



42A06NW2016 2.19547 OGDEN

010

1999 DIAMOND DRILLING
FALCON ZONE
OGDEN TOWNSHIP PROJECT
ECHO BAY MINES LTD. / BERLAND RESOURCES
JOINT VENTURE

2.19547

RECEIVED
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GEOSCIENCE ASSESSMENT
OFFICE

Paul Degagne
Project Geologist

June 23, 1999
Timmins, Ontario



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Section 110+18E	1: 1,000
Section 111+00E	1: 1,000
Section 109+00E	1: 1,000
Section 107+00E	1: 1,000

1.0 Summary

From May 10 to May 28, 1999, four holes totaling 890 meters were drilled on the International Falcon Resources and Lajeunesse claims of the Ogden Township Project, located 6 kilometers south of Timmins, Ontario.

Three holes (TOF-1 to 3) tested a gold-anomalous green carbonate-fuchsite altered ultramafic unit (Falcon Green Carbonate Zone) which returned values of up to 2.0 gpt Au over 1 meter from surface trenching. A fourth hole (TOF-4) was drilled to test for gold mineralization within a northwest trending fault in an area of overburden cover, west of and along strike from the Falcon Zone.

Holes TOF-1 to 3 intersected several green carbonate-fuchsite zones within talc-chlorite altered komatiitic rocks. These zones are variably silicified and albitized with trace to up to 10% disseminated pyrite locally. Gold values within the zones returned background to weakly anomalous values of less than 500 ppb. A single sample taken from hole OTF-3 returned 1.22 gpt Au over 0.60 meters. Hole TOF-4 collared in and remained in non -mineralized talc-chlorite altered komatiitic volcanics.

The drilling program failed to intersect significant gold mineralization and no additional work on the Falcon Zone is warranted at this time.

1.0 Introduction

The Ogden Township Project consists of 14 unpatented mining claims (23 units) and 28 patented claims located 6 kilometers south-southwest of the city of Timmins in Ogden and Deloro Townships. The claims straddle the Destor-Porcupine Fault Zone and are situated immediately south of the former Desantis mine and west of the Naybob mine. Together, these mines produced a total of 85,000 ounces of gold.

The project is a joint venture between Echo Bay Mines Ltd. and Berland Resources. Under the terms of the agreement, Berland can earn a 50% share of Echo Bay's interest in the property by making an initial \$25,000 payment and funding exploration expenditures of \$800,000 over three years.

The project is comprised of a main block of contiguous claims consisting of 19 patented claims under option from Thomas Ogden Gold Mines Ltd. and the Thomas Ogden Estate, 9 patented claims under option from International Falcon Resources Inc., a single unpatented mining claim (2 units) under option from Mr. I. Lajeunesse of Timmins, and six unpatented mining claims staked by Echo Bay in 1997 and 1998. In addition, two non-contiguous blocks of claims located north of the main block in Ogden Township and two noncontiguous blocks located east of the main block in Deloro Township are considered part of the Ogden Township project. These discontinuous blocks are comprised of six unpatented claims staked by Echo Bay in 1997 and 1998.

From May 10 to May 28, 1999, three holes totaling 693 meters were drilled on the International Falcon Resources patents to test for gold mineralization within a green carbonate-fuchsite altered komatiitic flows. A fourth hole totaling 197 meters was drilled on the Lajeunesse claim to test for gold mineralization within a northwest trending fault in an area of overburden cover.

2.0 Location and Access (figures 1,2)

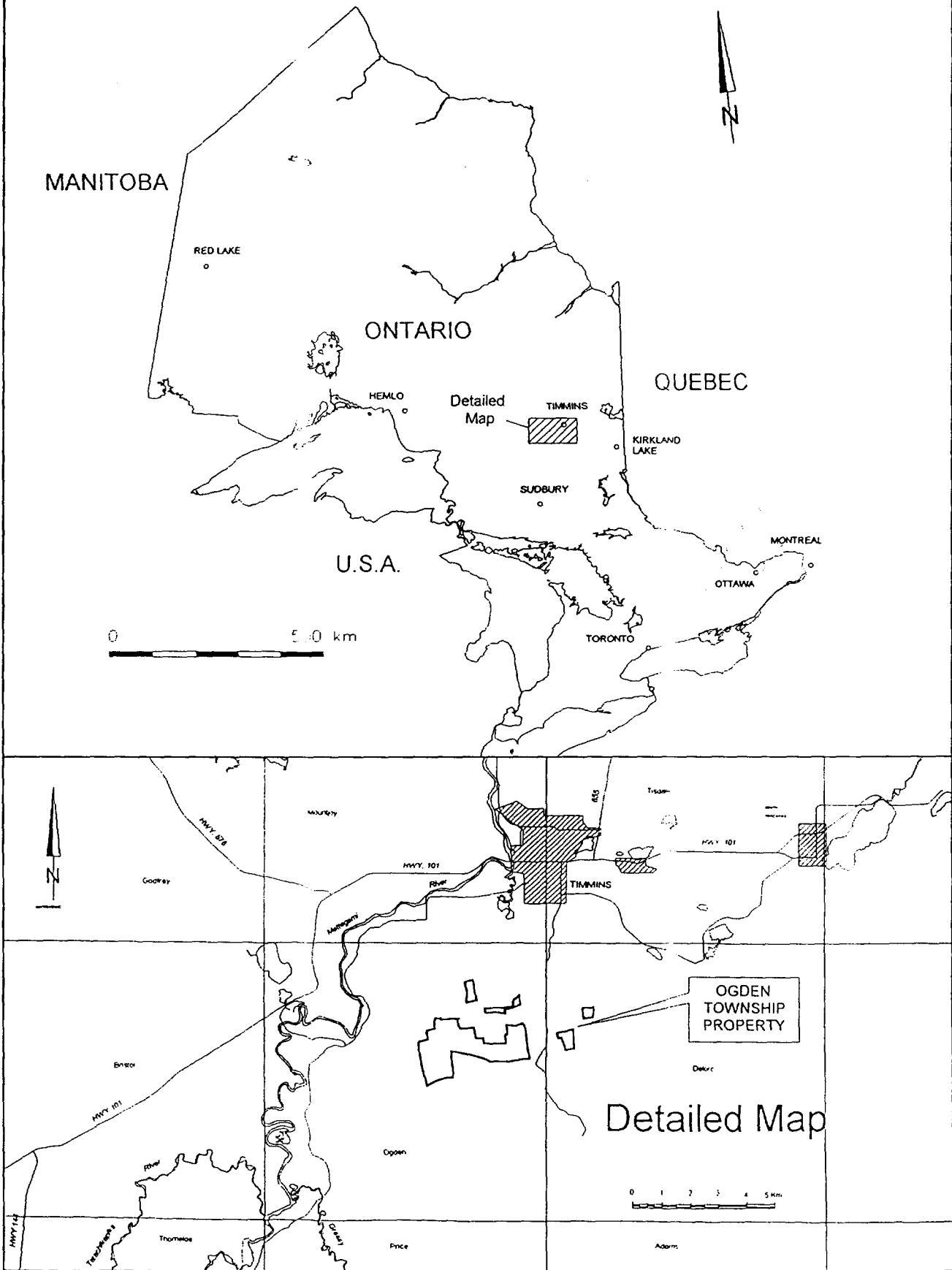
The Ogden Township Project is centered 6 km south-southwest of Timmins, Ontario in Ogden and Deloro Townships.

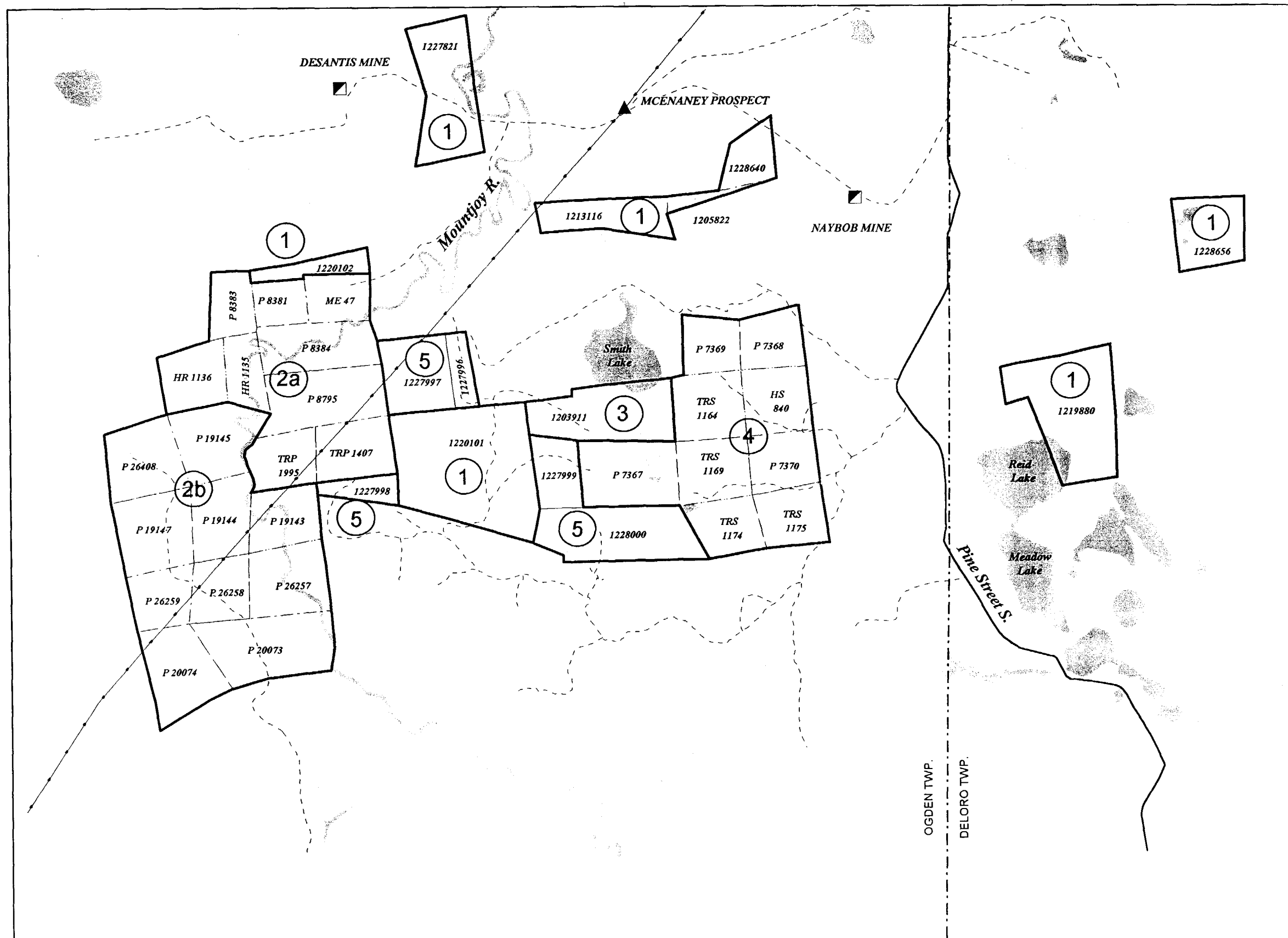
Access to the main portion of the property is via a bush road, which intersects Pine Street South approximately 6 km south of Timmins. The center of the property is located 5 km west along this road. The two non-contiguous claims located in Deloro Township can be accessed by a bush road that branches east off of Pine Street South, approximately 5 km south of Timmins. The two claim blocks located north of the main block can be accessed via the Kennilworth / Desantis access road.

3.0 Property Status

The project is comprised of 11 unpatented mining claims staked by Echo Bay Mines Ltd. between June 1997 and June 1998, two unpatented mining claims purchased from East-West

Figure 1: Ogden Township Project
Property Location Map





LEGEND

Claim Options

- ① 100% Echo Bay Mines Ltd.
- ②a Thomas Ogden Gold Mines
- ②b Thomas Estate
- ③ Lajeunesse Option
- ④ International Falcon Resources Ltd.
- ⑤ new claims (acquired June, 1998)

- property outline
- - - claim line
- ▣ past producing gold mine (<1,000,000 ounces)
- major road
- - - secondary road / trail
- transmission line
- lake
- river / stream



0 0.25 0.5
Kilometers
Scale: 1:25,000

ECHO BAY MINES LTD.

**OGDEN TOWNSHIP PROJECT
CLAIM DISPOSITION**

Resources in September, 1998, a single unpatented mining claim (2 units) optioned from Mr. I. Lajeunesse of Timmins, Ontario, 9 patented claims optioned from International Falcon Resources Inc., and 19 patented claims under optioned from Thomas Ogden Gold Mines Ltd. and the Thomas Ogden Estate.

Berland Resources Limited of Thunder Bay, Ontario optioned the property from Echo Bay Mines Ltd. on January 13, 1998. Under the option agreement dated January 13, 1998, Berland Resources can earn a 50% working interest in the property by making a cash payment totalling \$25,000 and incurring exploration costs totaling \$800,000 over a three year period. Echo Bay Mines Ltd. remains operator of the property.

All claims, which are listed below, are located in Ogden and Deloro Townships in the Porcupine Mining Division, District of Cochrane.

ECHO BAY MINES LTD.

Claim No.	Units	Township	Recording Date
1220101	4	Ogden	June 19, 1997
1220102	1	Ogden	June 26, 1997
1219880	3	Deloro	
1228656	1	Deloro	
1205822	1	Ogden	Sept. 16, 1996 (purchased from East-West Resources)
1213116	2	Ogden	Sept. 16, 1996 (purchased from East-West Resources)
1227821	2	Ogden	April 28, 1998
1228640	1	Ogden	March 5, 1998
1227996	1	Ogden	June 23, 1998
1227997	1	Ogden	June 23, 1998
1227998	1	Ogden	June 23, 1998
1227999	1	Ogden	June 23, 1998
1228000	3	Ogden	June 23, 1998

LAJEUNESSE OPTION (option date: Nov. 17, 1997)

Claim No.	Units	Township	Recording Date
1203911	2	Ogden	May 25, 1996

INTERNATIONAL FALCON OPTION (option date: Nov. 10, 1997)

Parcel No	Patent No.	Claim No.
2123 SEC	2344 Temiskaming	HS 840
1834 SND	760 Sudbury North Division	TRS 1164
1835 SND	761 Sudbury North Division	TRS 1169
1599 SEC	1512 Temiskaming	TRS 1174
1600 SEC	1514 Temiskaming	TRS 1175
2803 SEC	3798 Temiskaming	P 7367
259 SEC	6143 Temiskaming	P 7368
260 SEC	6144 Temiskaming	P 7369
261 SEC	6145 Temiskaming	P 7370

THOMAS OGDEN GOLD MINING PROPERTY OPTION (option date: Dec. 1, 1997)

Parcel No	Patent No.	Claim No.
5681 SEC	2289 Cochrane	HR 1135,36
4952 SEC	2012 Cochrane	P 8383
221 SEC	6059 Temiskaming	TRP 1995
4123 SEC	923 Cochrane	P 8795
222 SEC	6060 Temiskaming	TRP 1407
4953 SEC	2013 Cochrane	P 8384
6199 SEC	2011 Cochrane	P 8381
	2288 Cochrane	ME 47

THOMAS ESTATE (option date: Dec. 1, 1997)

Parcel No	Patent No.	Claim No.
9875 SEC	4742 Cochrane	P 26408
9878 SEC	4748 Cochrane	P 19145
9871 SEC	4738 Cochrane	P 19143
9872 SEC	4739 Cochrane	P 20073
9873 SEC	4740 Cochrane	P 26257
9874 SEC	4741 Cochrane	P 26258
9877 SEC	4747 Cochrane	P 19144
9879 SEC	4749 Cochrane	P 19147
9880 SEC	4750 Cochrane	P 20074
9881 SEC	4751 Cochrane	P 26259

4.0 PERSONNEL

The drilling contract was awarded to Norex Drilling of Timmins, Ontario. Paul Degagne of Echo Bay Mines Ltd. supervised the drilling program and logged all drill core. Peter Devcich of Timmins was contracted on a daily basis to cut core samples. All core samples were sent to Intertek Testing Services (Bondar Clegg) of Val d'Or, Quebec, and analyzed for gold.

5.0 1999 DRILLING PROGRAM

From May 10 to May 28, 1999, three holes totaling 693 meters were drilled on the International Falcon patents to test for gold mineralization within a green carbonate-fuchsite altered komatiitic volcanic rocks. A fourth hole totaling 197 meters, drilled on the Lajeunesse claim, tested for gold mineralization within a northwest trending fault west of and along strike of the green carbonate zone.

The drilling contract was awarded to Norex Drilling of Timmins, Ontario. All core was NQ sized and is currently being stored at Echo Bay's Timmins exploration office.

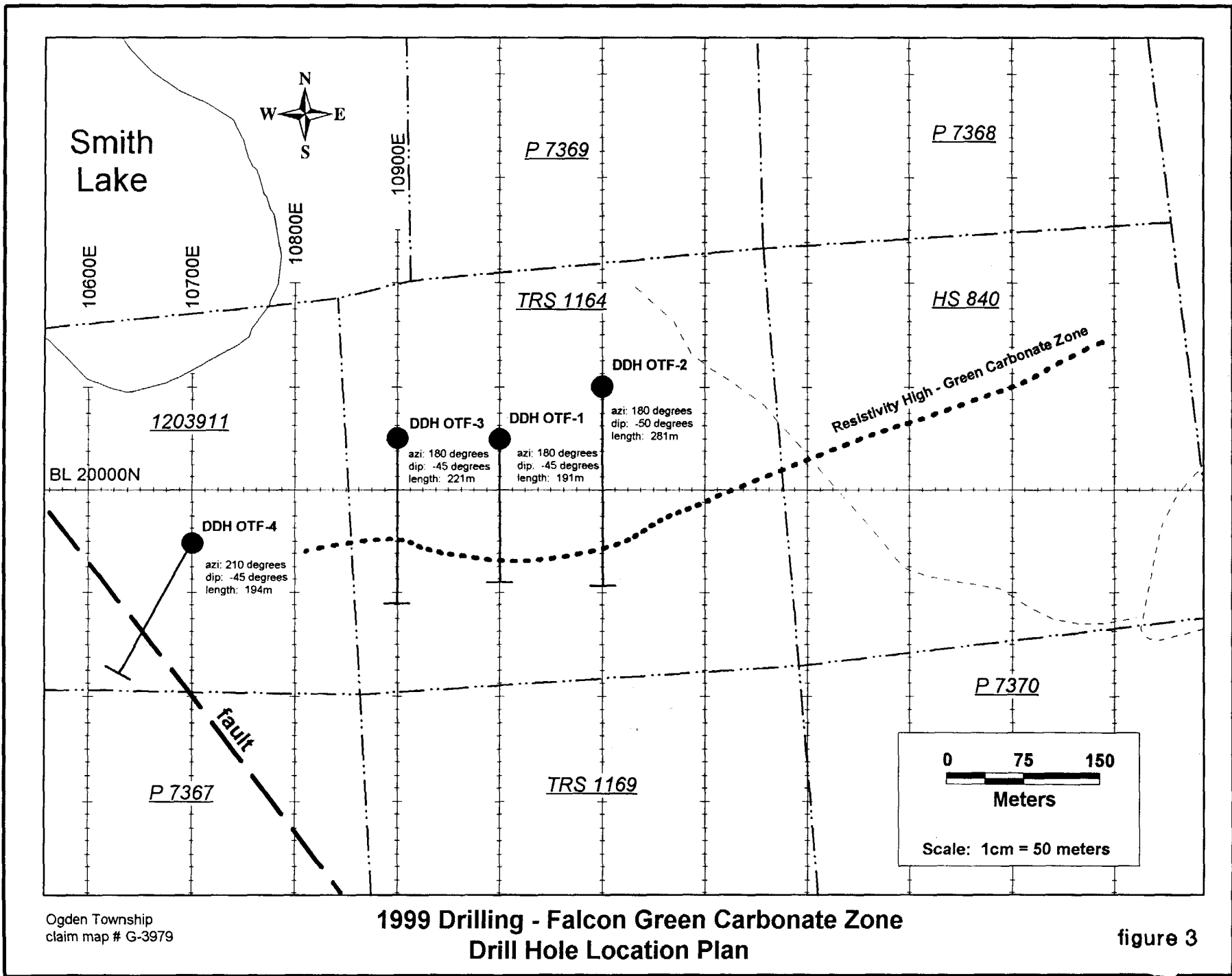
Diamond drill logs, drill sections and assay certificates are appended.

DDH OTF-1

Grid East:	11018E	Azimuth:	180 degrees (grid south)
Grid North:	20060N	Dip:	-45 degrees
Claim:	TRS 1164	Length:	191.0 meters

Hole OTF-1 was drilled to test the green carbonate-fuchsite altered komatiite underlying trench IF-1, which returned anomalous gold values of up to 2.09 gpt Au over 1.0m from channel samples. The hole collared in talc-chlorite altered ultramafic flows at a depth of 30 meters. Two green carbonate-fuchsite zones were intersected from 92.7 to 96.9 and from 141.55 to 147.0 (trench IF-1). Both zones are variably altered (carbonate-fuchsite-quartz+/- albite) and contain from trace to locally up to 5% disseminated pyrite. Late quartz-carbonate stringers and stockworks make up 20% to 40% of the zone. South of the second zone, the hole intersected talc-chlorite ultramafics to 176 meters and intermediate tuff of the Deloro Group from 176 meters to 191 meters, the final depth of the hole.

A total of 65 samples were sent for analysis. All samples returned background gold values with the exception of samples 34015 to 34018, which returned 0.27 gpt Au over 4.2 meters (including 0.87 gpt over 1.0 meter).



Ogden Township
claim map # G-3979

**1999 Drilling - Falcon Green Carbonate Zone
Drill Hole Location Plan**

figure 3

DDH OTF-2

Grid East:	11100E	Azimuth:	180 degrees (grid south)
Grid North:	20080N	Dip:	-50 degrees
Claim:	TRS 1164	Length:	281.0 meters

Hole OTF-2 was drilled to test the green carbonate-fuchsite altered komatiite, underlying trench IF-2, which could not be fully exposed on surface due to large boulders and steep topography. The hole collared in talc-chlorite altered ultramafic flows at a depth of 21.5 meters. Green carbonate-fuchsite zones were intersected from 109.1 to 110.2 and from 120.3 to 140.6 (trench IF-2). Like hole OTF-1, the zones contained trace to 2% pyrite (locally up to 5%) and 40% late quartz-carbonate stringers and stockwork. Talc-chlorite was intersected from 150.6 to 178.4, and altered (fuchsite-sericite) Deloro Group tuff from 178.4 to 193.7. Talc-Chlorite was again intersected south of the altered tuff, within which a third green carbonate-fuchsite zone was intersected from 203.2 to 220.4 meters. The hole ended in talc-chlorite at a depth of 281 meters.

A total of 89 samples were sent for analysis. All samples returned background gold values with the exception of sample 34130, which returned 0.30 gpt Au over 0.8 from a felsic dyke.

DDH OTF-3

Grid East:	10900E	Azimuth:	180 degrees (grid south)
Grid North:	20050N	Dip:	-45 degrees
Claim:	TRS 1164	Length:	221.0 meters

Hole OTF-3 was drilled to test the green carbonate-fuchsite altered komatiite, 100 meters west of trench IF-1 and hole OTF-1. The hole collared in talc-chlorite altered ultramafic flows at a depth of 35 meters. Two zones of weak to moderate green carbonate-fuchsite-chlorite alteration was intersected between 103.2 and 109.8 meters, and between 120.15 and 121.6 meters. A third green carbonate zone with 1% fine disseminated pyrite and 30% late quartz-carbonate stringers was intersected from 131.3 to 148.2 meters. The hole ended in talc-chlorite komatiitic volcanics at 221.0 meters.

A total of 56 samples were sent for analysis. Gold values ranged from background to weakly anomalous (<500 ppb). Two consecutive samples of green carbonate-fuchsite (679827,679828) returned 653 ppb Au over 0.85 meters and 1217 ppb Au over 0.60 meters respectively.

DDH OTF-4

Grid East:	10700E	Azimuth:	210 degrees
Grid North:	19950N	Dip:	-45 degrees
Claim:	1203911	Length:	194.0 meters

Hole OTF-4 was drilled to test a northwest trending fault located west of and on strike with the green carbonate zones intersected in holes 1 to 3. The hole collared in talc-chlorite komatiitic flows at 109.0 meters and remained in this unit the end of the hole at 194 meters.

No samples were taken from the hole.

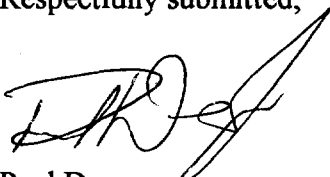
6.0 CONCLUSIONS AND RECOMMENDATIONS

Three holes totaling 693 meters tested the Falcon green carbonate-fuchsite zone over a strike length of 200 meters, from 10900E to 11100E. The drilling undercut surface trenches where anomalous gold values of up to 2.09 gpt Au over 1.0 meters was returned from surface channel samples. A total of 210 samples of core were collected from mineralized sections and analyzed for gold. The vast majority of samples returned background to weakly anomalous (up to 400 ppb) gold values. A single sample from hole OTF-3 returned >1000 ppb gold (1.217 gpt Au over 0.6 meters).

Hole OTF-4, which was drilled to test a northwest trending fault, collared in and remained in talc-chlorite ultramafic volcanics. No mineralization was intersected.

Due to the negative results, no additional work is warranted for the Falcon Zone at this time

Respectfully submitted,



Paul Degagne
Project Geologist – Echo Bay Mines Ltd.

Timmins, Ontario
June 23, 1999

APPENDIX I
DIAMOND DRILL LOGS

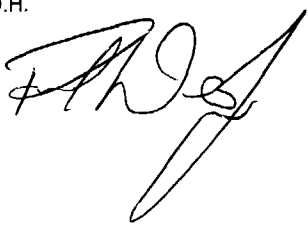
ECHO BAY MINES LTD. - DIAMOND DRILL LOG

Drill Hole Number: OTF-01

Project Name:	Ogden Township Project	Grid Northing:	200+60N	Measure:	Meters	Depth	Acid Tests	
Project Number:	738	Grid Easting:	110+18E	Drilled By:	Norex Drilling	38.0	Azi.	Dip
Claim Number:	TRS 1164	Elevation:	0	Start:	5/10/99	92.0		-41
Location:	Ogden Twp.	Azimuth:	180	Completed:	5/13/99	182.0		-41
		Dip:	-45	Core Size:	NQ	191.0		-42
Core stored at Echo Bay		Length:	191m	Date(s) Logged:	May 12-14/99			
Exploration Office - Timmins				Logged By:	Paul Degagne			

From (m)	To (m)	Geology	Sample	From (m)	To (m)	Length (m)	Au (ppb)	Au check (ppb)
0.00	30.00	Overburden						
30.00	58.10	Talc-Chlorite Ultramafic Volcanic (komatiite) - fine grained to aphanitic, black in colour, 30% quartz-carbonate stringers/veins at 10 deg. to 60 deg. T.C.A.	34002 34003 34004	32.00 60.60 65.50	33.00 62.00 66.50	1.0 1.4 1.0	6 5 5	
58.10	60.60	Chlorite Altered Mafic Volcanic (dyke?) - green to green black in colour, massive, aphanitic, 5% quartz-carbonate stringers/veinlets @ 60 deg. T.C.A.	34005 34006 34007 34008	66.50 67.50 68.50 69.00	67.10 68.50 69.00 70.00	0.6 1.0 0.5 1.0	9 15 43 6	
60.60	66.50	Talc-Chlorite Ultramafic volcanic (komatiite) - as above with 30% quartz-carbonate stringers and veinlets, local pyrite (3%) as "blebs" at 61.5m - ground core @ 64.0 - 64.4	34009 34010 34011 34012	84.60 85.60 86.60 87.10	85.60 86.60 87.10 88.10	1.0 1.0 0.5 1.0	5 28 5 5	
66.50	69.00	Silicified Zone - grey-green altered dyke?, bleached, siliceous, 10% quartz stringers @ 70 deg. T.C.A., - trace pyrite	34069 34070 34071 34013	88.10 89.00 90.00 90.90	89.00 90.00 90.90 92.20	0.9 1.0 0.9 1.3	22 8 32 5	
69.00	85.60	Talc-Chlorite Ultramafic Volcanic (komatiite) as above with 35% quartz-carbonate stringers and veinlets at various core angles,	34014 34015 34016	92.20 92.70 93.70	92.70 93.70 94.70	0.5 1.0 1.0	5 869 102	
85.60	86.60	Silicified Zone (possible felsite) same as 66.5 - 69.0 but with 3% fine disseminated pyrite	34017 34018 34019	94.70 95.70 96.90	95.70 96.90 98.00	1.0 1.2 1.1	93 50 5	
86.60	87.15	Quart Vein	34020 34021	98.00 99.00	99.00 100.00	1.0 1.0	5 5	
87.15	92.70	Chlorite +/- Talc Mafic to Ultramafic Volcanic - 50% quartz-carbonate stringers/veinlets, predominant foliation @ 70 deg. T.C.A. note: late stage quartz stringers cutting quartz-carbonate veins/stringers - quartz veins at 90.9 - 91.0, 91.6 - 91.8, 92.0 - 92.2	34072 34022 34023 34024 34025	100.00 101.30 101.90 103.00 104.00	101.30 101.90 103.00 104.00 105.00	1.3 0.6 1.1 1.0 1.0	5 5 10 5 5	
92.70	96.90	Green Carbonate - Fuchsite Zone - 25% quartz-carbonate stringers in apple green altered fuchsite-carbonate ultramafic volcanic - 3% to 5% fine disseminated pyrite throughout; fol'n @ 55 deg. T.C.A.	34026 34027 34028	105.00 106.00 106.40	106.00 106.40 107.20	1.0 0.4 0.8	5 5 5	

From (m)	To (m)	Geology	Sample	From (m)	To (m)	Length (m)	Au (ppb)	Au check (ppb)
96.90	101.30	Talc-Chlorite Altered Ultramafic Volcanic (komatiite) - typical, 30% quartz-carbonate stringers, trace pyrite						
			34029	107.20	108.00	0.8	<5	
101.30	101.90	Feldspar Porphyry Dyke - massive, siliceous, pale grey to pinkish grey in colour - no visible sulphides	34030	108.00	109.00	1.0	<5	
			34031	109.00	110.00	1.0	6	
			34032	110.00	111.00	1.0	6	
			34033	111.00	112.00	1.0	<5	
101.90	106.40	Talc-Chlorite Altered Ultramafic Volcanic (komatiite) - typical, 20% quartz-carbonate stringers	34034	112.00	112.45	0.5	<5	
			34035	112.45	113.50	1.1	6	
			34036	113.50	114.20	0.7	7	
106.40	107.20	Felsite Dyke - pinkish brown in colour, 3% fine pyrite throughout, brecciated by quartz stringers/veins (40%)	34037	114.20	114.70	0.5	<5	
			34054	114.70	115.70	1.0	8	
			34055	115.70	116.20	0.5	6	
107.20	114.70	Chlorite (+/- Talc) Altered Mafic Volcanic - pale green in colour, well laminated with alternating bands of quartz-carbonate (50%) @ 40 deg. T.C. - unit may be a fragmental (lapilli tuff) - locally up to 3% fine disseminated pyrite - felsite dyke from 112.45 - 114.2	34056	116.20	117.20	1.0	<5	
			34057	117.20	117.85	0.6	7	
			34073	117.85	118.20	0.4	<5	
			34074	118.20	119.00	0.8	22	
			34038	119.00	120.00	1.0	8	
			34075	120.00	121.20	1.2	10	
114.70	116.20	Intermediate Tuff? (possible dyke) - grey to grey green in colour, weakly foliated to massive, fine grained, weak sericite - <1% quartz-carbonate stringers, trace pyrite	34076	121.20	122.00	0.8	<5	
			34077	122.00	122.40	0.4	12	
			34039	130.45	131.50	1.1	6	
			34040	131.50	132.50	1.0	<5	
116.20	117.85	Mafic Volcanic? - chlorite and sericite altered, well laminated with 25% quartz-carb veinlets (35 deg. T.C.A.) - trace pyrite	34041	132.50	133.60	1.1	<5	
			34042	140.00	140.75	0.8	<5	
			34043	140.75	141.15	0.4	<5	
			34044	141.15	141.55	0.4	<5	
117.85	118.20	Biotite Altered Mafic Volcanic - brown to purple-brown pervasive biotite altered phase of above unit	34045	141.55	142.60	1.0	27	
			34046	142.60	143.60	1.0	8	
			34047	143.60	144.60	1.0	10	
118.20	128.50	Talc-Chlorite Altered Ultramafic Volcanic (komatiite) - typical, with 20% quartz-carbonate stringers/veinlets	34048	144.60	145.60	1.0	<5	
			34049	145.60	147.00	1.4	<5	
			34050	147.00	148.00	1.0	<5	
128.50	130.45	Intermediate Tuff? (possible dyke) - moderately siliceous, grey-green in colour, moderately foliated @ 45 deg. T.C.A., fine grained - <2% quartz-carbonate veinlets - weakly sericitic	34051	148.00	149.10	1.1	<5	
			34052	149.10	150.00	0.9	8	
			34053	150.00	151.00	1.0	<5	
130.45	133.60	Mafic Volcanic (lapilli tuff?) - well laminated with alternating bands of green carbonate/sericite and grey-green units hosting 10% chloritic clasts - quartz vein from 132.8 - 133.0 - trace diss. Pyrite						
133.60	140.75	Talc-Chlorite Altered Ultramafic Volcanic (komatiite) - typical, with 20% quartz-carbonate stringers/veinlets						
140.75	141.15	Quartz Vein						


From (m)	To (m)	Geology	Sample	From (m)	To (m)	Length (m)	Au (ppb)	Au check (ppb)
141.15	141.55	Intermediate Dyke - medium grained, massive, grey to dark grey in colour, feldspar phyrlic - cut by two generations of quartz						
141.55	147.00	Green Carbonate - Fuchsite Zone - 40% quartz-carbonate stringers in apple green altered fuchsite-carbonate ultramafic volcanic - 2% fine disseminated pyrite throughout, locally to 5% fol'n @ 55 deg. T.C.A. quartz-carbonate stringers (parallel to foliation) cut by later quartz stringers (parallel to core axis)						
147.00	149.10	Intermediate Dyke - medium grained, foliated, grey to dark grey in colour, feldspar phyrlic - foliation at 45 deg. T.C.A.						
149.10	153.00	Talc-Chlorite Altered Ultramafic Volcanic (komatiite) - typical, with 40% quartz-carbonate stringers/veinlets						
153.00	169.90	Talc-Chlorite Altered Ultramafic Volcanic (komatiite) - massive with no quartz-carbonate stringers						
169.90	172.00	Intermediate Dyke massive, grey, moderately siliceous, feldspar phyrlic						
172.00	176.00	Talc-Chlorite Altered Ultramafic Volcanic (komatiite) - massive						
176.00	191.00	Intermediate to Felsic Tuff (Deloro Gp) - weakly sericitic, light grey weakly foliated at 45 deg. T.C.A.						
	191.00	E.O.H. 						

ECHO BAY MINES LTD. - DIAMOND DRILL LOG

Drill Hole Number: OTF-02

Project Name:	Ogden Township Project	Grid Northing:	200+80	Measure:	Meters	Depth	<u>Acid Tests</u>	
Project Number:	738	Grid Easting:	111+00E	Drilled By:	Norex Drilling	30.0	Azi.	Dip
Claim Number:	TRS 1164	Elevation:	0	Start:	5/13/99	194.0		-47
Location:	Ogden Twp.	Azimuth:	180	Completed:	5/20/99	281.0		-47
		Dip:	-50	Core Size:	NQ			-45
Core stored at Echo Bay		Length:	281m	Date(s) Logged:	May 14-21/99			
Exploration Office - Timmins				Logged By:	Paul Degagne			

From (m)	To (m)	Geology	Sample	From (m)	To (m)	Length (m)	Au (ppb)	Au check (ppb)
0.00	21.50	Overburden						
30.00	107.00	Talc-Chlorite Ultramafic Volcanic (komatiite) - fine grained to aphanitic, black in colour, 20% quartz-carbonate stringers/veins at various orientations; locally fragmental looking (possible interflow breccia)	34058	26.20	27.20	1.0	♂	
			34059	27.20	28.20	1.0	♂	
			34060	28.20	29.20	1.0	♂	
107.00	109.10	Chlorite +/- Talc Ultramafic to Mafic Volcanic - 40% quartz-albite-carbonate veins/veinlets @ 65 deg. T.C.A. - 5% fine disseminated pyrite throughout	34061	29.20	30.20	1.0	♂	
			34062	30.20	31.50	1.3	♂	
			34063	31.50	32.70	1.2	♂	
			34064	32.70	33.80	1.1	♂	
109.10	109.55	Green Carbonate - Fuchsite Zone - 40% quartz-carbonate stringers in apple green altered fuchsite-carbonate ultramafic volcanic tr - 1% fine disseminated pyrite throughout; fol'n @ 60 deg. T.C.A.	34065	50.60	51.60	1.0	♂	
			34066	51.60	52.60	1.0	♂	
			34067	52.60	53.60	1.0	♂	
			34068	53.60	54.50	0.9	♂	
109.55	109.90	Talc-Chlorite Ultramafic Volcanic (komatiite) - 60% quartz-carbonate as laminated bands with talc-chlorite U/M volcanic - foliation @ 35 deg. T.C.A.	34078	106.30	107.00	0.7	♂	
			34079	107.00	108.00	1.0	♂	
			34080	108.00	109.10	1.1	♂	
			34081	109.10	109.55	0.5	♂	
109.90	110.20	Green Carbonate - Fuchsite Zone as above with 15% quartz-carbonate stringers and veinlets sub-parallel T.C.A., 1% diss. Py	34082	109.55	109.90	0.4	♂	
			34083	109.90	110.20	0.3	♂	
			34084	110.20	110.75	0.5	♂	
110.20	120.30	Talc-Chlorite Altered Ultramafic Volcanic (komatiite) - up to 60% quartz-carbonate stringers/veinlets from 25 deg. To 35 deg. T.C.A. - foliation is locally kink banded, tr pyrite throughout 110.75 - 112.0: Feldspathic Dyke, grey to green, weakly fol'd, tr py 113.45 - 114.0: Intermediate Dyke, 5% fine pyrite, fine grained, massive, K-altered 114.20 - 114.5: Intermediate Dyke, same as above	34085	110.75	112.00	1.3	♂	
			34086	112.00	113.45	1.5	♂	
			34087	113.45	114.00	0.5	♂	
			34088	114.00	114.20	0.2	♂	
			34089	114.20	114.45	0.3	♂	
			34090	114.45	115.50	1.1	♂	
			34091	115.50	116.50	1.0	♂	
120.30	121.65	Green Carbonate - Fuchsite - Chlorite Zone - 5% diss. Pyrite throughout, unit well laminated at 40 deg. T.C.A.	34092	116.50	117.50	1.0	♂	
			34093	117.50	118.50	1.0	♂	
			34094	118.50	119.50	1.0	♂	
121.65	125.20	Talc-Chlorite Altered Ultramafic Volcanic (komatiite) - typical, 45% quartz-carbonate stringers/veinlets, 5% laminated pyrite locally	34095	119.50	120.30	0.8	♂	
			34117	120.30	121.00	0.7	♂	

From (m)	To (m)	Geology	Sample	From (m)	To (m)	Length (m)	Au (ppb)	Au check (ppb)
125.20	140.60	Green Carbonate - Fuchsite - Albite Zone - 2% fine disseminated pyrite with up to 10% locally - 40% quartz-carbonate-albite veins - foliation variable but averages 40 deg. T.C.A. 128.5 - 128.8: Feldspathic Dyke	34096	121.00	121.65	0.7	6	
			34097	121.65	122.70	1.1	6	
			34098	122.70	123.70	1.0	6	
			34099	123.70	124.70	1.0	6	
			34100	124.70	125.20	0.5	6	
			34101	125.20	126.20	1.0	5	
140.60	144.20	Intermediate Tuff? - greyish green, well foliated at 50 deg. T.C.A., tr pyrite throughout with up to 5% locally - generally chloritic, locally biotitic	34102	126.20	126.70	0.5	11	
			34103	126.70	127.70	1.0	6	
			34104	127.70	128.50	0.8	6	
			34105	128.50	128.80	0.3	6	
			34106	128.80	129.80	1.0	6	
144.20	178.40	Talc-Chlorite Altered Ultramafic Volcanic (komatiite) - typical, 8% quartz-calcite stringers	34107	129.80	130.80	1.0	6	
			34108	130.80	131.80	1.0	6	
			34109	131.80	132.80	1.0	6	
178.40	181.20	Felsic to Intermediate Tuff (Deloro Gp.) - foliated, greenish grey in colour, weakly sericitic and local development of fuchsite - siliceous, 10% quartz stringers throughout	34110	132.80	133.90	1.1	6	
			34111	133.90	134.70	0.8	6	
			34112	134.70	135.30	0.6	6	
			34113	135.30	136.30	1.0	6	
181.20	182.00	Felsic Dyke - greyish brown, massive, fine grained, 3% quartz-calcite veining, 2% pyrite	34114	136.30	137.55	1.3	6	
			34115	137.55	138.55	1.0	6	
			34116	138.55	139.55	1.0	6	
182.00	186.70	Fuchsite Altered Felsic to Intermediate Tuff (Deloro Gp.) - pervasively altered with fuchsite, +/- sericite, well foliated at 55 deg. T.C.A.	34117	120.30	121.00	0.7	11	
			34118	139.55	140.60	1.0	6	
			34119	140.60	141.60	1.0	6	
186.70	193.70	Felsic to Intermediate Tuff (Deloro Gp.) - weakly foliated, grey, siliceous with 10% chloritic and fuchsitic lapilli clasts	34120	141.60	142.60	1.0	6	
			34121	142.60	143.60	1.0	6	
			34122	143.60	144.20	0.6	28	
193.70	203.20	Talc-Chlorite Altered Ultramafic Volcanic (komatiite) - 15% quartz-carbonate stringers, typical	34123	171.10	172.30	1.2	6	
			34124	172.30	173.10	0.8	10	
			34125	173.10	174.10	1.0	6	
203.20	220.40	Green Carbonate - Fuchsite - Albite Zone - 40% quartz-carbonate-albite veins/stringers @ 60 deg. T.C.A, cut by late quartz stringers parallel T.C.A. tr pyrite throughout, locally up to 5%	34126	177.40	178.40	1.0	6	
			34127	178.40	179.40	1.0	6	
			34128	179.40	180.40	1.0	6	
			34129	180.40	181.20	0.8	6	
			34130	181.20	182.00	0.8	304	
220.40	281.00	Talc-Chlorite Altered Ultramafic Volcanic (komatiite) - typical but generally <10% quartz-carbonate stringers E.O.H. 	34131	182.00	183.00	1.0	6	
			34132	183.00	183.45	0.4	6	
			34133	183.45	184.50	1.1	6	
			34134	184.50	185.50	1.0	6	
			34135	185.50	186.70	1.2	6	
			34136	186.70	187.70	1.0	6	
			34137	202.30	203.20	0.9	6	
			34138	203.20	204.20	1.0	6	
			34139	204.20	205.20	1.0	6	
			34140	205.20	206.20	1.0	6	
			34141	206.20	207.20	1.0	6	
			34142	207.20	208.20	1.0	6	
			34143	208.20	209.20	1.0	6	

From (m)	To (m)	Geology	Sample	From (m)	To (m)	Length (m)	Au (ppb)	Au check (ppb)
			34144	209.20	210.20	1.0	65	
			34145	210.20	211.20	1.0	65	
			34146	211.20	212.20	1.0	65	
			34147	212.20	213.20	1.0	65	
			34148	213.2	214.2	1.0	65	
			34149	214.2	215.2	1.0	65	
			34150	215.2	216.2	1.0	65	
			34151	216.2	217.2	1.0	65	
			34152	217.2	218.2	1.0	65	
			34153	218.2	219.2	1.0	65	
			34154	219.2	220.5	1.3	65	

ECHO BAY MINES LTD. - DIAMOND DRILL LOG

Drill Hole Number: OTF-03

Project Name:	Ogden Township Project	Grid Northing:	20050N	Measure:	Meters	Depth	Acid Tests	
Project Number:	738	Grid Easting:	10900E	Drilled By:	Norex Drilling	30.0	Azi.	Dip
Claim Number:	TRS 1164	Elevation:	0	Start:	5/20/99	221.0		-44
Location:	Ogden Twp.	Azimuth:	180	Completed:	5/24/99			-44
		Dip:	-45	Core Size:	NQ		Core stored at Echo Bay	
		Length:	221m	Date(s) Logged:	May 21-25/99		Exploration Office - Timmins	
				Logged By:	Paul Degagne			


From (m)	To (m)	Geology	Sample	From (m)	To (m)	Length (m)	Au (ppb)	Au check (ppb)
0.00	35.00	Overburden						
35.00	103.20	Talc-Chlorite Ultramafic Volcanic - typical, 40% quartz-carbonate veinlets/stringers throughout, core angles parallel to core axis to 50 meters then swing to 40 degrees - brown biotite altered mafic dykes (lamprophyre?) with 2% diss. Pyrite, fol'n @ 55 T.C.A. from: 54.5 - 56.25 and 57.2 - 58.1	679801 679802 679803 679804 679805 679806	54.50 55.50 56.25 57.20 58.10 59.00	55.50 56.25 57.20 58.10 59.00 59.60	1.00 0.75 0.95 0.90 0.90 0.60	8 5 5 6 6 9	
103.20	109.80	Green Carbonate-Fuchsite Altered Zone (weak) - 20% quartz and carbonate veining throughout in pale green chlorite-fuchsite-talc altered ultramafic rock. Tr. Pyrite, fol'n @ 45 deg. To 60 deg. T.C.A.	679807 679808	103.00 104.00	104.00 105.00	1.00 1.00	8 6	
109.80	116.60	Grey Carbonate Altered Ultramafic? Volcanic - light grey, pervasive grey carbonate altered, 35% quartz-carbonate stringers/veinlets, trace pyrite with up to 5% locally - quartz vein from 115.5 to 116.0	679809 679810 679811 679812 679813	105.00 106.00 107.00 108.00 109.00	106.00 107.00 108.00 109.00 109.80	1.00 1.00 1.00 1.00 0.80	13 21 12 8 129	
116.60	117.30	Feldspar Porphyritic Dyke - massive, moderately siliceous, yellow-brown (sericite altered) with 5% quartz stringers	679814 679815 679816	109.80 110.80 111.80	110.80 111.80 112.80	1.00 1.00 1.00	5 6 6	
117.30	120.15	Talc-Chlorite Ultramafic Volcanic - typical, core angles of foliation @ 40 deg., 20% quartz-carbonate veining - feldspar dyke from 118.25 to 118.75	679817 679818 679819 679820	112.80 113.80 114.80 115.50	113.80 114.80 115.50 116.00	1.00 1.00 0.70 0.50	8 52 6	
120.15	121.60	Green Carbonate-Fuchsite Altered Zone - typical green carb., 40% quartz-carbonate, 3% pyrite, fol'n @ 25 deg. T.C.A.	679821 679822 679823	116.00 116.60 117.30	116.60 117.30 118.25	0.60 0.70 0.95	12 6 6	
121.60	123.60	Grey Carbonate Altered Ultramafic? Volcanic - as above - nil pyrite, 25% quartz-carbonate veining, minor talc and chlorite	679824 679825 679826 679827	118.25 118.75 119.75 120.15	118.75 119.75 120.15 121.00	0.50 1.00 0.40 0.85	6 10 44 63	
123.60	129.85	Feldspar Porphyry Dyke - massive to well foliated, grey with 10% quartz-carbonate veining, fol'n @ 0 to 20 deg. T.C.A., - intercalated with narrow sections of grey carb. Ultramafics	679828 679829 679830 679831	121.00 121.60 122.60 123.60	121.60 122.60 123.60 124.60	0.60 1.00 1.00 1.00	1217 83 13 6	

From (m)	To (m)	Geology	Sample	From (m)	To (m)	Length (m)	Au (ppb)	Au check (ppb)
129.85	131.30	Talc-chlorite Ultramafic Volcanic - same as above, 40% quartz-carbonate veining nil to trace pyrite	679832	124.60	125.60	1.00	<5	
			679833	125.60	126.60	1.00	99	
			679834	126.60	127.10	0.50	9	
131.30	148.20	Green Carbonate-Fuchsite-Chlorite Altered Zone - weakly altered with alternating sections of chlorite and green carbonate-fuchsite, trace to 1% pyrite with up to 5% locally, 30% quartz-carbonate veining - Intermedite grey dyke (tuff?) from 139.9 - 142.7, 143.4 - 144.5	679835	127.10	128.00	0.90	35	
			679836	128.00	129.00	1.00	129	
			679837	129.00	129.85	0.85	111	
			679838	129.85	131.00	1.15	76	
			679839	131.00	132.00	1.00	161	
148.20	149.50	Chlorite +/- Talc Ultramafic Volcanic - typical with 60% qtz-carbonate veining	679840	132.00	133.00	1.00	370	
			679841	133.00	133.95	0.95	23	
			679842	133.95	135.00	1.05	51	
149.50	155.80	Felsic to Intermediate Tuff (Deloro Gp) - weakly foliated, fine grained, grey, moderately siliceous - trace pyrite, <2% quartz- carbonate veins	679843	135.00	135.80	0.80	25	
			679844	135.80	136.80	1.00	<5	
			679845	136.80	138.00	1.20	<5	
			679846	138.00	139.00	1.00	98	
155.80	160.40	Chlorite +/- Talc Ultramafic Volcanic - typical with 60% qtz-carbonate veining	679847	139.00	139.90	0.90	203	
			679848	139.90	141.00	1.10	16	
			679849	141.00	142.00	1.00	29	
160.40	175.40	Diabase	679850	142.00	142.70	0.70	<5	
			679851	142.70	143.40	0.70	7	
175.40	221.00	Chlorite +/- Talc Ultramafic Volcanic - typical with 20% qtz-carbonate veining	679852	143.40	144.50	1.10	<5	
			679853	144.50	145.50	1.00	30	
			679854	145.50	146.50	1.00	112	
	221.00	E.O.H.	679855	146.50	147.50	1.00	<5	
			679856	147.50	148.20	0.70	<5	

ECHO BAY MINES LTD. - DIAMOND DRILL LOG

Drill Hole Number: OTF-04

Project Name:	Ogden Township Project	Grid Northing:	19950N	Measure:	Meters	Depth	<u>Tests (acid)</u>	
Project Number:	738	Grid Easting:	10700E	Drilled By:	Norex Drilling	116.0	Azi.	Dip
Claim Number:	1203911	Elevation:	0	Start:	5/26/99	194.0		-46
Location:	Ogden Twp.	Azimuth:	210	Completed:	5/28/99			-44
		Dip:	-45	Core Size:	NQ			
Core stored at Echo Bay		Length:	194m	Date(s) Logged:	May 27-29/99			
Exploration Office - Timmins				Logged By:	Paul Degagne			

From (m)	To (m)	Geology	Sample	From (m)	To (m)	Length (m)	Au (ppb)	Au check (ppb)
0.00	109.00	Overburden						
109.00	191.00	Talc-Chlorite Ultramafic Volcanic - dark black, massive to foliated, fine grained to aphanitic talc and chlorite rich komatite with 20% quartz-carbonate stringers/veinlets - narrow green chloritic sections (mafic tuff) interbedded throughout section						
	194.00	E.O.H.						
		note: no samples taken						
								

APPENDIX II
ASSAY CERTIFICATES



Intertek Testing Services
Chimitec Bondar Clegg

Certificat D'Analyse
Assay Lab Report

CLIENT: ECHO BAY MINES
REPORT: T99-57263.0 (COMPLETE)

DATE RECEIVED: 18-MAY-99

PROJECT: 738

DATE PRINTED: 21-MAY-99

PAGE 1 DE 3

SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB	SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB
34002		6	34042		<5
34003		<5	34043		<5
34004		<5	34044		<5
34005		9	34045		27
34006		15	34046		8
34007		43	34047		10
34008		6	34048		<5
34009		<5	34049		<5
34010		28	34050		<5
34011		<5	34051		<5
34012		<5	34052		8
34013		<5	34053		<5
34014		<5	34054		<5
34015		869	34055		<5
34016		102	34056		<5
34017		93	34057		7
34018		50	34058		<5
34019		5	34059		<5
34020		<5	34060		<5
34021		<5	34061		<5
34022		<5	34062		<5
34023		10	34063		<5
34024		<5	34064		<5
34025		<5	34065		<5
34026		<5	34066		<5
34027		<5	34067		<5
34028		<5	34068		<5
34029		<5	34069		22
34030		<5	34070		8
34031		6	34071		32
34032		6	34072		<5
34033		<5	34073		<5
34034		<5	34074		22
34035		6	34075		10
34036		7	34076		<5
34037		<5	34077		12
34038		8			
34039		6			
34040		<5			
34041		<5			



Intertek Testing Services
Chimitec Bondar Clegg

Certificat D'Analyse
Assay Lab Report

CLIENT: ECHO BAY MINES
REPORT: T99-57266.0 (COMPLETE)

DATE RECEIVED: 20-MAY-99

PROJECT: 738

DATE PRINTED: 25-MAY-99

PAGE 1 DE 3

SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB	SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB
34078		7	34118		17
34079		<5	34119		<5
34080		<5	34120		<5
34081		8			
34082		<5			
34083		<5			
34084		10			
34085		6			
34086		8			
34087		<5			
34088		<5			
34089		<5			
34090		<5			
34091		8			
34092		10			
34093		<5			
34094		8			
34095		<5			
34096		<5			
34097		6			
34098		<5			
34099		<5			
34100		<5			
34101		5			
34102		11			
34103		<5			
34104		<5			
34105		<5			
34106		<5			
34107		<5			
34108		<5			
34109		<5			
34110		<5			
34111		<5			
34112		<5			
34113		<5			
34114		6			
34115		<5			
34116		<5			
34117		11			



Intertek Testing Services
Chimitec Bondar Clegg

Certificat D'Analyse
Assay Lab Report

CLIENT: ECHO BAY MINES
REPORT: T99-57272.0 (COMPLETE)

DATE RECEIVED: 00-???-00

PROJECT: 738

DATE PRINTED: 28-MAY-99

PAGE 1 DE 3

SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB
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D2 34121		<5
D2 34122		28
D2 34123		<5
D2 34124		10
D2 34125		6

D2 34126		6
D2 34127		<5
D2 34128		<5
D2 34129		<5
D2 34130		304

D2 34131		<5
D2 34132		<5
D2 34133		6
D2 34134		<5
D2 34135		<5

D2 34136		<5
D2 34137		<5
D2 34138		<5
D2 34139		<5
D2 34140		<5

D2 34141		6
D2 34142		<5
D2 34143		<5
D2 34144		<5
D2 34145		<5

D2 34146		<5
D2 34147		<5
D2 34148		<5
D2 34149		<5
D2 34150		<5

D2 34151		<5
D2 34152		<5
D2 34153		<5
D2 34154		<5



Intertek Testing Services
Chimitec Bondar Clegg

Certificat D'Analyse
Assay Lab Report

CLIENT: ECHO BAY MINES
REPORT: T99-57273.0 (COMPLETE)

DATE RECEIVED: 00-???-00

PROJECT: 738
DATE PRINTED: 1-JUN-99 PAGE 1 DE 3

SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB	Auulp G/T	SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB	Auulp G/T
D2 679801		8		D2 679841		23	
D2 679802		5		D2 679842		51	
D2 679803		5		D2 679843		25	
D2 679804		<5		D2 679844		<5	
D2 679805		<5		D2 679845		<5	
D2 679806		9					
D2 679807		8					
D2 679808		<5					
D2 679809		13					
D2 679810		21					
D2 679811		12					
D2 679812		8					
D2 679813		129					
D2 679814		5					
D2 679815		6					
D2 679816		<5					
D2 679817		<5					
D2 679818		8					
D2 679819		52					
D2 679820		6					
D2 679821		12					
D2 679822		<5					
D2 679823		<5					
D2 679824		<5					
D2 679825		10					
D2 679826		44					
D2 679827		653					
D2 679828		1217	1.12				
D2 679829		83					
D2 679830		13					
D2 679831		<5					
D2 679832		<5					
D2 679833		99					
D2 679834		9					
D2 679835		35					
D2 679836		129					
D2 679837		111					
D2 679838		76					
D2 679839		161					
D2 679840		370					



Intertek Testing Services
Chimitec Bondar Clegg

Certificat D'Analyse
Assay Lab Report

CLIENT: ECHO BAY MINES
REPORT: T99-57276.0 (COMPLETE)

DATE RECEIVED: 00-???-00

PROJECT: 738

DATE PRINTED: 31-MAY-99

PAGE 1 DE 1

SAMPLE NUMBER	ELEMENT UNITS	Au30 PPB
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679846		98
679847		203
679848		16
679849		29
679850		<5

679851		7
679852		<5
679853		30
679854		112
679855		<5

679856		<5
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Ministry of Northern Development and Mines

Declaration of Assessment Work Performed on Mining Land

Mining Act, Subsection 88(2) and 88(3), R.S.O. 1990

Transaction Number (office use) W9960.00293
Assessment Files Research Imaging

FINAL REVISED



42A06NW2016 2.19547 OGDEN

900

ns 85(2) and 86(3) of the Mining Act. Under section 8 of the Mining Act, this work and correspond with the mining land holder. Questions about this collection and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

ing a claim, use form 0240.

1. Recorded holder(s) (Attach a list if necessary)

Name ECHO BAY MINES LTD.	Client Number 128711
Address P.O. Box 551, Timmins, ON P4N-7E7	Telephone Number 705-363-2366
	Fax Number 705-363-2222
Name	Client Number
Address	Telephone Number
	Fax Number

2. Type of work performed: Check (✓) and report on only ONE of the following groups for this declaration.

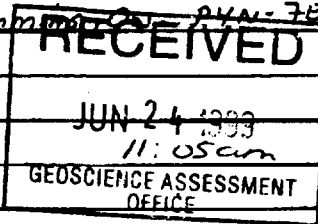
Geotechnical: prospecting, surveys, assays and work under section 18 (regs) Physical: drilling stripping, trenching and associated assays Rehabilitation

Work Type Diamond Drilling + core ASSAYS	Office Use
	Commodity
	Total \$ Value of Work Claimed \$ 13,468
Dates Work Performed From 10 5 99 To 28 5 99	NTS Reference
Global Positioning System Data (if available)	Mining Division Porcupine
Township/Area OGDEN TWP	Resident Geologist District Timmins
M or G-Plan Number G-3979	

- Please remember to:
- obtain a work permit from the Ministry of Natural Resources as required;
 - provide proper notice to surface rights holders before starting work;
 - complete and attach a Statement of Costs, form 0212;
 - provide a map showing contiguous mining lands that are linked for assigning work;
 - include two copies of your technical report.

3. Person or companies who prepared the technical report (Attach a list if necessary)

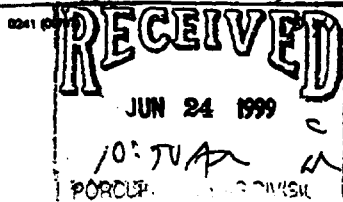
Name PAUL DEGAGNE - ECHO BAY MINES Ltd.	Telephone Number 705-363-2366
Address P.O. Box 551, Timmins, ON P4N-7E7	Fax Number 705-363-2222
Name	Telephone Number
Address	Fax Number
Name	Telephone Number
Address	Fax Number



4. Certification by Recorded Holder or Agent

I, PAUL DEGAGNE, do hereby certify that I have personal knowledge of the facts set forth in this Declaration of Assessment Work having caused the work to be performed or witnessed the same during or after its completion and, to the best of my knowledge, the annexed report is true.

Signature of Recorded Holder or Agent <i>[Signature]</i>	Date June 24/99
Agent's Address Box 551, Timmins, ON P4N-7E7	Telephone Number 705-363-2366
	Fax Number 705-363-2222



2.19547

5. Work to be recorded and distributed. Work can only be assigned to claims that are contiguous (adjoining) to the mining land where work was performed, at the time work was performed. A map showing the contiguous link must accompany this form.

W9960.00293 FINAL REVISION

Mining Claim Number. Or if work was done on other eligible mining land, show in this column the location number indicated on the claim map.	Number of Claim Units. For other mining land, list hectares.	Value of work performed on this claim or other mining land.	Value of work applied to this claim.	Value of work assigned to other mining claims.	Bank. Value of work to be distributed at a future date
eg TB 7827	16 ha	\$28,825	N/A	\$24,000	\$2,825
eg 1234567	12	0	\$24,000	0	0
eg 1234568	2	\$ 8,882	\$ 4,000	0	\$4,882
1 TRS 1164	16.2 Ha	34,835.25	0	18,998	15,837.25
2 1203911	2	8,632.35	3,820	0	4,812.35
3 1220101	4	0	4800	0	
4 1220102	1	0	1600	0	
5 1227996	1	0	1756	0	
6 1227997	1	0	2000	0	
7 1227998	1	0	1771	0	
8 1227999	1	0	1600	0	
9 1228000	3	0	5471	0	
10					
11					
12					
13					
14					
15					
Column Totals		43,467.50	22,818	18998	20,649.50

I, Paul DeGaane, do hereby certify that the above work credits are eligible under subsection 7 (1) of the Assessment Work Regulation 6/98 for assignment to contiguous claims or for application to the claim where the work was done.

Signature of Recorded Holder of Approval [Signature] Date June 24/99

6. Instructions for cutting back credits that are not approved.

Some of the credits claimed in this declaration may be cut back. Please check (✓) in the boxes below to show how you wish to prioritize the deletion of credits:

- 1. Credits are to be cut back from the Bank first, followed by option 2 or 3 or 4 as indicated.
- 2. Credits are to be cut back starting with the claims listed last, working backwards; or
- 3. Credits are to be cut back equally over all claims listed in this declaration; or
- 4. Credits are to be cut back as prioritized on the attached appendix or as follows (describe):

Note: If you have not indicated how your credits are to be deleted, credits will be cut back from the Bank first, followed by option number 2 if necessary.

For Office Use Only

Received Stamp

Deemed Approved Date	Date Notification Sent
Date Approved	Total Value of Credit Approved
Approved for Recording by Mining Recorder (Signature)	

0241 (03/87)

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 2:06 pm
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 OFFICE



**Statement of Costs
for Assessment Credit**

Transaction Number (office use)
W9960.00293

Personal information collected on this form is obtained under the authority of subsection 6 (1) of the Assessment Work Regulation 696. Under section 8 of the Mining Act, this information is a public record. This information will be used to review the assessment work and correspond with the mining land holder. Questions about this collection should be directed to a Provincial Mining Recorder, Ministry of Northern Development and Mines, 3rd Floor, 933 Ramsey Lake Road, Sudbury, Ontario, P3E 6B5.

Work Type	Units of work <small>Depending on the type of work, list the number of hours/days worked, metres of drilling, kilometres of grid line, number of samples, etc.</small>	Cost Per Unit of work	Total Cost
Diamond Drilling	890 meters	39.25 /meter	34,932.50
Core assays	210	9.50 /sample	1,995.00
Core splitting	7 days	120 / day	840.00
Core logging / supervision	19 days	300 / day	5,700.00
Associated Costs (e.g. supplies, mobilization and demobilization).			
Transportation Costs			
Food and Lodging Costs			

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Total Value of Assessment Work **43,467.50**

Calculations of Filing Discounts:

1. Work filed within two years of performance is claimed at 100% of the above Total Value of Assessment Work.
2. If work is filed after two years and up to five years after performance, it can only be claimed at 50% of the Total Value of Assessment Work. If this situation applies to your claims, use the calculation below:

TOTAL VALUE OF ASSESSMENT WORK x 0.50 = Total \$ value of worked claimed.

Note:

- Work older than 5 years is not eligible for credit.
- A recorded holder may be required to verify expenditures claimed in this statement of costs within 45 days of a request for verification and/or correction/clarification. If verification and/or correction/clarification is not made, the Minister may reject all or part of the assessment work submitted.

Certification verifying costs:

I, PAUL DEGAGNE (please print full name), do hereby certify, that the amounts shown are as accurate as may reasonably be determined and the costs were incurred while conducting assessment work on the lands indicated on the accompanying

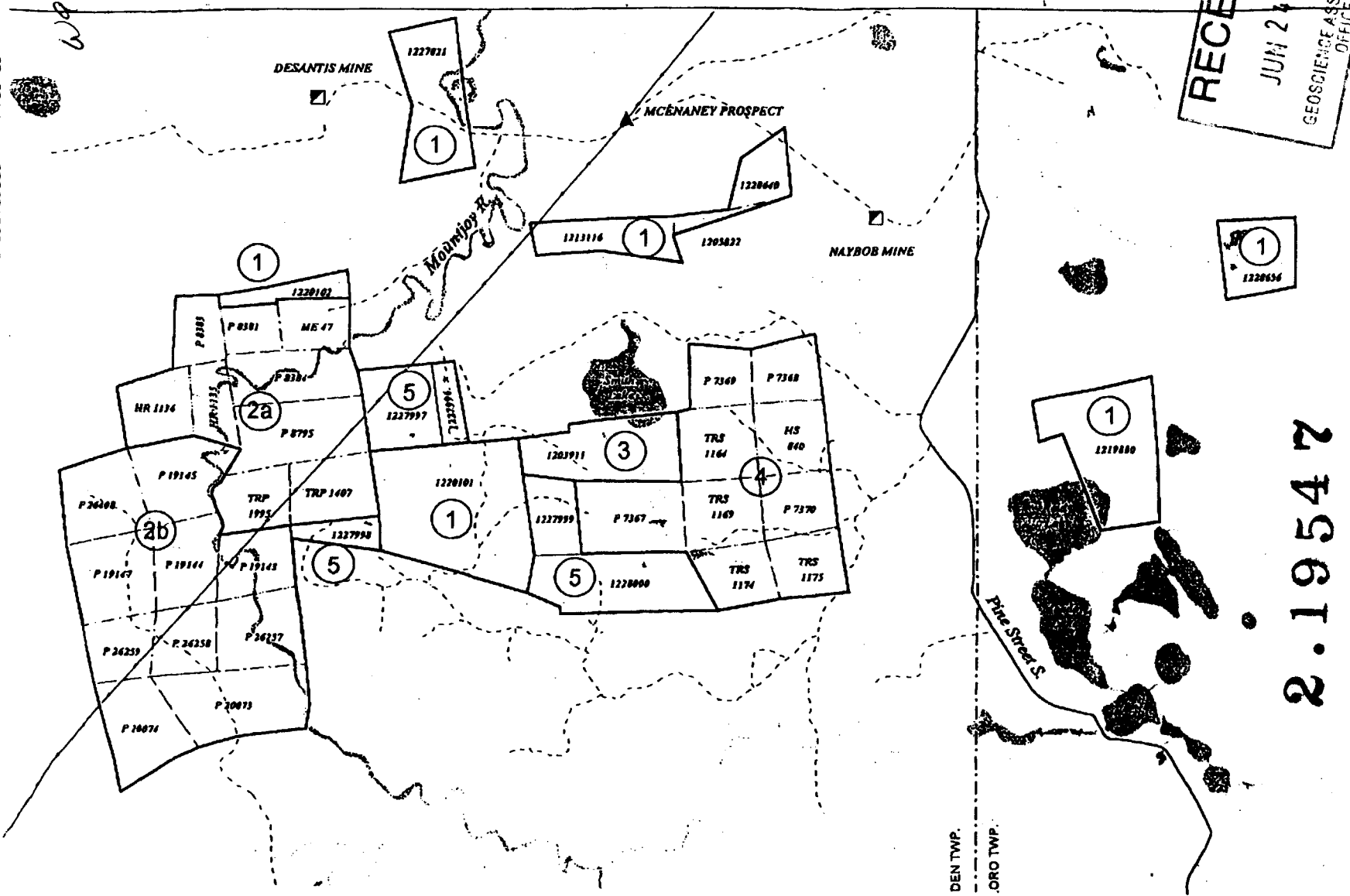
Declaration of Work form as Paul Degagne - Project Geologist I am authorized to make this certification.
(recorded holder, agent, or state competency position with signing authority)

0212 (08/97)
RECEIVED
 JUN 24 1999
 10:54 AM
 PORCUPINE MINING DIVISION

Signature [Signature] Date June 24/99

2.19547

WP960.00193.



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LEG

Claim Options

- ① 100% Echo Bay
- ②a Thomas Ogden
- ②b Thomas Estate
- ③ Lajeunesse Opt.
- ④ International F
- ⑤ new claims (acq
- property outline
- - - claim line
- ▣ past producing (<1,000,000 t)
- major road
- - - secondary r.
- transmission
- lake
- river / strea

2.19547



0 0.2
 Kilom
 Scale:

ECHO BAY

Geoscience Assessment Office
933 Ramsey Lake Road
6th Floor
Sudbury, Ontario
P3E 6B5

July 12, 1999

ECHO BAY MINES LTD.
310-17TH STREET
SUITE 4050
DENVER, COLORADO
802-02 USA

Telephone: (888) 415-9846
Fax: (877) 670-1555

Visit our website at:
www.gov.on.ca/MNDM/MINES/LANDS/mlsmnpge.htm

Dear Sir or Madam:

Submission Number: 2.19547

Status

Subject: Transaction Number(s): W9960.00293 Deemed Approval

We have reviewed your Assessment Work submission with the above noted Transaction Number(s). The attached summary page(s) indicate the results of the review. **WE RECOMMEND YOU READ THIS SUMMARY FOR THE DETAILS PERTAINING TO YOUR ASSESSMENT WORK.**

If the status for a transaction is a 45 Day Notice, the summary will outline the reasons for the notice, and any steps you can take to remedy deficiencies. The 90-day deemed approval provision, subsection 6(7) of the Assessment Work Regulation, will no longer be in effect for assessment work which has received a 45 Day Notice. Allowable changes to your credit distribution can be made by contacting the Geoscience Assessment Office within this 45 Day period, otherwise assessment credit will be cut back and distributed as outlined in Section #6 of the Declaration of Assessment work form.

Please note any revisions must be submitted in **DUPLICATE** to the Geoscience Assessment Office, by the response date on the summary.

If you have any questions regarding this correspondence, please contact Lucille Jerome by e-mail at lucille.jerome@ndm.gov.on.ca or by telephone at (705) 670-5858.

Yours sincerely,



ORIGINAL SIGNED BY
Blair Kite
Supervisor, Geoscience Assessment Office
Mining Lands Section

Work Report Assessment Results

Submission Number: 2.19547

Date Correspondence Sent: July 12, 1999

Assessor: Lucille Jerome

Transaction Number	First Claim Number	Township(s) / Area(s)	Status	Approval Date
W9960.00293	1203911	OGDEN	Deemed Approval	July 12, 1999

Section:
16 Drilling PDRILL

Correspondence to:

Resident Geologist
South Porcupine, ON

Assessment Files Library
Sudbury, ON

Recorded Holder(s) and/or Agent(s):

Paul DeGagne
TIMMINS, ON, CAN

ECHO BAY MINES LTD.
DENVER, COLORADO

MAP SYMBOLOLOGY

Aerial Cableway	Pipeline (above ground)
Boundary	Railroad
Intentional	Single Track
Unintentional	Double Track
Division, Township	Associated
Indian Reserve	Contour
Parcels	Road
Lot, Contaminated	Highway, County
Asphalt	Terrace
Box Boundary	Access (road of doubtful maintenance or non-paved driveway)
Bridges	Trail, Back Road (single line)
Road, Railroad	Trail, Back Road (double line)
Building	Rapids
Chimney	Double line river with multiple rapids
Cliff, Pit, Pile	Double line river with multiple rapids
Contours	Reservoir
Intermittent	River, Stream, Canal
Approximate	Assessment
Depression	Location of flow
Control Points	Rock
Horizontal	Shoal
Vertical	Spot Elevation (over elevation 2000)
Culvert	Tower
Falls	Transmission Line
Double line river	Pole
Fence, Hedge, Wall	Power
Feature Outlines (contour lines, etc.)	Tunnel
Floored Land	Utility Poles
Lock	Wharf, Dock, Pier
Marsh or Swamp	Wooded Area
Nest	
Mine Head Frame	
Outcrop	

REFERENCES

L.O. 5613 - "BOOMING GROUNDS" COVERS THE WESTERLY HALF OF THE BED OF THE MATTAGAMI RIVER FLOWING THROUGH THE TOWNSHIP FILE 73543

AREAS WITHDRAWN FROM DISPOSITION

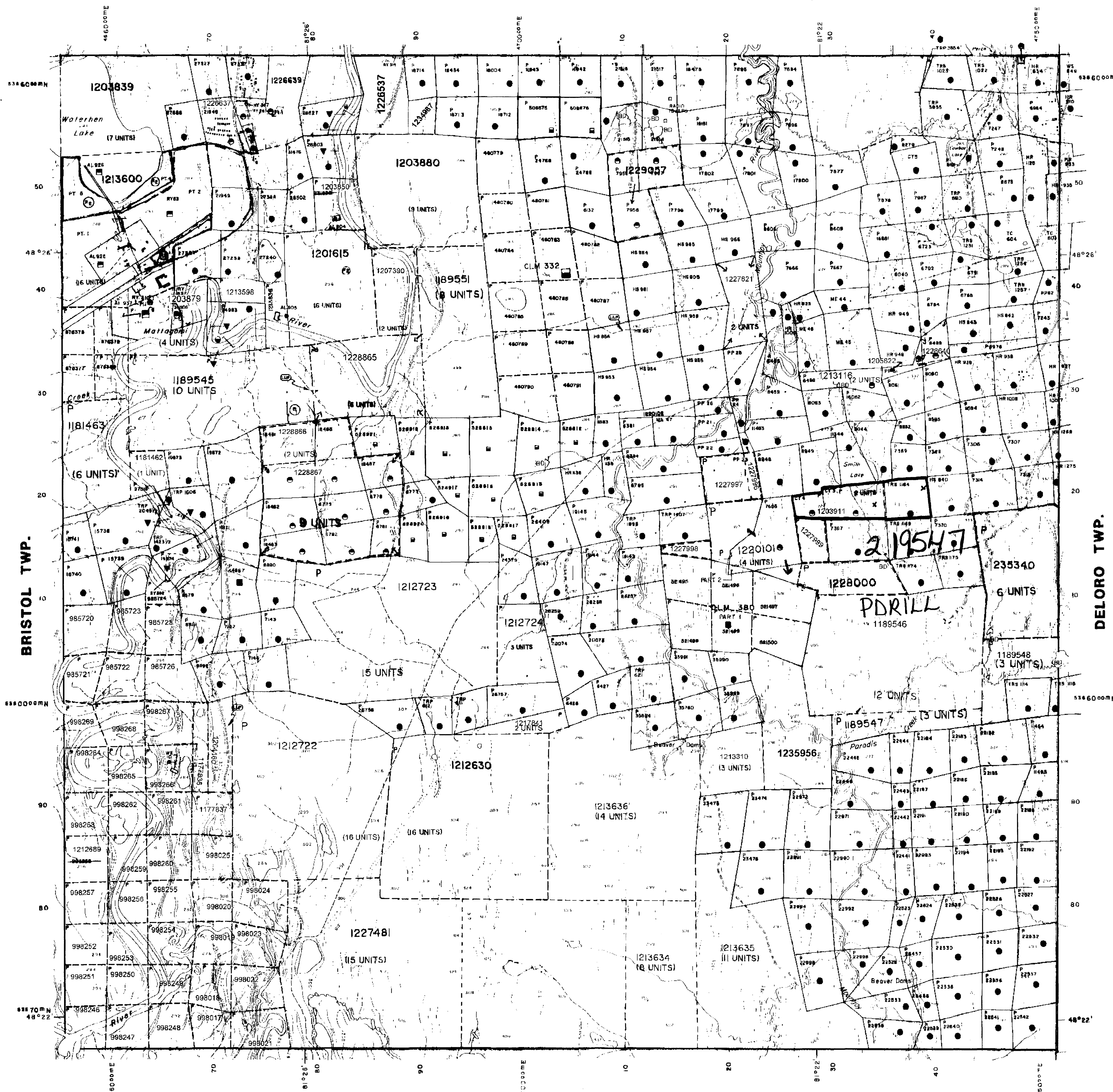
- M.R.O. - MINING RIGHTS ONLY
- S.R.O. - SURFACE RIGHTS ONLY
- M.S. - MINING AND SURFACE RIGHTS

Drawn Order No. Date Disposition File

- NRW 5179, 2/11/79 S.R.O.
- APPLICATION PENDING UNDER PUBLIC LANDS ACT NOTICE RECEIVED 28-MAR-80 (SNOWMOBILE TRAIL)
- AGGREGATE PERMIT
- APPLICATION PENDING UNDER PUBLIC LANDS ACT SEP. 09/95

THE INFORMATION THAT APPEARS ON THIS MAP HAS BEEN COMPILED FROM VARIOUS SOURCES, AND ACCURACY IS NOT GUARANTEED. THOSE WISHING TO STAKE MINING CLAIMS SHOULD CONSULT WITH THE MINING RECORDER, MINISTRY OF NORTHERN DEVELOPMENT AND MINES, FOR ADDITIONAL INFORMATION ON THE STATUS OF THE LANDS SHOWN HEREON

MOUNTJOY TWP.



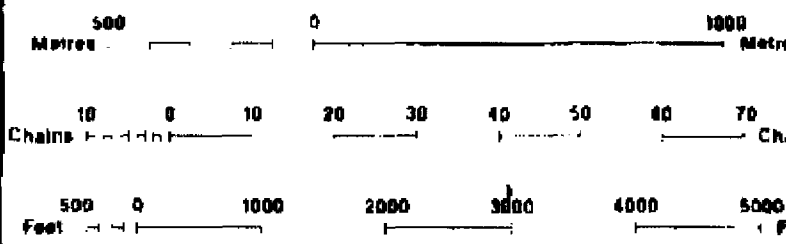
LEGEND

HIGHWAY AND ROUTE No.	OTHER ROADS
TRAILS	SURVEYED LINES
TOWNSHIPS, BASE LINES, ETC.	LOTS, MINING CLAIMS, PARCELS, ETC.
UNSURVEYED LINES	LOT LINES
PARCEL BOUNDARY	MINING CLAIMS ETC.
RAILWAY AND RIGHT OF WAY	UTILITY LINES
NON PERENNIAL STREAM	FLOODING OR FLOODING RIGHTS
SUBDIVISION OR COMPOSITE PLAN	RESERVATIONS
ORIGINAL SHORE LINE	MARSH OR MUSKEG
MINES	TRAVERSE MONUMENT

DISPOSITION OF CROWN LANDS

TYPE OF DOCUMENT	SYMBOL
PATENT, SURFACE & MINING RIGHTS	●
" SURFACE RIGHTS ONLY	○
" MINING RIGHTS ONLY	○
LEASE, SURFACE & MINING RIGHTS	■
" SURFACE RIGHTS ONLY	■
" MINING RIGHTS ONLY	■
LICENCE OF OCCUPATION	○
ORDER IN COUNCIL	OC
RESERVATION	○
CANCELLED	○
SAND & GRAVEL	○

NOTE: MINING RIGHTS IN PARCELS PATENTED PRIOR TO MAY 8, 1812, VESTED IN ORIGINAL PATENTEES BY THE PUBLIC LANDS ACT, R.S.O. 1970, CHAP. 380, SEC. 63, SUBSEC. 1



SCALE 1:20 000
GRID ZONE 17

NOTES

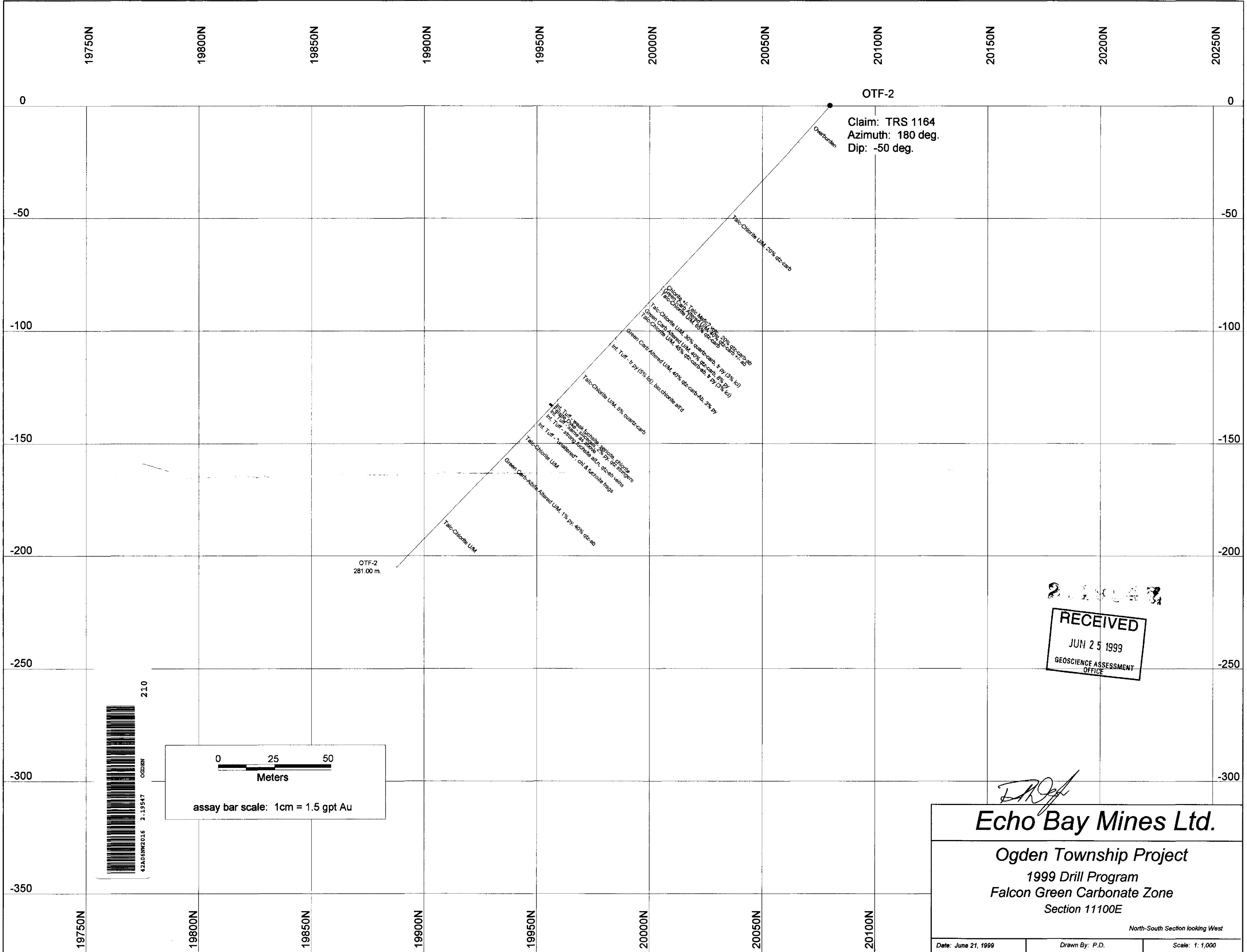
TOWNSHIP
OGDEN
M.N.R. ADMINISTRATIVE DISTRICT
TIMMINS
MINING DIVISION
PORCUPINE
LAND TITLES / REGISTRY DIVISION
COCHRANE

Ministry of Natural Resources
Land Management Branch
Ontario

ORIGINAL COMPILATION JULY 1984
REVISED
Number
G-3979

PRICE TWP.





OTF-2

Claim: TRS 1164
Azimuth: 180 deg.
Dip: -50 deg.

OTF-2
281.00 m.

211043
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OFFICE

[Signature]

Echo Bay Mines Ltd.

Ogden Township Project
1999 Drill Program
Falcon Green Carbonate Zone
Section 11100E

North-South Section looking West

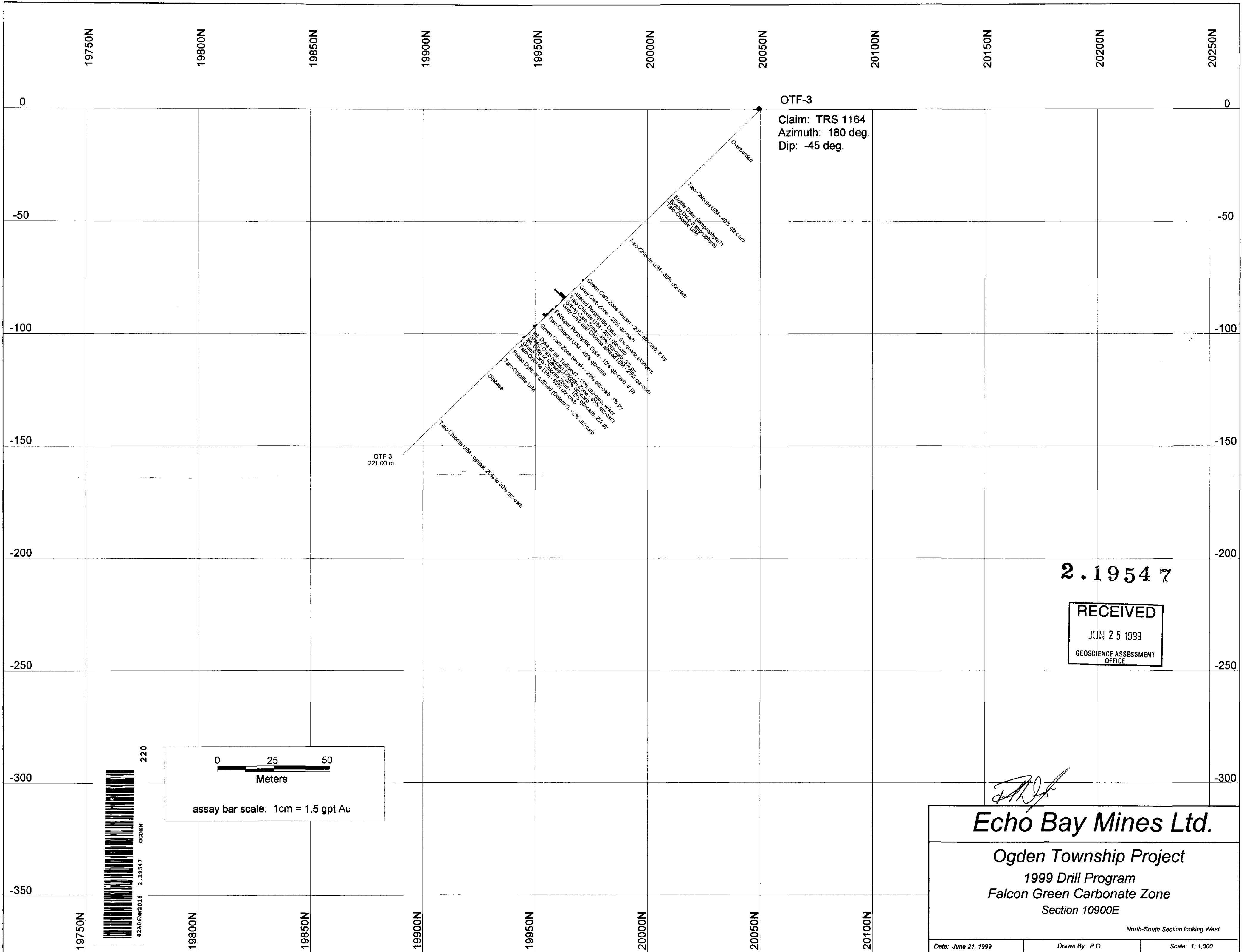
Date: June 21, 1999

Drawn By: P.D.

Scale: 1:1,000

0 25 50
Meters
assay bar scale: 1cm = 1.5 gpt Au

42A065W2016 2.19547
OGDEX
210



2.19547

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 OFFICE

[Signature]

Echo Bay Mines Ltd.

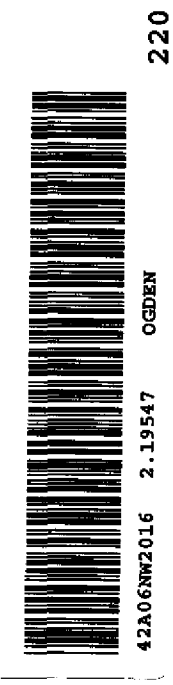
Ogden Township Project
 1999 Drill Program
 Falcon Green Carbonate Zone
 Section 10900E

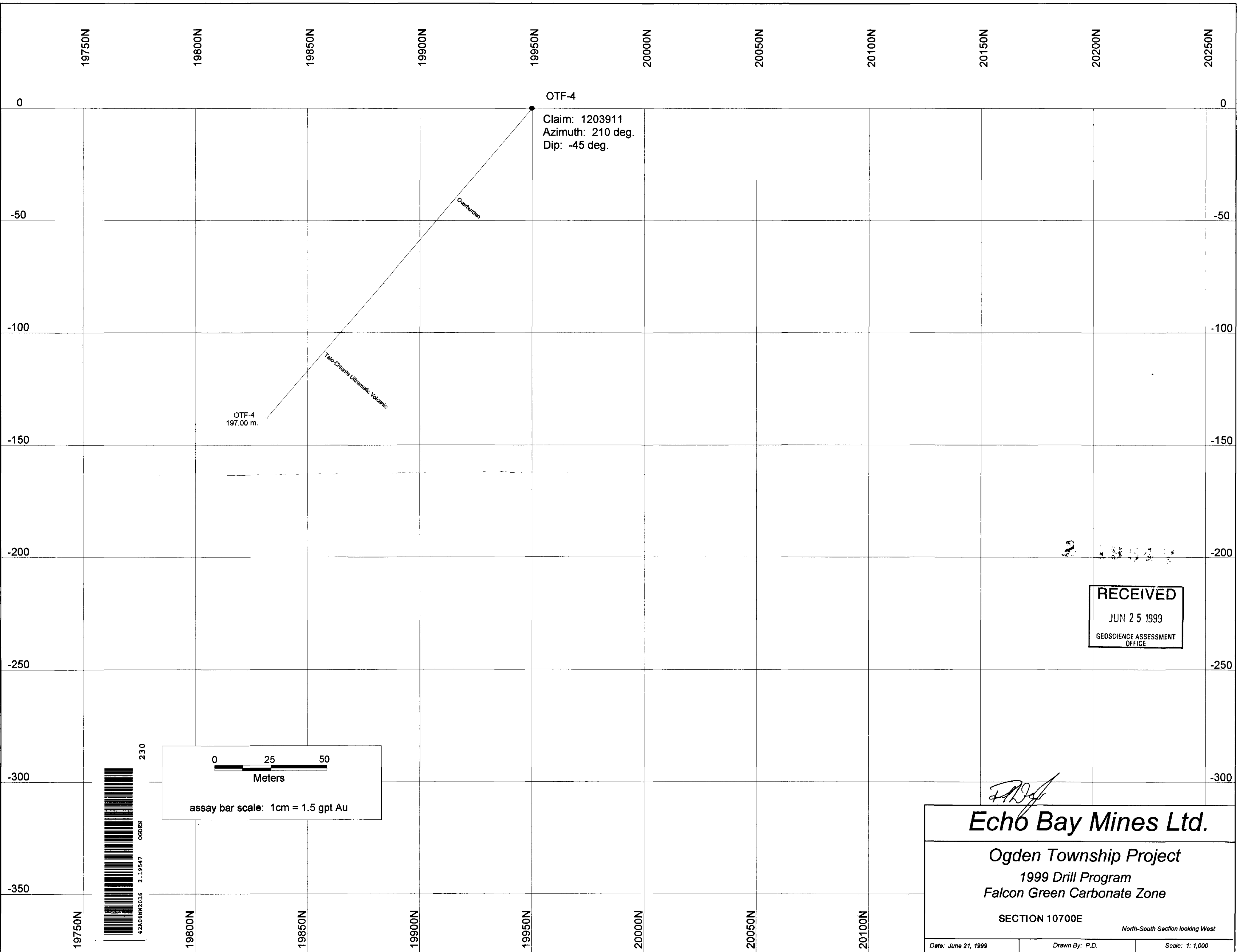
North-South Section looking West

Date: June 21, 1999 Drawn By: P.D. Scale: 1:1,000

0 25 50
 Meters

assay bar scale: 1cm = 1.5 gpt Au





OTF-4
 Claim: 1203911
 Azimuth: 210 deg.
 Dip: -45 deg.

OTF-4
 197.00 m.

Talc-Chlorite Ultramafic Volcanic

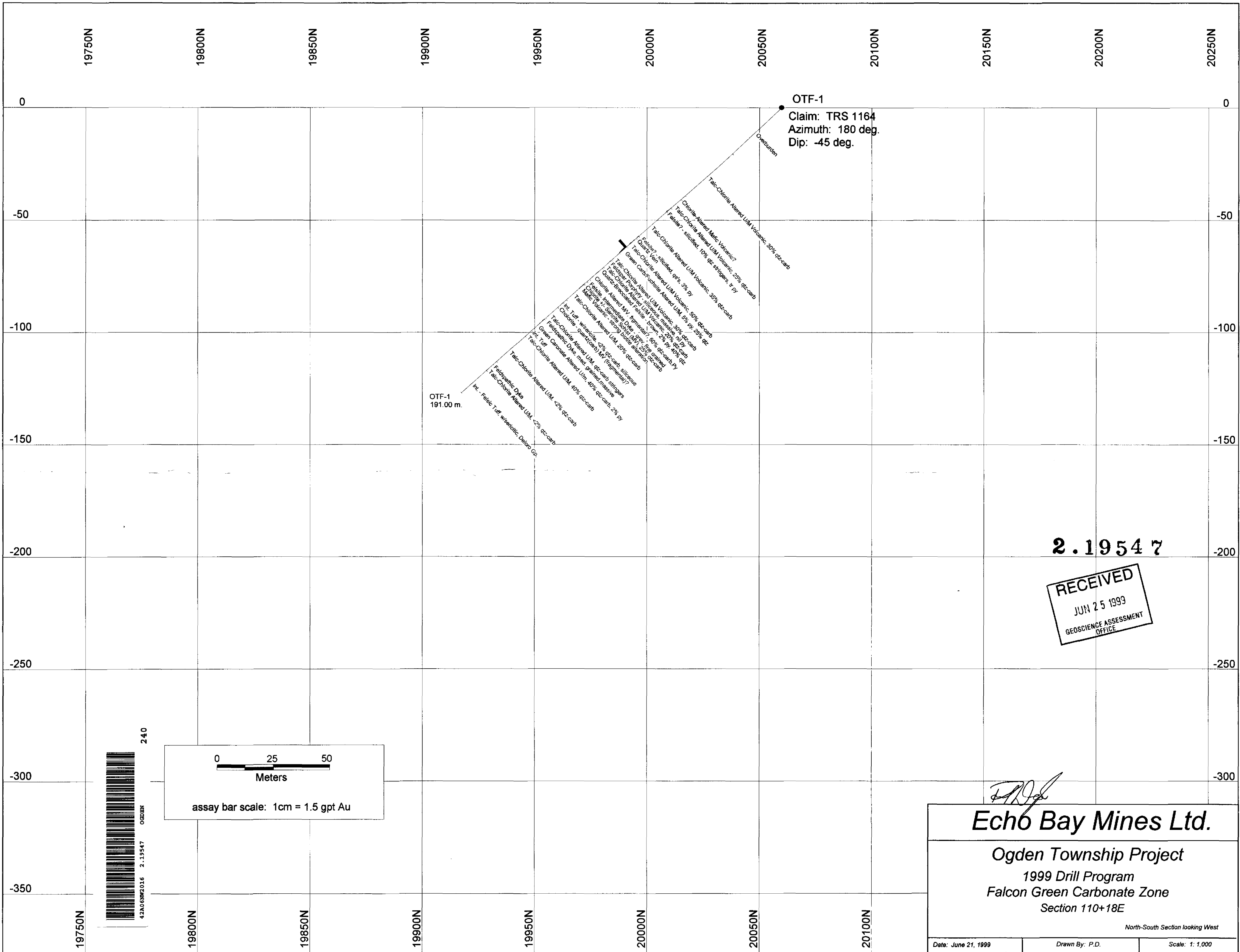
Overburden

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 OFFICE

0 25 50
 Meters
 assay bar scale: 1cm = 1.5 gpt Au



PD
Echo Bay Mines Ltd.
 Ogden Township Project
 1999 Drill Program
 Falcon Green Carbonate Zone
 SECTION 10700E
 North-South Section looking West
 Date: June 21, 1999 Drawn By: P.D. Scale: 1:1,000



2.19547

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 GEOSCIENCE ASSESSMENT
 OFFICE

[Signature]

Echo Bay Mines Ltd.

Ogden Township Project
 1999 Drill Program
 Falcon Green Carbonate Zone
 Section 110+18E

North-South Section looking West

Date: June 21, 1999 Drawn By: P.D. Scale: 1: 1,000