



41110SE0038 2.11868 FALCONBRIDGE

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WANAPITEI PRECIOUS METALS PROPERTY

FALCONBRIDGE TOWNSHIP

SUDBURY MINING DIVISION

DISTRICT OF SUDBURY

ONTARIO

REGISTERED

1988

LANDS SECTION

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Summary

The Wanapitei property consists of 21 contiguous mining claims and is located near the east end of the Sudbury Intrusive Complex (S.I.C.) and the town of Falconbridge, Ontario. The ground was staked and claims were recorded on August 19, 1988.

Field work commenced with claim post location, geological mapping, rock sampling and soil / humus sampling on August 16, 1988. This work has outlined sulphide rich conglomerate units, sulphide-bearing shears and a localized area of complex alteration associated with gas cavities and secondary sulphides.

Humus sampling along the Norduna fault zone has identified two anomalous PGE localities. One of these anomalies also involves high Ni and Cu values. Diamond drilling is recommended at these two localities.

Introduction

The Wanapitei claim group was staked to hold ground in an area with potential for structurally controlled secondary PGE and Au mineralization. The property is within 4 km of the currently producing Falconbridge East Mine (Cu, Ni, accessory PGE,s) and within 2.5 km of the past producing Norduna Mine (Cu, Ni, accessory PGE,s). The Norduna fault passes through the Norduna Mine and extends southeast through the Wanapitei property. This structure is of prime interest for secondary PGE sulphides and Au mineralization extending beyond the SIC into footwall country rocks. The Norduna fault has sinistral offset with a minimum of 500 m displacement at the Norduna Mine (Dressler, 1984, 1987).

Location and Access

The Wanapitei property is in the northwest quarter of Falconbridge Township, approximately 6.4 km ENE of the town of Falconbridge, Ontario and about 24.3 km NE of Sudbury, Ontario (Fig.1). Access is by hard surfaced all weather road (highway 541) to the Sudbury airport area. From there gravel roads lead southeast to within 1.5 km of the northern end of the property. Final access is by foot or A.T.V.

Previous Work

The property area has been worked on by numerous individuals and companies for Au and Cu - Ni. Within the Wanapitei property work has included limited diamond drilling and ground and airborne geophysical surveys. Geological mapping by the Ontario Department of Mines and the Ontario Geological Survey have provided base geological maps for exploration work.

Diamond drilling was done by R. Larson in 1956 and 1963 in the north end of the property in Mississagi Fm. Hodden-Grey Mining and Explorations Ltd. with Donway Exploration Ltd and L. R. Kingsland drilled two 300 foot deep holes in the southern end of the property in 1970. These holes are south of the Norduna fault, plunge towards it and intersected Mississagi Fm. with minor disseminated pyrite and chalcopyrite.

Ground geophysics includes Mag. and EM surveys over the southern part of the property. This was done by Bronco Exploration Services for Hodden-Grey et al. in the spring of 1970. Two anomalies were mapped. One is at the contact of a conglomerate unit in Mississagi Fm. and the EM response is accompanied by a strong Mag. signature. The second EM anomaly is weak and has no Mag. response.

An airborne Mag. and EM survey was filed by E. Jerome, R. Charron, and R. J. Graham in 1984. The survey was flown by Aerodat Ltd. The portion of this survey over the property shows strong Mag. and EM responses (olivine diabase dikes) along the Norduna fault and a related splay striking more to the SE.

Geological mapping by the provincial government is shown first on a map by Thompson (1957). A preliminary map by Dressler (1987) also covers Falconbridge Township and a regional scale map covers the claim group and

the Sudbury Intrusive Complex (Dressler, 1984)

Work by Noramco Exploration Inc.

PERSONEL	PERIOD	TYPE of WORK	DAYS
1 geologist	Aug.16-21	geological mapping	6
	Sept.6-14	geological mapping	6
	Sept.13	humus survey	1
	Sept.19-23	report preparation	5
1 geological assistant	Aug.16-21	geological mapping	6
	Sept.13	humus survey	1
	Sept.6-14	geological mapping	6
1 draftsman	Sept.19-23	map preparation	5
TOTAL DAYS			36

Claim lines and traverses accounted for 54.6 kms of walking.

Claims

The Wanapitei Property consists of 21 contiguous mining claims. These are listed in Table 1 and shown on Fig.3.

Table 1. Claim numbers (all recorded on 08/19/87)

Claim Number	
S 985270	S 994030
S 985271	S 994031 (21 claims total)
S 985272	
S 985273	
S 985274	
S 985275	
S 985276	
S 985277	
S 985278	
S 985279	
S 985280	
S 985281	
S 994023	
S 994024	
S 994025	
S 994026	
S 994027	
S 994028	
S 994029	

Regional Geology (Fig.2)

The Wanapitei property lies at the southeast lobe of the Sudbury Intrusive

the Sudbury Intrusive Complex (Dressler, 1984)

Work by Noramco Exploration Inc.

PERSONEL	PERIOD	TYPE of WORK	DAYS
1 geologist	Aug.16-21	geological mapping	6
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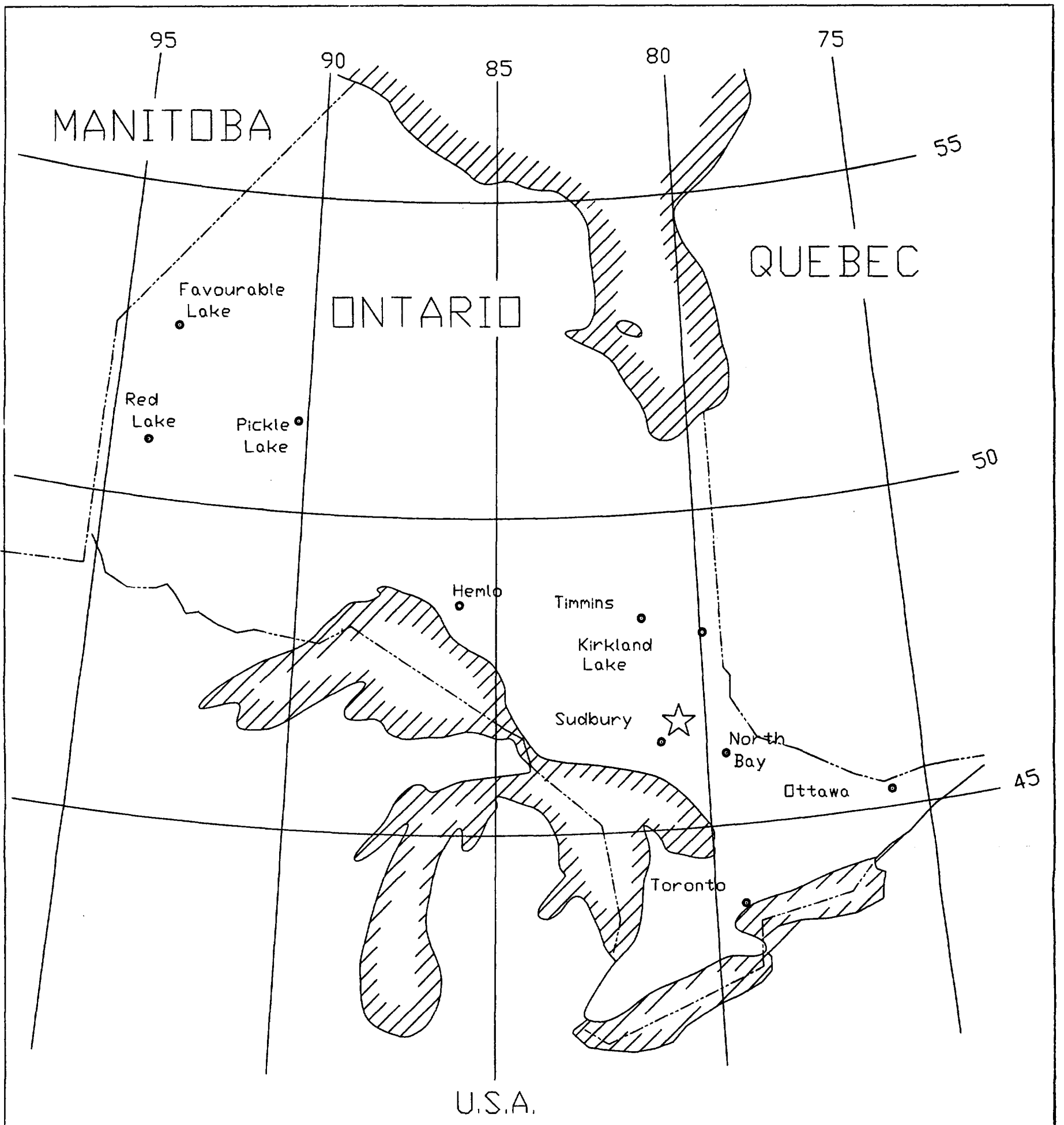


Fig.1. Wanapitei property location map ☆

Complex (S.I.C.) and is cut by major southeast striking faults (Fig.2). This region is at the junction of three structural provinces; the Superior Province, Southern Province and Grenville Province. The west end of the property is about 2.0 km from the intrusive contact between the SIC and Huronian metasedimentary rocks. These are described in detail by Dressler (1982).

Intrusive, extrusive and sedimentary lithologies are regionally present (Fig.2, Table 2). The oldest rocks in the area are Stobie Fm. metabasalts. These are massive to sparsely pillowed flows. Some are vesicular to amygdaloidal. Ramsey Lake Fm. conglomerate unconformably overlies metabasalts and has abundant volcanic clasts in a wacke matrix. Ramsey Lake Fm. is conformably overlain by Mississagi Fm. lithic sandstone and sub-arkoses. These are often cross-bedded with major depositional planes marked by more clay rich seams. Bruce Fm. conglomerate conformably overlies Mississagi Fm. rocks and is a paraconglomerate with numerous felsic intrusive clasts. The Huronian metasedimentary sequence in this area is intruded by Nipissing diabase sills, dikes and small stocks. The S.I.C. intrudes this package and is in turn intruded by late Proterozoic olivine diabase dikes.

The main regional structural fabric is defined by a series of sub-parallel southeast striking faults. These faults (eg. Norduna fault and Airport fault) have predominantly sinistral offset, crosscut country rocks and the S.I.C. and appear to be the locus of emplacement for some of the late olivine diabase dikes.

Table 2. Regional Stratigraphy, east end of the S.I.C. at the Wanapitei property.

LATE PROTEROZOIC

Olivine diabase (SE striking)

INTRUSIVE CONTACT

SE faulting

S.I.C. emplacement (attendant formation of Sudbury breccia and pseudotachylite)

INTRUSIVE CONTACT

Nipissing diabase stocks, sills and dikes

INTRUSIVE CONTACT

HURONIAN SUPERGROUP

Bruce Fm. conglomerate

Quirke Lake Group

Mississagi Fm. lithic sandstone

Hough Lake Group

Ramsey Lake Fm. conglomerate

Hough Lake Group

UNCONFORMITY

Stobie Fm. metabasalts

Elliot Lake Group

ARCHEAN

Property Geology (Fig.3)

The Wanapitei property is predominantly underlain by metasedimentary rocks of the Mississagi Fm. (Table 2). From Table 2, the local lithologies include:

Olivine diabase
 Sudbury breccia - pseudotachylite
 Nipissing diabase stocks
 Bruce Fm. conglomerate
 Mississagi Fm. lithic sandstone, sub-arkose
 Ramsey Lake Fm. conglomerate
 Stobie Fm. metabasalt.

Youngest

Oldest

Stobie Fm. metabasalt

Stobie Fm. metabasalt is projected through the western limit of the property (Dressler, 1984) but no outcrop was observed. Metabasalt was observed west of the southern part of the property. Massive, pillowed and amygdaloidal flows occur with flow thicknesses from 50 cm to several metres. Pillows are contorted, about 50 cm to 1.0 m in length and amygdaloidal flows have up to 60 per cent quartz amygdules. Flow metabasalt is fine-grained, equigranular and grey green on weathered surface, black-green on fresh surface.

Ramsey Lake conglomerate

Ramsey Lake conglomerate is projected through the western most claim (Dressler, 1984), but was not observed in outcrop.

Mississagi Fm. sandstone

Mississagi Fm. underlying the property is predominantly lithic sandstone with lesser subarkose and wacke. A conglomerate member also occurs with well rounded clasts of grey vein quartz.

The metasediments are fine- to medium-grained and are well sorted. Beds are generally 1.0 m thick with bedding planes often clay rich. These clay rich planes are sericticed and often localize 5 to 10 cm wide shears with well developed C' fabric.

Beds alternate between massive and cross-bedded. Crossbedding is festoon to planar in form with topset beds defined by black weathering heavy mineral accumulations about 0.5 to 1.0 mm thick. Members of the Mississagi Fm. strike north northeast to northeast and have vertical to steep (75 to 88 degree) easterly dips.

Mississagi Fm.: conglomerate member

The conglomerate member outcrops at the northwest corner of the southern part of the claim group and at the northeast corner of the eastern most claim. This conglomerate may be part of the Bruce Fm. conglomerate.

Clasts define a polymictic paraconglomerate with a dark grey medium-grained poorly sorted matrix. About 40 percent of the conglomerate has subrounded mafic volcanic clasts and well rounded vein quartz clasts forming a clast ratio of about 60:40.

Mafic volcanic clasts are very fine-grained and quartz clasts are grey massive quartz. Clasts of both types range from 0.5 cm to 4.0 cm.

Conglomerate at both localities exhibits a well developed foliation with secondary pyrite, pyrrhotite and trace chalcopyrite stringers in the foliation planes. Mineralized foliation planes at both conglomerate localities strike 090 degrees and have near vertical dip.

Olivine diabase dikes

Olivine diabase dikes were mapped in the Norduna fault valley and in the valley of a southeast striking splay from the Norduna fault. Olivine diabase has blocky jointing with prominent joints oriented roughly perpendicular to strike of the dike. Weathered surfaces are mottled brown and grey and fresh surfaces are dark grey-green.

Dikes are up to 30 m wide and are medium-grained with diabasic texture defined by plagioclase laths up to 4 mm long (c-axis). Olivine is granular, round and weathers brown while clinopyroxene, also equant in form, weathers dull black-green. Disseminated magnetite forms about 3 to 4 modal percent of the rock and is medium-grained and sub to euhedral.

Structural geology: shearing

Shearing developed in the Mississagi Fm. is of two types, bedding plane conformable and disconformable. Conformable shears are oriented north northeast to northeast with stratigraphy, and disconformable shears have variable strike. Two prominent examples have easterly strike and are hosted by conglomeratic members of the Mississagi Fm.

Conformable shears are 5 to 10 cm wide and are continuous along strike. They are developed at bedding planes between massive or cross-bedded units and are sericitic with brown-green weathering and rusty staining. These shears appear to represent clay rich topset beds that cap fining-upward sequences overlying medium- and fine-grained quartz rich sediments. Conformable shears usually have well developed C' fabric oriented at shallow oblique angles (about 30 degrees) to contacts.

Disconformable shears, hosted by conglomerate and sandstones, are texturally variable. In some outcrops they are defined by 1 cm spaced rock cleavage and in other outcrops along strike (090 degrees), host sandstones appear to be proto-mylonites. In both host rock types, secondary sulphides occur in sheared rocks. Sulphides include pyrite, pyrrhotite and chalcopyrite. Sulphides form anhedral fine grains preferentially distributed along foliation planes. Surface weathering has dissolved sulphides within 1 cm of outcrop surfaces and has left pitted weathered surfaces.

Fault lineaments (Fig.4)

Fault lineaments are best developed with a southeast strike through the claim group. The best defined lineament is that of the Norduna fault which passes through the south part of the claim group. Fault lineaments, also striking southeast, but passing through the central part of the property, may be related structures to the Norduna fault. Both southern and central fault lineaments are intruded by olivine diabase dikes that bifurcate at

the Norduna mine, west of the property.

A second lineament orientation is weakly developed with a north northeast strike. A good example of this direction is located in the east-central part of the property.

Breccia

Breccias are observed in Mississagi Fm. rocks and are of limited extent. Narrow (20 cm wide) tectonic breccia zones are developed at bedding planes and incorporate brittle, quartz-rich metasediment fragments. These fragments are angular to subangular, are oriented with long axes parallel to bedding and have aspect ratios in the range of 3 to 5. Fragments are 1 to 20 cm long and are set in very fine-grained sericitic matrices.

Sudbury breccia, with characteristic rounded fragments, was observed in a few outcrops in the northern part of the property. Fragments range up to 50 cm and consist of quartz rich metasediment. The matrix is brownish-grey weathering pulverized rock "flour" derived from the host wallrock. This matrix weathers to a fissile exfoliated surface of 1 cm flakes about 1 to 2 mm thick.

Alteration

Sericitization, sulphidation, tourmalinization and hematization were observed in varying degrees. Salmon-pink coloured patches in some of the sandstone and deep salmon-pink, 2 to 3 mm wide veining, may be scapolite, not hematite.

Sericitization is developed in bedding plane shears and may be altered clay rich seams. Sericitized shears commonly have 2 to 3 percent secondary disseminated pyrite. Weathered surfaces are consequently a pale brownish or rusty green. Sericite is aphanitic to very fine-grained, individual sericite flakes are rarely observed.

Sulphidation is defined by secondary pyrite, pyrrhotite and traces of chalcopyrite. These sulphides are hosted in sericitic shears in Mississagi Fm. sandstones and in conglomerate, where sericite is less prominent. Sulphides are fine-grained, sub- to euhedral and have precipitated along cleavage and foliation planes, or breccia matrices.

Tourmaline occurs as 1 to 3 mm patches in an outcrop of sericitized, hematized (scapolite ?) and sulphidized lithic sandstone in the west central part of the property. Black tourmaline patches are amorphous, but appear "pepper-textured" under a hand lens.

Oxidation (hematite) imparts a dull reddish colour to altered sandstones. It is best developed along the walls of some fractures. In the tourmalinized outcrop reddish patches occur around 2 to 10 mm vugs and form alteration rims about 2 to 3 mm wide. This may be scapolite.

The altered outcrop in the west central part of the property exhibits the most complex array of alteration observed on the claim group. The altered

area is about 1.5 m in diameter and has a rusty weathered surface. It is sericitized, amorphous tourmaline patches occur and 2 to 10 mm vugs form about 5 percent of the rock. Vugs are ovoid and lined with fine-grained quartz euhedra. Pink alteration rims envelope the vugs and some have secondary pyrite. Pyrite (3 to 5 percent) is anhedral, occurs disseminated in the altered sandstone and appears to define very fine-grained aggregates or spongy-textured grains.

Assays

Assays to Sept.21, 1988 are from areas peripheral to the claim group and from the northern part of the claim group. Anomalous Au, Pt and Pd have been returned from sulphide-bearing quartz veins in Stobie Fm. metabasalts, from sulphide-bearing sandstone breccia and from sulphide-bearing sericitic shears (Table 3). Sample locations are shown on Fig.3.

Table 3. Preliminary assay results, Wanapitei claim group and surrounding area.

Sample number	Pd(ppb)	Pt(ppb)	Au(ppb)
92501	30	19	14
92502	--	--	4
92503	17	18	6
92504	--	--	8
92505	209	66	14
92506	21	25	--
92507	2	--	441
92508	2	--	204
92509	1	--	145
92510	1	--	2
92511	--	--	3
92512	--	--	8
92513	2	--	6
92514	--	5	3
92515	1	--	2
92516	2	--	8
92517	2	5	4
92518	--	5	4
92519	--	--	9
92520	3	--	6
92521	3	5	66
92522	2	--	5
92523	--	--	6
92524	--	--	2
92525	--	--	5
92526	--	--	4
92527	--	--	5
92528	--	--	--
92529	2	--	2
92530	3	--	4

92531	3	--	4
92532	3	--	3
92533	5	9	6
92534	2	--	5
92535	3	--	7
92536	4	--	8

Samples 92501 to 506, excluding 505, are from Stobie Fm. metabasalts. These samples were taken from pyritic quartz veins cutting mafic flows and have geochemically anomalous Pt and Pd. The highest Pt and Pd values are 19 and 30 ppb respectively.

Sample 92505 is a type sample of sulphide ore from the Norduna mine dump and confirms highly anomalous values for Pt and Pd.

Samples 92507 and 508 are from a trench about 500 m northwest of the northwest tip of the property. The trench cuts brecciated sandstones of the Mississagi Fm. The breccia matrix has about 5 percent sulphides (pyrite, trace chalcopyrite) and hosts rounded sandstone and mafic volcanic clasts. Anomalous Au occurs in both samples.

Sample 92509 is from Mississagi Fm. lithic sandstone cut by Sudbury breccia. A shear at 040 degrees/ V also cuts the outcrop. Anomalous gold is associated with this brecciated outcrop.

Samples 92510 and 511 are from sericitic shears at sandstone bedding planes.

Sample 92521 (66 ppb Au) is from a rusty sericitic shear cutting Mississagi Fm.

Remaining values are below or very close to detection limits.

Humus geochemical survey (Fig.5)

The Norduna fault lineament was sampled for soils and humus across the property. Samples were taken on a reconnaissance scale along the lineament at 25 m intervals. Elements assayed include: Pt, Pd, Au, Cu, Ni, Cr and Co.

Humus survey results (Fig. 5, Table 4) show anomalous Co, Ni, Cu, Pd and Pt values with one anomalous gold value (S-47, 57 and 97 ppb). In general, Pt + Pd have a moderate correlation with Cu + Ni. A weak correlation exists with Pt + Pd and Cr, and between Pt + Pd and Co. A strong correlation exists between Cr and Co, and between Pt and Au.

Anomalous Pt, Pd, Co, Cr, Cu and Ni values suggest an ultramafic to mafic affinity. An olivine diabase dike outcrops in a few places along the Norduna Fault zone. This dike could give rise to anomalous Cr values; however, an alternate source would be more likely for the other anomalous metal values.

Anomalous Pt values show two areas of interest. The first of these is at

the NW end of the sample traverse. The last few samples have high anomalous background values (20-30 ppb) and these correlate with highly anomalous Ni (1515 ppm highest) and Cu values.

Anomalous Pt values are distributed along the sampling traverse. The next significant Pt occurrence (98 ppb Pt) occurs at the assumed point of bifurcation of olivine diabase dikes. The main Norduna fault direction continues ESE, and the secondary lineament strikes SE from the point of the 98 ppb Pt sample.

TABLE 4: HUMUS ASSAY RESULTS.

SAMPLE NUMBER	Co PPM	Ni PPM	Cu PPM	Pd PPB	Pt PPB	Pd Rew* PPB	Pt Rew PPB	Au PPB	Au Rew PPB	Cr PPM
S1493-01	21	348	427	49	51	45	41	54	57	13
S1493-02	177	151	247	5	<5			5		40
S1493-03	179	109	233	4	<5			6		43
S1493-04	89	69	157	2	<5			5		43
S1493-05	681	151	355	7	<5			4		50
S1493-06	472	78	209	27	22			12		65
S1493-07	223	140	415	12	11			10		27
S1493-08	260	260	664	13	18			7		67
S1493-09	93	247	944	26	32			10		32
S1493-10	16	361	664	67	67	47	41	26	20	14
S1493-11	12	284	499	41	66	28	38	21	19	14
S1493-12	7	242	429	31	19	20	22	21	8	14
S1493-13	14	375	569	40	26	29	39	36	18	36
S1493-14	26	480	878	55	50	40	30	38	14	29
S1493-15	9	357	421	14	9			7		7
S1493-16	7	183	363	15	12			9		36
S1493-17	13	570	419	13	7			7		14
S1493-18	9	209	62	<1	<5			2		14
S1493-19	9	392	445	13	10			6		17
S1493-20	9	349	622	23	30			10		19
S1493-21	10	403	518	43	44			17		19
S1493-22	8	339	478	23	33			10		18
S1493-23	14	760	772	18	13			10		11
S1493-24	16	638	588	37	42			15		5
S1493-25	11	401	757	10	<5			4		3
S1493-26	14	534	594	12	7			4		3
S1493-27	15	581	657	26	24			15		5
S1493-28	11	413	693	21	16			10		6
S1493-29	5	213	274	7	<5			5		9
S1493-30	12	623	908	21	17			9		6
S1493-31	11	645	497	59	59	38	31	22	17	13
S1493-32	18	429	997	79	98	54	39	44	18	14
S1493-33	4	161	298	11	16			13		11
S1493-34	5	195	235	22	25			8		14
S1493-35	5	241	359	10	<5			15		17

*Reweigh

SAMPLE NUMBER	Co PPM	Ni PPM	Cu PPM	Pd PPB	Pt PPB	Pd Rew* PPB	Pt Rew PPB	Au PPB	Au Rew PPB	Cr PPM
S1493-36	4	135	390	16	7			5		19
S1493-37	6	346	587	16	15			7		15
S1493-38	5	236	355	22	15			10		13
S1493-39	10	425	566	49	51	35	35	49	21	18
S1493-40	3	165	332	18	10			10		14
S1493-41	4	132	390	24	12			11		12
S1493-42	6	204	528	49	34			16		11
S1493-43	3	117	299	17	7			4		17
S1493-44	4	176	543	18	17			9		17
S1493-45	7	318	670	31	28	23	20	21	21	17
S1493-46	7	311	564	54	38	39	39	36	10	19
S1493-47	9	370	482	47	47	30	68	57	97	16
S1493-48	5	225	418	37	34			15		18
S1493-49	12	465	515	27	25			11		23
S1493-50	10	477	721	48	47			16		28
S1493-51	22	669	532	11	30			7		43
S1493-52	12	387	334	3	<5			2		30
S1493-53	18	687	734	23	24			11		33
S1493-54	35	1515	830	37	29			26		27
S1493-55	21	841	613	33	32	22	28	17	8	8

*Reweigh

Traverses (Fig. 6)

Traverse followed claim boundaries to locate claim posts. Claim lines were paced and regular traverses were done by pace and compass tied into claim lines and posts.

Conclusions

The Wanapitei property is underlain by sandstones and conglomerate of the Mississagi Fm. It is intruded by post-faulting olivine diabase dikes and has undergone regional folding and tilting. Minor ductile and brittle shearing with associated alteration has affected these rocks. One area of complex alteration with quartz phenocryst lined vugs suggests the passage of volatiles. Consequently, altered, sheared and faulted areas are of interest for secondary precious metal mineralization.

Recommendations

The Norduna fault zone is the main feature of interest for further precious metals exploration.

Humus geochemistry has outlined two targets areas for diamond drilling. In order of priority these are:

1. Locality of sample S-1493-54. This locality has anomalous Pt and Pd with extremely anomalous Ni and high Cu.
2. Locality of sample S-1493-32. This locality has the highest Pt value returned from the survey (98 ppb). In addition, this locality is at the bifurcation of two major lineaments and olivine diabase dikes.

Hole No.	Location	Azimuth (degrees)	Dip (degrees)	Depth (metres)
1	S-1493-54	020		

References

Dressler, B.O., 1982. Geology of the Wanapitei Lake Area, District of Sudbury; Ontario Geological Survey Report 213, pp.131 with 2 maps.

_____, 1984. Sudbury Geological Compilation; Ontario Geological Survey Map 2491, 1:50,000

_____, 1987. Precambrian Geology of Falconbridge Township, District of Sudbury; Ontario Geological Survey Map P.3067, 1:15,840 (1/4 mile).

Thompson, J. E., 1957. Falconbridge Township; Ontario Department of Mines Map 1957-5, 1:12,000.

CERTIFICATE OF QUALIFICATION

I, Peter James Whittaker do hereby certify that:

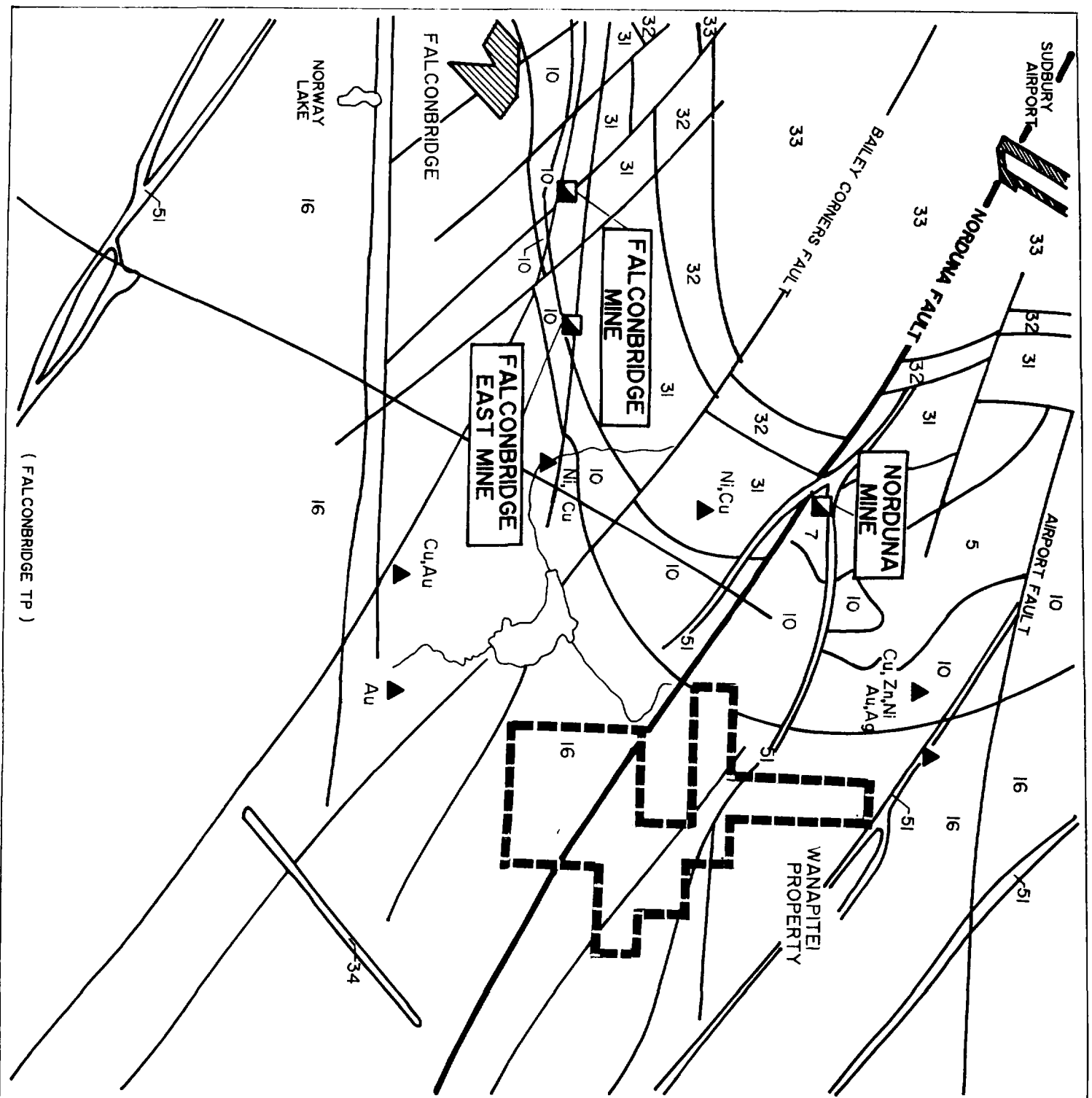
1. I am a geologist and reside at R.R. #1, 14 Shelp Street, North Bay, Ontario.
2. I am a member of the Geological Association of Canada.
3. I graduated from
 - Laurentian University (Sudbury, Ontario) in Geology with an Honours Bachelor of Science degree in 1976.
 - McMaster University (Hamilton, Ontario) in Geology with a Master of Science degree in 1979.
 - Carleton University (Ottawa, Ontario) in Geology with a Doctor of Philosophy degree in 1983.
4. I have practiced my profession continuously for twelve (12) years.
5. My report on the Wanapitei property, Falconbridge Township, Ontario is based on my personal knowledge of the geology of the area, work on the property and on a review of published and unpublished literature on the property and surrounding area.
6. I have no personal, direct nor indirect interest in the Wanapitei property, Ontario or in any adjacent properties, nor do I hold or intend to hold any shares of Noramco Mining Inc. and I have written this report as an employee of Noramco Explorations Inc.



P.J. Whittaker
M.Sc, Ph.D., F.G.A.C.

November 16, 1988

FIG.2 WANAPITEI PGE-Au PROPERTY



- 51 — OLIVINE DIABASE DIKES
- 31-34 — SUBBURY INTRUSIVE COMPLEX
- 16 — HURONIAN METASEDIMENTARY ROCKS
- 10 — HURONIAN METAVOLCANIC ROCKS
- 7 — ANORTHOSITIC GABBRO
- 5 — GRANITIC STOCK
- FAULT
- ▣ MINE SHAFT
- ▲ MINERAL OCCURRENCE
- GEOLOGICAL CONTACT, OBSERVED



DOCUME
W8807



41110SE0038 2.11868 FALCONBRIDGE

Wanapitei property #225 Mining

Type of Survey(s): Geological Mapping Township or Area: Falconbridge Twp

Claim Holder(s): Norameco Explorations Inc Prospector's Licence No.: T-4824

Address: 1275 Main St W. North Bay, Ont P1B2W7

Survey Company: Norameco Explorations Inc Date of Survey (from & to): 16 08 88 | 23 09 88 Total Miles of line cut traversed: 54.6 kms

Name and Address of Author (of Geo-Technical report): 1275 Main St W. North Bay, Ont P1B2W7

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
For each additional survey: using the same grid: Enter 20 days (for each)	- Radiometric	
	- Other	
	Geological	20
	Geochemical	

Man Days	Geophysical	Days per Claim
Complete reverse side and enter total(s) here	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	

Airborne Credits	Geophysical	Days per Claim
Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Prefix	Mining Claim Number	Expend. Days Cr.
S	985270	
	985271	
	985272	
	985273	
	985274	
	985275	
	985276	
	985277	
	985278	
	985279	
	985280	
	985281	
	994023	
	994024	
	994025	
	994026	
	994027	
	994028	
	994029	
	994030	
	994031	

SUBBURY MINING DIV.
RECEIVED
NOV 24 1988
A.M. 7/8 10/11/12/13/14 P.M. 15/16

RECEIVED
1988
MINING LANDS SECTION

Expenditures (excludes power stripping)

Type of Work Performed: _____

Performed on Claim(s): _____

Calculation of Expenditure Days Credits

Total Expenditures \$ _____ ÷ 15 = Total Days Credits _____

Instructions: Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Total number of mining claims covered by this report of work. 21

Date: Nov 23 1988 Recorded Holder or Agent (Signature): SM Dubeau

For Office Use Only

Total Days Cr. Recorded: 420 Date Recorded: Nov. 29/88

Date Approved: 11/23/88 Mining Recorder: [Signature]

Branch Director: [Signature]

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying: Norameco Explorations Inc. 1275 Main St W. North Bay, Ont P1B2W7

Date Certified: Nov 23, 1988 Certified by (Signature): SM Dubeau

DOCUMENT No.
W8807-226
Mining Act 2.11868

Instructions: - Please type or print.
- If number of mining claims traversed exceeds space on this form, attach a list.
Note: - Only days credits calculated in the "Expenditures" section may be entered in the "Expend. Days Cr." columns.
- Do not use shaded areas below.

Type of Survey(s) Manapp-Tei property
Geochemical Survey - Humus sampling
 Claim Holder(s) Norameo Explorations Inc.
 Address 1275 Main St W. North Bay, Ont. P1B2W7
 Survey Company Norameo Explorations Inc.
 Name and Address of Author (of Geo-Technical report) 1275 Main St W. North Bay, Ont P1B2W7
 Township or Area Falconbridge Twp
 Prospector's Licence No. T-4827
 Date of Survey (from & to) 13 Day | 09 Mo. | 88 Yr. | 13 Day | 09 Mo. | 88 Yr.
 Total Miles of line Cut 1.3 km.

Credits Requested per Each Claim in Columns at right

Special Provisions	Geophysical	Days per Claim
For first survey: Enter 40 days. (This includes line cutting)	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
For each additional survey: using the same grid: Enter 20 days (for each)	- Other	
	Geological	
	Geochemical	<u>20</u>
Man Days Complete reverse side and enter total(s) here	Geophysical	Days per Claim
	- Electromagnetic	
	- Magnetometer	
	- Radiometric	
	- Other	
	Geological	
	Geochemical	
Airborne Credits Note: Special provisions credits do not apply to Airborne Surveys.	Electromagnetic	Days per Claim
	Magnetometer	
	Radiometric	

Mining Claims Traversed (List in numerical sequence)

Prefix	Mining Claim Number	Expend. Days Cr.	Prefix	Mining Claim Number	Expend. Days Cr.
<u>S</u>	<u>994024</u>				
	<u>994025</u>				
	<u>994026</u>				
	<u>994027</u>				
	<u>994028</u>				

SUDBURY MINING DIV.
RECEIVED
NOV 24 1988
A.M. 7:18 11:00 11:12 11:23 1:15 P.M.

RECEIVED
1988
MINING LANDS SECTION

Expenditures (excludes power stripping)

Type of Work Performed _____
 Performed on Claim(s) _____
 Calculation of Expenditure Days Credits
 Total Expenditures \$ ÷ 15 = Total Days Credits
 Instructions
 Total Days Credits may be apportioned at the claim holder's choice. Enter number of days credits per claim selected in columns at right.

Date Nov. 23, 1988 Recorded Holder or Agent (Signature) M. Dubeau

For Office Use Only
 Total Days Cr. Recorded 100 Date Recorded Nov. 29/88
 Date Approved as Recorded See record statement
 ACTING Mining Recorder T. L. ...
 Branch Director ...

Certification Verifying Report of Work

I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying Norameo Explorations Inc. 1275 Main St W. North Bay, Ont
 Date Certified Nov. 23, 1988 Certified by (Signature) M. Dubeau



Ontario

Ministry of
Northern Development
and Mines

Ministère du
Développement du Nord
et des Mines

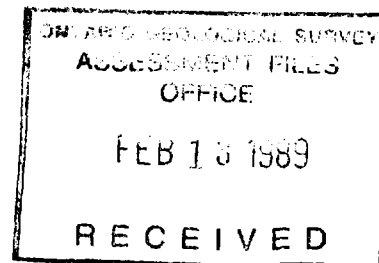
February 7, 1989

Mining Lands Section
3rd floor, 880 Bay Street
Toronto, Ontario
M5S 1Z8

Telephone: (416) 965-4888

Your file: W8807-226
Our file: 2.11868

Mining Recorder
Ministry of Northern Development and Mines
Bag 3000
200 Brady Street, 6th floor
Sudbury, Ontario
P3A 5W2



Dear Sir:

Re: Amended Notice of Intent dated January 19, 1989 - Geochemical Survey
submitted on Mining Claims S994024 et al in Falconbridge Township

The assessment work credits, as listed with the above-mentioned Notice of Intent,
have been approved as of the above date.

Please inform the recorded holder of these mining claims and so indicate on your
records.

Yours sincerely,

W.R. Cowan
Provincial Manager, Mining Lands
Mines & Minerals Division

RM:p1
Enclosure

cc: Mr. G.H. Ferguson
Mining and Lands Commissioner
Toronto, Ontario

Resident Geologist
Sudbury, Ontario

Noramco Exploration Inc.
1275 Main Street W.
North Bay, Ontario
P1B 2W7



Ontario

Ministry of Northern Development
and Mines

Technical Assessment
Work Credits

File
2.11868

Date
January 19, 1989

Mining Recorder's Report of
Work No. W8807-226

AMENDED

Recorded Holder	Noramco Exploraitons Inc.
Township or Area	Falconbridge Township

Type of survey and number of Assessment days credit per claim	Mining Claims Assessed
Geophysical Electromagnetic _____ days Magnetometer _____ days Radiometric _____ days Induced polarization _____ days Other _____ days Section 77 (19) See "Mining Claims Assessed" column Geological _____ days Geochemical <u>16.33</u> days Man days <input checked="" type="checkbox"/> Airborne <input type="checkbox"/> Special provision <input type="checkbox"/> Ground <input checked="" type="checkbox"/> <input type="checkbox"/> Credits have been reduced because of partial coverage of claims. <input type="checkbox"/> Credits have been reduced because of corrections to work dates and figures of applicant.	S 994026 to 028 inclusive

Special credits under section 77 (16) for the following mining claims

No credits have been allowed for the following mining claims

<input checked="" type="checkbox"/> not sufficiently covered by the survey	<input type="checkbox"/> insufficient technical data filed
S 994024-025	

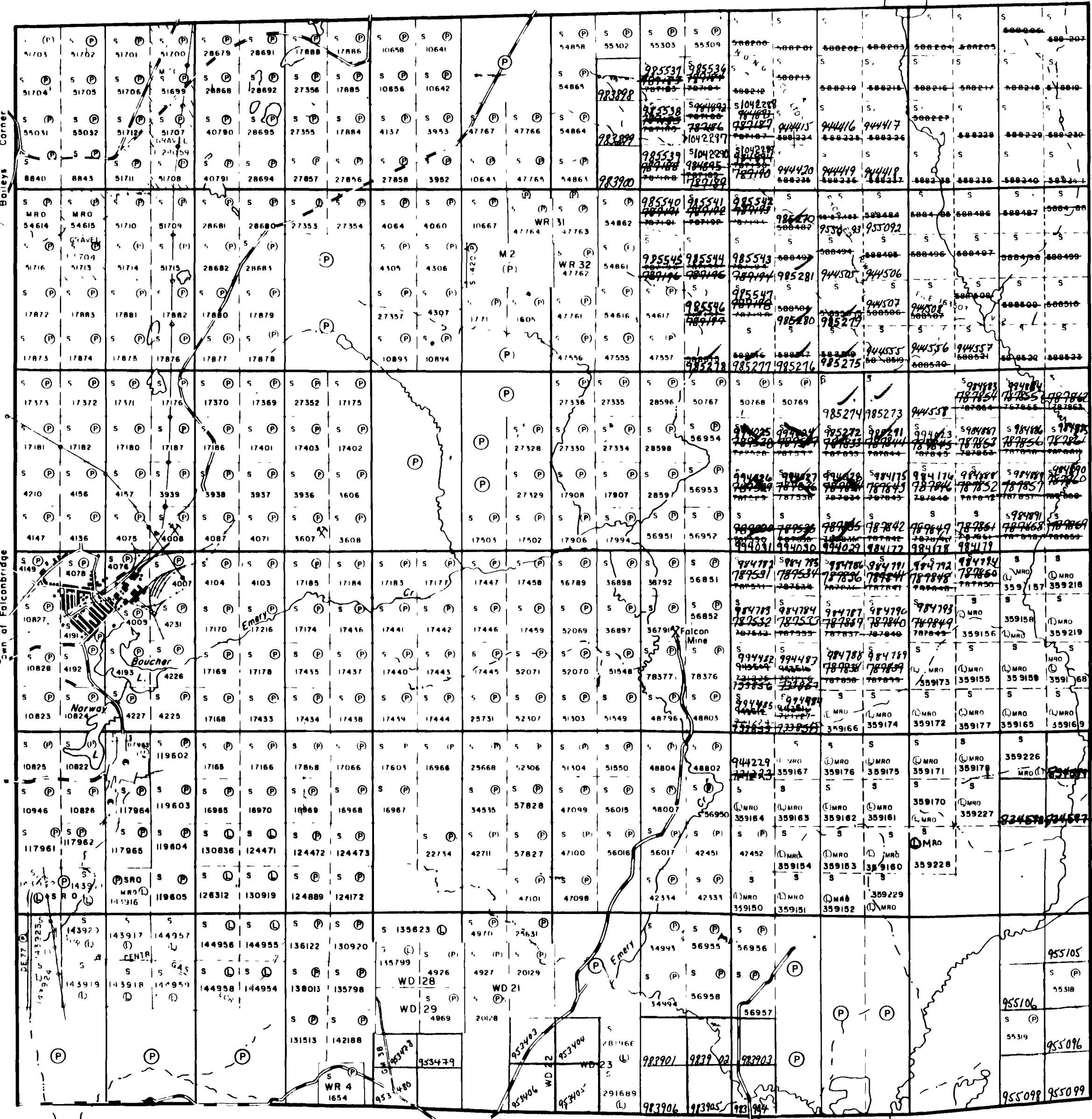
MACLENNAN TWP. M.84I

THE TOWNSHIP OF
FALCONBRIDGE
 DISTRICT OF SUDBURY
 SUDBURY MINING DIVISION
 SCALE: 1-INCH=40 CHAINS

VI
 V
 IV
 III
 II
 I

GARSON TWP. M. 83I

STREET TWP. M 1145



LEGEND

PATENTED LAND	(P)
CROWN LAND SALE	(S)
LEASES	(L)
LOCATED LAND	(Loc.)
LICENSE OF OCCUPATION	(L.O.)
MINING RIGHTS ONLY	(M.R.O.)
SURFACE RIGHTS	(S.R.O.)
ROADS	(R)
IMPROVED ROADS	(IR)
KING'S HIGHWAYS	(KH)
RAILWAYS	(R)
POWER LINES	(P.L.)
MARSH OR MUSKEG	(M)
MINES	(M)
CANCELLED	(C)
PATENTED FOR SURFACE RIGHTS ONLY	(P.S.R.O.)

DATE OF ISSUE
 AUG 17 1988
 SUDBURY
 MINING RECORDER'S OFFICE

NOTES

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

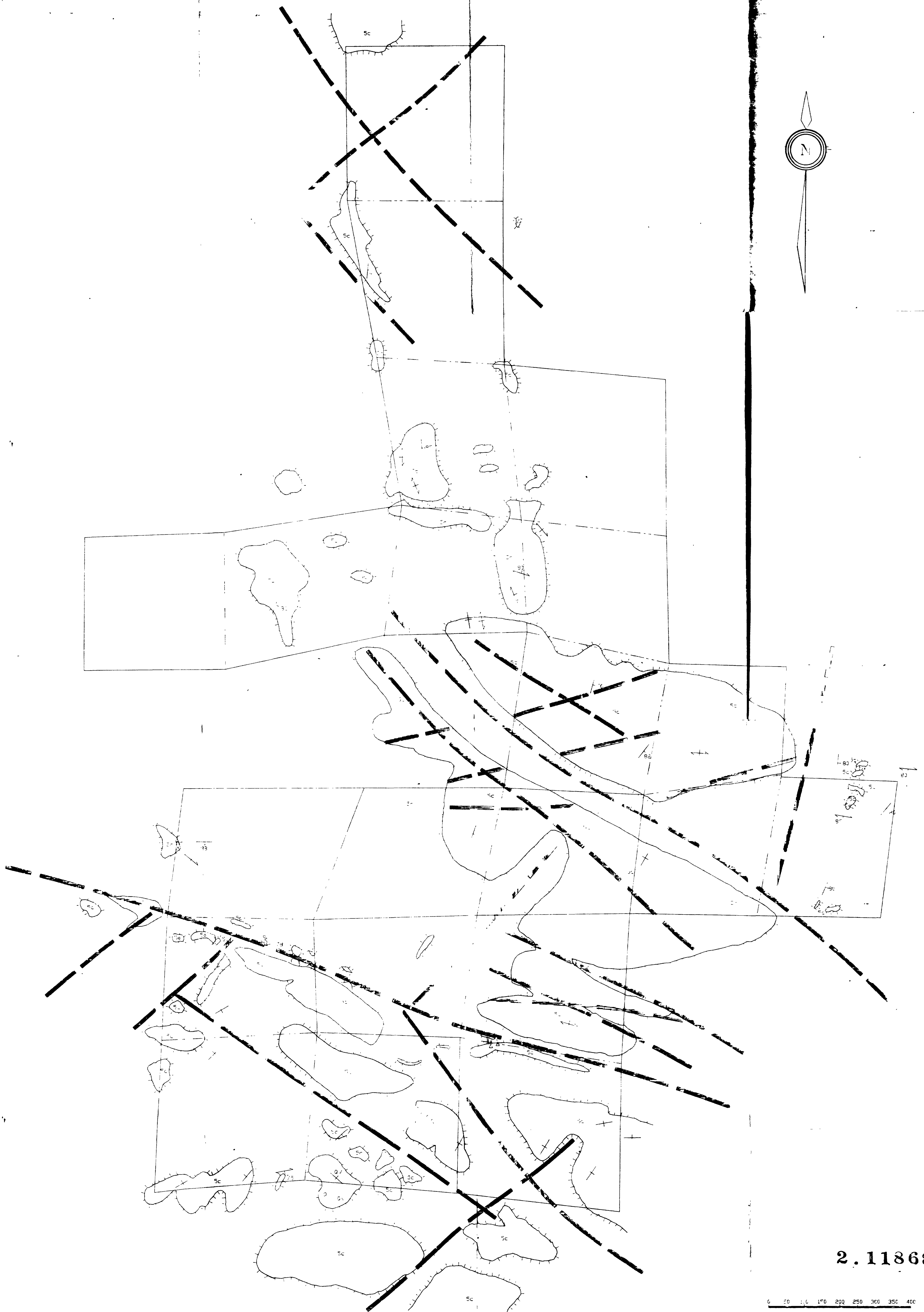
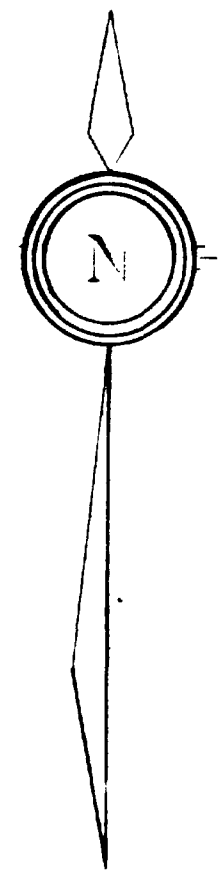
Sand & Gravel L.O. 1194 covering area shown thus

Administration and control of the Sand and Gravel on Lot II Concession 6, TRANSFERRED to the Minister of Transportation and Communications by Order-in-Council, No OC-2704/71 on September 8, 1971

FALCONBRIDGE
 PLAN NO.- M-799

ONTARIO
 MINISTRY OF NATURAL RESOURCES
 SURVEYS AND MAPPING BRANCH

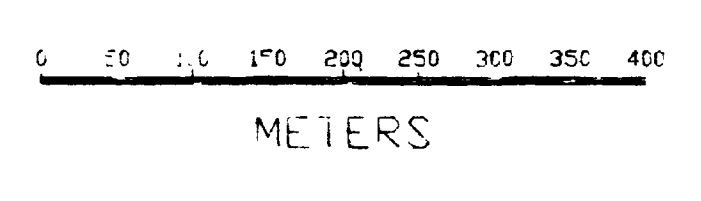




LEGEND

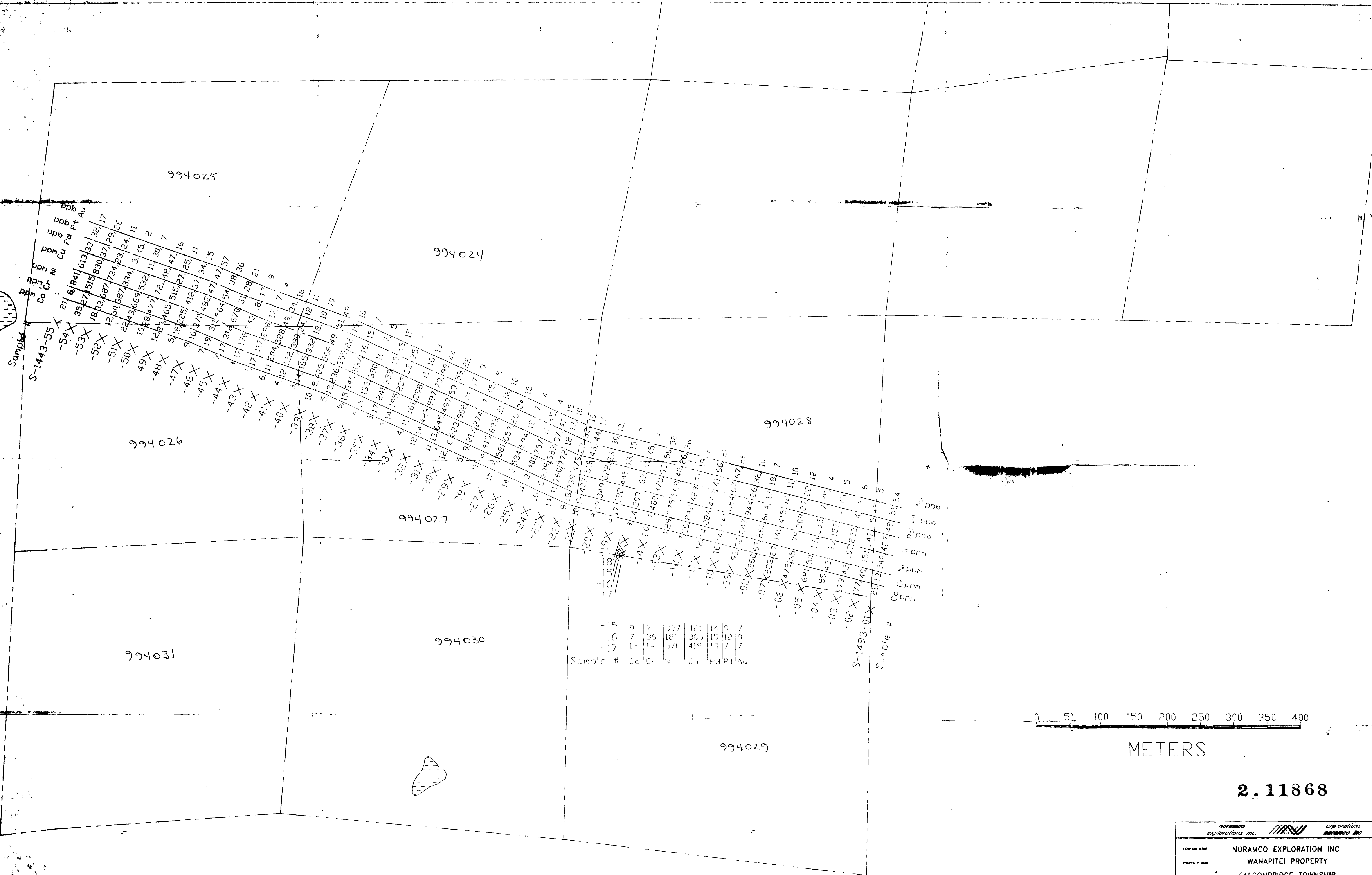
- Sc Muscovite formation, including Soudan and Soudan phase
- Se Parsippano formation
- Qz Quartzite
- Qv Quartz vein
- S Soudan Breccia
- Foliated Breccia
- Strike and Dip (incl. east-west)
- Fault (see also displacement)
- Outcrop
- Trace
- Point
- Lineament

2.11868



<small>noramco</small> explorations inc.			<small>explorations</small> noramco inc.	
NORAMCO EXPLORATION INC. WANAPITEI PROPERTY FALCONBRIDGE TOWNSHIP DISTRICT OF SUDBURY STRUCTURAL INTERPRETATION MAP				
DATE	P.H.W. AND T.D.K.	DATE	4.11.85	
DATE	SEPT., 1985	DATE		
SCALE	1:5000	SCALE		





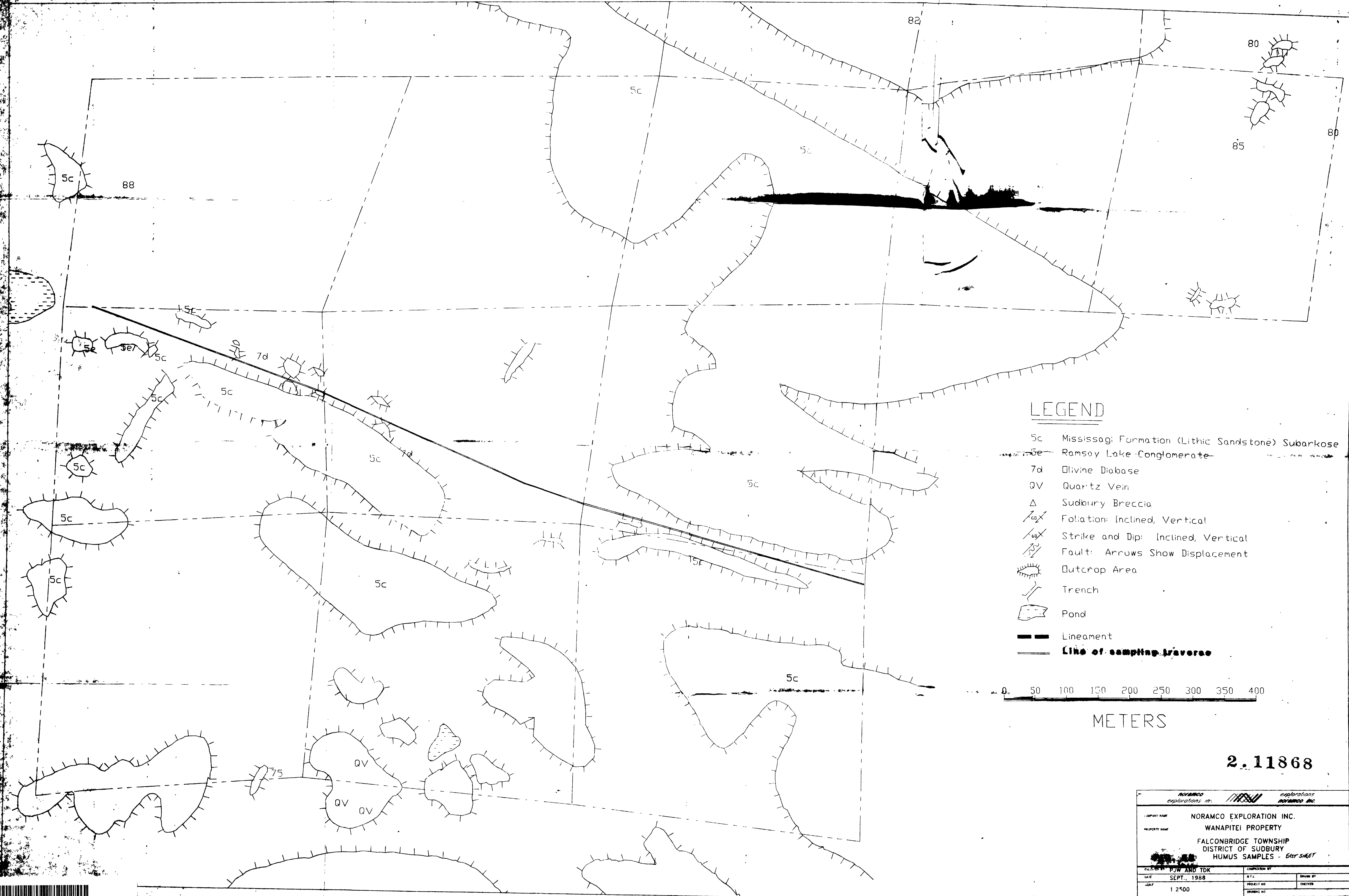
0 50 100 150 200 250 300 350 400

METERS

2.11868

Sample #	Co	Cr	Ni	Cu	Pd	Pt	Au
-15	9	7	357	171	14	9	7
-16	7	36	18	30	15	12	9
-17	13	14	570	419	13	7	7

<small>NORAMCO explorations inc.</small>		<small>explorations NORAMCO inc.</small>	
NORAMCO EXPLORATION INC WANAPITEI PROPERTY FALCONBRIDGE TOWNSHIP DISTRICT OF SUDBURY HUMUS SAMPLES - WEST SHEET			
<small>DESIGNED BY</small> FJW AND TDK	<small>COMPILED BY</small> FJW	<small>DATE</small> SEPT., 1988	<small>DRAWN BY</small> TDK
<small>SCALE</small> 1:2500	<small>PROJECT NO</small> 11868	<small>REVISION</small> 1	<small>DATE</small> 11/11/88



LEGEND

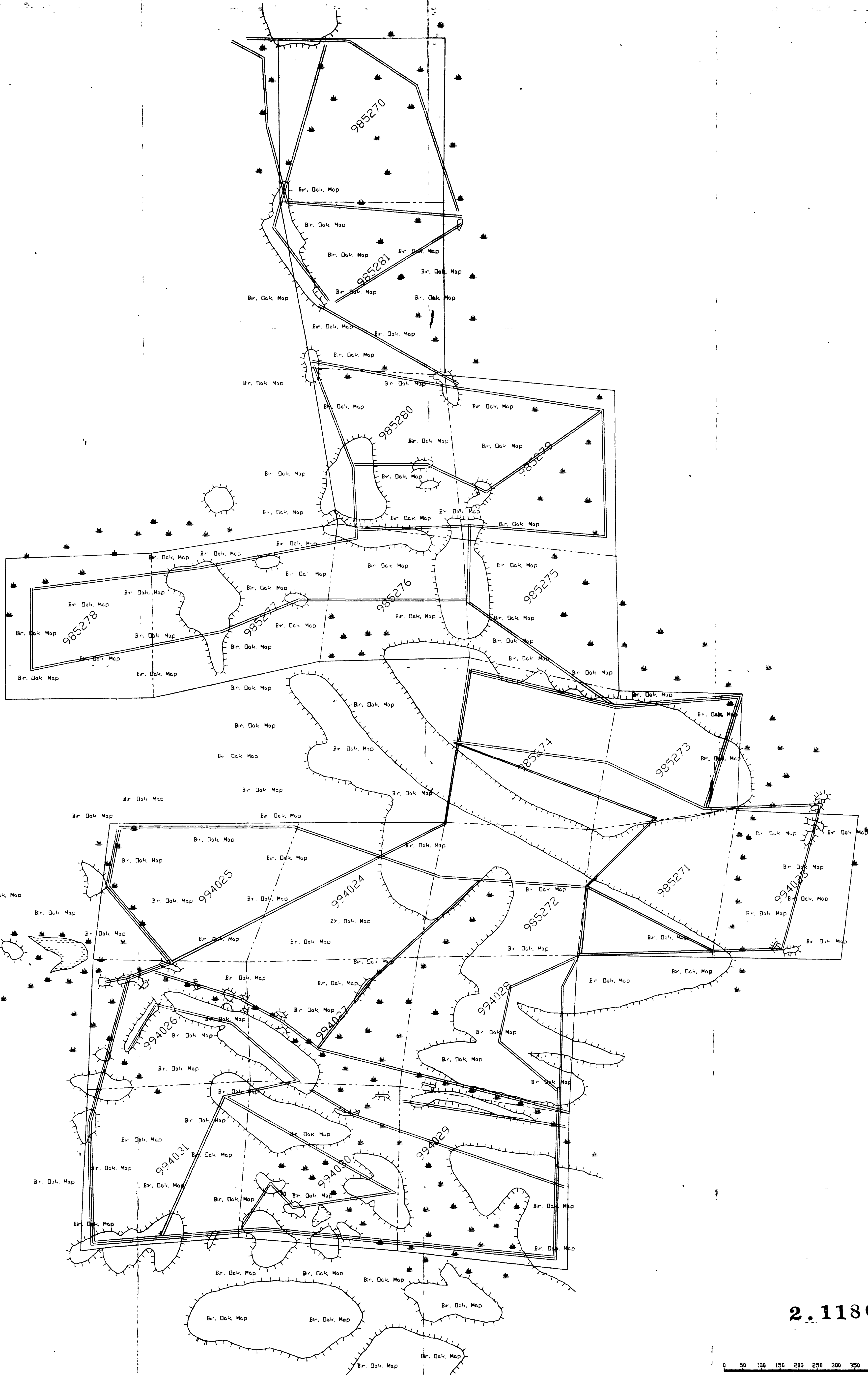
- 5c Mississagi Formation (Lithic Sandstone) Subarkose
- 5e Ramsay Lake Conglomerate
- 7d Olivine Diabase
- QV Quartz Vein
- Δ Sudbury Breccia
- 60°/ Vertical Foliation: Inclined, Vertical
- 60°/ Strike and Dip: Inclined, Vertical
- ↔ Fault: Arrows Show Displacement
- ☀ Outcrop Area
- Trench
- ▭ Pond
- Lineament
- Line of sampling traverses



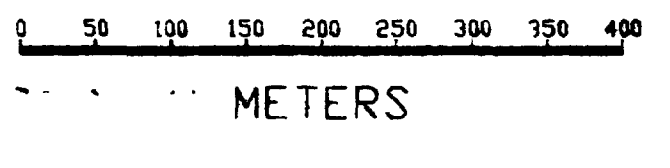
METERS

2.11868

<small>NORAMCO</small> explorations inc. <small>explorations</small> <small>NORAMCO INC.</small>	
COMPANY NAME: NORAMCO EXPLORATION INC. PROPERTY NAME: WANAPITEI PROPERTY FALCONBRIDGE TOWNSHIP DISTRICT OF SUDBURY HUMUS SAMPLES - EAST SURET	
FILED BY: PJW AND TDK DATE: SEPT., 1988 SCALE: 1:2500	COMPILED BY: DRAWN BY: CHECKED: DRAWING NO.



2.11868



LEGEND

- Sc Missisquoi Formation (Lithic Sandstone) Subbase
- Se Ransley Lake Conglomerate
- 7d Olive Gabbro
- BV Quartz Vein
- ▲ Sudbury Breccia
- Assumed Geological Contact
- Fault: Inclined Vertical
- Strike and Dip Inclined Vertical
- Fault: Arrows Show Displacement
- Bag Paper at Edges
- Deciduous Cover: Mixed Birch, Oak, and Maple
- Outcrop Area
- Trench
- Sample Location and Sample Numbers
- Pond
- Traverse Lines

NORAMCO EXPLORATION INC. WAMAPITEI PROPERTY FALCONBRIDGE TOWNSHIP DISTRICT OF SUDBURY FIG. 6 TRVERSE LINES	
DRAWN BY: P.W. AND T.D. DATE: SEP 1, 1988	CHECKED BY: