with this anomaly. This VLF response has probably been caused by conductive overburden in the river.

CONDUCTOR T
LOT 21, CONC. XVI, N.1/2
SO1194942
40+00N, 2+10E
MAP 3C

This conductor occurs along the margin of deep overburden of the river and outcrops of mafic metavolcanic rocks. It is a short NW trending conductor that dips moderately SW. There is a weak magnetic anomaly coincident with the crossover. The north ends of the conductor and the magnetic anomaly appear to be truncated in a northern director. A small boulder on the north end of the conductor was discovered by prospecting that consisted of 20-30% pyrite and pyrrhotite mineralization of secondary nature. The mineralization showed no gold when assayed.

CONDUCTOR U
LOT 22, CONC. XVI, S.1/2
SO1194943
41+00N, 4+60W
MAP 3C

This conductor is a short, vertically-dipping conductor. It is located over dry topography proximal to outcrops of mafic metavolcanic rocks with thin bands of metasedimentary schists. The schists show weak shearing and 5-10% stringered pyrite. A rock sample taken of the mineralization did not show any gold.

CONDUCTOR V
LOT 21, CONC. XVI, N.1/2
SO1194942
42+00N, 3+30E to 43+00N, 3+60E
MAP 3C

This conductor follows the trend of a distinctive NW trending magnetic low. Although no outcrops are exposed along the conductor axis, several boulders of metasedimentary float were found suggesting that the conductor maybe associated with an unit of metasedimentary schists in the metavolcanics. Soil samples over the conductor which were taken by Christie (1992) do not show any anomalous values over the conductor.

CONDUCTOR W
LOT 17, CONC. XIV, N.1/2
SO1156636
17+00N, 0+12E to 19+00N, 0+20E
MAP 3B

The axis of this conductor trends NW through dry, sandy overburden and may dip steeply or near-vertically SW. There is no outcrop exposure proximal to the conductor although it does occur along a geological trend which is believed to consist of metasediments and metavolcanics. There are some weak magnetic responses along the conductor and it appears that the conductor separates contrasting trends displayed by the magnetics.

CONDUCTOR X
LOT 17, CONC. XIV, N.1/2
SO1156636
16+00N, 0+75E to 20+00N, 0+85E
MAP 3B

Conductor X follows the river valley and is completely covered by overburden. It is certain that the river and its related sediments have strongly influenced the VLF instrument and are probably the sole reason for the VLF crossover. It does not have any magnetics associated with it except towards the extreme south end. A comparison this conductor to other conductors located along the river shows that conductor X is a much stronger VLF crossover. Therefore, it can not be ruled out that a band of metasediments maybe contributing in part, to the VLF response.

MAGNETIC INTERPRETATION

ANOMALY A
LOT 14, CONC. XII, N.1/2
LOT 14, CONC. XIII, S.1/2
LOT 16, CONC. XIII, S.1/2
SO1150984, SO1150986
8+50S, 2+30W to 0+00, 1+00W
MAP 2A

This magnetic high occurs over metasedimentary schists. It appears to dip steeply to the SW except in the north where it appears to dip steeply NE. An E-W trending structure might be crossing the anomaly and separating the two apparent dips. The anomaly is coincident with conductor A. Gold has been detected with arsenopyrite in quartz veins and local shears along the magnetic anomaly in outcrops of metasedimentary schists. Local concentrations of fine pyrrhotite is believed responsible for the higher magnetics.

ANOMALY B
LOT 15, CONC. XIII, N.1/2
S01150986
2+00N, 0+00 to 3+00N, 0+37W
MAP 2A

Anomaly B occurs over metasedimentary schists which are similar to those found around anomaly A. Gold has also been detected in metasedimentary float consisting of the same gold-bearing mineralization as that occurring along anomaly A. Anomaly B is believed to be caused by local concentrations of fine pyrrhotite mineralization occurring in, stratigraphically, the same metasedimentary unit as anomaly A.

ANOMALY C
LOT 13, CONC. XII, N.1/2
S01150985
9+00S, 1+25W to 10+00S, 1+12W
MAP 2A

The cause of this magnetic high is a 1.0 m wide quartz vein with <5% fine disseminated magnetite. The length of the vein is unknown but the magnetometer suggests that it strikes for at least 100 m and dips steeply to the south. This vein maybe structure-related.

ANOMALY D
LOT 14, CONC. XII, N.1/2
S01150986
6+00S, 1+12W to 7+00S, 0+50W
MAP 2A

This anomaly is caused by a magnetite-bearing quartz vein similar to the vein at anomaly C. The vein strikes E-W and is 0.7-1.0 m wide. The magnetometer suggests that it strikes +75 m.

ANOMALY E
LOT 16, CONC. XIII, N.1/2
S01156635
5+00N, 3+65W to 6+00N, 2+95W
MAP 2A

Anomaly E is a strong magnetic high that occurs over mafic metavolcanic outcrops that contain <2 cm wide and randomly orientated granitic dikes. Within the dikes are clots of magnetite.

ANOMALY F
LOT 16, CONC. XIII, N.1/2
S01156635
5+00N, 3+65W to 6+00N, 2+95W
MAP 2A

This anomaly is a bulls eye-type magnetic high. There is no outcrop in the immediate area and the closest outcrops consist of mafic metavolcanic flows. No evidence was found in the field as to explain the cause of this anomaly.

ANOMALY G
LOT 18 , CONC. XV, S/2
SO1156654
23+00N, 1+12E to 24+00N, 1+25E
MAP 2B

The southern extent of the strike length for this anomaly is undefined at present time of report. The magnetic high was found to occur over a gabbroic flow which has moderate Fe-carbonate alteration and minor quartz-carbonated stringer systems. There are traces of pyrite, tourmaline, and fine magnetite throughout the alteration zone. Conductor K is associated with this zone. Other occurrences of this type are generally found on the east side of the river. Why they prefer this region has yet to be determined. Gold assay results of rock samples taken of the alteration have so far shown that they economically unimportant.

ANOMALY H
LOT 18, CONC. XV, S/2
SO1156654
23+00N, 1+62E
MAP 2B

This anomaly is a weak magnetic high within an area of rather low intensity. The anomaly occurs in overburden and until readings are taken towards the south no attempt will be made as to it's dimensions and probable cause. With the present state of coverage in this area, the anomaly should be overlooked as a possible target to be considered important. But since at occurs close to a recently discovered gold showing it is worth mentioning.

ANOMALY I
LOT 18, CONC. XV, S/2
SO1156654
23+00N, 0+50E
MAP 2B

This anomaly occurs very close to metasedimentary outcrops exposed along the river valley. The schists were noted to have traces of fine-disseminated pyrrhotite and pyrite. At present, the strike of this anomaly is open in the south direction.

ANOMALY J
LOT 18, CONC. XV, S/2
SO1156654
24+00N, 0+50W
MAP 2B

Anomaly J occurs in overburden. The closest outcrops consist of mafic metavolcanic flows. The survey is incomplete towards the south so that strike length can not be determined. It is not believed that anomalies I and J are the same. This is based on structural measurements made on outcrops exposed at anomaly I. No explanation can be made as to the nature of anomaly J.

ANOMALY K
LOT 18, CONC. XV, middle
S01156654
23+00N, 2+75E to 27+00N, 2+00E
MAP 2B

This anomaly occurs in mafic metavolcanic flows. The anomaly has been prospected but no significant mineralization was observed. It is suggested that the magnetic response is caused by varied magnetic properties within or between mafic metavolcanic flow(s).

ANOMALY L
LOT 19, CONC. XV, N/2
S01156650
27+00N, 0+75E to 29+00N, 0+50E
MAP 2C

Anomaly L occurs over a thin unit of metasedimentary schists. It is consistent with the strike of the unit and dips towards the southwest. The anomaly is caused by fine-disseminated pyrrhotite within the schists.

ANOMALY M
LOT 19, CONC. XV, N/2
LOT 20, CONC. XV, N/2
S01156650
30+00N, 0+65E to 34+00N, 0+37E
MAP 2B, MAP 2C

This anomaly may be related to anomaly L. It is a strong, continual anomaly that dips SW along the south sections and appears almost vertical towards the north. This contrast is possibly structure related. Prospecting and mapping in the area have shown that the anomaly occurs over mafic and metasedimentary schists that have been intruded by mafic and felsic dikes. There is shearing, fracturing and veining within the schists. Arsenopyrite and gold values up to 1.2 g/t occur in the alteration. Disseminated pyrite and pyrrhotite occur in the schists. The anomaly is a result of the pyrrhotite.

ANOMALY N
LOT 19, CONC. XV, S/2
S01194974
28+00N, 2+12W to 29+50N, 2+00W
MAP 2B, MAP 2C

Anomaly N is a very strong anomaly which trends NW and its strike length is open in both directions. It is possibly related to anomaly O but this is only speculated at the present time. The anomaly occurs in a shallow cut through mafic metavolcanic outcrops. This cut widens into a large swamp towards the SE. Prospecting could not locate an explanation for the anomaly but a large, angular block of chlorite schist was found on the anomaly. This rock was not magnetic although it is strongly sheared.

ANOMALY O
LOT 20, CONC. XV, N/2
LOT 20, CONC. XVI, S/2
33+00N, 1+00W to 38+00N, 0+25E
MAP 2C

Anomaly O is a well-defined anomaly that trends NW and dips shallow to moderately SW. It is intersected by anomaly M in the vicinity of line 35N. The anomaly is coincidental with a unit of metasedimentary schists and is believed to result from fine-disseminated pyrrhotite that occurs in the schists. Although much of the area is covered by overburden gold has been detected in one outcrop on the anomaly and in another near the north end. As stated before this anomaly could be related to anomaly N. How it is related to anomaly M can only be speculated although based on the magnetic results the two could be related by faulting or folding. Since no fold structures have been recognized in the area the intersection of the two anomalies must be a result of shearing.

ANOMALY P
LOT 21, CONC. XVI, S/2
SO1156653
36+00N, 2+00W to 37+00N, 1+70W
MAP 2C

This anomaly returned some of the strongest readings on the entire property. The anomaly occurs in mafic metavolcanic flows and chloritized mafic metavolcanic schists. Prospecting has revealed a discrete structure that trends parallel to most geological rock units in the area. Some quartz veining was noted in the zone but lacked sulphide mineralization. Fine-disseminated pyrite and magnetite were observed in the schist and probably caused the magnetic high. The anomaly is open along its strike and appears to dip moderately SW. More work is needed to understand this zone since it is the only occurrence of magnetite-pyrite-chlorite seen on the property.

ANOMALY Q
LOT 20, CONC. XVI, S/2
SO1156653
36+00N, 1+75E to 37+00N, 2+12E
MAP 2C

This anomaly is coincidental with conductor R. The magnetic signature suggests that the dip is NE which is similar to that of the conductor. Prospecting of the anomaly has revealed Fe-carbonate alteration in mafic metavolcanics outcropping close to the anomaly and, metasedimentary float on the anomaly axis. The orientation of the trend is somewhat different than what geological measurements have shown except for an isolated set of joints measured proximal to the anomaly. This has encouraged the idea of a possible fault occurring within the area. Establishing survey lines to the north will help an interpretation. At present the magnetics suggests pyrrhotite mineralization in a metasedimentary unit.

ANOMALY R
LOT 20, CONC. XVI, S.1/2
SO1156653
38+00N, 1+50E
MAP 2C

Anomaly R is located in overburden on the edge of a flooded section of the river. The closest outcrops, located south of the anomaly consist of mafic metavolcanic rocks. Between the anomaly and the outcrops are approximately a dozen, metasedimentary boulders with arsenopyrite and quartz that have assayed up to 3.1 g/t Au. The boulders are 'down-ice' from the anomaly. It is possible that anomaly R is caused by a unit of metasedimentary schists with fine disseminated pyrrhotite.

ANOMALY S
LOT 21, CONC. XVI, N.1/2
SO1149492
39+25N, 1+50E to 41+00N, 2+10E
MAP 2C

This anomaly follows the base of mafic metavolcanic outcrops and overburden beside the river. It may be associated with conductor T. At the north end of the anomaly a small boulder was found of mafic metavolcanic rock with semimassive pyrite and pyrrhotite. This float may have come from material causing the anomaly. At the south end of the anomaly a small piece of metasedimentary float was found that contains quartz and arsenopyrite mineralization which is similar to many of the gold occurrences elsewhere on the property. This float assayed 1.6 g/t Au. Anomaly S may represent fine pyrrhotite mineralization in a unit of metasedimentary schists.

ANOMALY T
LOT 21, CONC. XVI, N.1/2
SO1149492
40+00N, 1+00E to 44+00N, 2+10E
MAP 2C

Anomaly T is a long, thin magnetic high that continues off the property. This anomaly may be an extension of anomaly O which occurs as a result of fine pyrrhotite mineralization in the metasedimentary schists. The axis of the anomaly follows a low area surrounded by mafic metavolcanic outcrops. Due to the recessive location and the consistent magnetic intensity along strike, the anomaly could be caused by magnetic mineralization in a thin band of unexposed metasediments.

ANOMALY U
LOT 22, CONC. XVI, N.1/2
SO1149493
45+00N, BL.
MAP 2C

This magnetic high is caused by Tr.-2% magnetite mineralization in an outcrop marble. The magnetite occurs as fine-masses in the wallrock which is sheared and veined by quartz and calcite. There is strong iron-carbonate alteration throughout the outcrop. Pyrite occurs with shearing, veining and alteration. Gold was not detected.

ANOMALY V
LOT 21, CONC. XVI, N.1/2
SO1149492
42+00N, 3+25E to 43+00N, 3+50E
MAP 2C

Anomaly V appears as a linear magnetic low that crosses the property boundary. The anomaly is coincident with conductor V. There are no outcrops along the trend of the anomaly but several boulders of metasedimentary schist were discovered that contain fine-disseminated pyrrhotite and pyrite. Both the boulders and the magnetics are believed to reflect an unexposed unit of metasedimentary schists.

ANOMALY W
LOT 17, CONC. XIV, N.1/2
LOT 18, CONC. XIV, N.1/2
LOT 18, CONC. XV, S.1/2
SO1156636, SO1156654
18+00N, 0+25E to 21+00N, 0+50E
MAP 2B

Anomaly W defines an area of overburden along the river where a shear zone may exist. The zone becomes apparent by the contrast between the different trends of magnetic variations detected in the surrounding area. These magnetic trends could reflect geological trends and a shear zone would occur at the intersection of the oblique trends. Shear-related gold mineralization occurs in several areas within the property. The south end of anomaly W is coincident with conductor W.

ANOMALY X
LOT 18, CONC. XV, S.1/2
SO1156654
22+00N, 0+75W
MAP 2B

Anomaly X is a crude circular-shaped magnetic high occurring over mafic metavolcanic rocks. It is similar to anomaly J in appearance and location. A small unit of metasedimentary schists were located at the low intensity anomaly associated with the north region of anomaly X. It is possible that anomaly X is caused by deeper, non-surfacing magnetic mineralization associated with the metasediments or it could represent a E-W trending mafic metavolcanic flow of slightly higher magnetic response.

ANOMALY Y
LOT 17, CONC. XIV, N.1/2
LOT 18, CONC. XIV, N.1/2
SO1156636
18+00N, 0+50W to 19+00N, 1+00W
MAP 2B

This E-W trending magnetic high occurs in mafic metavolcanic rocks. The trend of this anomaly may reflect the trend of local geology. No cause for the anomaly was established in the field. It may represent magnetite mineralization. A projected strike towards the east might suggest that anomaly Z is associated with anomaly Y.

ANOMALY Z
LOT 17, CONC. XIV, S.1/2
SO1156636
16+00N, 0+35E to 16+50N, 1+00E
MAP 2B

Anomaly Z defines an area of high and low magnetic response. The suggested trend of this anomaly may not be accurate and it is possible that 2 separate anomalies exist here. The highest intensity is centred over gabbroic rocks moderately altered by iron-carbonate and mineralized with traces of magnetite. The lower response occurs over deep overburden beside the river. Anomaly Z is at the intersection of a projected SE strike of anomaly W and an E-W strike of anomaly Y.

III. CONCLUSIONS AND RECOMMENDATIONS

Many magnetic anomalies and VLF crossovers were detected within the surveyed area. Both geophysical surveys show that the majority of the targets occur together and support the idea that sulphide and magnetic mineralization caused the geophysical responses. In areas around the known gold occurrences both instruments responded well with certain properties of the rock.

Most of the magnetic anomalies within the surveyed area can be attributed to fine-disseminated pyrrhotite mineralization in metasedimentary schists. More importantly, magnetic variations were even greater enhanced over all the gold occurrences within the metasediments although gold-bearing mineralization is not magnetic. Never the less, the magnetometer is the best tool for tracing the metasediments and defining areas where gold occurrences may exist.

Interpreting VLF results is difficult and speculative under certain topographical conditions and during the survey almost all the suggested VLF conductors are located in or along conductive topographic features such as swamps and streams. Therefore it would be easy to attribute the majority of VLF crossovers as a response to conductive overburden. But metasedimentary schists, the most important rock unit for hosting gold occurrences, is characteristically found in the most recessive areas and these are the areas where the VLF reacts in a crossover. Using geological and surfacial information gathered in the field combined with magnetic data over a conductive area, allows for the possibility that many of the suggested conductors are caused by properties in the rock and not solely caused by the conductive topography.

Many of the conductors could be caused by fine stringers of pyrite in the metasedimentary schists. One conductor was verified by a Beep Mat instrument as being caused by fine-pyrite coating the cleavages of carbonaceous metasedimentary schists. Although VLF crossovers were detected over several of the gold occurrences no mineralization was seen in the showings that would be massive or continual enough to be the cause for a VLF crossover. Therefore conductors over the gold occurrences are more of a coincidence and reflect the metasediments and topography rather than gold-related mineralization.

Further geophysics work is needed on the Black River property. A winter program of surveying with a magnetometer and a VLF instrument is strongly recommended. Areas that need to be surveyed at this time are areas of swamp, along the river in the central region of the property and by extending existing grid lines.

Other geophysical work could consist of detailed magnetic surveying along the metasedimentary units that host the gold occurrences. Reasons for this type of work are by the apparent association between magnetic highs along schist units and the occurrences of gold.

An estimated cost of expense for doing this type of work is:

Magnetics @ $100/km	$3200
VLF @ $100/km	2700
	5900
Plus contingencies, 20%	1180
Total	$7080

Respectfully submitted,

R.J. Dillman, B.Sc.

20 December 1993

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C E R T I F I C A T E

I, ROBERT JAMES DILLMAN, do hereby certify as follows:

[1] THAT I am a Mining Exploration Geologist, and that I reside and carry on business at 42 Springbank Drive in the City of London, Ontario.

[2] THAT I am a Graduate of the University of Western Ontario, with a Bachelor of Science Degree in Geology, 1992.

[3] THAT I have been practising my profession as a Geologist since 1992.

[4] THAT I have been actively engaged as a prospector in Canada since 1978.

[5] THAT my Report, dated December 20, 1993, on the Black River Property of Grimsthorpe Township is based on information collected by myself between 1991 and to the date of this Report, and from other sources cited in this Report.

[6] THAT I have a 100% interest in the Black River Property and any information given in this Report is as accurate as to the best of my knowledge and THAT I am not making any false statements to better the position of the property for personal gain.

Robert J. Dillman, B. Sc.
Geologist

Dated at London, Ontario
This 20th day of December,


GEOLOGY
GRIMSTHORPE TOWNSHIP
ONTARIO
DATE: NOV. 1992
REVISED: NOV. 1993
MAP Nº 1A
SCALE: 1:2,500
DRAWN BY RJD
LEGEND
4 Aplite dikes
3 Marble
2 Schists
a mafic schist
b argillite, greywacke, phyllite schists
c quartz-feldspar-biotite
1 Mafics
a basalt
b gabbroic flows
c agglomerate
SYMBOLS
outcrop
rubble crop
float
foliation + dip
schistosity + dip
strike + dip of vein
arsenopyrite
pyrrhotite
contact
sample number
clearing
pond
beaver dam
swamp
road
pyrite
magnetite
hill top, slope
fg, mg, cg fine, medium, coarse grained
GRIMSTHORPE TWP, PLAN Nº M37
TRUE NORTH
MAGNETIC NORTH
CONC. XII
CONC. XIII
LOT 13
LOT 14
LOT 15
LOT 16
LOT 17
LINGHAM LAKE ROAD
BLACK RIVER
1150984
1150985
1150986
1156635
1156636
1194973

GRIMSTHORPE TWP., PLAN No. M97
TRUE NORTH
MAGNETIC NORTH
CONC. XIV
CONC. XV
LOT 17
LOT 18
LOT 19
LOT 20
BLACK RIVER
LINGHAM LAKE ROAD
LEGEND
4 Aplite dikes
3 Marble
2 Schists
a mafic metavolcanic schists
b argillite, greywacke, graphitic schists
c quartz-feldspar-biotite schist
1 Mafic metavolcanics
a basalt
b gabbroic flows
c agglomerate
SYMBOLS
metres
0 100 200
GEOLOGY
GRIMSTHORPE TOWNSHIP
ONTARIO
DATE: NOV. 1992
REVISED: NOV 1993
MAP No. 1B
SCALE 1:2,500
DRAWN BY RJD

210


GEOLOGY
GRIMSTHORPE TOWNSHIP
ONTARIO
DATE: NOV. 1992
REVISED: NOV.93
SCALE 1:2,500
MAP No. 1C
DRAWN BY RJD
0 100 200
metres
LEGEND
4 Aplite dikes
3 Marble
2 Schists
a mafic metavolcanic schists
b argillite, greywacke, graphitic schists
c quartz-feldspar-biotite schist
1 Mafic metavolcanics
a basalt
b gabbroic flows
c agglomerate
SYMBOLS
outcrop
sample number
rubble crop
clearing
float
pond
foliation + dip
beaver dam
schistosity + dip
swamp
strike + dip of vein
road
jointing + dip
hill top + slope direction
Au gold
py pyrite
As arsenopyrite
po pyrrhotite
mag magnetite
contact
fg,mg,cg fine, medium, coarse grained
TRUE NORTH
MAGNETIC NORTH
GRIMSTHORPE TWP. PLAN No. M67
LOT 22
LOT 21
LOT 20
LOT 19
LOT 18
CONC XV
CONC XVI
LINGHAM LAKE ROAD
SKOOTAMATTA ROAD
BLACK RIVER


MAGNETIC SURVEY
GRIMSTHORPE TOWNSHIP
ONTARIO
DATE: NOV. 1992
MAP No. 2A
SCALE: 1:2,500
DRAWN BY RJG
GEM SYSTEMS GSM-8
VALUES BASED AT 56,000 GAMMAS
250 GAMMA CONTOUR INTERVAL
MAGNETIC LOW
GOLD OCCURRENCE
TRUE NORTH
MAGNETIC NORTH
GRIMSTHORPE TWP. PLAN No. M97
metres
0
100
200
CONC. XII
CONC. XIII
LOT 13
LOT 14
LOT 15
LOT 16
LOT 17
BLACK
RIVER
LINGHAM LAKE ROAD
1150985
1150984
1150986
1156635
1156636

MAGNETIC SURVEY
GRIMSTHORPE TOWNSHIP
ONTARIO
SCALE 1:5,000
GEM SYSTEMS GSM-8
MAGNETIC LOW
GOLD OCCURRENCE
LOT 17
LOT 18
LOT 19
LOT 20
CONC. XIV
CONC. XV
BLACK RIVER
LINGHAM LAKE ROAD


MAGNETIC SURVEY
GRIMSTHORPE TOWNSHIP
ONTARIO
SCALE 1:2,500
REVISED: NOV.93
DATE: NOV. 1992
MAP No. 2C
GOLD OCCURRENCE
MAGNETIC LOW
250 GAMMA CONTOUR INTERVAL
VALUES BASED AT 56,000 GAMMAS
GEM SYSTEMS GSM-8
TRUE NORTH
MAGNETIC NORTH
GRIMSTHORPE TWP, PLAN No. M57
LOT 19
LOT 20
LOT 21
LOT 22
LOT 18
CONC. XV
CONC. XVI
LINGHAM LAKE ROAD
LAKE ATTAMATOOSING ROAD
BLACK RIVER
metres
0
100
200
26N
27N
28N
29N
30N
31N
32N
33N
34N
35N
36N
37N
38N
39N
40N
41N
42N
43N
44N
45N

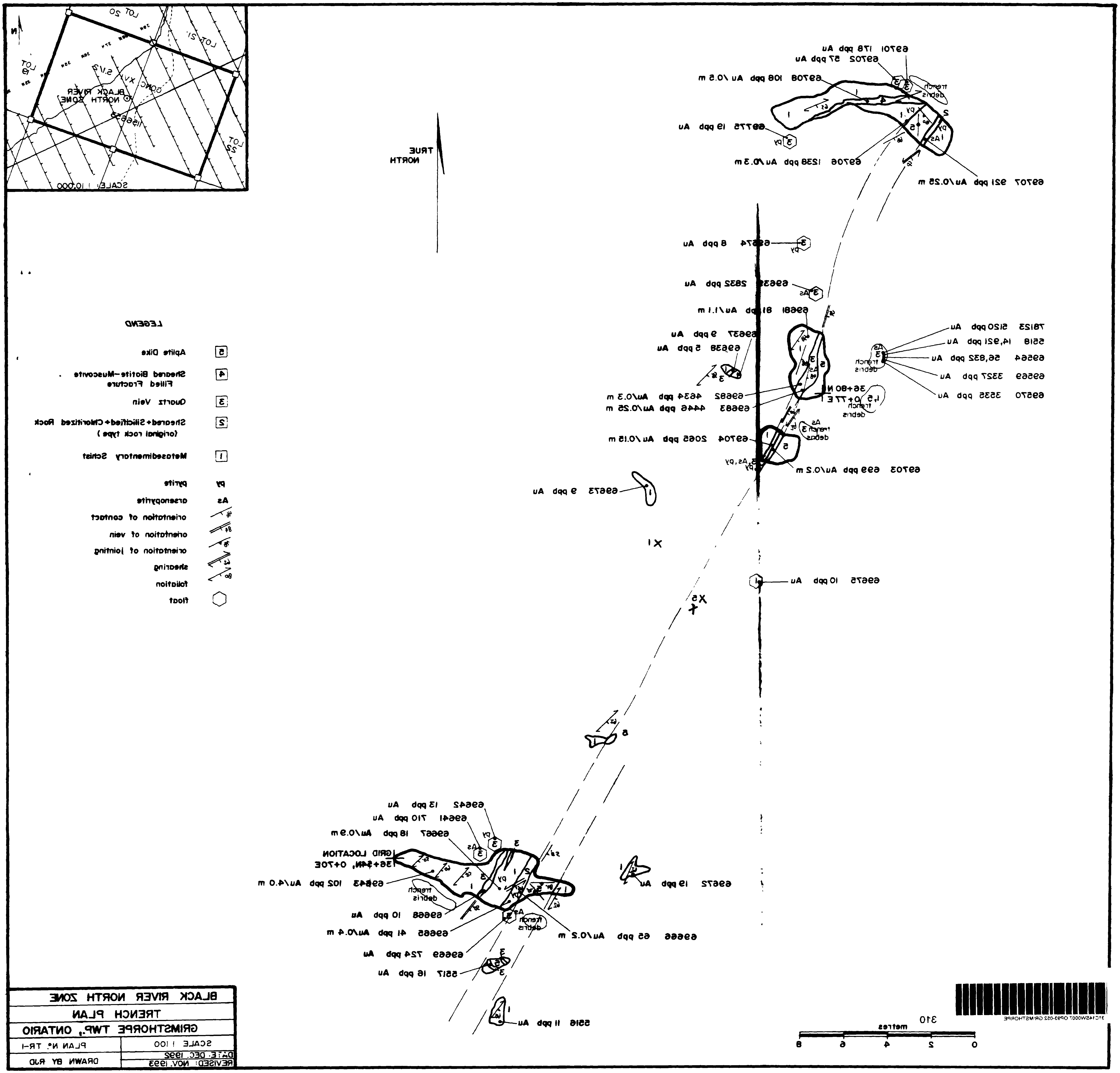

ELECTROMAGNETIC SURVEY
GRIMSTHORPE TOWNSHIP
ONTARIO
DATE: NOV. 1982
MAP No. 3A
SCALE: 1:2,500
DRAWN BY RJD
GOLD OCCURRENCE
CONDUCTOR
Station: CUTLER, MAINE (24 KHz)
Instrument: GEONICS EM-16
metres
0
100
200
TRUE NORTH
MAGNETIC NORTH
INSTRUMENT ORIENTATION
STATION DIRECTION
LOT 17
LOT 16
LOT 15
LOT 14
LOT 13
CONC. XIII
CONC. XII
LINGHAM LAKE ROAD
BLACK RIVER
GRIMSTHORPE TWP. PLAN No. M.97

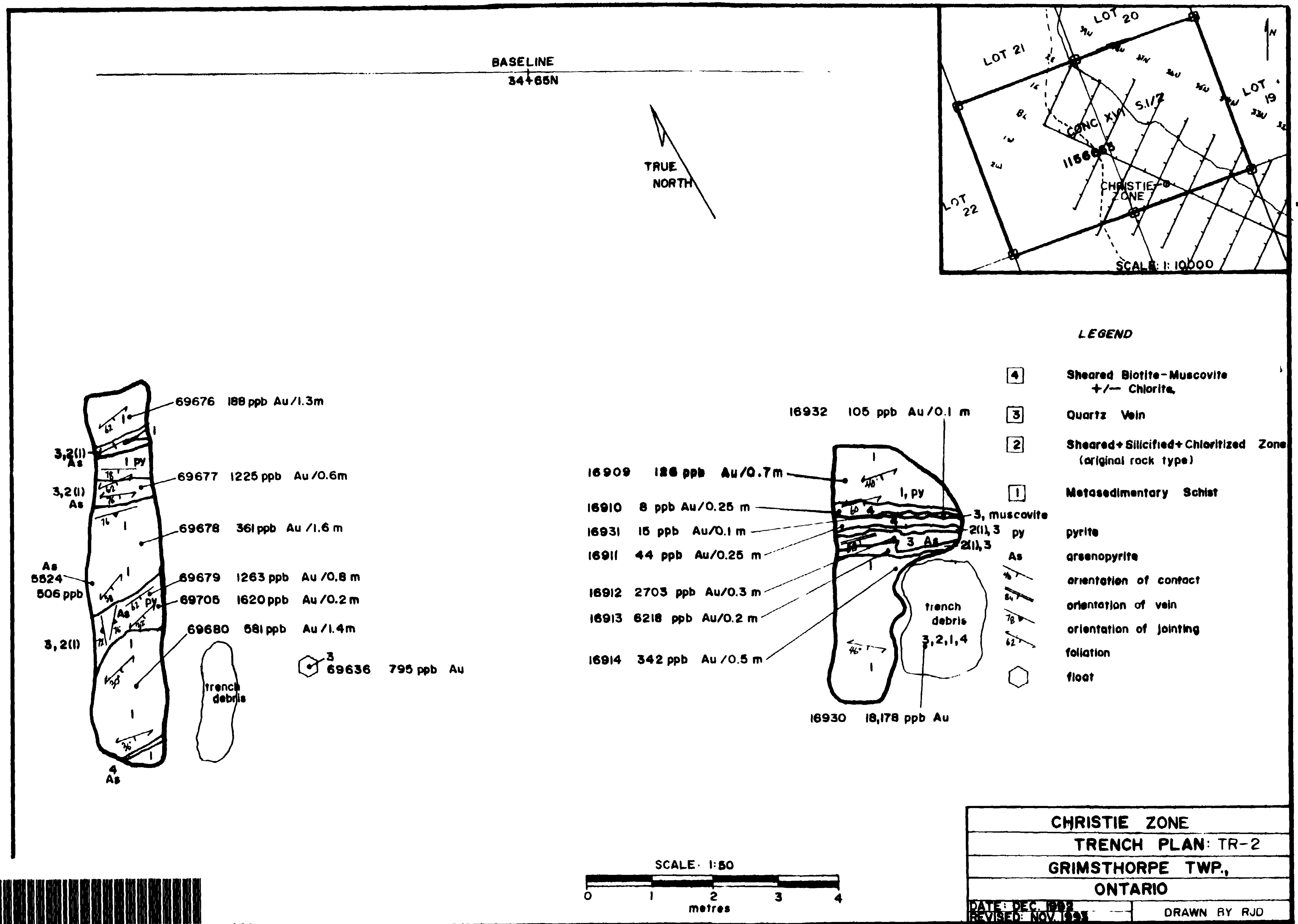

ELECTROMAGNETIC SURVEY
GRIMSTHORPE TOWNSHIP
ONTARIO
DATE: NOV. 1992
REVISED: NOV. 1993
SCALE 1:2,500
MAP No 3B
DRAWN BY RJO
GRIMSTHORPE TWP., PLAN No M97
GOLD OCCURRENCE
CONDUCTOR
Station CUTLER, MAINE (24 KHz)
Instrument GEONICS EM-16
TRUE NORTH
INSTRUMENT ORIENTATION
MAGNETIC NORTH
STATION DIRECTION
metres
0
100
200
LOT 17
LOT 18
LOT 19
LOT 20
CONC. XIV
CONC. XV
BLACK RIVER
LINGHAM LAKE ROAD
9N
10N
11N
12N
16N
17N
18N
19N
20N
21N
22N
23N
24N
25N
26N
27N
28N
29N


ELECTROMAGNETIC SURVEY
GRIMSTHORPE TOWNSHIP
ONTARIO
DATE: NOV. 1992
REVISED: NOV. 93
SCALE 1:2,500
MAP Nº 3C
DRAWN BY RJD
metres
0
100
200
GOLD OCCURRENCE
CONDUCTOR
Station CUTLER, MAINE (24 KHz)
Instrument GEONICS EM-16
GRIMSTHORPE TWP. PLAN Nº M97
TRUE NORTH
INSTRUMENT ORIENTATION
MAGNETIC NORTH
STATION DIRECTION
CONC. XV
CONC. XVI
LOT 18
LOT 19
LOT 20
LOT 21
LOT 22
LINGHAM LAKE ROAD
SKOOTAMATTA LAKE ROAD
BLACK RIVER
26N
27N
28N
29N
30N
31N
32N
33N
34N
35N
36N
37N
38N
39N
40N
41N
42N
43N
44N
45N


GOLD IN SOIL SAMPLES
GRIMSTHORPE TOWNSHIP
ONTARIO
DATE: DEC. 1993
MAP No 4A
SCALE: 1:2,500
DRAWN BY RJD
LEGEND
GEOLOGY
4 Felsic Dike
3 Mafic Dike
2 Metasedimentary Schists
1 Mafic Metavolcanic Flows
Au Gold in Outcrop or Float
GEOPHYSICS
Magnetic High
Magnetic Low
VLF "Cross-over"
Trend of Anomaly
SOIL SAMPLE SYMBOLS
"B" Horizon Soil Sample
Au in parts per billion ppb
Homestake's Sample Sites (1992)
L Loam With Local Rock Fragments
T Glacial Till +/- Local Fragments
F Fluvial Silts, Sands, Gravels
Soil Boundary
Drainage/Slope
SCALE OF RESULTS
> 50ppb Au
20–49 ppb
10–19 ppb
5–9 ppb
< 5 ppb Au
metres
0
100
200
LOT 13
LOT 14
CONC. XIII
LOT 15
CONC. XIV
LOT 16
BLACK
RIVER
GRIMSTHORPE TWP., PLAN No M57
Mag. North

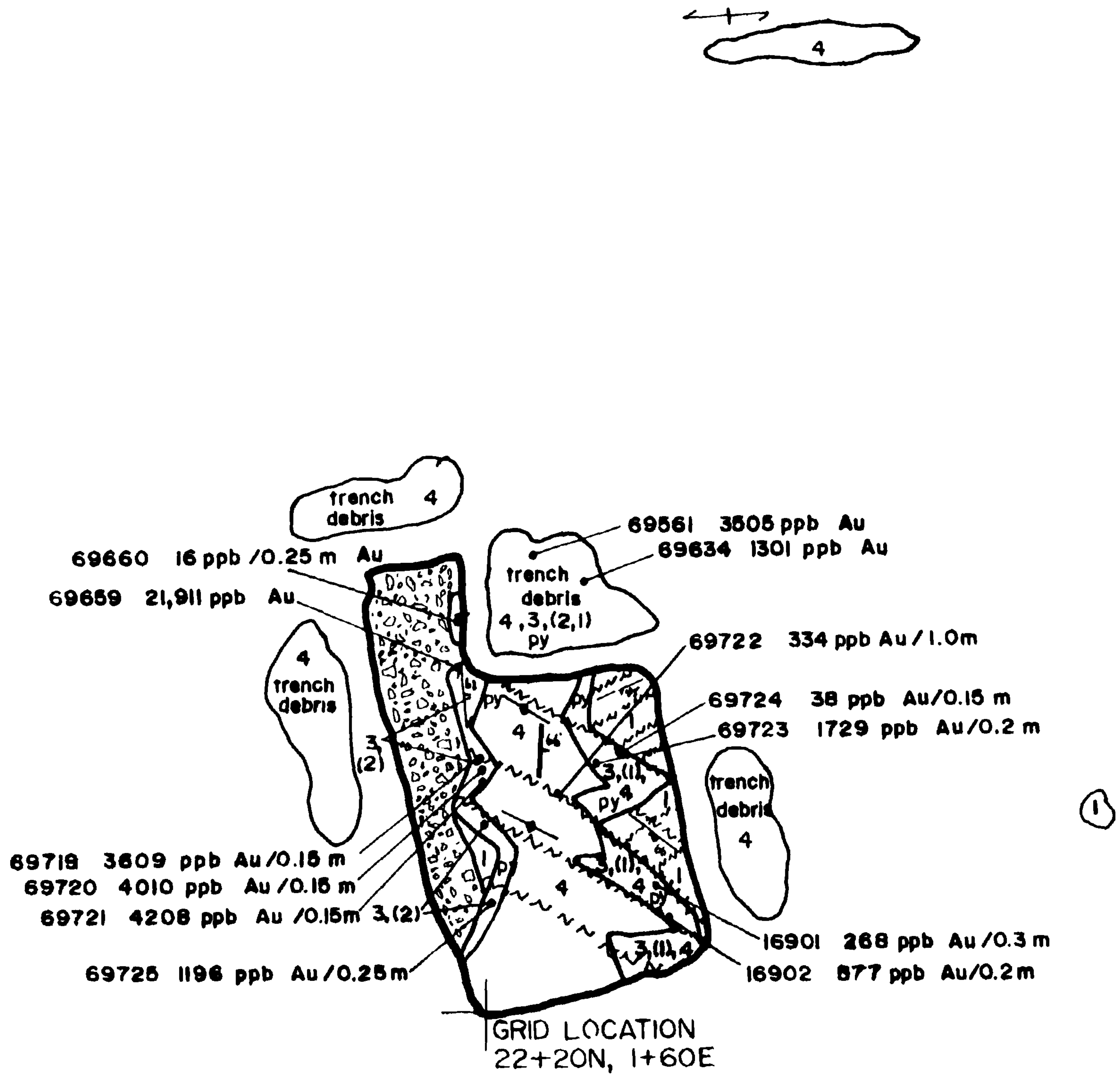

GOLD IN SOIL SAMPLES
GRIMSTHORPE TOWNSHIP
ONTARIO
DATE: DEC. 1993
MAP No 4B
SCALE: 1:2,500
DRAWN BY RJD
LEGEND
GEOLOGY
4 Felsic Dike
3 Mafic Dike
2 Metasedimentary Schists
1 Mafic Metavolcanic Flows
Au Gold in Outcrop or Float
GEOPHYSICS
Magnetic High
Magnetic Low
VLF "Cross-over"
Trend of Anomaly
SOIL SAMPLE SYMBOLS
"B" Horizon Soil Sample
Au in parts per billion (ppb)
L Loam With Local Rock Fragments
T Glacial Till +/- Local Fragments
F Fluvial Silts, Sands, Gravels
Soil Boundary
Drainage/Slope
Homestake's Sample Sites (1992)
SCALE OF RESULTS
> 50 ppb Au
20-49 ppb
10-19 ppb
5-9 ppb
< 5 ppb Au
metres
0
100
200
LOT 17
LOT 18
LOT 19
LOT 20
CONC. XV
CONC. XVI
BLACK
RIVER
GRIMSTHORPE TWP., PLAN No. M97
300

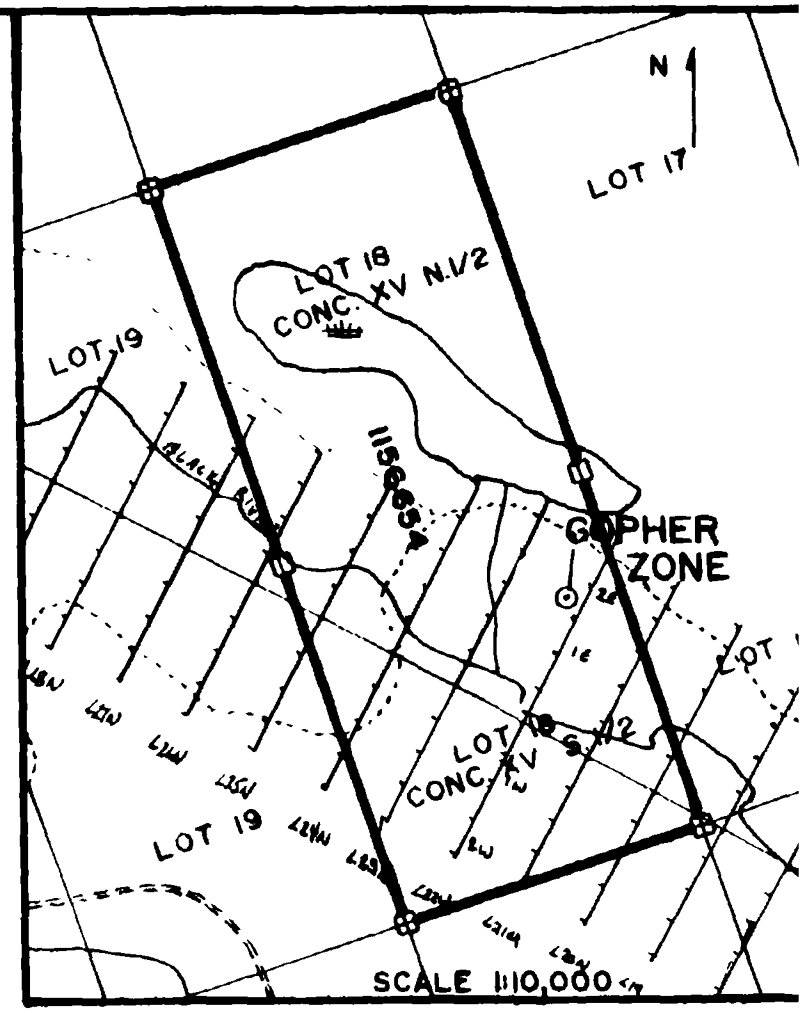

LEGEND
5 Aplite Dike
4 Sheared Biotite-Muscovite Filled Fracture
3 Quartz Vein
2 Sheared+Silicified+Chloritized Rock (original rock type)
1 Metasedimentory Schist
py pyrite
As arsenopyrite
orientation of contact
orientation of vein
orientation of jointing
shearing
foliation
float
TRUE NORTH
BLACK RIVER NORTH ZONE
LOT 19
LOT 20
LOT 21
LOT 22
CONC. XV
SCALE: 1:10,000
69701 178 ppb Au
69702 57 ppb Au
69708 108 ppb Au/0.5 m
69775 19 ppb Au
69706 1238 ppb Au/0.3 m
69707 921 ppb Au/0.25 m
69674 8 ppb Au
69639 2832 ppb Au
69681 81 ppb Au/1.1 m
69637 9 ppb Au
69638 5 ppb Au
78123 5120 ppb Au
5518 14,921 ppb Au
69564 56,832 ppb Au
69569 3327 ppb Au
69570 3535 ppb Au
69682 4634 ppb Au/0.3 m
69683 4446 ppb Au/0.25 m
36+80 N
0+77 E
69704 2065 ppb Au/0.15 m
69703 699 ppb Au/0.2 m
69673 9 ppb Au
69675 10 ppb Au
trench debris
69642 13 ppb Au
69641 710 ppb Au
69667 18 ppb Au/0.9 m
GRID LOCATION
136+54N, 0+70E
69643 102 ppb Au/4.0 m
69672 19 ppb Au
69668 10 ppb Au
69665 41 ppb Au/0.4 m
69666 65 ppb Au/0.2 m
69669 724 ppb Au
5517 16 ppb Au
5516 11 ppb Au
310
metres
0 2 4 6 8
BLACK RIVER NORTH ZONE
TRENCH PLAN
GRIMSTHORPE TWP., ONTARIO
PLAN No. TR-1
SCALE 1:100
DATE: DEC. 1992
REVISED: NOV. 1993
DRAWN BY RJD



31C14SW0007 OP93-052 GRIMSTHORPE

320





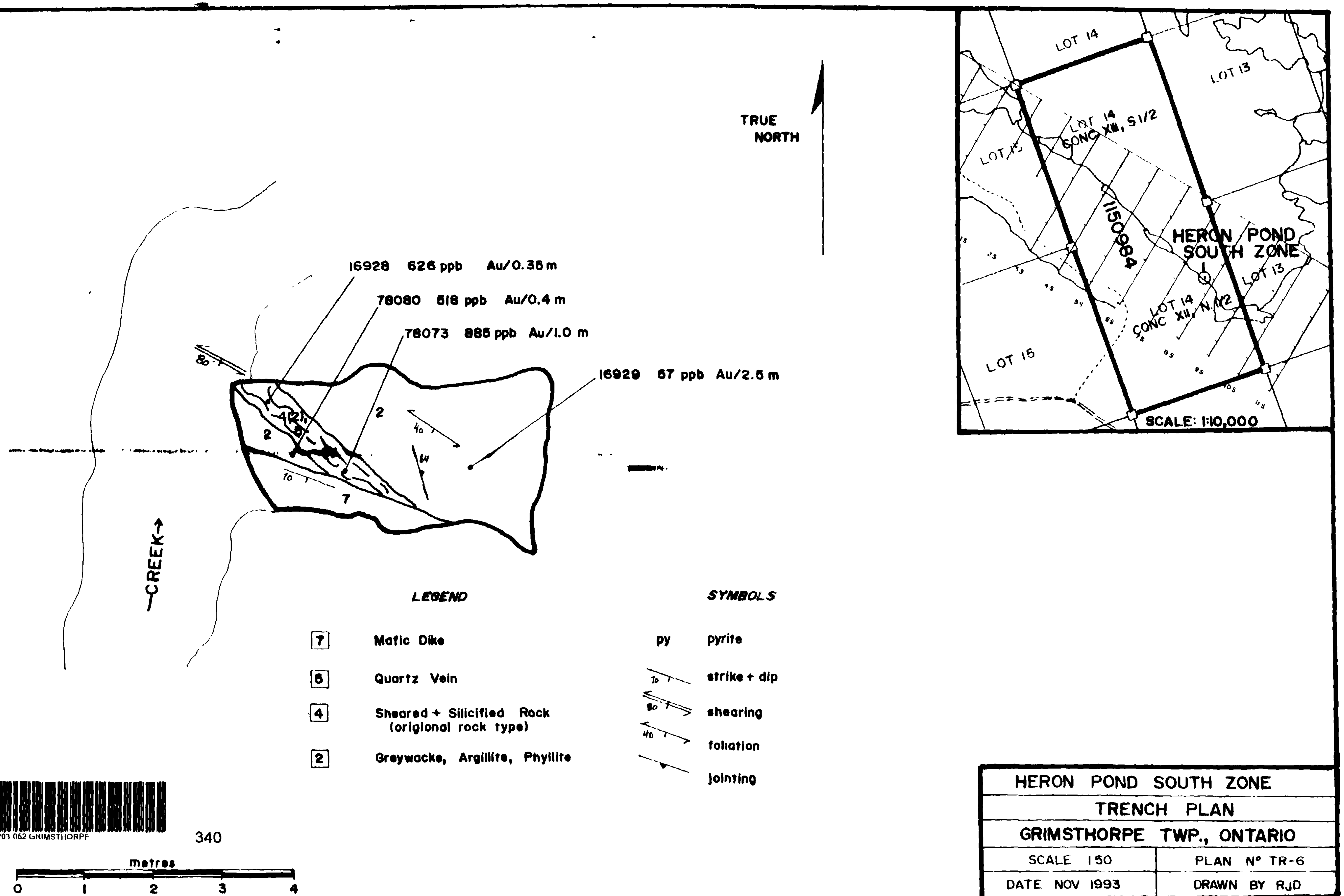
4	Quartz Vein
3	Sheared and/or Alteration Zone (original rock type)
2	Metasedimentary Schist
1	Gabbroic Rocks
py	pyrite
	foliation
	orientation of vein
	orientation of jointing or structural breaks
	overburden

TRUE NORTH

metres
0 1 2 3 4

GOPHER ZONE	
TRENCH PLAN	
GRIMSTHORPE TWP., ONTARIO	
SCALE 1:50	PLAN Nº TR-3
DATE DEC. 1992 REVISED NOV. 1993	DRAWN BY RJD

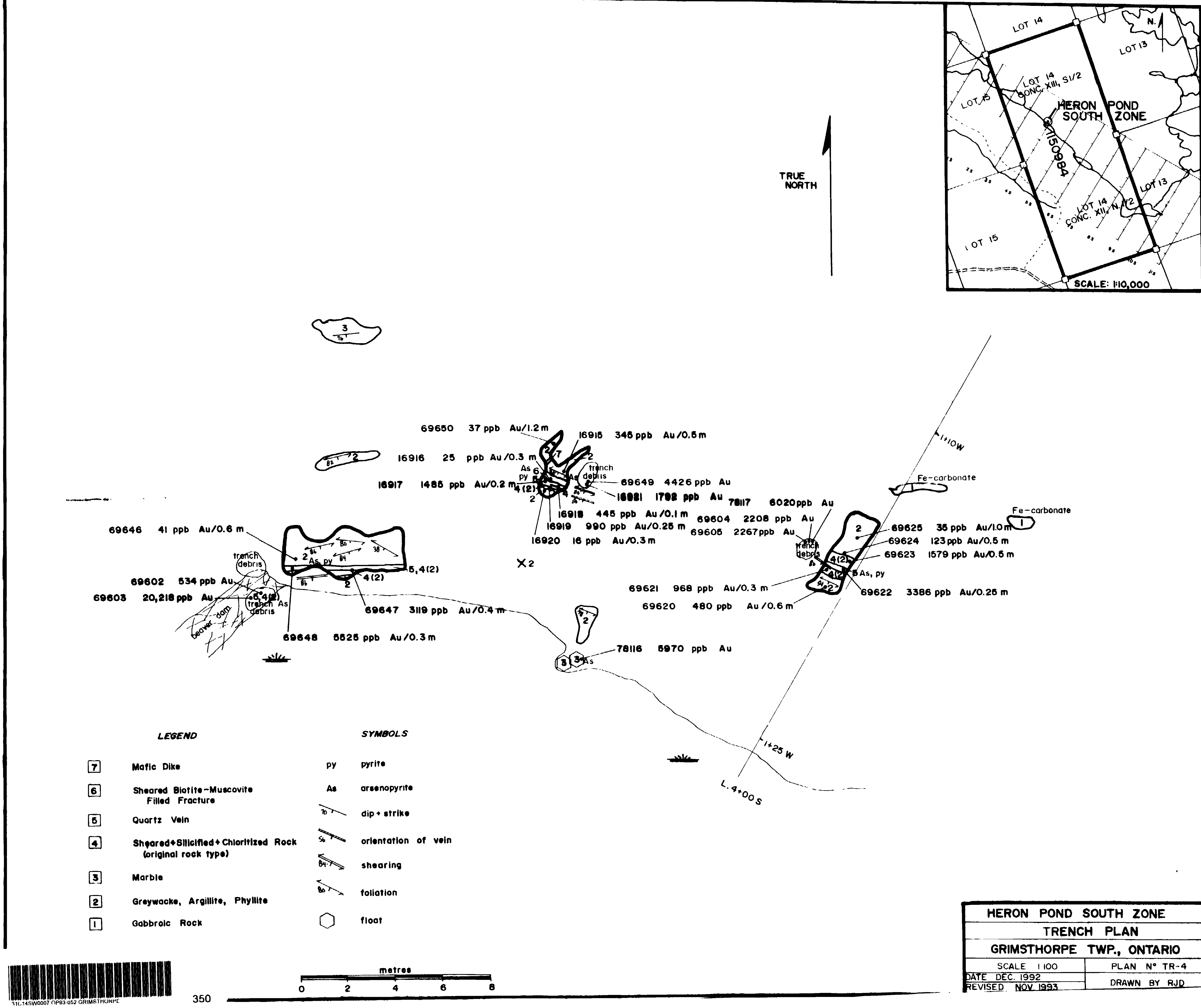
31C14SW0007 OP93 052 GRIMSTHORPE



31C14SW0007 OP03 062 GRIMSTHORPE

340

HERON POND SOUTH ZONE	
TRENCH PLAN	
GRIMSTHORPE TWP., ONTARIO	
SCALE 1:50	PLAN Nº TR-6
DATE NOV 1993	DRAWN BY RJD



31C14SW0007 OP93-052 GRIMSTHORPE

350


HERON POND SOUTH ZONE
TRENCH PLAN
GRIMSTHORPE TWP., ONTARIO
SCALE 1:100
PLAN Nº TR-5
DATE DEC 1992
REVISED NOV 1993
DRAWN BY RJD
LEGEND
7 Mafic Dike
6 Sheared Biotite-Muscovite Filled Fracture
5 Quartz Vein
4 Sheared+Silicified+Chloritized Rock (original rock type)
3 Marble
2 Greywacke, Argillite, Phyllite
1 Mafic Metavolcanic Rock
SYMBOLS
py pyrite
As arsenopyrite
strike+dip
orientation of vein
shearing
foliation
jointing
float
metres
0 2 4 6 8
TRUE NORTH
LOT 14
LOT 13
LOT 15
LOT 14 CONC. XIII, S1/2
LOT 14 CONC. XII, N1/2
HERON POND SOUTH ZONE
1150984
SCALE: 1:10,000
N.
1+50W
1+75W
2+00W
L.5+50S
L.6+00S
78119 26 ppb Au
78092 29 ppb Au
78096 2 ppb Au
78102 1700 ppb Au
16926 8 ppb Au/1.1 m
16924 185 ppb Au/0.45 m
16925 1792 ppb Au/0.1 m
trench debris
77494 6780 ppb Au
16923 266 ppb Au/0.3 m
16922 7366 ppb Au/0.1 m
69651 164 ppb Au/1.4 m
69652 1881 ppb Au
78103 1730 ppb Au
78106 2410 ppb Au
78105 11,800 ppb Au
78091 21,600 ppb Au
69654 72 ppb Au/1.2 m
78101 1880 ppb Au/0.2 m
69653 527 ppb Au/0.2 m
beaver dam
78087 3200 ppb Au
78088 3910 ppb Au