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Summary of 1987 Exploration Activities as Conducted on the Chestar Township Property of Canorth Resources Inc.

Project 5683

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41P12SW0036 63.5176 CHESTER

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5683-87-5- '	IP :	Pseudosection L28+00W
5683-87-5- ⁾	IP :	Pseudosection L24+00W
5683-87-5- ⁾	IP :	Pseudosection L16+00W
5683-87-5- .0	IP :	Pseudosection L12+00W
5683-87-5- .1	IP :	Pseudosection L6+00W
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5683-87-5- .5	IP :	Pseudosection L18+00E
5683-87-5- 16	IP :	Pseudosection L24+00E
5683-87-5- 17	IP :	Pseudosection L28+00E
5683-87-5- 18	IP :	Pseudosection L32+00E

1.0 SUMMARY

As a result of recent reactivated exploration for gold in the Chester Township area, Canorth Resources Inc. has directed renewed exploration efforts to its eleven potential mining claims on Three Duck Lakes in Chester Township.

History of gold mining and gold exploration has been known in the area intermittently for the last 86 years. Gold was first reported in 1910 by J. A. Shannon at Yeo Lake, but in the summer of 1930, a spectacular gold discovery was made on the east shore of the Three Duck Lakes just north of the subject's property. It was this discovery that led to further exploration and discoveries in the whole area.

The recent interest in gold in the area has been centred on the adjoining Murgold Resources Inc. claim group, particularly these claims optioned to Chesbar Resources Inc. Chesbar is currently developing a ramp on the No. 3 gold vein system some 1,000 feet northeast of the Canorth property. The immediate target outlined by Chesbar Resources Inc. is to prove up 500,000 tons at an average grade of 0.30 oz. gold per ton by 1987.

The purpose of this report is to review the current data on the Canorth property and to make appropriate recommendations with respect to future exploration programs.

A two phased exploration program consisting of geophysics, relogging and sampling of previous drill core, and diamond drilling will be $1,195,865.00.

2.0 INTRODUCTION

In July, 1987 the firm of David R. Bell Geological

Services Inc. was contracted by Mr. W. H. Manderson for Canorth Resources Inc. ("Canorth"), to initiate and complete the first of three phases of an exploration program as previously recommended (Bell, 19 7).

The results of this work are presented in this report with recommendations for a further two phases of work, totalling $1,195.86 .00 being made.

3.0 PROPERTY LOCATION AND ACCESS

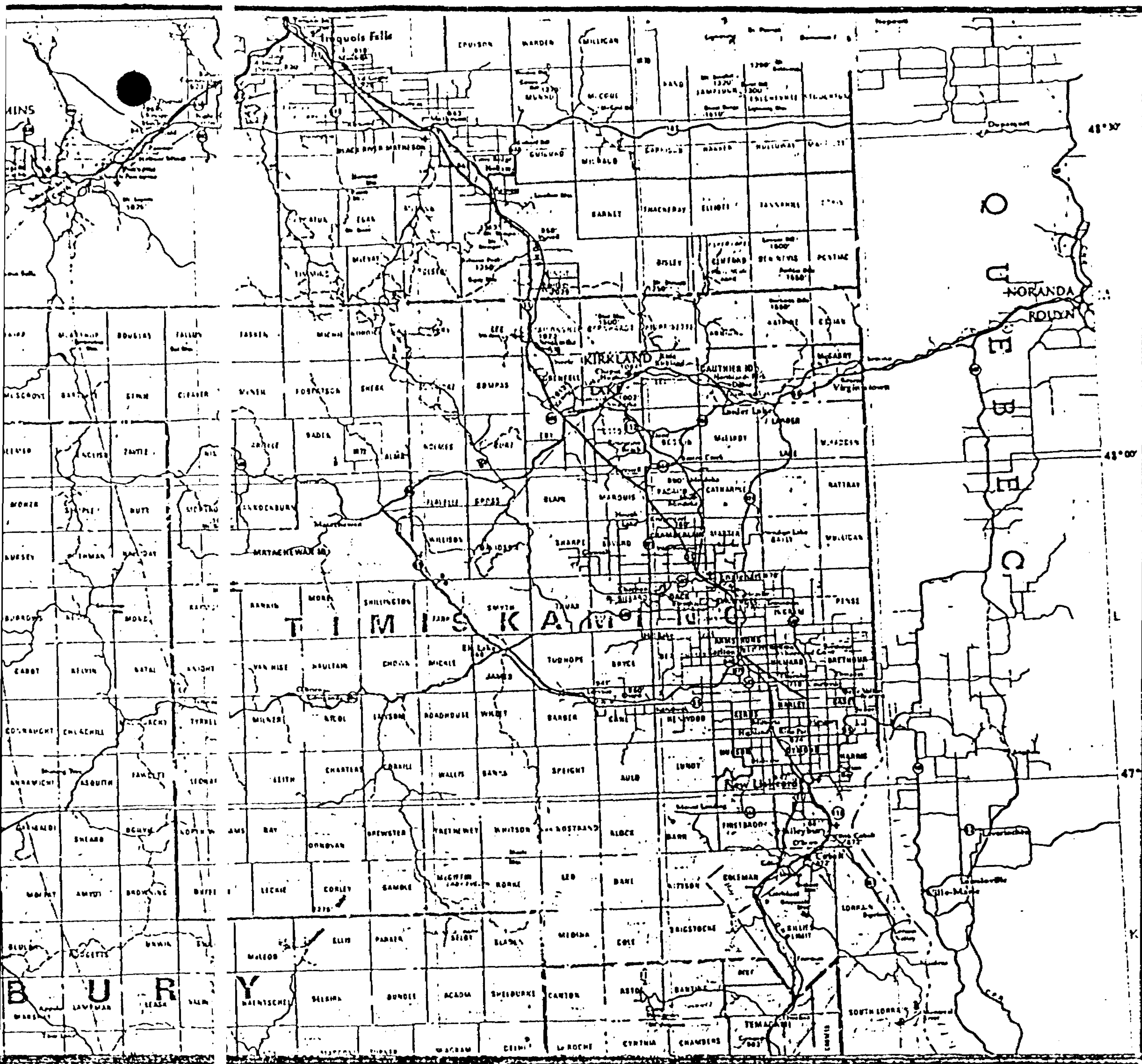
The Canorth property is located 104 miles north of the City of Sudbury along Highway No. 144. (See Figure 1). The property is then reached west on a gravel and bush road called the Mesomikenda Lake Road. The property is reached 1.1 miles west along the Mesomikenda Lake Road, then left at the C.G.M. Camp 1.8 miles to the Chesbar Camp on a narrow bush road, from which several trails and bush roads access to the east and west shores of Three Duck Lake and the Canorth property.

Access by float plane is also available onto the property to Three Duck Lake (See Figure 2).

4.0 PROPERTY OWNERSHIP

The Canorth claim group consists of 11 patented mining claims including both surface and mining rights. A title search of these claims was not carried out by the author, but it is believed that the claims are either owned directly or indirectly by Canorth Resources Inc.

The claims are in Chester Township, Ministry of Natural Resources Administrative District of Gogama, Mining Division of

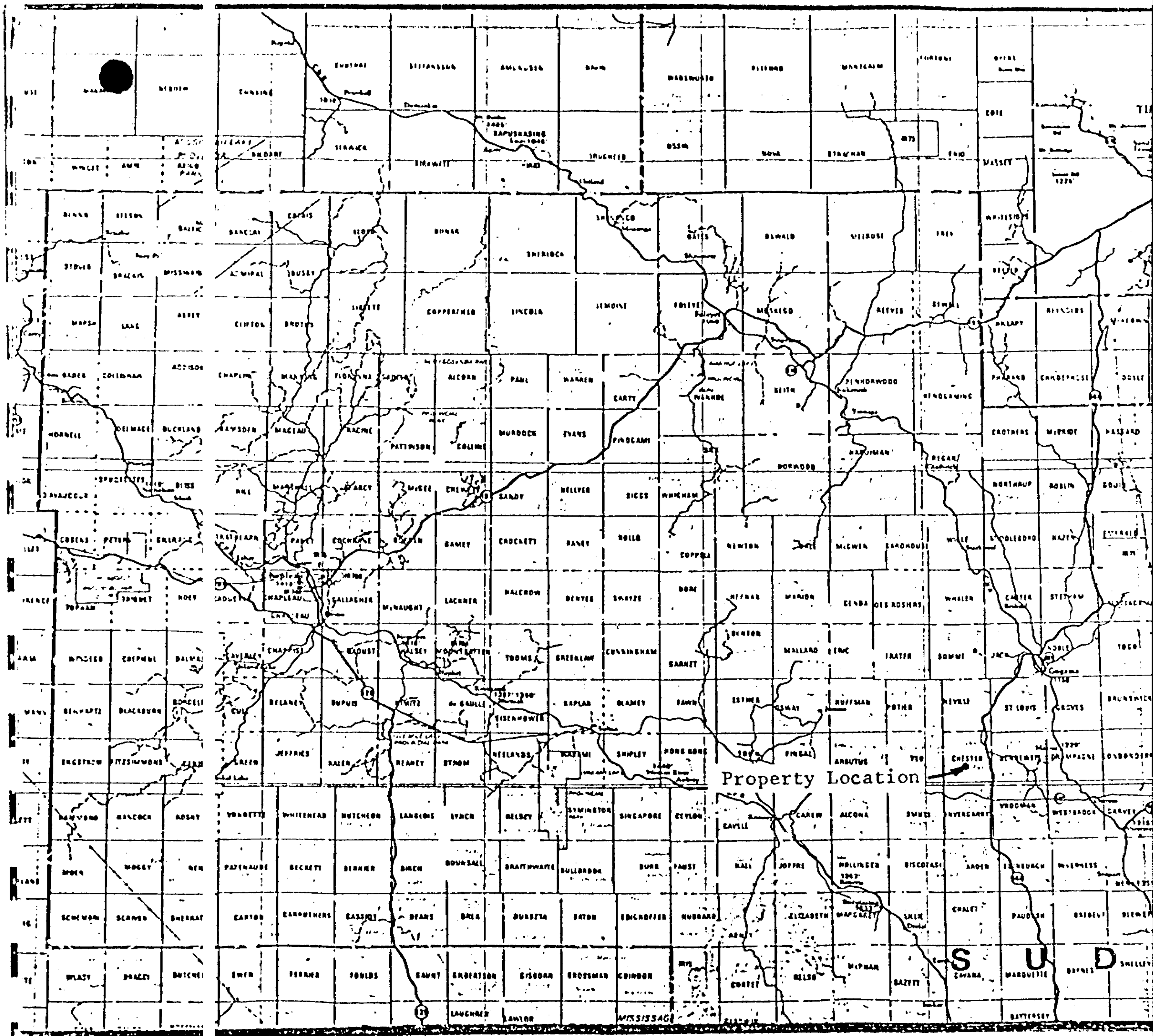


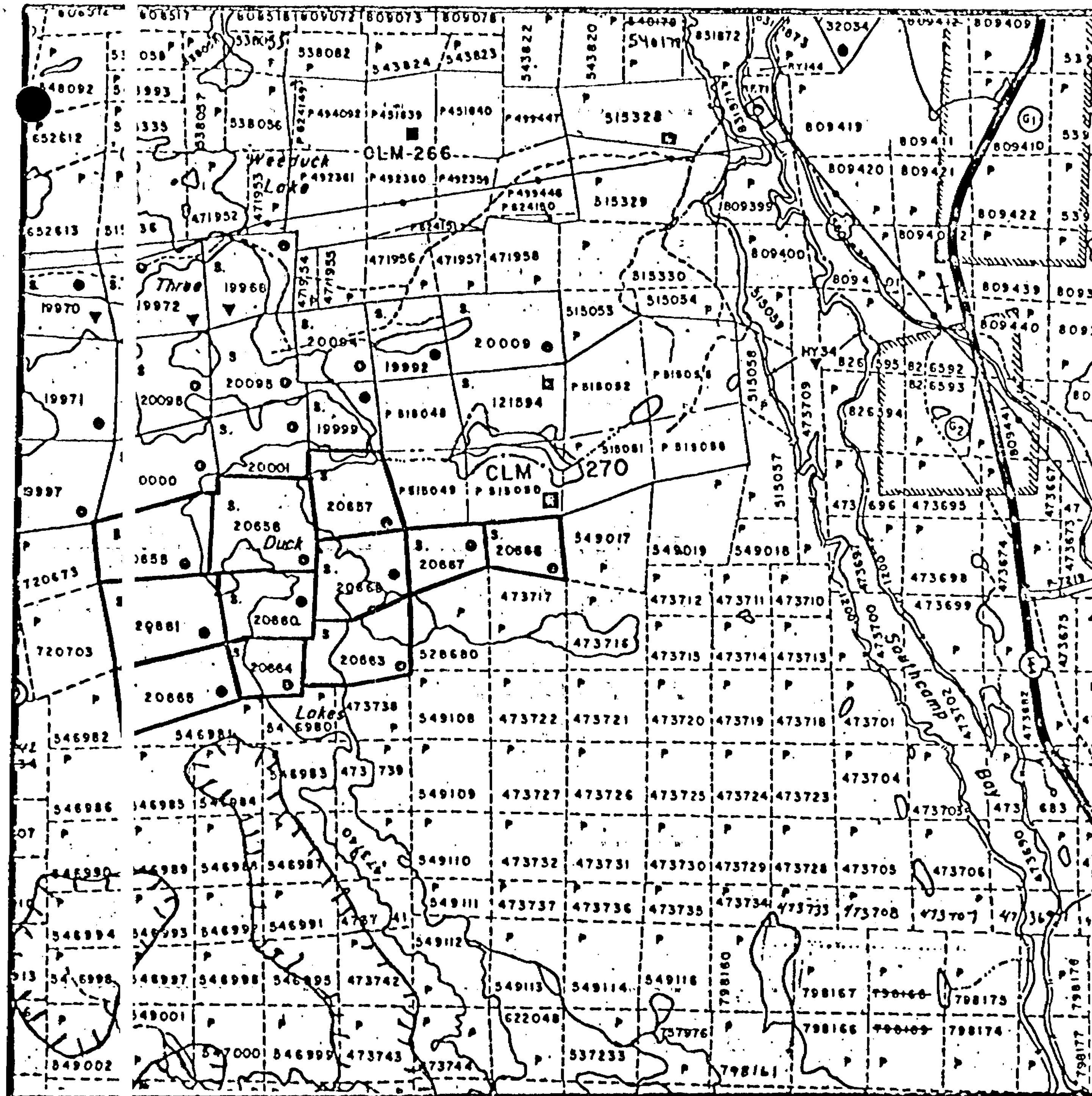
David R. Bell Geological Services Inc.

CANORTH RESOURCES INC.

PROPERTY LOCATION MAP

Twp/Area Chester Twp		Province Ontario
Mining Division Porcupine		Project 5683
References M.N.R. Map 22-6		N.T.S. 41 P/12
Drawn	Drafted	Checked S.W.C.
Scale 1:990,000	Date Dec.1987	Sheet Figure 1


Property Location
S U D



David R. Bell Geological Services Inc.

CANORTH RESOURCES INC.

CLAIMS CONFIGURATION

Twp/Area Chester Twp.		**Province**	Ontario
Mining Division Porcupine		**Project**	5683
References M.N.R. Plan G3223		**N.T.S.**	41 P/12
Drawn	**Drafted**	**Checked**	S.W.C.
Scale 1:31,680	**Date** Dec.1987	**Sheet**	Figure 2

Porcupine with the Land Titles/Registry Division in Sudbury, and the claim: are : (See Figure No. 2)

S-20655 to S-20657 inclusive (3)

S-20660 and S-20661 (2)

S-20663 to S-20668 inclusive (6)

'OTAL 11 claims

5.0 PHYSI GRAPHY AND CLIMATE

'he area has a relatively flat topography with a fair number of ow lying outcrops commonly forming irregular ridges 50 - 100 feet above lakes and swamps. The height-of-land passes through th southern part of Yeo Township. Glacial debris tends to fill in between the ridges and some morain material forms eskers and kames.

The forest consists of white pine, red pine, jackpin, various hardwood maple and birch, black and white spruce, balsam, poplar and cedar in the low swampy areas.

C.imatic variations show the typical extremes as are expected in Northern Ontario. The winters are long and bitterly cold with abundant snowfall, while the summers are hot, relatively short with periods of rain.

6.0 POWER .ND WATER

W.ter is available for early phases of exploration from nearby Thre Duck Lakes, ponds and streams. Water supply for mining coul come from Three Duck Lakes ideally located in the centre of the Canorth property.

There is no immediated supply for power, but there is an old abandoned power line running east-west just north of Three Duck Lake approximately 3/4 mile north of the Canorth north claim boundary.

7.0 ANCILLARY SERVICES

All services and supplies for exploration programs are obtainable in Sudbury 100 miles to the south or Timmins 85 miles to the north. Heavy or specialized mining equipment would be available from either centre.

8.0 PREVIOUS WORK AND PROPERTY HISTORY

The area of interest has been mapped regionally by the Ontario Department of Mines (H.C. Laird, 1932; Vol. XLI, Part III) and more recently by the Ministry of Natural Resources, Ontario Geological Survey (Preliminary Geology of Chester and Yeo Township, by G.M. Siragusa, Preliminary Map P. 2449, 1981).

Gold was first reported in the area in 1910, by J. A. Shannon at Yeo Township. Copper was also discovered in the area at about the same time, but little became of these early discoveries and it was not until 1930, when Alfred Gosselin found a spectacular gold showing on the east shore of Three Duck Lake that led to further exploration and development of gold in the area between 1931 and 1939.

Since the Second World War until the early 1970's the sporadic exploration was carried out in the area directed mainly towards disseminated porghyry copper-type mineralization and some work directed towards copper-gold vein-type occurrences.

In the mid 1970's with the increase in price of gold, interests once again picked up in the area and in 1980 and 1981 extensive staking, airborne geophysical surveys, prospecting, stripping and diamond drilling was carried out by Canadian Gold and Metal Incorporated. At the same time Canadian Gold Crest Limited operated a small mill in the area intermittently, testing and processing gold mineralization from nearby pits in the area.

Murgold Resources Ltd., who has been carrying out active exploration programs on the adjoining property east and north of Canorth for the past few years, has recently optioned these adjoining claims to Chesbar Resources Inc.

Previous work on this property has returned from eight separate vein structures high gold values over varying widths. Chesbar is currently targeting its exploration program on what is known as No. 3 vein, and is currently developing a ramp to assist in outlining blocks of potential gold ore for future mining with an ultimate target of proving up at least 500,000 tons with an average grade of 0.30 oz. Au per ton.

Current underground work on the adjoining Murgold-Chesbar property has consisted of a ramp, drifting on the 150 ft., 200 ft., and 300 ft. levels of the No. 3 Vein, two raises on the No. 3 Vein and underground diamond drilling. Sampling and assaying of the No. 3 Vein structure underground to date has indicated better widths and grade continuity than had been outlined by previous surface drilling.

From reports, development on the 200 level has opened a length of 166.5 feet of drifting averaging 0.559 oz. gold per ton over an average width of 5.08 feet.

Surface diamond drilling in 1987 has extended and followed the No. 3 Vein system for almost 4,000 feet on strike, and is still open at both ends and to depth. Exploratory drilling on other vein systems on the property has indicated encouragement, but the bulk of the 1987 expenditures have been on the No. 3 Vein system.

Margold-Chesbar, currently holds 231 claims in the area.

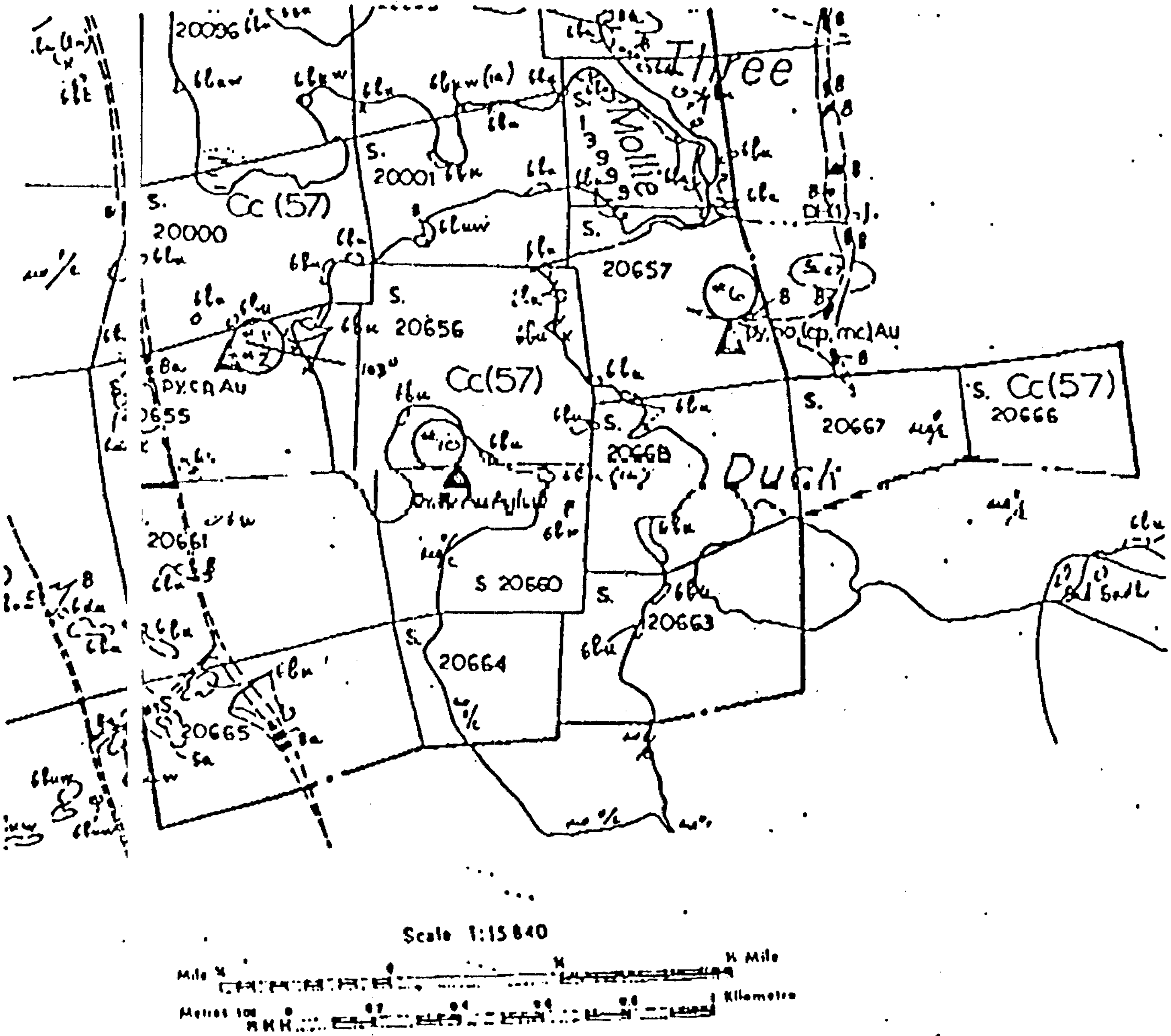
The first recorded work on the Canorth Resources Inc. claim group was reported by H. C. Laird (O.D.M., Vol.XLI, Part III, 1932, p.30) as being the R.S. Sheppard claim group, and is described by Laird as:

> "The group consists of 17 claims adjoining the Three Ducks Syndicate group on the south. The claims are underlain by granodiorite, alaskite, and quartz porphyry phases of the "younger" granite, similar to those exposed on the Three Duck Lakes at the northeast corner of claim S.20,655. Two parallel "breaks" about 50 feet apart strike into the lake at E. 13°S. The north one is 2 feet wide and contains a 10-inch quartz vein in which native gold was observed. The south one shows a mineralized zone about 5 feet wide containing pyrite and chalcopyrite. A chip smaple from this zone is reported to have assayed $5.60 in gold per ton."

The vein described by Laird on claim S-20655 is currently referred to as #10 vein.

The claim group was next held under option by Buffalo-Ontario Gold Mining Co. in 1935 and next by Buffalo ShepMac Gold Mines Limited in 1937.

A report by G.P. McLean, 1938 for "Buffalo ShepMac" reports on the sampling and drilling on a number of veins within the claim group. Diamond drill holes numbering as high as No. 29



LEGEND

( ) Vein Structure
( ) Vein Structure
( ) Vein Structure
( ) Vein Structure

David R. Bell Geological Services Inc.

CANORTH RESOURCES INC.

LOCATION OF MAIN VEIN STRUCTURES

Twp/Area Chester		Province Ontario
Mining Division Porcupine		Project 5683
References		N.T.S. 4109
Drawn	Drafted	Checked
Scale Above	Date Nov. 24/86	Sheet Fig. No.3

were repor :ed with N. 26 reported as a 1493 foot hole drilled from the l ke and intersecting the #10 vein structure from 1360 - 1385 with ow gold values.

: cLean reported that a short hole on #10 vein cut gold values of 13.30 Au per ton, but no interval was given.

| cLean reported the drilling of three holes on #6 Vein within cla m No. S20657.

> ' Vein #6 on the eastern side of the property was] reviously exposed and very much visible gold is found (n surface. The structure consists of a well mineral- : zed quartz vein with strong schisting and fracturing (n the hanging wall side against a porphyritic granod- i orite in contact with a diorite on the foot wall side.
>
> T nree holes were completed throught this vein at a s hallow depth with the X-Ray drill. The first hole cut t he vein and showed very much visible gold, and no a ssay was made. The other two cut the vein but low v alues were obtained. This would be explained by the u neven distribution of gold in ores of this type."

F eported work and drilling on #1 and #2 Veins on claim S-20655 by McLean were as follows:

> " Previous operations opened up the #2 and #1 veins in t he northern part of the property. Present work here c onsisted of drilling this vein system. Three holes w ere completed and several quartz veins were cut c arrying values in gold up to 70 cents. It was i mpossible to explore these veins further during the s ummer months out under the lake.

N ote: The location of these Veins #1, #2, #6 and #10 are indicat ed on (Figure No. 3).

The next recorded work was reported by Park Precious Metals Incorporated (1973). An induced polarization survey was carried out on claim No. P-20000 adjoining the north boundary of claim No. P20655. A diamond drill hole, located approximately 500-600 feet west along strike from #1 and #2 Veins intersected gold values of 4.18 oz. Au per ton, 1.80 oz. Ag. per ton and 1.40% Cu per ton from 312 and 313.2 feet, and a similar intersection from 315 and 318 feet returning 0.52 oz. Au per ton, 1.35 oz. Ag. per ton, and 0.91% Cu per ton.

Two property reports were next prepared for the property; the first in 1981 for Stralak Resources Limited by T. Gledhill, and the later report in 1982 for Jarvis Resources Ltd. by L.O.S. Winter.

Although no details were reported, apparently a bulk sample from the #6 Vein in 1981-1982 was taken consisting of 325 tons and reported to have returned 0.17 oz. Au per ton.

Jarvis Resources Ltd. then reported on a V.L.F. Electromagnetic Survey, and similarly reported on 27 diamond drill holes totally 6081 feet. The drilling was completed in 1983, but logged in 1984 by R. J. Graham.

A director's report to the share holders of Jarvis Resources Ltd. in October 31, 1983 reports on 7068 feet of diamond drilling. It is not known where the discrepancy is.

The V.L.F. E-M survey reported several conductors coincident with the quartz vein shearing.

The diamond drilling was carried out in the vicinity of the previously reported #1,2,6, and 10 Veins.

\ summary of significant assays in the drilling as reported b , R.J. Graham is as follows:

HOLE IO.	LOCATION	FROM	TO	FOOTAGE	OZ AU/TON
1	A	113.0	114.0	1.0	0.50
7	C	216.9	224.0	7.1	0.48
11	C	306.0	310.5	4.5	0.10
12	B	77.0	79.0	2.0	0.29
13	B	79.0	80.8	1.8	0.21
14	B	60.0	65.0	5.0	0.07
		71.0	73.0	2.0	0.10
15	B	87.0	89.0	2.0	0.07
20	A	108.0	110.5	2.5	0.15

lote: Area locations above are related to previous work areas as follows: "A" = #6 Vein, "B" = #1 and #2 Veins, and "C" = #10 'ein.

n addition to a previously reported bulk sample taken from #6 Ve n, Graham (1984) reports a 94 pound sample taken from #10 Vein r turning a grade of 0.94 oz. Au per ton and 8.65% Zn. per ton.

n 1986 the firm of David R. Bell Geological Services Inc. was c ntracted by Mr. W.H. Manderson on behalf of Canorth, to initiat the most recent phase of exploration. This work was started wi h an October, 1986, property visit which enabled the author to omplete a qualifying report (Bell, 1987). In this qualifying report, a three phase exploration program was recommende .

uring 1987, the first phase of this work was completed with linec .tting, geological mapping, prospecting, stripping and trenching, as well as VLF-EM, magnetometer and Induced Polarizati n (IP) geophysical surveys being completed.

9.0 REGIONAL GEOLOGY

The geology of Chester Township area has recently been described by the Ontario Ministry of Natural Resources by G. M. Siragusa (1981), Precambrian Geology of Chester and Yeo Townships, Preliminary Map P. 2449. The preliminary description of the geology of this area is described by G.M. Siragusa as:

> "The map area is crossed by two broadly parallel Early Precambrian (Archean) belts of locally pillowed tholeiitic besalt trending west-northwest and dipping subvertically. The southern basaltic belt is exposed south of Yeo Lake in Yeo Township, and in local areas in the eastern part of this township. Close to the western boundary of Chester Township, this belt merges with rocks of gabbroic and dioritic rocks generally texturally homogeneous, and are recrystallized metamorphic derivatives of former basalt. Local conditions of incomplete recrystallization are indicated by the presence of basaltic domains of relatively low metamorphic rank within these rocks. The agamatitic migmatite consists of variable proportions of leucocratic trondhjemitic neosome, and of paleosome which includes dominant gabbroic and dioritic rocks (i.e. recrystallized basalt), rare hornblendite and minor basalt that is virtually unrecrystallized. As the gabbroic, dioritic and agmatitic rocks reflect variable conditions of recrystallization, metasomatism, and migmatization affecting marginal formations of the southern belt, they are grouped together in the same unit. Thus, the rocks which in the field were mapped as part of this unit are 1) hornblende and biotite-hornblende gabbro and diorite (with or without basaltic inclusions), and 2) migmatitic rocks in which the estimated volume of paleosome is greater than 50 percent. Migmatitic rocks with a lesser volume of paleosome were mapped as granitic rocks containing hornblende-rich inclusions and/or xenoliths. These rocks were previously

referred to by Laird (1932) as "granite-diorite complex" and diorite breccia (i.e. agmatitic migmatite).

The area between the two basaltic belts is underlain by pyroclastic metavolcanics which may be broadly classed as intermediate in composition owing to the nature and proportions of clasts and matrix. The former are mostly aphanitic to tuffaceous felsic metavolcanics; rare clasts of chert, ironstone, and granitoid rocks may also be present. The granitoid clasts are interpreted as fragments of former subvolcanic felsic intrusive rocks; these rocks are present also as dikelets of coarse feldspar porphyry which are variably metamorphosed and cut the metavolcanics, particularly in the Schist Lake area. The matrix is aphanitic to tuffaceous and is mafic or intermediate in composition. These rocks are well exposed along the eastern shore of Yeo Lake, western segments of the southern shore of Schist Lake, and in the northern part of the Moore Lake Area. These rocks are regarded by the author as the upper, and most likely calc-alkaline, section of a tightly folded synclinal volcanic sequence, the lower section of which is represented by the northern and southern basalitic belts. The pyroclastic metavolcanics are locally interbedded with basaltic layers or lens-like bodies of variable thickness. Minor mudstone, chert, and/or ferruginous chert are found in the Canoe Lake area and south of Schist Lake in Yeo Township. The rocks regarded as pyroclastic by the author were mapped as metasediments by Laird (1932). A northwest-trending fault cuts the metavolcanics in southern Potier and Northern Yeo Townships, and the segment of the sequence west of the fault is displaced about 800 m south of the segment of the sequence east of the fault.

Regional grantitic rocks flank the northern and southern basaltic belts and are exposed in all but a narrow strip of southern Potier and Neville Townships, and in the southwestern half of Yeo Township. Central Chester Township is underlain by granitic rocks which, in the central part of the township, are relatively free from metavolcanic xenoliths and/or inclusions, and are markedly leucocratic in character. These rocks are dominantly trondhjemitic in composition and form a broadly oval, west-trending body which intrudes the core of the synclinally folded metavolcanics, and extends westward into the Ash Lake area of Yeo Township. This body is bordered to the south by hornblende diorite, gabbro, and migmatite (see above) which underlie southern Chester Township and extend beyond the southern margin of the present map-area. To the north, the trondhjemitic body is in contact with the pyroclastic metavolcanics. Lamprophyre (minette) dikelets were found at one locality cutting the regional granitic rocks, and diabase dikes and granitic rocks."

10.0 PROPERTY GEOLOGY

The Canorth Resources Inc., Chester Township property, is found to be underlain by rocks which are dominantly of early Precambrian (Archean) age (see map 5683-87-4-1).

The mapping has located bedrock exposures that range from felsic to intermediate intrusives of granite pegmatite, granodiorite, quartz diorite and diorite composition, as well as mafic intrusives of hornblende diorite, gabbro and quartz gabbro varieties.

The exact time relationships between these two major lithological units has not been determined through this mapping program, but on a regional basis, the mafic rocks are seen to be from a later intrusive event.

The geology is dominated by granodiorites and quartz diorites, with the gabbro and quartz gabbro outcroppings being confined to the east and the north-east portions of the property. A late phase of intrusives, being diabase dykes, are seen to cross-cut all other rock types.

Two dominant structural trends have been observed within the intrusive bodies on the Canorth property. The first is an east-west trend that has been observed (during the mapping program), in both bedrock and topographic features and also, as a result of the geophysical surveys. The second, less obvious trend, is a northwest-southeast orientation that has been observed, but only in bedrock exposures. Where exposed on surface, these structures are observed to host the auriferous quartz veins and silicified zones.

10.1 ALTERATION AND MINERALIZATION

Where observed, alteration is dominated by silicification, which is most noticeable as halos to shear zones and quartz veins. In fact, the silicified zones appear to be the most important host for the gold mineralization and not the quartz veins, as is traditionally reported. From a traditional point of view, what previous workers reported as quartz veins, may have been intensely silicified zones around sheared or fractured sections, which visually show the same characteristics as does the veining.

A second type of alteration that has been noted, but to a lesser degree is the development of potassium (?), as a massive pink "holohyaline" substance which resembles orthoclase feldspar, but glassy.

A third possible alteration product is the blue iridescent "quartz eyes", it is felt (personal communication with MNDM Regional Geologist Jim Ireland) that these "eyes" may be the result of a metasomatic alteration process, which may be related to the gold mineralizing event.

The mineralization, as observed on the property, is found to be associated with narrow quartz veins and/or silicified zones, both of which may occupy east-west or northwest-southeast trending fractures or shear zones. These mineralized and altered structures do not appear to be confined to any particular rock type. It was noted, during the mapping and the historical literature, that the gold bearing quartz veins are locally associated with a very fine grained, dark green to black mafic intrusive, possibly a lamprophyre.

The mineralization generally consists of pyrite, chalcopyrite and occasionally sphalarite or galena. Visible native gold has been reported by previous workers but was not observed during this most recent work. Good gold assays (see Table 1) have been returned from rocks which contain either finely disseminated pyrite or massive pyrite and/or chalcopyrite. It should also be stated that high silver assays have been received from samples which carried high gold values.

10.2 SAMPLING

During the course of the mapping program, numerous grab samples were collected, for both analytical and reference purposes. The locations of all samples are shown on plan 5683-87-3-1, while the locations and assay results for those samples that were geochemically examined are listed in Table 1.

The determining factors in sample collection were generally based on the visible indications of alteration and mineralization. Specific interest was given to areas of known gold mineralization, such as veins 1,2,6,8 and 10. "Ore grade" assays were received from grab samples that were collected on all

TABLE 1

CANORTH RESOURCES INC.
Sample Location and Assay Results

Sample No.	Field Number	Location		Assay Results			Remarks
		Latitude	Departure	Gold		Silver	
				ppb	oz/ton	oz/ton	
7001	DJ-18	L22+00W	15+00N	2			
7002	DJ-20	23+50W	5+88N	1			
7003	DJ-21	23+65W	5+88N	4			
7004	DJ-22	23+65W	5+88N				no sample sent
7005	DJ-24	28+85W	16+40N	3			
7006	DJ-26	25+80W	16+30N	32			
7007	DJ-29	25+40W	5+70S	1			
7008	DJ-30	27+70W	5+50N	37			
7009	DJ-33	27+70W	5+50N	4100	0.135	0.12	ext of #8 vn ?
7010	DJ-34	27+60W	5+70N	16			
7011	DJ-37	21+95W	15+55N	152			
7012	DJ-38A	21+60W	15+40N	2			
7013	DJ-38B	21+60W	15+40N	6			
7014	DJ-39	21+55W	15+45N	3			
7015	DJ-40	21+50W	15+50N	3			
7016	DJ-42	27+48W	5+32N	2			
7017	DJ-43	27+68W	5+65N	235			ext of #8 vn ?
7018	DJ-44	27+68W	5+67N	128			" "
7019	DJ-45	27+40W	5+78N	3			
7020	DJ-46	27+10W	6+18N	6			
7021	DJ-47	27+85W	8+12N	4			
7022	DJ-48	27+85W	8+12N	7			
7023	DJ-49	L30+00W	10+20S	4			
7024	DJ-50	L30+00W	10+20S	2			
7025	DJ-51	L30+00W	10+20S	2			
7026	DJ-52	31+75W	4+05N	215			
7027	DJ-53	31+75W	4+25N	950	0.041		
7028	DJ-54	32+45W	4+25N	3			
7029	DJ-55	L32+00W	9+20N	14			
7030	DJ-56	33+60W	3+80N	2			
7031	DJ-57	19+95W	16+65N	4			
7032	DJ-58	19+90W	16+60N	890	0.041		west of #2 vn
7033	DJ-59	L20+00W	16+67N	3			
7034	DJ-60	19+85W	17+95N	46			
7035	DJ-61	19+85W	17+95N	15			
7036	DJ-62	19+80W	17+95N	5			
7037	DJ-63	19+80W	17+95N	3			
7038	DJ-64	19+80W	17+90N	32			
7039	DJ-65	19+52W	17+65N	7			
7040	DJ-66	19+52W	17+65N	4			
7041	DJ-67	19+60W	17+72N	8			
7042	DJ-68	16+30W	7+35S	9			
7043	DJ-69	5+40W	0+50N	10000	0.656		#10 vein
7044	DJ-70	5+40W	0+50N	6000	0.197		" "
7045	DJ-71	5+20W	0+40N	1100	0.047		" "
7046	DJ-72	5+20W	0+40N	80			" "
7047	DJ-74	5+85W	1+80N	11			#10 vn ext ?
7048	DJ-75	8+03W	8+80N	6			

CANORTH RESOURCES INC.
Sample Location and Assay Results

Sample No.	Field Number	Location Latitude	Location Departure	Assay Results Gold ppb	Assay Results Gold oz/ton	Assay Results Silver oz/ton	Remarks
7049	DJ-77	7+90W	BL	28			#8 vein
7050	DJ-78	7+90W	BL	5			" "
7051	DJ-79	L 8+00W	BL	9			" "
7052	DJ-80	7+95W	0+03S	6			" "
7053	DJ-81	7+95W	0+03S	26			" "
7054	DJ-82	7+90W	0+03S	4			" "
7055	DJ-83	7+90W	BL	8			" "
7056	DJ-84	7+65W	0+13S	285			" "
7057	DJ-85	16+50W	17+50N	9		0.01	#2 vein
7058	DJ-86	16+50W	17+50N	6200	0.222	1.04	" "
7059	DJ-87	16+50W	17+50N	590	0.015	0.76	" "
7060	DJ-88	16+60W	17+55N	17		0.02	" "
7061	DJ-89	16+60W	17+75N	20000	1.123	3.09	" "
7062	DJ-90	16+60W	17+55N	420		0.53	" "
7063	DJ-91	17+15W	17+80N	6500	0.264	0.36	" "
7064	DJ-92	17+15W	17+80N	180		0.04	" "
7065	DJ-93	16+25W	17+10N	10000	0.368	0.21	#1 vein
7066	DJ-94	16+25W	17+10N	10000	0.394	0.12	" "
7067	DJ-95	16+30W	16+95N	310		0.04	" "
7068	DJ-96	16+50W	17+10N	9000	0.405	0.38	" "
7069	DJ-97	16+35W	17+10N	5800	0.257	0.17	" "
7070	DJ-100	39+45E	1+62N	32			
7071	DJ-101	44+45E	2+05N	6			
7072	DJ-114	L18+00E	8+00N	7		0.02	#6 vein
7073	DJ-115	L18+00E	8+00N	5250	0.263	2.30	" "
7074	DJ-116	L18+00E	8+00N	5900	0.321	0.53	" "
7075	DJ-119	L18+00E	8+00N	28		0.06	" "
7076	DJ-120	17+53E	7+50N	12		0.05	" "
7077	DJ-126	18+70E	9+82N	3			
7078	DJ-128	18+35E	12+80N	22			
7079	DJ-129	18+40E	12+80N	9			
7080	DJ-130	18+40E	12+80N	7			
7081	DJ-133	3+40E	17+38N	12			
7082	DJ-134	3+60E	17+25N	4			
7083	DJ-135	L 4+00E	11+25N	1500	0.076	0.06	ext of #6 vn ?
7084	DJ-136	L 4+00E	11+23N	260		0.04	" "
7085	DJ-125	18+70E	9+82N	22			
7086	SWC-3	5+77W	3+10N	2			Trench 87-5
7087	SWC-4	5+77W	3+10N	6			Trench 87-5
7088	SWC-5	5+77W	3+10N	650	0.019	0.02	Trench 87-5
7089	SWC-6	5+77W	3+10N	4750	0.193	0.117	Trench 87-5
7090	SWC-7	5+77W	3+10N	27			Trench 87-5
7091	SWC-8	8+35W	2+80N	14			Trench 87-6
7092	SWC-9	16+90W	16+65N	6			Tr 87-Vn #1
7093	SWC-10	16+85W	17+15N	2200	0.071		" across 8.5'
7094	SWC-11	16+85W	17+15N	800	0.024		unmineralized
7095	SWC-12	16+85W	17+15N	10000	0.178		mineralized
7096	SWC-13	18+95W	17+20N	16			Trench 87-7

CANORTH RESOURCES INC.
Sample Location and Assay Results

Sample No.	Field Number	Location		Assay Results			Remarks
		Latitude	Departure	Gold		Silver	
				ppb	oz/ton	oz/ton	
7097	SWC-14	16+15E	8+70N	26			Trench 87-10
7098	SWC-15	16+15E	8+70N	3			Trench 87-10
7099	SWC-16	16+88E	7+88N	3000	0.125	0.035	Trench 87-11
7100	SWC-17	16+88E	7+88N	40000	1.954	1.149	Trench 87-11
							Trench 87-11
7301	SWC-18	16+88E	7+88N	1200	0.036	0.079	Trench 87-11
7302	SWC-19	16+90E	7+85N	29		0.023	Trench 87-11
7303	SWC-20	16+80E	8+00N	4		0.029	Trench 87-11
7304	SWC-21	17+57E	7+85N	3			Trench 87-12

veins except #8, with the best assays from each being Vein #1 - 0.405 pz Au per ton, Vein #2 - 1.123 oz Au per ton, Vein #6 - 0.321 oz Au per ton, Vein #10 - 0.656 oz Au per ton. It should be remembered that these results come from grab samples, but they do confirm the tenor of gold values as have been reported by previous workers.

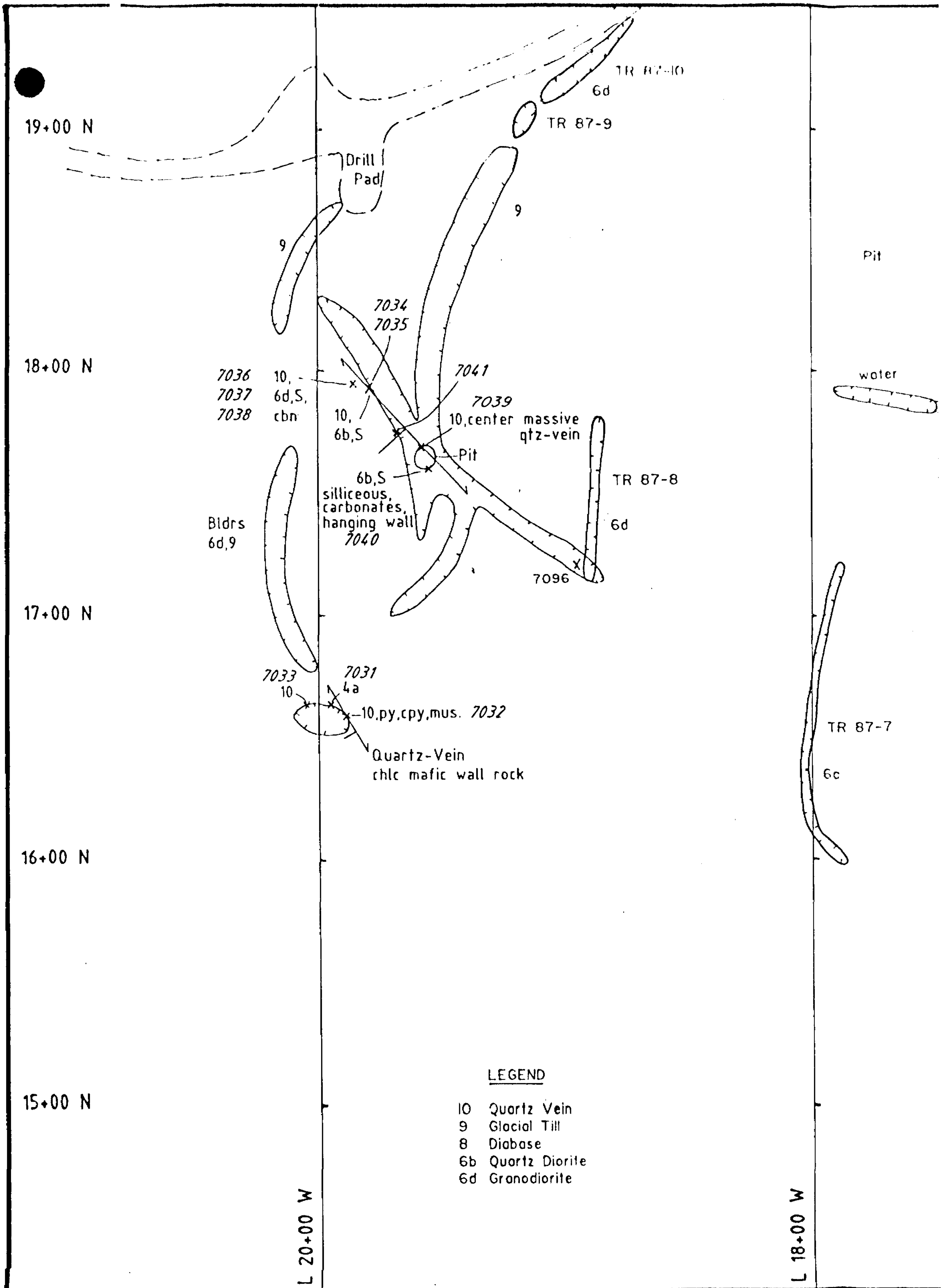
Sampling that was completed as a result of the stripping and trenching found three areas of interest, which will be discussed under Section 10.3 - Stripping and Trenching.

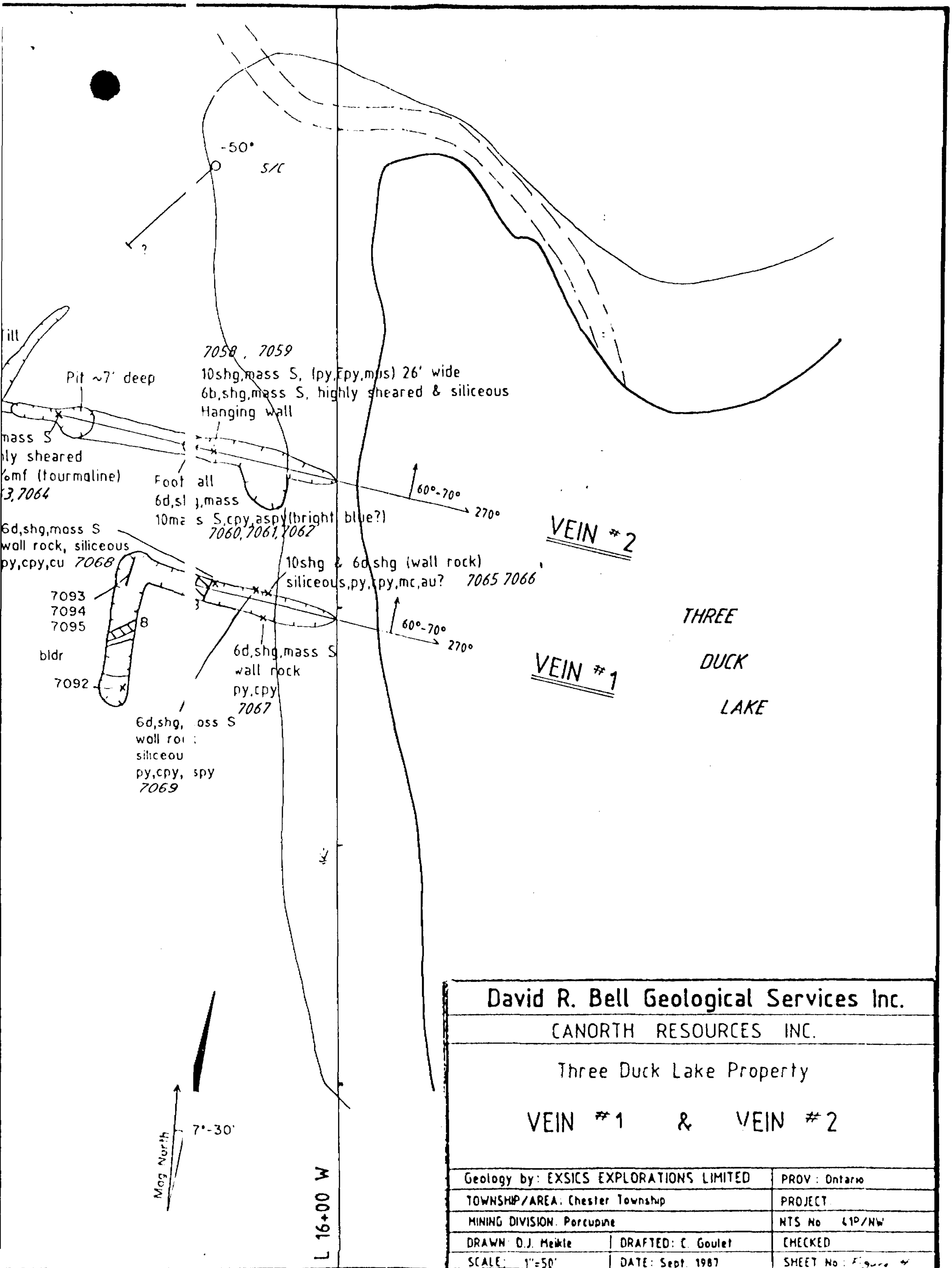
All samples that were sent for gold analysis, were first examined by the "geochemical" method, which due to a greater sensitivity allows for more accurate results from samples which contain less than 500 ppb gold. If any of these samples were found to contain results of greater than 500 ppb, a reassay was completed using the "fire assay" technique, which gives results in oz per ton and is also more accurate in this range. Some samples were analyzed for the silver content (results in oz per ton), with a general linear relationship between gold and silver being noted, (i.e. high gold will mean high silver).

10.3 STRIPPING AND TRENCHING

During October, 1987, a program of stripping and trenching was initiated on the Canorth property. A total of 14 trenches were excavated by using a combinmation of muskeg mounted backhoe and gas powered water pump. Twelve of these trenches are considered to be new excavations and have been categorized in the following manner Tr 87-1 to Tr 87-12, the remaining two trenches are continuations of the previously completed Vein #1 and Vein #2 trenches.

All trenches found bedrock, but interesting mineralization was located in only three (see Figures 4, 5 and


19+00 N
18+00 N
17+00 N
16+00 N
15+00 N
TR 87-10
6d
TR 87-9
Drill
Pad
9
9
Pit
7034
7035
7036
7037
7038
10,
6d,S,
cbn
10,
6b,S
7041
7039
10,center massive
qtz-vein
Pit
6b,S
silliceous,
carbonates,
hanging wall
7040
water
TR 87-8
6d
Bldrs
6d,9
7096
7033
10
7031
4a
10,py,cpy,mus. 7032
Quartz-Vein
chlc mafic wall rock
TR 87-7
6c
LEGEND
10 Quartz Vein
9 Glacial Till
8 Diabase
6b Quartz Diorite
6d Granodiorite
L 20+00 W
L 18+00 W



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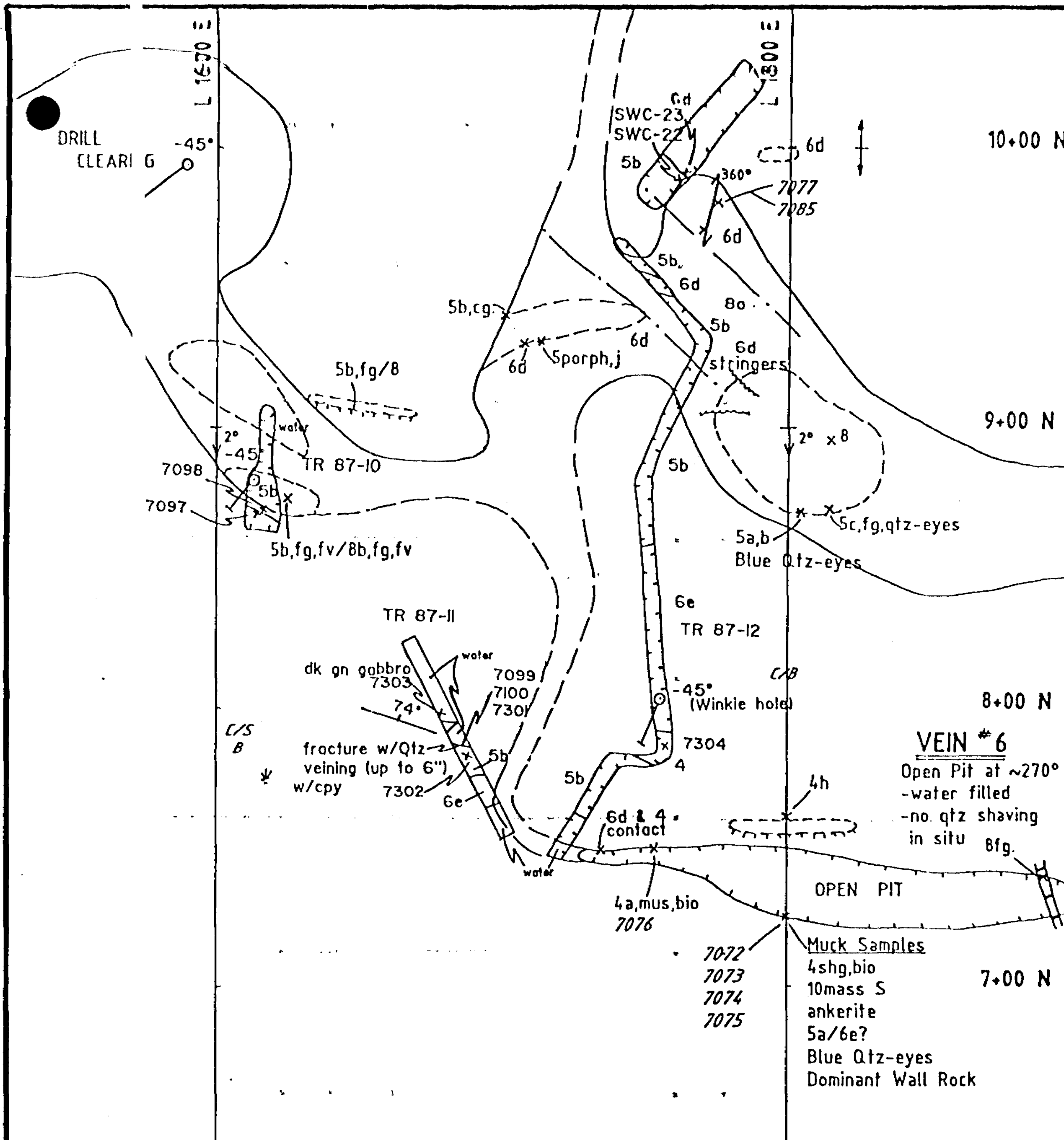
CANORTH RESOURCES INC.

Three Duck Lake Property

VEIN #1 & VEIN #2

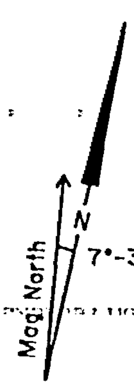
Geology by: EXSICS EXPLORATIONS LIMITED		PROV: Ontario
TOWNSHIP/AREA: Chester Township		PROJECT
MINING DIVISION: Porcupine		NTS No 41P/NW
DRAWN: D.J. Meikle	DRAFTED: C. Goulet	CHECKED
SCALE: 1"=50'	DATE: Sept. 1987	SHEET No: Figure 4



*Note: SWC seri are representative old samples withot assays

LEGEND

8 Diabase
6d Granod rite
6e Diorite
5a Hornble de Diori e
5b Gabbro
4 Fine gr ned
... Mafic I rusive



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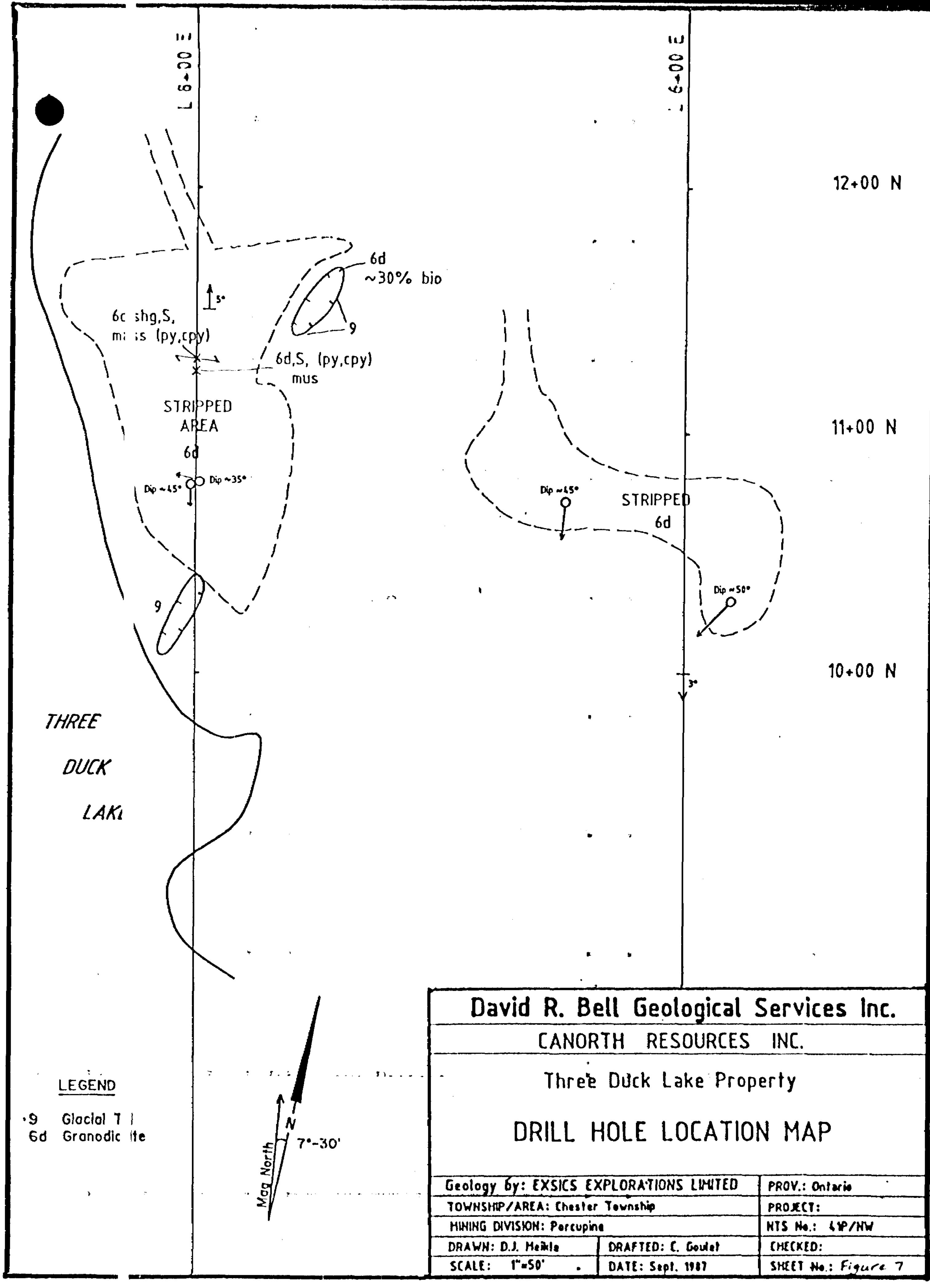
CANORTH RESOURCES INC.

Three Duck Lake Property

VEIN #6

Geology by: EXSICS EXPLORATIONS LIMITED	PROV.: Ontario
TOWNSHIP/AREA: Chester Township	PROJECT:
MINING DIVISION: Porcupine	NTS No.: 41P/NW
DRAWN: D.J. Heikle / DRAFTED: C. Goulet	CHECKED:
SCALE: 1"=50' / DATE: Sept. 1987	SHEET No.: Figure 6


L 6+00 E
L 6+00 E
12+00 N
11+00 N
10+00 N
6d
~30% bio
9
6c shg,S,
mi is (py,cpy)
6d,S, (py,cpy)
mus
STRIPPED
AREA
6d
Dip ~45°
Dip ~35°
5°
9
STRIPPED
6d
Dip ~45°
Dip ~50°
3°
THREE
DUCK
LAKE
LEGEND
9 Glacial T
6d Granodic ite
N
7°-30'
Mag North
David R. Bell Geological Services Inc.
CANORTH RESOURCES INC.
Three Duck Lake Property
DRILL HOLE LOCATION MAP
Geology by: EXSICS EXPLORATIONS LIMITED
PROV.: Ontario
TOWNSHIP/AREA: Chester Township
PROJECT:
MINING DIVISION: Porcupine
NTS No.: 41P/NW
DRAWN: D.J. Meikle
DRAFTED: C. Goulet
CHECKED:
SCALE: 1"=50'
DATE: Sept. 1987
SHEET No.: Figure 7

6). These exposures were located, in the extension of the trench on Vein #1, trench Tr 87-5 and Tr 87-11, with analyzed grab samples returning "ore grade" values from all of these three locations.

Upon examining the extension of Vein #1, it was noted that several parallel ½" wide quartz veinlets with associated pyrite were present. These veinlets were sampled in three ways, the first an 8.5 foot chip sample was taken across the veinlets which assayed 0.071 oz Au per ton, the second sample being a selective grab of the poorly or unmineralized host ran 0.024 oz Au per ton while the third sample was again a selective grab sample but this time of the best mineralized material, ran 0.178 oz Au per ton with free gold being detected in this sample. The purpose of these two selective grab samples was to help determine if the chip sample would return an accurate assay, as the width of the veinlets was much smaller than the overall width of the host.

In trench Tr 87-5 a narrow silicified section (up to eight inches wide, by three feet long) in the granodiorites, which contain smaller amounts of massive pyrite (10%), was found to contain "ore grade" gold values. In all, six grab samples were collected from both the unaltered host and the pyritic-silicified zones. This section, which is a new exposure, does not appear to be the extension of the Vein #10 (see Figure 5), but it does appear to have a parallel to sub-parallel orientation.

Trench Tr 87-11 which was dug to the west of the #6 Vein, also uncovered a narrow pyrite-chalcopyrite bearing quartz vein-silicified zone that also returned "ore grade" values, the highest of which is 1.954 oz Au per ton. This new vein has a parallel to sub-parallel orientation when compared to the #6 Vein. The dimension of this exposure are in the same order as the exposure in Tr 87-5.

10.4 PROSP CTING

A short three day program of prospecting was completed on the Cano th property, but due to the topographic and overburden eatures, no new exposures were located.

11.0 GEOPH SICS

11.1 AIRBO NE SURVEYS

D ring July, 1985, a regional Airborne geophysical survey was ompleted in the area of the Canorth property. This survey alth ugh initially conducted for other parties, did cover the Canorth property. With this knowledge, it was recommended that Canort obtain the geophysical data, with report, from Terraquest td. (the survey company) for its property. This report was repared in July of 1987 and was of assistance in the initial rev ew of this property. Copies of this report had previously een forwarded to Mr. W. H. Manderson.

11.2 MAGNE OMETER SURVEY (See Map 5683-87-5-1)

11.2.1 PAR MATERS

T e magnetometer survey was carried out using the following aramaters:

Instru ent	- EDA OMNI Plus - Proton Precission Magnetometer
Parame ers Measured	- Earth's total magnetic resultant field

Accuracy	- +/- one nano tesla - Diurnals corrected by EDA compatible base station recorder using a 30 second sample interval
Reading Interval	- 50 feet
Data Presentation	- Plan, contoured - Scale 1" = 200 feet - Contour Interval = 100 nt - Datum subtracted = 59000nt

11.2.2 RESULTS

The magnetometer survey outlined several NS structures which are believed to be associated with dikes. While these dikes trend north-south, they appear to split and join sporadically. It is difficult to tell whether there are parallel dikes or just different magnetic susceptibilities within the dikes. There does not appear to be any EW magnetic trends.

11.3 VLF-EM SURVEY (See Maps 5683-87-5-3 and -4)

11.3.1 PARAMATERS

A total of 31.5 km of VLF survey was conducted on the property, covering the entire claim group. The VLF method is a high frequency (relatively) EM technique which employs the use of VLF transmitting stations which operate worldwide for submarine communications. The magnetic field generated from these vertical antennas is horizontal and concentric. This primary field will induce a secondary field in any conductor properly coupled with the station direction. The VLF-EM method measures the vertical component of the secondary field. Therefore a station sh uld be chosen which is on strike with the expected strike of he conductor one is searching for. This is called Maximum Co pling and in reality stations up to 45 degrees off strike can be used. Because of the high frequency of this method, we k conductive features will be detected, including some overburden features. Therefore, interpretation of VLF data should be one discriminately and used in conjunction with other methods. nder some circumstances structural interpretation can be ascerta ned if some knowledge of the bedrock is available.

he VLF-EM survey was carried out using the following parameters

nstrument - EDA Omni Plus
ransmitter Station - Cutler Maine (NAA)
arameter Measured - In-phase Dip Angles, Quadrature
requency - 24.0 khz
irection to Station - 110 degrees
ll readings taken facing grid north
ata Presentation - Dip Angle Plan Map 1"=200'
- Fraser Filtered Map 1"=200'

11.3.2 RE ULTS

he VLF survey outlined several parallel EW trending conductors They are best outlined on the Fraser Filtered Dip Angle Map. They do not appear to have any coincident magnetic response. The strongest conductor is located at L32W/550N. This conductor s coincident with a parallel low swampy area. Individual descriptions of each conductor have not been done unless the conductor has an IP response. The association of conductors with swampy areas could mean a strictly overburden response b t the swampy areas are often a result of structural conditions such as shear zones which would physically weather out more quick y.

11.4 INDUCED POLARIZATION (IP) (See Maps 5683-87-5-4 to -18)

11.4.1 PARAMETERS

The IP method involves applying voltage across two electrodes in a pulsed manner ie. 2 second on, 2 second off. A second "dipole" or electrode pair, measures the residual potential or voltage between them after the voltage is shut off or during the 2 second off cycle. The potential is recorded at different times after the shut off. If, for example, there is sulphide mineralization within the measuring dipoles, they will be polarized or charges will be set up in the sulphide particles. This polarization gives the zone a capacitor effect, thereby blocking the current delay giving a higher chargeability reading.

A typical signature for many gold showings would be a chargeability high, resistivity high and magnetic low. This would be characteristic of a mineralized, highly altered carbonitized and/or silicified zone. However, this is by no means the only geological setting for gold, therefore every IP profile should be looked at individually and correlated with all other geophysical-geological data.

The IP survey was carried using the following paramaters:

Method	- Time Domain
Electrode Array	- Dipole Dipole
"a" spacing	- 50 feet
Pulse Duration	- 2 seconds on, 2 seconds off
Delay Time	- 500 ms
Integration Time	- 450 ms
Receiver	- EDA IP-2
Transmitter	- Scintrex IPC-9 200 watt

11.4.2 RESULTS

The IP survey outlined several anomalies. There does not appear to be any magnetic or VLF correlation. As only a limited amount of the grid was covered by IP, it is difficult to connect various anomalies and relate them to the geology. However, the IP method appears to have worked well in picking up various trenched quartz/sulphide zones which did not respond to VLF ormagnetic methods. The more interesting anomalies are as follows:

Anomaly A: This is an anomalous zone on L16W from 13N to 18N. It has several narrow anomalies within, the most noteable being at 1350N. The response at 1350N has a coincident resisitivity high. The area north of 1350N has been stripped and the IP appears to be coincident with narrower mineralized silicified zones. However, the anomaly at 1350N is not explained.

Anomaly B: This anomaly is located at 26E at 1050N. It is rather broad and could have narrow parallel zones within it. It could possibly be an extension of Anomaly A but because of the lake there is no data between. It is coincident with some anomalous grab samples discussed under Geology.

Anomaly C: This anomaly is located at L18E at 8N. It is also broad and slightly weaker than A and B but could be on strike with anomaly A and B even though there does not appear to be any chargeable zones on the true lines surveyed between.

Anomaly D: This anomaly is located on L6W at IN. It is a stronger anomaly and is coincident with some recent trenching. However, lines either side were not read to determine a strike direction and strike length.

Anomaly E: This anomalous area consists of anomalies on L28W/6N, L24/580N and a broad anomalous zone on L32W from 650N to 1150N. It is not clear if these anomalies are connected.

Anomaly F This anomaly is located at L16W at 9S. It has a resistivi y high.

Anomaly G This anomaly is located on L16W at 13S. It is coinciden with a resistivity high.

Anomaly H This anomaly runs from L32W to L24W at approximately 12S. It s similar and probably a continuation of anomaly F.

Anomaly I This anomaly is located on L24W at 15S. It is similar t and probably an extension of anomaly G.

Anomaly J This is a relatively strong anomaly located on Line 32W/6+25S Line 28W/4+50S and L24W/2S and 3S. All these chargeabl areas are coincident with a zone of high resistivity. Thus, the appear to be part of the same horizon. However, this anomaly a pears to be deeper on L28W and quite shallow on L24W. The data n L32W shows high chargeabilities at all measured depths.

12.0 CON LUSIONS AND RECOMMENDATIONS

The current 1987 exploration program carried out on the Canorth p operty has confirmed and located favourable "quartz vein-frac ure" settings within geological environments quite similar t the adjoining Chesbar-Murgold property, and hence it is herein recommended to carry out an exploration program of geophysic and diamond drilling.

Since approximately one-third (1/3) of the property is covered b water, and due to the recent geophysical results on land, it s recommended that the geophysical surveys be conducted during th winter freeze-up period over the water.

he following is the recommended two phase program:

Phase I - to include the continuation of geophysical surveys (V.F-EM, Magnetometer and IP) over the lake portion of the Canort property as a follow-up to and continuation of the surveys co ducted on the land portion grid. Approximate total mileage es imated at 8 (eight) miles including baseline. The induced po arization (IP) survey will be selected over areas of this lake ortion as determined by the VLF-EM and Magnetometer results.

his phase is to include approximately 10,000 feet of diamond dr lling to investigate geological and geophysical targets as outlined within this report and potential targets under the ake. Eight target sites were established during the 1987 field season. It is proposed that at least two drill holes should be lanned to investigate each of these target sites with each hole aving an approximate length of 500 feet. A further two potent al target sites should be planned within the lake area with a bud et of 2,000 feet of drilling anticipated. this drilling, f possible should be carried out during the winter months of he year, while ice conditions permit.

his phase should also include time to re-log, re-sample and re-plot previous diamond drilling on the Canorth property p oviding this core is available for the examination.

Phase II - will be contingent to favourable results in Phase I, a d will include approximately 20,000 feet of diamond drilling t further outline targets of merit as outlined from Phase I.

13.0 COST ESTIMATES

Phase I

i)	ine cutting	
	miles @ $375/mile	$ 3,000.00
ii)	eophysical Surveys	
	agnetometer 8 miles @ $150/mile . .	$ 1,200.00
	LF - EM 8 miles @ $150/mile . .	$ 1,200.00
	P 5 miles @ $1,500/mile .	$ 7,500.00
iii)	eophysical Reports and Maps	$ 3,000.00
iv)	elogging, sampling and plotting f previous diamond drilling	$ 25,000.00
v)	iamond Drilling (10,000 feet) inclusive cost including, core racks anding core, splitting, logging, potting holes @ $30/foot	$ 300,000.00
vi)	amp and field supplies	$ 8,000.00
vii)	ssaying approximately 600 samples $20/sample	$ 12,000.00
viii)	Supervision 15 days @ $550/day	$ 8,250.00
ix)	ravel related expenses to (viii)	$ 3,000.00
x)	eports and maps	$ 15,000.00
xi)	0% Contingencies	$ 38,715.00
	TOTAL PHASE I	$ 425,865.00

Phase II

i) Diamond Drilling (20,000 feet)
- all inclusive cost, including racks, handling core, camp, assays, supervision, reports @ $35/foot . . . . $ 700,000.00

ii) 10% Contingencies . . . . $ 70,000.00

TOTAL PHASE II	$ 770,000.00
TOTAL PHASE I AND II	$1,195,865.00

Respectfully submitted by,

Timmins, Ontario
December 31, 1987

David R. Bell, B.Sc., F.G.A.C.

Stephen Conquer, B.Sc.

R.J. Meikle

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PERSONNEL

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A. Markov	David R. Bell Geological Services Inc.,	Timmins, Ontario

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D. Meikle	Exsics Exploration Ltd.,	Timmins, Ontario
S. Anderson	Exsics Exploration Ltd.,	Timmins, Ontario
D. H alica	Exsics Exploration Ltd.,	Timmins, Ontario
D. Le wihiuk	Exsics Exploration Ltd.,	Timmins, Ontario

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S. Conquer	David R. Bell Geological Services Inc.,	Timmins, Ontario
M. S munovic	David R. Bell Geological Services Inc.,	Timmins, Ontario

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Prospecting

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D. Woods	Bradford, Ontario

ACKNOWLEDC EMENTS

:he firm of David R. Bell Geological Services Inc. would like to thank the following firms for the services provided, which without, the successful completion of this program wc ıld not have been possible.

1) :xsics Exploration Ltd.

2) .arche Exploration Services

3) [in-En Laboratories

CERTIFICATE OF QUALIFICATIONS

I, Davi: R. Bell, hereby certify:

1. that I am a consulting geologist employed by David R. Bell Geological Services Inc., 261 Third Ave., Timmins, Ontario

2. that I am a graduate of Carleton University, Ottawa, Ontario, holding a Bachelor of Science degree (B. Sc.) in geology, 1973.

3. that I have been practising my profession as a geologist continuously since 1973

4. that I am a Fellow of the Geological Association of Canada (1981), and a Member of the Canadian Institute of Mining and Metallurgy

5. that I do not have, nor do I expect to receive neither directly or indirectly, any interest in the property described in this report, nor in the securities of Canorth Resources Inc.

St. Catl arines, Ontario
Decembe: 31, 1987

David R. Bell (B.Sc.)F.G.A.C.

David R. Bell

CERTIFICATE OF QUALIFICATIONS

I, Stephen Conquer hereby certify:

1. hat I am a geologist employed by David R. Bell eological Services Inc., 261 Third Avenue, Timmins, ntario
2. hat I am a graduate of the University of Waterloo, iolding a Bachelor of Science degree (1979)
3. hat I have been practising my profession as a ieologist since 1979
4. hat I do not, nor do I expect to receive an interest n Canorth Resources Inc.

December 3 ., 1987
Timmins, O itario

Stephen Conquer, B.Sc.

CERTIFICATE OF QUALIFICATIONS

I, Raymon Meikle hereby certify:

1. that I hold a three year Technologist Diploma from the Haileybury School of Mines, Haileybury, Ontario, obtained in 1975

2. that I have been practising my profession since 1973 in Ontario, Quebec, NWT, Manitoba, New Brunswick, Nova Scotia for Teck Exploration Ltd., Metallgesllschaft Canada Ltd., Rayan Exploration., Sabina Industries Ltd., and most recently Exsics Exploration Ltd.

3. that I have based conclusions and recommendations contained in this report on knowledge of the area, my previous experience, and on the results of the field work conducted on the property during October and November, 1987, which was carried out under my overall supervision.

4. that I hold no interest, directly or indirectly in this property other than professional fees, nor do I expect to receive any interest in the property or in Canorth Resources Inc. or any of it's subsidiary companies.

December 31, 1987
Timmins, Ontario

R. J. Meikle

APPENDIX I

ASSAY RESULTS

MIN-EN LABORATORIES LTD.
Specialists in Mineral Environments
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)[illegible]5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company:D.BELL GEOLOGICAL
Project:5683
Attention:S.COLDUER

File:72-967/P1
Date:OCT 3/87
Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
7001	2
7002	1
7003	4
7005	3
7006	32
7007	1
7008	37
7009	4100
7010	16
7011	152
7012	2
7013	6
7014	3
7015	3
7016	2
7017	235
7018	128
7019	3
7020	6
7021	4
7022	7
7023	4
7024	2
7025	2
7026	215
7027	950
7028	3
7029	14
030	2

Certified by ______________________

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(60 80-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company: D.BEL . GEOLOGICAL
Project: 5683
Attention: S.C ONQUER

File: 72-967/P2
Date: OCT 3/87
Type: ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
7031	4
7032	890
7033	3
7034	46
7035	15
7036	5
7037	3
7038	32
7039	7
7040	4
7041	8
7042	9
7043	10000
7044	6000
7045	1100
7046	80
7047	11
7048	6
7049	28
7050	5
7051	9
7052	6
7053	26
7054	4
7055	8
7056	285
7057	9
7058	6200
7059	590
7060	17

Certified by

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.
Specialists in Mineral Environments
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company:D.BELL GEOLOGICAL
Project:5663
Attention:S.COLDUER

File:72-967/P3
Date:OCT 3/87
Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
7061	20000
7062	420
7063	6500
7064	180
7065	10000
7066	10000
7067	310
7068	9000
7069	5800
7070	32
7071	6
7072	7
7073	5250
7074	5900
7075	28
7076	12
7077	3
7078	22
7079	9
7080	7
7081	12
7082	4
7083	1500
7084	260

Certified by ____________
MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.
Specialists in Mineral Environments
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of ASSAY

Company:D.BELL GEOLOGICAL
Project:5683
Attention:S.COI QUER

File:72-967/P1
Date:OCT 3/87
Type:ROCK ASSAY

We hereby certify the following results for samples submitted.

Sample Number	AG G/TONNE	AG OZ/TON	AU G/TONNE	AU OZ/TON
7009	4.1	0.12	4.62	0.135
7027			1.40	0.041
7032			1.40	0.041
7043			22.50	0.656
7044			6.76	0.197
7045			1.61	0.047
7057	0.5	0.01		
7058	35.7	1.04	7.60	0.222
7059	26.0	0.76	0.52	0.015
7060	0.7	0.02		
7061	106.0	3.09	38.50	1.123
7062	18.1	0.53		
7063	12.3	0.36	9.05	0.264
7064	1.4	0.04		
7065	7.3	0.21	12.60	0.368
7066	4.1	0.12	13.50	0.394
7067	1.2	0.04		
7068	13.0	0.38	13.90	0.405
7069	5.8	0.17	8.80	0.257
7072	0.7	0.02		
7073	79.0	2.30	9.00	0.263
7074	18.2	0.53	11.00	0.321
7075	1.9	0.06		
7076	1.8	0.05		
7083	2.0	0.06	2.60	0.076
7084	1.2	0.04		

Certified by ____________________

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604[illegible]5814 OR (604)980-4524 TELEX:VIA USA 7601067 UC

Certificate of ASSAY

Company:D.R. BELL GEOLOGICAL SERVICES
Project:5683
Attention:D.R. BELL

File:72-1234/P1
Date:NOV 25/87
Type:ROCK ASSAY

We hereby certify the following results for samples submitted.

Sample Number	AU G/TONNE	AU OZ/TON
7088	.64	0.019
7089	6.60	0.193
7093	2.42	0.071
7094	.81	0.024
7095	6.10	0.178
7099	4.29	0.125
7100	67.00	1.954
7301	1.22	0.036

Certified by ______________

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.
Specialists in Mineral Environments
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604) 5814 OR ( )4)928-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company:D.BELL GEOLOGICAL
Project:5683
Attention:S.CO BUER

File:72-972/P1
Date:OCT 1/87
Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
7085	22

Certified by ____________

MIN-EN LABORATORIES LTD.

APPENDIX II

GEOPHYSICAL EQUIPMENT PARAMETERS

OMNI PLUS
VLF/Magnetometer System

Major Benefits of the OMNI PLUS

- Combined VLF/Magnetometer/Gradiometer System
- No Orientation Required
- Three VLF Magnetic Parameters Recorded
- Automatic Calculation of Fraser Filter
- Calculation of Ellipticity
- Automatic Correction of Primary Field Variations
- Measurement of VLF Electric Field

EDA

Specification

Dynamic Range	18,000 to 110,000 gammas. Roll-over display feature suppresses first significant digit upon exceeding 100,000 gammas.
Tuning Method	Tuning value is calculated accurately utilizing a specially developed tuning algorithm
Automatic Fine Tur ng	± 15% relative to ambient field strength of last stored value
Display Resolution	0.1 gamma
Processing Sensitivi y	± 0.02 gamma
Statistical Error Res ution	0.01 gamma
Absolute Accuracy	± 1 gamma at 50,000 gammas at 23°C ± 2 gamma over total temperature range
Standard Memory C pacity	
Total Field or Gra ent	1,200 data blocks or sets of readings
Tie-Line Points	100 data blocks or sets of readings
Base Station	5,000 data blocks or sets of readings
Display	Custom-designed, ruggedized liquid crystal display with an operating temperature range from −40°C to + 55°C. The display contains six numeric digits, decimal point, battery status monitor, signal decay rate and signal amplitude monitor and function descriptors.
RS 232 Serial I/0 Inte face	2400 baud, 8 data bits, 2 stop bits, no parity
Gradient Tolerance	6,000 gammas per meter (field proven)
Test Mode	A. Diagnostic testing (data and programmable memory) B. Self Test (hardware)
Sensor	Optimized miniature design. Magnetic cleanliness is consistent with the specified absolute accuracy.
Gradient Sensors	0.5 meter sensor separation (standard), normalized to gammas/meter. Optional 1.0 meter sensor separation available. Horizontal sensors optional.
Sensor Cable	Remains flexible in temperature range specified, includes strain-relief connector
Cycling Time (Base S ition Mode)	Programmable from 5 seconds up to 60 minutes in 1 second increments
Operating Environm ntal Range	−40°C to + 55°C; 0–100% relative humidity; weatherproof
Power Supply	Non-magnetic rechargeable sealed lead-acid battery cartridge or belt; rechargeable NiCad or Disposable battery cartridge or belt; or 12V DC power source option for base station operation.
Battery Cartridge/B t Life	2,000 to 5,000 readings, for sealed lead acid power supply, depending upon ambient temperature and rate of readings
Weights and Dimens ins	
Instrument Consol Only	2.8 kg, 238 x 150 x 250mm
NiCad or Alkaline B ttery Cartridge	1.2 kg, 235 x 105 x 90mm
NiCad or Alkaline B ttery Belt	1.2 kg, 540 x 100 x 40mm
Lead-Acid Battery (irtridge	1.8 kg, 235 x 105 x 90mm
Lead-Acid Battery I elt	1.8 kg, 540 x 100 x 40mm
Sensor	1.2 kg, 56mm diameter x 200mm
Gradient Sensor (0.5 m separation - tandard)	2.1 kg, 56mm diameter x 790mm
Gradient Sensor (1.0 m separation - ptional)	2.2 kg, 56mm diameter x 1300mm
Standard System Cor plement	Instrument console; sensor; 3-meter cable, aluminum sectional sensor staff, power supply, harness assembly, operations manual.
Base Station Optior	Standard system plus 30 meter cable
Gradiometer Optio	Standard system plus 0.5 meter sensor

E D A Instruments Inc
4 Thorncliffe Park Drive
Toronto, Ontario
Canada M4H 1H1
Telex 06 23222 EDA TOR
Cable Instruments Toronto
(416) 425 7800

In U S A
E D A Instruments Inc
5151 Ward Road
Wheat Ridge, Colorado
U S A 80033
(303) 422 9112

Printed in Canada

Specifications*

Frequency Tuning Range	15 to 30 kHz, with bandwidth of 150 Hz; tuning range accommodates new Puerto Rico station at 28.5 kHz
Transmitting Stations Measured	Up to 3 stations can be automatically measured at any given grid location within frequency tuning range
Recorded VLF Magnetic Parameters	Total field strength, total dip, vertical quadrature (or alternately, horizontal amplitude)
Standard Memory Capacity	800 combined VLF magnetic and VLF electric measurements as well as gradiometer and magnetometer readings
Display	Custom designed, ruggedized liquid crystal display with built-in heater and an operating temperature range from −40°C to +55°C. The display contains six numeric digits, decimal point, battery status monitor, signal strength status monitor and function descriptors.
RS232C Serial I/O Interface	2400 baud rate, 8 data bits, 2 stop bits, no parity
Test Mode	A. Diagnostic Testing (data and programmable memory) B. Self Test (hardware)
Sensor Head	Contains 3 orthogonally mounted coils with automatic tilt compensation
Operating Environmental Range	−40°C to +55°C; 0 – 100% relative humidity; Weatherproof
Power Supply	Non-magnetic rechargeable sealed lead-acid 18V DC battery cartridge or belt; 18V DC disposable battery belt; 12V DC external power source for base station operation only.
Weights and Dimensions	
Instrument Console	2.8 kg, 128 x 150 x 250 mm
Sensor Head	2.1 kg, 130 dia. x 130 mm
VLF Electronics Module	1.1 kg, 40 x 150 x 250 mm
Lead Acid Battery Cartridge	1.8 kg, 235 x 105 x 90 mm
Lead Acid Battery Belt	1.8 kg, 540 x 100 x 40 mm
Disposable Battery Belt	1.2 kg, 540 x 100 x 40 mm

*Preliminary

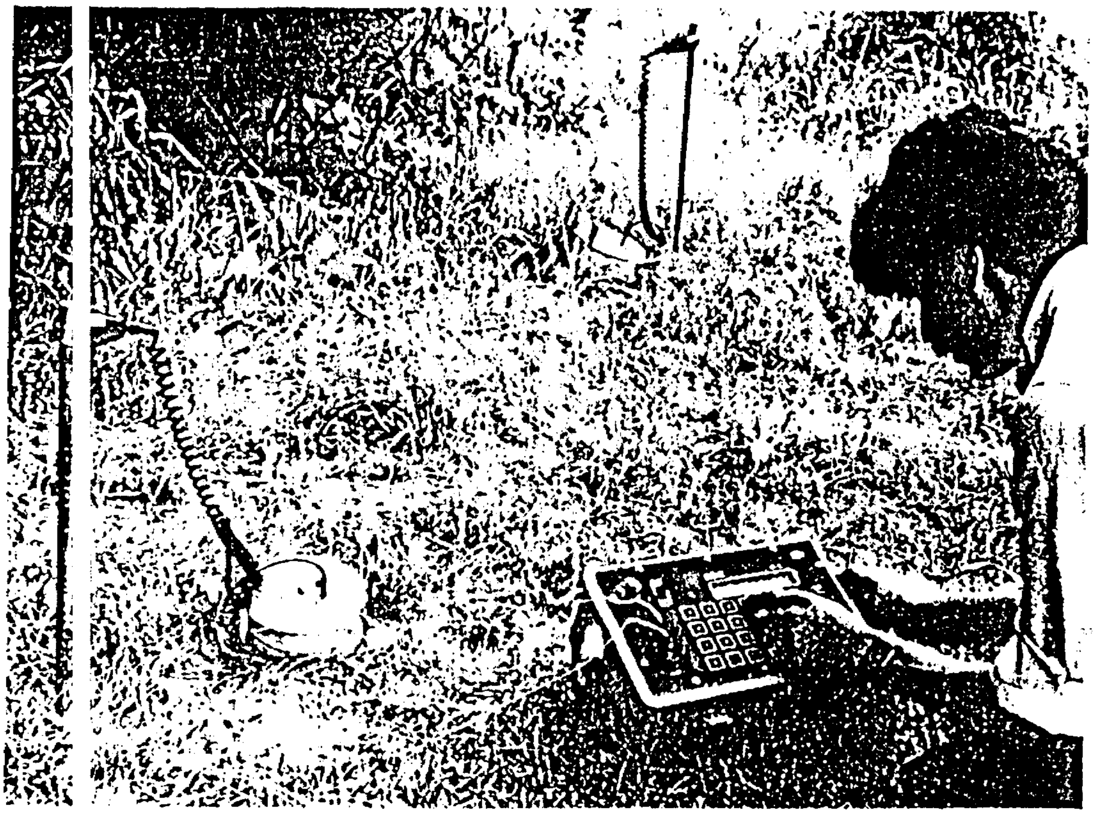
EDA Instruments Inc.,
4 Thorncliffe Park Drive,
Toronto, Ontario
Canada M4H 1H1
Telex: 06 23222 EDA TOR,
Cables: Instruments Toronto
(416) 425-7800

In USA,
EDA Instruments Inc.,
5151 Ward Road,
Wheat Ridge, Colorado
U.S.A. 80033
(303) 422-9112

Printed in Canada

Product Information

IP-2 TWO DIPOLE TIME DOMAIN IP RECEIVER



MAJOR B NEFITS

* TWO DIPOLES SIMULTANEOUSLY MEASURED
* SOLID STATE MEMORY
* AUTOMATIC PRIMARY VOLTAGE (Vp) RANGING
* AUTOMATICALLY CALCULATES APPARENT RESISTIVITY
* COMPUTER COMPATIBLE

EDA Instruments Inc., Head Office: 4 Thorncliffe Park Drive, Toronto, Canada M4H 1H1
Telephone: (416) 425-7800, Telex: 06 23222 EDA TOR, Cables: INSTRUMENTS TORONTO

In USA, EDA Instruments Inc., 5151 Ward Road, Wheat Ridge, Colorado 80033
Telephone: (303) 422-9112

Specificati ns

Dipoles	Two simultaneous input dipoles.
Input Voltage (Vp) ange	40 microvolts to 4 volts, with automatic ranging and overvoltage protection.
Vp Resolution	10 microvolts.
Vp Accuracy	0.3% typical; maximum 1% over temperature range.
Chargeability Resc ution	1 %.
Chargeability Accu acy	0.3% typical; maximum 1% over temperature range for Vp > 10 mV.
Automatic SP Com ensation	± 1 V with linear drift correction up to 1 mV/s.
Input Impedance	1 Megohm.
Sample Rate	10 milliseconds.
Automatic Stackin	3 to 99 cycles.
Synchronization	Minimum primary voltage level of 40 microvolts.
Rejection Filters	50 and 60 Hz power line rejection greater than 100 dB.
Grounding Resista ce Check	100 ohm to 128 kilo-ohm.
Compatible Transr itters	Any time domain waveform transmitter with a pulse duration of 1 or 2 seconds and a crystal timing stability of 100 ppm.
Programmable Par meters	Geometric parameters, time parameter, intensity of current, type of array and station number.
Display	Two line, 32-character alphanumeric liquid crystal display protected by an internal heater for low temperature conditions.
Memory Capacity	600 sets of readings.
RS-232C Serial I/O Ir erface	1200 baud, 8 data bits, 1 stop bit, no parity.
Console Power Sup ly	Six- 1.5V "D" cell disposable batteries with a maximum supply current of 70 mA and auto power save.
Operating Environ iental Range	−25°C to +55°C; 0–100% relative humidity; weatherproof.
Storage Temperatu e Range	−40°C to +60°C.
Weight and Dimen ons	5.5 kg, 310x230x210 mm.
Standard System C mplement	Instrument console with carrying strap, batteries and operations manual.
Available Options	Stainless steel transmitting electrodes, copper sulphate receiving electrodes, alligator clips, bridge leads, wire spools, interface cables, rechargeable batteries, charger and software programs.

E D A Instruments Inc.
4 Thorncliffe Park Drive,
Toronto, Ontario
Canada M4H 1H1
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Cable: Instruments Toronto
(416) 425 7800

In U S A
E D A Instruments Inc
5151 Ward Road,
Wheat Ridge, Colorado
U S A 80033
(303) 422 9112

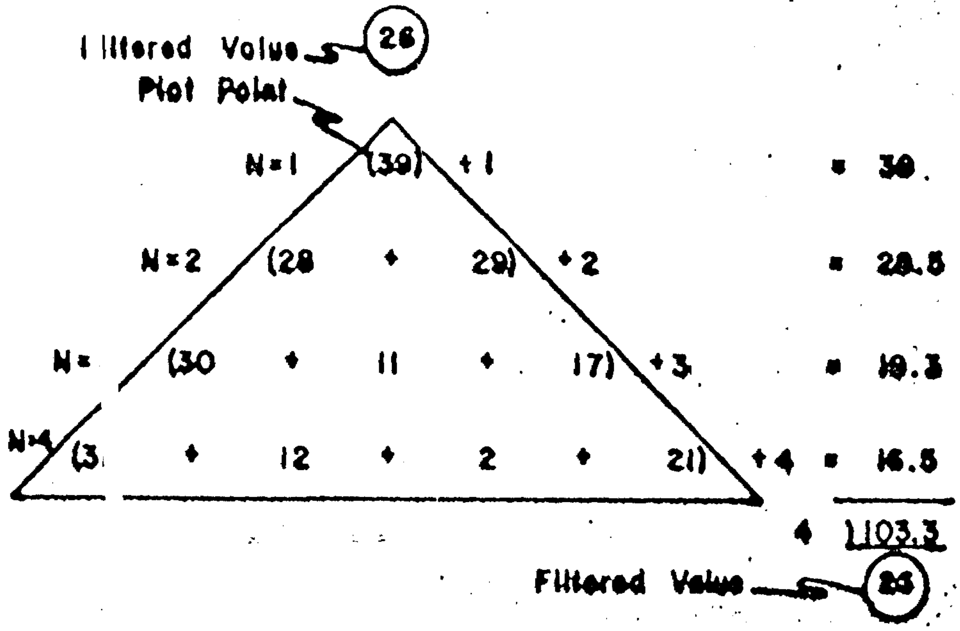
Printed in Canada

.0 SPECIFICATIONS

aximum Output Power	200W defined as when current is on and into a resistive load.
tput Voltage	Switch selectable at nominal settings of 15, 150, 210, 300, 425, 600 or 850 V.
tput Current	1.5 A maximum.
ter Ranges	Switch selectable at 50 mA, 150 mA, 500 mA, 1500 mA full scale with accuracy of ±3% of full scale.
A tomatic Cycle Timing	T:T:T:T; on:off:on:off.
A tomatic Polarity Change	Each 2T.
P lse Durations	T is switch selectable at 1, 2, 4, 8, 16 or 32 seconds.
P riod Time Stability a d Accuracy	Crystal controlled to better than 0.002 percent of the selected pulse duration.
O en Loop Protection	High voltage is automatically turned off if the output power is less than 2 W. This can be overridden manually for testing purposes. This protection is not effective at the 15 V output.
Sy chronization Output	Optically isolated, suitable for external synchronization of the IPR-11 multichannel IP Receiver.
In ernal Power Sources	Two battery packs are standard, each containing 4 GC 660-1 lead-acid gel-type batteries giving 24 V at 12 Ah. One Penlite battery, Eveready E91 or equivalent.
Ex ernal Power Sources	24 V DC supply at maximum 10A.

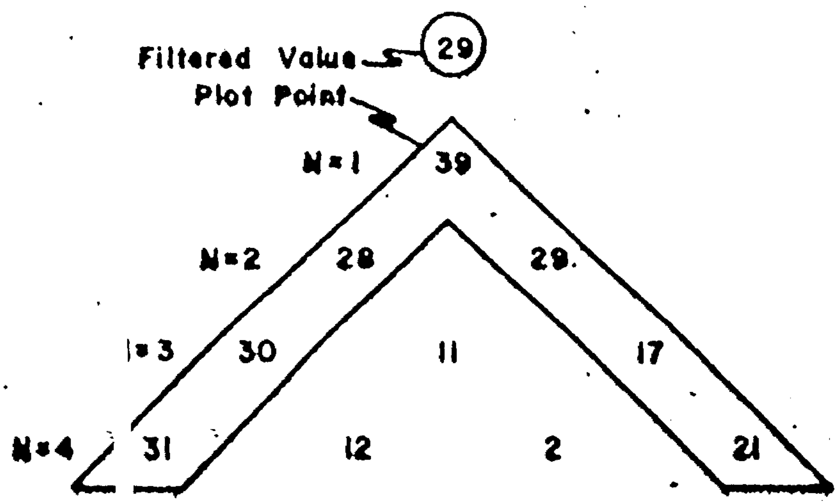
ower for Battery Charger	115 or 230 VAC, 50 to 400 Hz, 100 W.
imensions and Weights	Transmitters with two battery packs: 140 x 300 x 460 mm; 16.0 kg Single battery pack: 140 x 300 x 150 mm; 6.2 kg Charger: 140 x 300 x 150 mm; 5.5 kg
C erating Temperature Range	-30°C to +55°C.
S andard Equipment	Console, 2 battery packs, battery charger, carrying harness. Two giant banana plugs, minor spare parts kit.
O tional Equipment	Reels, wire, porous pots, electrodes, major spare parts kit, radio transceivers, back pack.
S ipping Weight	46 kg includes reusable wooden shipping case.

FRASER FILTER METHOD A.



FRASER FILTER METHOD B

DOUBLE WEIGHTED 1ST N



[(39X2) + (28+30+31) + (29+17+21)] ÷ 8

METAL FACTOR CALCULATION

$$MF = \frac{\text{CHARGEABILITY} \times 2000}{6.6 \times \text{RESISTIVITY}}$$

APPENDIX III

MURGOLD NEWS RELEASES

Murgold Resources Inc.

Suite 1518, Royal Trust Tower,
P.O. Box 70, Toronto Dominion Centre
Toronto, Canada M5K 1E7

Telephone (416) 366-8352

(TRADING SY BOL: MGDV - VANCOUVER and MGDVF - NASDAQ)

TO THE SHAR HOLDERS: SEPTEMBER 2, 1986

In the 1985 Annual Report it was anticipated that a major program would be continued in the seco d half of 1986. An announcement was made last week of the start of construction o a decline ramp on our No. 3 gold vein system at our property some eighty miles south of Timmins, Ontario. Excavation of the portal site has been completed and a $1,20 ,000 contract signed to drive the ramp. The work is being financed by Chesbar Res urces Inc., which can earn a 60% interest in the project by spending $2 million y December 31, 1988 and paying the Company a total of $200,000 in cash or shares o Chesbar.

The decline ramp will be driven 16 feet wide by 10 feet high at a 12½% slope and will extend for a total of some 1,600 feet, parallel to the No. 3 vein system. It is expected to reach its target of high-grade gold diamond drill intersections, some 200 feet be ow the surface, within four months. Diamond drilling to test the gold zone will b undertaken as the decline proceeds. Crosscuts will be driven into the zone from t e bottom of the decline and bulk samples of gold-bearing material will then be tak n to assess the gold grade. It is then planned to drive on the ore zones to establis the tonnage and grade of reserves.

In addition to the decline on the No. 3 zone, diamond drilling will also be carried out by Ches ar on other gold-bearing zones on the 60 optioned claims. Earlier this year geophy ical surveys were made over much of the optioned claims and twelve holes totalling 5 470 feet, were drilled on the No. 20 zone. Eleven of these drill holes intersected gold values, with the best intersection being 0.305 ounces in gold per ton over 13 5 feet.

As a result of the increased activity on the optioned property, we anticipate additional expl ration programs will be undertaken this winter on the surrounding 231 wholly owne claims.

Charles L. McAlpine

Charles L. McAlpine,
President.

Murgold Resources Inc.

Suite 1518, Royal Trust Tower,
P.O. Box 70, Toronto Dominion Centre
Toronto, Canada M5K 1E7

Telephone (416) 366-8352

CONTACT:

CHARLES McALPINE
PRESIDENT
MURGOLD RESOURCES INC.
416-366-8352

IMPRESSIVE GOLD VALUES ENCOUNTERED ON MURGOLD'S ONTARIO PROPERTY

TORONTO, ONTARIO - - MURGOLD RESOURCES INC. (VSE:MGDV and NASDAQ:MGDVF) announces assay re ults from the first part of the decline ramp on the Chester Township property The ramp has cut through the Number 3 and Number 4 vein systems at shallow epths and is now running parallel to these structures on the way to its main tar et.

Systemat c sampling of the west wall of the drive where it crossed the veins has returned 0.285 ounce of gold per ton over a width of 6.5 feet in one zone, and 1.016 ou ces of gold per ton over a width of 9.5 feet in a second zone 43 feet away. S mples from the east wall assayed 1.55 ounces per ton across 3.0 feet and 0.247 ou ce per ton over 4.0 feet, as well as a third section which ran 0.117 ounce per ton cross 6.5 feet.

Other lo er-grade veins were noted in both walls and it is evident that the Numbers and 4 veins are part of a major mineralized structure at least 140 feet wide.

The ramp has now been driven for a length of 591 feet and has 900 feet more to go to its o jective, where a cross-cut will be driven to open up the Number 3 and 4 vein sys ems at a vertical depth of 200 feet.

Drill st tions are being cut as the ramp advances and it is expected that underground d amond drilling will begin within the next two weeks.

The Ches er Township project is being financed by Chesbar Resources Inc. which can earn a 6 percent interest by the expenditure of two million dollars by December 31, 1989.

Charles . McAlpine
Presiden .

November 26, 1986.

Murgold Resources Inc.

Suite 1518, Royal Trust Tower,
P.O. Box 70, Toronto Dominion Centre
Toronto, Canada M5K 1E7

Telephone (416) 366-8352

JAN 20 1987

NEWS RELEASE

PROGRESS ON MURGOLD'S ONTARIO GOLD PROPERTY

TORONTO, ONTARIO - MURGOLD RESOURCES INC. (VSE:MGDV and NASDAQ:MGDVF) announces that the exploration ramp at its Chester Township project south of Timmins, Ontario has advanced 1,025 feet to date and is expected to reach its objective at 1,420 feet towards the end of January. From that point a crosscut will be driven to access the Number 3 vein system at a vertical depth of 200 feet.

The decline ramp intersected several gold-bearing vein structures at shallow depths. The Number 3 and 4 veins averaged 0.285 ounce of gold per ton over a width of 6.5 feet and 1.02 ounce of gold per ton over a width of 9.5 feet respectively. Numerous other lower grade intersections were encountered within the major mineralized structure, which is at least 140 feet wide and over 1,500 feet long. Five underground drill holes completed to date have all intersected visible gold in vein structures. Assays received for the first 3 holes have indicated the following values:

UG-1 -	0.292 ounce gold per ton over 4.0 feet
UG-2 -	0.234 ounce gold per ton over 10.5 feet
	0.163 ounce gold per ton over 1.0 foot
UG-3 -	0.229 ounce gold per ton over 1.5 feet
	0.436 ounce gold per ton over 1.5 feet
	0.254 ounce gold per ton over 1.5 feet

Assays are still awaited from holes 4 and 5 and a further 17,000 feet of drilling is planned in the current underground program.

A test of the vein systems to determine metallurgical and mining characteristics will be conducted once the ramp is completed and the vein has been accessed via a crosscut in the coming months.

The Chester Township project involving 60 of Murgold's 294 claims in the area, is being financed by Chesbar Resources Inc., which can earn a 60 percent interest by the expenditure of two million dollars on the 60 claims by December 31, 1989, and the payment of $200,000 in cash or shares of Chesbar.

C. L. McAlpine,
President.

January 9, 1987

Murgold I esources Inc.

Suite 1518, Royal Trust Tower,
P.O. Box 70, Toronto Dominion Centre
Toronto, Canada M5K 1E7

Telephone (416) 366-8352

JAN 20 1987

NEWS RELEASE

MC RE GOOD GOLD VALUES CUT ON MURGOLD'S ONTARIO GOLD PROPERTY

TORONTO,)NTARIO - MURGOLD RESOURCES INC. (VSE:MGDV AND NASDAQ:MGDVF) has received issay results from the fourth and fifth underground diamond drill holes on :he Chester Township project south of Timmins, Ontario, previously reported is having visible gold in the core. Hole No.4 cut 7.0 feet averaging 0.582 oz. gold per ton from 163 to 170 feet in the hole, while Hole No.5 cut a 6.0 foc : section from 300 to 306 feet which assayed 0.399 oz. gold per ton. These int :rsections are in the Number 3 vein zone, which is the main target of the cu 'rent underground program. Other shorter gold-bearing sections, represent ng parallel veins, were also cut and assays from Hole No.5 are still incomplet :.

The decli ie ramp has now reached the 1,082 foot mark. It is being driven to 1,420 fee :, at which point a crosscut will be driven to intersect and explore the No. 3 vein system at the 200 foot level.

The Chest :r Township project involving 60 of Murgold's 294 claims in the area, is being 'inanced by Chesbar Resources Inc., which can earn a 60 percent interest ıy the expenditure of two million dollars on the 60 claims by December :1, 1989, and the payment of $200,000 in cash or shares of Chesbar.

C. L. McA pine,
President

January 13, 1987

The Vanco ver Stock Exchange has neither approved nor disapproved the information co tained herein. This press release has been prepared by management which tak s full responsibility for its contents.

Murgold Resources Inc.

Suite 1518, Royal Trust Tower,
P.O. Box 70, Toronto Dominion Centre
Toronto, Canada M5K 1E7

Telephone (416) 366-8352

JAN 20 1987

NEWS RELEASE

PROGRESS ON MURGOLD'S ONTARIO GOLD PROPERTY

TORONTO, ONTARIO - MURGOLD RESOURCES INC. (VSE:MGDV and NASDAQ:MGDVF) announces that the exploration ramp at its Chester Township project south of Timmins, Ontario has advanced 1,025 feet to date and is expected to reach its objective at 1,420 feet towards the end of January. From that point a crosscut will be driven to access the Number 3 vein system at a vertical depth of 200 feet.

The decline ramp intersected several gold-bearing vein structures at shallow depths. The Number 3 and 4 veins averaged 0.285 ounce of gold per ton over a width of 6.5 feet and 1.02 ounce of gold per ton over a width of 9.5 feet respectively. Numerous other lower grade intersections were encountered within the major mineralized structure, which is at least 140 feet wide and over 1,500 feet long. Five underground drill holes completed to date have all intersected visible gold in vein structures. Assays received for the first 3 holes have indicated the following values:

UG-1	-	0.292 ounce gold per ton over 4.0 feet
UG-2	-	0.234 ounce gold per ton over 10.5 feet
		0.163 ounce gold per ton over 1.0 foot
UG-3	-	0.229 ounce gold per ton over 1.5 feet
		0.436 ounce gold per ton over 1.5 feet
		0.254 ounce gold per ton over 1.5 feet

Assays are still awaited from holes 4 and 5 and a further 17,000 feet of drilling is planned in the current underground program.

A test of the vein systems to determine metallurgical and mining characteristics will be conducted once the ramp is completed and the vein has been accessed via a crosscut in the coming months.

The Chester Township project involving 60 of Murgold's 294 claims in the area, is being financed by Chesbar Resources Inc., which can earn a 60 percent interest by the expenditure of two million dollars on the 60 claims by December 31, 1989, and the payment of $200,000 in cash or shares of Chesbar.

C. L. McAlpine,
President.

January 9, 1987

The Vancouver Stock Exchange has neither approved nor disapproved the information contained herein. This press release has been prepared by management which takes full responsibility for its contents.

CHESBAR RESOURCES INC.

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February 17, 1987

NEWS RELEASE

CHESBAR RESOURCES INC.

Chesbar Resources Inc. announces that its decline ramp in Chester Township has reached its initial objective of 1420 feet and has intersected the number 3 gold zone at 175 feet below surface.

Assays have been received from the first two rounds in the zone. In both cases the main vein was 4.0 feet wide and averaged 1.18 ozs. gold per ton over this width in the first round and 1.39 ozs. per ton in the second round. The ramp was driven for a further 60 feet on the vein and samples from this work have been sent out for assay.

Drifting on the number 3 vein is now underway and the ramp will be continued to access the vein at a lower elevation.

The number 3 zone, and other parallel gold-bearing structures, are also being explored by means of underground diamond drilling from the ramp. Drilling stations for this work are 100 feet apart and several holes are being drilled from each station to explore the downward continuity of the veins. The principal intersections to date in 1987 are as follows:

Hole	Section	Dip of Hole (Degrees)	From	To	Test	Oz. Gold Per Ton
U-1	8691 E	-30	310.0	314.0	4.0	.292
U-2	8691 E	-43	380.5	386.0	5.5	.439
U-3	8691 E	-49.5	257.5	259.0	1.5	.229
U-3	8691 E	-49.5	297.5	300.5	3.0	.222
U-3	8691 E	-49.5	528.5	532.0	3.5	.113
U-4	8782 E	- 5	165.0	170.0	5.0	.812
U-5	8782 E	-32.5	300.0	306.0	6.0	.383
U-6	8782 E	-46	490.0	493.5	3.5	.210
U-7	8782 E	-52	303.5	305.5	2.0	.038
U-8	8900 E	- 2	No significant values.			
U-9	8900 E	-31	No significant values.			
U-10	8900 E	-47	402.0	403.0	1.0	.066
U-11	8900 E	-56	421.5	424.0	2.5	.579
U-12	9007 E	+ 3	Assays incomplete.			
U-13	9007 E	-33	78.0	82.0	4.0	.362
U-14	9007 E	-51	91.5	92.5	1.0	1.770
U-14	9007 E	-51	178.0	179.0	1.0	.639
U-15	9007 E	-16	Assays to come			
U-16	9103 E	+13	Assays to come			
U-17	9103 E	-13	Assays to come			
U-18	9103 E	-33	163.5	165.0	1.5	.480
U-19	9103 E	-50	139.0	153.5	14.5	.176

A programme of diamond drilling from surface is also planned for the Chester Township project in the near future. It will test some of the seven other known gold-bearing zones on the property as well as several geophysical anomalies.

Chesbar is also active on other gold exploration projects. Nine holes have been completed for a total of 5,313 feet on the Ghost River property in the Harker-Holloway area of Ontario. These showed favourable geology with some encouraging gold values and further work is planned.

On the Mikwam property on the Casa-Berardi belt, 72 reverse-circulation holes have been drilled to bedrock along the favourable belt and samples from all of these are out for assay.

Arrangements have been made for up to 5.3 million dollars in exploration financing for Chesbar in 1987 through the issue of flow-through shares, subject to regulatory approval.

Application has been made to the Toronto Stock Exchange to list the company's common shares for trading. Chesbar Resources Inc. is presently listed on the Montreal Exchange, symbol CBI.

J.T. Flanagan, President
Toronto, Canada
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CHESBAR RESOURCES INC.

[illegible] lade Street East
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March 2, 1987

NEWS RELEASE

hesbar Reports Progress on All Fronts

Chesbar Resou ces Inc. is pleased to announce that substantial progress has been made in its exploration programmes and financing and the company has applied for listing on the Toronto Stock Exchang .

At the Ches er Township property, the underground ramp has reached a l ngth of 1,660 feet, and is being extended an additional 1 000 feet to open up a second level on the No. 3 vein zone.

On the upper level, 180 feet below surface, the No. 3 vein has been exposed or a length of 260 feet to date. Partial assay results are n w available for a length of 200 feet and indicate an average rade of 1.08 ounces of gold per ton across an average vein width of 4.2 feet. Many of the individual assays are over one ounce per ton and these have not been cut, but a minimum mini g width of 4 feet has been used in the calculations.

These results are not unexpected, because the No. 3 structure is known from revious surface work and shallow drilling as a narrow but ve y high-grade gold vein. Its known length is 2,800 feet and thi will be explored and tested as part of the ongoing underground w rk.

Underground iamond drilling is also continuing to delineate the No. 3 zone an several parallel veins above and below the ramp level. Mos of these holes have intersected significant gold values, with the best recent intersection being in hole no. 24 which assayed 0.471 ounce gold per ton over 9.5 feet. Hole 27 cut a 2-foot ection assaying 1.45 ounce per ton and the latest hole reported no. 28, returned 15.5 feet with an average grade of 0.235 oun e per ton, including a 4-foot section running 0.673 ounce per ton

The above drill holes are spaced along a length of 412 feet and cover a 'ertical interval of some 300 feet. The number 3 zone is known to be at least 2800 feet long, is open at both ends, and exten s to an unknown depth and therefore much more work remains t be done to delineate the potential tonnage available for minin . Nevertheless, the results to date are regarded by Chesbar m nagement as very significant because of the large number of igh-grade intersections.

Accordingl , arrangements are being made to move in a second undergroun diamond drill to accelorate the program.

Chesbar Re sources Inc. is listed on the Montreal Exchange, symbol CBI.

J.T. Flanag in, President
Chesbar Res urces Inc.
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Murgold Resources Inc.

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Toronto, Canada M5K 1E7

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FOR IMMEDIATE RELEASE

March 25, 1987

PRESS RELEASE

VANCOUVER, BRITISH COLUMBIA - (VSE: MGDV and NASDAQ: MGDVF) Murgold Resources Inc. (the "Company") announces that it has reached an agreement with Canarim Investment Corporation Ltd. ("Canarim") to arrange a private placement of $275,000.

The proposed private placement will involve the issuance of 250,000 flow-through shares of the Company at a price of $1.10 per share.

The Company has agreed to pay to Canarim a commission of 10% of the aggregate proceeds received pursuant to the private placement payable by the issuance of common shares of the Company at a price of $1.10 per share.

Full details of the private placement will be announced within 0 days.

The terms and completion of the private placement are subject to regulatory approvals.

MURGOLD RESOURCES INC.

Charles L. McAlpine,
President and Director

The Vancouver Stock Exchange has neither approved nor disapproved the information contained herein. This press release has been prepared by management which takes full responsibility for its contents.

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NEWS RELEASE MAY - 7 1987

MAJOR NE EXPLORATION PROGRAM COMMENCES ON MURGOLD'S ONTARIO PROPERTY

TORONTO, ONTARI(- MURGOLD RESOURCES INC. (VSE:MGDV, NASDAQ:MGDVF) announces that a new $2.77 mill on exploration program has started at its gold project in Chester Township, Ontari .

The program call for extension of the ramp by 1,300 feet to permit access to a second level at 00 feet vertical depth. Previously it was driven 1,640 feet to access the first level at 200 feet vertical.

A total of 2,700 feet of lateral development plus 500 feet of raising is included in the new progr m, as well as 25,000 feet of surface and 18,000 feet of underground diamond d illing.

Sampling from in tial underground lateral exploration averaged 0.528 ounce gold over 5.0 feet fo a length of 320 feet on the No. 3 vein.

There is a known length of 2,800 feet for the No. 3 zone which will be tested in the new program, s well as several other gold-bearing structures on the property.

The minimal obje ive is to establish reserves of 500,000 tons averaging 0.30 ounce gold or bet er at as early a date as possible, in order to arrive at a production decision.

The Chester Towns ip project involving 63 of Murgold's 294 claims in the area, is being financed by Chesbar Resources Inc., which can earn a 60 percent interest by the expenditure o two million dollars on the 63 claims by December 31, 1989, and the payment of $2 0,000 in cash or shares of Chesbar. To date, $1,750,000 has been spent on the property by Chesbar and $100,000 paid in cash and shares.

C. L. McAlpine,
President.

May 4, 1987

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June 11, 987

NEWS RELEASE

VISIBLE GOLD IN LATEST DRILL HOLES

TORONTO, (NTARIO - MURGOLD RESOURCES INC. (VSE:MGDV, NASDAQ:MGDVF) announces that surfa :e diamond drilling at Murgold's Chester Township gold project is confirming the depth extension of the Nos. 3 and 4 vein systems from 200 to 300 feet b low the underground ramp.

Visible go d has been noted in a number of holes, and assays on the first two holes, the only assays so far available, have confirmed high gold values.

Hole 87-1 r :turned 2.2 feet at 405.3 feet running 0.791 ounce gold per ton, and Hole 87 2 returned 4.5 feet grading 1.04 ounces gold per ton at 345.5 feet and 1.7 fee at 413.1 feet running 1.47 ounces gold per ton. Visible gold was noted in th se last two sections.

Visible gol has also been encountered in four additional holes at 452.1 feet and 470.5 fe :t in Hole 87-4, at 434.3 feet and 443.3 feet in Hole 87-6, at 247 feet in lole 87-7 and 441.3 feet in Hole 87-8.

These holes over a strike length of 500 feet. Resumption of underground work is now well nderway. A ventilation raise to connect with the former Bates Shaft is up 50 fee , and the main ramp east extension started.

The Chester ownship project involving 63 of Murgold's 294 claims in the area, is being fina iced by Chesbar Resources Inc., which can earn a 60 percent interest by the expenc ture of two million dollars on the 63 claims by December 31, 1989, and the payme t of $200,000 in cash or shares of Chesbar. To date, $1,859,000 has been spen on the property by Chesbar and $100,000 paid in cash and shares.

CLMcAlpine

C.L. McAlpine
President.

The Vancouver Stock Exchange has neither approved nor disapproved the information contained here n. This press release has been prepared by management which takes full responsib lity for its contents.

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NEWS RELEASE

JUL 02

GOLD VALU S IN MURGOLD SURFACE HOLES — JUNE 25, 1987

TORONTO, NTARIO - MURGOLD RESOURCES INC. (VSE:MGDV, NASDAQ:MGDVF) announces that a surface drilling program designed to test the downward xtensions of the gold-bearing vein system below the ramp at Murgol Resources' Chester Township gold project in Northern Ontario c ntinues to obtain encouraging gold values.

Hole No. 87-03 on Section 169,100E returned 0.392 oz. gold/ton over 2.7 t. at 512.0 ft. in the hole. No. S87-04 on Section 169,300E ave a 3.0 ft. section at 451.6 ft. running 0.896 oz./ton.

No. S87-0 on Section 169,500E gave 0.291 oz./ton over 5.9 ft. at 266.6 ft. and No. S87-09 on Section 169,600E gave 0.295 oz./ton over 5.5 t. at 412.0 ft. Drilling is continuing and further assays are await d.

The resum d underground program is now well underway. The east ramp extension has advanced 180 ft., while an exploratory raise is now up 173 ft.

The Chest r Township project involving 63 of Murgold's 294 claims in the area, is being financed by Chesbar Resources Inc., which can earn a 60 perc nt interest by the expenditure of two million dollars on the 63 cl ims by December 31, 1989, and the payment of $200,000 in cash or s ares of Chesbar. To date, almost two million dollars have been spen on the property by Chesbar and $100,000 paid in cash and shares.

C.L. McAl ine,
President

Murgold I esources Inc.

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NEWS RELEASE

MORE GOOD OLD VALUES IN MURGOLD SURFACE HOLES JULY 21, 1987

TORONTO, O TARIO - MURGOLD RESOURCES INC. (VSE:MGDV, NASDAQ:MGDVF) announces substantia progress in its exploration program at its Chester Township gold project, 6 miles south of Timmins, Ontario.

The ramp e tension being driven to open up a second level on the No. 3 vein system had advanced 470 feet to July 15. Underground diamond drilling has commenced rom drill stations which are being cut as the ramp progresses; cores from the first four holes are now out for assay. The total length of the dec ine is now 2,166 feet. Surface diamond drilling on the Chester Township p operty continues to return gold values from the No. 3 vein system and also f om the parallel No. 1 vein system which lies 1,300 feet to the north of N . 3. Recent drill results are as follows:

Hole No.	Section	From	To	Feet	oz. gold/ton	Vein No.
No. 3 Zone						
87-11	169,600E	40.0	41.3	1.3	.156	3B
87-11	169,600E	113.7	116.2	2.5	.075	3
87-12	169,500E	83.3	85.6	2.3	.295	3A
87-12	169,500E	115.5	119.7	4.2	.102	3
87-13	168,700E	239.0	243.5	4.5	.409	3A
87-14	168,600E	253.2	257.0	3.8	.165	3A
No. 1 Zone						
87-18	168,370E	182.0	185.0	3.0	.101	1
87-23	167,800E	223.5	226.5	3.0	.307	1
87-27	167,600E	83.5	88.5	5.0	.276	1
87-28	167,400E	170.0	174.0	4.0	.813	1
87-29	167,400E	231.0	235.0	4.0	.175	1

JUL 23 1987

The Cheste Township project involving 63 of Murgold's 294 claims in the the area, s being financed by Chesbar Resources Inc., which can earn a 60 percent interest by the expenditure of two million dollars on the 63 claims by ecember 31, 1989, and the payment of $200,000 in cash or shares of Chesbar To date, over two million dollars have been spent on the property b Chesbar and $100,000 paid in cash and shares.

C.L. McAlp ne,
President.

The Vancou er Stock Exchange has neither approved nor disapproved the informatic contained herein. This press release has been prepared by management which takes full responsibility for its contents.

Surrounding 231 Cl: ms

Diamond drilling w: s carried out on the Weeduck Lake block of claims, wholly owned by the Company, with 3 holes drillec for a total of 2,194 feet. These holes were drilled to test the lateral and depth extension of the igh grade gold values intersected in two previously drilled holes. The best intersections were .294 oz. gold over 4 inches and 0.260 oz. over 6 inches.

Two zones of mine alization have been sampled along the north and south side of a small lake 1,000 feet north of Weedı ck Lake. The showing south of the lake is quite impressive with massive sulphides exposed along a tre ıch 22 feet long and across 6 feet at its widest section. Four channel samples were cut and have been : ınt for assay.

Line cutting is bei g completed on two other 100% owned claim blocks, preparatory to carrying out geophysical survey: and detailing diamond drilling targets.

General

Four financings ha' e been arranged since March. 250,000 "flow-through" shares were sold at $1.10 per share; $375,000 wil be received from issuing 258,261 "flow-through" shares at $1.45 per share; 225,000 shares have been : ›ld at $1.00 per share; and $500,000 will be received from issuing 291,545 "flow-through" shares at 1.715 per share.

Two additional fin ıncings are in process. A Statement of Material Facts has been filed with the Vancouver Stock E :change with a view to selling 500,000 units, each unit consisting of one common share and a share purchase warrant. It is anticipated that an Exchange Offering Prospectus for ıetween $400,000 · $600,000 will be filed by the end of September with The Toronto Stock Exchange which, if accepted, will automatically list the Company's shares on the T.S.E.

Finally, I am sure /ou will be pleased to know that the Company has been advised by the National Association of Sec ırities Dealers (NASD) that effective September 15, 1987, the Company's common shares will be incl ded in the "Additional NASDAQ Quotes List" (Additional List) which is presently carried daily in Th Wall Street Journal and weekly in Barron's.

On Behalf of the B ard of Directors,

Charles L. McAlpi: e,
President

September 24, 1987

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(TRADING SYMBC .S: VSE-MGDV and NASDAQ-MGDVF)

TO THE SHAREHC .DERS:

Financial data for · ıe period ending June 30, 1987, with comparative figures, accompany this report.

Option Agreement /ith Chesbar

Chesbar Resources Inc. has completed the expenditure of $2,000,000 on the 63 optioned claims in Chester Township, Northern Ontario, and has paid $200,000 to your Company, thus earning a 60% interest in the 63 c aims.

Development on 63 Claims

Ramp extension is continuing with the objective of opening a second level on the No. 3 gold vein system. The ramp ıas been driven 2,900 feet to date and it is expected that it will be completed by the end of October.

Development in or : on the 200 level is continuing. As previously reported, drifting on this level ›ened a length of 120 feet averaging 0.528 ounces in gold per ton over an average width of 5.0 feet. A further 46.5 feet of drifting has averaged 0.77 oz. gold over 5.6 feet. It is encouraging to find that the drifting resulte in higher gold grades and greater widths than in the earlier diamond drilling. As a result, the budget s being revised to add a further $1,000,000 for drifting in areas where geological structure is favour ıble and evidence of gold mineralization has been shown. The first such drift planned will be on t ıe 150 foot level.

Underground diamc ıd drilling is continuing from the decline extension. Currently underground Hole No. U.87-71 is beir ; drilled. One of the better holes, U.87-42, cut an intersection grading 0.823 oz. gold over 4.0 feet.

Approximately 18,00 feet of surface diamond drilling has been completed so far this year. The drilling has been de ailing both the No. 3 vein system and the No. 1 zone. In the latter zone, Hole No. 87-28 cut 4.0 feet unning 0.813 oz., No. 87-27 cut 0.276 oz. over 5.0 feet and No. 87-23 gave 3.0 feet running 0.307 oz. ı the No. 3 gold vein system, better intersections included 4.5 feet in the 3A vein running 0.409 oz., a ıd 2.3 feet in the same vein running 0.295 oz.

Significantly, surfa e hole 87-46, drilled 500 feet east of the Strathmore Shaft, along strike from the No. 3 gold vein sy tem, cut an intersection grading 0.093 oz. over 4.5 feet which included 0.274 oz. over 1.0 foot. Wit gold intersections on strike to the west, the strike length of the No. 3 vein system is now almost 4,00 feet and still open at both ends and to depth. A further 10,000 feet of surface drilling is planned t :fore year-end.

Planned Expenditu :s have been increased with a view to making a production decision in the early Spring of 1988.

OCT - 5 1987

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NEWS RELEASE

DECLINE R/ 1P COMPLETED

OCTOBER 19, 1987

TORONTO, (ITARIO - MURGOLD RESOURCES INC. (VSE:MGDV, NASDAQ:MGDVF) announces that the (:cline ramp in Chester Township, Northern Ontario, has been completed 'or a length of 3,100 feet taking it down to a vertical depth of 400 feet t :low surface.

A multi-le 'el exploration program is now in progress. On the new 150-ft. level, crosscutti ıg to Nos. 3 and 3A veins has been completed and exploratory drifting is gettinç underway. Drifting on the original 200-ft. level is continuing. A crosscut c ı the 300-ft. level is now underway.

Lateral ex ıloration on the 400-ft. horizon will start as soon as some current undergroun l drilling is completed. This work will undercut a section in the old Strath ıore workings where drift sampling at the 85-ft. level averaged 0.74 oz. gold ıer ton across 3.0 ft. for a length of 195.0 ft. and a 656-ton bulk sample in .982 averaged 0.34 oz. gold per ton.

A surface liamond drilling contract has been signed for 11,500 feet of drilling to commenc : in the next two weeks. The first priority will be the No. 3 vein and extens ons. Drilling will also be carried out on the No. 1 and No. 20 zones, and other anomalies which have been shown to have gold mineralization.

The Cheste ' Township project involves 63 of Murgold's 294 claims in the area and is now unc :r a Joint Venture with Chesbar Resources Inc. which has earned a 60% intere ;t in it. Expenditures are now being shared in a 60:40 ratio.

On its whc |ly-owned ground, Murgold has completed line-cutting on four blocks of claims anc crews are presently carrying out geophysics on these areas in preparatic ı for a surface diamond drilling program in November.

Applicatic ı has been made to The Toronto Stock Exchange to list the Company's shares for trading. Murgold Resources Inc. is presently listed on the Vancouver Stock Exch ınge and NASDAQ.

Cleve Alpine

OCT 22 1981

C.L. McAl| ine,
President

Murgold Resources Inc.

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NEWS RELEASE

NUV 27 1987

HIGH GO D VALUES IN FIRST RAISE AT MURGOLD

NOVEMUER 24, 1907

TORONTO ONTARIO - MURGOLD RESOURCES INC. (VSE:MGDV, NASDAQ:MGDVF) announces that samplin of consecutive rounds in the first raise being driven at its Chester Townshi , Northern Ontario, gold project gave 1.68 ozs. gold per ton across 5.5 ft. 0.35 oz. across 5.0 ft., 0.50 oz. across 5.0 ft., 1.10 ozs. across 4.5 ft., 4. ozs. across 5.0 ft. and 1.49 ozs. across 5.0 ft.

The tot l raise advance of 50.0 ft. for which assays are so far available averages 0.77 oz gold per ton across an average width of 5.0 ft.

The con istently high gold values encountered in the raise are particularly encoura ing because they add a third dimension to a high-grade portion of the No.3 vein ou lined by earlier horizontal drifting.

The rai e is being extended vertically from a section of the 200-ft. level that average 0.573 oz. gold per ton over an average width of 5.1 ft. for a length of 370 ft.

Driving the raise on the vertical plane thus makes available a potential stope panel o excellent grade.

In addi ion to continued drifting on three levels, a decision has been made to take off a n w ramp from the main ramp at the 200-ft. elevation to access a block of drill-i dicated gold values representing the downward extension of the ore section and to rovide drill stations for additional underground diamond drilling.

The Che ter Township project involves 63 of Murgold's 294 claims in the area and is now nder a Joint Venture with Chesbar Resources Inc. which has earned a 60% interes . in it. Expenditures are now being shared in the 60:40 ratio.

C.L. Mc lpine,
Preside t.

The Va couver Stock Exchange has neither approved nor disapproved the information contai ed herein. This press release has been prepared by management which takes full r sponsibility for its contents.

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DEC - 9 198/

NEWS RELEASE

HIGH GOLD VALUI S CONTINUE IN RAISE AT MURGOLD   DECEMBER 2, 1987

TORONTO, ONTARI) - MURGOLD RESOURCES INC. (VSE:MGD, NASDAQ:MGDVF) announces that high gold value ; are continuing in the No. 1 Raise being driven from the 200-ft. level on the Nc 3 Vein at Murgold Resources' Chester Township gold project in Northern Ontari .

The raise has n w been driven for 119 ft., with assays from face sampling available for the first 8 ft. This length averages 0.932 oz. gold per ton over an average raise width of ‹ .84 ft.

Face sampling oi the first 50 ft. of this length, previously reported, averaged 0.77 oz. over an average raise width of 5.0 ft.

Muck sampling fo the 81-ft. length averaged 0.639 oz.

The No. 2 raise s now underway. This is located on the 150-ft. level, and back sampling at the point where the raise was started gave 0.924 oz. gold over 2.0 ft. and 0.758 oz. ovı r 1.5 ft.

A recent undergrc ınd diamond drill hole, just west of the Strathmore shaft, an uphole testing th No. 3 vein system, has cut two intersections, one from 119 to 121 ft. assaying ı.737 oz. gold, and the second from 136 to 143 ft. returning 0.096 oz.

The Chester Towns ip project involves 63 of Murgold's 294 claims in the area and is now under a Jo nt Venture with Chesbar Resources Inc. which has earned a 60% interest in it. xpenditures are now being shared in the 60:40 ratio.

C.L. McAlpine,
President.

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NEWS RELEASE

JAN 13 1988

TORONTO STOCK EXCHANGE LISTING JANUARY 11, 1988

TORONTO, ONTARIO - MURGOLD RESOURCES INC. (VSE: MGDV, NASDAQ: MGDVF) announces that the common shares and units of the Company have been listed for trading on the Toronto Stock Exchange (Symbol: MGD) under an Exchange Offering Prospectus. 841,464 units were sold at $0.82 per unit to yield $690,000 to the Company. The offering was over-subscribed. Each unit consists of one flow-through common share and one-half of one Series "C" Warrant. The one-half of a warrant is not separable from the corresponding flow-through share until February 1, 1988. The warrants will be listed on the Toronto Stock Exchange, at that time. Each whole "C" warrant will entitle the holder, at his option, to purchase either: i) one common share of the Company at a price of $0.78 or one flow-through common share at a price of $0.9[illegible] during the period commencing February 1, 1988 and ending on December 31, 1988; or ii) one common share at a price of $0.88 during the period commencing on January 1, 1989 and ending on December 31, 1989.

The proceeds of the flow-through common shares will be expended by the Company on or before February 29, 1988 to incur Canadian Exploration Expenses ("CEE") qualifying for mining exploration depletion allowance ("MEDA") as provided for in the Income Tax Act (Canada). Such CEE will be renounced by the Company to the initial purchasers of the flow-through common shares. The proceeds from the exercise of the "C" warrants, where the warrants are exercised to acquire flow-through common shares, will be expended by the Company to incur CEE qualifying for MEDA. The CEE will be renounced by the Company to the purchasers of the flow-through common shares.

The units offered under the Offering have not been registered or qualified under the United States Securities Act of 1933, as amended or under the securities laws of any state of the Inited States, and were not offered or sold, directly or indirectly, in the United St tes, its territories and possessions, or any area subject to the jurisdiction f the United States to or for the benefit of any citizen, national or resident o the United States, or any corporation, partnership or other entity organized in r under the laws of the United States, or any estate or trust that is subject to United States federal income taxation regardless of source of income ("U.S. Person). In addition, the Warrants may not be exercised by any U.S. Person.

The proceeds eceived will primarily be used to fund exploration expenses relating to the Compan 's 40% interest in a joint venture on 63 mining claims in Chester Township, Nor nern Ontario. Any proceeds not used on the Joint Venture Property will be used by th Company to fund ongoing exploration expenses on 231 adjoining claims, wholly owned I y the Company.

Work has comme iced again on the Chesbar joint venture project after the Christmas holidays. The underground contractor has started driving a new ramp from the main ramp at the 2( ) ft. elevation to access a block of drill-indicated gold values representing t ie downward extension of the ore section and to provide drill stations for additional underground diamond drilling. The work is being carried out on a three-shift pe day, seven days per week basis with the goal of making a production decision in mi l-1988. A diamond drill rig has also commenced drilling again on several of the other gold vein systems on the 63 claim joint venture property.

On the Company s 231 claim wholly owned ground, drill hole locations are being spotted on sev :ral new anomalies found in recent geophysical surveys. It is anticipated tl it diamond drilling will start before the end of January.

Charles G. McAlpine

Charles L. McA pine,
President.

REPORT ON THE 1988

DIAMOND DRILLING PROGRAM

ON THE

CHESTER TOWNSHIP PROPERTY OF

CANORTH RESOURCES INC

PROJECT #5683

Timmins, Ontario
February 29, 1988

Stephen Conquer
Mike Simunovic
David R. Bell Geological
Services Inc.

41P12SW0036 63.5176 CHESTER

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1.0 S MMARY

During the late summer and fall of 1987, the firm of David R. Bell Geological Servic s Inc. completed a comprehensive program of surface exploration (Bell et al, 1987). The data which was gained from this exploration gave favourable indications that p eviously reported results from the surface and drill investigations were valid and could robably be reproduced with a high degree of confidence. Further exploration in the fo n of diamond drilling was recommended.

After completing the afore mentioned activities, exploration funds were still availat e and therefore it was decided to conduct a drill program of limited footage. This dr ling would give an initiall indication of strike and dip extension of the known vein-st uctures. Therefore on Febraury 20, 1988 a 2,064 foot drill program was initiated. This pr gram was designed to test the No. 1, 2, 6, and 10 veins, from which highly anoma ous to "ore" grade gold assays had been received. The most interesting drill intersec ions were received from the No. 2, 6, and 10 veins, with the best assay being a 3.10 oot section of 0.268 oz Au/ton from the No. 2 vein in hole 5683-88-6.

As a consequence of recognition of the target alteration-structural zones and the ass ys results which were received from this drilling it is believed that the Chester Twp. p operty of Canorth Resources Inc. must recieve further drilling, so as to properly determi e if an conomic gold deposit might be present. Therefore it has been recome ded that a two phase follow up program should be completed. It is estimated that thi work, including contingencies will cost $1,192,537.00.

2.8 In roduction

On Febrauary 26, 1988 a diamond drill program of limited footage was initiated on Car orth Resources', Chester Twp property. This work is a continuation of the surface work t at had previously been completed, and was seen as a method to gather inform tion that would enable any further drilling to be conducted in a more beneficial manne

3.0 PF JPERTY AND OWNERSHIP

The property consists of 11 patent mining claims located in Chester Township in the Po :upine Mining Division, District of Sudbury, Ontario. A claims search was not conduc ed but, it is beleived that the claims are owned either directly or indirectly by Canortl Resources Inc. The claim numbers are as follows;

S-20655 to S-20657 (3)

S-20660 to S-20661 (2)

S-20663 to S-20668 (6)

See Fig re 1 Property Location Map

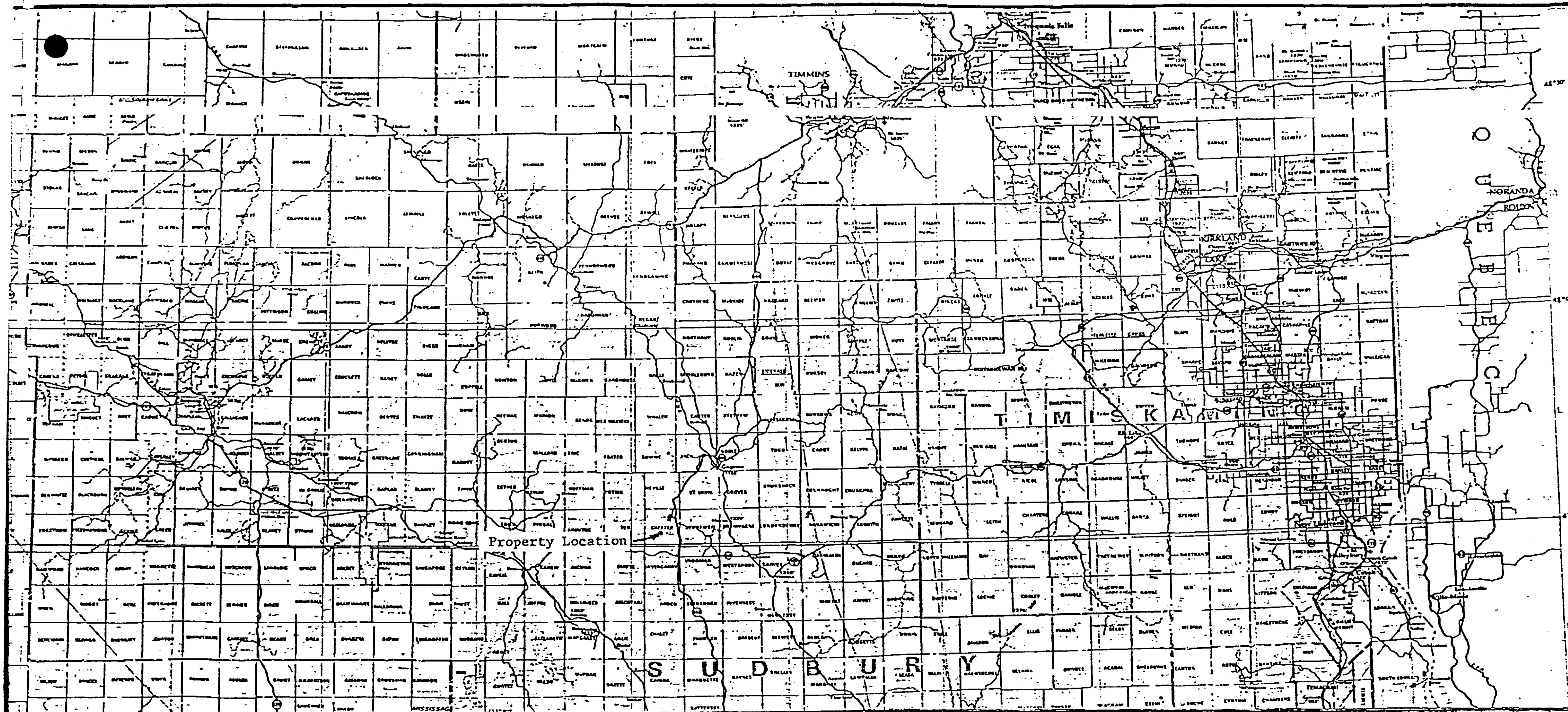
4.0 PR JPERTY LOCATION AND ACCESS

The claim group is located 104 miles north of Sudbury, and 85 miles south of Timmins using Highway 144 for access. From this point one travels west along the Mesomi :enda Lake Road for 2.9 miles, passing Camp C.G.M., to the Chesbar Camp. Here, several ɔush roads and trails can be found which lead to both sides of Three Duck Lakes and the Canorth property.

A float plane can also be used to access the property via Three Duck Lakes which t sects the claim group. (See Figure 2).

5.0 PH 'SIOGRAPHY

The property is relatively flat with a good number of low lying outcrops which at best ise about 50-100 feet above the swamps and lakes. Areas between these outcrop are filled with glacial debris with some being very wet.

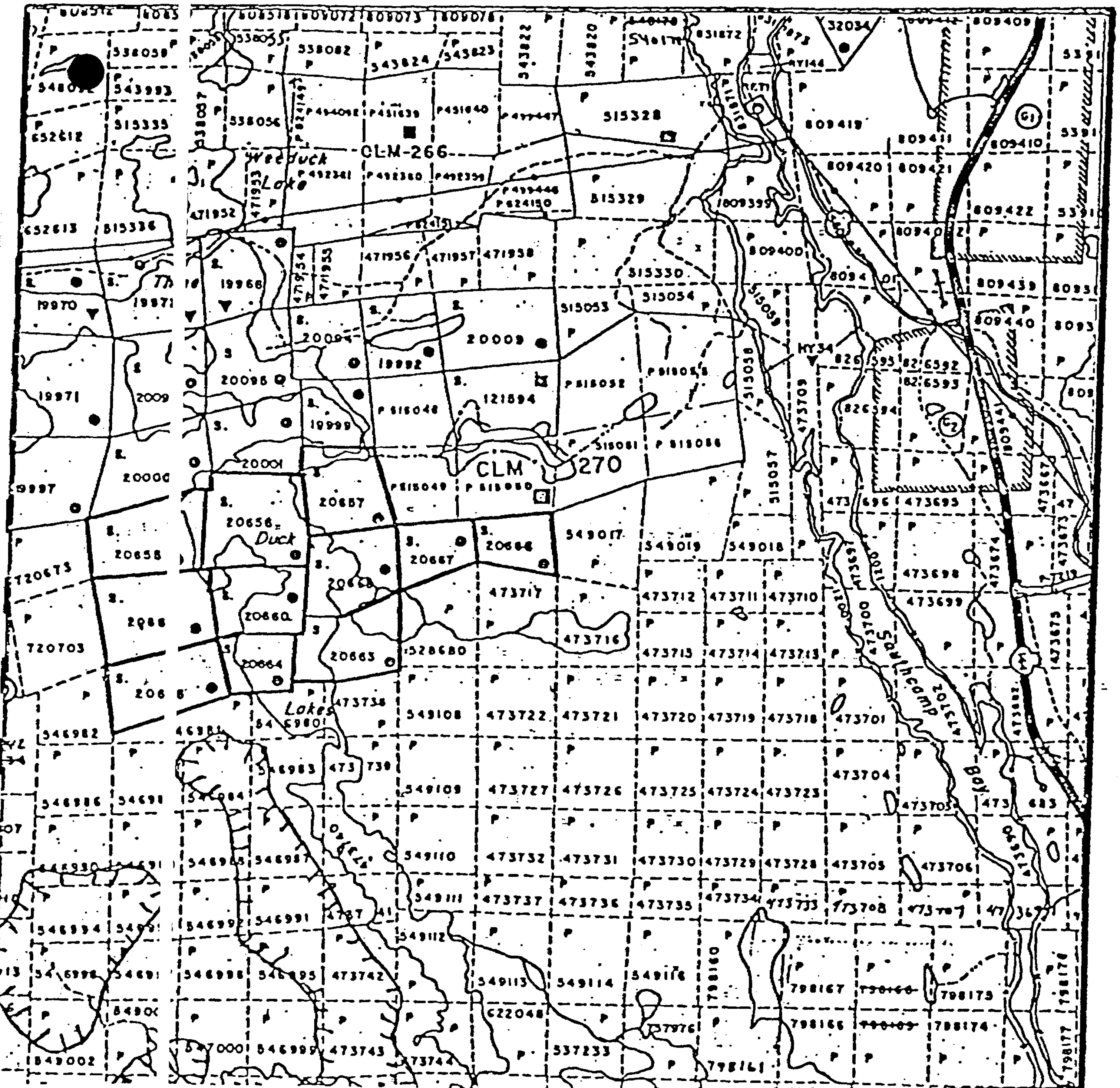


David R. Bell Geological Services Inc.

CANORTH RESOURCES INC.

PROPERTY LOCATION MAP

Twp/Area Chester Twp	Province Ontario
Mining Division Porcupine	Project 5683
References M.N.R Map 22-6	N.T.S. 41 P/12
Drawn / Drafted	Checked S.W.C.
Scale 1: 950,000 / Date Dec.1987	Sheet Figure 1



David R. Bell Geological Services Inc.

CANORTH RESOURCES INC.

CLAIMS CONFIGURATION

Twp/Area	Chester Twp.	Province	Ontario
Mining Division	Porcupine	Project	5683
References	M.N.R. Plan G3223	N.T.S.	41 P/12
Drawn	Drafted	Checked	S.W.C.
Scale 1:31,680	Date Dec.1987	Sheet	Figure 2

The dominant tree types consist of a variety of pine along with birch and some popular In the lower lying areas spruce, cedar and balsam predominate.

Climatic conditions are typical of those common to Northern Ontario. Winters are lon and cold with abundant snowfall while the summers are hot and relatively short with pe iods of rain.

6.0 PC WER AND WATER

Three Duck Lakes, which lies within the claim group, would be an abundant source f water for a mining operation.

While there is no immediated supply of power in the area, an abandunded power l ne exists approximately 3/4 of a mile north of the property.

7.0 AN ILLARY SERVICES

All supplies and services, including heavy mining equipment, could be obtained in Timmins 35 miles to the north or Sudbury 104 miles to the south.

8.0 PRI VIOUS WORK AND PROPERTY HISTORY

The area of interest has been mapped regionally by the Ontario Department of Mines (I C. Laird, 1932; Vol. XLI, Part III) and more recently by the Ministry of Natural Resourc :, Ontario Geological Survey (Prelimanary Geology of The Chester and Yeo Townshi , by G.M. Siragusa, Preliminary Map P. 2449, 1981).

Gold was first reported in the area in 1910, by J. A. Shannon at Yeo Township. Copper as also discovered in the area at about the same time, but little became of these early discoveries, and it was not until 1930, when Alfred Gosselin found a spectacular gold showing. The discovery of this showing, which was located on the east shore of Three Duck Lakes, led to further exploration and development of gold in the area between 1931 and 1939.

Since the Second World War until the early 1970's the sporadic exploration was carried out in the area directed mainly towards disseminated porphyry copper-type mineralization and some work directed towards copper-gold vein-type occurrances.

In the mid 1970's with the increase in the price of gold, interests once again picked up in the area and in 1980 and 1981 extensive staking, airborne geophysical surveys, prospecting, stripping and diamond drilling was carried out by Canadian Gold and Metals Incorporated. At the same time Canadian Gold Crest Limited operated a small mill in the area intermittently, testing and processing gold mineralization from nearby pits in the area.

Murgold Resources Ltd., who has been carrying out active exploration programs on the adjoining property east and north of Canorth for past few years, has recently optioned these claims to Chesbar Resources Inc.

Previous work on this property has returned from eight seperate vein structures high gold values over varying widths. Chesbar is currently targeting its exploration program on what is known as No. 3 vein, and is currently developing a ramp to assist in outlining blocks of potential gold ore for future mining with an ultimate target of proving up at least 500,000 tons with an average grade of 0.30 oz Au per ton.

Current estimated reserves, as per the latest reports available to the public stand at 423,546 tons at a grade of 0.223 oz Au per ton in the number three vein system, to the 200 level. This figure includes proven, probable and possible ore. At present the ramp is undergiong a further 2,000 foot extension so that this zone maybe examined.

from ne 300, 400, and 500 foot levels. An on going surface drilling program is beng condu ted and at present the number 3 vein system has a strike length of 5,300 feet. A new zone has been located 2,500 feet southwest of the ramp.

The first recorded work on the Canorth Resources Inc. claim group was reported by H. . Laird (O.D.M., Vol. XLI, Part III, 1932, P.30) as being the R. S. Sheppard claim group, and is described by Laird as:

> "The group consists of 17 claims adjoining the Three Ducks Syndicate group on the south. The claims are underlain by granodiorite, alaskite, and quartz porphyry phases of the "younger" granite, similar to those exposed on the Three Duck Lakes at the northeast corner of claim S.20,655. Two parallel "breaks" about 50 feet apart strike into the lake at E. 13 degrees S. The north one is 2 feet wide and contains a 10-inch quartz vein in which native gold was observed. The south one shows a mineralized zone about 5 feet wide containing pyrite and chalcopyrite. A chip sample from this zone is reported to have assayed $5.60 in gold per ton."
>
> Note: The vein described by Laird on claim S-20655 is currently referred to as #10 vein.

The claim group was next held under option by Buffalo-Ontario Gold Mining Co. in 1935 and next by Buffalo ShepMac Gold MInes Limited in 1937. A report by G.P. McLean 1938 for "Buffalo ShepMac" reports on the sampling and drilling on a number of veins within the claim group. Diamond drill holes numbering as high as No. 29 were reporte with No. 26 reported as a 1493 foot hole drilled from the lake and intersecting the #10 vein structure from 1360-1385 with low gold values. Mclean reported that a short h le on #10 vein cut gold values of $13.30 Au per ton, but no interval was given.

In regards to the drilling of three holes that was completed the on #6 vein (within laim No. S20657), during this same program, McLean reported the following

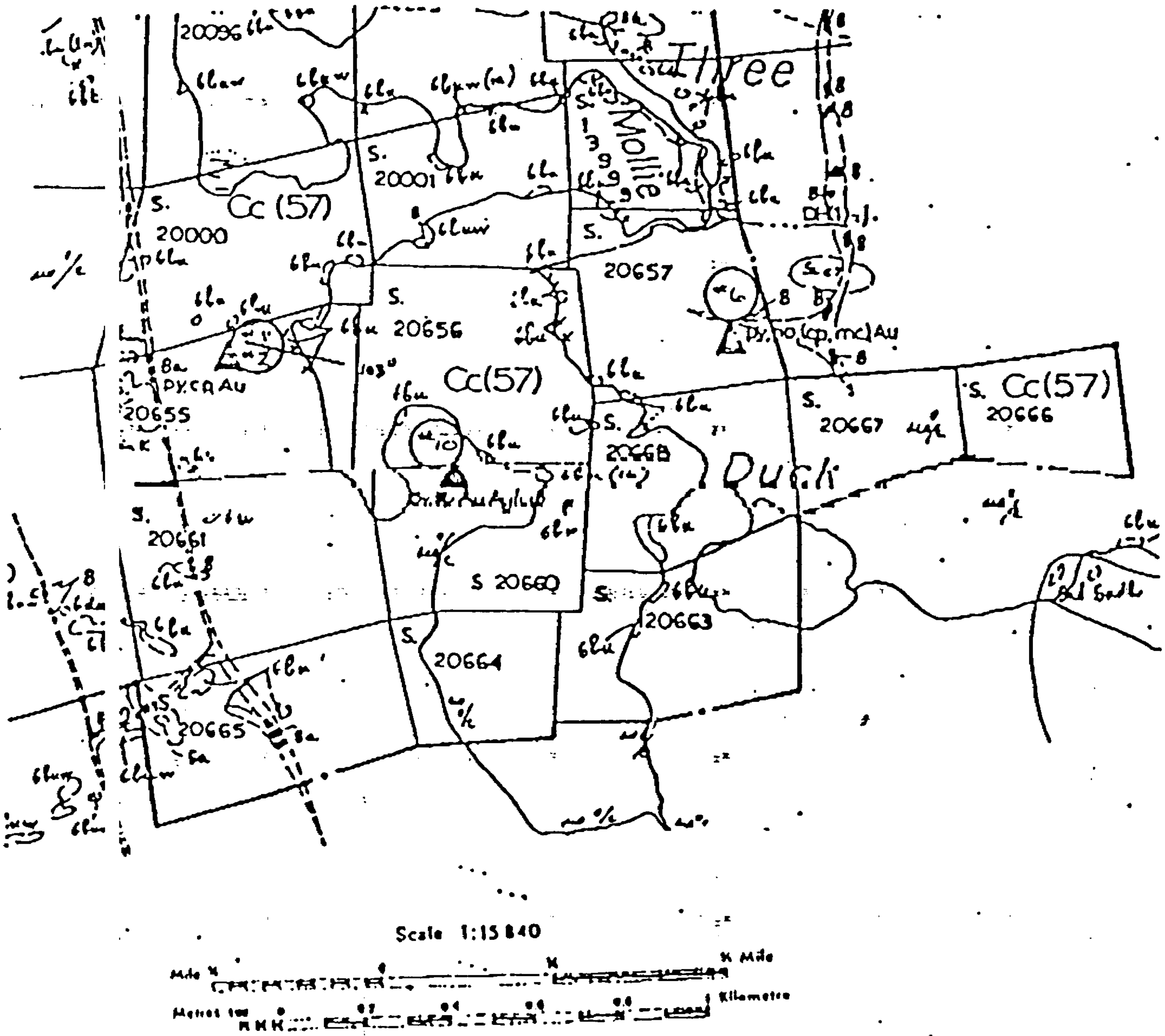
"Vein #6 on the eastern side of the property was previously exposed and very much visible gold is found on surface. The structure consists of a well mineralized quartz vein with strong schisting and fracturing on the hanging wall side against a porphyritic granodiorite in contact with a diorite on the foot wall side. Three holes were completed through this vein at a shallow depth with the X-Ray drill. The first hole cut the vein and showed very much visible gold, and no assay was made. The other two cut the vein but low values were obtained. This would be explained by the uneven distribution of gold in ores of this type."

Reported work and drilling on #1 and #2 veins on claim S-20655 by McLean were as ollows:

"Previous operations opened up the #2 and #1 veins in the northern part of the porphyry. Present work here consists of drilling this vein system. Three holes were completed and several quartz veins were cut carrying values in gold up to 70 cents. It was impossible o explore these veins further during the summer months out under he lake."

Note: The location of these veins #1, #2, #6, and #10 are indicated on Figure No. 3.

he next recorded work was reported by Park Precious Metals Incorporated (1973). An induced polarization survey was carried out on claim No. P-20000 adjoining the north boundary of claim No. P-20655. A diamond drill hole, located approximately



LEGEND

1 Vein Structure
2 Vein Structure
6 Vein Structure
10 Vein Structure

David R. Bell Geological Services Inc.

CANORTH RESOURCES INC.

LOCATION OF MAIN VEIN STRUCTURES.

Twp/Area Chester		Province Ontario	
Mining Division Porcupine		Project 5683	
References		N.T.S. 4109	
Drawn	Drafted	Checked	
Scale Above	Date Nov. 24/86	Sheet Fig. No.3	

500-601 feet west along strike from #1 and #2 Veins intersected gold values of 4.18 oz Au per ton, 1.80 oz Ag. per ton and 1.40% Cu per ton from 312 and 313.2 feet, and a similar intersection from 315 and 318 feet returning 0.52 oz Au per ton, 1.35 oz Ag. per ton and 0.91% Cu per ton.

Two property reports were next prepared for the property, the first in 1981 for Stralak Resources Limited by T. Gledhill, and the later report in 1982 for Jarvis Resources Ltd. by . O. S. Winter.

Although no details were reported, apparently a bulk sample from the #6 vein in 1981-1982 was taken consisting of 325 tons and reported to have returned 0.17 oz. Au per ton.

Jarvis Resources Ltd. then reported on a V.L.F. Electromagnetic Survey, from which several conductors were noted that were apparently coincident with the quartz vein - bearing. Also reported on were the results of a 27 hole diamond drill program which totaled 6081 feet. The drilling was completed in 1983, in the vicinity of the No. 1, 2, 6, and 10 veins, but was not logged until 1984, by R. J. Graham.

A summary of significant assays in the drilling as reported by R. J. Graham is as follows:

Hole NO.	LOCATION	FROM	TO	FOOTAGE	OZ AU/TON
1	A	113.0	114.0	1.0	0.50
7	C	216.9	224.0	7.1	0.48
11	C	306.0	310.5	4.5	0.10
12	B	77.0	79.0	2.0	0.29
13	B	79.0	80.8	1.8	0.21
14	B	60.0	65.0	5.0	0.07
		71.0	73.0	2.0	0.10
15	B	87.0	89.0	2.0	0.07
20	A	108.0	110.5	2.5	0.15

Note: Area locations above are related to previous work areas as follows: "A" = #6 v in, "B" = #1 and #2 veins, and "C" = #10 Vein.

A director's report to share holders of Jarvis Resources Ltd. in October 31, 1983 reports on 7068 feet of diamond drilling, supposedly from the same program. It is not known where the discrepancy between these footages might have arisen.

In addition to a previously reported bulk sample taken from #6 vein, Graham (1984) reports a 94 pound sample taken from #10 vein returning a grade of 0.94 oz. Au per ton and 8.65% Zn per ton.

In 1986 the firm of David R. Bell Geological Services Inc. was contracted by Mr. W. H. M nderson on behalf of Canorth, to initiate the most recent phase of exploration. This wo k was started with an October, 1986, property visit which enabled the author to complet a qualifying report (Bell, 1986). In this qualifying report, a three phase explorat on program was recommended.

During 1987, the first of this work was completed with linecutting, geological mapping prospecting, stripping and trenching, as well as V.L.F.-E.M., magnetometer and Induced Polarization (I.P.) geophysical surveys being completed.

9.0 REG ONAL GEOLOGY

The geology of Chester Township area has recently been described by the Ontario Ministry of Natural Resources by G. M. Siragusa (1981), Precambrian Geology of Chester nd Yeo Townships, Prelimanary Map P. 2449. The prelimanary description of the geology of this area is described by G. M. Siragusa as:

"The map area is crossed by two broadly parallel Early Precambrian

(Archean) belts of locally pillowed tholeiitic basalt trending west-northwest and dipping subvertically. The southern basaltic belt is exposed south of Yeo Lake in Yeo Township, and in local areas in the eastern part of this township. Close to the western boundary of Chester Township, this belt merges with rocks of gabbroic to dioritic composition, and with agmatitic migmatite. The gabbroic and dioritic rocks generally texturally homogeneous, and are recrystallized metamorphic derivatives of former basalt. Local conditions of incomplete recrystallization are indicated by the presence of basaltic domains of relatively low metamorphic rank within these rocks. The agamatitic migmatite consists of variable proportions of leucocratic trondhjemitic neosome, and of paleosome which includes dominant gabbroic and dioritic rocks (i.e. 'ecrystallized basalt), rare hornblende and minor basalt that is virtually unrecrystallized. As the gabbroic, dioritic and agmatitic 'ocks reflect variable conditions of recrystallization, metasomatism, and migmatization affecting marginal formations of the southern belt, they are grouped together in the same unit. Thus, the rocks which in the field were mapped as part of this unit are 1) hornblende and biotite-hornblende gabbro and diorite (with or without basaltic inclusions), and 2) migmatitic rocks in which the estimated volume of paleosome is greater than 50 percent. Migmatitic rocks with a lesser volume of paleosome were mapped as granitic rocks containing hornblende-rich inclusions and/or xenoliths. These rocks were previously referred to by Laird (1932) as "granite-diorite complex" and diorite breccia (i.e. agmatitic migmatite).

he area between the two basaltic belts is underlain by pyroclastic metavolcanics which may be broadly classed as intermediate in composition owing to the nature and proportions of clasts and matrix. The former are mostly aphanitic to tuffaceous felsic metavolcanics; rare clasts of chert, ironstone and granitoid rocks may also be present. The granitoid clasts are interpreted as fragments of former subvolcanic felsic intrusive rocks; these rocks are present also as dikelets of coarse feldspar porphyry which are variably metamorphosed and cut the metavolcanics, particularily in the Schist Lake Area. The matrix is aphanitic to tuffaceous and is mafic or intermediate in composition. These rocks are well exposed along the eastern shore of Yeo Lake, western segments of the southern shore of Schist Lake, and in the northern part of the Moore Lake Area. These rocks are regarded by the author as the upper, and most likely calc-alkaline, section of a tightly folded synclinal volcanic sequence, the lower section of which is represented by the northern and southern basaltic belts. The pyroclastic metavolcanics are locally interbedded with basaltic layers or lense like bodies of variable thickness. Minor mudstone, chert and/or ferruginous chert are found in the Canoe Lake Area and south of Schist Lake in Yeo Township. The rocks regarded as pyroclastic by the author were mapped as metasediments by Laird (1932). A northwest-trending fault cuts the metavolcanics in southern Potier and northern Yeo Townships, and the segment of the sequence west of the fault if displaced about 800m south of the segment of the sequence east of the fault.

Regional granitic rocks flank the northern and southern basaltic belts and are exposed in all but a narrow strip of southern Potier and Neville Townships, and in the southwestern half Yeo Township.

Central Chester Township is underlain by granitic rocks which, in the central part of the township, are relatively free from metavolcanic xenoliths and/or inclusions, and are markedly leucocratic in character. These rocks are dominantly trondhjemitic in composition and form a broadly oval, west-trending body which intrudes the core of the synclinaly folded metavolcanics, and extends westwards into the Ash Lake area of Yeo Township. This body is bordered to the south by hornblende diorite, gabbro, and migmatite (see above) which underlie southern Chester Township and extend beyond the southern margin of the present map area. To the north, the trondhjemite body is in contact with pyroclastic metavolcanics. Lamprophyre (minette) dikelets were found at one locality cutting the regional granitic rocks, and diabase dikes and granitic rocks."

10.0 GI OPHYSICS

As follow up to the ULF-EM and magnetometer surveys of the previous phase of expl ration, and due to the winter conditions giving appropriate ice conditions, it was de ded to complete the geophysical coverage across the lake. To facillitate the complet on of this survey, the previously initiatiallized grid system was completed by placing ickets at appropriate locations across the lake. The data that was gained by the complet on of these surveys has since been added to the appropriate maps.

11.0 GE CHEMISTRY

Samples of the core were not only examined for the microscopic and macrosc pic properties by visual methods, appropriate specimens were also chemically tested. wo types of geochemical techniques were used, with the fire assay method being ‹ nployed in the analysis for gold, while specific samples were examined to arrive at a d termination of the total or "whole rock" chemical content.

The whole rock analysis was completed for a varied suite of elements and mineral , which included major and trace element, group 1 and group 2 metals, plus $\%CO_2$ and %S For a complete listing of all the results whether the whole rock or the gold see Ap endix 1.

12.6 D AMOND DRILL PROGRAM

The diamond drilling was conducted over a period of nine days from February 20, 198 to February 29, 1988. It consisted of nine holes from which a total of 2064 feet of 3.Q. core (1 7/16") was recovered. (see Table 1)

The holes were drilled so as to examine three seperate areas all of which yielded re grade results during previous surface sampling (Bell et al, 1987) and diamond drilling (arlier operators). All drill holes were kept short and with the general pattern of two ho s per set-up, the program was designed to maximize the number of targets that co d be tested with the limited funds and consequently footage.

Five holes, numbered 5683-88-1 thru -88-5 were drilled in the vicinity of the number 8 vein, this includes two sets of sectional holes (two holes per set up) and one lon er single hole. This longer single hole, being 5683-88-5, was also drilled to probe f the down dip extension of a new auriferous quartz vein, which was located during t e 1987 surface program.

The drill was then moved north to the number 1+2 veins location. Both veins are clos enough together so that they could be examined simultaneously. Holes 5683-88- and -7 were collared here and drilled from the same set up, such that these veins co ld be tested.

Figure 4: Drill hole collars of 5683-88-1 and -88-2

Table 1 02/04/88

CANORTH RESOURCES INC.
DIAMOND DRILL HOLE DATA

Hole Number	Latitude	Departure	Bearing (deg)	Dip (deg)	Length (feet)	Elevation
5683 88-1	L 4+00W	0+60N	210	-45	176.00	
5683 88-2	L 4+00W	0+60N	210	-65	226.00	
5683 88-3	4+75W	1+25N	210	-45	176.00	
5683 88-4	4+75W	1+25N	210	-65	226.00	
5683 88-5	5+45W	3+45N	210	-45	306.00	
5683 88-6	16+45W	18+80N	180	-45	226.00	
5683 88-7	16+45W	18+80N	180	-65	276.00	
5683 88-8	16+35E	8+35N	180	-45	176.00	
5683 88-9	16+35E	8+35N	180	-65	276.00	

Subsequently, the drill was moved to a point approximately 1,000 feet to the west f Three Duck Lakes where holes 5683-88-8 and -9 were collared from the same set up so as to examine the westerly strike extension of the number 6 vein. It was also ii ended for these holes to test for the down dip extension of a new gold bearing, chalcc yrite rich quartz vein, that was uncovered during the 1987 stripping and trenching progra 1.

13.0 EOLOGY

For a detailed account of the geology encountered see the drill logs (Appendix II), dril sections (back pocket), and the results of the petrographic work (Appendix III) which iccompany this report.

In the area of veins 1, 2, and 10, the most dominant rock type encountered was a quartz diorite. These quartz diorites are most likely only one phase of a multi-p iased and very complex series of "granitic" intrusions that occured in this area of the Su erior Province of the Canadian Shield. The quartz diorite terminology, which was initially applied to these rocks from field examinations, has since been confirmed as the result c the petrographic analysis. Locally these intrusives show sections that display a moderc ely to well developed alteration that causes the quartz diorites to lose their distinct crystalline texture, and develop an amorphous "siliceous" nature (see Section 14.0). hese altered sections, are believed to represent the sub-parallel to parallel structui s that host the target "quartz veins".

Intruding into this quartz diorite and noted in many sections throughout holes 5683-8E -1 to -88-7 are several varieties of intermediate to mafic dykes. In holes -88-1 to -88- i two types of these intrusives are noted. The first and possibly most significant of thes dykes are locally found to be associated with the altered, "siliceous" sections of the quartz diorite. Petrographic analysis of a sample from one of these dykes from hole -88-2 at 137.46 feet, indicates that they are of dioritic to leuco-gabbroic composition. Also associated with the altered sections are what appear to be narrower versions of the "dioritic" dykes, but in comparison ones which are contained within the zones of siliceous alteration. These mafic units locally show a weak to moderate foliation, and in conjunction with their location, usually in the central portion of the altered section, suggests that they are a late intrusive which has been emplaced into the "target" structure.

The second significant variety of intrusives that are observed in holes -88-1 to -88-5 are the mafic types that contain chloritic and/or feldspar phenocrysts. These intrusives show a close spatial association with some of the alteration zones, being located within 8 to 35 foot range of the footwall portion of these zones. The exact relationship between this type of intrusive and the "siliceous" alteration zones is as yet unclear.

Diabase dykes were observed in holes -88-6 and -88-7, and here appear to be the most important type of intrusive. Upon examination of the drill core from hole -88-6, it was noted that the No. 1 vein was not were expected, but one of the late diabase dykes had intruded into this section. It therefore must be assumed that only a gap has been created in this vein, and that it has not been terminated by the intrusion of this diabase dyke.

The geology noted in the vicinity of the No. 6 vein is somewhat different than that which was observed for the No. 1, 2 and 10 veins, in that rather than being a quartz diorite, the rocks are predominantly gabbroic in composition with some xenoliths and/or intrusions of quartz-diorite being noted locally. A xenolith of basalt was also observed being located in hole -88-8.

Figure 5: Drill hole collars of 5683-88-1 and -88-2, looking northeast across the No. 10 vein. (the location of the two exploration pits are identified by the depressions in the snow with the vegetation showing, fore ground)

Figure 6: Drill hole collars of 5683-88-3 and -88-4

4.0 MI IERALIZATION AND ALTERATION

As a result of the visual examination of the 2064 feet of core that was obtained during this drill program several styles of alteration and mineralization were noted. ne alteration types which were visually noted are sericitization, carbonatization, hematizc ion and silicification, while the mineralization is dominated by sulphides in the form of ıyrite, chalcopyrite and pyrrhotite. The presence of these alteration products and metallic ninerals has been confirmed by thin section analysis, while several other more discrete lteration processes and metallic minerals were noted. For a more detailed explanati in of the various types of alteration please refer to Appendix III.

Of these four alteration types the silicification appears to have been developed to the g eatest extent, with sericitization and locally carbonatization being associated by-produ ts. This "apparent" silicification occurs in two related forms, with the dominant variety b ing a widespread alteraltion that gives the core a "siliceous" appearence. The second t pe is more localized and generally contained within the "siliceous" sections and is charac erized by a rounded almost "granular" appearence of the quartz or silica. This quartz is in turn surrounded by sericite. It is with these "granular" or "recrystallized" sections nat the veining and best mineralization has been observed.

ı his petrographic report (Appendix III) Whittaker has recognized that both these types of ilicification are really the product of the sericitization of plagioclase. This alteration has liberated silica, which has then recrystallized as very fine quartz mosaics, that are itergrown with sericite. Whittaker (1988) describes this process of silicification as follow "....is essentially an "in situ" silicification, but does not represent net addition of silica to ne rock".

ne possible driving mechanism for these alteration processes are thought to be the same as for the deformational - structural zones that in fact do host the mineralized quartz ve ns.

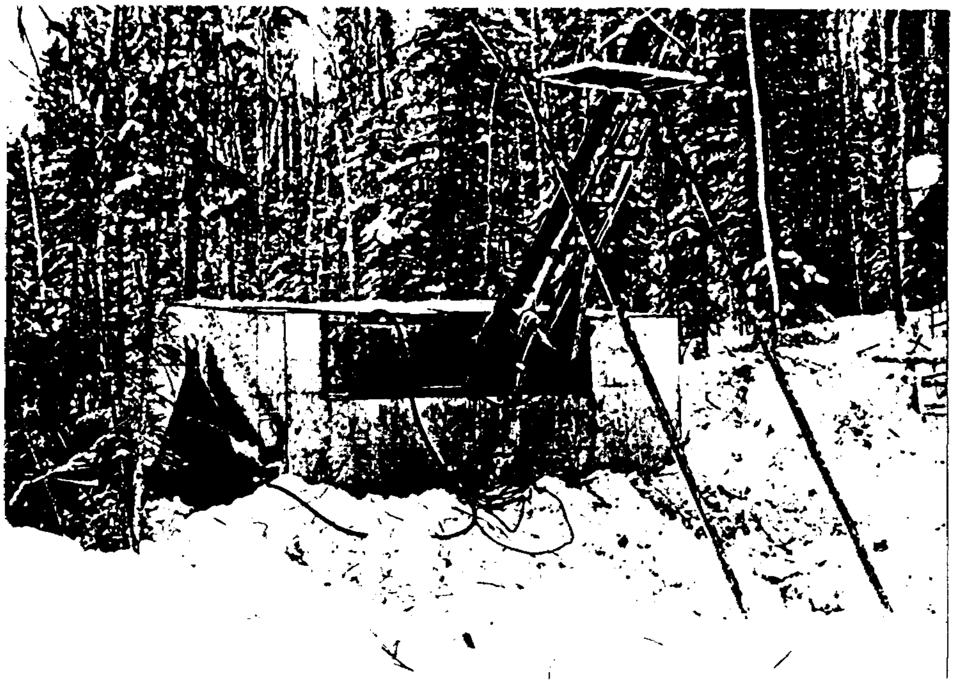


Figure 7: Drilling in progress on the No. 2 vein, in hole 5683-88-6

Figure 8: Location of holes 5683-88-8 and -88-9, prior to drilling (picket w/ blue flagging tape) on No. 6 vein

Where these alteration processes were best developed, ie. in the "recrystallized" sectior :, quartz veins that ranged from finger sized up to 12 inches in width were observ :d, (holes -88-5, -6, -7, and -8). Associated with these veins were pyrite, chalco yrite, and pyrrhotite, in varying amounts and proportions. The best gold assays were r :turned from the better mineralized of these sections. As examples see the drill logs fc holes -88-5, -6, -7, and -8.

Several of these silicified sections were noted in holes 5683-88-1 to -88-5, but only ir number -5 was the above mentioned veining and associated mineralization noted. Althou :h the veins here were narrow, they returned an assay result of 0.033 oz Au/ton over 2 } feet. (see Table 2)

The style of alteration, veining and mineralization encountered in the No. 1 and 2 vein area, where holes 5683-88-6 and -7 were collared, is identical to that of the 10 vein st ucture. Here assay results of 0.268 oz Au/ton over 3.1 feet and 0.098 oz Au/tor over 1.6 feet were yielded by holes -6 and -7 respectively. Unfortunately, the numbe 1 vein was not intersected because of its displacement due to the intrusion of a diabase dyke.

In the number six vein area the alteration and veining was again identical to that m ntioned above except that hematization and or potassic alteration was more often c sociated with the silicification. Also, the host rock was much more mafic in compo tion (ie gabbroic) than the quartz-diorite seen in the other areas. Holes 5683-8(-8 and -88-9 were drilled here with number -8 intersecting 2.1 feet grading 0.034 oz Au, ton.

15.0 S RUCTURE

Due to the limited amount of diamond drilling and the nature of the host rocks themsel es, very littlle structural information was obtained. The structural zones of

Table 2 02/29/88

CANORTH RESOURCES INC.
ASSAY – VEIN CORELATION

Hole Number	Intersection (feet) From	To	Length (feet)	Assay (Au)	Vein &/or Structure
5683-88-1	103.67	108.00	4.33	no significant values	No. 10 vein & structure
5683-88-2	137.58	145.25	7.67	no significant values	No. 10 vein structure
5683-88-3	128.90	137.75	5.35	no significant values	No. 10 vein structure
with	shear at	135.84	0.41		
5683-88-4	195.50	200.20	4.70	no significant values	No. 10 vein structure
with	shear at	197.00	0.50		
5683-88-5	209.90	212.70	2.80	0.033 oz/ton	No. 10 vein & structure
5683-88-6	74.60	77.70	3.10	0.268 oz/ton	No. 2 vein
5683-88-7	89.40	91.00	1.60	0.098 oz/ton	No. 2 vein
	257.50	258.50	1.00	166 ppb	No. 1 vein
5683-88-8	93.40	95.50	2.10	0.034 oz/ton	No. 6 vein
5683-88-9	261.00	263.80	2.80	423 ppb	No. 6 vein ?

** This table represents only the assay values that are most easily correlated with the known veins or structures. Other structures or geochemically anomalous assays have been located but at this point in time the exact implication of these is unknown.

interest were located appear to be relatively tight structures that dip steeply to the north and va y in width and extent. Prior to the commencement of the drilling it was known that re onally, there are many of these structures which are very continuous in at least the surf ace exposures. It is also known that on a more local scale (ie. Chesbar Murgold) there may in fact be several of these parallel to sub-parallel structures that ac as the host for these auriferous quartz veins. It appears, as if this is in fact the case o the Canorth property, were in the vicinity of the # 10 vein several of the "siliceo s" alteration zones can be identified. With the information that has been gathere during the past six months, plus the data that is available from the previous operatic ns, it is felt that only a small portion of the available strike length of these structur s has ever been tested.

16.0 C NCLUSIONS AND RECOMMENDATIONS

Due to the success of the previous exploration program (which included geophys cal surveys, geological mapping and sampling, as well as stripping and trenching) and the fact that sufficient funds remained, it was recommended that a short 2,000 foot drill pro ram be completed. The intent of this drilling was two fold, first to reconfirm the pres nce of "economic" gold values as had been reported from previous drilling and secondl to shed light on the three dimensional nature of the dominant vein-structural systems. The data gained from this drilling would therefore place Canorth in a better position to enter into the more extensive exploration program that was recommended by Bell t al, in their 1987 report.

In regards to the results that were received from this drilling the following conclusi ns can be drawn. First, the structures that were examined, not only by previous operators, but also through the 1987 surface exploration, are confirmed to be in existenc at depth (veins 1, 2, 6, @ 10) and along strike (vein 6, 10). Second, that at least in e vicinity of the No. 10 vein several sub-parallel to parallel structure-alteration zones re seen to exist. Third, these veins are host to gold mineralization in highly anomal us to "economic" quantities, and that the sporadic nature of this mineralization, was in some degree expected and is typical of this type of gold bearing-quartz vein structur .

It is therefore recommended that follow-up work should be conducted and since th s drill program was of a limited nature, the program recommended by Bell et al, in their 1987 report (excluding the VLF-EM and magnetometer surveys) can be followed. Includin the minor revisions the total cost of this two phase program is estimated to be $1,192,5 .00.

17.0 C ST ESTIMATES

PH SE 1

l necutting 5 miles @ $375./mile	$ 1,875.00
I duce Polarization Survey 5 miles @ $2,000./mile	$ 10,000.00
report and maps	$ 1,000.00
I elogging, sampling and plotting of previous diamond drilling core	$ 25,000.00
I amond Drilling 10,000 feet @ $30./foot -all inclusive costs	$ 300,000.00
(mp and field supplies	$ 8,000.00
ssaying 600 samples @ $20./sample	$ 12,000.00
pervision 15 days @ $550./day	$ 8,250.00
T avel expenses - supervision	$ 3,000.00
F ports and Maps	$ 15,000.00
1 % Contingencies	$ 38,412.00
TOTAL PHASE 1	$ 422,537.00

Phase II

Diamond Drilling
20,000 feet @ $35./foot
- all inclusive | $ 700,000.00

Diamond Drilling 20,000 feet @ $35./foot - all inclusive	$ 700,000.00
10% Contingencies	$ 70,000.00
Total Phase II	$ 770,000.00
TOTAL PHASES I AND II	**$ 1,192,537.00**

Timmins Ontario
February 29, 1988

Respectfully Submitted

Stephen Conquer

Stephen Conquer, B.Sc.

Mike Simunovic

Mike Simunovic, B.SC.

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CERTIFICATE OF QUALIFICATIONS

I, Stepl en Conquer hereby certify:

. that I am a geologist employed by David R. Bell Geological Services Inc., 261 Third Avenue, Timmins, Ontario.

'. that I am a graduate of the University of Waterloo, holding a Bachelor of Science degree (1979)

. that I have been practising my profession as a geologist since 1979

l. that I do not, nor do I expect to receive any interest in Canorth Resources Inc.

Februar 29, 1988
Timmin: Ontario

Stephen Conquer, B.Sc.

CERTIFICATE OF QUALIFICATIONS

I, Mike Simunovic hereby certify:

1. that I am a geologist employed by David R. Bell geological Services Inc., 261 Third Avenue, Timmins, Ontario

2. that I am a graduated of the Lakehead University in Thunder Bay, holding a Bachelor of Science Degree in Geology (1983)

3. that I do not nor do I expect to receive either directly or indirectly any interest in Canorth Resources Inc.

Mike Simunovic

Februa y 29, 1988
Timmin , Ontario

Mike Simunovic, B.Sc.

PERSONNEL

Stephen Conquer	David R. Bell Geological Services Inc., Timmins, Ontario
Mike Si unovic	David R. Bell Geological Services Inc. Timmins, Ontario
Don W ren	Contractor, Timmins, Ontario

ACKNOWLEDGEMENTS

The firm of David R. Bell Geological Services Inc., would like to thank the following individuals or companies for the services provided, which without, the successful completion of this program would not have been possible.

1) Nore Drilling Limited

2) Exsic Exploration Ltd.

3) Min- n Laboratories Ltd.

4) Mr. eo Clement

APPENDIX IA

ASSAY RESULTS (gold)

MIN-EN LABORATORIES LTD.
Specialists in Mineral Environments
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company:BEL GEOLOGICAL
Project:568
Attention:S CONQUER

File:82-442/P1
Date:MAR 12/88
Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
0001	2
0002	1
0003	1
0004	3
0005	1
0006	1
0007	1
0008	2
0009	4
0010	1
0011	1
0012	2
0013	3
0014	1
0015	1
0016	3
0017	1
0018	1
0019	3
0020	1
0021	2
0022	1
0023	1
0024	1
0025	1
0026	3
0027	1
0028	1
0030	2

Certified by ______________________

MIN-EN LABORATORIES LTD.

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Specialists in Mineral Environments
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 R (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company:BELL GEOLOGICAL
Project:5683
Attention:S. CONQUER

File:82-442/P2
Date:MAR 12/88
Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
0031	2
0032	4
0033	10
0035	5
0036	11
0037	2
0038	1
0039	1
0040	2
0041	1
0042	3
0043	1
0044	1
0045	4
0046	1

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MIN-EN LABORATORIES LTD.
Specialists in Mineral Environments
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE: (604) 980-5814 : (604) 988-4524 TELEX: VIA USA 7601067 UC

Certificate of GEOCHEM

Company: D.R. BELL GEOLOGICAL
Project: 5683
Attention: D. R. BELL

File: 82-466/P1
Date: MAR 16/88
Type: ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
0047	4
0048	8
0049	6
0050	2
0052	4
0053	3
0054	2
0055	1
0056	4
0057	2
0058	1
0059	2
0060	1
0061	1
0062	2
0063	3
0064	2
0065	4
0066	21
0067	5
0068	3
0069	42
0071	6
0072	4
0073	3
0074	4
0075	2
0076	20

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705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company:D.R. BELL GEOLOGICAL
Project:568
Attention:D.R.BELL

File:8S-498/P1
Date:MARCH 20/88
Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
077	1
078	6
079	2
080	4
081	2
082	5
083	3
084	9
085	6
086	4
087	8
088	7
089	5
090	11
091	3
092	8
093	5
094	4
095	4
096	3
097	1
098	2
099	4
100	1
101	6
102	1
103	8
104	3
105	9
106	5

Certified by ________

MIN-EN LABORATORIES LTD.
Specialists in Mineral Environments
705 West 15th Street North Vancouver, B.C. Canada V7K 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company:D.R BELL GEOLOGICAL
Project:568
Attention:D R.BELL

File:82-498/P2
Date:MARCH 20/88
Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
107	6
108	3
109	2
110	7
111	1
112	3
113	2
114	6
115	1
116	23
117	8
118	6
119	4
120	3
121	6
122	2
123	1
124	4
125	11
126	3
127	1
128	2
129	2
130	1
131	4
132	3
133	2
134	1
135	1
136	[illegible]

Certified by ....

[illegible]

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705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company: D.R BELL GEOLOGICAL
Project: 568
Attention: D R.BELL

File: 82-498/P3
Date: MARCH 21/88
Type: ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
137	2
138	6
139	3
140	1
141	2
142	4
143	3
144	3
145	2
146	5
147	3
148	6
149	4
150	32
151	26
152	7
153	6
154	9
155	41
156	16
157	12
158	5
159	211
160	19
161	3
162	75
163	2
164	615
165	2
166	2

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705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of ASSAY

Company:D.R BELL GEOLOGICAL
Project:568
Attention:D R.BELL

File:82-498/P1
Date:MARCH 21/88
Type:ROCK ASSAY

We hereby certify the following results for samples submitted.

Sample Number	AU G/TONNE	AU OZ/TON
164	1.12	0.033
192	9.18	0.268

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Specialists in Mineral Environments
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 | (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of Geochem

Company:D.R. BELL GEOLOGICAL
Project:5683
Attention:D. R.BELL

File:82-498/P4
Date:MARCH 21/88
Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
167	21
168	7
169	9
170	4
171	10
172	8
173	2
174	6
175	5
176	9
177	4
178	3
179	8
180	72
181	11
182	6
183	51
184	6
185	15
186	53
187	40
188	12
189	10
190	8
191	20
192	6700
193	52
194	89
195	3
196	11

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705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company: D.R BELL GEOLOGICAL
Project: 568
Attention: D R.BELL

File: 82-498/P5
Date: MARCH 20/88
Type: ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
197	3
198	1
199	1
200	2
201	4
202	1
203	23
204	2
205	6
206	8
207	10
208	3
209	6
210	9
211	1
212	11
213	3
214	6
215	42
216	102
217	405
218	19
219	7

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MIN-EN LABORATORIES LTD.
Specialists in Mineral Environments
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

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Certificate of GEOCHEM

Company:D.R BELL GEOLOGICAL
Project:568
Attention:D R.BELL

File:82-509/P1
Date:MAR 25/88
Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
220	12
221	6
222	4
223	9
224	5
225	24
226	20
227	8
228	20
229	42
230	43
231	9
232	2
233	4
234	32
235	11
236	44
237	2000
238	7
239	15
240	1
241	7
242	6
243	4
244	2
245	2
246	112
247	3
248	12
249	4

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705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of ASSAY

Company:D.R. BELL GEOLOGICAL
Project:5680
Attention:D.R.BELL

File:82-509/P1
Date:MAR 25/88
Type:ROCK ASSAY

We hereby certify the following results for samples submitted.

Sample Number	AU G/TONNE	AU OZ/TON
257	*3.36	*0.098
270	1.17	0.034

*SAMPLE CONTAINS METALLIC GOLD.

Certified by ______

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.
Specialists in Mineral Environments
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of Geochem

Company: D.R BELL GEOLOGICAL
Project: 568
Attention: D R.BELL

File: 82-509/P2
Date: MAR 25/88
Type: ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
250	2
251	6
252	1
253	5
254	3
255	2
256	4
259	8
260	20
261	23
262	4
263	5
264	9
265	8
266	5
267	2
269	6
270	990
271	3
272	4
273	11
274	2
275	4
276	2
277	3
278	12
279	2

Certified by ____________________

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.
Specialists in Mineral Environments
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company:D.R BELL GEOLOGICAL
Project:568[illegible]
Attention:D R.BELL

File:82-509/P3
Date:MAR 25/88
Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
280	4
281	1
282	2
283	2
284	3
285	1
286	4
287	7
288	66
289	37
290	166
291	5
292	20
293	9
294	21
295	2
296	1
297	1
298	4
299	2
300	3
301	1
302	2
303	[illegible]
304	3
305	5
306	2
307	4
308	[illegible]
309	3

Certified by

MIN-EN LABORATORIES LTD.
Specialists in Mineral Environments
705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)980-5814 OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company: D.R. BELL GEOLOGICAL
Project: 568
Attention: D.R. BELL

File: 82-509/P4
Date: MAR 25/88
Type: ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
310	8
311	3
312	2
313	2
314	6
315	3
316	4
317	2
318	1
319	2
320	5
321	3
322	9
323	10
324	2
325	2
326	5
327	4
328	6
329	3
330	4
331	2
332	38
333	1
334	5
335	55
336	6
337	8
338	2
339	473

Certified by ....

MIN-EN LABORATORIES LTD.

MIN-EN LABORATORIES LTD.

Specialists in Mineral Environments

705 West 15th Street North Vancouver, B.C. Canada V7M 1T2

PHONE:(604)98[illegible]-581[illegible] OR (604)988-4524 TELEX:VIA USA 7601067 UC

Certificate of GEOCHEM

Company:D.R BELL GEOLOGICAL
Project:568
Attention:D R.BELL

File:82-509/P5
Date:MAR 25/88
Type:ROCK GEOCHEM

We hereby certify the following results for samples submitted.

Sample Number	AU-FIRE PPB
340	21
341	4
342	2

Certified by

APPENDIX IB

WHOLE ROCK GEOCHEMISTRY RESULTS

XRAL

CERTIFICATE OF ANALYSIS

REPORT 4616

TO: DAVII R. BELL GEOLOGICAL SERVICES INC.
ATTN: MIKE SIMUNOVIC
261 I IIRD AVENUE
TIMMI IS, ONTARIO
P4N 1 :8

CUSTOMER No. 621

DATE SUBMITTED
23-Mar-88

R :F. FILE 31937-G2

Total Pages 4

8 S.CORES Proj. 5683

	METHOD	DETECTION LIMIT
AU PPB	FADCP	1.
CO2 %	WET	0.01
WRMAJ %	WR	0.01
MG PPM	DCP	100.
P PPM	DCP	10.
S %	XRF	0.01
CA PPM	DCP	100.
MN PPM	DCP	2.
FE PPM	DCP	2.
CO PPM	DCP	1.
NI PPM	DCP	1.
CU PPM	DCP	0.5
ZN PPM	DCP	0.5
WRMIN PPM	WR	10.
MO PPM	DCP	1.
PD PPB	FADCP	2.
AG PPM	DCP	0.5
CD PPM	DCP	1.
PT PPB	FADCP	10.
PB PPM	DCP	2.

X-RAY ASSAY LABORATORIES LIMITED

DATI 15-APR-88

CERTIFIED BY ....

RECEI /ED APR 1 9 1988

SAMPLE	AU PPB	CO2 %	MG PPM	P PPM	S %	CA PPM	MN PPM	FE PPM	CO PPM
5683-[illegible]29	<1	0.42	4100	310	NIL	5200	140	22000	8
5683-[illegible]54	<1	1.65	3100	300	NIL	12000	130	18000	5
5683-[illegible]51	2	3.62	12000	730	NIL	27000	310	34000	14
5683-[illegible]70	71	4.53	18000	260	NIL	30000	450	46000	22
5683-[illegible]162	46	1.90	2900	290	0.08	13000	200	22000	7
5683-[illegible]257	6	0.25	5300	420	NIL	5300	200	29000	12
5683-[illegible]258	6	0.25	10000	1200	NIL	9500	360	50000	17
5683-[illegible]269	7	2.50	19000	440	NIL	20000	590	57000	22

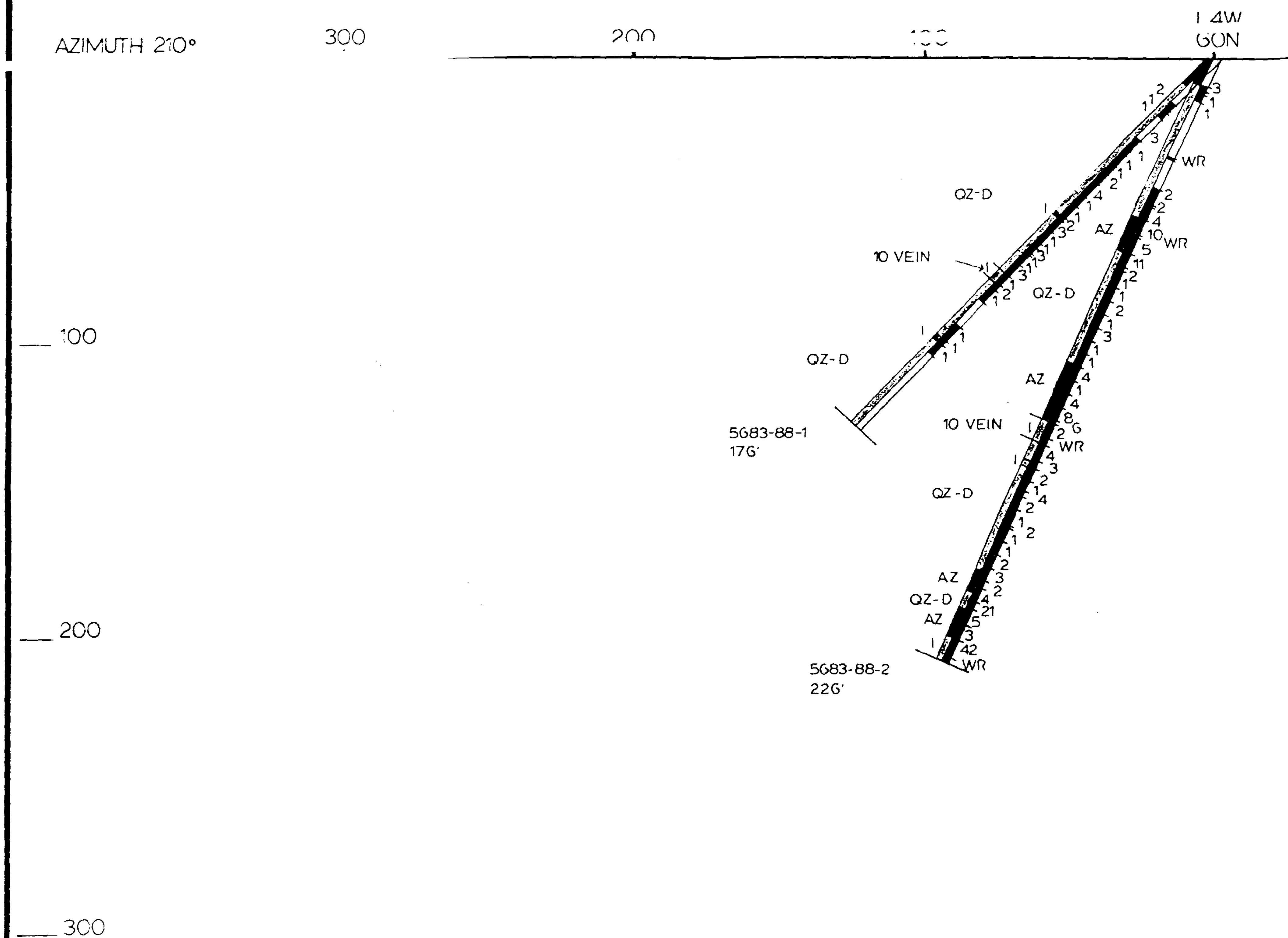
SAMPLE	NI PPM	CU PPM	ZN PPM	MO PPM	PD PPB	AG PPM	CD PPM	PT PPB	PB PPM
5683-[illegible]9	9	9.5	29.0	2	<2	<0.5	<1	<10	<2
5683-[illegible]4	6	5.5	21.0	2	<2	<0.5	<1	<10	<2
5683-[illegible]1	26	18.0	62.0	1	<2	<0.5	<1	<10	<2
5683-[illegible]0	43	12.0	100.	3	<2	<0.5	<1	<10	<2
5683-[illegible]62	7	36.0	82.0	2	<2	<0.5	<1	<10	<2
5683-[illegible]57	6	12.0	31.0	3	<2	<0.5	<1	<10	<2
5683-[illegible]58	5	30.0	51.0	3	<2	<0.5	<1	10	<2
5683-[illegible]69	58	59.0	62.0	3	<2	<0.5	<1	<10	<2

XRAL

SAMPL \ %	SIO2	AL2O3	CAO	MGO	NA2O	K2O	FE2O3	MNO	TIO2	P2O5	CR2O3	LOI	SUM
5683- 29	70.1	14.4	3.26	0.76	4.47	0.90	2.87	0.04	0.30	0.08	0.02	1.39	98.7
5683- 34	69.2	14.4	2.53	0.63	4.08	1.97	2.33	0.04	0.29	0.08	0.01	2.93	98.6
5683- 51	59.4	15.3	5.21	2.19	3.85	1.92	4.55	0.06	0.47	0.18	<0.01	5.54	98.8
5683- 70	56.3	15.2	5.28	3.29	0.14	3.78	6.70	0.07	0.51	0.06	<0.01	7.39	98.8
5683- 162	69.8	14.3	2.97	0.68	3.61	2.22	3.38	0.05	0.28	0.07	0.01	2.62	100.1
5683- 257	67.2	14.3	3.63	1.09	6.05	0.24	5.10	0.07	0.68	0.11	0.02	1.39	100.0
5683- 258	54.9	15.4	5.66	2.84	4.16	0.67	12.2	0.20	1.90	0.29	<0.01	1.93	100.2
5683- 269	55.9	15.4	4.82	3.29	4.35	0.92	8.05	0.12	0.66	0.10	0.01	4.77	98.5

XRF W R.A. SUMS INCLUDE ALL ELEMENTS DETERMINED. FOR SUMMATION, ELEMENTS ARE CALCULATED AS OXIDES

SAMPL \ PPM	RB	SR	Y	ZR	NB	BA
5683- 29	47	298	<10	129	17	270
5683- 34	76	111	<10	134	31	395
5683- 51	77	171	<10	92	17	362
5683- 70	123	41	12	68	<10	415
5683- 162	86	119	<10	146	13	374
5683- 257	17	216	18	262	11	43
5683- 258	35	187	42	145	25	94
5683- 269	45	128	35	111	18	239



LEGEND

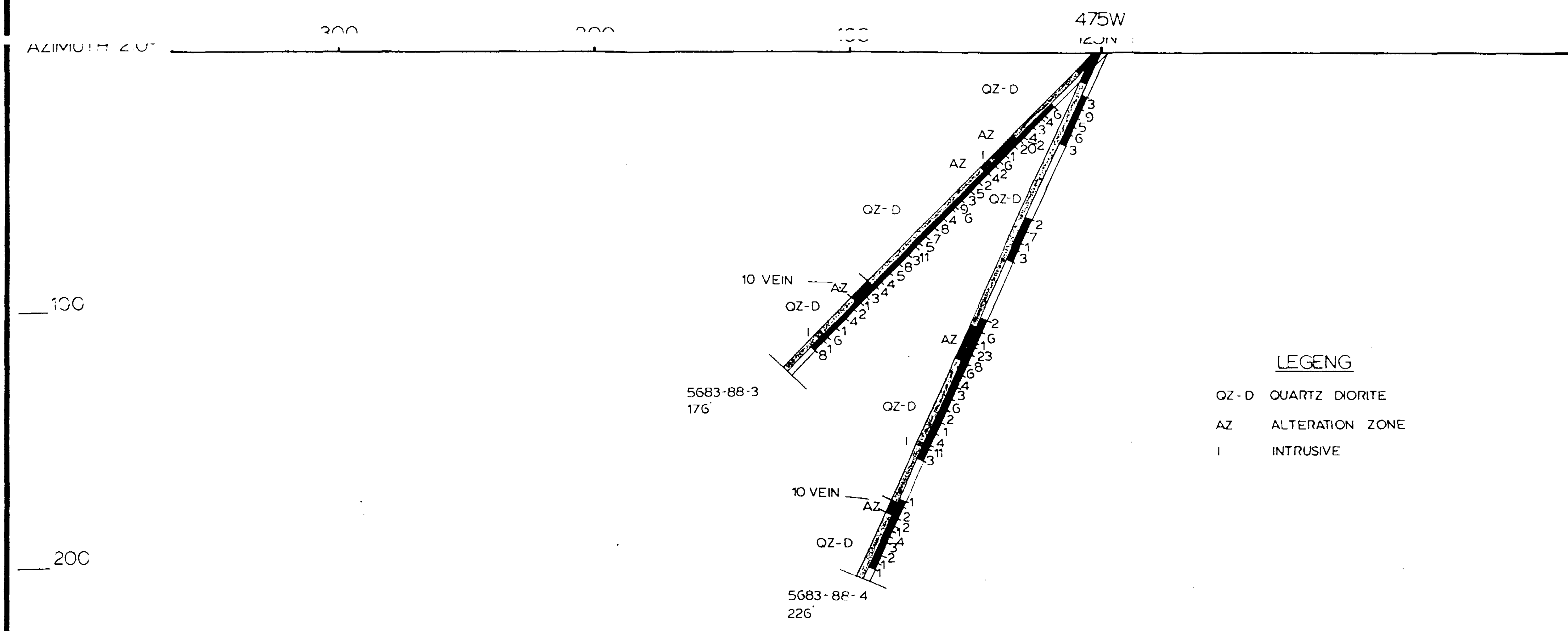
QZ- D QUARTZ DIORITE

AZ ALTERATION ZONE

I INTRUSIVE

WR SAMPLES TAKEN FOR WHOLE ROCK ANALYSIS
ALL ASSAY RESULTS IN PPB UNLESS OTHERWISE STATED

David R. Bell Geological Services Inc.	
CANORTH RES INC	
DIAMOND DRILL HOLES 1 AND 2 ON NUMBER 10 VEIN	
Twp/Area CHESTER TWP	Province ONT
Mining Division POCUPINE	Project 5683
References	N.T.S. 41P/12
Drawn MS / Drafted MS	Checked
Scale 1 : 40 / Date FEB 88	Sheet 5683/88/7/1



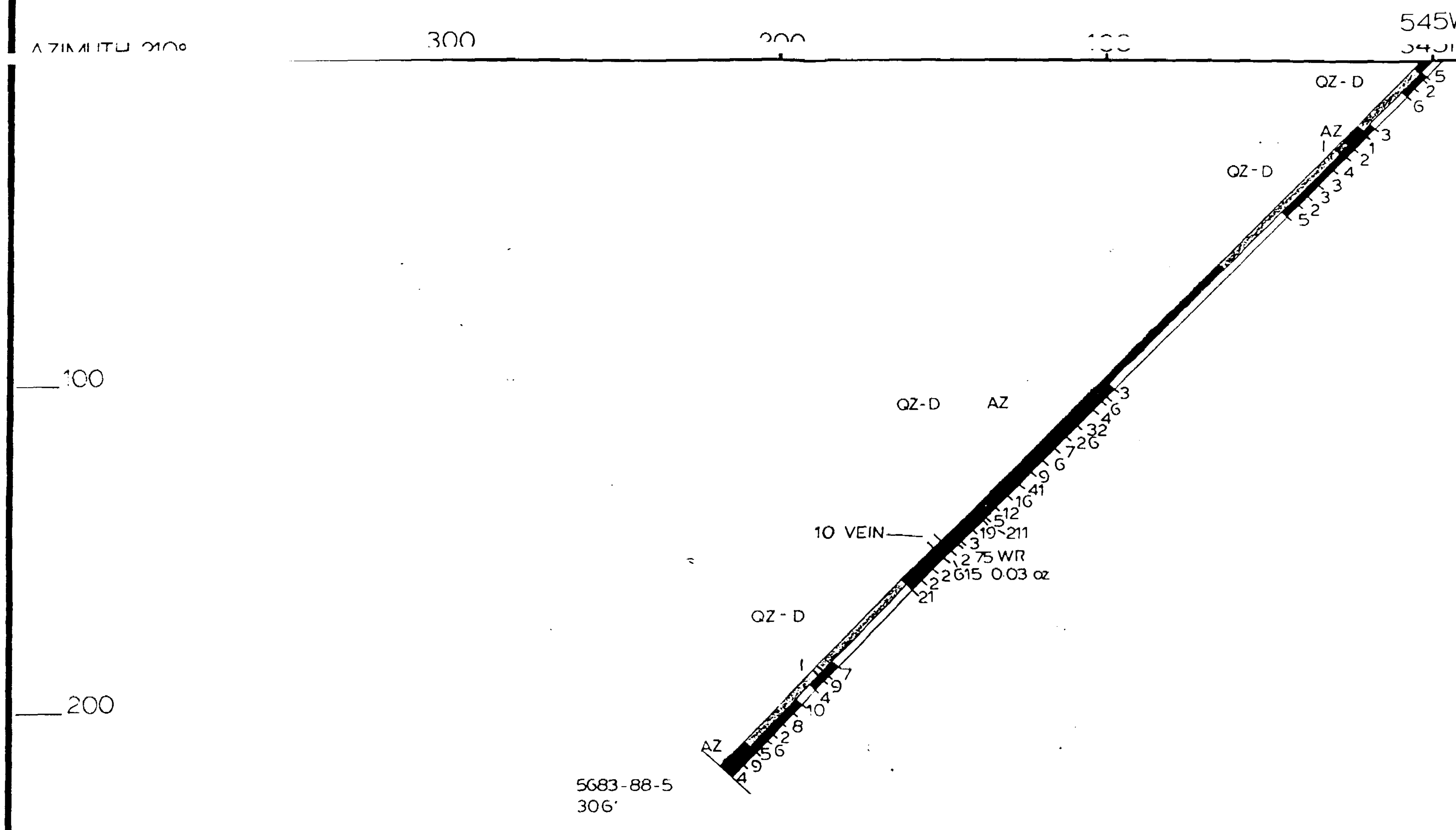
ALL ASSAY RESULTS IN PPB UNLESS OTHERWISE STATED

David R. Bell Geological Services Inc.

CANORTH RES INC

DIAMOND DRILL HOLES
3 AND 4
ON
NUMBER 10 VEIN

Twp/Area CHESTER TWP		Province ONT
Mining Division PORCUPINE		Project 5683
References		N.T.S. 41/P12
Drawn MS	Drafted MS	Checked
Scale 1 : 40	Date FEB 88	Sheet 5683/88/7/2



LEGEND

QZ - D QUARTZ DIORITE
AZ ALTERATION ZONE
I INTRUSIVE

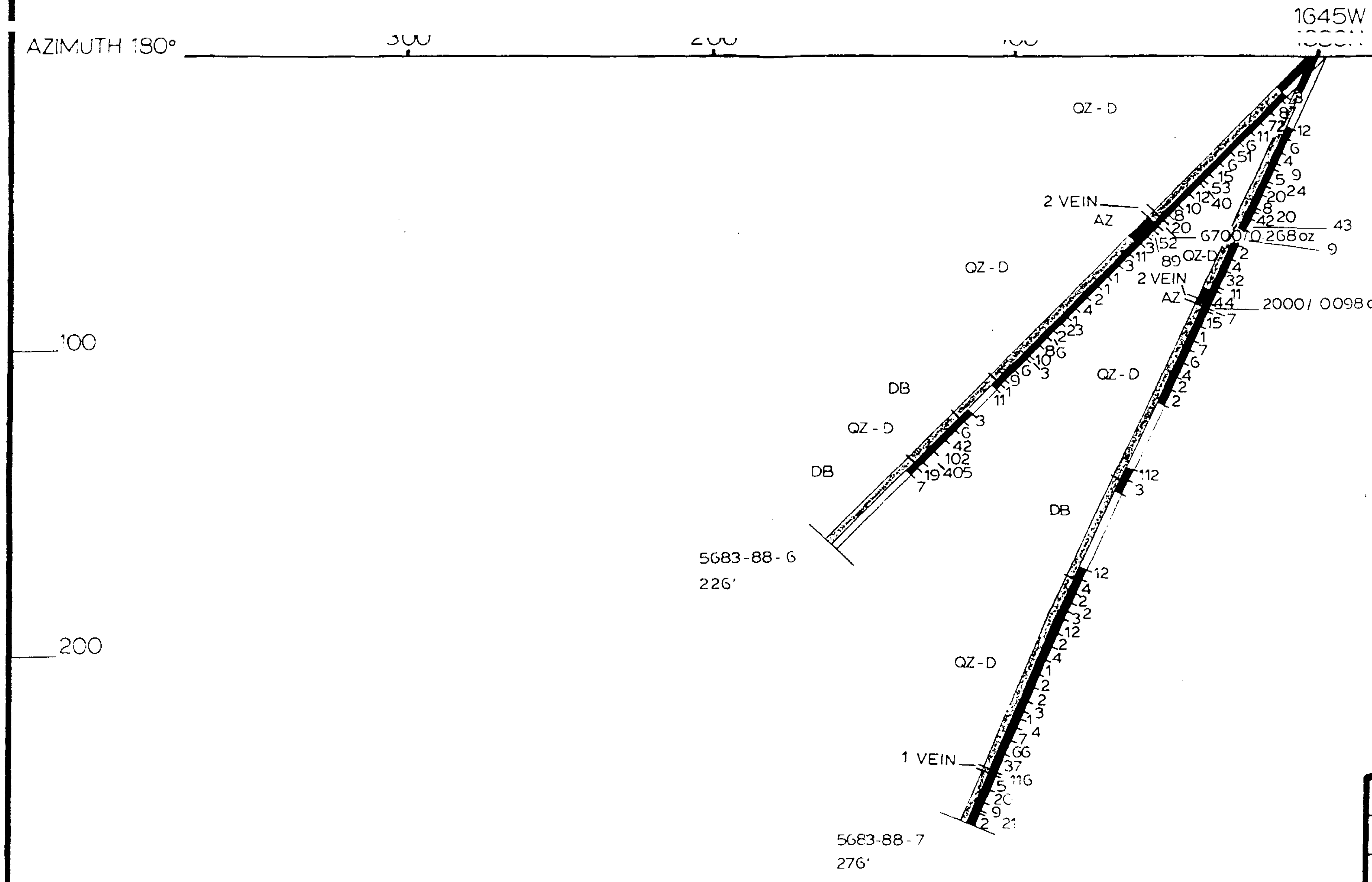
WR SAMPLES SENT FOR WHOLE ROCK ANALYSIS
ALL ASSAY RESULTS IN PPB UNLESS OTHERWISE STATED

David R. Bell Geological Services Inc.

CANORTH RES INC

DIAMOND DRILL HOLE
5
ON
NUMBER 10 VEIN

Twp/Area CHESTER TWP		**Province** ONT
Mining Division PORCUPINE		**Project** 5683
References		**N.T.S.** 41/P12
Drawn MS	**Drafted** MS	**Checked**
Scale 1 : 40	**Date** FEB 88	**Sheet** 5683/88/7/3



LEGEND

QZ-D	QUARTZ DIORITE
DB	DIABASE
AZ	ALTERATION ZONE

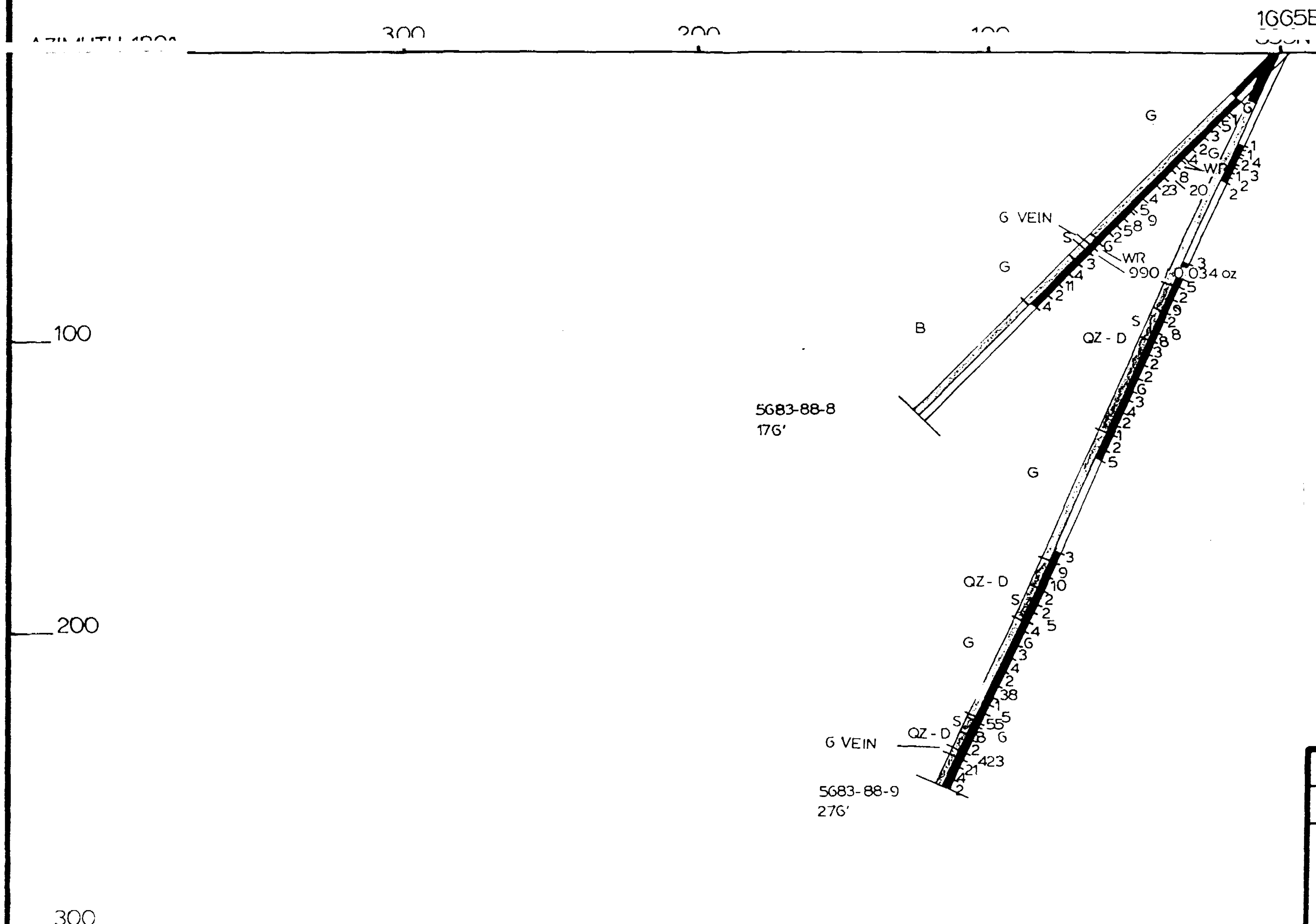
ALL ASSAY RESULTS IN PPB UNLESS OTHERWISE STATED

David R. Bell Geological Services Inc.

CANORTH RES INC

DIAMOND DRILL HOLES
6 AND 7
ON
NUMBER 1 AND 2 VEINS

Twp/Area CHESTER TWP		Province ONT
Mining Division PORCUPINE		Project 5683
References		N.T.S. 41/P12
Drawn MS	Plotted MS	Checked
Scale 1: 40	Date FEB 88	Sheet 5683/88/7/4



LEGEND

B BASALT
G GABBRO
QZ - D QUARTZ DIORITE
S SILICIFIED

WR SAMPLES SENT FOR WHOLE ROCK ANALYSIS
ALL ASSAY RESULTS IN PPB UNLESS OTHERWISE STATED

David R. Bell Geological Services Inc.

CANORTH RES INC

DIAMOND DRILL HOLES
8 AND 9
ON
NUMBER 6 VEIN

Twp/Area CHESTER TWP		Province ONT
Mining Division PORCUPINE		Project 5683
Reference		N.T.S. 41/P12
Drawn MS	Drafted MS	Checked
Scale 1: 40	Date FEB 88	Sheet 5683/88/7/5

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE RECORD

Project 5683-Chester Twp

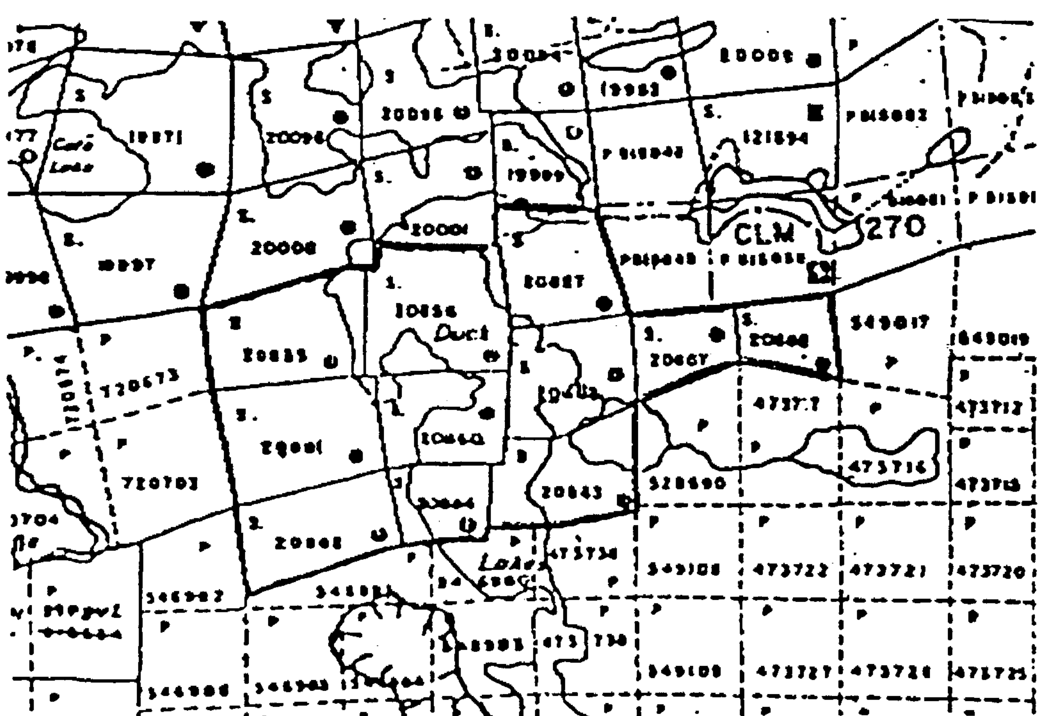
Company Canorth Resources Inc.

Hole No. 5683-88-1

LOCATION		DIP TEST				
AREA or TWP. Chester Twp.	FOOTAGE	ANGLE RECORDING	ANGLE CORRECTED	LEVEL Surface	HORIZONTAL COMPONENT 123	DATE STARTED February 20,988
					VERTICAL COMPONENT 127	DATE FINISHED February 20,1988
CLAIM NO S 20660	86.00		-46°		210	S.Conquer
	176.00		-46°	LATITUDE L4+00W	LENGTH 176.00 ft	PURPOSE To test known gold bearing structure
NTS 41P/12 UTM				DEPARTURE 0+60N	CORE LOCATION D.R.Bell Warehouse Timmins	TOT RECOVERY 99.9%

DIAMOND DRILL HOLE LOCATION SKETCHES

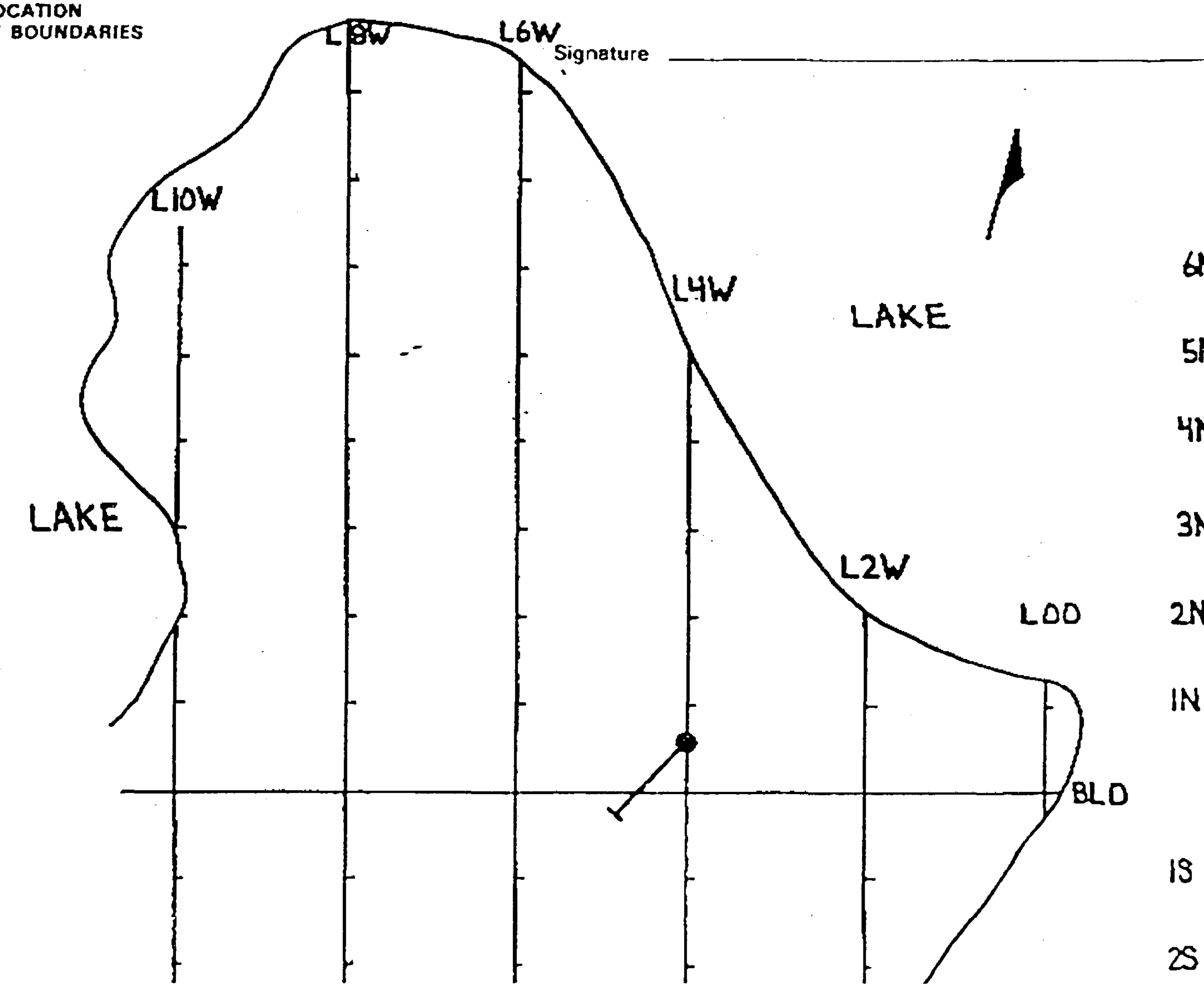
CLAIM MAP Scale: 1 inch to ½ mile



DIAMOND DRILL HOLE LOCATION WITH RESPECT TO CLAIM BOUNDARIES

Scale: 1"=200'

Signature



David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683 - Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-1 Page 1 of 4

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au ppb	Au oz/t		GW				
0.00	13.44	Overburden: - casing left in hole														
13.44	176.00	Quartz Diorite -f-m.g. equigranular rock, gy colour -composition - slightly variable from site to site -60-70% plagioclase -20%-30% quartz -10-15% mafics - biotite -metallic components - is dominate by py tr-1% is usual % composition locally higher -locally aphanitic - v.f.g. -blue irridescent quartz eyes noted throughout core, generally only 1-2% quartz "eyes" greater percentage of "eyes" noted in areas of aphanatic or silicified sections -locally silicified sections cause overprinting or masking of original igneous textures -numerous late fractures w/cb and chlorite on margins														
		23.90 - 25.15: silicified section, w/narrow		tr-1	-0001	20.92	23.90	2.98	2							
		foliated section w/carbonate filling voids		1-2	-0002	23.90	25.15	1.25	1							
		foliation @ 24° TCA		tr-1	-0003	25.15	28.13	2.98	1							
		1-2% f.g. diss py														
		38.62 - 43.41: Qtz Diorite, w/0.3 inch qtz veinlet @ 40.26 ft parallel TCA hairline cb filled fractures @ 166°, 150°, 145°, 140° TCA		tr-1	-0004	38.62	43.41	4.79	3							
		43.41 - 46.00: Qtz Diorite: w/small narrow silicified zones		tr-1	-0005	43.41	46.00	2.59	1							
		46.00 - 59.05: Quartz-Diorite		tr-1	-0006	46.00	51.05	5.05	1							
		-very minor amount of aphanitic sections around		tr-1	-0007	51.05	54.75	3.70	1							

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683 - Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-1 Page 2 of 4

	FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au	Au		GW		
	13.44	176.00	Quartz Diorite - cont'd												
			cb filled fractures as described below		1-2	-0008	54.75	59.05	4.30	2					
			59.05 - 65.54: Quartz Diorite -locally core is more aphanitic than f-mg a possible overprinting or alteration? individual crystals and faces dissappear colour becomes grey → blue gray -especially noted as alteration haloes around carb & carb/qtz veinlets or fracture fillings, chlorite also associated w/carb veinlets -locally as halos to veinlets host has been sericitized -carb veinlets/fractures @ 59.72 ft, 60.13, 60.55, 61.72, 62.30, 63.13 -higher percentage of pyrite in chloritic sections ie 60.88		1-2	-0009	59.05	65.54	6.49	4					
			65.54 - 76.00: Quartz-Diorite		tr-1	-0010	65.54	70.23	4.69	1					
			-f-mg w/distinct crystals below 73.11 ft core takes on a faint blue grey colour ie alteration due to proximity to dyke			-0011	70.23	76.00	5.77	1					
			76.00 - 77.70: Felsic to intermediate Intrusive, gy, fg carbonatized dyke, upper contact @ 63° TCA lower contact @ 60° TCA		1-2	-0012	76.00	77.70	1.70	2					
			77.70 - 90.00: Quartz-Diorite		tr-1	-0013	77.70	82.82	5.12	3					
						-0014	82.82	88.00	5.13	1					
						-0015	88.00	90.00	2.00	1					
			90.00 - 103.67: Quartz Diorite												
			-w/several narrow qtz veins up to 0.25"		1-2	-0016	90.00	92.29	2.29	3					
			margins of veins may contain up to 1-2%		1-2	-0017	92.29	93.29	1.00	1					

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp

Company Canorth Resources Ltd.

HOLE No. 5683-88-1 Page 3 of 4

FOOTAGE FROM Ft	TO Ft	ROCK TYPE AND DESCRIPTION (alteration, structure)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER 5683	FROM Ft	TO Ft	LENGTH	Au	Au		GW				
13.44	176.00	Quartz Diorite - cont'd														
		fg disseminated py, chlorite, and		1-2	-0018	93.29	98.33	5.04	1							
		carbonate which will also occur in cross-fractures		1-2	-0019	98.33	103.67	5.34	3							
		-slight increase in py to 1-2% locally to 3%														
		-overall core has a blue-grey hue as described above 59.05-65.54														
		-py also found in randomly oriented fractures														
		-qtz-cb-chl veins/veinlets @ 92.79 ft - 2 inches wide, 93.96 ft, 95.50, 96.83														
		103.67 - 108.00: Shear or Intrusive		2-3	-0020	103.67	108.00	4.33	1							
		fg, gy, moderately to well foliated shear? zone, appears very similar to host but loses blue hue														
		-foliation & contacts @ 50° TCA														
		-carb in fractures and foliation planes which are also locally highlighted by chlorite														
		-py slightly higher @ 2-3% fg disseminations														
		-5" Qtz vein @ 106.83 ft barren except for inclusions of chlorite														
		-contacts distinct possibly intrusive type														
		108.00 - 110.21: Quartz Diorite		1-2	-0021	108.00	110.21	2.21	2							
		-as 90.00-103.67 ft														
		110.21 - 134.08: Quartz Diorite		tr-1	-0022	110.21	116.00	5.79	1							
		-unaltered, distinct crystal development														
		-below 126.00 ft core locally displays orange-pink to pink colour - ? potassium or hematite alteration		tr-1	-0023	127.75	134.08	6.33	1							
		134.08 - 136.21: Intermediate - mafic Intrusive (lamprophyre		1-2	-0024	134.08	136.21	2.13	1							
		-green-grey colour, carbonatized w/carb and biotite phenocrysts														
		-py 1-2 locally to 3% as f.g. disseminations														
		-upper contact @ 70° TCA														

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp.

Company Canorth Resources Ltd.

HOLE No. 5683-88-1 Page 4 of 4

FOOTAGE FROM Ft	FOOTAGE TO Ft	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER 5683	SAMPLE FROM Ft	SAMPLE TO Ft	LENGTH	Au ppb	Au oz/t		GW				
13.44	176.00	Quartz Diorite - cont'd -lower contact @ 70° TCA -weakly altered section 0.2" @ either contact in intrusive														
		136.21 - 176.00: Quartz Diorite as 110.21-134.08		tr-1	-0025	136.21	141.21	5.0	1							
176.00		E.O.H.														

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE RECORD

Project 5683 Chester Twp.

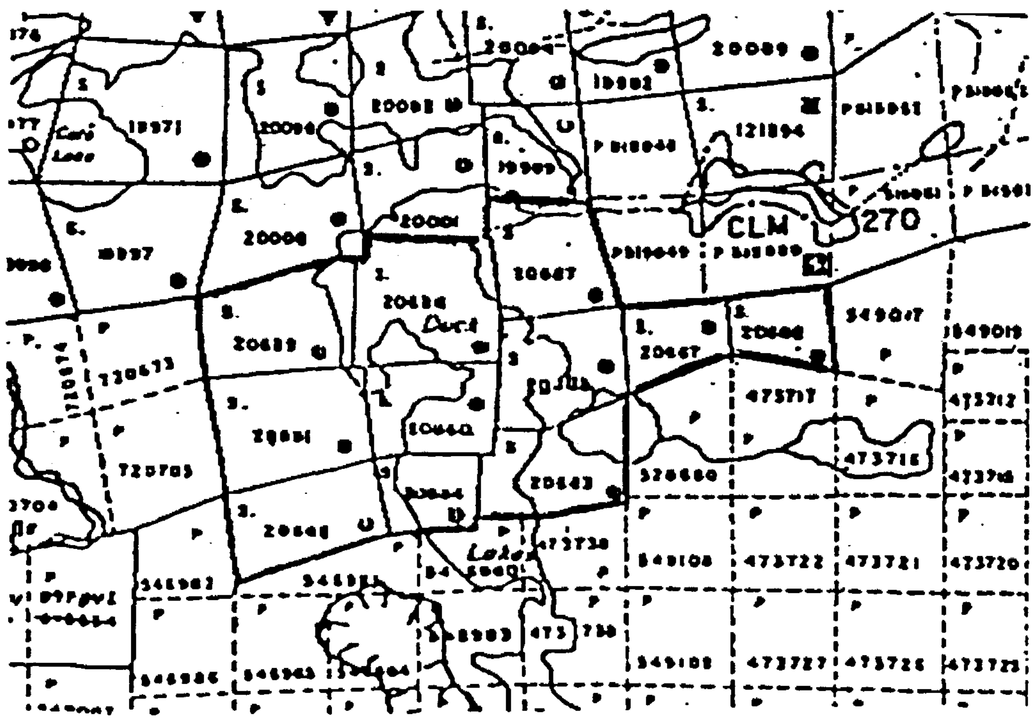
Company Canorth Resources Inc.

Hole No. 5683-88-2

LOCATION		DIP TEST						
		FOOTAGE	ANGLE RECORDING	ANGLE CORRECTED	LEVEL	Surface	HORIZONTAL COMPONENT 92	DATE STARTED February 21,1988
AREA or TWP	Chester Twp.						VERTICAL COMPONENT 206	DATE FINISHED February 21,1988
CLAIM NO	S 20660	116.00		-66°	ELEVATION		BEARING 210°	LOGGED BY S.Conquer
		226.00		-67°	LATITUDE	L 4+00W	LENGTH 226.00 feet	PURPOSE To test gold bearing structure
NTS	41P /12 UTM				DEPARTURE	0+60N	CORE LOCATION D.R.Bell Warehouse Timmins	TOT. RECOVERY 99.9%

DIAMOND DRILL HOLE LOCATION SKETCHES

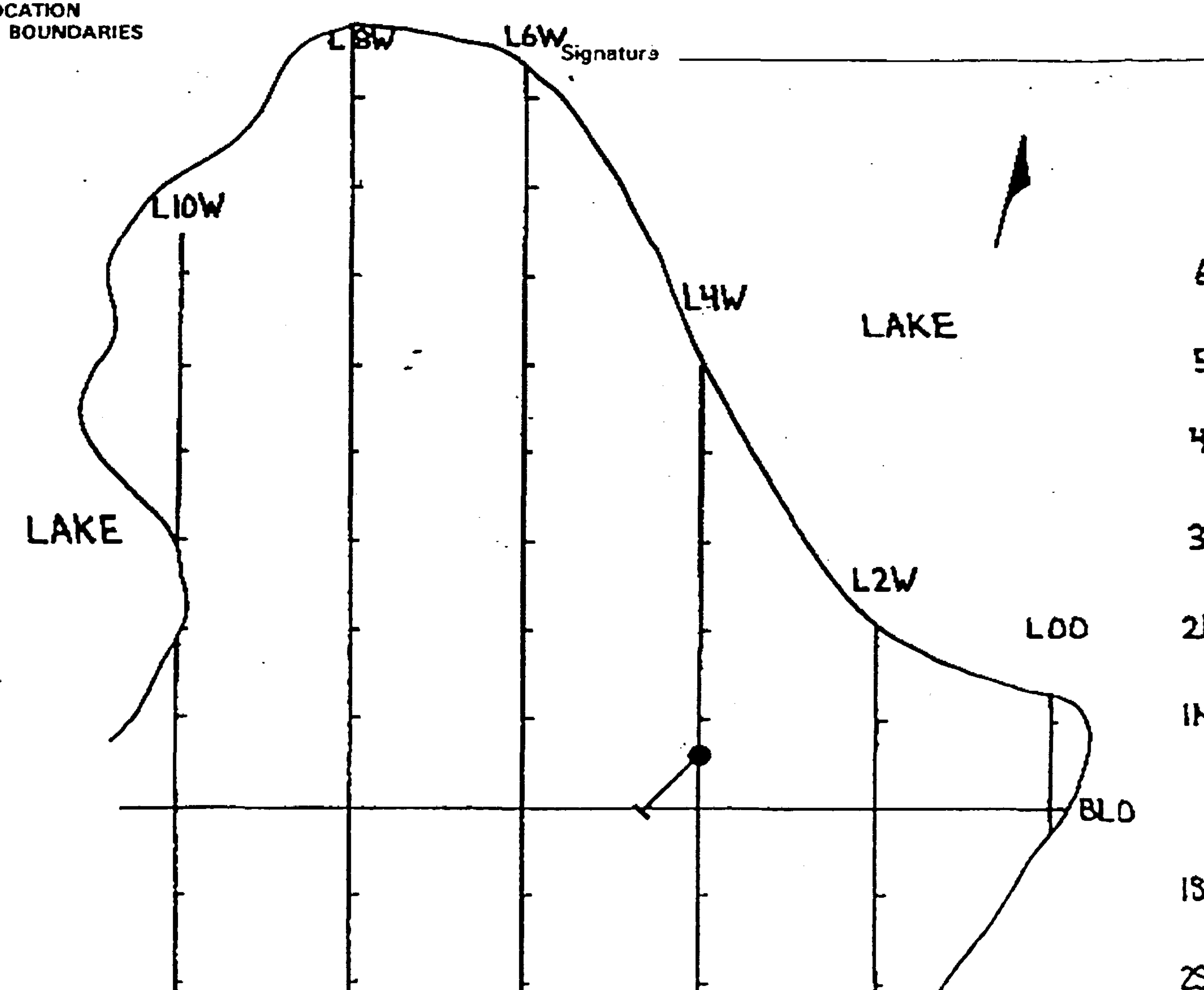
CLAIM MAP Scale: 1 inch to ½ mile



DIAMOND DRILL HOLE LOCATION WITH RESPECT TO CLAIM BOUNDARIES

Scale: 1"=200'

Signature



David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp

HOLE No. 5683-88-2 Page 1 of 5

Company Canorth Resources Inc.

FOOTAGE FROM Ft	FOOTAGE TO Ft	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER 5683	SAMPLE FROM Ft	SAMPLE TO Ft	SAMPLE LENGTH	Au ppb	Au oz/t	GW	
0.00	10.00	Overburden: - casing left in ground										
10.00	226.00	Quartz Diorite										
		-f-mg equigranular igneous rock, gy → ygy in colour, pk-orange pk-colour locally										
		-as described in hole 5683-88-1										
		-blue irridescent qtz eyes										
		-py tr-1%										
		-carb in hairline fractures, only few noted										
					-0026	10.00	12.00	2.00	3			
		12.00-13.00: mafic dyke, gn, chloritic, carbonatized py 1-2%, possible boulder			-0027	12.00	13.00	1.00	1			
		-similar to intrusive in hole 5683-88-1 @ 134.08-136.21										
		13.00-60.45: Qtz Diorite			-0028	13.00	16.00	3.0	1			
		-36.92-37.75: sample taken for Whole Rock analysis, which includes major and trace elements, Group 1 and			-0029	36.92	37.75	0.83	1			Whole Rock
		Group 2 elements, % CO2 and % S			-0029a	37.46	37.75	0.29				Thin section
		-also 37.46-37.75 sample collected for thin section work 5683-0029a										
					-0030	49.30	54.20	4.90	2			
		-54.69 is a bull white qtz vn, @ 152° TCA			-0031	54.20	55.20	1.00	2			
		5" wide down core axis, 3" true width			-0032	55.20	60.45	5.25	4			
		60.45-73.17: Alteration Zone ?										
		-still qtz diorite but losses			-0033	60.45	66.00	5.55	10			
		distinct & recognizable crystalline			-0034	66.00	67.00	1.00	1			Whole Rock
		texture, appears to be an amorphous			-0035	67.00	73.17	6.17	5			
		qtz, rich rock, still has blue quartz eyes										
		-py tr-1%										
		-minor to moderate carbonatization in hairline fractures and around phenocrysts, fracture density greater than unaltered Qtz Diorite										
		-overall colour pur-gy, w/gn tinges due to chlorite in fractures										

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-2

FOOTAGE		ROCK TYPE AND DESCRIPTION	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE				ANALYTICAL RESULTS				
Ft	Ft				5683	Ft	Ft		Au ppb	Au oz/t		Cu	
10.00	226.00	<u>Quartz Diorite</u> - cont'd											
		60.45-73.17: Alteration Zone ? cont'd											
		-66.00-67.00: sample removed for whole rock analysis which includes major and trace element, Group 1 and Group 2 elements, % CO2, % S											
		-66.10 to 66.40: sample removed for thin section 5683-0034a			0034a	66.10	66.40	.30					Thin Section
		73.17-116.00: Quartz Diorite -more distinct crystal texture but still pur-gy colour -sericitic (pa yellow colour) @ 71.00 ft			-0036	73.17	78.50	5.33	11				
		78.50-80.10: -fg, siliceous rock, that shows foliation @ 130° TCA @ top contact and 35° TCA near lower contact -fold ? axis, @ 79.17 -py slightly higher than host but still tr-1% -intrusive?, incorporated block of sediment?			-0037	78.50	80.10	1.60	2				
		-locally in chloritic sections py content is higher than normal tr-1%, now locally 1-2% -chloritic sections probably altered mafic material ie biotite &/or hornblend			-0038	80.10	86.00	5.90	1				
					-0039	86.00	91.00	5.00	1				
					-0040	91.00	96.00	5.00	2				
					-0041	96.00	101.00	5.00	1				
					-0042	101.00	106.00	5.00	3				
					-0043	106.00	111.00	5.00	1				
					-0044	111.00	116.00	5.00	1				
		116.00-137.58: Alteration Zone: as 60.45-73.17 ft - sections of amorphous siliceous looking rock w/cg sections -increased py in late fractures, especially chlorite filled fractures fractures @ 118.83 @ 30°TCA as elsewhere 117.75 @ 35°TCA		1-2	-0045	116.00	121.00	5.0	4				
					-0046	121.00	126.00	5.0	1				
					-0047	126.00	131.00	5.0	4				
					-0048	131.00	136.00	5.0	8				
					-0049	136.00	137.58	1.58	6				

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

Company: Canorth Resources Inc.

PROJECT: 5683-Chester Twp.

HOLE No. 5683-88-2

	FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	WIDTH	Au ppb	Au oz/t		GH				
	10.00	226.00	Quartz Diorite- cont'd														
			125.29-126.00: chloritic section (0.71 ft),foliated weakly developed @ 63°TCA,carbonatized, with included section of quartz diorite														
			137.46-137.67: removed for thin section sample 5683-0049a			0049a	137.46	137.67	0.25						Thin Section		
	# 10 yn		137.58-145.25: mafic-intermediate intrusive		1-2	-0050	137.58	143.08	5.50	2							
			-vfg-f.g.,gy-gn intrusive-shows sharp contacts			-0051	143.08	145.25	2.17	2					Whole Rock		
			-shows both pervasive style carbonatization & carbonate in fractures			-0051a	143.25	143.50	0.25						Thin Section		
			-py 1-2% as fg disseminations -weakly developed foliation observed locally @ 63°TCA near upper contact and 40°TCA which is also angle TCA of associated carb filled fractures -upper contact @ 63°TCA -lower contact @ 40°TCA														
			145.25-151.50: Qtz Diorite - shows recognizable crystal development of plagioclase,w/ locally altered sections (siliceous) around fractures @ 149.50 ft,fractures @ random orientations ie 20°, 33°, 43°, 60°, 110° -py tr-1% as f.g.disseminations -Qtz veinlet @ 150.42 ft @ 165°TCA 1/2" wide		tr-1	-0052	145.25	151.50	6.25	4							
			151.50-154.00: mafic-intermediate intrusive as described 137.58-145.25			-0053	151.50	154.00	2.5	3							
			154.00-198.50: Qtz Diorite - weak pervasive alteration as described 145.25-151.50			-0054	154.00	158.60	4.60	2							
			-locally altered ie 158.60-162.60			-0055	158.60	162.60	4.00	1							
			-section w/5" Qtz veinlet, no py @ 25°TCA			-0056	162.60	164.60	2.00	4							

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp

Company Canorth Resources Inc.

HOLE No. 5683-88-2 Page 4 of 5

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER 5683	SAMPLE FROM Ft	SAMPLE TO Ft	LENGTH	Au ppb	Au oz/t		GW	
10.00	226.00	Quartz-Diorite – cont'd											
		-section w/ magnetite rich 3" section @ 167.25 ft			-0057	164.60	169.40	4.80	2				
					-0058	169.40	175.00	5.60	1				
		-Qtz vn w/chloritic inclusions no py			-0059	175.00	176.00	1.00	2				
					-0060	176.00	181.00	5.00	1				
					-0061	181.00	186.00	5.00	1				
					-0062	186.00	191.00	5.00	2				
					-0063	191.00	196.00	5.00	3				
					-0064	196.00	198.50	2.50	2				
		198.50–206.00: Altered Zone		1-2	-0065	198.50	203.50	5.00	4				
		amorphous, siliceous section, carbonate in fractures -chloritic section w/gradational contacts and carbonate phenocrysts in altered rock crude foliation @ 25°TCA -py 1-2% as f.g.disseminations			-0066	203.50	206.00	2.50	21				
		206.00–212.00: Qtz Diorite, as 154.00-198.50 py 1-2%, blue irridescent quartz "eyes"		1-2	-0067	206.00	212.00	6.00	5				
		212.00–217.50: Altered Zone -amorphous, siliceous, py 1-2% -w chloritic section @ 212.75-213.17 contacts upper @ 57° TCA lower @ 66° TCA			-0068	212.00	217.50	5.50	3				
		217.50–226.00: mafic-intermediate zone above altered zone grades into this gn-gy highly carbonatized unit, becomes foliated below 220.00 ft foliation @ 63° TCA, foliation planes highlighted by carbonate -this unit similar to 212.75-213.17 and elsewhere in this hole, plus mafic units in hole 5683-88-1			-0069	217.50	224.00	6.50	42				
					-0070	224.00	226.00	2.00	71				Whole rock

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp

Company Canorth Resources Inc.

HOLE No. 5683-88-2

	FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	SAMPLE LENGTH	Au ppb	Au oz/t		GW				
	10.00	226.00	Quartz-Diorite - cont'd														
			-sample 5683-0070a 224.75-225.00 removed for thin section			-0070a	224.75	225.00	.25					Thin Section			
	226.00		E.O.H.														

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE RECORD

Project 5683 Chester Twp.

Company Canorth Resources Inc.

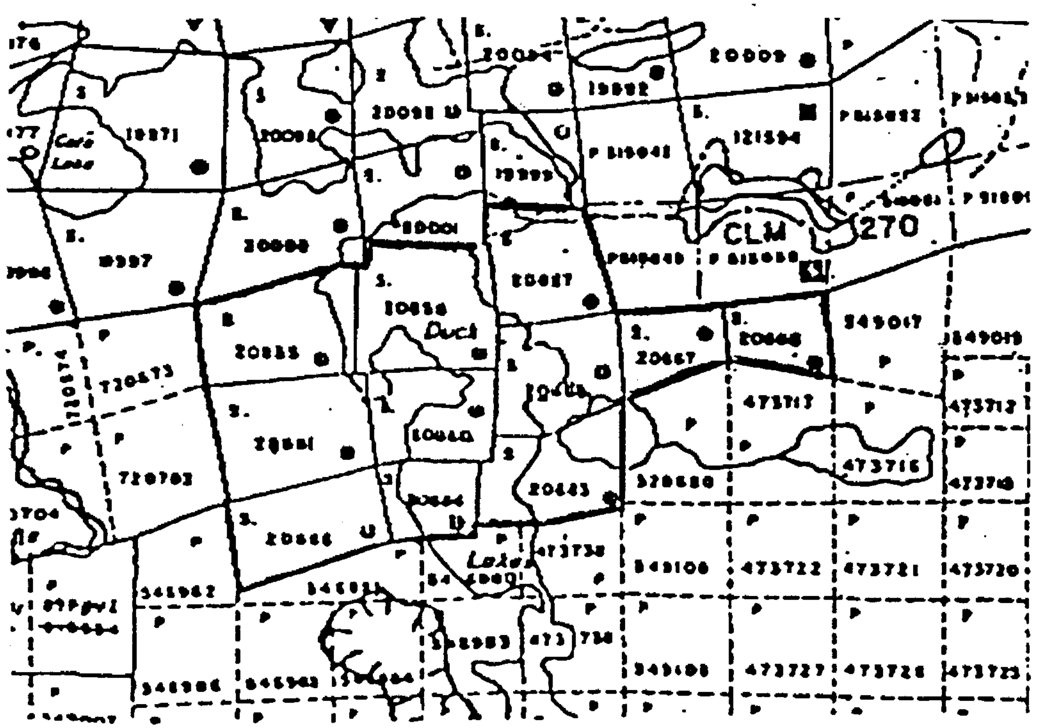
Hole No. 5683-88-3

LOCATION		DIP TEST				
		FOOTAGE	ANGLE RECORDING	ANGLE CORRECTED		
AREA or TWP.	Chester Twp.	0.00		-45°	LEVEL	Surface
CLAIM NO	S 20660	176.00		-46°	ELEVATION	
NTS	41P/12 UTM				LATITUDE	4+75W
					DEPARTURE	1+25N

HORIZONTAL COMPONENT	125	DATE STARTED	February 22,1988
VERTICAL COMPONENT	125	DATE FINISHED	February 22,1988
BEARING	[illegible]	LOGGED BY	[illegible]
LENGTH	176.00 ft	PURPOSE	To test Gold bearing structure
CORE LOCATION	D.R.Bell Warehouse Timmins	TOT. RECOVERY	99.9%

DIAMOND DRILL HOLE LOCATION SKETCHES

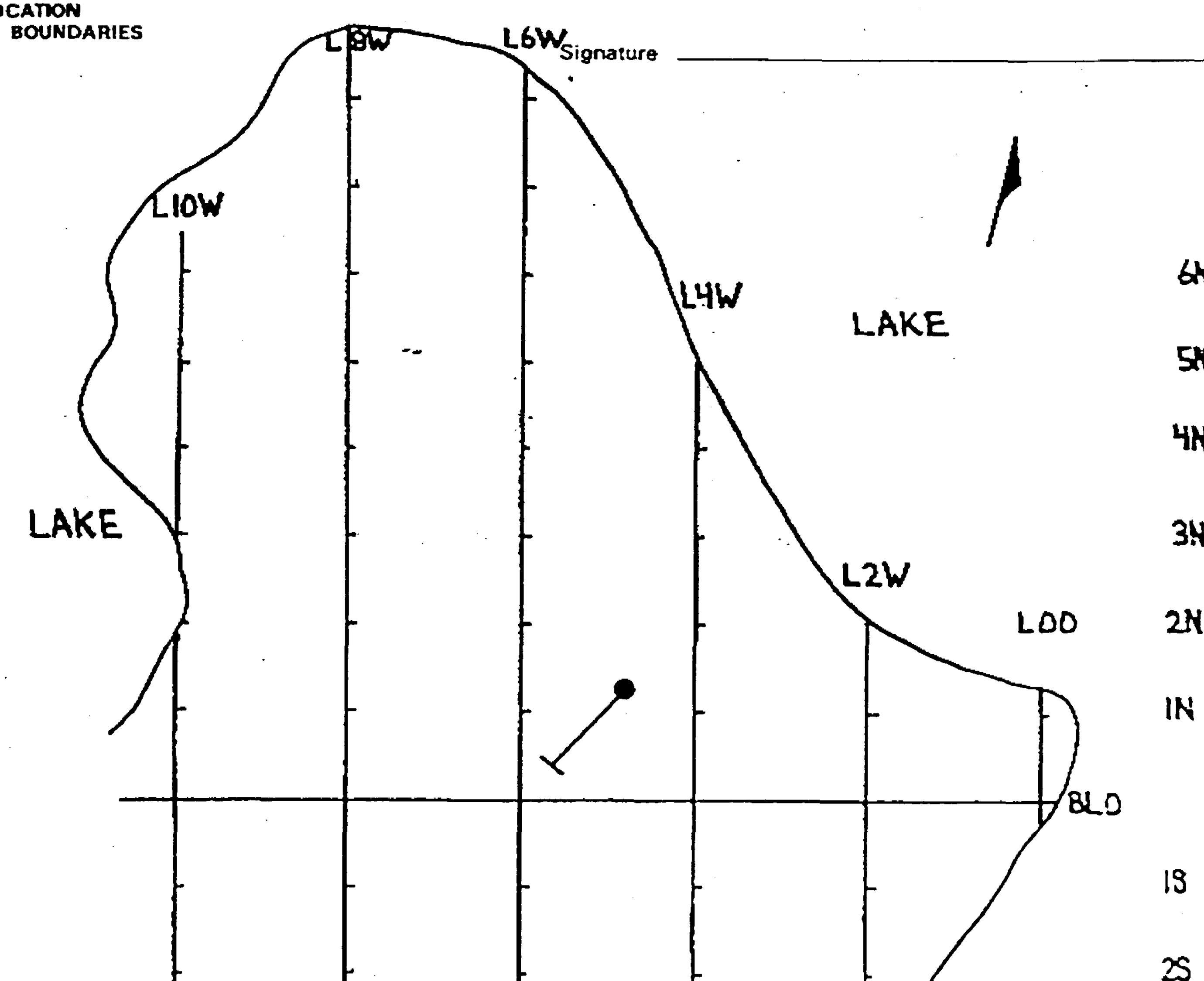
CLAIM MAP Scale 1 inch to ½ mile



DIAMOND DRILL HOLE LOCATION WITH RESPECT TO CLAIM BOUNDARIES

Scale: 1"=200'

Signature



David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-3 Page 1 of 2

FOOTAGE FROM	TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER 5683	FROM Ft	TO Ft	LENGTH	Au ppb	Au oz/t	GW
0.00	12.00	Overburden: - casing capped and left in ground									
12.00	176.00	Quartz Diorite									
		-f-mg equigranular igneous rock, gy-wh gy in colour due to mixture of light & dark coloured minerals, pk to or-pk locally									
		-as described 5683-88-1									
		-blue irridescent quartz "eyes"									
		-py tr-1%									
		-carb in hairline fractures									
		12.00-47.90: Quartz Diorite									
		as described above			-0071	29.25	34.25	5.00	6		
		34.25-35.75: gy siliceous unit			-0072	34.25	35.75	1.50	4		
		carbonatized, py tr-1%			-0073	35.75	40.75	5.00	3		
					-0074	40.75	46.00	5.25	4		
					-0075	46.00	47.90	1.90	2		
		47.90-66.00: Alteration Zone			-0076	47.90	51.00	3.10	20		
		-as described in hole 5683-88-2			-0077	51.00	56.00	5.00	1		
		-original texture remains in part, but partially masked due to alteration causing an amorphous siliceous rock			-0078	56.00	59.75	3.75	6		
		py 1-2%									
		-pur-gy colour									
		59.75-62.00: foliated mafic-intermediate			-0079	59.75	62.00	2.25	2		
		intrusive? similar to mafic to intermediate units as observed in holes 5683-88-1 and 88-2			-0080	62.00	66.00	4.00	4		
		foliation @ 60° TCA, py 1-2% as f.g.disseminations, gy → gngy colour, carbonatized									
		66.00-106.50: Qtz Diorite			-0081	66.00	71.00	5.00	2		
		-showing weak and patchy amorphous,			-0082	71.00	76.00	5.00	5		
		-siliceous sections			-0083	76.00	81.00	5.00	3		

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-3 Page 2 of 2

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER 5683	SAMPLE FROM Ft	SAMPLE TO Ft	LENGTH	Au ppb	Au oz/t		GW
12.00	176.00	Quartz-Diorite cont'd										
		81.00-84.50: aphanitic or amorphous			-0084	81.00	84.50	3.50	9			
		section			-0085	84.50	86.00	1.50	6			
		101.00-104.65: aphanitic or amorphous			-0086	86.00	91.00	5.00	4			
		section			-0087	91.00	96.00	5.00	8			
		-below 80.00 ft orange-pink sections in			-0088	96.00	101.00	5.00	7			
		core			-0089	101.00	104.65	3.65	5			
					-0090	104.65	106.50	1.85	11			
		106.50-128.90: Quartz-Diorite			-0091	106.50	111.15	4.65	3			
		-well developed crystalline texture			-0092	111.15	116.00	4.85	8			
		observed			-0093	116.00	121.00	5.00	5			
		-70% felsic & 30% mafic material			-0094	121.00	126.00	5.00	4			
		-tr-1% py			-0095	126.00	128.90	2.90	4			
		128.90-137.75: Alteration Zone			-0096	128.90	134.25	5.35	3			
		-moderately developed, amorphous siliceous sections										
		135.85-136.25: shear zone @ 40° TCA			-0097	134.25	137.75	3.50	1			
		137.75-176.00: Quartz-Diorite			-0098	137.75	141.00	3.25	2			
		-as described above 106.50-128.90			-0099	141.00	146.00	5.00	4			
					-0100	146.00	151.00	5.00	1			
					-0101	151.00	156.00	5.00	6			
		-gn,chloritic dyke w/chlorite phenocrysts			-0102	156.00	158.00	2.00	1			
		carbonatized, weakly foliated @ 60° TCA			-0103	158.00	163.00	5.00	8			
176.00		E.O.H.										

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE RECORD

Project 5683-Chester Twp.

Company Canorth Resources Inc.

Hole No. 5683-88-4

LOCATION		DIP TEST			LEVEL Surface		HORIZONTAL COMPONENT	95'	DATE STARTED	February 23,1988
AREA or TWP	Chester Twp.	FOOTAGE	ANGLE RECORDING	ANGLE CORRECTED			VERTICAL COMPONENT	206	DATE FINISHED	February 23,1988
		0.00		-65°	ELEVATION		BEARING	[illegible]	LOGGED BY	[illegible]
CLAIM NO.	S.20660	116.00		[illegible]						
		226.00		-66°	LATITUDE	4+75W	LENGTH	226'	PURPOSE	To test gold bearing structure
NTS	41P/12 UTM				DEPARTURE	1+25N	CORE LOCATION	D.R.Bell Warehouse Timmins	TOT. RECOVERY	99.9%

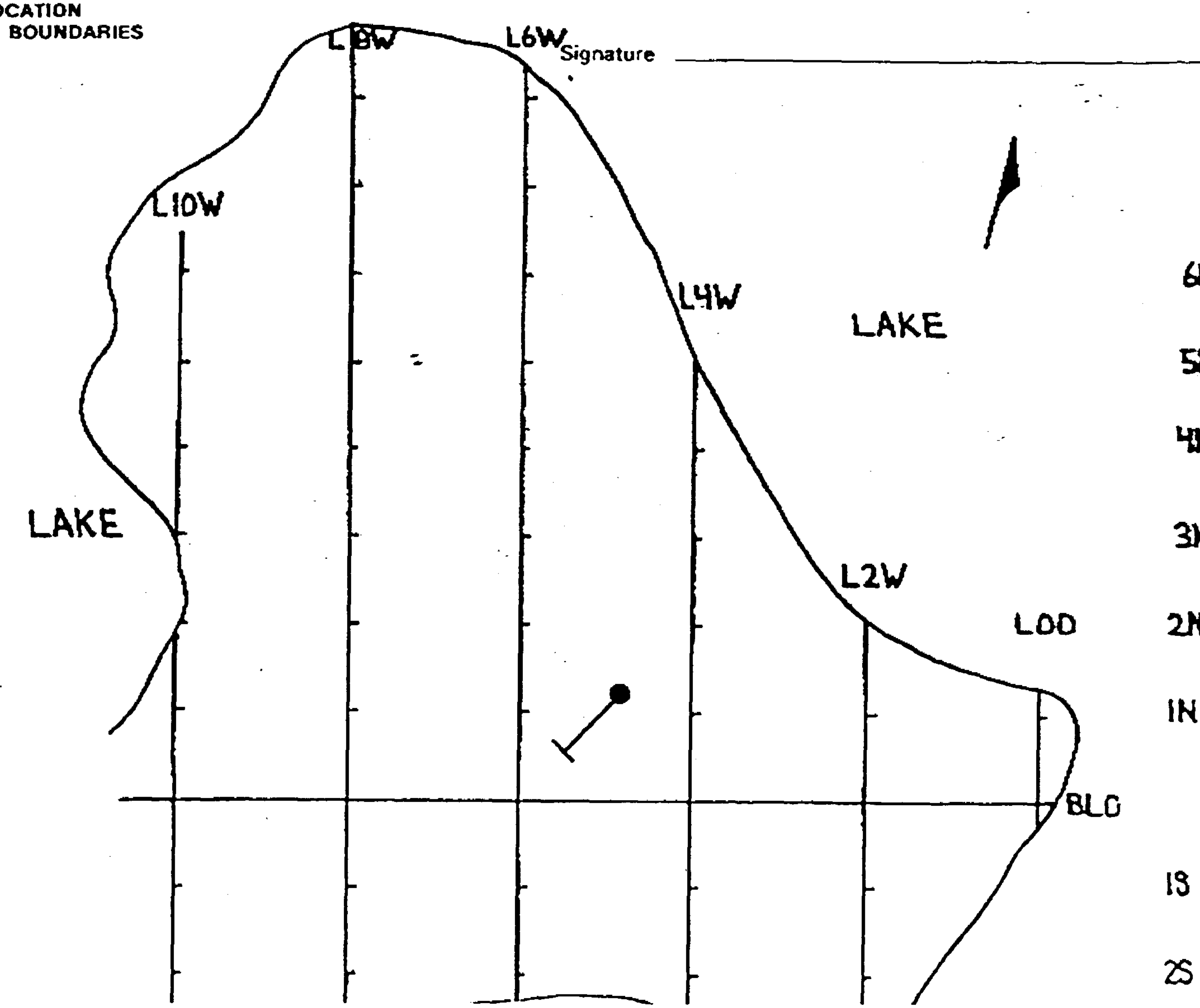
DIAMOND DRILL HOLE LOCATION SKETCHES

CLAIM MAP Scale: 1 inch to ½ mile

DIAMOND DRILL HOLE LOCATION WITH RESPECT TO CLAIM BOUNDARIES

Scale: 1"=200'

Signature



David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp

Company Canorth Resources Inc.

HOLE No. 5683-88-4 Page 1 of 3

FOOTAGE FROM Ft	FOOTAGE TO Ft	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	ANGLES AXIS	SULPHIDES	SAMPLE 5683	SAMPLE Ft	SAMPLE Ft	SAMPLE	ANALYTICAL RESULTS Au ppb	Au oz/t		GW			
0.00	13.00	<u>Overburden:</u> - casing capped and left in ground													
13.00	226.00	<u>Quartz Diorite</u>													
		-f-mg equigranular igneous rock, gy-whgy in colour due to mixture of light & dark coloured materials, pk to or pk locally													
		-as described 5683-88-1													
		-blue irridescent quartz "eyes"													
		-py tr-1%													
		-carb in hairline fractures													
		-locally altered sections of amorphous siliceous rock of pur-gy or blue gy colour													
		13.00-120.10: Quartz Diorite													
		w/patchy,sections of alteration		tr-1	-0104	18.50	23.50	5.00	3						
		(silicification), around carb filled fractures			-0105	23.50	28.25	4.75	9						
		-section dominated by well developed crystalline texture			-0106	28.25	32.00	3.75	5						
		-py average tr-1%													
		-32.92-33.67: gy,carbonatized,fg rock		1-2	-0107	32.00	35.10	3.10	6						
		intrusive? contacts relatively sharp			-0108	35.10	40.10	5.00	3						
		-sample includes altered wall rock													
		-py 1-2%													
		-upper contact @ 40° TCA													
		-lower contact @ 54°TCA													
		-44.25-44.60: sample removed for thin section shows both unaltered Qtz Diorite and siliceous, pur-gy alteration			-0108a	44.25	44.60	.35					Thin Section		
		-w/patchy sections of siliceous alterations			-0109	72.17	77.17	5.00	2						
		-77.17-85.25: gy,carbonatized fg,weakly			-0110	77.17	82.17	5.00	1						
		foliated @ 50° TCA, py tr-1%			-0111	82.17	85.25	3.08	1						
		-similar to above section @ 32.92-33.67			-0112	85.25	90.25	5.00	3						
		-upper contact @ 65° TCA													
		-lower contact @ 35° TCA													

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-4

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)
13.00	226.00	Quartz Diorite cont'd

-77.17-85.25: cont'd

120.10-134.00: - Alteration Zone - silicification
-section shows more intensely
developed alteration as opposed to
spotty style that is noted above
-this alteration is centred around a gn-chloritic shear
zone,w/carb in foliation planes @ 25° TCA
-shear 125.85 to 126.60
-chlorite is seen as a late (retrograde) alteration
product as it is developed in silicified (pur hue)
altered Qtz Diorite

134.00-195.5: Quartz Diorite
-as described above 13.00-120.10
-qtz veinlets (barren) @ 159.60,163.40,168.00
-166.00-169.00: chlorite filled fractures
that run parallel TCA

-169.00-171.10: dkgn,chloritic intrusive
w/chlorite phenocrysts as in 5683-88-3

195.50-200.20: Alteration Zone
-as described above 120.10-134.00
-but not as strongly developed
-again centred about a chloritic
197.00-197.50 shear, as above
125.85-126.00

CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER 5683	FROM Ft	TO Ft	LENGTH	Au ppb	Au oz/t		CW			
		-0113	115.50	120.10	4.60	2						
		-0114	120.10	125.35	5.25	6						
		-0115	125.35	127.10	1.75	1						
		-0116	127.10	130.00	2.90	23						
		-0117	130.00	134.00	4.00	8						
		-0118	134.00	139.00	5.00	6						
		-0119	139.00	144.00	5.00	4						
		-0120	144.00	149.00	5.00	3						
		-0121	149.00	154.00	5.00	6						
		-0122	154.00	159.00	5.00	2						
		-0123	159.00	164.00	5.00	1						
		-0124	164.00	169.00	5.00	4						
		-0125	169.00	171.10	2.10	11						
		-0126	171.10	176.00	4.90	3						
		-0127	193.10	195.50	2.40	1						
		-0128	195.50	200.20	4.70	2						

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-4 Page 3 of 3

	FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration structure mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	ANALYTICAL RESULTS Au	Au	GM					
			200.20-226.00: Quartz Diorite - w/spotty & localized			-0129	200.20	203.79	3.59	2							
			alteration as described 13.00-120.10			-0130	203.79	205.54	1.75	1							
			-but shows sections w/qtz veinlets			-0131	205.54	207.92	2.38	4							
			and qtz infillings that are associated			-0132	207.92	209.54	1.62	3							
			w/more intensely developed alteration			-0133	209.54	216.00	6.46	2							
			-qtz vn @ 204.80			-0134	216.00	219.33	2.33	1							
			-qtz vnlet @ 208.67 @ 20° TCA			-0135	219.33	221.83	2.50	1							
			@ 217.00 void filling? @ 14° TCA														
	226.00		E.O.H.														

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE RECORD

Project 5683-Chester Twp.

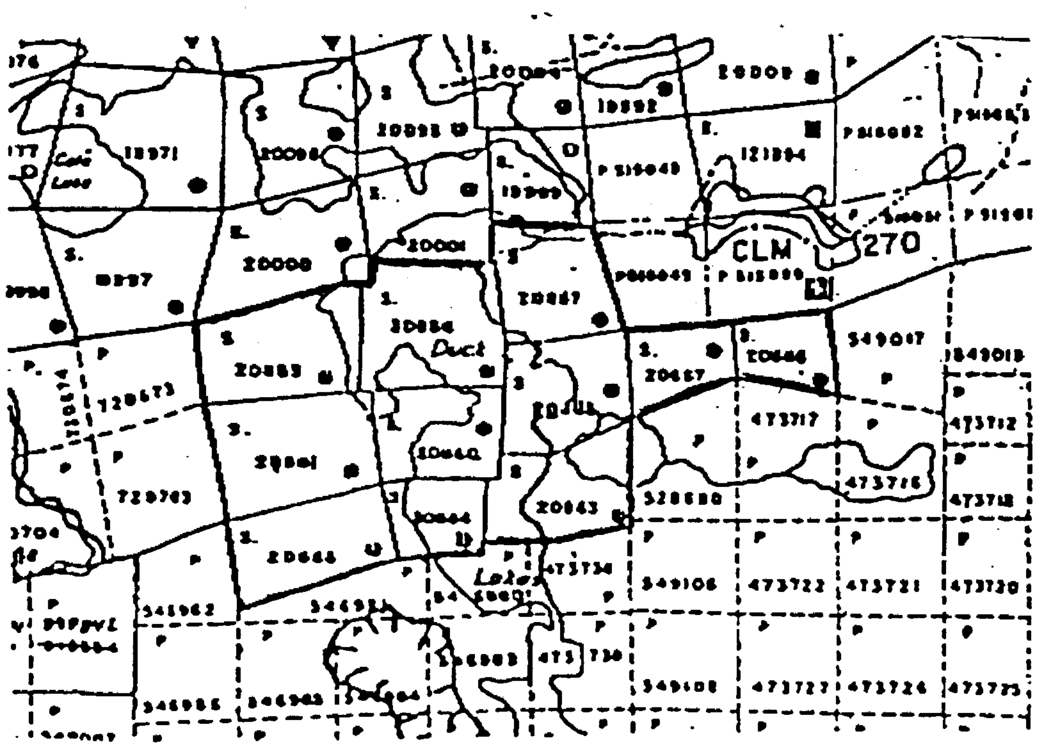
Company Canorth Resources Inc.

Hole No. 5683-88-5

LOCATION	DIP TEST FOOTAGE	ANGLE RECORDING	ANGLE CORRECTED				
AREA or TWP Chester Twp	0.00		-45°	LEVEL Surface	HORIZONTAL COMPONENT 216	DATE STARTED February 24,1988
CLAIM NO S 20000	306.00		-46°	ELEVATION	VERTICAL COMPONENT 217	DATE FINISHED February 24,1988
NTS 41 P/12 UTM				LATITUDE 5+45W	BEARING [illegible]	LOGGED BY [illegible]
				DEPARTURE 3+45N	LENGTH 306.00 feet	PURPOSE To test gold bearing structure
					CORE LOCATION D.R.Bell Warehouse Timmins	TOT. RECOVERY 99.9%

DIAMOND DRILL HOLE LOCATION SKETCHES

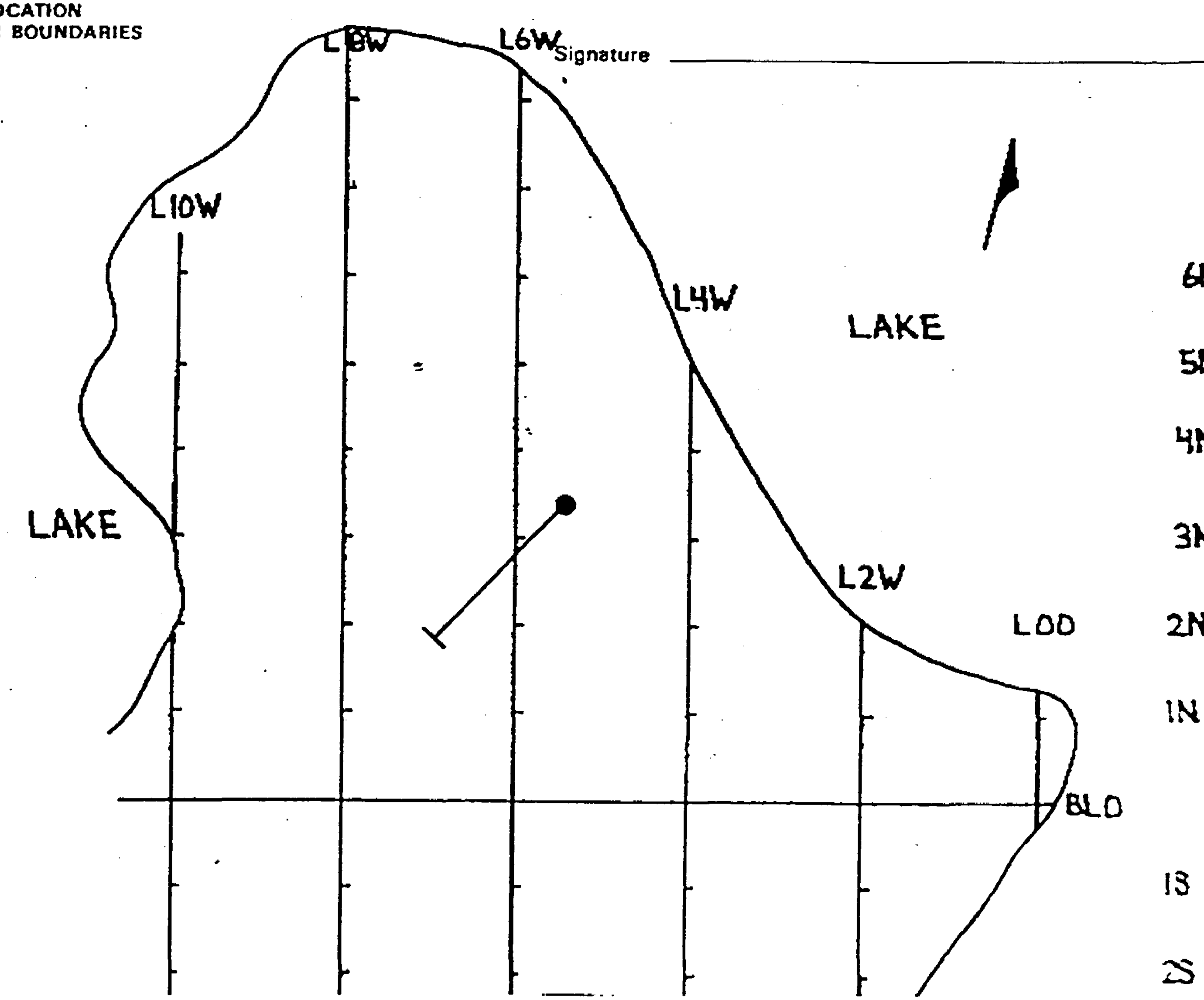
CLAIM MAP Scale: 1 inch to ½ mile



DIAMOND DRILL HOLE LOCATION WITH RESPECT TO CLAIM BOUNDARIES

Scale: 1"=200'

Signature



David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-5 Page 1 of 3

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE No. 5683	SAMPLE FROM ft	SAMPLE TO ft	LENGTH ft	Au ppb	Au oz/t
0.00	6.00	Overburden - casing capped and left in ground								
6.00		Quartz Diorite								
		-f-m.g equigranular igneous rock, gy-whgy- gngy locally w/or or pk hue								
		-as described 5683-88-1								
		-py tr-1%								
		-carbonate in hairline fractures								
		-blue								
		6.00-31.33: Qtz Diorite, similar to other holes but slightly more chlorite								
		6.00-7.00: gy,vf.g., carbonatized rock			-0136	6.00	7.00	1.00	5	
		weakly siliceous			-0137	7.00	10.75	3.75	2	
		7.00-10.75:Qtz Diorite, chloritic			-0138	10.75	14.75	3.50	6	
		but carbonatized,stops @ 10.75								
					-0139	28.33	31.33	3.00	3	
		31.33-37.16: Altered-Silicified Zone,			-0140	31.33	37.16	5.83	1	
		-carbonatized, tr-1% py								
		-w/chloritic section 34.40-35.15								
		-upper contact @ 50° TCA, cb'd								
		-lower contact @ 55° TCA								
		-as in hole 5683-88-4 125.85-126.60 & 197.00-197.50								
		37.16-40.81: mafic-intermediate unit w/biotized			-0141	37.16	40.81	3.65	2	
		amphiholes, very chloritic								
		upper contact @ 20° TCA								
		lower contact @ 40° TCA								
		40.81-91.00: Qtz Diorite - patchy silicification & hematization								
		-shows moderately to well developed								
		crystalline texture as described			-0142	40.81	46.00	5.19	4	
		elsewhere			-0143	46.00	52.25	6.25	3	

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-5 Page 2 of 3

	FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER 5683	SAMPLE FROM ft	SAMPLE TO ft	LENGTH	Au ppb	Au oz/t		CW				
	6.00		Quartz-Diorite - cont'd														
			-but displays patchy silicification (pur-			-0144	52.25	57.20	4.95	3							
			gy colour) and locally well developed														
			hematization as noted by pink or orange-pink colouration														
			-distinct orange-pink haloes to fractures noted														
			locally														
			-qtz vns & vnlets @ 42.50-44.25														
			-silicified @ upper and lower contacts														
			w/mafic units														
			-57.20-60.95: gy, carbonatized intrusive w/			-0145	57.20	61.00	3.80	2							
			small chloritic clots, py tr-1%			-0146	61.00	66.00	5.00	5							
			-upper contact @ 70° TCA														
			-lower contact lost in broken core														
			-looks similar to zone in hole 5683-88-6 @ 76.00 feet														
			in gross aspects, not carbonatized														
			-69.75-70.00: section removed for thin section			-0146a	69.75	70.00	.25						Thin Section		
			-orange-pink colouration decreases to 91.00														
			91.00-226.75: Alteration Zone														
			:Qtz Diorite -w/patchy to locally			-0147	140.75	144.00	3.0	3							
			well developed silicification, shows as			-0148	144.00	146.00	2.0	6							
			pur gy colour and core becomes amporphous			-0149	146.00	149.50	3.5	4							
			losses crystalline texture			-0150	149.50	156.00	6.5	32							
			-@ 147.75 is a 2" green chloritic altered section			-0151	156.00	161.00	5.0	26							
			-finger sized qtz vnlets no apparent			-0152	161.00	166.00	5.0	7							
			sulphides @ 179.25,185.20, 190.0			-0153	166.00	171.00	5.0	6							
			-below 126.00 becomes amprphous			-0154	171.00	176.00	5.0	9							
						-0155	176.00	181.00	5.0	41							
						-0156	181.00	186.00	5.0	16							
						-0157	186.00	191.00	5.0	12							
						-0158	191.00	195.20	4.8	5							
			-195.20-196.25: silicified section as			-0159	195.20	196.25	1.05	211							
			is the rest but w/ recrystallized			-0160	196.25	200.80	4.55	19							
			texture as is displayed below @			-0161	200.80	205.20	4.40	3							
			205.15-206.40 209.90-212.70														

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683 - Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-5 Page 3 of 3

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au	Au		GW	ANALYTICAL RESULTS
6.00		Quartz-Diorite - cont'd											
		91.00-226.75: Qtz-Dioritic cont'd											
		and in hole 5683-88-6 @ 76.00 feet											
		-196.25-205.15 silicified section only											
		-205.15-206.40: section w/recrystallized			-0162	205.20	206.40	1.20	75				whole rock
		texture, round qtz material surrounded by white											
		amorphous material											
		ZONE type material											
		-narrow qtz veinlet @ 205.20											
		206.00-206.25: sample removed for thin section			-0162a	206.00	206.25	.25					Thin Section
		-206.40-209.90: silicified section only			-0163	206.40	209.90	3.50	2				
		-209.90-212.70: recrystallized-silicified			-0164	209.90	212.70	2.80	615	.033			
		Qtz-Diorite, w/narrow qtz veinlets											
		w/cpy po ZONE											
		-212.70-226.75: silicified Qtz Diorite			-0165	212.70	217.70	5.00	2				
					-0166	217.70	222.70	5.00	2				
					-0167	222.70	226.75	4.05	21				
		226.75-295.85: Qtz Diorite - well developed											
		crystalline texture w/locally pur-gy colour											
		and orange-pink due to hematite			-0168	260.10	264.00	3.90	7				
		264.00-266.10: chloritic-mafic dyke w/chl			-0169	264.00	266.10	2.10	9				
		phenocrysts, 2% py			-0170	266.10	269.90	3.80	4				
		-also @ 266.75-267.37											
		279.60-288.45: mafic intrusive biotite,carbonatized			-0171	276.00	279.60	3.60	10				
		possibly alteration of plagioclase,w/2% py			-0172	279.60	284.00	4.40	8				
					-0173	284.00	288.45	4.45	2				
					-0174	288.45	291.00	2.55	6				
					-0175	291.00	295.85	4.85	5				
		295.85 - Alteration Zone			-0176	295.85	301.00	5.15	9				
		recrystallized siliceous w/chloritic			-0177	301.00	306.00	5.00	4				
		shear developed sections, tr-1% py											
		locally to 2%											
306.00		E.O.H.											

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-4 Page 2 of 3

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES
13.00	226.00	Quartz Diorite cont'd -77.17-85.25: cont'd 120.10-134.00: - Alteration Zone - silicification -section shows more intensely developed alteration as opposed to spotty style that is noted above -this alteration is centred around a gn-chloritic shear zone,w/carb in foliation planes @ 25° TCA -shear 125.85 to 126.60 -chlorite is seen as a late (retrograde) alteration product as it is developed in silicified (pur hue) altered Qtz Diorite 134.00-195.5: Quartz Diorite -as described above 13.00-120.10 -qtz veinlets (barren) @ 159.60,163.40,168.00 -166.00-169.00: chlorite filled fractures that run parallel TCA -169.00-171.10: dkgn,chloritic intrusive w/chlorite phenocrysts as in 5683-88-3 195.50-200.20: Alteration Zone -as described above 120.10-134.00 -but not as strongly developed -again centred about a chloritic 197.00-197.50 shear, as above 125.85-126.00		

SAMPLE NUMBER 5683	FROM Ft	TO Ft	LENGTH	Au ppb	Au oz/t	CW
-0113	115.50	120.10	4.60	2		
-0114	120.10	125.35	5.25	6		
-0115	125.35	127.10	1.75	1		
-0116	127.10	130.00	2.90	23		
-0117	130.00	134.00	4.00	8		
-0118	134.00	139.00	5.00	6		
-0119	139.00	144.00	5.00	4		
-0120	144.00	149.00	5.00	3		
-0121	149.00	154.00	5.00	6		
-0122	154.00	159.00	5.00	2		
-0123	159.00	164.00	5.00	1		
-0124	164.00	169.00	5.00	4		
-0125	169.00	171.10	2.10	11		
-0126	171.10	176.00	4.90	3		
-0127	193.10	195.50	2.40	1		
-0128	195.50	200.20	4.70	2		

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-4 Page 3 of 3

	FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au	Au		GW					
			200.20-226.00: Quartz Diorite - w/spotty & localized alteration as described 13.00-120.10 -but shows sections w/qtz veinlets and qtz infillings that are associated w/more intensely developed alteration -qtz vn @ 204.80 -qtz vnlet @ 208.67 @ 20° TCA @ 217.00 void filling? @ 14° TCA			-0129	200.20	203.79	3.59	2								
						-0130	203.79	205.54	1.75	1								
						-0131	205.54	207.92	2.38	4								
						-0132	207.92	209.54	1.62	3								
						-0133	209.54	216.00	6.46	2								
						-0134	216.00	219.33	2.33	1								
						-0135	219.33	221.83	2.50	1								
	226.00		E.O.H.															

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE RECORD

Project 5683-Chester Twp.

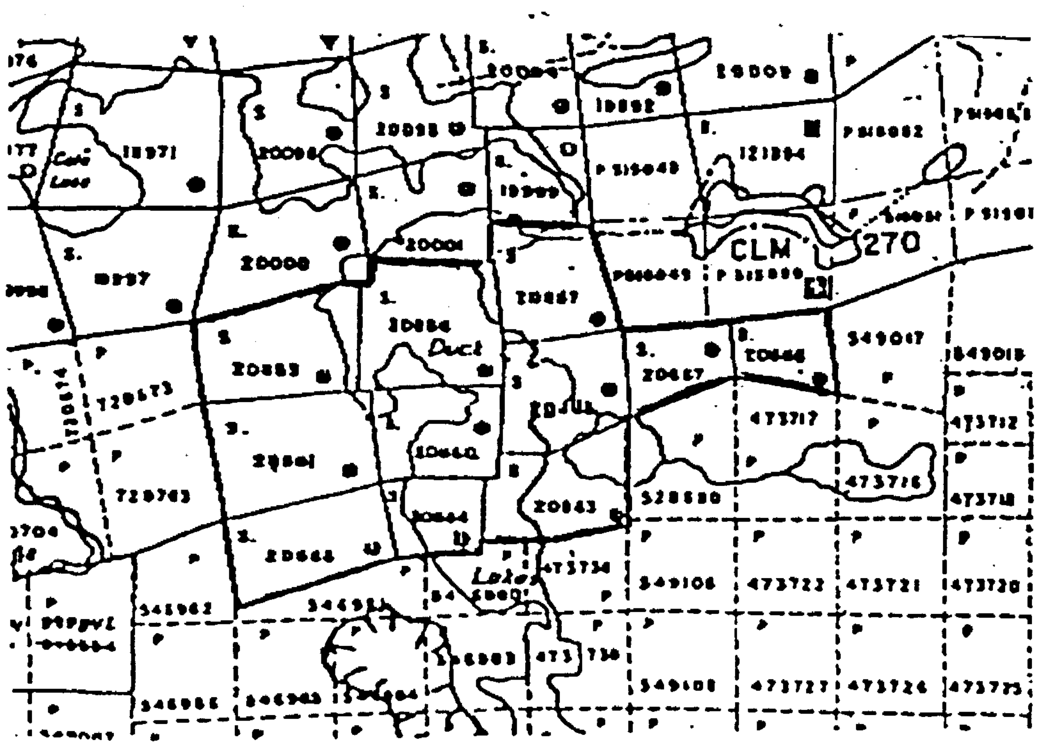
Company Canorth Resources Inc.

Hole No. 5683-88-5

LOCATION		DIP TEST			LEVEL	Surface	HORIZONTAL COMPONENT	216	DATE STARTED	February 24, 1988
		FOOTAGE	ANGLE							
			RECORDING	CORRECTED						
AREA or TWP	Chester Twp						VERTICAL COMPONENT	217	DATE FINISHED	February 24, 1988
		0.00		-45°	ELEVATION		BEARING	210°	LOGGED BY	[illegible]
CLAIM NO.	[illegible]	306.00		-46°	LATITUDE	5+45W	LENGTH	306.00 feet	PURPOSE	To test gold bearing structure
NTS	41 P/12 UTM				DEPARTURE	3+45N	CORE LOCATION	D.R.Bell Warehouse Timmins	TOT. RECOVERY	99.9%

DIAMOND DRILL HOLE LOCATION SKETCHES

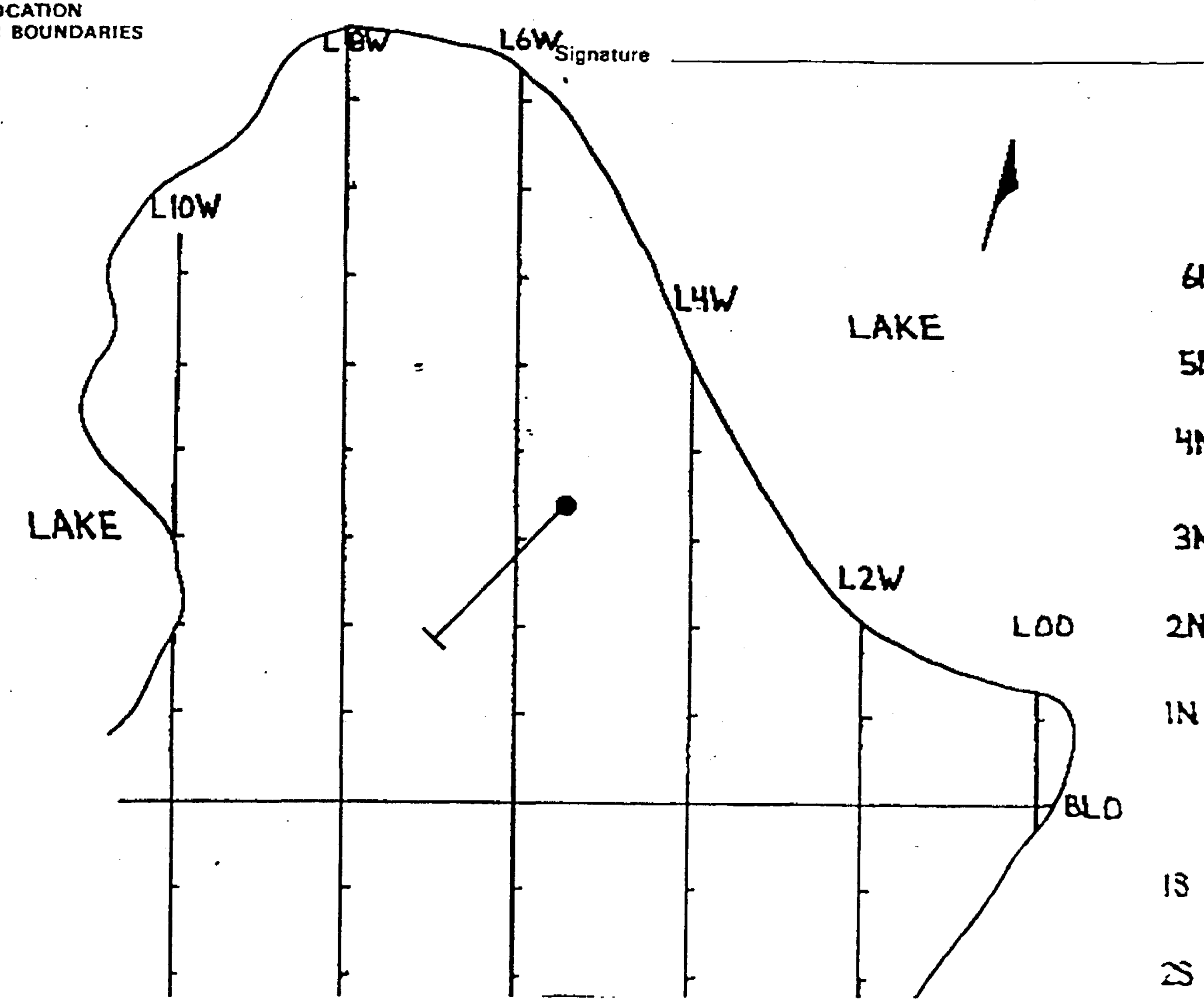
CLAIM MAP Scale: 1 inch to ½ mile



DIAMOND DRILL HOLE LOCATION WITH RESPECT TO CLAIM BOUNDARIES

Scale: 1"=200'

Signature



David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-5 Page 1 of 3

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER 5683	SAMPLE FROM ft	SAMPLE TO ft	LENGTH ft	Au ppb	Au oz/t
0.00	6.00	<u>Overburden</u> - casing capped and left in ground								
6.00		<u>Quartz Diorite</u>								
		-f-m.g equigranular igneous rock, gy-whgy- gngy								
		locally w/or or pk hue								
		-as described 5683-88-1								
		-py tr-1%								
		-carbonate in hairline fractures								
		-blue								
		6.00-31.33: Qtz Diorite, similar to other								
		holes but slightly more chlorite								
		6.00-7.00: gy,vf.g., carbonatized rock			-0136	6.00	7.00	1.00	5	
		weakly siliceous			-0137	7.00	10.75	3.75	2	
		7.00-10.75:Qtz Diorite, chloritic			-0138	10.75	14.75	3.50	6	
		but carbonatized,stops @ 10.75								
					-0139	28.33	31.33	3.00	3	
		31.33-37.16: Altered-Silicified Zone,			-0140	31.33	37.16	5.83	1	
		-carbonatized, tr-1% py								
		-w/chloritic section 34.40-35.15								
		-upper contact @ 50° TCA, cb'd								
		-lower contact @ 55° TCA								
		-as in hole 5683-88-4 125.85-126.60 &								
		197.00-197.50								
		37.16-40.81: mafic-intermediate unit w/biotized			-0141	37.16	40.81	3.65	2	
		amphiholes, very chloritic								
		upper contact @ 20° TCA								
		lower contact @ 40° TCA								
		40.81-91.00: Qtz Diorite - patchy silicification &								
		hematization								
		-shows moderately to well developed								
		crystalline texture as described			-0142	40.81	46.00	5.19	4	
		elsewhere			-0143	46.00	52.25	6.25	3	

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-5 Page 2 of 3

FOOTAGE FROM ft	FOOTAGE TO ft	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER 5683	SAMPLE FROM ft	SAMPLE TO ft	LENGTH	Au ppb	Au oz/t	GW	ANALYTICAL RESULTS
6.00		Quartz-Diorite - cont'd										
		-but displays patchy silicification (pur-			-0144	52.25	57.20	4.95	3			
		gy colour) and locally well developed										
		hematization as noted by pink or orange-pink colouration										
		-distinct orange-pink haloes to fractures noted										
		locally										
		-qtz vns & vnlets @ 42.50-44.25										
		-silicified @ upper and lower contacts										
		w/mafic units										
		-57.20-60.95: gy, carbonatized intrusive w/			-0145	57.20	61.00	3.80	2			
		small chloritic clots, py tr-1%			-0146	61.00	66.00	5.00	5			
		-upper contact @ 70° TCA										
		-lower contact lost in broken core										
		-looks similar to zone in hole 5683-88-6 @ 76.00 feet										
		in gross aspects, not carbonatized										
		-69.75-70.00: section removed for thin section			-0146a	69.75	70.00	.25				Thin Section
		-orange-pink colouration decreases to 91.00										
		91.00-226.75: Alteration Zone										
		:Qtz Diorite -w/patchy to locally			-0147	140.75	144.00	3.0	3			
		well developed silicification, shows as			-0148	144.00	146.00	2.0	6			
		pur gy colour and core becomes amporphous			-0149	146.00	149.50	3.5	4			
		losses crystalline texture			-0150	149.50	156.00	6.5	32			
		-@ 147.75 is a 2" green chloritic altered section			-0151	156.00	161.00	5.0	26			
		-finger sized qtz vnlets no apparent			-0152	161.00	166.00	5.0	7			
		sulphides @ 179.25,185.20, 190.0			-0153	166.00	171.00	5.0	6			
		-below 126.00 becomes amprphous			-0154	171.00	176.00	5.0	9			
					-0155	176.00	181.00	5.0	41			
					-0156	181.00	186.00	5.0	16			
					-0157	186.00	191.00	5.0	12			
					-0158	191.00	195.20	4.8	5			
		-195.20-196.25: silicified section as			-0159	195.20	196.25	1.05	211			
		is the rest but w/ recrystallized			-0160	196.25	200.80	4.55	19			
		texture as is displayed below @			-0161	200.80	205.20	4.40	3			
		205.15-206.40 209.90-212.70										

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683 - Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-5 Page 3 of 3

FOOTAGE FROM ft	FOOTAGE TO ft	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER 5683	SAMPLE FROM ft	SAMPLE TO ft	LENGTH	ANALYTICAL RESULTS Au	Au		GW				
6.00		Quartz-Diorite - cont'd														
		91.00-226.75: Qtz-Dioritic cont'd														
		and in hole 5683-88-6 @ 76.00 feet														
		-196.25-205.15 silicified section only														
		-205.15-206.40: section w/recrystallized			-0162	205.20	206.40	1.20	75					whole rock		
		texture, round qtz material surrounded by white														
		amorphous material														
		ZONE type material														
		-narrow qtz veinlet @ 205.20														
		206.00-206.25: sample removed for thin section			-0162a	206.00	206.25	.25						Thin Section		
		-206.40-209.90: silicified section only			-0163	206.40	209.90	3.50	2							
		-209.90-212.70: recrystallized-silicified			-0164	209.90	212.70	2.80	615	.033						
		Qtz-Diorite, w/narrow qtz veinlets														
		w/cpy po ZONE														
		-212.70-226.75: silicified Qtz Diorite			-0165	212.70	217.70	5.00	2							
					-0166	217.70	222.70	5.00	2							
					-0167	222.70	226.75	4.05	21							
		226.75-295.85: Qtz Diorite - well developed														
		crystalline texture w/locally pur-gy colour														
		and orange-pink due to hematite			-0168	260.10	264.00	3.90	7							
		264.00-266.10: chloritic-mafic dyke w/chl			-0169	264.00	266.10	2.10	9							
		phenocrysts, 2% py			-0170	266.10	269.90	3.80	4							
		-also @ 266.75-267.37														
		279.60-288.45: mafic intrusive biotite, carbonatized			-0171	276.00	279.60	3.60	10							
		possibly alteration of plagioclase, w/2% py			-0172	279.60	284.00	4.40	8							
					-0173	284.00	288.45	4.45	2							
					-0174	288.45	291.00	2.55	6							
					-0175	291.00	295.85	4.85	5							
		295.85 - Alteration Zone			-0176	295.85	301.00	5.15	9							
		recrystallized siliceous w/chloritic			-0177	301.00	306.00	5.00	4							
		shear developed sections, tr-1% py														
		locally to 2%														
306.00		E.O.H.														

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE RECORD

Project 5683 - Chester Twp.

Company Canorth Resources Inc.

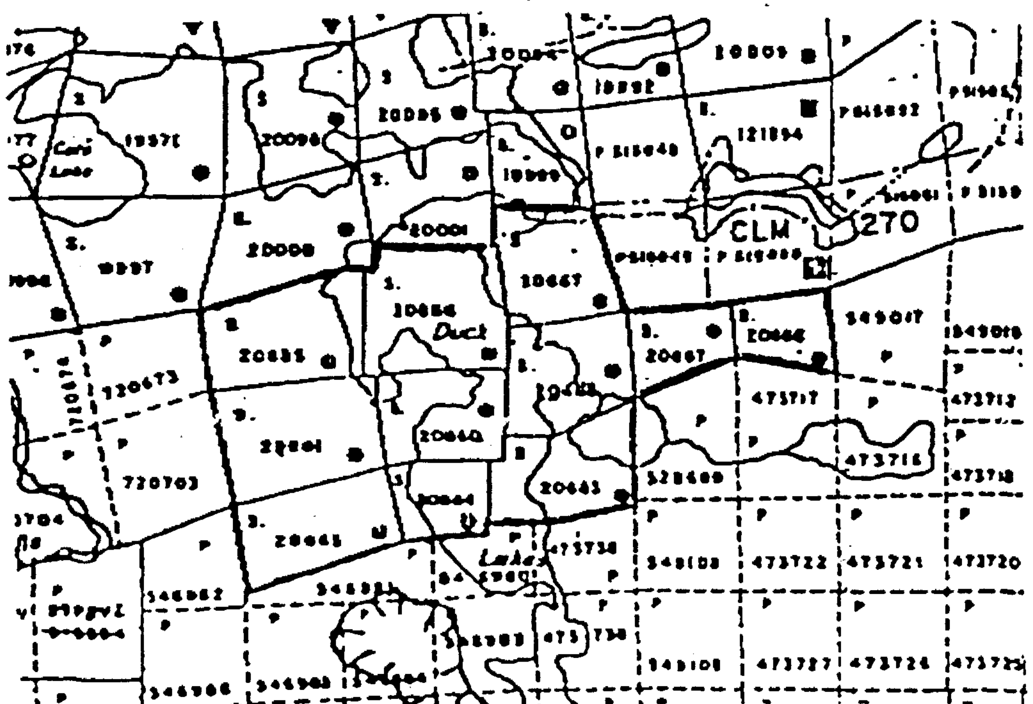
Hole No. 5683-88-6

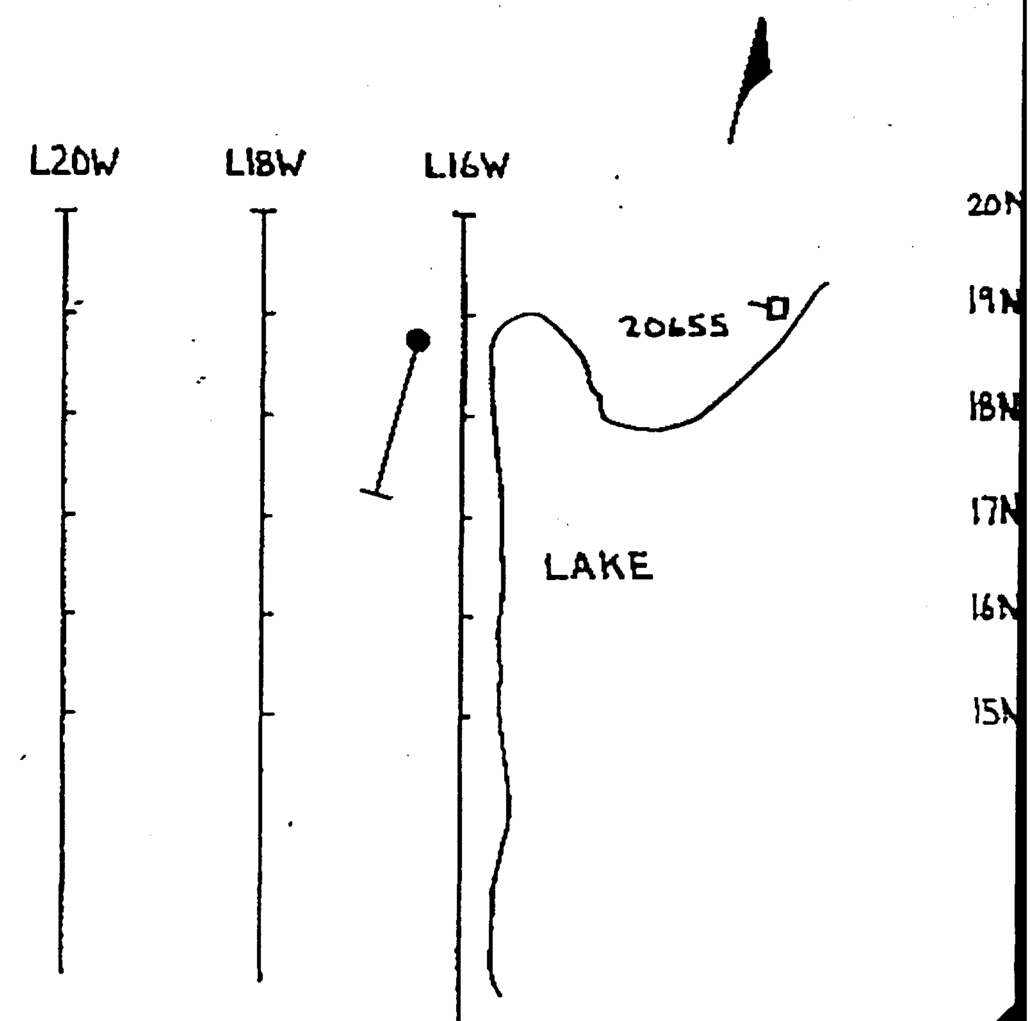
LOCATION		DIP TEST			LEVEL	HORIZONTAL COMPONENT	DATE STARTED
		FOOTAGE	ANGLE RECORDING	ANGLE CORRECTED	Surface	161	February 25,1988
AREA or TWP	Chester Twp	0.00		-45°		VERTICAL COMPONENT 161	DATE FINISHED February 25,1988
CLAIM NO	S 20655	116.00		-45°			
		226.00		-45°	LATITUDE 16+45W	LENGTH 226.00	PURPOSE To test gold bearing structure
NTS	41 P/12 UTM				DEPARTURE 18+80N	CORE LOCATION D.R.Bell Warehouse Timmins	TOT. RECOVERY 99.9%

DIAMOND DRILL HOLE LOCATION SKETCHES
CLAIM MAP Scale: 1 inch to ½ mile

DIAMOND DRILL HOLE LOCATION WITH RESPECT TO CLAIM BOUNDARIES
Scale: 1"=200'

Signature





David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-6 Page 1 of 6

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	ANALYTICAL RESULTS Au ppb	CW					
0	17	Overburden: - casing left in hole			178	17	19.1	2.1	3						
17	150.3	Quartz-Diorite qz & feld w patches of biotite and or hornblende f.-med grained -some late chlorite filled fractures -blue qz & blue qz eyes present -where core contains blue qz it is none crystalline and just appears siliceous -where blue qz is not present blue qz eyes are noted, as well as anhedral-subhedral feldspar phenocrysts -tr- 1% py as fine diss -cpy noted as well in clots locally -recrystallization has occurred not a good crystalline texture - ≏ 33 feet core appears to become finer grained and more siliceous, less biotite -possible chill margin			179a 179 180 181	21.3 19.1 24.3 29.3	21.6 24.3 29.3 33.9	0.3 5.2 5.0 4.6	3 8 72 11		Thin Section				
		33.9-38.9: - biotite rich possiblely an intrusive? -contains phenocrysts of feldspar which are now carbonatized -upper contact -lower contact -tr-1% py in biotite fine diss -possible weakly dev. fol 75° TCA	 79° 72°		182	33.9	38.9	5.0	6						
		38.9-43.4: - finer grained same as 33-33.9 (possible chill margin) -local clots of pyrrhotite present			183	38.9	43.4	4.5	51						
		43.4: back into qz-diorite as described 0-33.0 but finer & more siliceous now although appears similar without splitting it open.			184	43.4	48.2	4.8	6						

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-6

	FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au	Au	GW	
	17	150.3	Quartz-Diorite: - cont'd										
			50-52.7: finer grained less clots			185	48.2	53.3	5.1	15.			
			of biotite or hornblende			185a	51.4	51.6	.2				Thin Section
			-local pervasive carbonatization										
			-recrystallized?										
			-qz-diorite contains carb in fractures to local										
			pervasive carbonatization										
			-after 53.3 get yellow beige										
			alteration present in tiny fractures (sericite)										
			-chlorite filled fractures										
			45-65° TCA perpendicular set at 145° down hole										
			-larger chloritic clots now										
			55.2 - 35° TCA chloritic fract.			186	53.3	56	2.7	53			
			tiny qz-carb vein within			187	56	57.7	1.7	40			
			-po & cpy (massive) present			188	57.7	62.7	5.0	12			
			here			189	62.7	67.6	4.9	10			
			-core is more amorphous and			190	67.6	72.6	5.0	8			
			siliceous also after 53.3										
			73-73.6: - same as described 33.9-38.9										
			-foliation 75° TCA	75°		191	72.6	74.6	2.0	20			
			74.6: - Intensely Altered Zone										
	[illegible]		-74.6-77.7: - intensely silicified			192	74.6	77.7	3.1	6700	.268		
			amorphous										
			-series of parallel to sub parallel finger to approximately 4 inch siliceous sections or qz-veins with										
			massive po & cpy										
			-70-80° TCA										
			-recrystallized										
			-minor py										
			-carb assoc with the veinlets and fractures										

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp.

Company Canorth Resources Inc

HOLE No. 5683-88-6 Page 3 of 6

	FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au	Au	GW						
	17	150.3	Quartz-Diorite - cont'd															
			77.7-79.2: - less altered section -still fine grained & siliceous -blue qz-eyes present -tr py -still clots of biotite and/or hornblende present			193	77.7	79.2	1.5	52								
			79.2-82.1: - silicified extremely fine grained amorphous -recrystallized -chlorite and qz-carb fract almost parallel to core axis -tr py, blue qz-eyes present			194	79.2	82.1	2.9	89								
			82.1-85.6: - same as described 77.7-79.2			195	82.1	85.6	3.5	3								
			85.6 : - qz-diorite again			196	85.6	90.7	5.1	11								
			-coarser grained			197	90.7	95.6	4.9	3								
			-still not a highly developed			198	95.6	100.4	4.8	1								
			crystalline texture			199	100.4	105.2	4.8	1								
			-several parallel to sub-parallel grey silicified sections throughout -range from finger size to 5 inches in width -still original rock texture can be seen 93.7 gelena present -occurs as haloes around fractures in places in other location there is no evidence of fracturing - <1% fine diss py assoc with some sections -after 110.3 silicified sections get wider up to 2 feet. -assoc with fracturing			200	105.2	110.3	5.1	2								
			-minor cpy assoc locally -110.3-115.5: - little to no silic sections			201	110.3	115.5	5.2	4								
			-115.5-119.4: - finger wide silic sections, as well as one 8 inch section assoc			202	115.5	119.4	3.9	1								

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-6 Page 4 of 6

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au ppb	Au	Gw
17	150.3	Quartz-Diorite - cont'd 115.5-119.4: cont'd with fractures -tr py finely diss									
		119.4-122.1: - grey silicified section fracturing -possiblely minor seric - <1% fine diss py			203	119.4	122.1	2.7	23		
		122.1-125.8: qz-diorite minor silic (pervasive) -fracturing present some cpy assoc locally -minor hematite assoc with fracturing locally as well. -little to no silic assoc with fract.			204	122.1	125.8	3.7	2		
		125.8-128.4: - finger sized sections of silicification assoc with fracturing -tr py -minor 4 inch, possiblely diabase dike, section present here -fine grained mafic -126.0 core takes on a slight pinkish hew possiblely due to hematite, may be some - k-spar			205	125.8	128.4	2.6	6		
		128.4-132.8: - qz-diorite minor hem, grey silicification tr py			206	128.4	132.8	4.4	8		
		-132.8-137.7: - qz-diorite,hematite staining along fract -tr py			207	132.8	137.7	4.9	10		
		-137.7-138.8: - diabase, extremely fine grained			208	137.7	138.8	1.1	3		

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DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-6 Page 5 of 6

	FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	ANALYTICAL RESULTS Au ppb	Au oz	GW					
	17	150.3	Quartz-Diorite - cont'd														
			137.7-138.8: cont'd														
			-mafic,hard -minor silic on contacts	≈30°													
			138.8-143.7: qz-diorite, local minor grey silic sections assoc with fract. -minor hem -tr py	≈30°		209	138.8	143.7	4.9	6							
			143.7-148.4: - same as 138.8-143.7			210	143.7	148.4	4.7	9							
			148.4-150.3: - same as 138.8-143.7			211	148.4	150.3	1.9	1							
	150.3	167.6	Diabase: - extremely fine grained -magnetic -mafic hard			212	150.3	152.6	2.3	11							
			163.9-167.6: diabase -165.6-167.6 carbonatized -tr py in fine diss -upper cont. -lower contact irreg.			213	163.9	167.6	3.7	3							
	167.6	188.2	Quartz-Diorite: - as described earlier -siliceous, not a good crystalline texture -minor hematite locally as with fract. -some sections slightly greyer & more amorphous looking due to silicification														
			167.6-171.3: - as described above			214	167.6	171.3	3.7	6							

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DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-6 Page 6 of 6

	FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au ppb	Au oz	GW						
	167.6	188.2	Quartz-Diorite - cont'd															
			171.3-176: - grey silic -chlorite filled fract. -py in fract. -minor hem present			215	171.3	176	4.7	42								
			176-186: qz-diorite, minor			216	176	181	5.0	162								
			silic & hem, tr py			217	181	186	5.0	405								
			186-188.2: - qz-diorite as described above -8 inch section of diabase intruded -stringers of py on contacts			218	186	188.2	2.2	19								
	188.2	226	Diabase: - as described 150.3-167.6 contact			219	188.2	191.2	3.0	7								
			E.O.H. 226															

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DIAMOND DRILL HOLE RECORD

Project 5683-Chester Twp.

Company Canorth Resources Inc.

Hole No. 5683-88-7

LOCATION	DIP TEST			LEVEL Surface	HORIZONTAL COMPONENT 115	DATE STARTED February 26,1988
	FOOTAGE	ANGLE RECORDING	ANGLE CORRECTED		VERTICAL COMPONENT 250	DATE FINISHED February 26,1988
AREA or TWP Chester Twp						
CLAIM NO. S 20655	136.00 276.00		-65° -67°	ELEVATION	BEARING 180°	LOGGED BY M.Simunovic
				LATITUDE 16+45W	LENGTH 276.00	PURPOSE To test gold bearing structure
NTS 42P/12 UTM				DEPARTURE 18+80N	CORE LOCATION D.R.Bell Warehouse Timmins	TOT. RECOVERY 99.9%

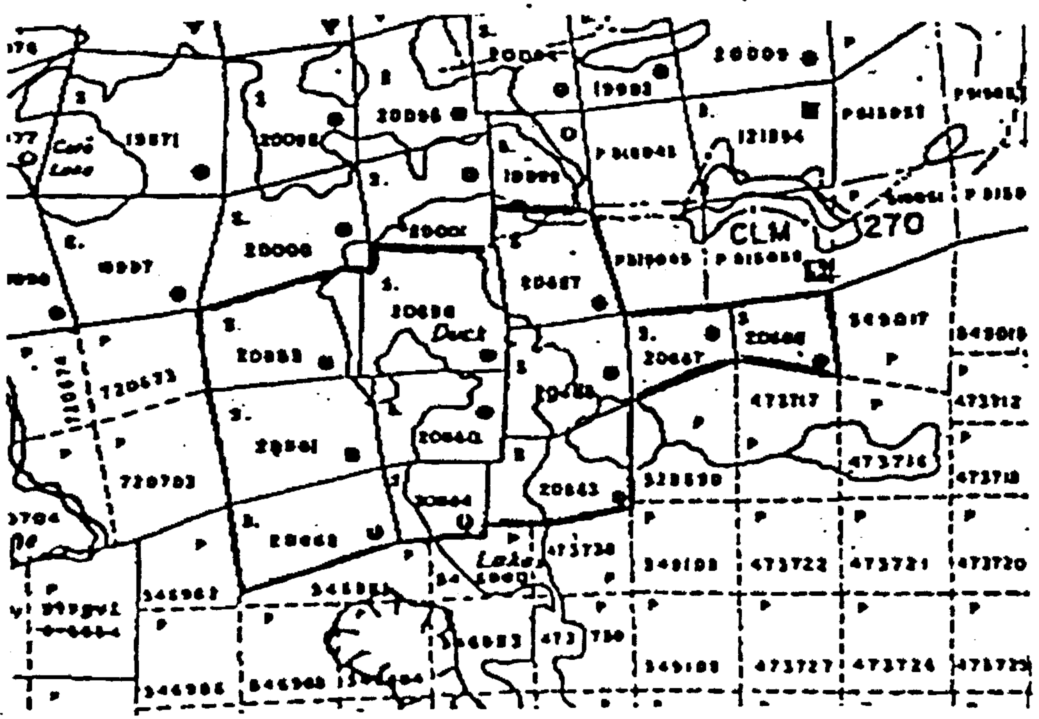
DIAMOND DRILL HOLE LOCATION SKETCHES

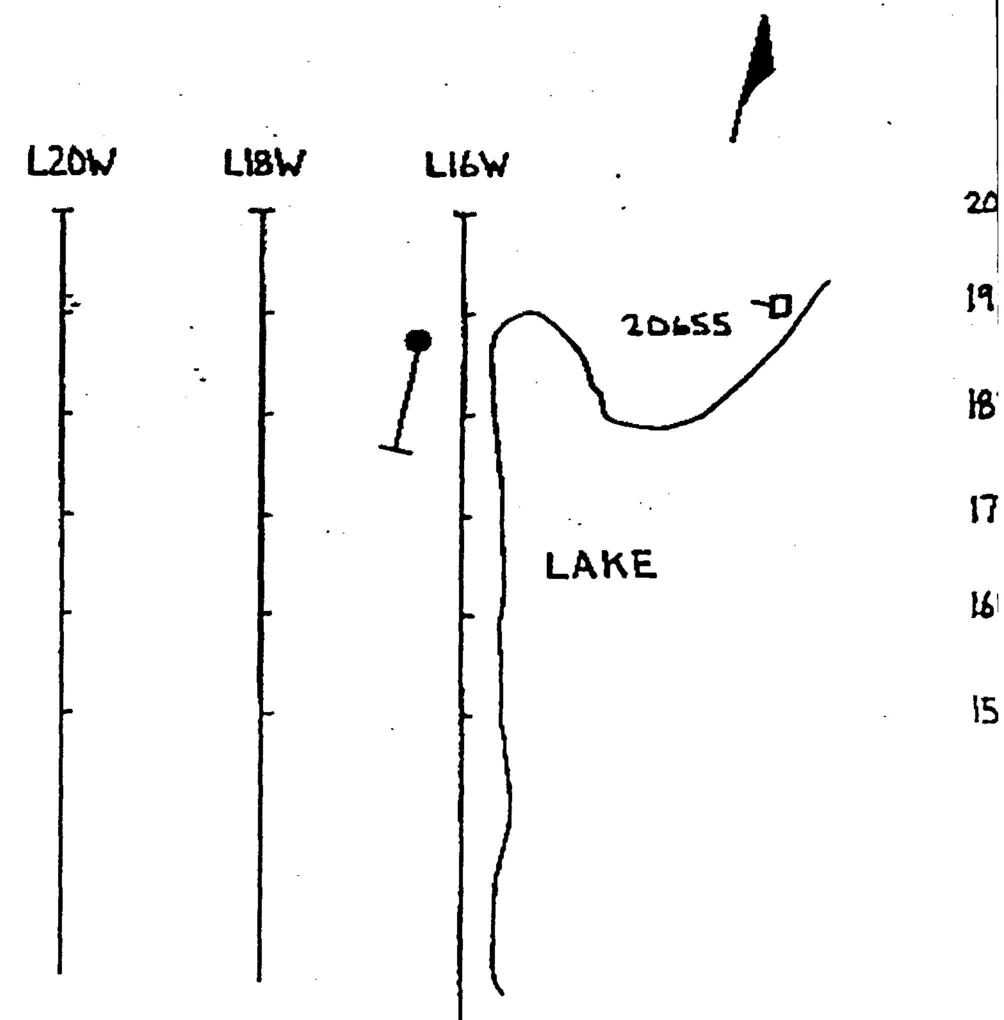
CLAIM MAP Scale: 1 inch to ½ mile

DIAMOND DRILL HOLE LOCATION WITH RESPECT TO CLAIM BOUNDARIES

Scale: 1"=200'

Signature





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DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp

HOLE No. 5683-88-7 Page 1 of 5

Company Canorth Resources Inc.

	FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au	Au	GW					
	0	13.3	Overburden: - casing left in hole														
	13.3	153.5	Quartz-Diorite: - qz and feldspar present with														
			biotite and/ or hornblende														
			-siliceous, not a very crystalline textures														
			-tr - <1% py														
			-some py and cpy present			220	26	29.4	3.4	12							
			in fractures 27.5														
			-blue qz-eyes present														
			29.4-30.5: biotite schist			221	29.4	34.5	5.1	6							
			-carbonatized														
			-may be some hornblende present														
			-same as above 31.3 -34.5														
			-contacts are approx 90° TCA	90°													
			-after 34.5 core becomes more grey and			222	~34.5	38.4	3.9	4							
			amorphous looking														
			-tr py														
			38.4-40.3: - fine grained			223	38.4	40.3	1.9	9							
			more amorphous sect														
			-blue qz-eyes siliceous?														
			-possible minor sericite														
			-tr py			224	40.3	44.9	4.6	5							
			-back in qz-diorite as described			225	44.9	46.9	2.0	24							
			34.5 and on														
			46.9-49.5: same as described 38.4-40.3			226	46.9	49.5	2.9	20							
			-fol 52° TCA	52°													
			-same as described 34.5 on			227	49.5	54.5	5.0	8							
						228	54.5	56.0	1.5	20							
						229a	57.2	57.5	.3			Thin section					
			56-63: - core becomes finer			229	56	58.6	2.6	42							
			grained			230	58.6	63.0	4.4	43							

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DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-7 Page 2 of 85

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au ppb	Au oz	GW
13.3	153.5	Quartz-Diorite: - cont'd									
		56-63: - cont'd									
		-blue qz-eyes in a matrix of feldspar -silicification -56.7 3 in qz-vein 35° TCA massive py within -<1% fine diss py -some later hairline chlorite filled fractures	35°								
		-63 now core becomes similar to that described 34.5 with local sections similar to that 56-63 feet			231 232 233 234	63 68 73.1 77.9	68 73.1 77.9 83.5	5.0 5.1 4.8 5.6	9 2 4 32		
		-67.8 one inch qz-vein with massive po	60°								
		83.5-84.6: - same as described 29.4-30.5 -foliation	38°		235	83.5	84.6	1.1	11		
		84.6-91.0: Intensely Altered Zone: - extremely fine grained amorphous with small amount of tr py cpy & po -parallel to sub-parallel finger sized qz-veins with massive cpy, po & py			236	84.6	89.4	4.8	44		
		89.4-91.0: - host same as above -8 in qz vein clots py cpy po	90°		237	89.4	91.0	1.6	2000	.098	-metallic gold detected
		91-92.1: - same as described 29.4-30.5 -foliation weak 65°	65°		238	91	92.1	1.1	7		
		92.1-97.6: - same as that described 34.5			239	92.1	97.6	5.5	15		
		97.6 core becomes whiter in colour and more crystalline			240 241	97.6 102.6	102.6 106	5.0 3.4	1 7		

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp

Company Canorth Resources Inc.

HOLE No. 5683-88-7 Page 3 of 85

	FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au	Au	GW					
	13.3	153.5	Quartz-Diorite: - cont'd														
			92.1-97.6: - cont'd														
			-grey amorphous nature disappears, coarser grained			242	106	111	5.0	6							
			-some minor grey silicification			243	111	116	5.0	4							
			around hairline fractures in core			244	116	120.7	4.7	2							
			-minor hematite assoc as well			245	120.7	126	5.3	2							
			-tr py														
			-106-106.5 fine grained diabase														
			-mafic														
			-43° TCA	43													
			-same 120.7-121.2,steeper angle to core axis														
			-after 126 less fracturing as a result less silicification then.														
			-medium grained, more crystalline now														
			-tr py														
			149.2-153.5: - fracturing with haloes of silic increases			246	149.2	153.5	4.3	112							
			-pinkish hew to core due to hem														
			-tr - ∠1% py														
	153.5	189.5	Diabase: - fine grained			247	153.5	158	4.5	3							
			-mafic			248	186	189.5	3.5	12							
			-massive														
			-magnetic														
			-large phenocrysts of plag anhedral-subhedral														
			-non-carbonatized														
			-ophitic texture tiny laths of plag in pyroxene														
			-slightly coarser grained from approx 161-181														
			-upper contact core broken														
			-lower contact	20													

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DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp

Company Canorth Resources Inc

HOLE No. 5683-88-7 Page 4 of 85

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au ppb	Au oz	CU
189.5	275	Quartz-Diorite: - as described			249	189.5	194.5	5.0	4		
		earlier			250	194.5	198.0	3.5	2		
		-coarser grained lighter in colour with local grey									
		amorphous sections of silicification occurring									
		as haloes around fractures									
		-slight yellow hew to core									
		initially, may be some development of sericite									
		-tr py									
		198-200.6: - biotite schist			276	198	200.6	2.6	2		
		-carb along foliation									
		-foliation 50° TCA	50°								
		-tr - <1% py									
		-minor sections, inclusions of diabase									
		-back into qz-diorite			277	200.6	203.8	3.2	3		
		-minor sections of diabase incl.			278	203.8	208.3	4.5	12		
		- = 206 8 in section of diabase									
					279	208.3	213.3	5.0	2		
					280	213.3	218	4.7	4		
		-218 yellow hue disappear			281	218	223	5.0	1		
		but still noted locally assoc			282	223	227.7	4.7	2		
		with fractures			283	227.7	232.6	4.9	2		
		-also grey silic assoc			284	232.6	236	3.4	3		
		-py and cpy assoc with fract. locally									
		236-238.8: yellow hew to core,sericite?			285	236	238.8	2.8	1		
		-tr py									
		238.8-241.5: - biotite schist			286	238.8	241.5	2.7	4		
		carbonatized									
		-weak fol 70° TCA	70								
		-tr - <1% py									
		-qz-dio with local grey silic			287	241.5	246	4.5	7		
		assoc with fract.			288	246	251.1	5.1	66		
		-251.1-257.5: - py & cpy assoc			289	251.1	257.5	6.4	37		
		with fract & grey silic									

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester

Company Canorth Resources Inc.

HOLE No. 5683-88-7 Page 5 of 5

	FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au ppb	Au oz	GW						
	189.5	275	Quartz-Diorite: - cont'd															
			257.5-258.5: - .5 in qz vein large clot of cpy			290	257.5	258.5	1.0	166								
			-qz-diorite as described above			291	258.5	263.4	4.9	5								
			-264.7 minor shearing here & silic															
			-qz-veining minor clots of py = 3 in shr			292	263.4	268	4.6	20								
			-remainder same as above to 270.8			293	268	270.8	2.8	9								
			-271 4 in. section of silic with clots of py			294	270.8	271.6	0.8	21								
			-minor finger qz-vein here															
			-qz-vein contains clots of py & cpy															
			-back into qz-dio with minor qz-carb & qz veining			295	271.6	275	3.4	2								
			-all appear to be barren															
			-tr - <1% py in qz-dio															
			E.O.H. 275															

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE RECORD

Project 5683-Chester Twp.

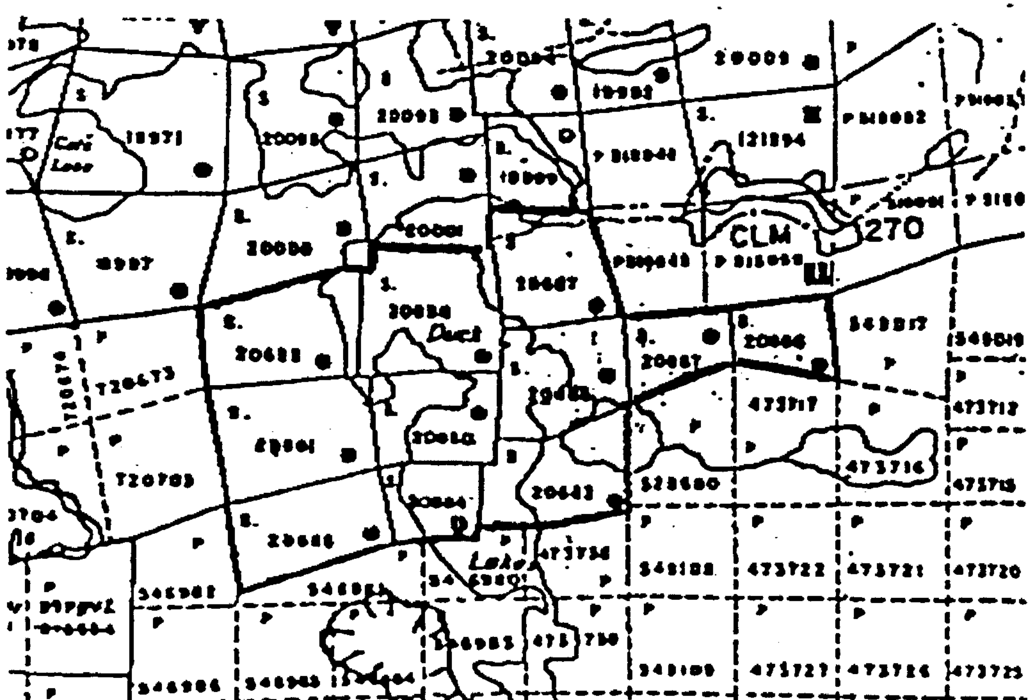
Company Canorth Resources Inc.

Hole No. 5683-88-8

LOCATION		DIP TEST			LEVEL Surface	HORIZONTAL COMPONENT 123	DATE STARTED February 27,1988
AREA or TWP. Chester Twp.		FOOTAGE	ANGLE RECORDING	ANGLE CORRECTED		VERTICAL COMPONENT 124	DATE FINISHED February 27,1988
CLAIM NO. S 20657		86.00		-45°	ELEVATION	BEARING 180°	LOGGED BY S.Conquer
		176.00		-45°	LATITUDE 16+65E	LENGTH 176.00	PURPOSE To test gold bearing structure
NTS 42P/12	UTM				DEPARTURE 8+35N	CORE LOCATION D.R.Bell Warehouse Timmins	TOT. RECOVERY 99.9%

DIAMOND DRILL HOLE LOCATION SKETCHES

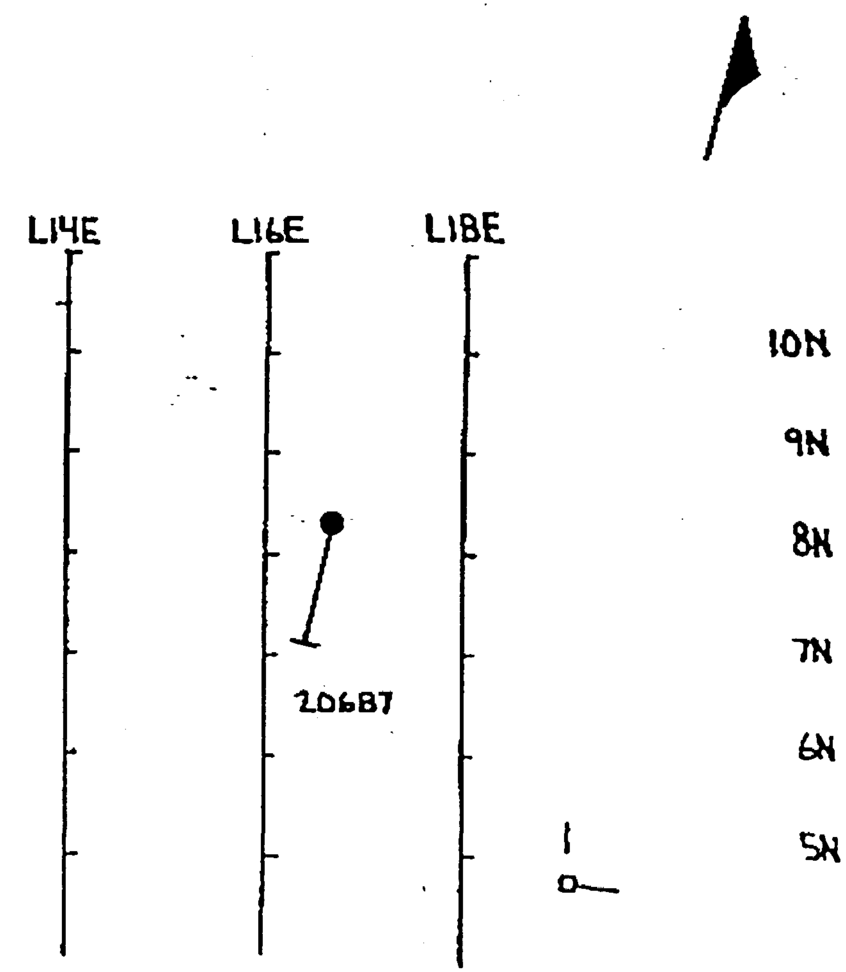
CLAIM MAP Scale: 1 inch to ½ mile



DIAMOND DRILL HOLE LOCATION WITH RESPECT TO CLAIM BOUNDARIES

Scale: 1"=200'

Signature



David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683-Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-8 Page 1 of 2

FOOTAGE FROM (ft)	FOOTAGE TO (ft)	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER (5683)	SAMPLE FROM (ft)	SAMPLE TO (ft)	LENGTH	Au ppb	Au oz/t		GW				
0.00	22.00	Overburden: casing left in ground and capped														
22.00	123.00	Gabbro														
		-f-m.g.,dark green to black, composition variably made up from plagioclase, quartz and mafic minerals probably pyroxene, or altered to chlorite														
		-minor py and silvery metallic mineral (non-magnetic)														
		-chalcopyrite and pyrrhotite noted locally in narrow "finger sized" quartz veins or veinlets														
		-minor f-v.f.g. mafic dyke noted locally, similar or identical compostion as to host														
		-irridescent blue "quartz" like material noted similar to "eyes" as noted in earlier holes														
		-the narrow "finger-sized" quartz veinlets w/chalcopyrite represent the expression of the gold bearing structures that cross the property														
		22.00-35.95:gabbro as described above			-0251	22.00	27.25	5.25	6							
		27.25-28.25: ½" qtz vnlet @ 27.85 filling fracture,			-0252	27.25	28.25	1.00	1							
		cpy w/vnlet, @ 55° TCA			-0253	28.25	33.50	5.25	5							
					-0254	33.50	39.55	6.05	3							
		39.55-45.65: quartz vein-mostly bull-barren qtz vn w/chloritic material in fractures			-0255	39.55	45.65	6.10	2							
		-only tr-1% py, but w/py, cpy @ upper contact which is @ 75° TCA														
		lower contact @ 170° TCA														
		39.55: gabbro as described above			-0256	45.65	49.50	3.85	4							
		w/narrow qtz vnlets up to 0.75" and			-0257	49.50	50.75	1.25	6				Whole Rock			
		1/2-3/4" chloritic-siliceous shear??			-0258	50.75	53.50	2.75	6				Whole Rock			
		-these sections have sulphides i.e cpy,py,po			-0259	53.50	55.60	2.10	8							
		i.e 54.25,55.17			-0260	55.60	59.00	3.40	20							
		-49.50-50.75: hematized section, pk colour														
		-sample removed for this section			-0258a	53.25	53.50	0.25					thin section			
		-59.00-63.00: section w/4 qtz veinlets no			-0261	59.00	63.00	4.00	23							
		obvious sulphides			-0262	63.00	69.60	6.60	4							

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

Company Canorth Resources Inc.

PROJECT 5683-Chester Twp.

HOLE No. 5683-88-8

FOOTAGE From ft	FOOTAGE To ft	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)		SULPHIDES	SAMPLE NUMBER 5683	SAMPLE FROM ft	SAMPLE TO ft	LENGTH	Au ppb	Au oz/t		GW	
22.00	123.00	Gabbro - cont'd											
		69.60-82.50: Qtz Diorite - probably incorporated black			-0263	69.60	74.25	4.65	5				
		74.25-75.25: silicified section? w/1-2% cpy w/carb filled fractures			-0264	74.25	75.25	1.00	9				
					-0265	75.25	79.00	3.75	8				
					-0266	79.00	82.50	3.50	5				
		82.50-91.00: Gabbro - as described above			-0267	82.50	86.00	3.50	2				
					-0268	86.00	91.00	5.00	6				
		91.00-101.50: Silicified Gabbro			-0269	91.00	93.40	2.40	7				Whole Rock
		weakly to moderately developed, brecciated??			-0269a	93.15	93.40	0.25					thin section
		-late fractures filled w/carbonate											
		-tr-1% cpy py, po? locally higher											
		-upper contact @ 60° TCA											
		-lower contact @ 60° TCA											
		-locally "finger-sized" qtz vnlets @ 60°TCA											
		-93.40-95.50: silicified but w/2-3% cpy		2-3	-0270	93.40	95.50	2.10	990	.034			
		locally to 5%			-0271	95.50	101.00	5.50	3				
		101.50-123.00: gabbro as above w/distinct feldspars			-0272	101.00	106.00	5.00	4				
		w/finger sized qtz vnlets locally			-0273	106.00	111.00	5.00	11				
					-0274	111.00	116.00	5.00	2				
					-0275	116.00	122.00	6.00	4				
123.00	176.00	Basalt											
		f-v.f.g. massive, gygn → gn basalt, contact @ 30°TCA											
176.00		E.O.H.											

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE RECORD

Project 5683-Chester Twp.

Company Canorth Resources Inc.

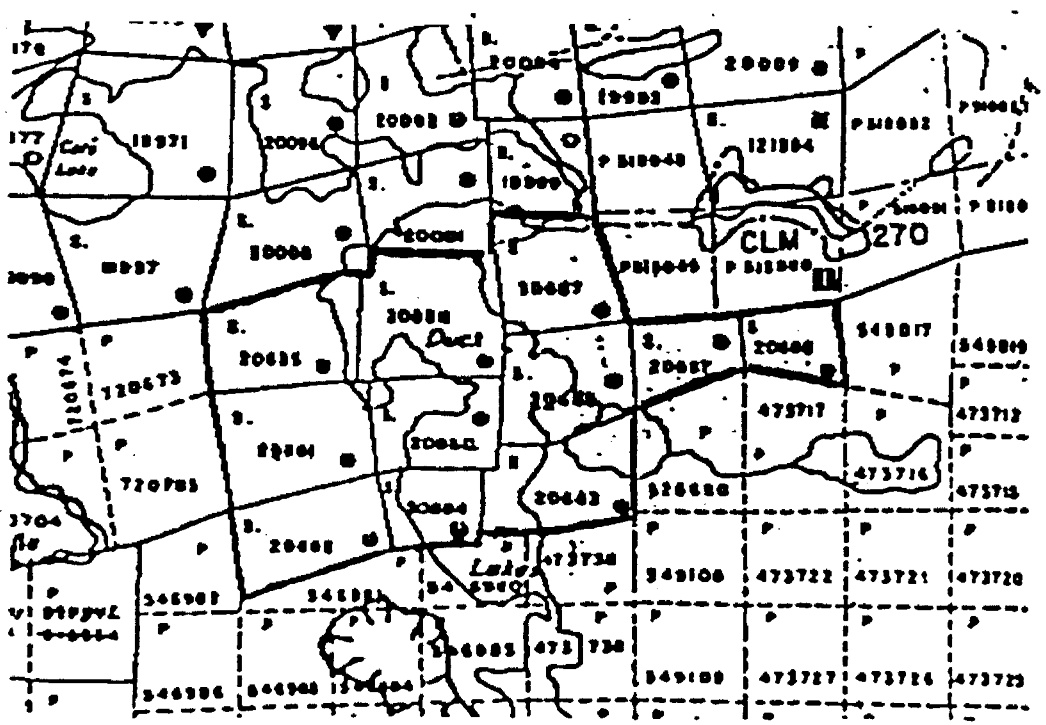
Hole No. 5683-88-9

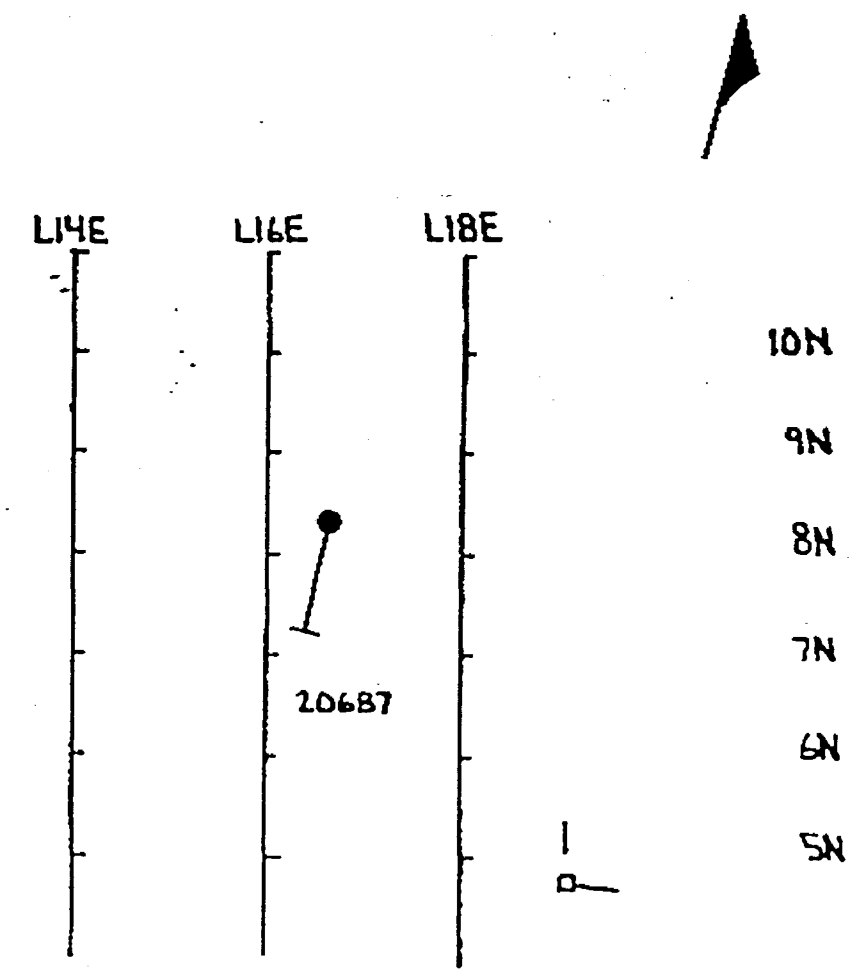
LOCATION		DIP TEST			LEVEL Surface	HORIZONTAL COMPONENT 114	DATE STARTED February 28,1988
TWP Chester Twp		FOOTAGE	RECORDING	CORRECTED		COMPONENT 250	FINISHED February 28,1988
CLAIM NO. S 20657		0.00		-65°	ELEVATION	BEARING 180°	LOGGED BY M.Simunovic
		136.00		-66°			
		276.00		-64°	LATITUDE 16+65E	LENGTH 276.00 feet	PURPOSE To test gold bearing structure
NTS 42 P/12	UTM				DEPARTURE 8+35N	CORE LOCATION D.R.Bell Warehouse Timmins	TOT. RECOVERY 99.9%

DIAMOND DRILL HOLE LOCATION SKETCHES
CLAIM MAP Scale: 1 inch to ½ mile

DIAMOND DRILL HOLE LOCATION WITH RESPECT TO CLAIM BOUNDARIES
Scale 1"-200'

Signature





David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp

Company Canorth Resources Inc.

HOLE No. 5683-88-9 Page 1 of 6

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au	Au	GW
0	19	Overburden: - casing left in hole									
19	87.8	Gabbro: - medium grained -massive -equigranular plag & pyroxene -non-magnetic -some finer grained sections which may be later (texture similar) phases of the same intrusive -also some smaller, what appears to be intrusions, of diabase									
		34.5-36 - finer grained-section of gabbro, may be an intrusive, sharp contact ≃ 80° TCA	80		296	34.5	36	1.5	1		
		36-37.6: - series of alternating finer & coarser sections -1 finger qz-vein with clots of py -carb in fract.			297	36	37.6	1.6	1		
		37.6-41.9: - equigranular gabbro			298	37.6	38.9	1.3	4		
		38.9-41.9: - 2 one inch qz-veins which appear to be barren -one 15° TCA -one ≃ 90°TCA	15 90		299	38.9	41.9	3.0	2		
		41.9-42.9: - gabbro, 1 in qz-vein with clots of cpy			300	41.9	42.9	1.0	3		
		42.9-44.6: - gabbro			301	42.9	44.6	1.7	1		
		-44.6-46.4: - gabbro 2 inch qz-vein barren			302	44.6	46.4	1.8	2		
		-46.4-48.3: - back into gabbro -some fractures present with epidote			303	46.4	48.3	1.9	2		

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DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp

Company Canorth Resources Inc.

HOLE No. 5683-88-9 Page 2 of 6

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au ppb	Au oz	GW					
19	87.8	Gabbro: - cont'd														
		57.3-58.5: - large porphyroblast with a pink hew -possiblely ortboclase -same 70.4-71.5 except more crystalline here.														
		-possiblely minor blue qz present in gabbro														
		79.4-84.2: - gabbro			304	79.4	84.2	4.8	3							
		84.2-87.8: - sheared and carbonatized gabbro - <1% py -shades of original texture left			305	84.2	87.8	3.6	5							
87.8	143.3	Quartz-Diorite: - coarse grained			306	87.8	92.7	4.9	2							
		-siliceous -silicification has slightly change original crystalline texture, large feldspar growths -massive -core takes on a grey appearance where silic is most intense, near fract. - <1% py			306a	-89.8	90.1	0.3						Thin Secti		
		92.7 core takes on a reddish hue probabley due to hematite			307	92.7	97.5	4.8	9							
		97.5-100.8: - intensely silic and recrystallized -hematized -more intensely around fractures			308	97.5	100.8	3.3	2							
		100.8-108.5: - hematization disappears but diorite is grey in colour due to silic			309	100.8	105.1	4.3	8							
					310	105.1	108.5	3.4	8							
		-108.5 hematization comes in again with minor silic			311	108.5	113.4	4.9	3							
					312	113.4	117.3	3.9	2							

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DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp

Company Canorth Resources Inc.

HOLE No. 5683-88-9 Page 3 of 6

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	ANALYTICAL RESULTS Au ppb	GW oz
87.8	143.3	Quartz Diorite: cont'd								
		117.3-130.2: - intercalated			313	117.3	122.3	5.0	2	
		qz-diorite & gabbro			314	122.3	127.0	4.7	6	
		-minor hematite locally			315	127.0	130.2	3.2	3	
		assoc with qz-dio								
		-blue qz-eyes present								
		-py locally up to 2%								
		mostly assoc with gabbroic inclusions								
		-130.2-143.3: - same as described			316	130.2	135	4.8	4	
		97.5-100.8			317	135	139.9	4.9	2	
		- ≃ 142.5 minor inclusions			318	139.9	143.3	3.4	1	
		of gabbro with 2% py								
143.3	191	Gabbro: as described earlier								
		-contact almost parallel to core								
		axis 10° TCA	10							
		-143.3-147: - gabbro with			319	143.3	149.1	5.8	2	
		inclusions of qz-diorite								
		-silic assoc. hem<1% py								
		-good grabbro now			320	149.1	152.4	3.3	5	
		-initially fine grained, coarsens with depth ≃ 151 ft								
		-locally large porphyroblasts of feldspar, up to 1 inch								
		in diameter								
		- ≃ 186 feet gabbro begins to become fine grained again								
		187-191: - fine grained gabbro			321	187	191	4.0	3	
		-tr py								
191	212.4	Quartz-Diorite: - same as described			322	191	196	5.0	9	
		87.8-143.3			323	196	201	5.0	10	
		-initially 191-199.2 qz-dio is mafic								
		looking due to proximity to gabbro								
		-contact 25° TCA	25°							
		-possiblely minor epidote on contact								
		- <1% py fine diss								

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DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp.

Company Canorth Resources Inc.

HOLE No. 5683-88-9 Page 4 of 6

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au ppb	Au oz	GW
191	212.4	Quartz-Diorite: - cont'd									
		-minor po noted locally assoc with fractures									
		-slight silicification has occurred									
		-201-212.4: - intensely silicified locally			324	201	206	5.0	2		
		-slight pink hew due to hematization			325	206	208.9	2.9	2		
		-207.7 .25 inch qz-vein with massive po, chloritic on contacts			326	208.9	212.4	3.5	5		
		-208 hairline fracture 20° TCA po present massive qz-carb									
212.4	249.4	Gabbro-Diorite: - mafic (chloritic)			327	-212.4	216	3.6	4		
		-massive, with local foliation			328	216	221	5.0	6		
		-sheared, qz carb fracture filling various angles			329	221	226	5.0	3		
		-locally pervasively carbonatized			330	226	231	5.0	4		
		-feldspars altered to carb			331	231	236	5.0	2		
		-blue qz-eyes present			332	236	240.2	4.2	38		
		- <1% py on average									
		240.2-246: - sheared foliation			333	240.2	242.9	2.7	1		
		developed 45° TCA	45		334	242.9	246	3.1	5		
		-blue qz-eyes									
		-carbonatized									
		- <1% fine diss py									
		clots of qz									
		-py assoc with qz-carb									
		-blue qz along fol loc.									

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp

Company Canorth Resources Inc.

HOLE No. 5683-88-9

	FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	LENGTH	Au ppb	Au oz	GW		
	212.4	249.4	Gabbro-Diorite: - cont'd											
			246-249.4: - slightly sheared -locally carbonatized - <1% fine diss py - qz-carb in fractures minor silic loc.			335	246	249.4	3.4	55				
	249.4		Quartz Diorite: - as described earlier											
			-upper contact -249.4-251: similar to gabbro described above -may be part of above unit and contact represents a shear -blue qz-eyes -tr py	40°		336	249.4	251.	1.6	6				
			251-256.3: intensely silicified & recrystallized -local hematization assoc with fract. -tr py			337	251	256.3	5.3	8				
			256.3-263.8: - qz-diorite			338	256.3	261	4.7	2				
			-sharp contact = 90° TCA -mafic but much lighter in colour than gabbro - <1% py - anhedral - enhedral plagioclase crystals -very crystalline	90		339	261	263.8	2.8	423	[illegible]	#6	[illegible]	?
			263.8-266.3: - same as gabbro described 212.4-249.4			340	263.8	266.3	2.5	21				

David R. Bell Geological Services Inc.

DIAMOND DRILL HOLE LOG

PROJECT 5683 Chester Twp

Company Canorth Resources Inc.

HOLE No. 5683-88-9 Page 6 of 6

FOOTAGE FROM	FOOTAGE TO	ROCK TYPE AND DESCRIPTION (alteration, structure, mineralization)	CORE ANGLES TO AXIS	% SULPHIDES	SAMPLE NUMBER	SAMPLE FROM	SAMPLE TO	[illegible]	Au	Au	GW
249.4		Quartz-Diorite: - cont'd									
		263.8-266.3: - cont'd									
		-minor qz-carb									
		- 1% py fine diss									
		- upper contact 20 TCA	20								
		- finger qz-carb vein									
		with clots of cpy & po									
		-lower contact 30° TCA	30								
		finger vein here									
		massive py									
		-py into fractures in dioritic below as well									
		266.3-276: - same as described			341	266.3	271.5	5.2	4		
		256.3-263.8			342	271.5	276	4.5	2		
		E.O.H. 276									

APPENDIX III

PETROGRAPHIC REPORT

DAVID R. BELL GEOLOGICAL SERVICES INC.

Geological Consulting

Timmins, Ontario

PETROGRAPHIC REPORT

CANORTH RESOURCES INC.

CHESTER TOWNSHIP

PORCUPINE MINING DIVISION

P.J. WHITTAKER, M.Sc., Ph.D.

April 22, 1988

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Fig.31 Disseminated magnetite and pyrite in quartz diorite. Plane reflected light, f.o.v. 0.85mm. 72

SUMMARY:

The samples submitted are variably altered leucocratic quartz diorite, quartz diorite, melanocratic quartz diorite and gabbro to quartz gabbro. The samples represent fine-grained to medium-grained equigranular plutonic rocks. One sample (5683-0049A) appears to be cut by a dike of similar composition to the host dioritic assemblage, but is finer-grained. The gabbroic rocks are characterized by a higher proportion of biotite and/or amphibole.

Alteration in the dioritic and gabbroic rocks is primarily sericitization. Silica liberated from sericitization of plagioclase has re-crystallized as very fine quartz mosaics, intergrown with sericite. This process is essentially "in situ" silicification, but does not represent net addition of silica to the rock.

Carbonatization is evident in one or two sections where it is intergrown with amorphous sericitic masses. This can effectively eliminate primary phases and textures.

Chloritization is present in all samples and reflects hydration of primary mafic minerals. Opaques (magnetite) are a usual product of chloritization. Excess iron, not accepted by the chlorite structure, is oxidized to magnetite.

INTI ODUCTION:

This eport describes the reflected and transmitted light petrography of fourte n (14) samples provided by D.R.Bell Geological Services from the Canort Resources Inc. property, Chester Township..

Polish d thin sections were prepared from drill core samples and examined with Nikon research microscope. Photomicrographs were taken with a Nikon camera using Kodak Vericolor 111, Professional film 5026, Type S, ISO 160. A blu filter was used in reflected and transmitted light under plane and polari ed conditions. Field of view measurements are in mm and are the diagon l dimension of photomicrographs.

PETROG APHIC DESCRIPTIONS

Sample 5683-0029A Quartz diorite (leucocratic)

Textur : A fine-grained and equigranular leucocratic rock with about 10% mafic inerals.

Modal omposition (estimated):

Plagio lase	47%
Quartz	47%
Biotit	4%
Clinop roxene	2%

TRANSMITTED LIGHT:

Plagioclase is subhedral, prismatic and has undulatory, finely serrated borders against quartz and mafic minerals. Zoning of phenocrysts is common and they exhibit sericitized cores with thin unaltered edges (Fig.1). This represents alteration of calcic plagioclase cores to sericite while more sodic rims remain unaltered. This can result from either deuteric or hydrothermal alteration.

Quartz is anhedral, fractured and has patchy or undulatory extinction. This shows a lack of equilibration to strain. Quartz grain boundaries are irregular and secondary opaques coat some fracture surfaces.

Biotite is the predominant mica and is primary. Secondary chlorite replaces biotite and represents about 1/3 the total mica content. Both micas are subhedral and platy. Biotite has ragged edges and alters to chlorite and opaques (Fig.2,3). A reaction for this alteration process would be Biotite chlorite + Opaques (Fe-oxide) + Water

Water liberated from the above reaction could be partly responsible for plagioclase altering to sericite where: Plagioclase + Water Sericite + Quartz.

Biotite also forms inclusions in some sericitized plagioclase centres (Fig.4).

Clinopy oxene (augite) occurs as extremely fine anhedral grains with ragged edges. These grains appear to represent remnant parts of primary pyroxen . They have second order interference colours and high relief (Fig.4)

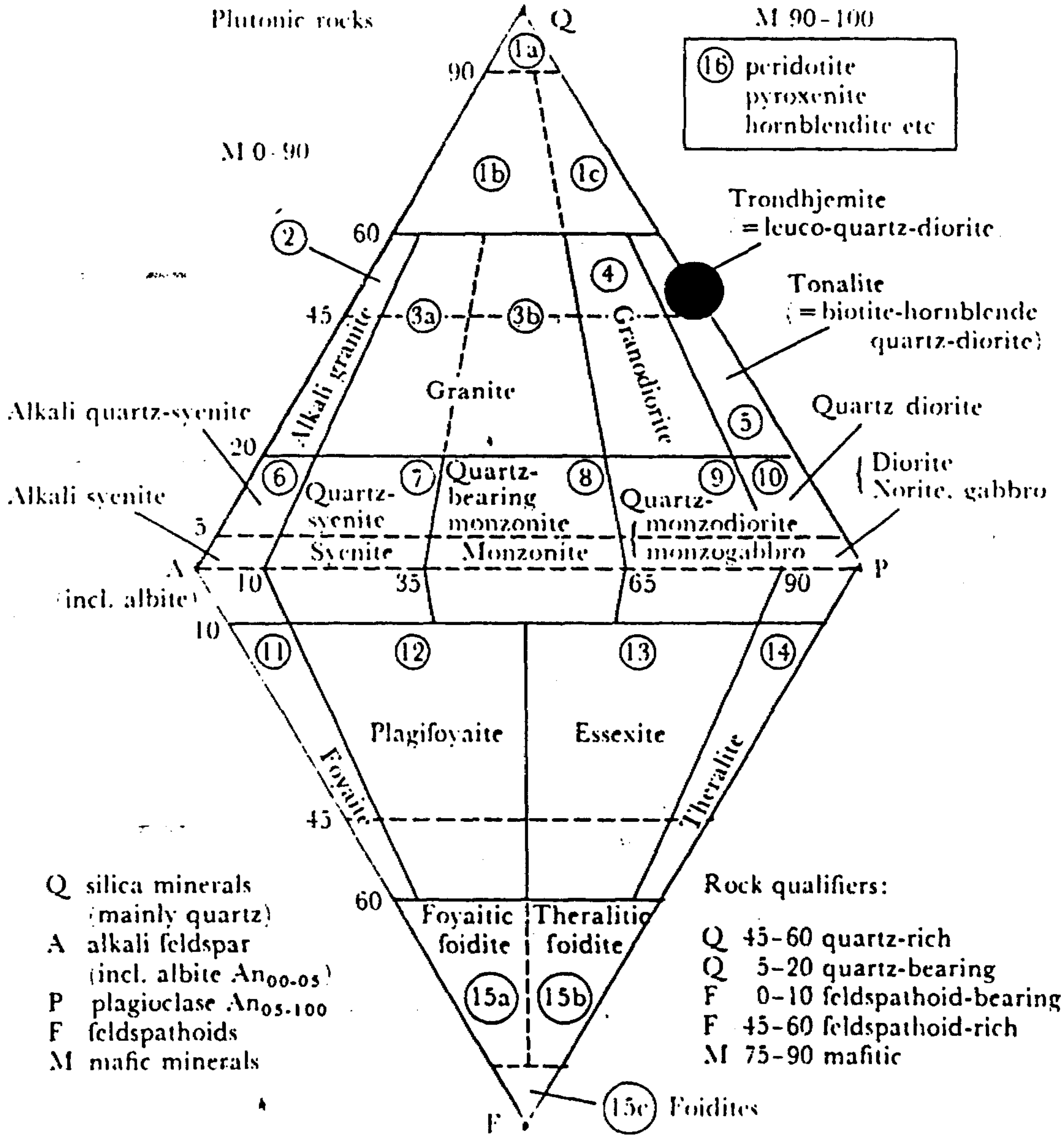
REFLECTI) LIGHT:

Magnetit = trace

magnetit is pale greyish white and defines anhedral blebs and wispy fracture fillings. It is a secondary phase and an alteration product of biotite Fig.5).

5683-0029A

After Streckeisen (1967; written communication, November, 1970).[1]



[1] See *Geotimes*, Oct. 1973, p. 26, for final report of the IUGS.

Sample 5683 - 0034A Quartz diorite (leucocratic)

Texture: A fine-grained and equigranular leucocratic rock with about 4% mafic minerals.

Modal composition (estimated):

Plagioclase	48%
Quartz	48%
Chlorite	4%

TRANSMITTED LIGHT:

Plagioclase is subhedral with prismatic form. Some phenocrysts retain polysynthetic twinning while others are heavily altered to sericite. Irregular and serrated borders are well developed and very fine opaques are dusted along fracture and cleavage planes.

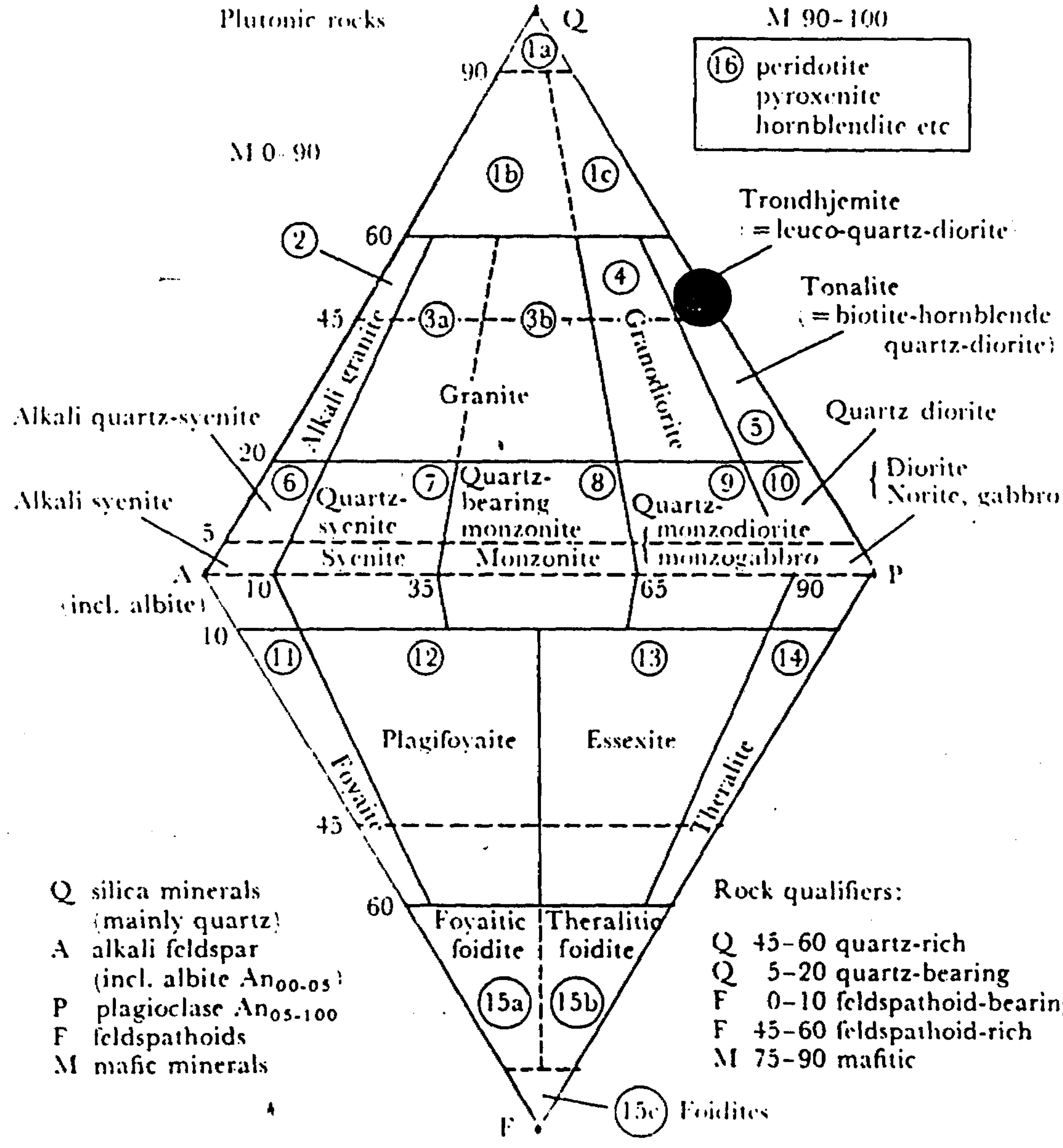
Quartz is anhedral, fractured and has opaques along some fractures. Fluid and solid inclusions are common in quartz.

Chlorite is pale green with purple birefringence (Fe-rich clinochlore). Chlorite is the single mafic phase, no primary mafic minerals remain and chlorite appears to pseudomorph biotite. Opaques occur with chlorite to form platy pseudomorphs after biotite. Elsewhere chlorite fills fractures between and within quartz and plagioclase.

OPAQUE! : Trace amounts (1%) of very fine-grained secondary magnetite form isolat(1 aggregates or fill fractures.

5683-0034A

After Streckeisen (1967; written communication, November, 1970).[1]



Q silica minerals (mainly quartz)
A alkali feldspar (incl. albite An_{00-05})
P plagioclase An_{05-100}
F feldspathoids
M mafic minerals

Rock qualifiers:

Q 45–60 quartz-rich
Q 5–20 quartz-bearing
F 0–10 feldspathoid-bearing
F 45–60 feldspathoid-rich
M 75–90 mafitic

[1] See *Geotimes*, Oct. 1973, p. 26, for final report of the IUGS.

Sample: 5683 - 0049A Quartz diorite (leucocratic)

Texture: Fine-grained equigranular quartz diorite is in contact with a very fine-grained dioritic to leuco-gabbroic dike (?).

Modal Composition (estimated):

Plagioclase	48%
Quartz	48%
Chlorite	4%

Plagioclase is subhedral, prismatic and highly sericitized (Fig.6).

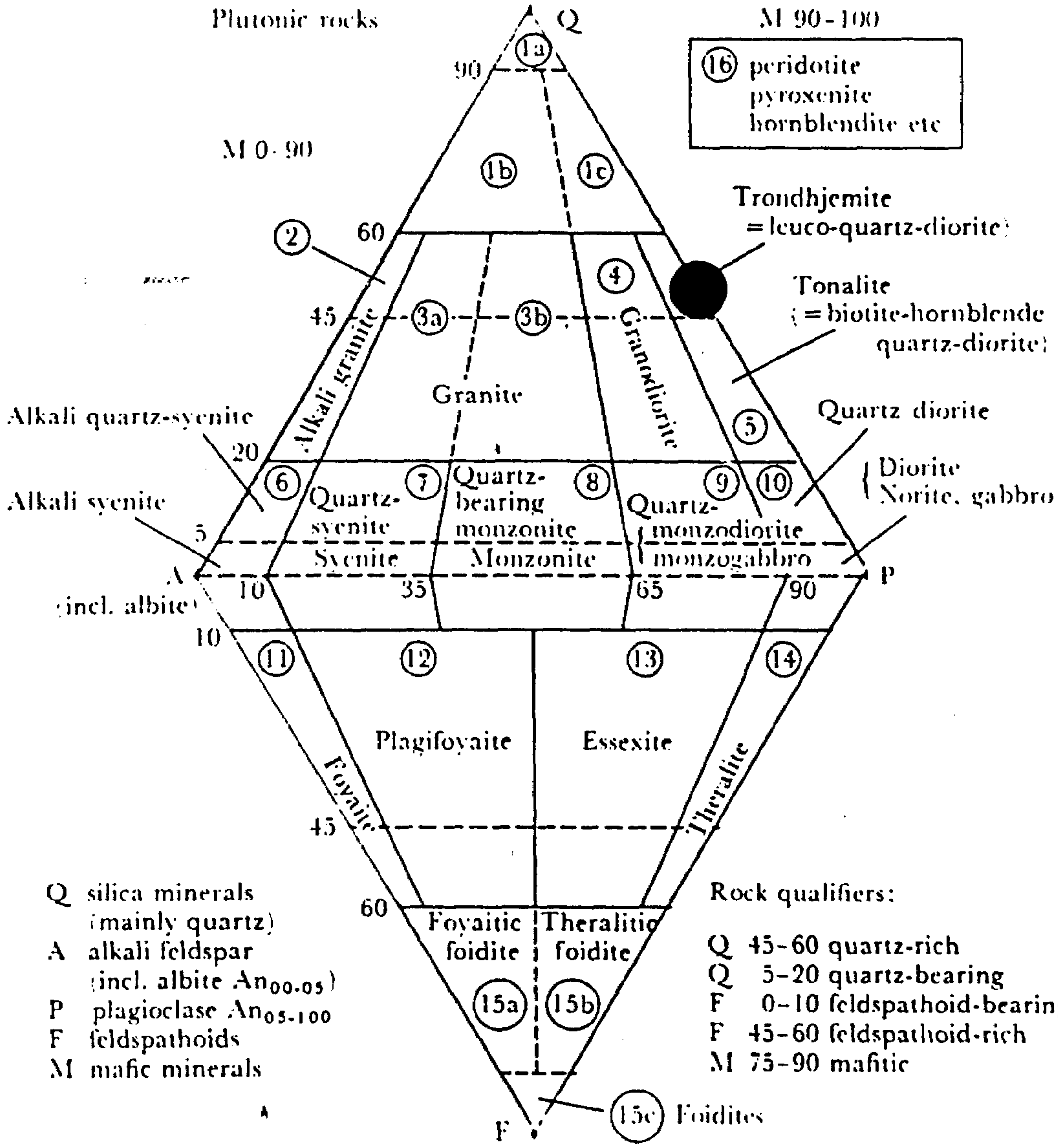
Quartz is anhedral, fractured and has abundant fluid (colourless) and solid (pale green) inclusions. Opaques are along fractures (Fe-oxide).

Chlorite replaces biotite (100%) as platy pseudomorphs with very fine opaque aggregates. Chlorite also fills fractures and is brown in colour (Mg-penninite).

Late carbonate veinlets cross-cut the section and vein carbonate defines an equigranular mosaic with rhombic cleavage and twinning.

5683-0049A

After Streckeisen (1967; written communication, November, 1970).[1]



Q silica minerals (mainly quartz)
A alkali feldspar (incl. albite An_{00-05})
P plagioclase An_{05-100}
F feldspathoids
M mafic minerals

Rock qualifiers:

Q 45-60 quartz-rich
Q 5-20 quartz-bearing
F 0-10 feldspathoid-bearing
F 45-60 feldspathoid-rich
M 75-90 mafitic

See *Geotimes*, Oct. 1973, p. 26, for final report of the IUGS.

REFLECTED LIGHT:

Magnetite occurs in trace amounts (about 1%) and is disseminated or fills fractures. It is pale greyish white in reflected light.

Pyrite forms a secondary fracture - filling phase. It is anhedral and seive-textured. Inclusions in pyrite define a seive-texture and include groundmass material and very fine magnetite anhedra. Pyrite also occupies fractures in late carbonate veinlets.

Contact with fine-grained intermediate dike (Fig. 7,8).

DIKE

Texture: Fine-grained and weakly foliated with a few larger (1mm) chlorite grains.

Modal Composition (estimated):

Plagioclase	42%
Quartz	42%
Chlorite	16%
Sphene	trace

TRAMSM TTED LIGHT:

Plagio lase is very fine-grained, subhedral to anhedral and lath-like. It has fi ely serrated edges and is highly sericitized.

Quartz is very fine-grained and defines granular aggregates. Individual quartz anhedra in aggregates have serrated "disequilibrium" borders.

Chlori e is brown and forms platy aggregates and fills fractures. Platy to lath-l ke masses have crystallized in fan-like arrangements and are random y oriented. Some re-crystallization post-dates unidirectional strain A second group of chlorite laths define a weak foliation. The higher chlorite content reflects a higher mafic content, although the quartz to plagioclase proportion is identical to that of host quartz diorit .

Shene occurs in trace amounts (0.5%). It has high relief, is roundish to sub-an ular, and has a hazy purplish brown colour.

Carbon te veinlets cross-cut the dike also.

REFLEC ED LIGHT:

Magnet te and pyrite anhedra occur in the dike and pyrite alone occurs in carbon te veinlets (Fig.9).

Sampl(: 5683 - 0051A Quartz-diorite (leucocratic)

Textui :: Fine-grained equigranular and leucocratic rock. It has a weak foliat lon cut by a later fracture-cleavage. Extension and rotation of the fractu :e cleavage has formed sigmoidal cavities filled by quartz and carbor ite.

Modal :omposition (estimated):

Plagic :lase	46%
Quartz	46%
Chlori .e	8%

TRANSM TTED LIGHT:

Plagio lase is very fine-grained, subhedral and roughly prismatic. Some phenoc ysts are gently deformed and have bent twins. Plagioclase has been extrem ly sericitized with sericite forming platy grains and anhedral aggreg tes.

Quartz is anhedral, fractured and extremely fine-grained. It is partially replac d by sericite grains.

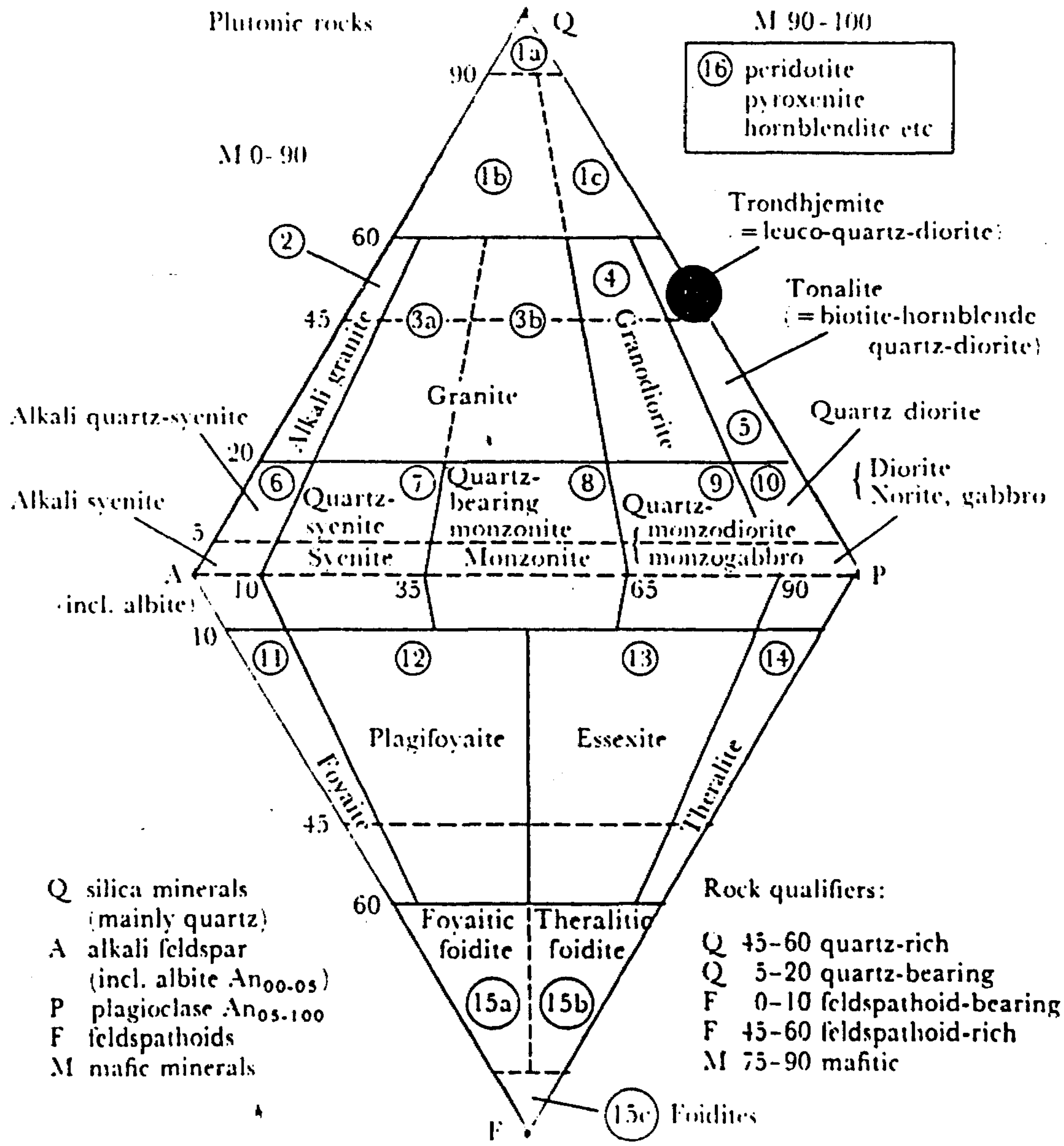
Chlori e is brown and has replaced biotite. Platy pseudomorphs represent primar biotite, these also are the site of very fine disseminated opaque .

REFLEC ED LIGHT:

Trace 1%) amounts of magnetite and pyrite are secondary

5683-0051A

After Streckeisen (1967; written communication, November, 1970).[1]



[1]See *Geotimes*, Oct. 1973, p. 26, for final report of the IUGS.

Sample 5683 - 0070A Silicified Carbonatized Intermediate rock.

Texture: Foliated very fine-grained and roughly equigranular mafic rock. It has 1 to 2% secondary pyrite anhedra up to 1mm in size.

Modal Composition (estimated):

Quartz	65%
Plagioclase	15%
Chlorite	10%
Sericite	10%

TRANSMITTED LIGHT:

Quartz forms extremely fine-grained anhedra with patchy extinction. Quartz anhedra also define mosaic-textured aggregates.

Plagioclase is very fine-grained and forms subhedral laths. The fine grain size makes twinning difficult to observe.

Chlorite is brown and aids in definition of the foliation and sericite is colourless and forms linear aggregates defining the foliation.

Carbonate forms amorphous aggregates replacing quartz and plagioclase along foliation planes. About 30% of the section is carbonate replaced (Fig.1[illegible]).

REFLECT D LIGHT:

Pyrite (Fig.10,11) is secondary, disseminated and has replaced about 2 to 3% of the section. Pyrite forms subhedral to euhedral grains with 20 to 30% gro ndmass inclusions.

Sample: 5683 - 0108A Quartz diorite

Texture: A fine-grained equigranular and leucocratic rock.

Modal Composition (estimated):

Plagioclase	60%
Quartz	35%
Clinopyroxene	3%
Sphene	2%

<u>TRANSMITTED LIGHT:</u>

Plagioclase is strongly zoned, subhedral to euhedral and randomly oriented (Fig.13). Cores are highly sericitized and rims are unaltered with remnant polysynthetic twinning. Mafic mineral inclusions in plagioclase are altered to purple chlorite with minor remnant biotite. The less altered part of the section has less sericite, biotite is fresher and in general there is less chlorite.

Quartz forms interstitial anhedra and often defines mosaic-textured aggregates between plagioclase.

Clinopyroxene occurs as very fine-grained anhedra, often in sericitized cores of plagioclase.

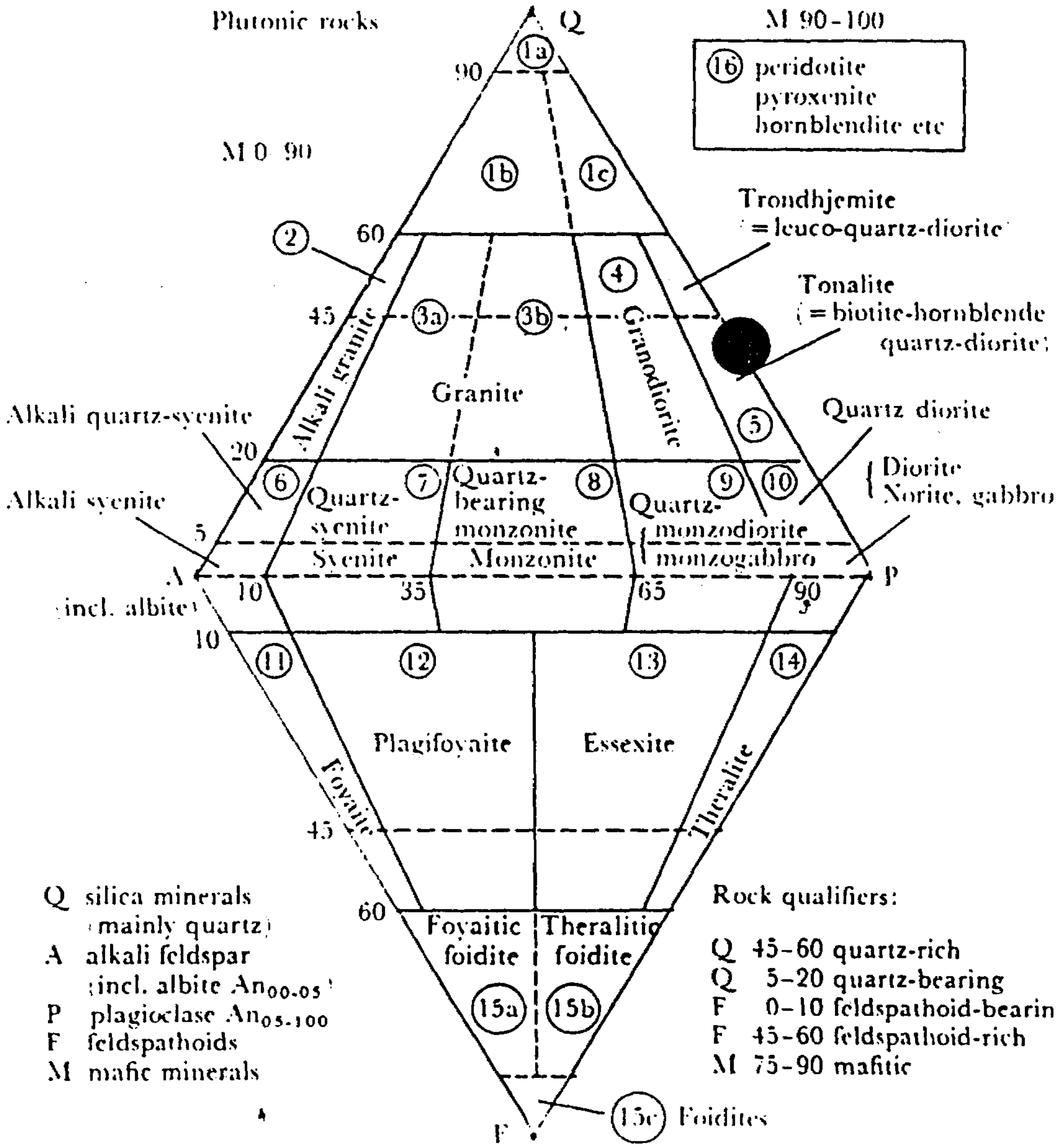
Sphene is extremely fine-grained and forms inclusions in quartz (Fig.14).

REFLECTED LIGHT:

Trace amounts (1%) of magnetite anhedra occur as secondary minerals from the alteration of biotite to chlorite. Trace amounts of pyrite occur as extremely fine-grained anhedra.

5683-0108A

After Streckeisen (1967: written communication, November, 1970).[1]



Q silica minerals (mainly quartz)
A alkali feldspar (incl. albite An_{00-05})
P plagioclase An_{05-100}
F feldspathoids
M mafic minerals

Rock qualifiers:
Q 45-60 quartz-rich
Q 5-20 quartz-bearing
F 0-10 feldspathoid-bearing
F 45-60 feldspathoid-rich
M 75-90 mafitic

[1] See *Geotimes*, Oct. 1973, p. 26, for final report of the IUGS.

Sample 5683 - 0146A Quartz diorite (sericitized)

Texture: Leucocratic fine-grained and equigranular rock cut by an aphanitic pinkish shear.

Modal Composition (estimated):

Plagioclase	60%
Quartz	35%
Chlorite	5%

TRANSMITTED LIGHT:

Plagioclase is subhedral and 50% or more altered to sericite. Remnant polysynthetic twinning is partially obscured by a fine-grained screen of sericite.

Quartz is fractured, anhedral and generally finer grained than plagioclase. Along the shear, quartz has undergone strain-induced recrystallization to form very fine-grained stringy mosaics (Fig.15).

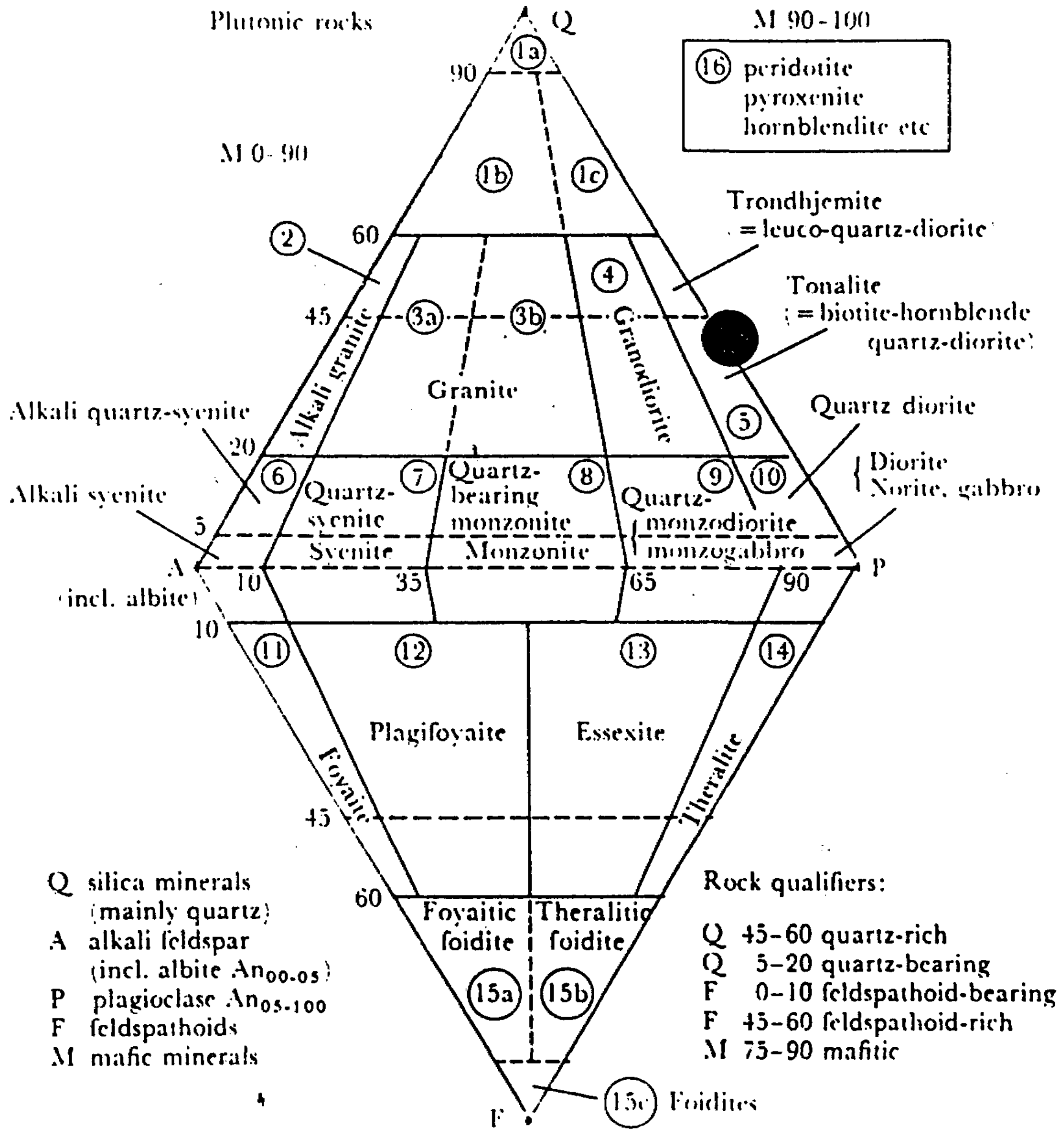
Chlorite is secondary after biotite and forms platy composite pseudomorphs of chlorite and granular opaques (magnetite).

REFLECTED LIGHT:

Trace amounts of disseminated magnetite anhedra result from alteration of biotite. They are concentrated in clusters with chlorite.

5683-0146A

After Streckeisen (1967; written communication, November, 1970).[1]



[1]See *Geotimes*, Oct. 1973, p. 26, for final report of the IUGS.

Carbonate forms a secondary phase in filling the shear. Undeformed rhombs suggest late (post-kinematic) crystallization (Fig.16). Pink colouring is suspected to be amorphous hematite along the shear foliation.

Sample: 5683 - 0162A Quartz diorite (leucocratic)

Texture A fine-grained equigranular rock with approximately 1% dissemi ated very fine-grained opaques and about 4% total mafics.

Modal C mposition (estimated):

Plagioc ase	48%
Quartz	48%
Chlorit	4%

TRANSMI TED LIGHT:

Plagioc ase is subhedral to anhedral and 75% to 90% sericitized. Sparse polysyn hetic twinning remains in some phenocrysts. Sericite aggregates replace plagioclase and are best developed along fractures together with opaques and/or amorphous sphene aggregates.
Quartz s anhedral, fractured and has abundant fluid inclusion trains.

Chlorit appears to have replaced biotite leaving platy pseudomorphs with very f ne opaque aggregates. Chlorite also constitutes a fracture-filling phase.

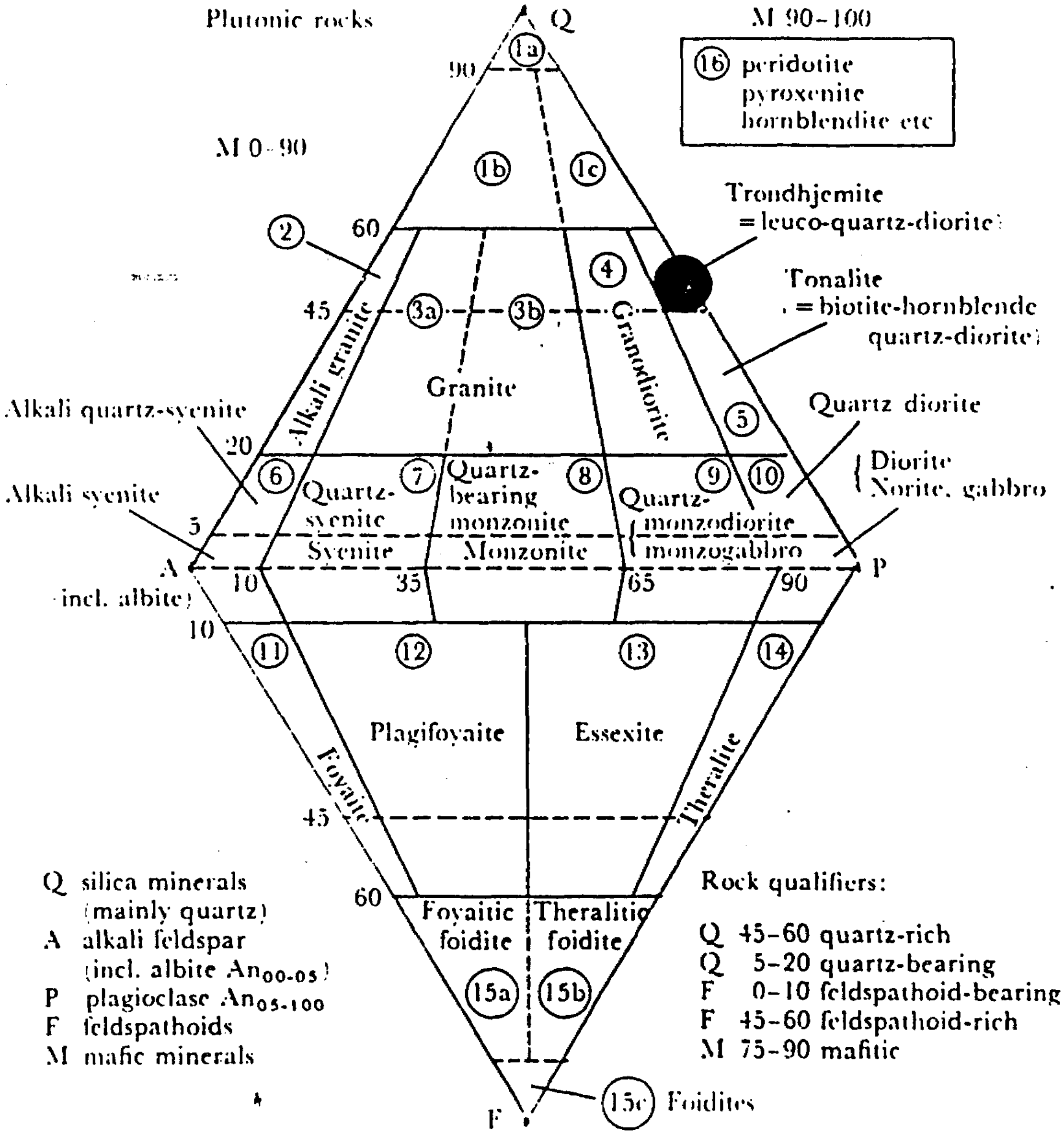
<u>REFLECTED LIGHT:</u>

Trace amounts (1%) of pyrite and chalcopyrite are disseminated in distribution and anhedral. Pyrite exhibits seive-texture while chalcopyrite has few inclusions. Chalcopyrite is often attached to pyrite as composite sulphide grains.

Magnetite, in trace amounts (1%), is associated closely with chlorite aggregates. It also occurs in finely bladed form in the groundmass (Fig.17).

5683-016 2A

After Streckeisen (1967; written communication, November, 1970).[1]



Q silica minerals (mainly quartz)
A alkali feldspar (incl. albite An_{00-05})
P plagioclase An_{05-100}
F feldspathoids
M mafic minerals

Rock qualifiers:

Q 45–60 quartz-rich
Q 5–20 quartz-bearing
F 0–10 feldspathoid-bearing
F 45–60 feldspathoid-rich
M 75–90 mafitic

(a)

[1]See *Geotimes*, Oct. 1973, p. 26, for final report of the IUGS.

Sample: 683 - 0179A Quartz diorite

Texture: A fine-grained crudely porphyroblastic rock with 3 to 5 mm mafic clots. T ese are set in an equigranular matrix with approximately 8 to 10% total maf cs and minor pyrite (1%).

Modal Com osition (estimated):

Plagiocla e	57%
Quartz	35%
Biotite	5%
Chlorite	5%

<u>TRANSMITT D LIGHT:</u>

Plagiocla e is subhedral to euhedral and 40% to 100% sericitized. Twinning is obscur d by fine-grained sericite masses.

Quartz i anhedral, fractured and has abundant fluid inclusion trains. Sphene an opaques occur as solid inclusions.

Biotite s platy, anhedral to subhedral and is altered to chlorite (Fig.18,1). Opaques occur with chlorite altered from biotite.

Chlorite forms anhedral grains after biotite (grey Mg-rich clinochlore) and disp ays feathery intergrown borders with some biotite. Chlorite also forms a f acture-filling phase.

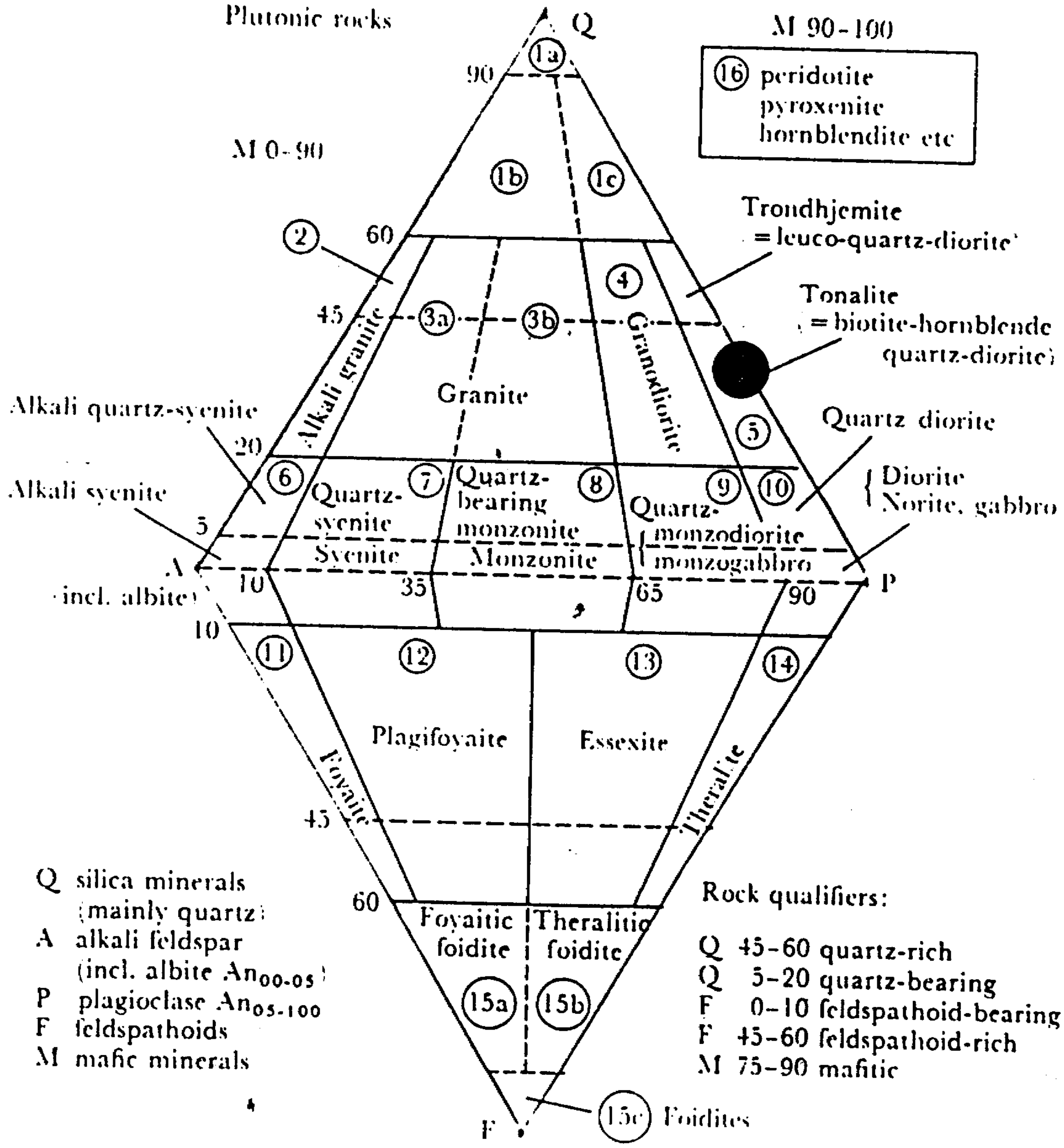
REFLECTED LIGHT:

Trace am unts (1%) of disseminated pyrite subhedra occur throughout the groundmas . Magnetite occurs as an alteration product after biotite and is concentra ed with chloritic masses.

This roc is highly sericitized. Biotite, however, remains only partly altered nd thus would not have contrivuted much water for plagioclase sericitiz tion. An external fluid source could then be called upon to account or the almost complete sericitization of plagioclase, i.e. a hydrother al fluid source.

5683-179A

After Streckeisen (1967; written communication, November, 1970).[1]



Q silica minerals (mainly quartz)
A alkali feldspar (incl. albite An_{00-05})
P plagioclase An_{05-100}
F feldspathoids
M mafic minerals

Rock qualifiers:

Q 45-60 quartz-rich
Q 5-20 quartz-bearing
F 0-10 feldspathoid-bearing
F 45-60 feldspathoid-rich
M 75-90 mafitic

[a] See *Geotimes*, Oct. 1973, p. 26, for final report of the IUGS.

Sample: 5683 - 185A Quartz diorite (leucocratic)

Texture A fine -grained equigranular and very leucocratic rock.

Modal C‹ nposition (estimated):

Quartz	52%
Sericit: : aggregates	45%
Sphene	3%

TRANSMI] 'ED LIGHT:

Quartz ›ccurs as anhedral fractured grains with blebby amorphous clots of sphene. Sphene has high relief and occurs at quartz grain edges and along fracture .

Sericiti aggregates replace plagioclase phenocrysts completely. Aggregat s consist of extremely fine sericite and quartz. Sphene blebs also occ r in sericitic aggregates.

Sphene esults from complete alteration of plagioclase and mafic phases. Chlorite is tied up in sericitic aggregates.

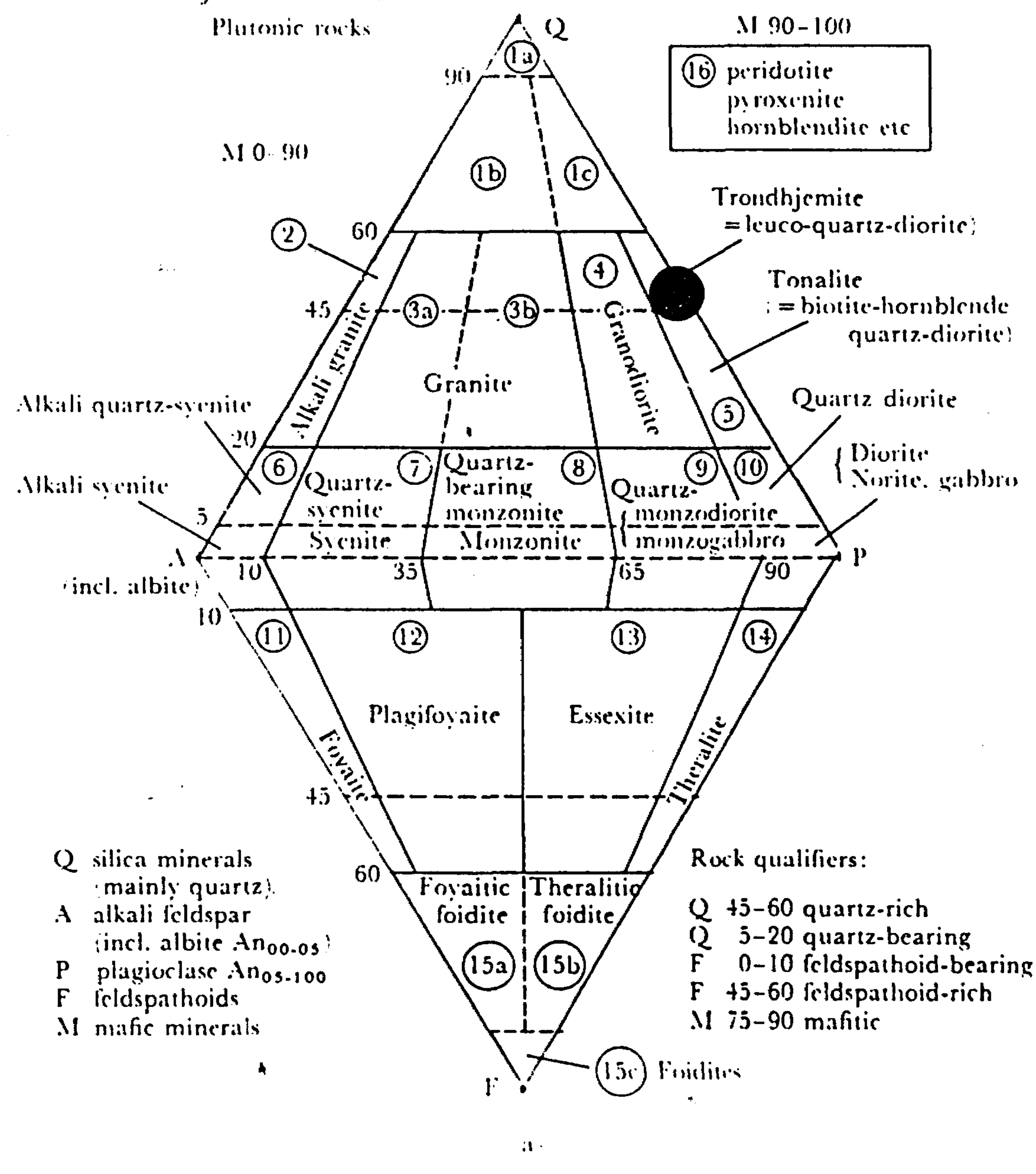
REFLEC' ED LIGHT:

Pyrite ' in trace amounts (1%), occurs as disseminated sieve-textured anhedr: . One pyrite aggregate was observed intergrown with chalcopyrite anhedr: . A multiple sulphide grain (Fig.20,21) consists of magnetite, covell: :e (blue-green) and a stipple-textured silvery mineral (native Ag, Au or / ; telluride?).

Additic ıal free-quartz in this sample represents "in-situ silicification". This i ; a product of plagioclase breakdown to sericite, a reaction which liberat :s silica from the plagioclase structure. This additional quartz appears as apparent silicification. The whole-rock silica content is constar : and is expressed in different mineralogy.

5683-185A

After Streckeisen (1967; written communication, November, 1970).[1]



Q silica minerals (mainly quartz)
A alkali feldspar (incl. albite An_{00-05})
P plagioclase An_{05-100}
F feldspathoids
M mafic minerals

Rock qualifiers:
Q 45-60 quartz-rich
Q 5-20 quartz-bearing
F 0-10 feldspathoid-bearing
F 45-60 feldspathoid-rich
M 75-90 mafitic

[1]See *Geotimes*, Oct. 1973, p. 26, for final report of the IUGS.

Sample: 5683 - 0229A Quartz diorite (leucocratic)

Texture A fine-grained, equigranular and leucocratic rock with about 2-3% ma ics and a trace amount of pyrite (1%).

Modal C nposition (estimated):

Quartz	50%
Sericiti : aggregates	35%
Plagiocl ıse	12%
Opaques	3%

TRANSMIT ED LIGHT:

Quartz s anhedral, fractured and has moderate undulatory extinction. Fluid nclusion trains are common, sphene forms high relief solid inclusio s.

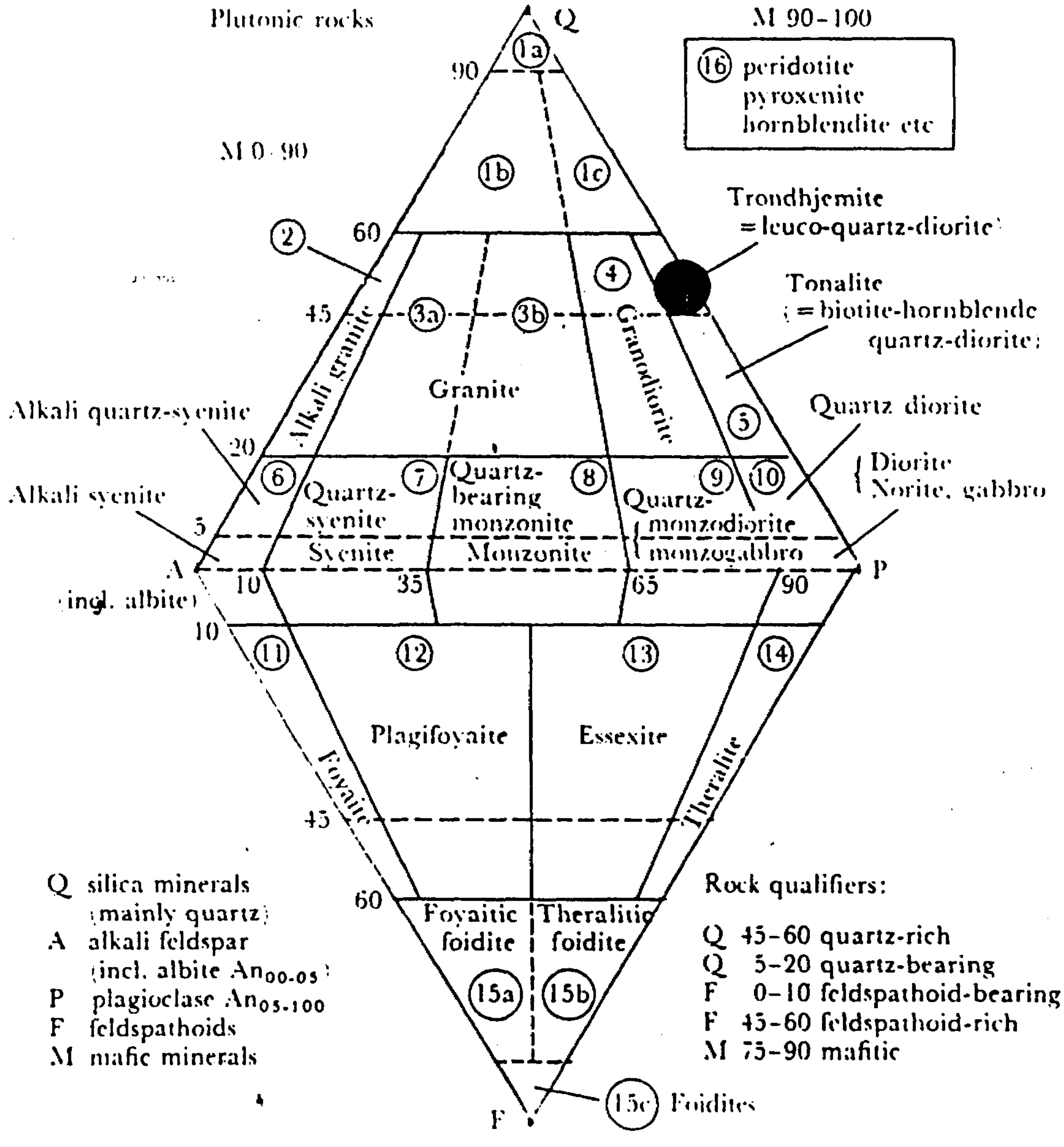
Sericiti aggregates replace plagioclase and consist of extremely fine sericite, quartz and chlorite. These are finely intergrown as "sericitic" aggregate (Fig.23).

REFLECTED LIGHT:

Opaques onsist of 1% to 3% anhedral pyrite. Pyrite is very fine-grained, dissemina ed and sieve-textured (Fig.22).

5683-229A

After Streckeisen (1967; written communication, November, 1970).[1]



[1] See *Geotimes*, Oct. 1973, p. 26, for final report of the IUGS.

Sample 683 - 0258A Gabbro - Quartz Gabbro

Texture A fine-grained equigranular melanocratic rock with approximately 5-7% di seminated very fine-grained opaques.

Modal C mposition (estimated):

Plagioc ase	50%
Amphibo e	30%
Chlorit	10%
Quartz	5%
Opaques	5%

TRANSMI ED LIGHT:

Plagiocl se is subhedral, prismatic in form and has serrated edges. It is 40 to '0% sericitized by amorphous sericitic aggregates with dark, hazy appearar e pseudomorphing plagioclase.

Amphibol is a sodic hornblende. It is subhedral, very dark green with blue pl ochroism. This amphibole has raggy edges altering to chlorite. Opaques are finely disseminated along cleavage and fracture planes (Fig.24, 5).

Chlorite is anhedral and replaces amphibole at grain ends. It has feathery edges an purple birefringence.

Quartz is anhedral and fractured with sericite along fractures.

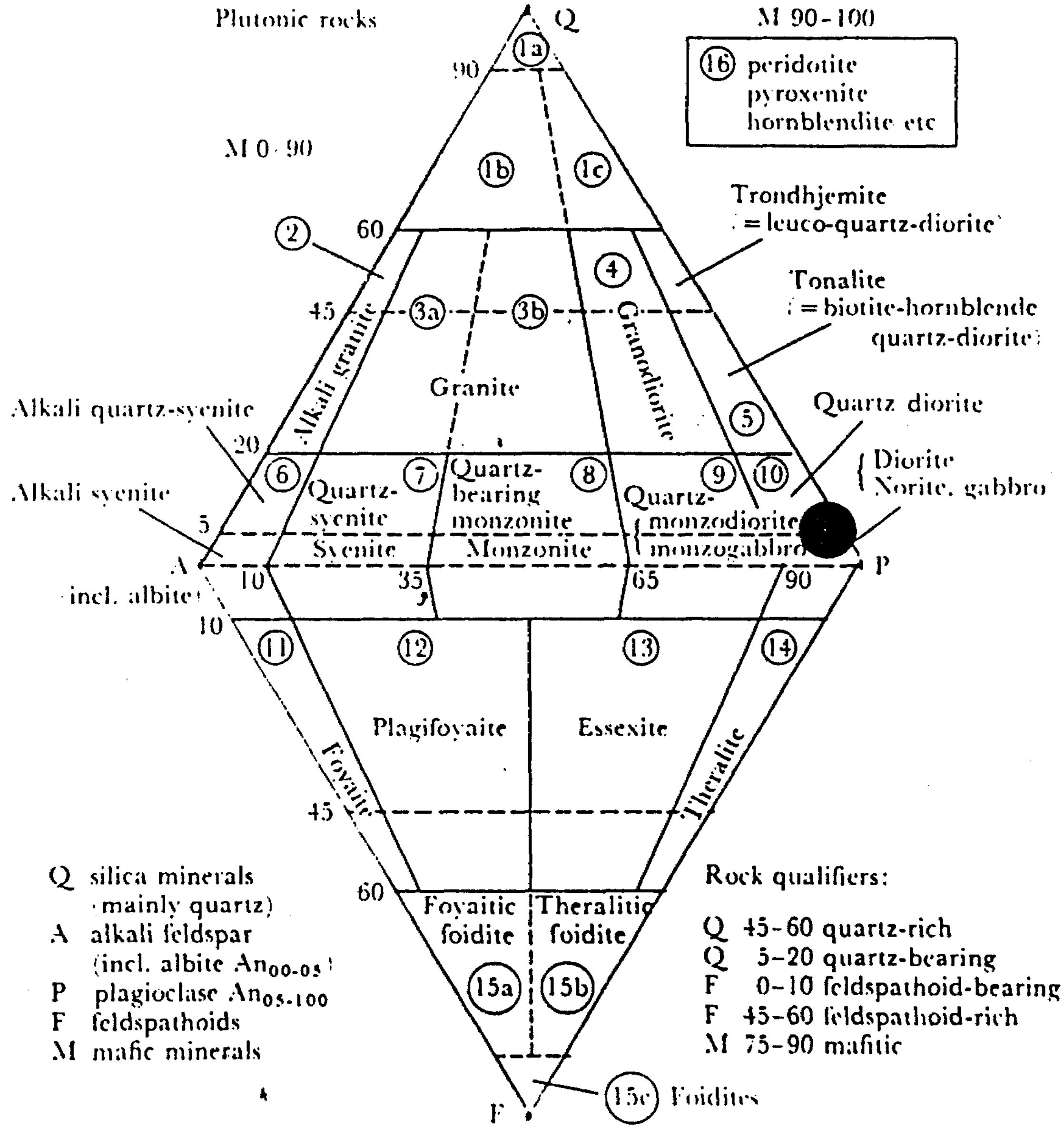
REFLECTED LIGHT:

Very fine-grained magnetite occurs as an alteration product of amphibole. It is concentrated as finely disseminated grains at chloritized amphibole.

A second grey opaque phase may be chromite or a chromian magnetite (Fig.26) These grains are darker grey compared to magnetite and are subhedral as opposed to anhedral magnetite.

5683-0258A

After Streckeisen (1967: written communication, November, 1970).[1]



(a)

[1]See *Geotimes*, Oct. 1973, p. 26, for final report of the IUGS.

Sample: 5683 - 0269A Quartz diorite (melanocratic)

Texture Brecciated, angular mafic to intermediate fragments. Fragments are fin to medium grained and equigranular (Fig. 27,28,29,30).

Modal C mposition (estimated):

Plagioc ase	55%
Quartz	35%
Biotite	8%
Amphibo e	2%

TRANSMI TED LIGHT:

Plagioc ase is subhedral to anhedral and is 75% to 90% sericitized. Sericit c aggregates are extremely fine-grained.

Quartz s fractured and anhedral.

Biotite is brown and strongly pleochroic. It forms subhedral plates, partly ıltered to chlorite and fine granular opaques.

Amphibc .e (hornblende) is medium green and subhedral with bladed form.

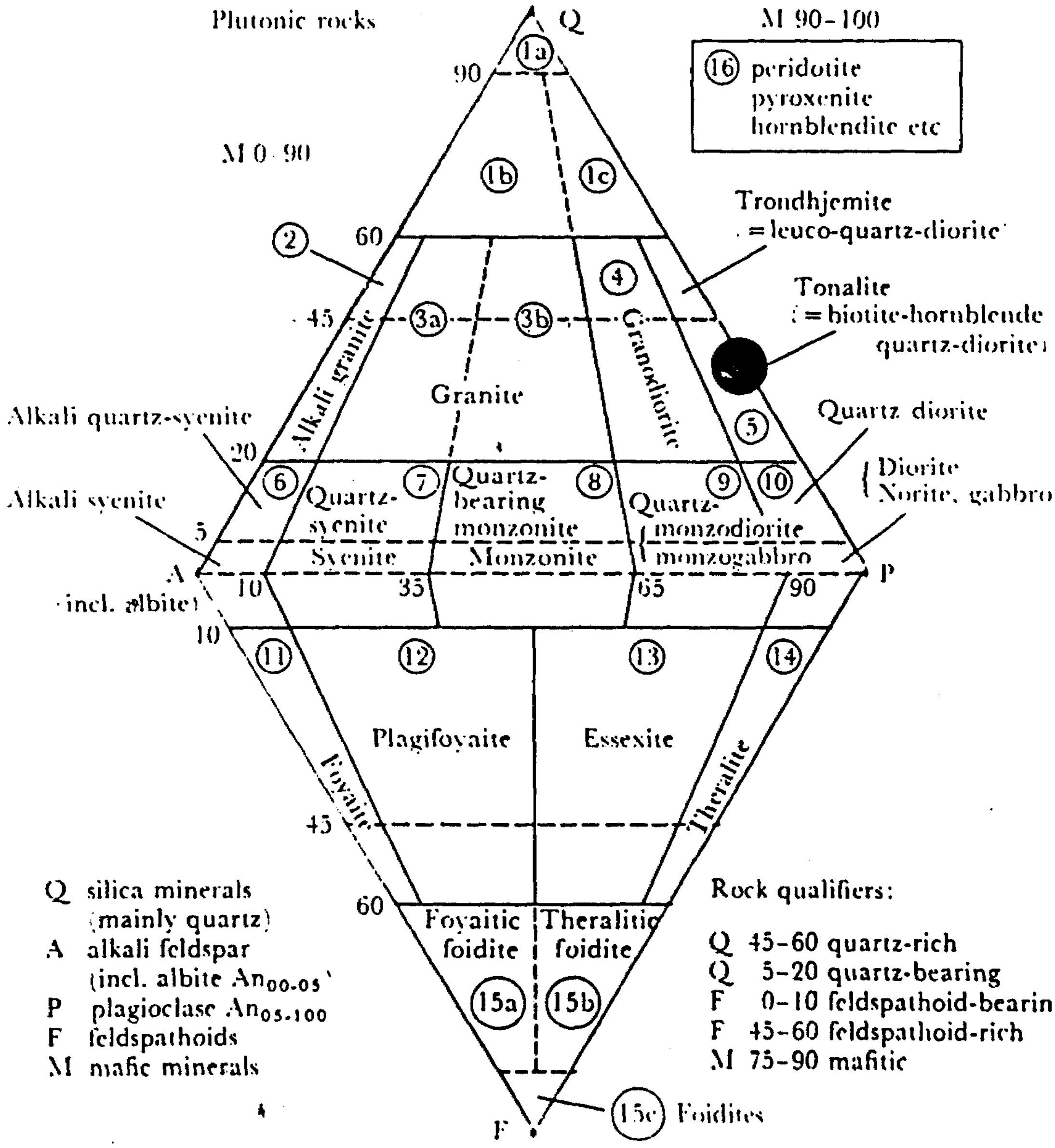
Acceso sphene forms purplish high relief irregulary-shaped inclusions in quartz.

REFLEC ED LIGHT:

Trace ounts (1%) of pyrite and magnetite occur, both with seive-texture.

5683-0269A

After Streckeisen (1967; written communication, November, 1970).[1]



Q silica minerals (mainly quartz)
A alkali feldspar (incl. albite An_{00-05})
P plagioclase An_{05-100}
F feldspathoids
M mafic minerals

Rock qualifiers:

Q 45–60 quartz-rich
Q 5–20 quartz-bearing
F 0–10 feldspathoid-bearing
F 45–60 feldspathoid-rich
M 75–90 mafitic

a.

[1] See *Geotimes*, Oct. 1973, p. 26, for final report of the IUGS.

Sample: 5683 - 0306A Quartz diorite (melanocratic)

Texture A fine-grained to medium-grained sub-equigranular rock with approxi ately, 15% clotty mafic anhedra.

Modal C mposition (estimated):

Plagioc ase	55%
Quartz	30%
Biotite	14%
Clinopy oxene	1%

<u>TRANSMI TED LIGHT:</u>

Plagioc .ase is subhedral to anhedral, 75 to 85% sericitized. Sericitic aggreg :es are almost amorphous, however remnant twinning can still be observe l on some plagioclase phenocrysts.

Quartz is anhedral, fractured and has abundant fluid inclusion trains. Scatte ed rutile needles form solid inclusions in quartz with a few opaque grains along fractures.

Biotit is subhedral with strong brown pleochroism. Platy subhedra form 1-2 m aggregates, some of which have bladed outlines. Bladed biotite pseudo orphs may be after amphibole.

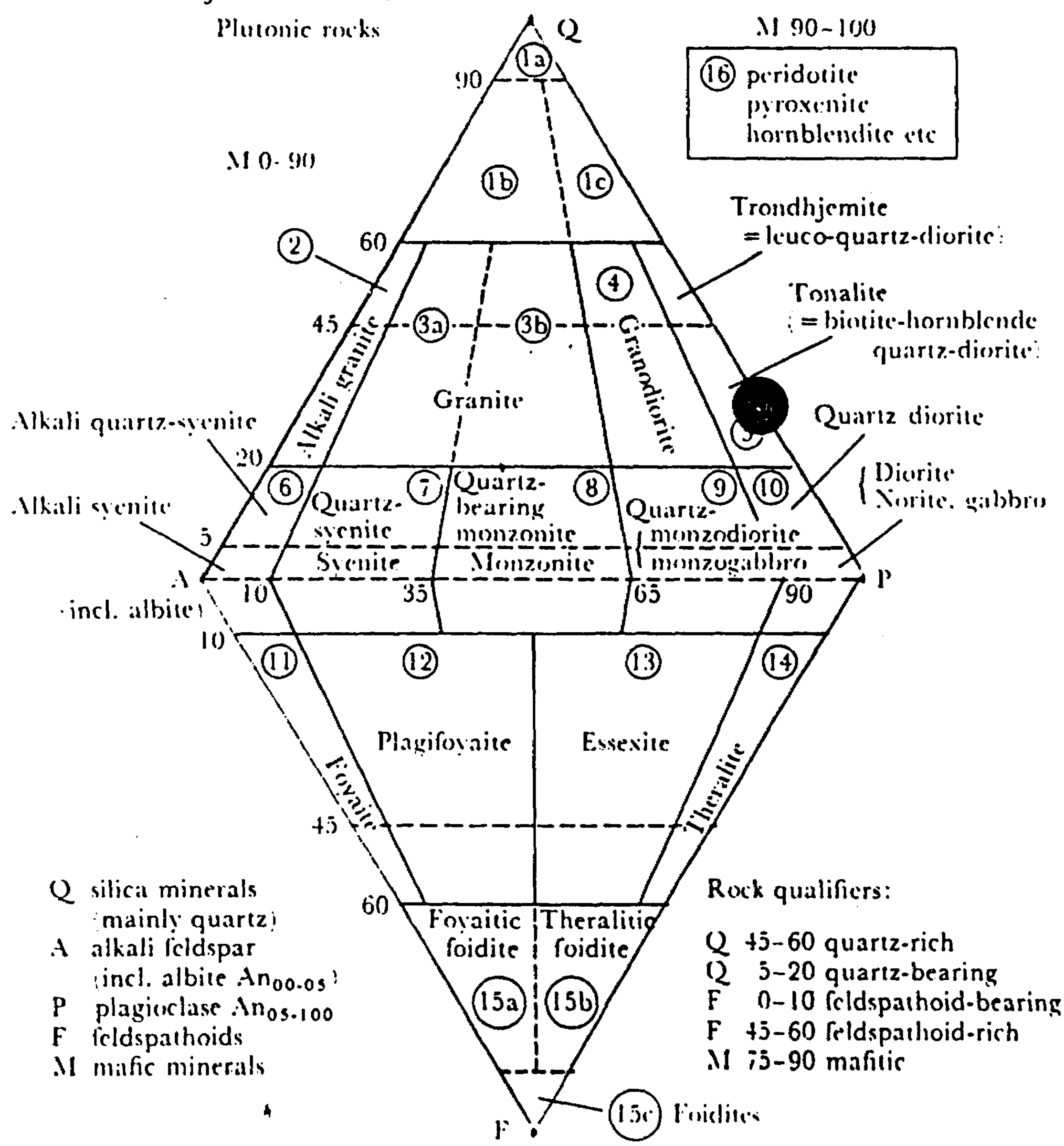
Clinopyroxene occurs as very fine-grained stubby augite remnants. These are enclosed by biotite and fine opaques as alteration products from augite breakdown.

REFLECTED LIGHT:

Trace amounts (1%) of each of magnetite, pyrite and chalcopyrite are disseminated throughout the section. The opaque phases are anhedral, very fine-grained and disseminated (Fig.31). Magnetite exhibits seive-texture.

5683-306A

After Streckeisen (1967; written communication, November, 1970).[1]



(a)

[1]See *Geotimes*, Oct. 1973, p. 26, for final report of the IUGS.

MINERAL ABBREVIATIONS

AG	:	Native silver or silver mineral (Ag)
AM	:	Amphibole
B	:	Biotite
C	:	Chlorite
CB	:	Carbonate
CPY	:	Chalcopyrite
CT	:	Chromite
CV	:	Covellite
CX	:	Clinopyroxene
M	:	Magnetite
P	:	Plagioclase
PY	:	Pyrite
Q	:	Quartz
S	:	Sericite
SP	:	Sphene

Fig.1. Zoned plagioclase with sericitized cores. Polarized light, f.o.v. 6.8mm.

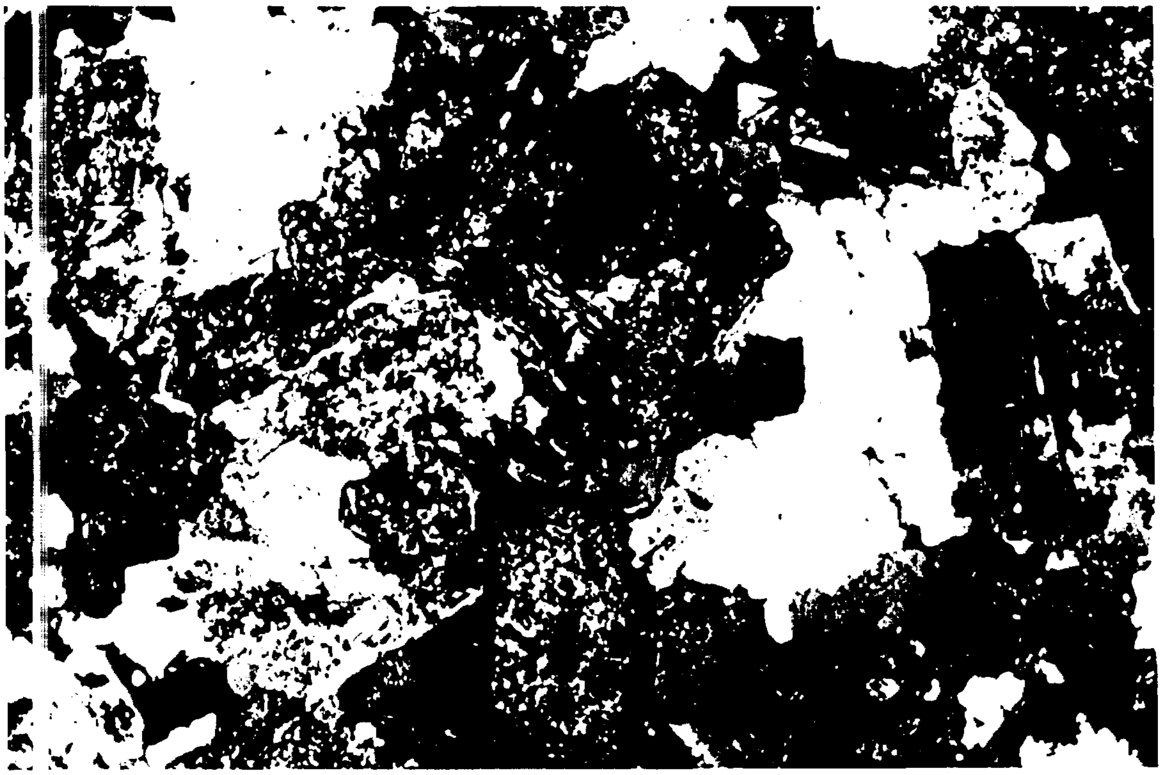


Fig.2 Biotite altered to chlorite and opaques (magnetite). Polarized light, f.o.v. 6.8mm.

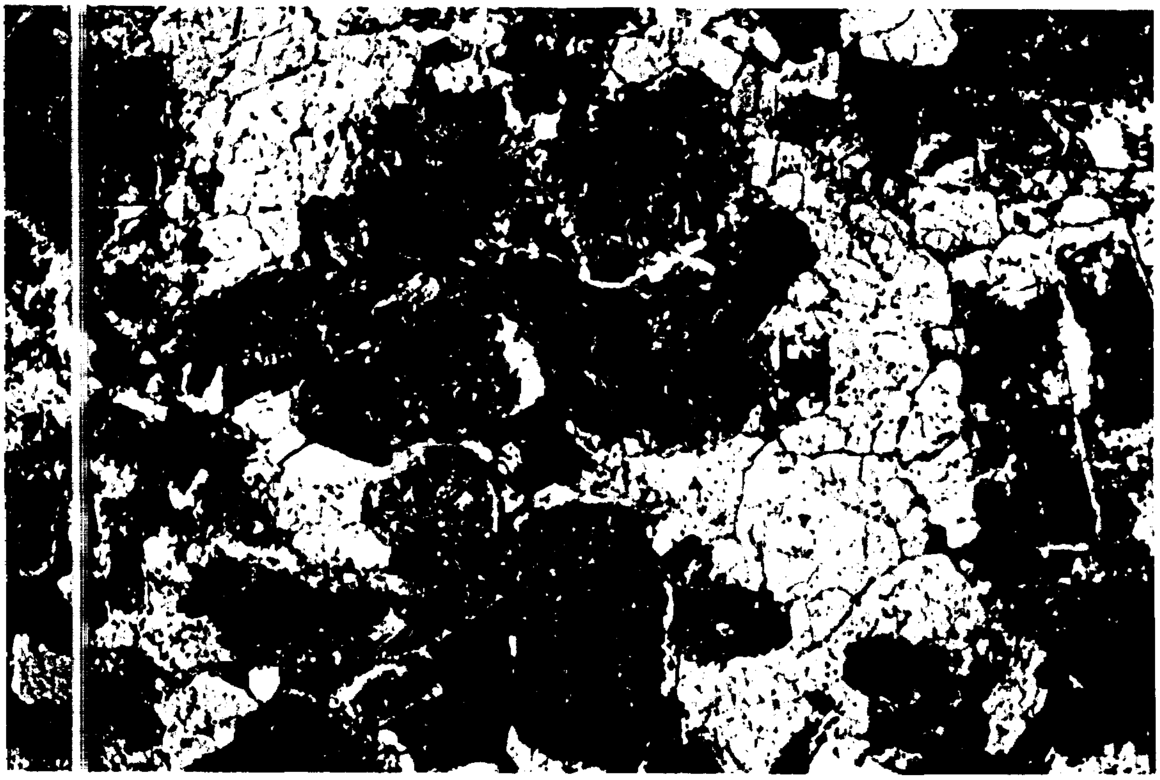


Fig.3 Same f.o.v. as in Fig.2., but plane light, f.o.v. 6.8mm.

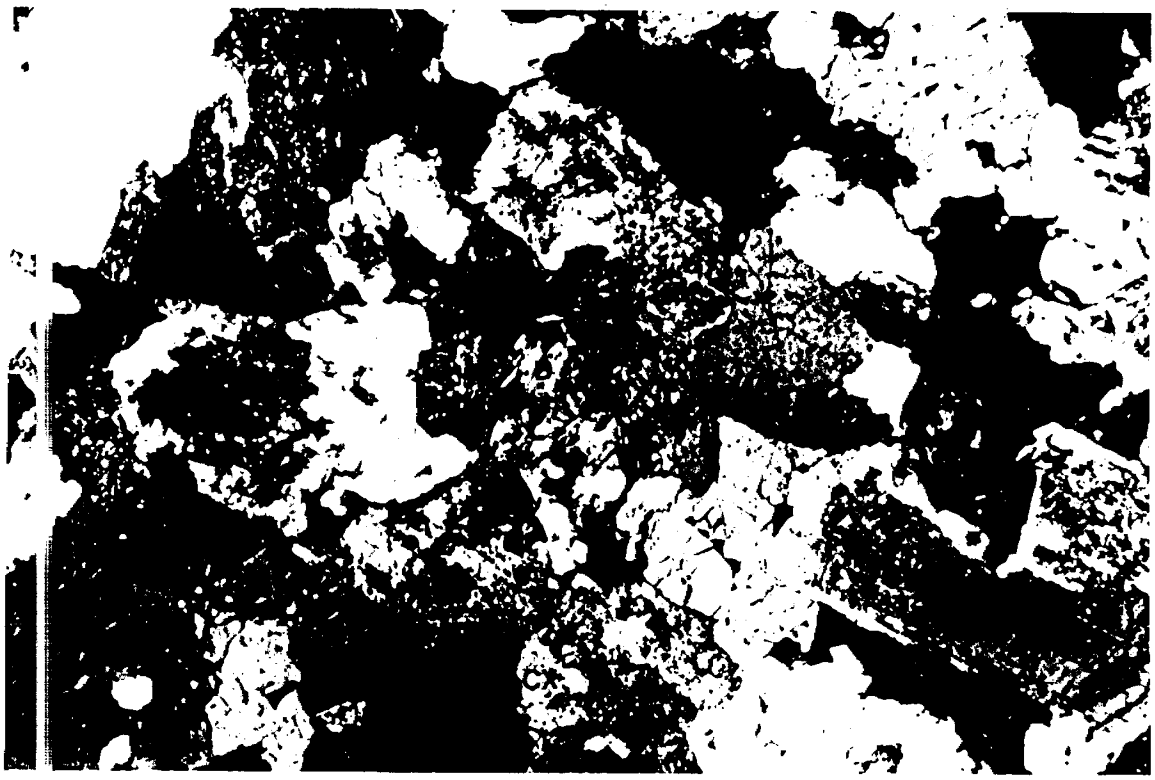


Fig.4 Biotite and clinopyroxene, second order interference colours. Polarized light, f.o.v. 6.8mm.

Fig.5 Anhedral magnetite (grey-white) after biotite. Plane reflected light, f.o.v. 3.4mm.

Fig.6. Prismatic, highly sericitized plagioclase. Polarized light, f.o.v. 6.8mm.

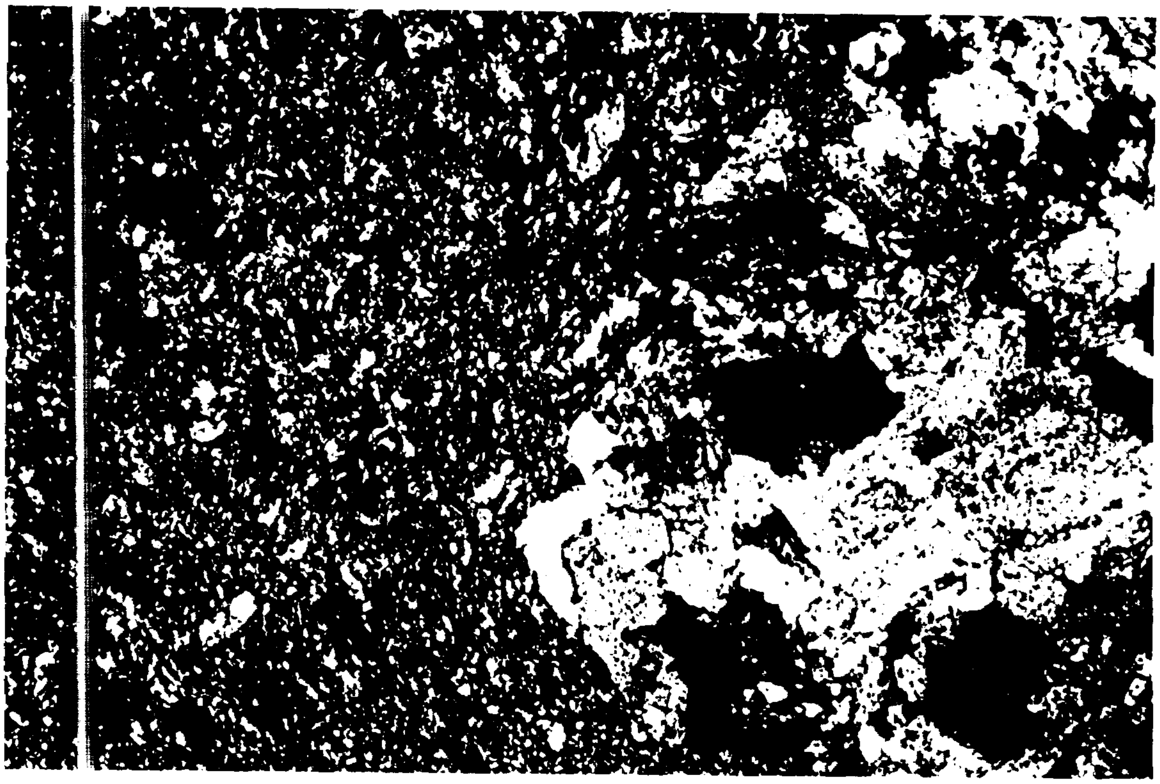


Fig.7. Contact with intermediate dike. Polarized light, f.o.v. 6.8mm.

Fig.8. Same field of view as in Fig.7, but plane light, f.o.v. 6.8mm.

Fig.9 Anhedral pyrite and magnetite in intermediate dike. Plane reflected light, f.o.v. 3.4mm.

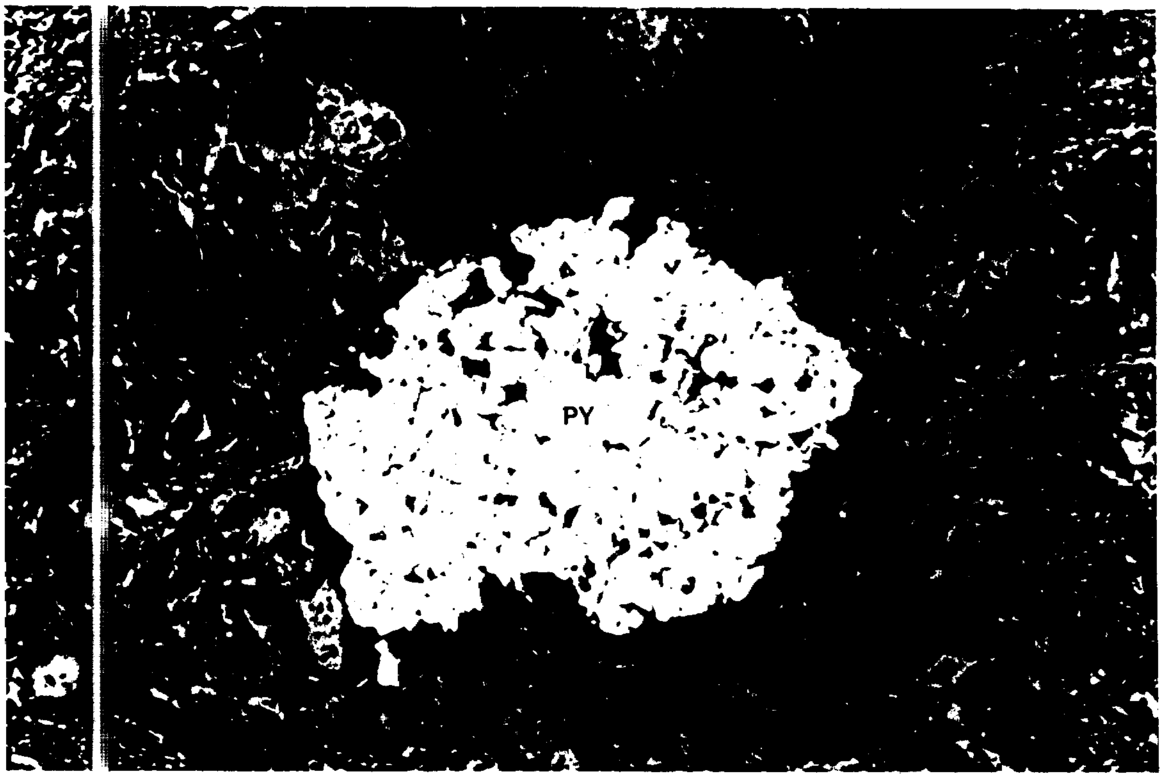


Fig.10 Secondary pyrite with seive-texture. Plane reflected light, f.o.v. 3.4mm

Fig. 1 . Same field of view as Fig. 10, but Polarized light, f.o.v. 6-8mm.

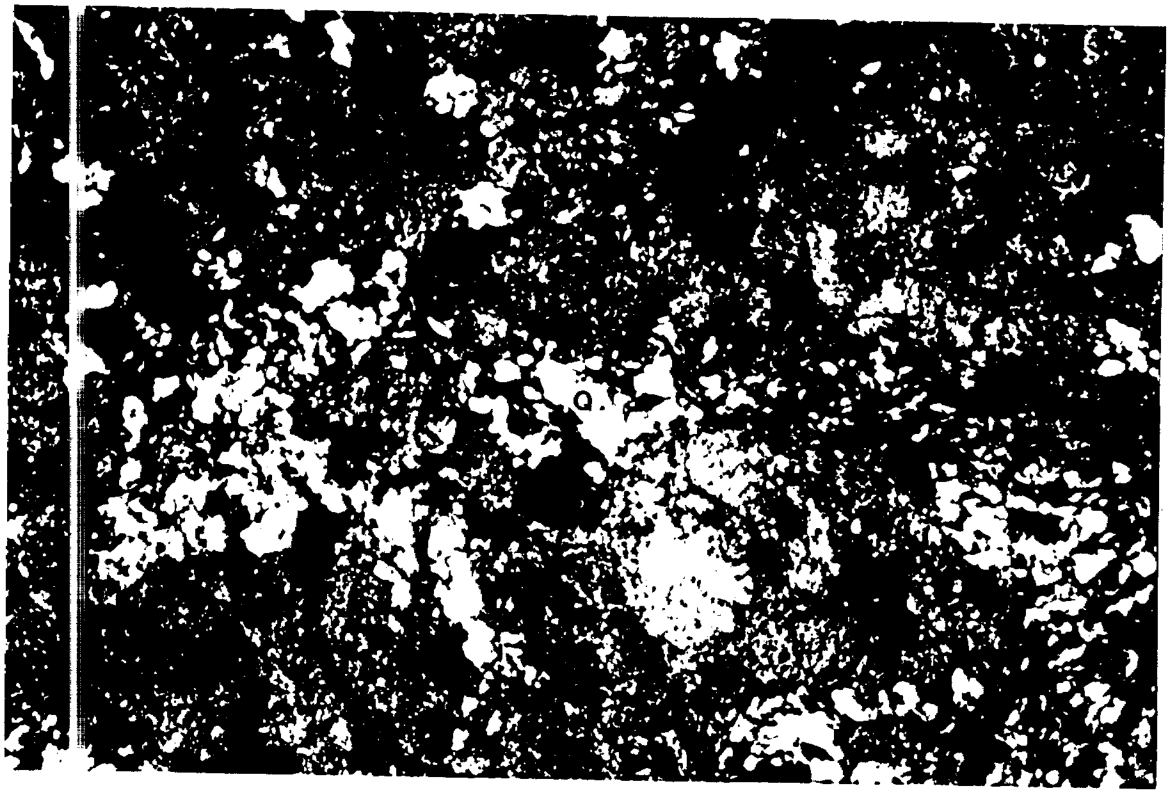


Fig.12 Amorphous carbonate replacing plagioclase and quartz. Polarized light, f.o.v. 6.8mm.

Fig.13. Subhedral to euhedral zoned plagioclase. Polarized light, f.o.v. 6.8mm.

Fig.14. Sphene inclusions in quartz. Plane light, f.o.v. 1.06mm.

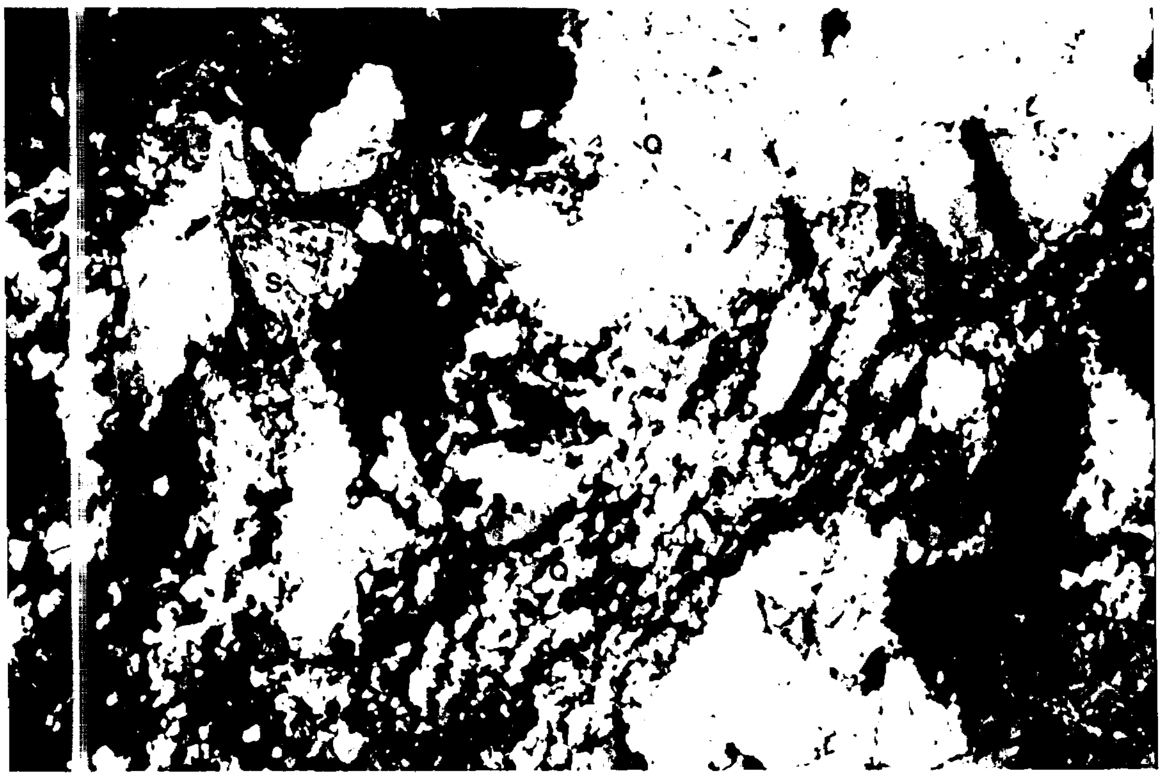


Fig.15. Sheared quartz. Recrystallization under shear strain has resulted in grain size reduction and defines linear quartz mosaics. Polarized light, f.o.v. 6.8mm.

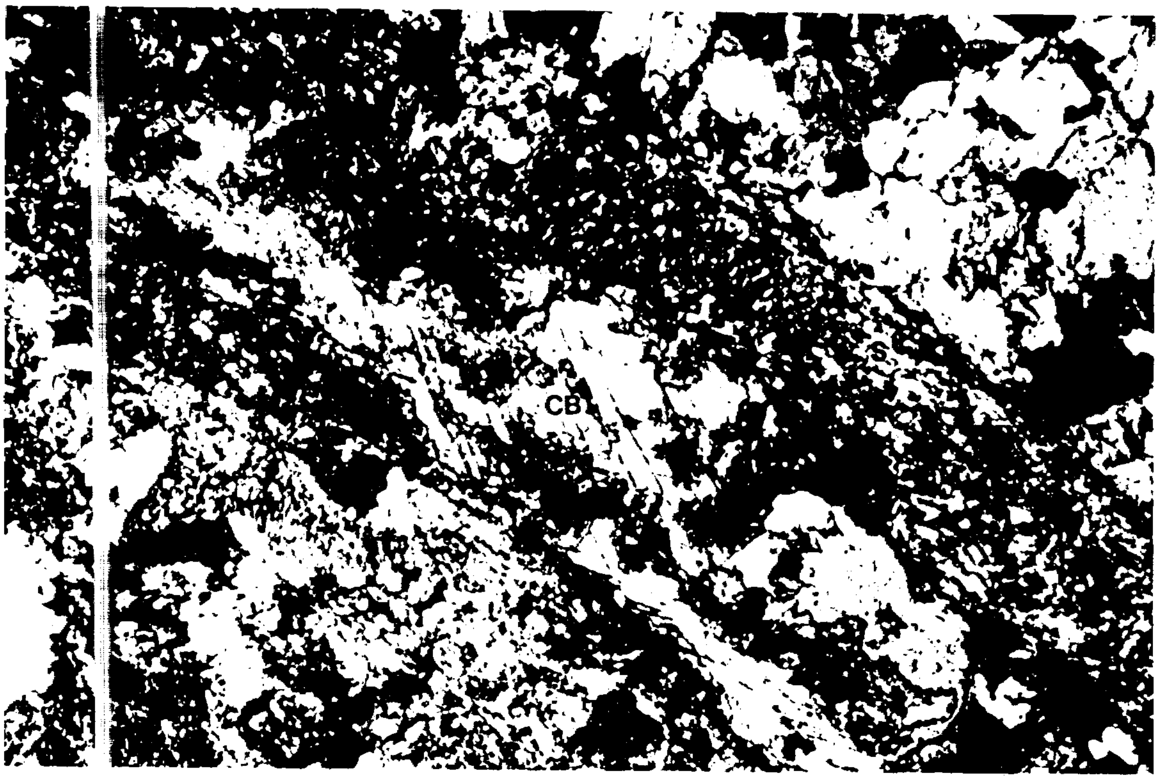


Fig.16. Underformed carbonate rhombs in shear. Polarized light, f.o.v. 0.85mm.

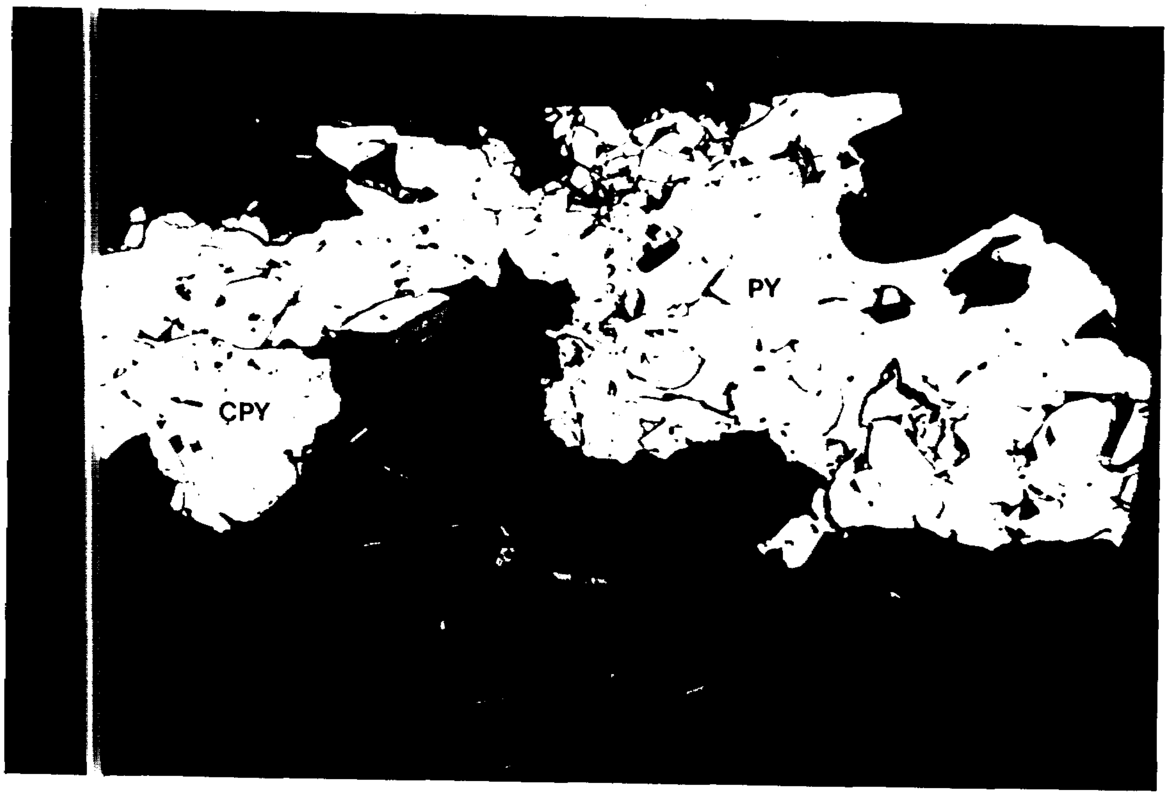


Fig. 17 Finely bladed magnetite in groundmass. Plane reflected light, f.o.v. 0.85mm.

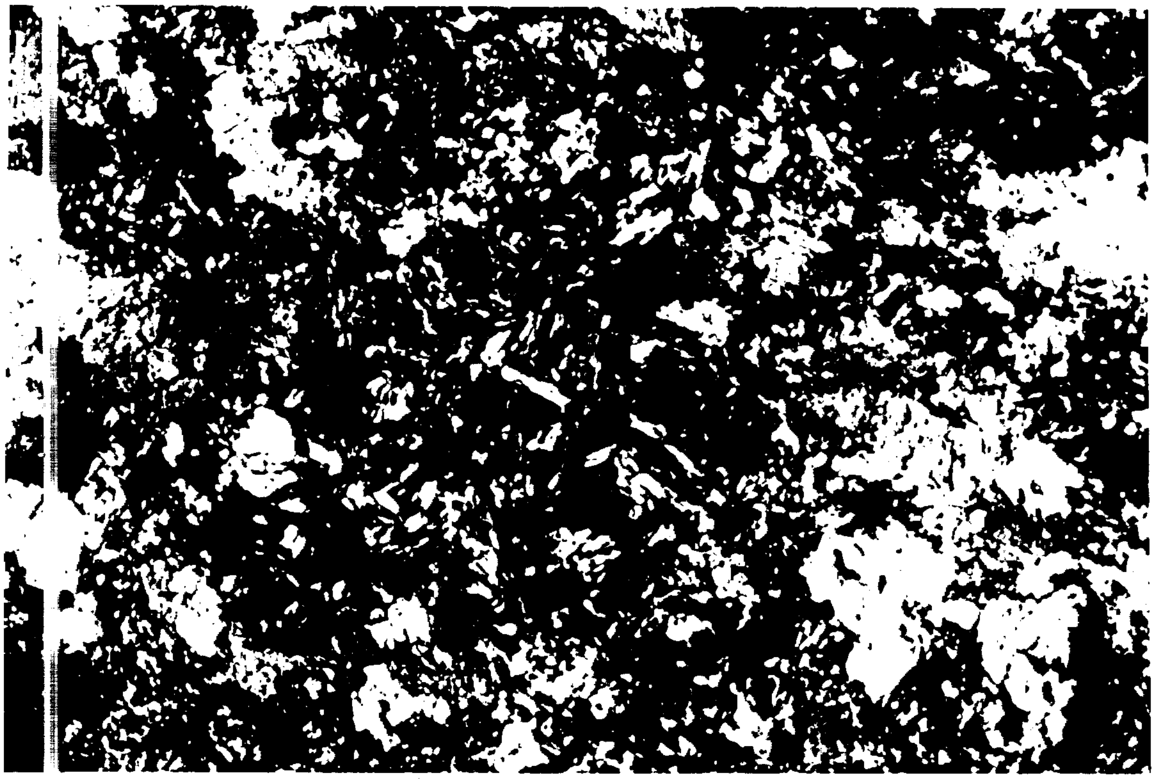


Fig.18 Platy biotite altered to chlorite. Polarized light, f.o.v. 6.8mm.

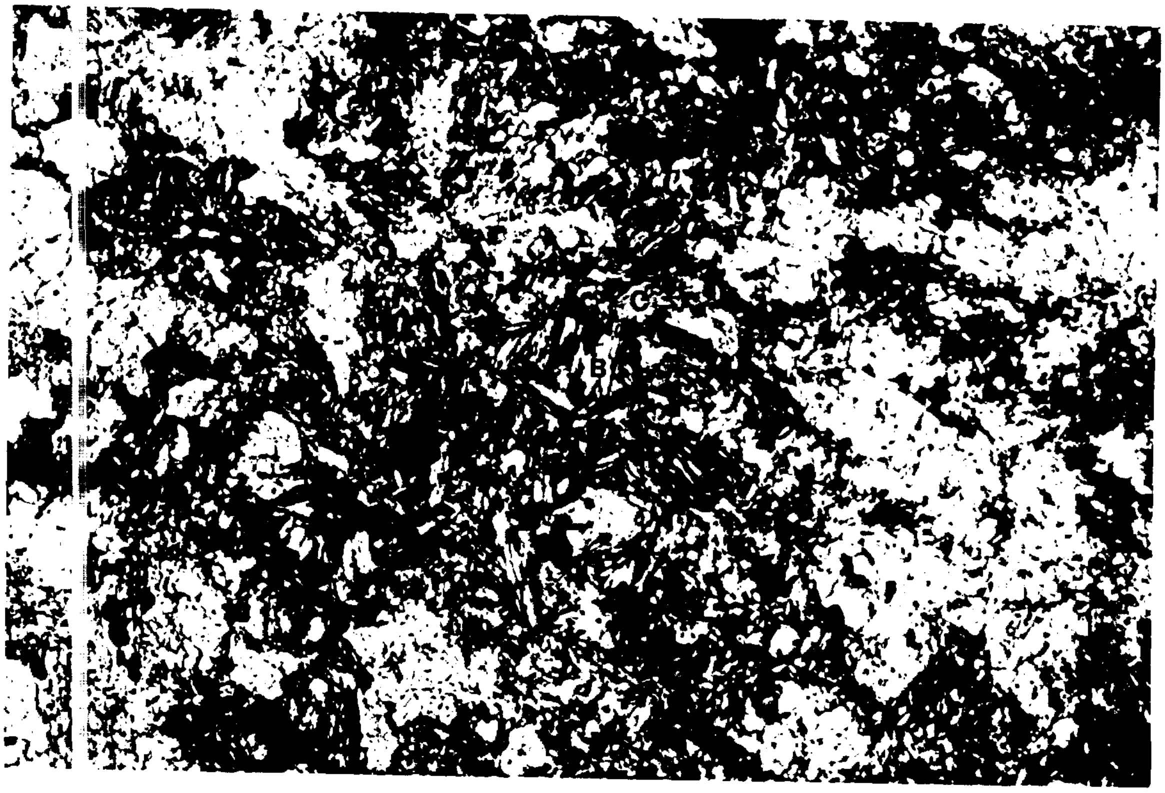


Fig.19. ame field of view as Fig. 18, but plane light, f.o.v. 6.8mm

Fig.20 Multiple sulphide grain: magnetite (grey), covelitte (blue-green) and a stipple textured silver mineral (native silver, Au or Ag telluride?). Plane reflected light, f.o.v. 0.85mm.

Fig.21 Same multiple sulphide grain as in Fig.20. Plane reflected light, f.o.v. 0.85mm.

Fig.22. Pyrite, disseminated and seive-textured. Plane reflected light, f.o.v. 6.8mm.

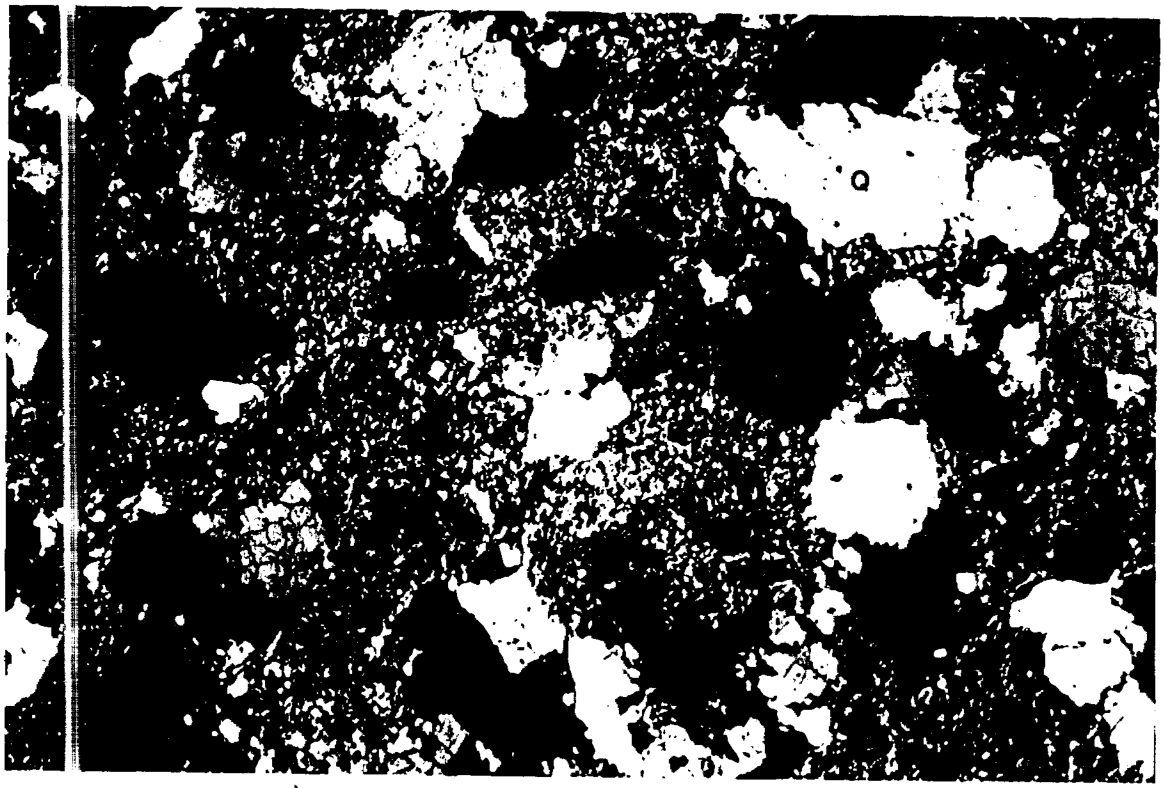


Fig.23. Sericitic aggregates replacing plagioclase. Polarized light, f.o.v. 6.8mm.

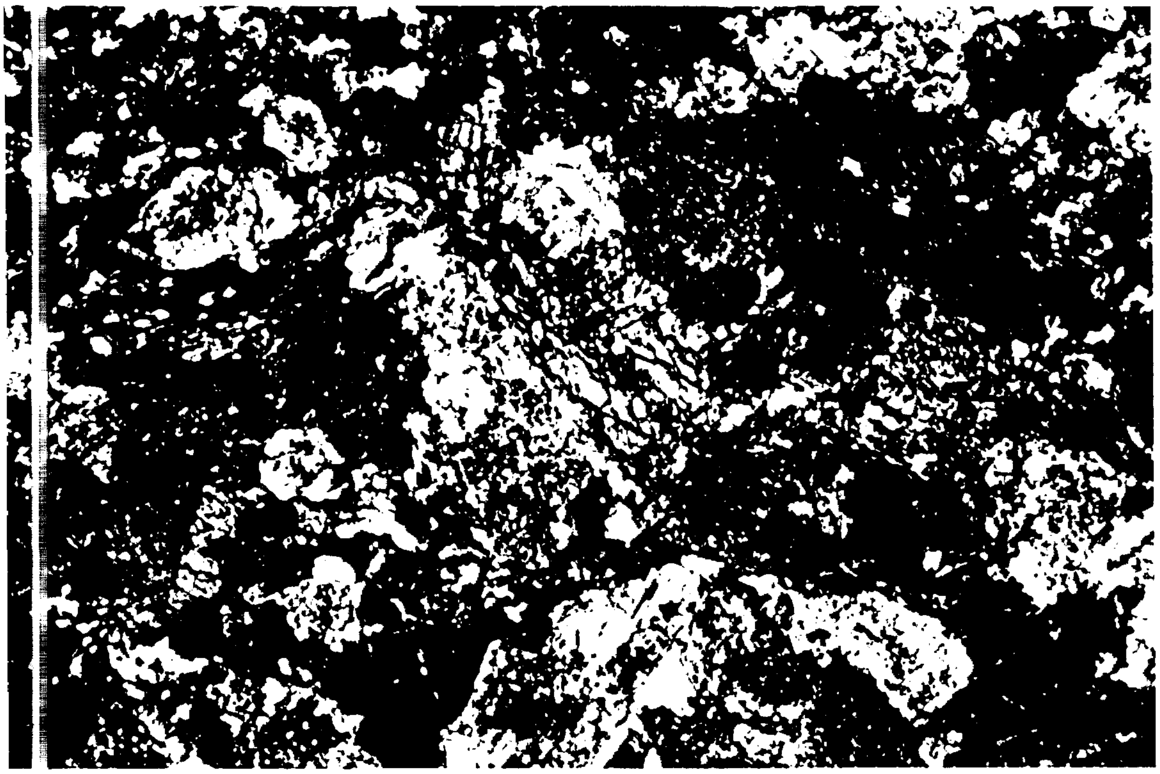


Fig.24. Sodic amphibole altering to chlorite and opaques. Polarized light, f.o.v. 6.8mm.

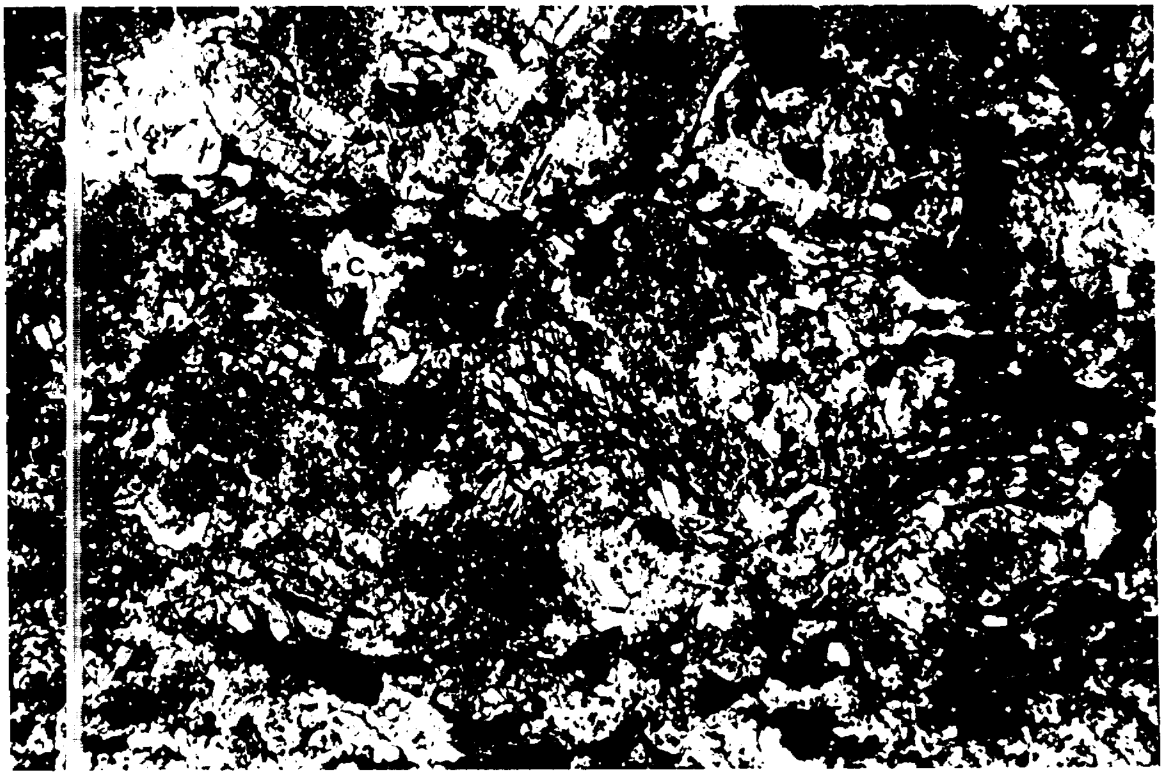


Fig.25. Same field of view as Fig.24, but in plane light, f.o.v. 6.8mm.

Fig.26 Pale grey magnetite anhedra with subhedral chromite or chromian magnetite (darker grey). Plane reflected light, f.o.v. 3.4mm.

Fig. 27. Quartz diorite breccia. Plane light, f.o.v. 6.8mm.

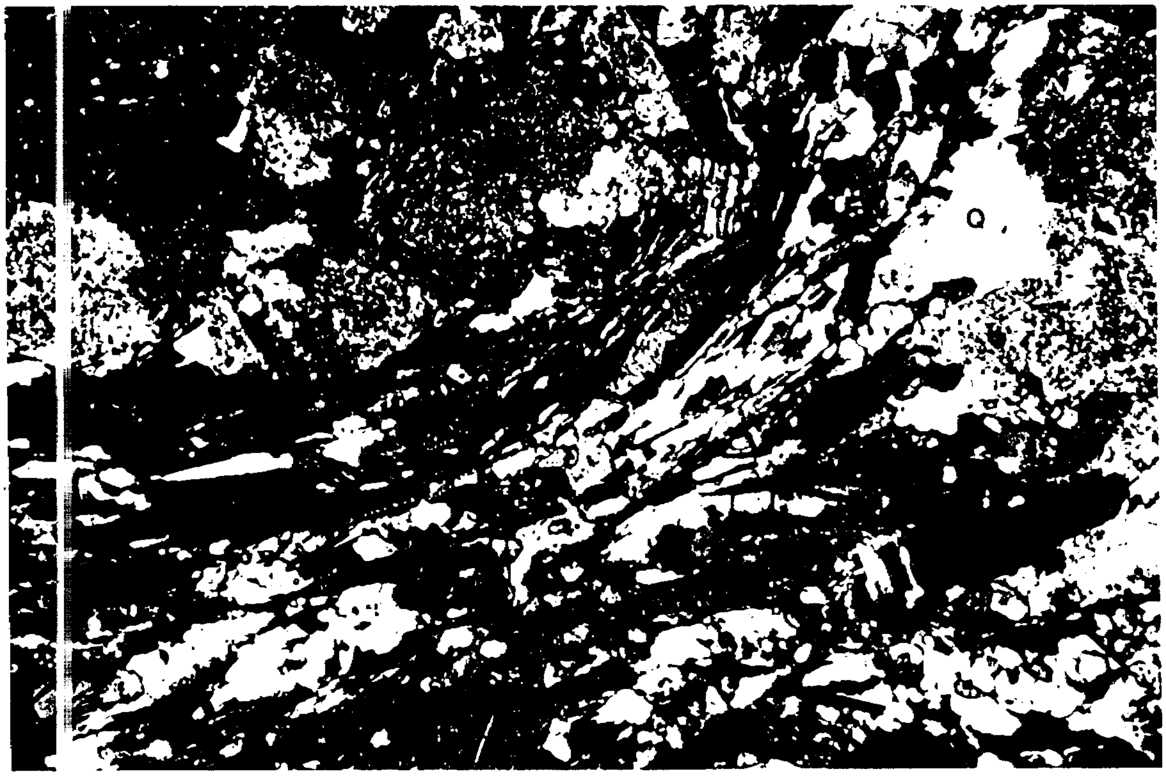


Fig.28 Quartz diorite breccia. Polarized light, f.o.v. 6.8mm.

Fig. 29 Quartz diorite breccia. Polarized reflected light, f.o.v. 3.4mm.

Fig.3C Quartz diorite breccia. Plane reflected light, f.o.v. 3.4mm.

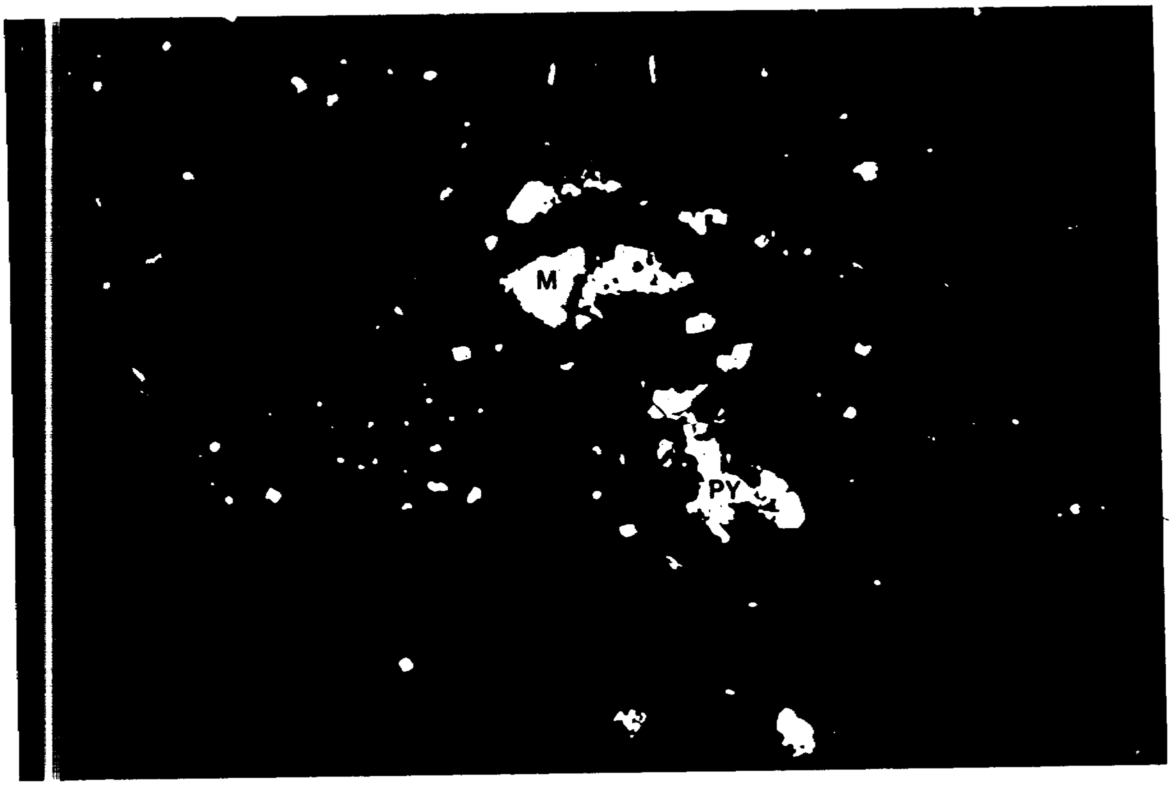


Fig. 31 Disseminated magnetite and pyrite in quartz diorite. Plane reflected light, f.o.v. 0.85mm.

Copy of 20
Intro.

REPORT ON THE 1988
DIAMOND DRILLING PROGRAM
ON THE
CHESTER TOWNSHIP PROPERTY OF
CANORTH RESOURCES INC.
PROJECT #5683

DAVID R. BELL GEOLOGICAL SERVICES INC.
Geological Consulting
Timmins, Ontario

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1.0 S MMARY

During the late summer and fall of 1987, the firm of David R. Bell Geological Servic Inc. completed a comprehensive program of surface exploration (Bell et al, 1987). The data which was gained from this exploration gave favourable indications that pr viously reported results from the surface and drill investigations were valid and could obably be reproduced with a high degree of confidence. Further exploration in the for of diamond drilling was recommended.

After completing the afore mentioned activities, exploration funds were still availab and therefore it was decided to conduct a drill program of limited footage. This dri ng would give an initiall indication of strike and dip extension of the known vein-st ictures. Therefore on Februry 20, 1988 a 2,064 foot drill program was initiated. This pr ram was designed to test the No. 1, 2, 6, and 10 veins, from which highly anomal us to "ore" grade gold assays had been received. The most interesting drill intersec ons were received from the No. 2, 6, and 10 veins, with the best assay being a 3.10 f ot section of 0.268 oz Au/ton from the No. 2 vein in hole 5683-88-6.

As a consequence of recognition of the target alteration-structural zones and the ass s results which were received from this drilling it is believed that the Chester Twp. pr perty of Canorth Resources Inc. must recieve further drilling, so as to properly determi if an conomic gold deposit might be present. Therefore it has been recome ded that a two phase follow up program should be completed. It is estimated that thi work, including contingencies will cost $1,192,537.00.

2.0 Introduction

On February 20, 1988 a diamond drill program of limited footage was initiated on Can rth Resources', Chester Twp property. This work is a continuation of the surface work that had previously been completed, and was seen as a method to gather information that would enable any further drilling to be conducted in a more beneficial manner.

3.0 PROPERTY AND OWNERSHIP

The property consists of 11 patent mining claims located in Chester Township in the Porcupine Mining Division, District of Sudbury, Ontario. A claims search was not conducted but, it is beleived that the claims are owned either directly or indirectly by Canorth Resources Inc. The claim numbers are as follows;

S-20655 to S-20657 (3)

S-20660 to S-20661 (2)

S-20663 to S-20668 (6)

See Figure 1 Property Location Map

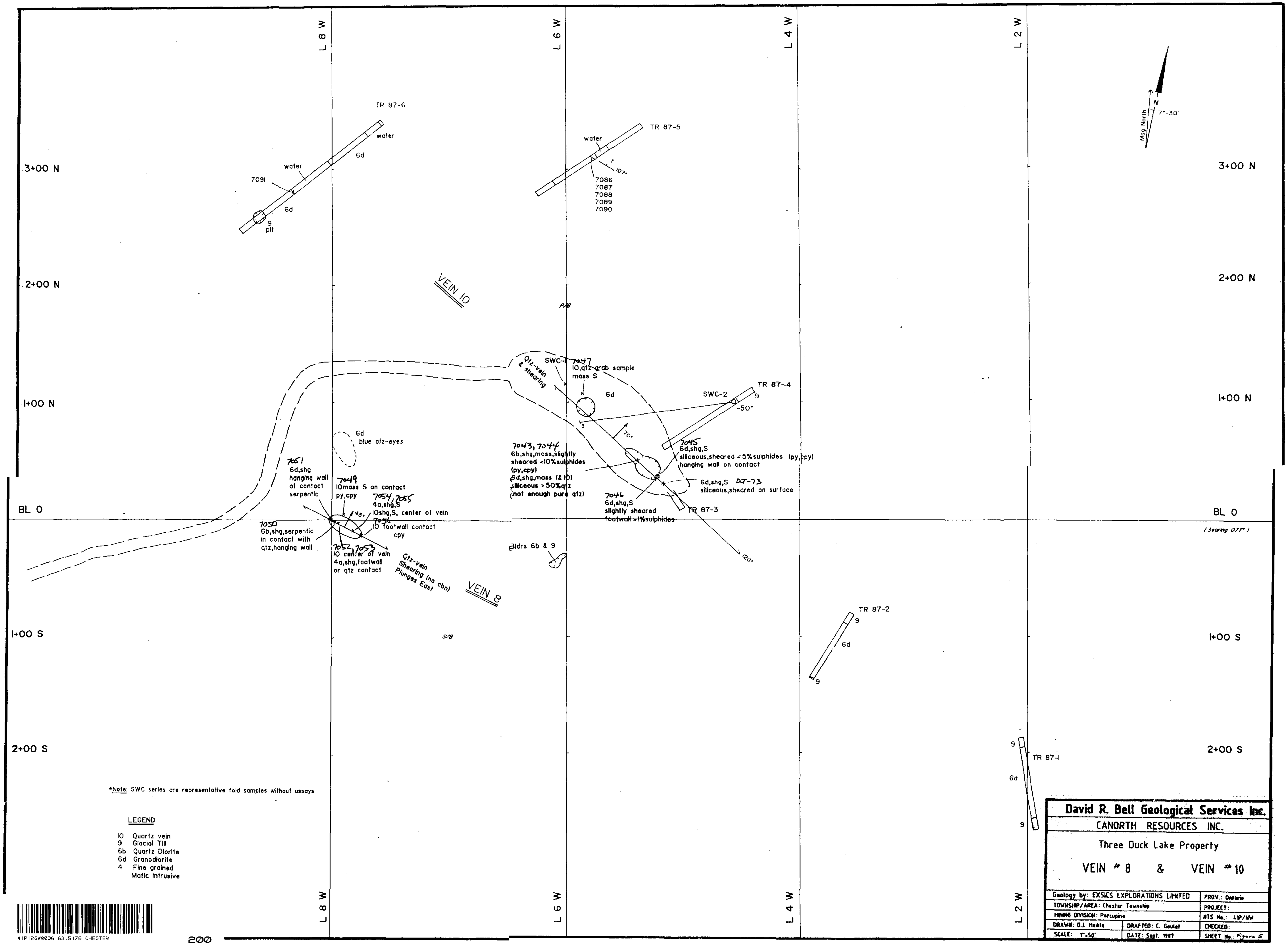
4.0 PROPERTY LOCATION AND ACCESS

The claim group is located 104 miles north of Sudbury, and 85 miles south of Timmins using Highway 144 for access. From this point one travels west along the Mesomikenda Lake Road for 2.9 miles, passing Camp C.G.M., to the Chesbar Camp. Here, several bush roads and trails can be found which lead to both sides of Three Duck Lakes and the Canorth property.

A float plane can also be used to access the property via Three Duck Lakes which bisects the claim group. (See Figure 2).

5.0 PHYSIOGRAPHY

The property is relatively flat with a good number of low lying outcrops which at best rise about 50-100 feet above the swamps and lakes. Areas between these outcrops are filled with glacial debris with some being very wet.



41P12SW0036 63.5176 CHESTER

200

63.5176

LEGEND

- 7001 Assay Sample Numbers
- DJ-01 Representative Field Sample Numbers
- Drill Hole Location
- Quartz Vein
- Trench
- Outcrop
- Outcrop Ridge
- Swampy Area

210

*Note: SWC series are representative field samples without assays.

OM87-5-L-104

David R. Bell Geological Services Inc.		
CANORTH RESOURCES INC.		
Three Duck Lake Property		
Sample Location Map		
Geology by: EXSICS EXPLORATIONS LIMITED		PROV.: Ontario
TOWNSHIP/AREA: Chester Township		PROJECT:
MINING DIVISION: Porcupine		NTS No.: 41P/NW
DRAWN: D.J. Meikle	DRAFTED: C. Goulet	CHECKED:
SCALE: 1"=200'	DATE: Sept. 1987	SHEET No.: 5688-87-B-1

63.5176

41P12SW0036 63.5176 CHESTER

220

LEGEND	
10	Quartz Vein
9	Glacial Till
8	Equigranular Diabase
7	Lamprophyre
6	Unsubdivided Granitic Rock
6b	Quartz Diorite
6c	Granite Pegmatite
6d	Grano-diorite
6e	Diorite
5	Metavolcanic Migmatite
5a	Hornblende Diorite / or Tonalite
5b	Gabbro
5c	Quartz Gabbro
4	Fine Grained Mafic Intrusive
4a	Quartz Feldspar Porphyry

aspy	arsenopyrite
au	gold
cu	copper
mc	malachite
bio	biotite rich
cbn	carbonatization
cg	coarse grained
chlc	chloritic
cpy	chalcopyrite
fg	fine grained
foln	foliation
fv	felsic veins
gal	galena
gnc	gneissic
j	containing much quartz
k	containing mafic pods
mass	massive looking rock
mus	muscovite
porph	porphyritic
py	pyrite
S	disseminated sulphides
shg	shearing
mf	mafic

TREE TYPES

A	Alder
B	Birch
Bf	Balsam
C	Cedar
Df	Deadfall
E	Esker
Lt	Labrador Tea
MM	Moose Maple
P	Poplar
Pi	Pine
S	Spruce

au	gold
aspy	arsenopyrite
cu	copper
mc	malachite
mf	mafic

SYMBOLS

- outcrop
- Bldr boulder
- trench
- outcrop ridge
- contact of lower and higher terrain
- contact
- known dike
- road
- claim post location
- claim line
- swamp
- quartz stringers
- shearing
- 360° 70° Foliation and/or quartz-vein (strike and dip)
- 5° 3° approximate decline in degrees
- Survey Pin
- Drill hole location

David R. Bell Geological Services Inc.

CANORTH RESOURCES INC.

Three Duck Lake Property

Geology Map

Geology by: EXSICS EXPLORATIONS LIMITED		PROV.: Ontario
TOWNSHIP/AREA: Chester Township		PROJECT:
MINING DIVISION: Porcupine		NTS No.: 41P/NW
DRAWN: D.J. Meikle	DRAFTED: C. Goulet	CHECKED:
SCALE: 1"=200'	DATE: Sept. 1987	SHEET No.: SK83-07-V-1

0M87-5-L-104

63.5176

- less than 0
- 0 to 300
- 300 to 500
- 500 to 700
- 700 to 1000
- 1000 to 1500
- 1500 to 2000
- greater than 2000

LEGEND

Instrument: EDA OMNI-PLUS
Parametres Measured: Earth's total magnetic field,

Accuracy: +/- 1 nano-teslas
Diurnals: Corrected by tie line looping (in tie mode)
Contour Interval: 0,100,200,300,400,.........

David R. Bell Geological Services Inc.

CANORTH RESOURCES INC.

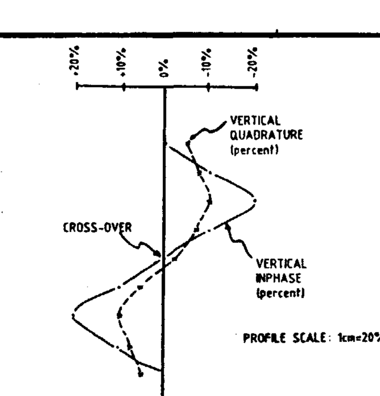
Three Duck Lake Property
CONTOURED
MAGNETOMETER SURVEY

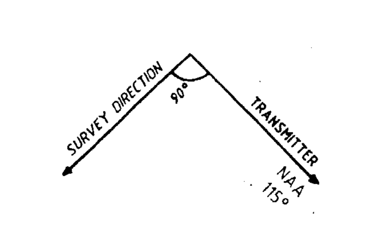
Geology by: EXSICS EXPLORATIONS LIMITED		PROV.: Ontario
TOWNSHIP/AREA: Chester Township		PROJECT:
MINING DIVISION: Porcupine		NTS No.: 41P/NW
DRAWN: D.J. Meikle	DRAFTED: C. Goulet	CHECKED:
SCALE: 1"=200'	DATE: Sept. 1987	SHEET No.: 5683-87-5-1

OM87-5-L-104

1
230

63.5176





LEGEND

INSTRUMENT: OMNI-PLUS
TRANSMITTER STATION: NAA,Cutler Maine
FREQUENCY: 24.0 KHz
PARAMETRES MEASURED: Inphase Dip Angle, Outphase Quadrature
OPERATOR: D. T. Meikle

David R. Bell Geological Services Inc.

CANORTH RESOURCES INC.

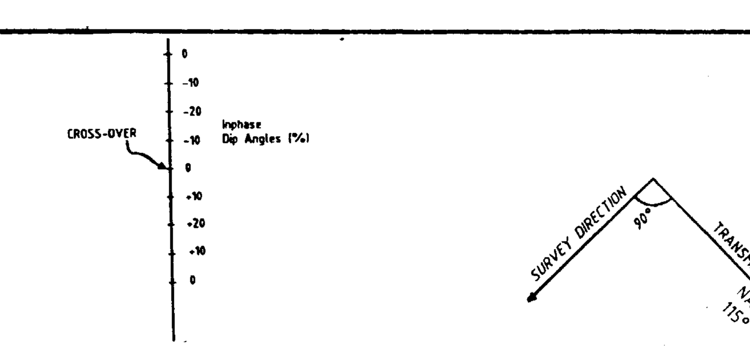
Three Duck Lake Property
PROFILED
V.L.F.
DIP ANGLE, QUADRATURE

Geology by: EXSICS EXPLORATIONS LIMITED		PROV.: Ontario
TOWNSHIP/AREA: Chester Township		PROJECT:
MINING DIVISION: Porcupine		NTS No.: 41P/NW
DRAWN: D.J. Meikle	DRAFTED: C. Goulet	CHECKED:
SCALE: 1"=200'	DATE: Sept. 1987	SHEET No.: 5483-87-5-2

0M87-5-L-104

240

63.5176



LEGEND

INSTRUMENT: OMNI-PLUS
TRANSMITTER STATION: NAA, Cutler Maine
FREQUENCY: 24.0 KHz
PARAMETRES MEASURED: Inphase Dip Angle
OPERATOR: Douglas T. Meikle

David R. Bell Geological Services Inc.

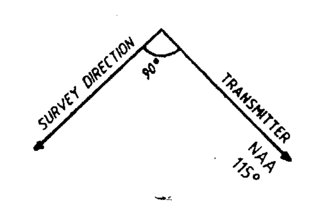
CANORTH RESOURCES INC.

Three Duck Lake Property
VLF
Dip Angle

Geology by: EXSICS EXPLORATIONS LIMITED		PROV.: Ontario
TOWNSHIP/AREA: Chester Township		PROJECT:
MINING DIVISION: Porcupine		NTS No.: 41P/NW
DRAWN: D.J. Meikle	DRAFTED: C. Goulet	CHECKED:
SCALE: 1"=200'	DATE: Sept. 1987	SHEET No.: 5683-87-5-3

OM87-5-L-104

250



0-30
30-50
50-100
greater than 100

LEGEND

INSTRUMENT: EDA OMNI-PLUS
TRANSMITTER STATION: NAA, Cutler Maine
FREQUENCY: 24.0 KHz
VALUES FILTERED: Inphase Dip Angles
OPERATOR: Douglas T. Meikle
CONTOUR INTERVAL: 0,10,20,30,40,50.........

63.5176

David R. Bell Geological Services Inc.

CANORTH RESOURCES INC.

Three Duck Lake Property
CONTOURED
FRASER FILTERED VLF

Geology by: EXSICS EXPLORATIONS LIMITED		PROV.: Ontario
TOWNSHIP/AREA: Chester Township		PROJECT:
MINING DIVISION: Porcupine		NTS No.: 41P/NW
DRAWN: D.J. Meikle	DRAFTED: C. Goulet	CHECKED:
SCALE: 1"=200'	DATE: Sept. 1987	SHEET No.: 5683-87-5-4

OM 87-5-L-104

280

63.5176

LEGEND

METHOD: TIME DOMAIN
ELECTRODE ARRAY: DIPOLE-DIPOLE
"a" SPACING: 50 Feet
PULSE DURATION: 2 sec-on/2 sec-off
DELAY TIME: 650 m.s.
INTERGRATATION TIME: 520 m.s.
RECEIVER: E.D.A. IP-2
TRANSMITTER: Scintrex I.P.C.-9,200 watt
UNITS: chargeability-millivolts/volt
resistivity-ohm-meters
FILTERING: Fraser Filtered
Method "A"
CONTOUR INTERVAL: 4,6,8...

OMA-5-L-104

David R. Bell Geological Services Inc.

CANORTH RESOURCES INC.

Three Duck Lake Property

FILTERED CHARGEABILITY MAP

Surveyed by: EXSICS EXPLORATIONS LIMITED		PROV.: Ontario
TOWNSHIP/AREA: Chester Township		PROJECT:
MINING DIVISION: Porcupine		NTS No.: 41P/NW
DRAWN: D.J. Meikle	DRAFTED: C. Goulet	CHECKED:
SCALE: 1"=200'	DATE: Sept. 1987	SHEET No.: 5683-87-5-5

270

SCALE : 1 inch to 100 feet

Property : THREE DUCK LAKES
Client : CANORTH RESOURCES LTD.

Date of Survey : 25/11/87
Operator : SA
Electrode Array : DIPOLE - DIPOLE
Mode : TIME DOMAIN
Receiver : EDA IP-2
Transmitter : SCINTREX IPC-9
Pulse Time : 2 Sec on 2 Sec off
Chargeability Window Plotted : #3
Delay Time : 500 ms
Integration Time : 420 ms

EXSICS EXPLORATION LTD.

IP Pseudosections for N = 1 to 3

'a' Spacing = 50 ft

63.5176

INE 3200 W

5683-87-5-6

41P12SW0036 63.5176 CHESTER

280

OM87-5-L-104

SCALE : 1 inch to 100 feet

Property : THREE DUCK LAKES
Client : CANORTH RESOURCES LTD.

Date of Survey : 26/11/87
Operator : SA
Electrode Array : DIPOLE - DIPOLE
Mode : TIME DOMAIN
Receiver : EDA IP-2
Transmitter : SCINTREX IPC-9
Pulse Time : 2 Sec on 2 Sec off
Chargeability Window Plotted : #3
Delay Time : 500 ms
Integration Time : 420 ms

****
EXSICS EXPLORATION LTD.
****

IP Pseudosections for N = 1 to 3

'a' Spacing = 50 ft

63.5176

-INE 2800 W

5683-87-5-7

SCALE : 1 inch to 100 feet

Property : THREE DUCK LAKES
Client : CANORTH RESOURCES LTD.

Date of Survey : 26/11/87
Operator : SA
Electrode Array : DIPOLE - DIPOLE
Mode : TIME DOMAIN
Receiver : EDA IP-2
Transmitter : SCINTREX IPC-9
Pulse Time : 2 Sec on 2 Sec off
Chargeability Window Plotted : #3
Delay Time : 500 ms
Integration Time : 420 ms

****
EXSICS EXPLORATION LTD.
****

IP Pseudosections for N = 1 to 3

'a' Spacing = 50 ft

63.5176

LINE 2400 W

5683-87-5-B

300

SCALE : 1 inch to 100 feet

Property : THREE DUCK LAKES
Client : CANORTH RESOURCES LTD.

Date of Survey : 26/11/87
Operator : SA
Electrode Array : DIPOLE - DIPOLE
Mode : TIME DOMAIN
Receiver : EDA IP-2
Transmitter : SCINTREX IPC-9
Pulse Time : 2 Sec on 2 Sec off
Chargeability Window Plotted : #3
Delay Time : 500 ms
Integration Time : 420 ms

EXSICS EXPLORATION LTD.

IP Pseudosections for N = 1 to 3

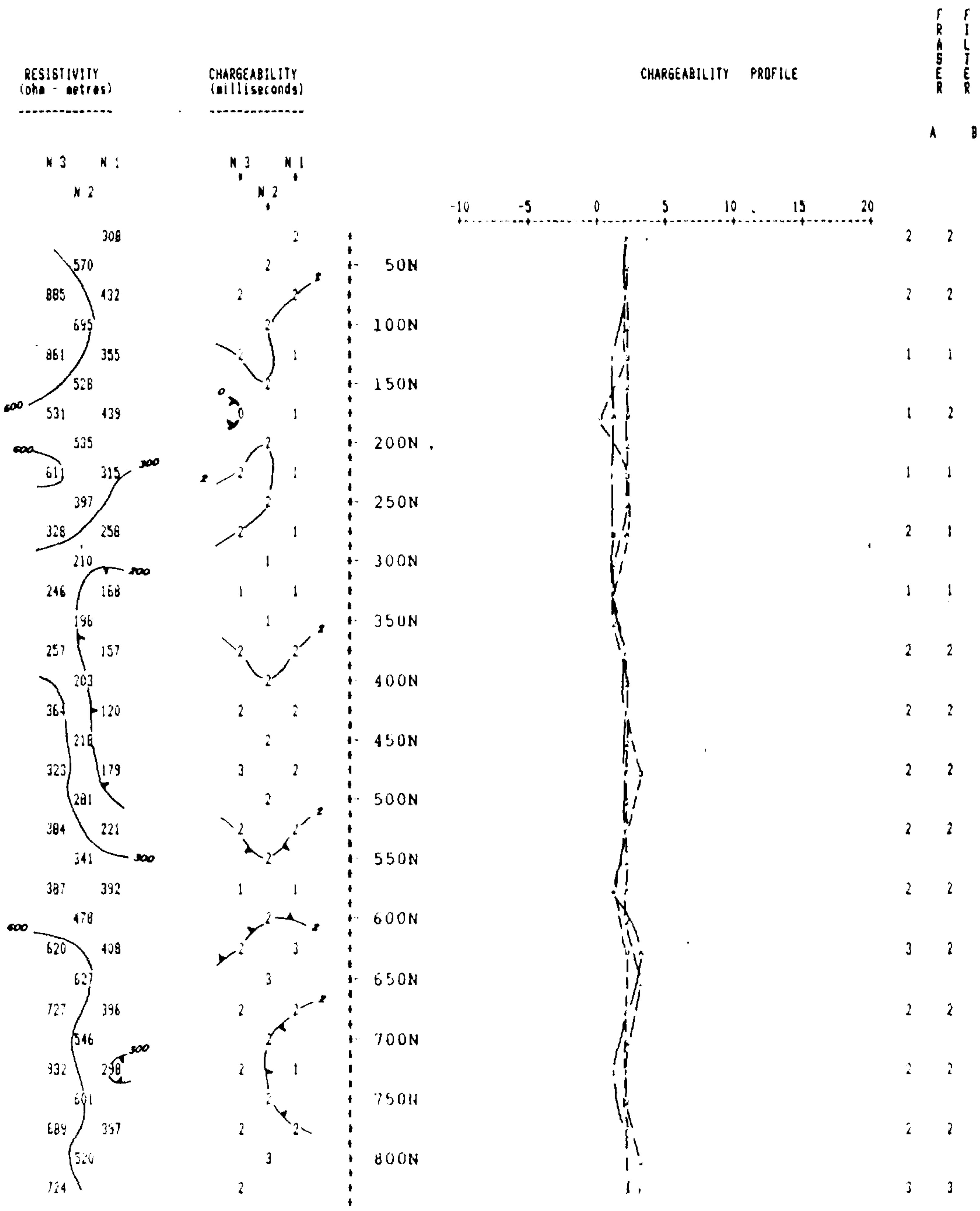
'a' Spacing = 50 ft

63.5176

INE 1600 W

5683-87-5-9

SCALE : 1 inch to 100 feet



Property : THREE DUCK LAKES
Client : CANORTH RESOURCES LTD.

Date of Survey : 26/11/87
Operator : SA
Electrode Array : DIPOLE - DIPOLE
Mode : TIME DOMAIN
Receiver : EDA IP-2
Transmitter : SCINTREX IPC-9
Pulse Time : 2 Sec on 2 Sec off
Chargeability Window Plotted : #3
Delay Time : 500 ms
Integration Time : 420 ms

****
EXSICS EXPLORATION LTD.
****

IP Pseudosections for N = 1 to 3

'a' Spacing = 50 ft

LINE 1200 W

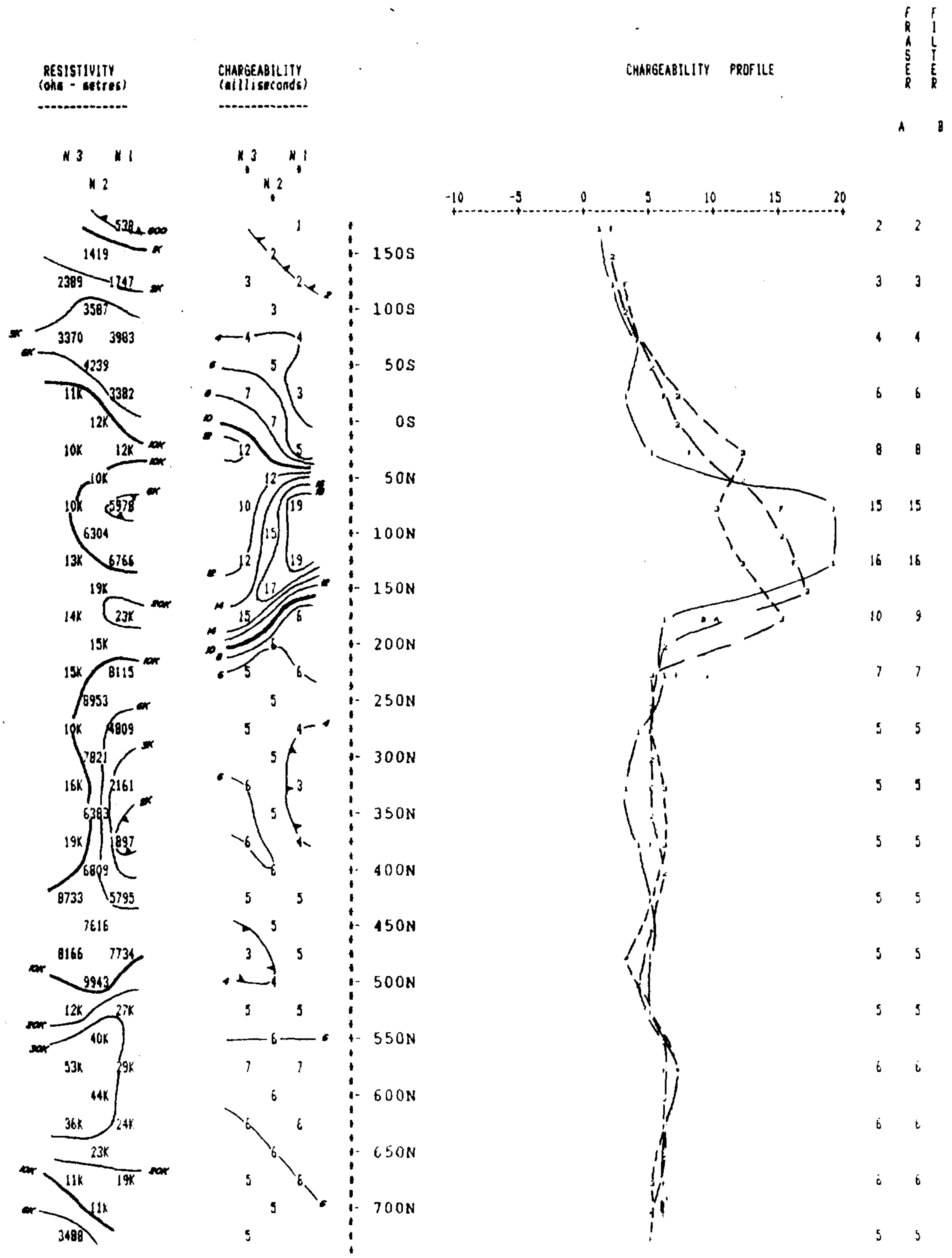
5683-87-5-10

63.5176

320

OM87-5-L-104

SCALE : 1 inch to 100 feet



Property : THREE DUCK LAKES
Client : CANORTH RESOURCES LTD.

Date of Survey : 26/11/87
Operator : SA
Electrode Array : DIPOLE - DIPOLE
Mode : TIME DOMAIN
Receiver : EDA IP-2
Transmitter : SCINTREX IPC-9
Pulse Time : 2 Sec on 2 Sec off
Chargeability Window Plotted : #3
Delay Time : 500 ms
Integration Time : 420 ms

****
EXSICS EXPLORATION LTD.
****

IP Pseudosections for N = 1 to 3

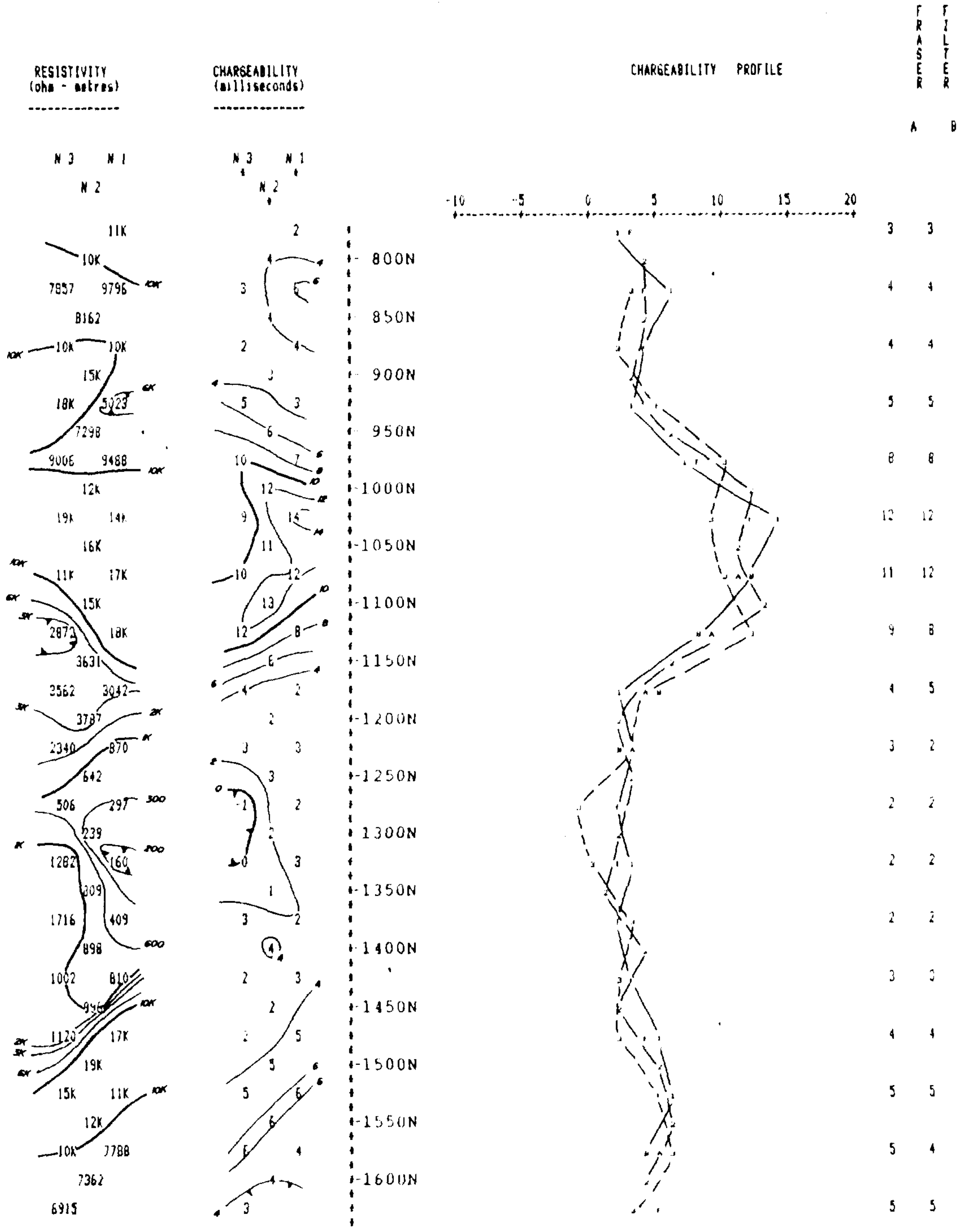
'a' Spacing = 50 ft

63.5176

:NE 600 W

5683-87-5-11

SCALE : 1 inch to 100 feet



Property : THREE DUCK LAKES

Client : CANORTH RESOURCES LTD.

Date of Survey : 26/11/87

Operator : SA

Electrode Array : DIPOLE - DIPOLE

Mode : TIME DOMAIN

Receiver : EDA IP-2

Transmitter : SCINTREX IPC-9

Pulse Time : 2 Sec on 2 Sec off

Chargeability Window Plotted : #3

Delay Time : 500 ms

Integration Time : 420 ms

****

EXSICS EXPLORATION LTD.

****

IP Pseudosections for N = 1 to 3

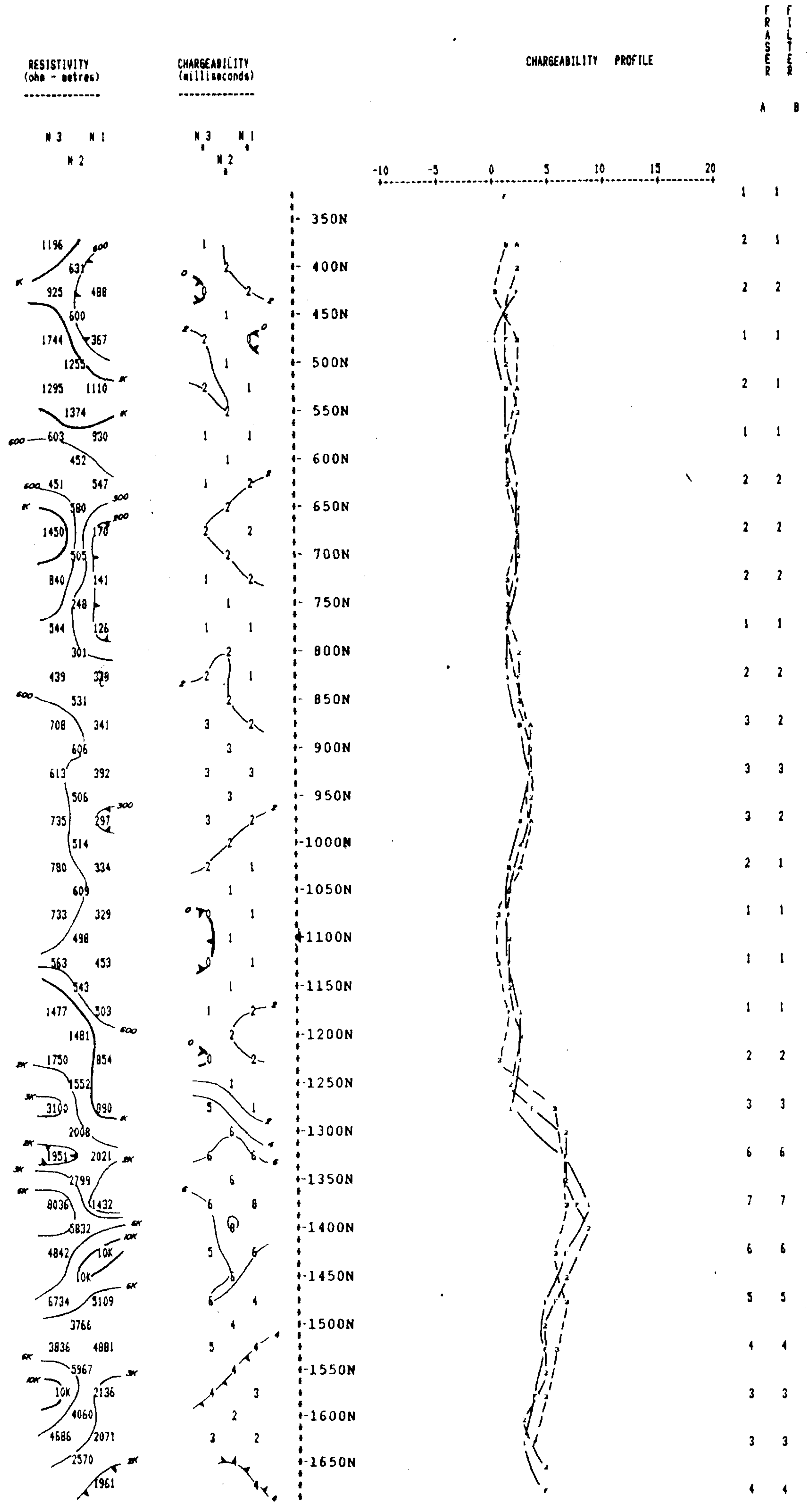
'a' Spacing = 50 ft

LINE 600 E

5683-87-5-12

63.5176

SCALE : 1 inch to 100 feet



Property : THREE DUCK LAKES
Client : CANORTH RESOURCES LTD.

Date of Survey : 26/11/87
Operator : SA
Electrode Array : DIPOLE - DIPOLE
Mode : TIME DOMAIN
Receiver : EDA IP-2
Transmitter : SCINTREX IPC-9
Pulse Time : 2 Sec on 2 Sec off
Chargeability Window Plotted : #3
Delay Time : 500 ms
Integration Time : 420 ms

EXSICS EXPLORATION LTD.

IP Pseudosections for N = 1 to 3

'a' Spacing = 50 ft

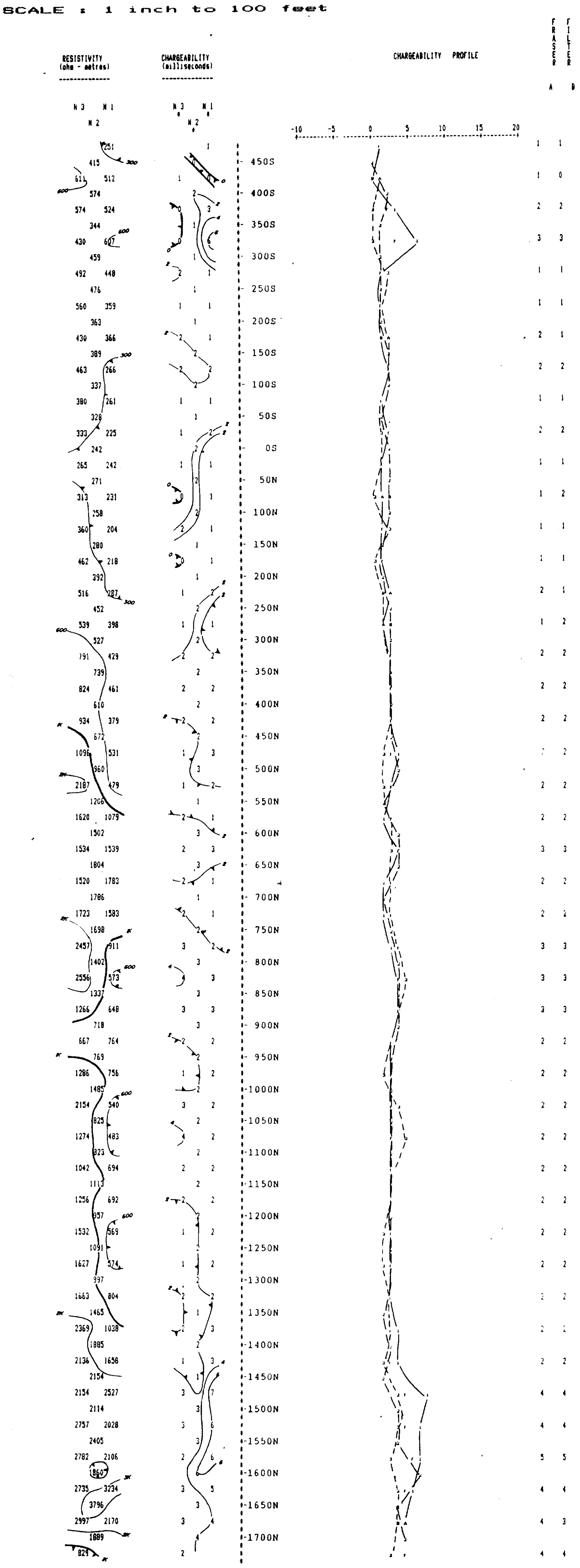
63.5176

LINE 1000 E

5683-87-5-13

350

SCALE : 1 inch to 100 feet



Property : THREE DUCK LAKES
Client : CANORTH RESOURCES LTD.

Date of Survey : 2/12/87
Operator : SA
Electrode Array : DIPOLE - DIPOLE
Mode : TIME DOMAIN
Receiver : EDA IP-2
Transmitter : SCINTREX IPC-8
Pulse Time : 2 Sec on 2 Sec off
Chargeability Window Plotted : #3
Delay Time : 450 ms
Integration Time : 900 ms

****
EXSICS EXPLORATION LTD.
****

IP Pseudosections for N = 1 to 3

'a' Spacing = 50 ft

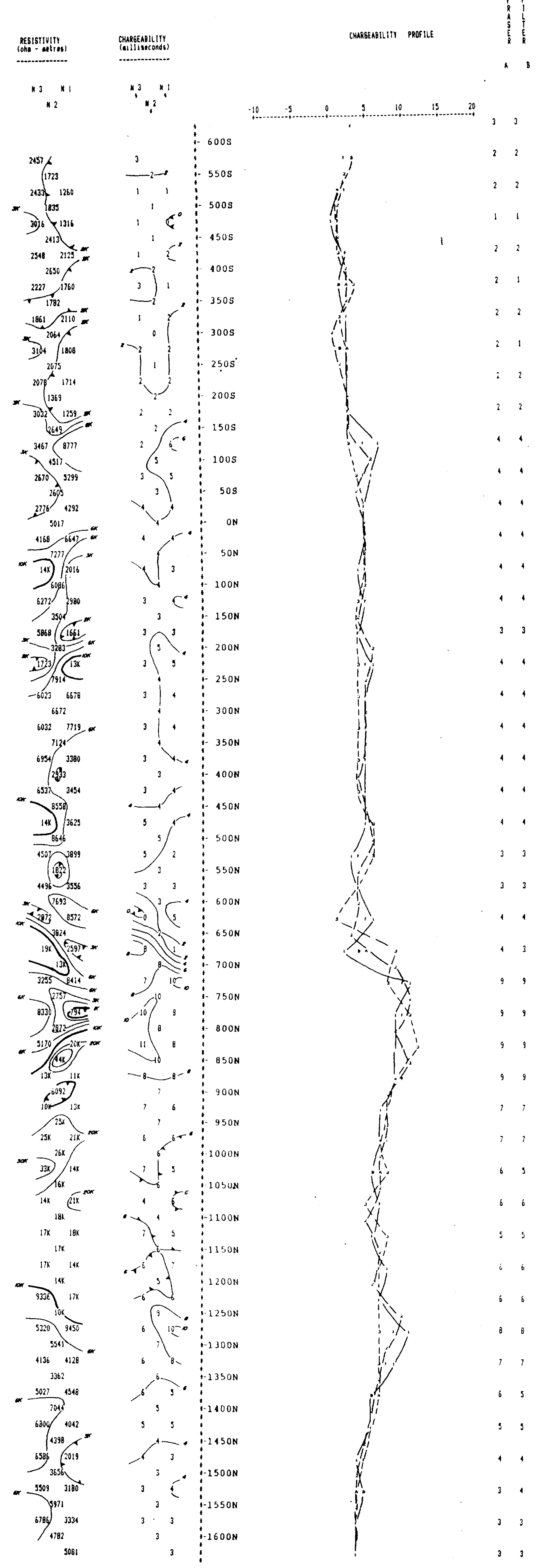
63.5176

41P12SW0036 63.5176 CHESTER

LINE 1400 E

5683-87-5-14

SCALE : 1 inch to 100 feet



Property : THREE DUCK LAKES
Client : CANORTH RESOURCES LTD.

Date of Survey : 2/12/87
Operator : SA
Electrode Array : DIPOLE - DIPOLE
Mode : TIME DOMAIN
Receiver : EDA IP-2
Transmitter : SCINTREX IPC-8
Pulse Time : 2 Sec on 2 Sec off
Chargeability Window Plotted : #3
Delay Time : 500 ms
Integration Time : 420 ms

EXSICS EXPLORATION LTD.

IP Pseudosections for N = 1 to 3

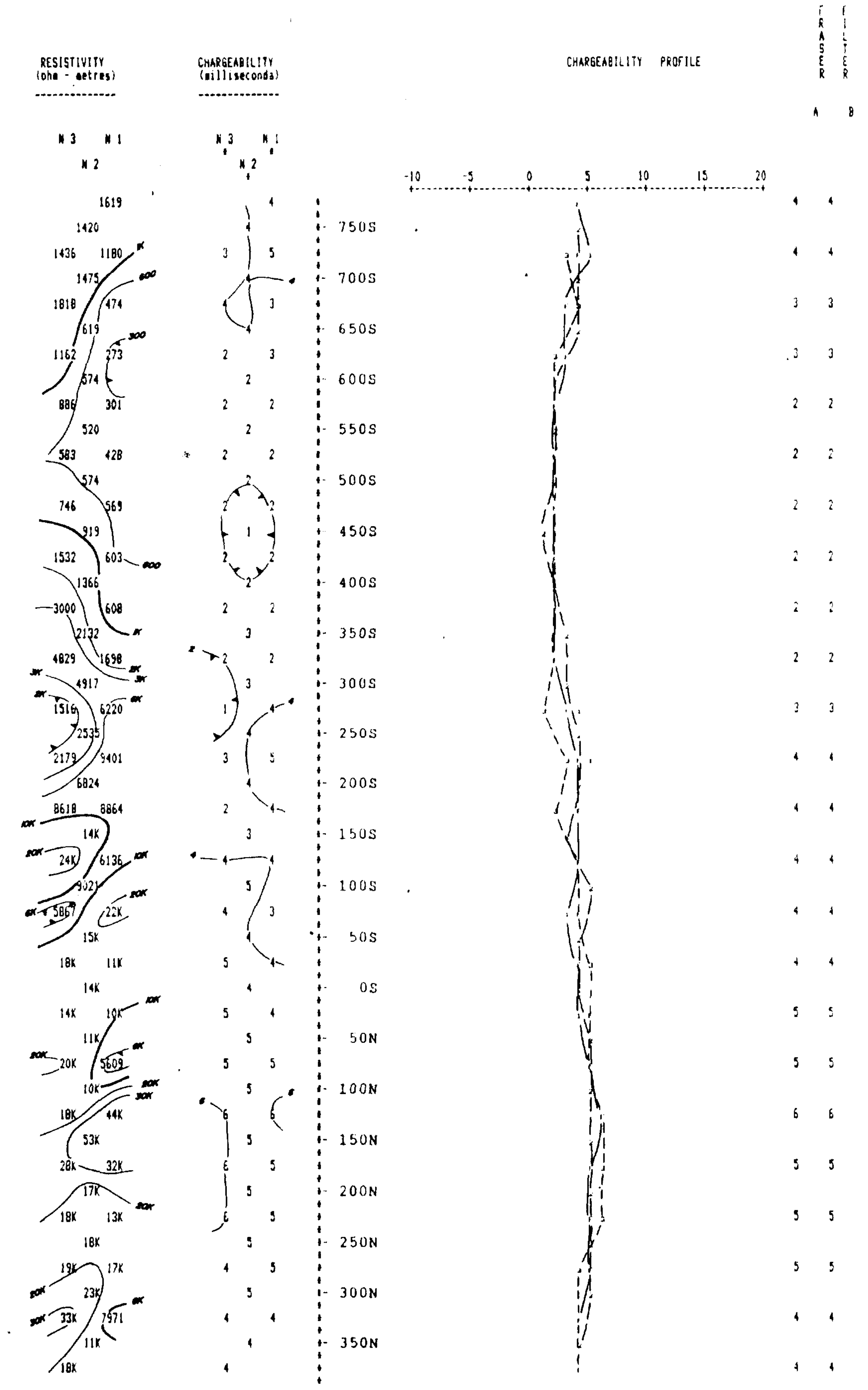
'a' Spacing = 50 ft

63.5176

LINE 1800 E

5693-87-5-15

SCALE : 1 inch to 100 feet



Property : THREE DUCK LAKES

Client : CANORTH RESOURCES LTD.

Date of Survey : 3/12/87

Operator : SA

Electrode Array : DIPOLE - DIPOLE

Mode : TIME DOMAIN

Receiver : EDA IP-2

Transmitter : SCINTREX IPC-8

Pulse Time : 2 Sec on 2 Sec off

Chargeability Window Plotted : #3

Delay Time : 500 ms

Integration Time : 420 ms

****

EXSICS EXPLORATION LTD.

****

IP Pseudosections for N = 1 to 3

'a' Spacing = 50 ft

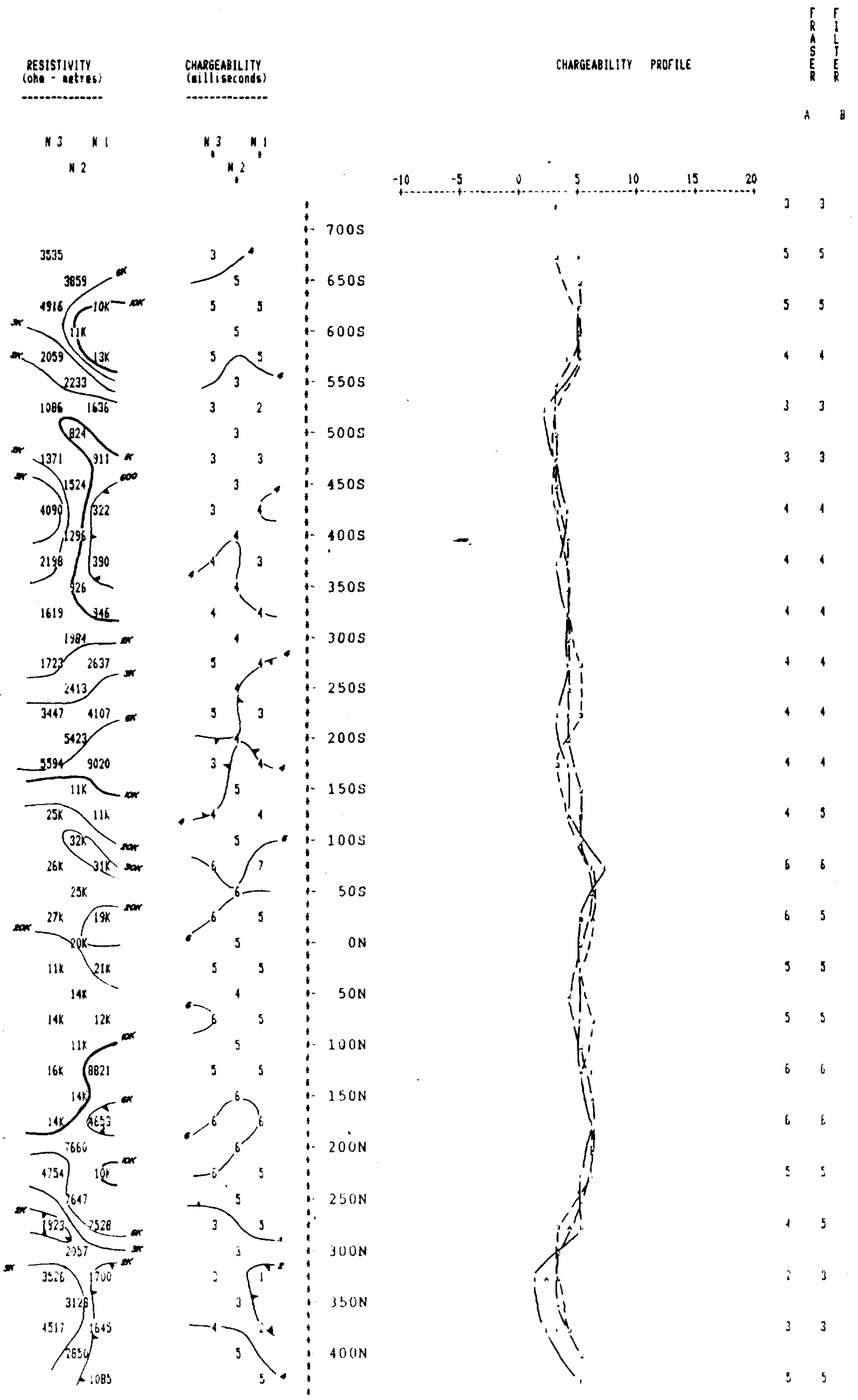
63.5176

380

INE 2400 E

5683-87-5-16

SCALE : 1 inch to 100 feet



Property : THREE DUCK LAKES
Client : CANORTH RESOURCES LTD.

Date of Survey : 3/12/87
Operator : SA
Electrode Array : DIPOLE - DIPOLE
Mode : TIME DOMAIN
Receiver : EDA IP-2
Transmitter : SCINTREX IPC-8
Pulse Time : 2 Sec on 2 Sec off
Chargeability Window Plotted : #3
Delay Time : 500 ms
Integration Time : 420 ms

****

EXSICS EXPLORATION LTD.

****

IP Pseudosections for N = 1 to 3

'a' Spacing = 50 ft

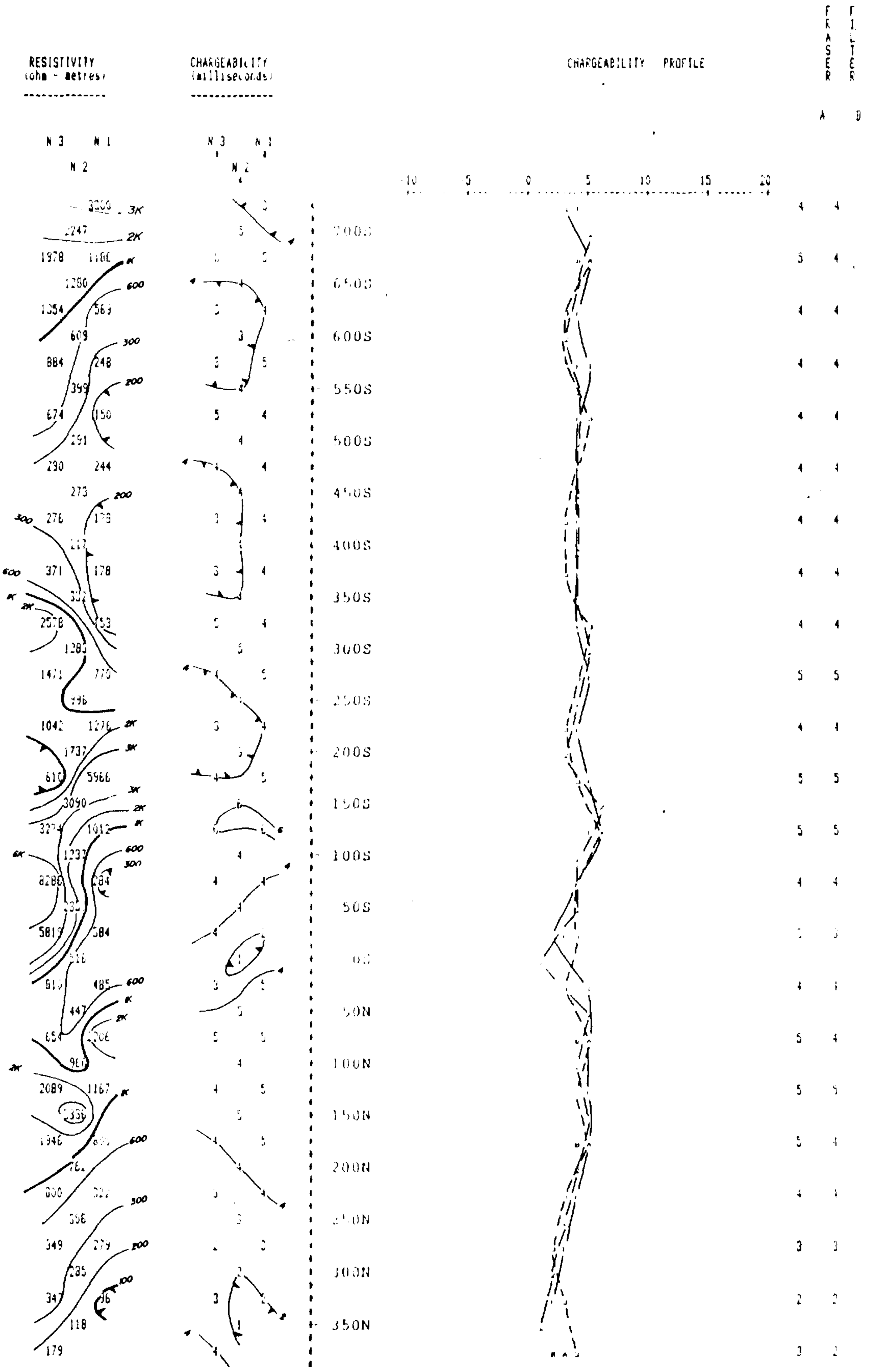
LINE 2800 E 5683-87-5-17

390

63.5176

OM87-5-L-104

SCALE : 1 inch to 100 feet



Property : THREE DUCK LAKES
Client : CANORTH RESOURCES LTD.

Date of Survey : 3/12/87
Operator : SA
Electrode Array : DIPOLE DIPOLE
Mode : TIME DOMAIN
Receiver : EDA IP 2
Transmitter : SCINTREX IPC 8
Pulse Time : 2 Sec on 2 Sec off
Chargeability Window Plotted : #3
Delay Time : 500 ms
Integration Time : 420 ms

EXSICS EXPLORATION LTD.

[illegible]

[illegible]

63.5176

400

[illegible]

5683-87-5-/8