010

REPORT ON THE GEOLOGY OF THE DECEPTION LAKE PROPERTY

Calder and Ottaway Townships
District of Cochrane
Porcupine Mining Division
NTS 42-H-03

2.12949

November 29, 1989

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Consulting Geologist

Qual 2.1814

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INTRODUCTION

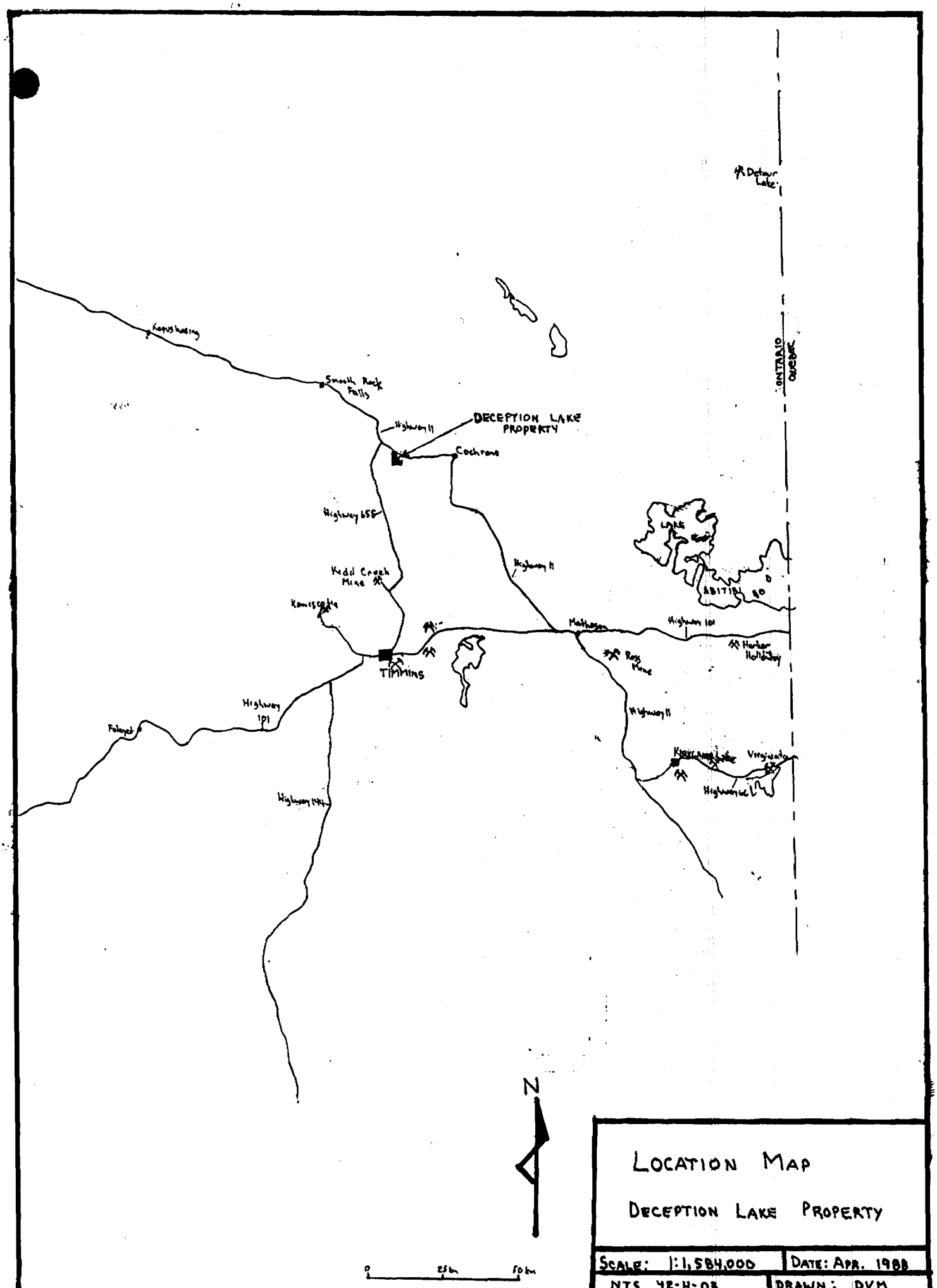
A geological mapping survey was conducted by the writer on the Deception Lake Property from June 25th to July 5th, 1989 and again from November 6th to 10th, 1989. Mapping was carried out by pace and compass method at 1:5000 scale. The well cut Calder-Ottaway township line was used as a baseline. All traverse lines were tied in to claim lines and topographic features. Most claim lines were also traversed. Line separations averaged approximately 120 meters.

No outcrops or drill collars were found but examination of old 1/4 mile airphotos (1971) revealed possible drill sites. These locations differ somewhat from the "idealized" ones submitted to the assessment files but are thought to be more representative of actual positions so they were plotted on the accompanying geology map.

The geological interpretation is based upon the drill logs and previously submitted ground magnetic survey data.

LOCATION, ACCESS and TOPOGRAPHY

The Deception Lake Property straddles the Calder-Ottaway township line, approximately 70 kilometers north of Timmins, and 20 kilometers west of Cochrane, Ontario. Access to the property is excellent. Highway 11 is located within 300 meters of the property boundary and a secondary road off Highway 11 follows the Calder-Ottaway boundary westward for 600 meters. The well cut township line is easily followed on foot to the western property boundary. A newly completed (late Oct. 1989) forest access road branching south off the secondary road 450 meters west of Highway 11 traverses the eastern part of the claim block.



LOCATION MAP

DECEPTION LAKE PROPERTY

SCALE: 1:1,584,000	DATE: APR. 1988
NTS 42-H-08	DRAWN: DVM

The Deception Lake property is characterized by swampy ground with relief less than 5 meters. Most of the property is covered by spruce with minor balsam. Several area of windfall made traversing difficult. The areas bordering Deception Creek and "Oldtimer" Creek are generally open or filled with thick alders. A large alder swamp is found in Calder Township in the center of the claim block. Spruce-tea swamps with some tamarack are common while cedar swamps were found only along the eastern and southern boundaries.

Areas of higher ground are covered by mixed bush or birch-poplar stands such as the southeast and northeast parts of the Ottaway block and the western parts of the Calder block. Several areas of cleared land, now returning to their natural state are present immediately north of the Calder-Ottaway township line. An old collapsed cabin in one of the fields is a silent testament to early farming pioneers of the area. An occupied farm house is located just east of the claim block in lot 2, Concession I, Calder Township.

CLAIM STATUS

The Deception Lake Property consists of 51 contiguous unpatented mining claims, 39 in Ottaway Township and 12 in Calder Township. All claims are currently on extension to January 29, 1989. All are jointly held by the writer and Mr. D. Londry of South Porcupine, Ontario. Claim numbers are listed below:

Calder Township: 12 claims
P- 988193 - P- 988197 inclusive
P-1032539 - P-1032543 inclusive
P-1033601 - P-1033602 inclusive

Ottaway Township: 39 claims
P-1032677 - P-1032691 inclusive
P-1032787 - P-1032790 inclusive
P-1032792 - P-1032801 inclusive
P-1033036 - P-1033045 inclusive

PREVIOUS WORK

During the early 1960's INCO conducted a major base metal exploration program, the Owl Project, in northeastern Ontario. Part of this project included the area now covered by the current claim block. The area was probably initially covered by airborne geophysical surveys followed by linecutting and ground surveys although this data has not been submitted to the government. INCO did however submit summary drill logs for six holes that lie within the current claim boundaries. The holes were drilled between December 1962 and June 1964 and totalled 793.4 meters. Only one possible drill site was located on the ground but some could be seen on old air photographs of the area.

By comparing the air photo locations with the old INCO grid coordinates and hole locations with respect to claim posts, it became evident that the drill azimuths listed in the logs are "Grid Azimuths" and not true azimuths. Although the true azimuths could not be accurately determined, the drill holes have been plotted on the geology map normal to the magnetic trends.

In 1967, Donalda Mines Ltd. carried out linecutting and magnetometer surveys over a large block of claims in northwestern Ottaway Township which totally overlaps the present Deception Lake Property. The magnetic data has been replotted and forms the basis of the geological interpretation presented here. No further work by Donalda Mines or other companies has been reported.

REGIONAL GEOLOGY

The property is located near the northern margin of a poorly exposed section of the Abitibi Greenstone Belt, north of the famous Porcupine gold camp. The most recent government map of the area (Map 2161, 1967) shows the area underlain by a thick sequence of east-southeast trending metasediments with some mafic metavolcanics in contact with migmatitic rocks to the north. Recent work conducted conducted by Kidd Creek Mines in the area (Drybrough 1986), indicates that the metasediments are much less voluminous than previously suggested and that some of the lower magnetic responses in the area are due to small felsic intrusive bodies.

Major northeast and northwest trending structures are also indicated. Lamprophyre dykes encountered in drilling in Lennox Township immediately to the west of Ottaway Township also suggest proximity to major structures (Wyman and Kerrich, 1989).

Metamorphic grade in the area is lower amphibolite facies (Drybrough 1986). Primary volcanic and sedimentary structures were observed in drill core from Lennox Township, although most lithologies from Calder and Ottaway townships are described in metamorphic terms.

PROPERTY GEOLOGY

The Deception Lake Property can be subdivided into two separate areas, the northeastern and southwestern blocks, divided by a major northwest trending dextral fault/shear zone. The northeast block is underlain by a sequence of northwest striking metasediments intercalated with minor mafic metavolcanics. The clastic metasediments are often garnetiferous, micaceous, and contains two separate bands of chert-magnetite-(sulphide) iron formation. According to INCO drill

logs, short sections of the iron formation contain up to 75% sulphide. Pyrrhotite and pyrite predominate while chalcopyrite occurs in trace amounts. The two bands of iron formation appear dragged and truncated by a sinistral fault/shear zone in the southeast corner of the property.

The intercalated mafic metavolcanics are described as amphibolites, hornblende-plagioclase schists, "greenstones", and chlorite schist. Minor gabbro is also reported. A possible mafic intrusion occurs in the center of the claim block.

Two quartz-tourmaline-carbonate veins, 1.10m and 0.58m thick cut mafic metavolcanics in the northwest part of the block. Minor sulphides were reported from the veins. A 20cm quartz vein cuts metasediments in the same area of the property.

Both metasediments and metavolcanics are cut by thin dykes of grey granite, white pegmatite and undifferentiated granite. A larger granite plug appears to distort the iron formation near the center of the claim block.

The southwest block of the property is underlain by west trending mafic metavolcanics with at least four thin seams of chert-magnetite iron formation. These four seams have been grouped as one iron formation horizon. A second main band interpreted from magnetic data lies to the south of this first band. The second band is folded and may join up with the first band although there is the possibility of a faulted contact. The second band is then drag folded to the southeast by a major dextral fault/shear zone.

The mafic metavolcanics are in contact with a large granitic stock to the north. Although the stock does not outcrop, its presence is based on magnetic data and previous work conducted in Lennox

Township to the west (Drybrough, 1986). The stock appears truncated by the northwest trending fault/shear zone.

STRUCTURAL GEOLOGY

Based on the limited geophysical data, two phases of deformation are suggested. The first phase of deformation is related to the intrusion of the main granitic plug and its smaller satellite bodies. The ballooning of the main felsic intrusion deformed the main bands of iron formation and associated metasediments and metavolcanics into a east-closing antiform while the smaller bodies slightly modified the pattern along the northeast and south limbs of the main fold.

The second phase of deformation is a north-south oriented compression manifested by the development of a major conjugate set of sinistral and dextral fault/shear zones. The movement on both structures is suggested by the rotation/deflection of the main iron formation horizons. Quartz-carbonate-tourmaline veins intersected in drilling may be related to the northwest structure. A possible related fault cuts the iron formation along the south limb of the main fold.

David V. Mullen
Consulting Geologist

Qual. 2.1814

REFERENCES

Drybrough, C.J.,
1986: Petrographic Study of Diamond Drill Core in Lennox Township; unpublished B.Sc. thesis, Queen's University

McClay, K.,
1987: The Mapping of Geological Structures; Geological Society of London Handbook Series, 161p.

Ontario Department of Mines,
1967: Map 2161, Coral Rapids-Cochrane Sheet; Geological Compilation Series, Cochrane District, Scale 1:253440

Wyman, D.A., and Kerrich, R.,
1989: Archean Lamprophyre Dykes of the Superior Province, Canada: Distribution, Petrology and Geochemical Characteristics; Journal of Geophysical Research, Volume 94, B4, p. 4667-4696.

APPENDIX A

INCO Drill Logs

DRM 235-A

THE INTERNATIONAL NICKEL CO. OF CANADA, LIMITED

SAMPLING RECORD

PROPERTY OWL 3-50, [redacted]
CLAIM P-52076, 400'W-100'S, #1 Post

SHEET NO. 4

HOLE NO. 18143 DEPTH 321' ANGLE 50° STRIKE S ELEVATION _____

CO-ORDINATES 4E 1+40'N

DEPTH FEET	FORMATION LOG SUMMARY	SAMPLE NO.	LENGTH FT.	ANALYSIS COPPER %	ANALYSIS NICKEL %	ANALYSIS CU. & NI. %	LENGTH FEET	PROGRESSIVE TOTALS FEET X PER CENT COPPER	PROGRESSIVE TOTALS FEET X PER CENT NICKEL	PROGRESSIVE TOTALS FEET X PER CENT CU. & NI.
0.0	Collar									
36.0	Overburden, sand & clay									
61.0	Amphibolite, in places gneissic, lin @ 10-30°, occ qtz-carb stks, rextal Es									
66.7	Gn gr 10% bio, wk lin @ 8°									
72.3	Sch one-bio-plagio, fol 8°, occ qtz stks,									
142.3	Amphibolite, lin 20°, qtz-carb stks becoming schistose & bx near end.									
171.0	Sch 15-bio-plagio, fol 1° is bx in fg. chl carb.									
193.4	Amphibolite grading to sch with bio, lin. changes from wk @ 10° to strong @ 30°									
196.6	Peg white, some bio & mass.									
244.4	Amphibolite in part schistose & biotitic lin varies 10-40°, qtz-carb veins.									
246.3	Qtz-carbonate vein, xtals of Pl specks, etc									
316.4	Amphibolite & schist interbanded, qtz-carb stks, lin varies, 55° bearing 10°									
321.0	Sch, one-garnet-bio, lin @ 8°									
321.0	END OF HOLE									
	Started: Dec. 10, 1962									
	Completed: Jan. 6, 1963									
	Drilled by Heath & Sherwood Drilling Ltd.									
	EXT core									
	All casing removed									
	Hole not plugged.									
	Acid tests: 53° @ 45'									
	48° @ 310'									
	LOGGED BY: K. O'Connor									

ASSESSMENT WORK

T-748

FORM 2554

THE INTERNATIONAL NICKEL CO. OF CANADA, LIMITED

SAMPLING RECORD

PROPERTY OWL 3-50 CLAIM P-2076 430'S, 530'W #1 Post. SHEET 3

HOLE NO. 18144 DEPTH 245' ANGLE -51° STRIKE N ELEVATION _____ CO-ORDINATES 4E 1460'S

DEPTH FEET	FORMATION LOG SUMMARY	SAMPLE NO.	LENGTH FT.	ANALYSIS COPPER %	ANALYSIS NICKEL %	ANALYSIS CU. & NI. %	LENGTH FEET	PROGRESSIVE TOTALS FEET X PER CENT COPPER	PROGRESSIVE TOTALS FEET X PER CENT NICKEL	PROGRESSIVE TOTALS FEET X PER CENT CU. & NI.
0.0	Collar									
56.0	Clay, sand bldrs, core starts @ 61'									
153.2	Sed, gneissic, fg qtz-amp-chlor-mica, heading 45°, occ garnet, occ narrow qtz stks & carb, occ fg magnetite stks < 1%, occ specks sulps									
154.7	L.C.									
164.5	MOD IF fg qtz-carb - 30% magnetite 6" secp zone at start, 1% fg sulps									
167.0	Gr gy, massive, 10% fg bio.									
176.5	MOD IF as above, lin 10-15°, 1% sulps, seems gy, 1' L.C. @ 171'									
* 189.1	MOD-HS IF fg qtz-carb-magnetite, up to 75% fg dis sulps, mostly po									
199.3	MOD IF as above, heading @ 40°, fg sulps usses with magnetite rich bands 2% sulps & 10% magnetite									
211.7	Sch. amp-bio-garnet-plagio, f-mg, lin 50-75°, qtz-carb stks									
234.6	Amphibolite, mg, lin vk @ 60°, qtz-carb stks & seams 0-90°, occ sho									
238.2	Qtz-carb vein, shrd contacts-bio-chlor, abundant tourmaline									
245.0	Amphibolite, mg, lin vk @ 60°, qtz-carb stks									
245.0	END OF HOLE									
	Started: Jan 9 '63									
	Completed: Jan. 13 '63									
	Drilled by Heath & Sherwood Drilling Ltd.									
	EXT core									
	All casing removed									
	Hole not plugged									
	Acid tests: -51° @ 65'									
	-41° @ 224'									
	Logged by: V.O.C.									

ASSESSMENT WORK

T-748

M 255-A

THE INTERNATIONAL NICKEL CO. OF CANADA, LIMITED

SAMPLING RECORD

SHEET NO. 1

OPERTY Owl Area - Detail "C"
Claim P-54163 - Otraway Twp.

LE NO. 18158 DEPTH 140.0' ANGLE 45° STRIKE N ELEVATION _____ CO-ORDINATES 24+00E 00S

DEPTH FEET	FORMATION	SAMPLE NO.	LENGTH FT.	ANALYSIS COPPER %	ANALYSIS NICKEL %	ANALYSIS CU. & NI. %	LENGTH FEET	PROGRESSIVE TOTALS FEET X PER CENT COPPER	PROGRESSIVE TOTALS FEET X PER CENT NICKEL	PROGRESSIVE TOTALS FEET X PER CENT CU. & NI.
0.0	Collar									
140.0	Overburden - clay & sand									
	Casing: 94' AX									
	124' EX									
140.0	END OF HOLE									
	Hole started: June 16/63									
	Hole completed: June 17/63									
	Drilled by: Heath & Sherwood Drilling Ltd.									
	EX bit									
	Lost 10' EX casing									
	Hole not plugged									
	No acid tests									
	Logged by: R.A. Jurkus									

ASSESSMENT WORK

T-737

THE INTERNATIONAL NICKEL CO. OF CANADA, LIMITED

SAMPLING RECORD

PROPERTY Otta Y Twp. Claim # P-54163 430'S 155'W #1 post Owl Lake Detail C

SHEET No. 4

HOLE NO. 18159 DEPTH 453.0' ANGLE 45° STRIKE N ELEVATION

CO-ORDINATES 2400E 4465S

DEPTH FEET	FORMATION LOG SUMMARY	SAMPLE NO.	LENGTH FT.	ANALYSIS COPPER %	ANALYSIS NICKEL %	ANALYSIS CU. & NI. %	LENGTH FEET	PROGRESSIVE TOTALS FEET X PER CENT COPPER	PROGRESSIVE TOTALS FEET X PER CENT NICKEL	PROGRESSIVE TOTALS FEET X PER CENT CU. & NI.
0.0	Collar									
140.0	Overburden									
	clay + sand									
	casing : Ax to 116'									
	Ex to 140'									
281.5	Gs, usually schistose, qtz chlor biot mg, occ. qtz carb strs, Foliation @ 45°-65°. Occ. disseminated py.									
287.0	Granitic rock, f.g. xtaline, 95% qtz and K spar, 5% biot									
408.9	Gs as above, occ bands of Gs. sch @ 372.8-403.8 cg. Occ. minor mag. @ Foliation @ 45°-55°, occ py in veins and strs, minor po.									
411.7	NW Quartzitic rock, f.g., hard, 20% sulph. in bands, po : py = 1:1									
420.0	N.W I.F. v.f.g. well banded, qtzitic + mag. rich bands, Foliation @ 85°, ~ 30% mag, 3-4% py, some po.									
421.0	L.C.									
435.4	Gs. sch, qtz, mica, chlor, f.g., indistinctly foliated @ 60°-70°, minor dissem. py.			Hole started :		June 18/63				
				Hole completed :		June 27/63				
439.2	N.W I.F. as above, Foliation @ 75°-80°, ~ 30% mag, 2% py			Drilled by :		Heath and Sherwood Drilling Ltd.				
				Casing lost in hole :		30' Ax				
441.9	Gs. sch as above.					60' Ex				
453.0	N.W I.F. as above, Foliation @ 90°, ~ 40% mag, 2% py.			Ex core						
				Hole not plugged						
				Acid tests : 140'		46°½				
453.0	END OF HOLE			240'		47°½				
				340'		43°¾				
				Logged by :		R.A. JURKUS				
	Drill Collar Survey by C.O.P.	J.M.H								

ASSESSMENT WORK

T-737

255-A

THE INTERNATIONAL NICKEL CO. OF CANADA, LIMITED

PROPERTY Owl Area - Detail "C" Claim P-54161 - Ottaway Twp. **SAMPLING RECORD** SHEET NO.

HOLE NO. 18160 DEPTH 774.0' ANGLE 45° STRIKE S ELEVATION CO-ORDINATES 24+00E 2+50N

DEPTH FEET	FORMATION	SAMPLE NO.	LENGTH FT.	ANALYSIS COPPER %	ANALYSIS NICKEL %	ANALYSIS CU. & NI. %	LENGTH FEET	PROGRESSIVE TOTALS FEET X PER CENT COPPER	PROGRESSIVE TOTALS FEET X PER CENT NICKEL	PROGRESSIVE TOTALS FEET X PER CENT CU. & NI.
	LOG SUMMARY									
0.0	Collar									
110.0	Casing									
115.0	Gs. sch. (metaseds.?)									
117.0	Gns. (?)									
179.5	Gs. sch. (metaseds.?)									
183.4	Gns.									
234.2	Metaseds.?									
247.4	MVW metaseds.?									
260.7	Metaseds.?									
264.8	MVW garnet-chlor. sch.									
273.0	MVW metased.									
398.0	Metaseds. & gs.									
404.4	Iron formation									
414.4	Gs. - sch.									
431.9	Gr. - gns.									
443.5	Qtz.-bio.-chlor. sch.									
450.6	Gs.									
463.8	Qte.									
468.9	Metased.?									
471.6	Iron formation									
480.3	Metased.?									
483.9	Iron formation									
490.0	Metased.?									
499.1	Iron formation									
519.2	Metased.?									
531.6	Iron formation									
550.0	Gab.-amphibolitic									
619.0	MVW gab.-gs.-amphibolitic									
689.4	Gs.									
699.1	Gns.									
774.0	Gs.									
	END OF HOLE									

Hole started: July 3/63
Hole completed: July 14/63
Drilled by: Heath & Sherwood Drilling Ltd.
EX core
All casing removed
Hole not plugged
Acid Tests: 120' - 47°15'
200' - 35°15'
300' - 26°00'
400' - 20°00'
500' - 14°15'
600' - 8°30'
700' - 7°00'

Logged by: R. A. Jurkus

ASSESSMENT WORK

T-737

PROPERTY [illegible] 310.3 995'W #1 Post
Detail D

HOLE NO. 18162 DEPTH 620.0' ANGLE 45° STRIKE N ELEVATION

CO-ORDINATES 16+00W 2+

DEPTH FEET	FORMATION LOG SUMMARY	SAMPLE NO.	LENGTH FT.	ANALYSIS COPPER %	ANALYSIS NICKEL %	ANALYSIS CU. & NI. %	LENGTH FEET	PROGRESSIVE TOTALS FEET X PER CENT COPPER	PROGRESSIVE TOTALS FEET X PER CENT NICKEL
0.0	Collar								
30.0	Overburden clay+sand								
	casing: Ax to 26.0' Ex to 30.0'								
53.9	Gs (gabbro?) m.g., occ. schistose, abundant carb., minor py.								
70.0	Gs. Sch. f.m.g., foliation @ 45°, occ. carb. minor py.								
167.5	Gs (gabbro?) as above.								
227.7	Gs. Sch. c.g., foliation @ 45°, occ. carb. minor py.								
229.5	I.F. f.g., quartzitic, banded, bedding @ 45°, ~ 15-20% mag.								
300.5	Gs. Sch as above.								
312.4	I.F. as above, bedding @ 50°, 25-30% mag.								
315.0	Gs. Sch as above.								
327.5	Qtz. Biot. Sch. f.m.g. occ. chlor, carb.								
369.6	Gs (gabbro?) as above.								
376.2	I.F. as above, bedding @ 50° 15% mag.								
388.8	Qtz Mica Sch. f.g., Foliation @ 45°, occ. mag.								
391.7	I.F. f.g., quartzitic, mag. dissem., fractured with qtz. hblde. chlor. sch. inclusions								
395.4	Qtz. Hblde. Biot. Chlor. Sch. m.g., occ. carb. Foliation @ 50°								
404.6	Gs. sch. m.g., occ. carb.								
415.0	Qtz. Biot. Chlor. Sch. f.g., occ. carb, foliation @ 45°, minor py.								
440.0	Qtz. Hblde. Chlor. Felds. Rock? c.g., occ. schistose, minor py.								
442.4	Gs. Sch. f.g., occ. carb., minor py.								

ASSESSMENT WO

f-737

PROPERTY Owl Area
Detail O

310'S
995'W of 1 post

HOLE NO. 18162 DEPTH 620.0' ANGLE 45° STRIKE N ELEVATION

CO-ORDINATES 16+00W 2+86

DEPTH FEET	FORMATION LOG SUMMARY	SAMPLE NO.	LENGTH FT.	ANALYSIS COPPER %	ANALYSIS NICKEL %	ANALYSIS CU. & NI. %	LENGTH FEET	PROGRESSIVE TOTALS FEET X PER CENT COPPER	PROGRESSIVE TOTALS FEET X PER CENT NICK	PROGRESSIVE TOTALS FEET X PER CENT CU. &
449.4	N.W I.F. f.g., quartzitic, lean ~10% mag., bedding @ 55°, occ. carb., 3% po py.									
455.7	Qtz. Biot. Sch. f.g., Foliation @ 50°									
465.4	N.W I.F. f.g., quartzitic, banded, ~15% mag., 1-5% po py, bedding @ 50°									
478.3	Qtz. Chlor. Biot. Sch. f.m.g., foliation @ 45°, occ. carb., occ. py.									
580.9	Gn. Sch. m.g., foliation @ 45°, occ py									
620.0	Chlor. Sch. f.m.g., foliation @ 45°, occ. contorted, occ. qtz and carb. veins									
620.0	END OF HOLE									
	Hole started : July 28/63									
	Hole completed : Aug. 2/63									
	Drilled by: Heath and Sherwood Drilling Limited.									
	Ex core									
	All casing removed									
	Hole not plugged									
	Acid tests : 48° @ 100'									
	46½ 200'									
	45° 300'									
	41½ 400'									
	41° 500'									
	40½ 600'									
	Logged by : R.A. Jurkus									

ASSESSMENT WOR

1+737

THE INTERNATIONAL NICKEL CO. OF CANADA, LIMITED

PROPERTY OWEN LAKE AREA SHEET 3 DETAILS SAMPLING RECORD SHEET 7

Claim P-54239

HOLE NO. 26624 DEPTH 668.3 ANGLE -55 STRIKE N ELEVATION CO-ORDINATES 32+00E 2+00N

DEPTH FEET	FORMATION Log Summary	SAMPLE NO.	LENGTH FT.	ANALYSIS COPPER %	ANALYSIS NICKEL %	ANALYSIS CU. & NI. %	LENGTH FEET	PROGRESSIVE TOT FEET X PER CENT COPPER	PROGRESSIVE TOT FEET X PER CENT NICKEL	PROGRESSIVE TOT FEET X PER CENT CU. & NI.
0.0	Collar									
129.6	Overburden									
	Casing: Ar - 70.0									
	Ex - 129.6									
135.0	MoWl. Meta Seds. Diss Sulps.									
	(Po Py. minor Cp.) Fola 40°-20°									
142.0	Amph-Mica Gn. non-Foliated,									
	patchy mag.									
191.2	Mod: Meta Seds as above Fola 40°									
195.0	Meta Seds as above occ Sulp specs									
193.0	Mod-Mw Schist altd in Amph-Chlor-									
	Bio.									
213.3	Meta Seds as above Fola. 60°									
216.3	Gr. Gn. Fola. 30°									
217.1	MoW. Amph-Bio Gn. Po. Py. Cp.									
232.8	Meta Seds as above, occ. Po Py.									
	Bedding 70°									
220.4	L.C.									
231.1	MoW (Gr. Gn.)? diss Py									
235.0	MoW. Qtz-Bio-Schist. Po Py.									
	Fola. 70°									
279.4	Meta Seds. Interbanded Gwke-									
	Amph-Bio. Occ Po Py. Fola 60-30°									
280.6	MoW (Gr. Gn.)? diss Py.									
316.7	Meta Seds. Some mag. Fola 60-									
	70°									
318.7	MoW. Meta Seds. diss. Po. Py.									
378.0	Meta Seds. Occ. Cp specs (375.0-									
	378.0)									
477.0	Meta Seds. Short L.C. Footages.									
	Fola 30°-70° to core, Occ. Str.									
	peg - Amph-mica. Occ Po Py specs.									
421.3	MoW Meta Seds. diss Po Py									
491.0	MoW - Mass T.E. Diss - Mass - Str. Po Py									
	Fola 70°									
554.8	Meta Seds. - Qtz - Amph Mica bands									

ASSESSMENT WORK

1-748

THE INTERNATIONAL NICKEL CO. OF CANADA, LIMITED

PROPERTY OWNER AREA SHEET 3 DETAIL 'B' CLAIM P-54239 — SAMPLING RECORD — SHEET 5

HOLE NO. 26624 DEPTH 668.3 ANGLE -55° STRIKE N ELEVATION _____ CO-ORDINATES 32+00E 2+00N

DEPTH FEET	FORMATION	SAMPLE NO.	LENGTH FT.	ANALYSIS COPPER %	ANALYSIS NICKEL %	ANALYSIS CU. & NI. %	LENGTH FEET	PROGRESSIVE TOTALS FEET X PER CENT COPPER	PROGRESSIVE TOTALS FEET X PER CENT NICKEL	PROGRESSIVE TOTALS FEET X PER CENT CU. & NI.
	Occ. Lost core. wkly mag.									
557.8	MW - MvW Meta Seds.									
567.2	MoW Microcrystalline Qtz. diss Po Py									
568.1	L.C.									
571.0	MvvW Meta Seds. Stgr Po. Wkly mag									
636.0	Meta Sed as above. Gr. Gn. (610.6 - 611.6) development of white meta crysts. Foln. 60°-70°									
	Qtz vein (630.7 - 631.3)									
639.5	Gr. Gn. poorly Estimated (45°)?									
668.3	Meta Seds Foln 70°									
668.3	END OF HOLE									

Hole started: May 29, 1964
Hole completed: June 6, 1964
Drilled Ex. by Heath and Sherwood Drilling Limited
Hole not plugged.
Acid Tests:

140'	51°
200'	46°45'
300'	45°
400'	39°35'
500'	34°30'
600'	34°
668	32°30'

Casing Left:
A - 12'
E - 45'

ASSESSMENT WORK

T-748

Logged by T. Gallant

Ministry of Northern Development and Mines
Ontario

DOCUMENT NO. W 8906.554

2.12(

42H03SE0001 2.12949 CALDER

900

Report of Work
(Geophysical, Geological and Geochemi...) ...ing Act

Mining Lands Section, Mineral Development and Lands Branch

Type of Survey(s)	Mining Division	Township or Area
GEOLOGICAL	PORCUPINE	CALDER and OTTAWAY TWPS.

Recorded Holder(s) DAVID V. MULLEN
DOUGLAS J. LANDRY

Prospector's Licence No. M-20076 (DVM) M-20174 (DJL)

Address 735 MELROSE BLVD, TIMMINS ONT P4N 5H9 (DVM)
BOX 1783 SOUTH PORCUPINE ONT P0N 1H0 (DJL)

Telephone No. 264-5916
705- 235-2831

Survey Company

Name and Address of Author (of Geo-Technical Report) DAVID V MULLEN 735 MELROSE BLVD TIMMINS ONT

Date of Survey (from & to): 05 06 89 (Day, Mo., Yr.) to 10 11 89

Credits Requested per Each Claim in Columns at right

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

Total miles flown over claim(s).

Date DEC 4/89 Recorded Holder or Agent (Signature) [signature]

Mining Claims Traversed (List in numerical sequence)

Mining Claim Prefix	Mining Claim Number	Mining Claim Prefix	Mining Claim Number	Mining Claim Prefix	Mining Claim Number
	SEE ATTACHED LIST				

RECEIVED
DEC 12 1989
MINING LANDS SECTION

ONTARIO GEOLOGICAL SURVEY
ASSESSMENT FILES
OFFICE
MAR - 9 1990
RECEIVED

RECORDED
DEC 5 1989
3:15 pm

Total number of mining claims covered by this report of work. 51

Certification Verifying Report of Work

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

Name and Address of Person Certifying: MR DAVID V MULLEN 735 MELROSE BLVD TIMMINS ONT P4N 5H9

Telephone No. 705-364-5916 Date DEC 4/89 Certified By (Signature) [signature]

For Office Use Only

Total Days Cr. Recorded	Date Recorded	Mining Recorder
1020	DEC. 5/89	[signature]
	Date Approved as Recorded	Provincial Manager, Mining Lands
	13 Feb 90	[signature]

Received Stamp: RECORDED DEC - 5 1989

1362 (87/06)

Mining Claims Traversed

P- 988193	P-1032684	P-1032797
P- 988194	P-1032685	P-1032798
P- 988195	P-1032686	P-1032799
P- 988196	P-1032687	P-1032800
P- 988197	P-1032688	P-1032801
P-1032539	P-1032689	P-1033036
P-1032540	P-1032690	P-1033037
P-1032541	P-1032691	P-1033038
P-1032542	P-1032787	P-1033039
P-1032543	P-1032788	P-1033040
P-1032677	P-1032789	P-1033041
P-1032678	P-1032790	P-1033042
P-1032679	P-1032792	P-1033043
P-1032680	P-1032793	P-1033044
P-1032681	P-1032794	P-1033045
P-1032682	P-1032795	P-1033601
P-1032683	P-1032796	P-1033602

THE TOWNSHIP OF CALDER

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1 INCH TO 40 CHAINS

COLQUHOUN

BRADBURN

CLUTE

LENNOX

OTTAWAY

GREENWATER PROVINCIAL PARK

XII XI X IX VIII VII VI V IV III II I

28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

Driftwood River

Driftwood

Buskegau

Deception Cr.

CAN NAT RY

Rapids

DHO GRAVEL Pit 479

PICNIC SITE

GRAVEL FILE 18827

GRAVEL FILE 18912

2.12949

LEGEND

PATENTED LAND ..... (P)
CROWN LAND SALE ..... (S)
LICENSE OF OCCUPATION ..... LO
LOCATED LAND ..... Loc
POWER TRANSMISSION LINE .....
RAILWAYS .....
IMPROVED ROADS .....
ROADS .....
MINING RIGHTS ONLY ..... M.R.O.
SURFACE RIGHTS ONLY ..... S.R.O.
LEASES ..... (L)
CANCELLED C

NOTES

400' surface rights reservation around the shores of all lakes & rivers

DEPARTMENT OF HIGHWAYS GRAVEL RESERVE MARKED THUS

SURFACE RIGHTS ONLY RESERVED FOR PICNIC S[illegible] OT 8 CON [illegible] LOT [illegible] N 8 OF [illegible] CON [illegible] JUDGE SEC 39 OF THE MG.ACT FILE 75288

Areas withdrawn from staking under Section 43 of the Mining Act (R.S.O. 1970).

Order No.	File	Date	Disposition
(P)(S) 444/73	18826	24/9/73	S.R.O.M.R.
(P)(S) [illegible]	5860	18/4/79	S.R.O.M.R.
(P)(S) [illegible]	12826	9/7/79	S.R.O.
(P)(S) [illegible]		22/9/85	S.R.O.M.R.

PRIVATE CAMP SITE

M.434

ONTARIO
MINISTRY OF NATURAL RESOURCES

42H03SE0001 2.12949 CALDER

200

Calder Twp.

Clute Twp.

Lennox Twp.

Fournier Twp.

Beck Twp.

S.R.O. withdrawn from staking Sec. 42 of the Mg. Act. File: 164584.

S.R.O. File Res. 1139467

L.O. 2555

Marsh

River

ANNULLED

Buskegau

SUBDIVISION

2.12949

VI

V

IV

III

II

I

12 11 10 9 8 7 6 5 4 3 2 1

THE TOWNSHIP OF OTTAWAY

DISTRICT OF COCHRANE

PORCUPINE MINING DIVISION

SCALE: 1-INCH = 40 CHAINS

LEGEND

PATENTED LAND	P
CROWN LAND SALE	C.S.
LEASES	L
LOCATED LAND	Loc.
LICENSE OF OCCUPATION	L.O.
ROADS	
IMPROVED ROADS	
RAILWAYS	
POWER LINES	
MARSH OR MUSKEG	

NOTES

400' Surface Rights Reservation around all Lakes and Rivers.

RECEIVED
APR 5 1979

7/056

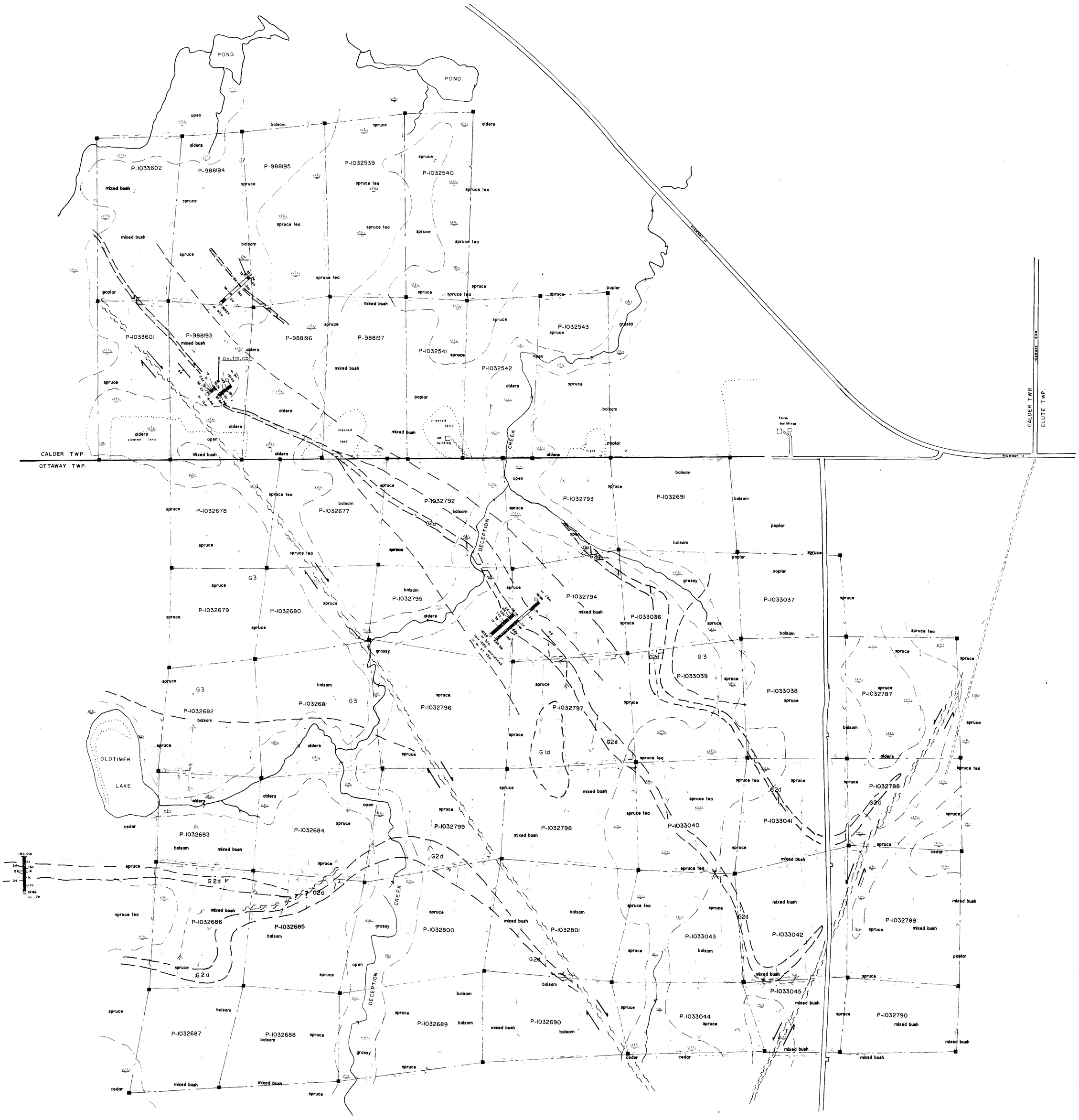
Received Oct. 15/79

PLAN NO. – M.561

ONTARIO
MINISTRY OF NATURAL RESOURCES
SURVEYS AND MAPPING BRANCH

42H03SE0001 2.12949 CALDER

210



LEGEND

3 FELSIC INTRUSIONS
- a unsubdivided
- b granite
- c pegmatite

2 METASEDIMENTS
- a unsubdivided
- b argillite, greywacke
- c mica schist
- d chert-magnetite iron formation
- e sulphidic iron formation

1 MAFIC METAVOLCANICS
- a amphibolite, "greenstone"
- b hb±plag±gar±mica schist
- c chlorite schist
- d mafic intrusion, gabbro

gv quartz vein — tm tourmaline
cb carbonate — ov overburden
G geophysical interpretation

SYMBOLS

- bedding with dip
- fault, shear zone with movement
- swamp
- edge of field
- INCO drill hole
- claim post
- bush road, gravel road/highway
- pace and compass traverse lines with direction arrows

0 100 200 300
Scale in metres

N

2.12949

CALDER-OTTAWAY CLAIMS

DECEPTION LAKE PROPERTY

GEOLOGY

2.12949

SCALE 1:5000	SURVEY BY D. Mullen, July, Nov. 1989		
DATE Nov. 1989	NTS 42-H-03	DRAWN DVM	