

KIDD CREEK MINES LTD.

GEOLOGICAL REPORT

CENTRAL REID TOWNSHIP PROPERTY

NTS: 42 A/12, 42 A/13

PROJECT # 204, REID CENTRAL CLAIMS

REID TOWNSHIP

ONTARIO

RECEIVED

1986 - 1 1986

MINING LANDS SECTION

APRIL, 1986

KEVIN OLSHEFSKY Associate Geologist

SUMMARY AND CONCLUSIONS

On the Reid Central property, geological mapping (1:5000 scale), and lithogeochemical sampling were carried out on the 1985 cut grid. Outcrop represents less than 5% of the total area.

The Reid Central property is underlain in part by calc-alkalic mafic volcanics. Gabbro has intruded the volcanics.

RECOMMENDATIONS

remainder of the claims should be gridded The and geophysically surveyed during the summer 1986. The of will provide both direct indications of surveys mineralization and geological information on the strike and dip of units and location of faults.

An overburden drilling program is recommended along the southern limits of the Reid Central properties to provide information for assessing likely drill targets hosted by or associated with formational conductors.

Diamond drilling should commence in early 1987 to test geophysical, geochemical and geological targets defined by the 1985 and 1986 work.



42A13SE0069 2.9086 REID

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Canada Limited

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DECLARATION

I, Kevin Olshefsky, certify that I am a graduate of the bachelor of science honors program in geology from Acadia University, Nova Scotia in 1984. I have been practicing my profession since then, a total of two years.

K.F. OLSHEFSKY

Associate Geologist

General Statement

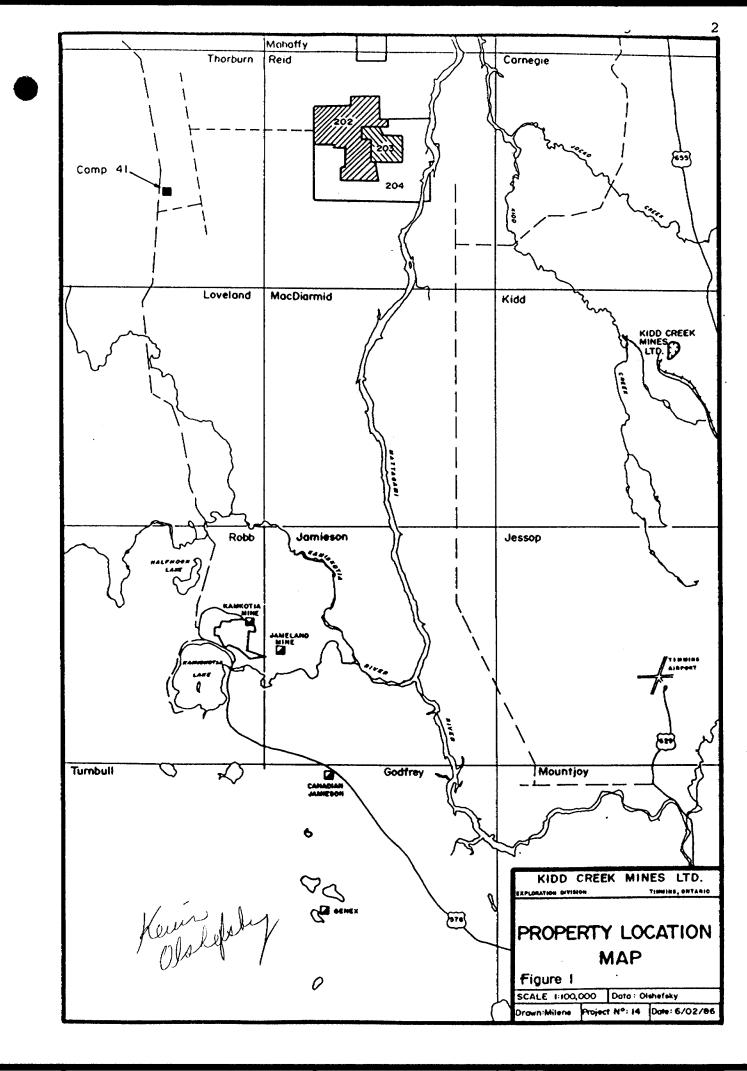
From June to September 1985, geological mapping and lithogeochemical sampling was undertaken following mechanical and hand stripping of outcrops on wholly owned property in Central Reid Township. Mapping was carried out on a metric grid cut in 1985. Compilation of previous diamond drill hole information provided information in areas of no outcrop. Geophysical surveys, horizontal loop EM and Mag, were used to interpret the location of diabase dykes and the trends of formational conductors.

This geological report and enclosed 1:5000 geology map, are the initial products of a program by Kidd Creek Mines Limited to assess base metal prospects in central Reid Township.

LOCATION

The property is located in N.T.S. 42A/12 and 42A/13, in the geographic centre of Reid Township, Porcupine Mining Division. The claim group is located 33 km north-northwest of the Timmins downtown core area and 14 km northwest of the Kidd Creek Mine (Figure 1).

The property extends westerly from the Mattagami River



for 4.8 km to Thorburn Creek, and comprises 63 unsurveyed claims (P-849224 to P-849251 inclusive, P-849264 and P-859281 inclusive and P-849337 to P-849353 inclusive).

ACCESS

During the spring, summer and fall land access to the properties is difficult even for all terrain tracked vehicles. Access for the 1985 program was by company helicopter. The Timmins airport is located 25 km to the southeast. Tracked vehicles must access the properties from the west by travelling eastward along 13 km of muskeg roads from a departure point 1 km south of Abitibi Price Camp 41 on the main lumber access road in Thorburn Township (Figure 1). Motor vehicles can get within 2 km to the southeast of the property on the east side of the Mattagami River by travelling 17 km along the Abitibi Price Camp 40 road (in Carnegie Township) off Highway 655.

Alternative transportation is by boat along the Mattagami River, 29 km north from Sandy Falls in Mountjoy Township.

In winter, the properties can be reached safely and relatively cheaply by winter roads from Camp 41. Crossings of the Mattagami River should be avoided unless natural ice is supplemented by artificial flooding and other ice

enhancement techniques.

TOPOGRAPHY

Adjacent to the Mattagami River a gently undulating land surface is cut by shallow steep sided gullies. Westward across the claim group a swampy terrain dominates. A gradual rise in topography through the south-central portion of the property coincides with a ridge of outcrop. Total change in relief is less than 20m.

Vegetation on higher, better drained areas includes stands of poplar and spruce with minor birch and cedar. In wet areas spruce, cedar and alder dominate.

The major drainage systems are the north flowing Mattagami River, bounding the property to the east and Thorburn Creek which flows through the western part of the properties. Intermittent streams and beaver ponds occur throughout the property.

ACKNOWLEDGEMENTS

The author wishes to thank Scot Halladay, Marc Russell,

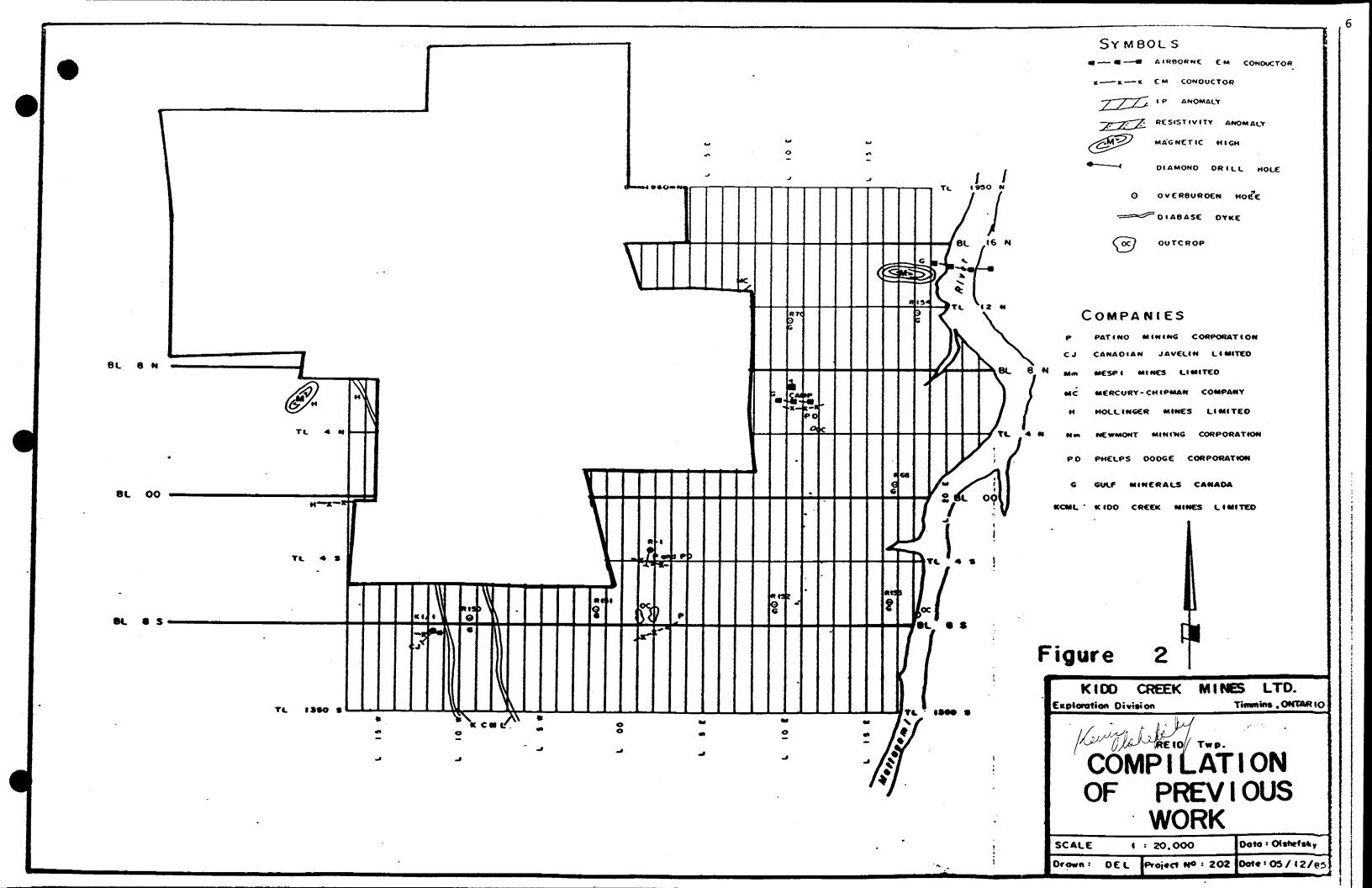
Jane Howe and Ian Craigie, who provided able assistance in
the summer field program. Paul Binney is thanked for the
overall guidance of the program, his geological opinions and

editorial scrutiny of this report. Dave Comba and Bob Stewart are thanked for their geological insight on the properties and for their helpful comments and suggestions. Murray Jerome provided extensive editorial assistance in the final preparation of this report.

PREVIOUS WORK

No exploration work was recorded for these claims prior to the discovery of the Kidd Creek Mine in 1964. In subsequent years, exploration companies conducted airborne and ground geophysical surveys with the more favourable targets being diamond drilled. Geological mapping was not extensive due to a limited number of outcrops.

In 1964, Duvan Copper Company Limited (Assessment File #T-1008) conducted magnetic and EM surveys over claims P-849233 and P-849240 to P-849242 inclusive. In the same year Patino Mining Corp. (File T-936) conducted magnetic and EM surveys over an eight claim group including claims P-849251, P-849244, P-849264, P-849265, P-849266 and P-849267. The EM survey delineated a weak, west-trending anomaly in the northeast corner of the property and a very weak northeast trending anomaly approximately 400m to the south (Figure 2). In March of 1965, a 170m diamond drill hole (Appendix I), oriented 190° and dipping 50°, tested the



northern most conductor. A medium to fine grained gabbro was sectioned with no conductive rocks cut by the hole.

In June 1964, Canadian Javelin Limited (File T-835) had an airborne electromagnetic and magnetic survey flown over two areas which include present day claims P-849226 to P-849229 and P-849276 to P-849279, P-849337 to P-849353 and P-849276 to P-849281. Follow up ground magnetic, HEM and VEM surveys were conducted over the same area in July of that year. A HEM anomaly in the southwest corner of claim P-849279 was tested with a 184m diamond drill hole K-1/1 (Appendix 1) at L11+80W, 8+50S. No conductor was intersected in drilling and the anomaly was attributed to conductive overburden.

In 1964, Mespi Mines Limited (File T-741) had airborne magnetic and electromagnetic surveys flown on northeasterly lines over claims P-849339 and P-849340 as part of a larger area to the north. Follow up ground magnetic, electromagnetic and gravity surveys were conducted between 1965-1966 by Mespi.

In June 1965, Mercury-Chipman Company Limited carried out an EM survey over 12 claims correlating with the north half of present day claim P-849251, claims P-849243, P-849242, P-849232, P-849231, P-849224 and roughly a 6 claim area in between. A total of seven EM anomalies were detected. However no additional work was filed.

In 1972, Hollinger staked ground currently covered by claims P-849337, P-849338, P-849343 and P-849342. Magnetic and HEM surveys over the claims within the same year indicated the presence of two weak conductors similar to overburden responses (Figure 2). The magnetic survey suggests two north trending dykes occur in the northeast and a mafic intrusive is in the northwest portion of the property (File T-560).

In June of 1972, Newmont Mining Corporation of Canada Limited (File T-40) carried out magnetic, resistivity and IP surveys over a claim group which included claims 849240 to P-849251, P-849275 to P-849281, P-849346 to P-849351 all inclusive, P-849337, P-849338, P-849343, P-849342, P-849271 and P-849272. The surveys were conducted on 365m spaced lines and on 182m lines in anomalous areas (T-40). In June of 1974 Newmont conducted a magnetic survey on claims P-849224 to P-849228 and P-849233 to P-849236 inclusive.

In April 1975, Phelps Dodge Corporation of Canada Limited (T-1702) conducted electromagnetic and magnetic surveys over two areas containing current claims P-849239 to P-849241 inclusive and claims P-849244, P-849267, P-849264, and the south half of claim P-849251. The same weak northeasterly trenching EM anomaly that had been diamond drilled by Patino Mines in 1965 was located on current claims P-849251 and P-849244. A second easterly striking EM

conductor in the south half of claim P-849240 was thought to be more favorable and drilling was recommended (T-1702). Although no further work is recorded, felsic and mafic drill core was found in 1985 near the vicinity of the proposed drill site, suggesting that Phelps Dodge company did drill the anomaly.

In 1979, Gulf Minerals Canada Limited (T-1929) drilled holes on or about claims P-849276, eight overburden P-849264, P-849271, P-849272, P-849246, P-849235 and P-849233. The holes were part of an extensive overburden drill program in Reid and Loveland townships (Appendix II and Figure 2). Geochemistry filed as assessment is reported average values within individual holes. Stratigraphic anomalies may be hidden by the averaging. Data is presented such a manner that correlation of geochemical results cannot be made with Kidd Creek Mines Exploration overburden holes. (Personnal communication Joe Alcock, 1985). In 1980 Gulf Minerals flew an electromagnetic survey over Reid and Loveland Townships which included claims as far east as the River. Anomalies detected by the 1980 survey Mattagami within the current claim group are shown on figure 2.

RECENT WORK BY KIDD CREEK MINES LTD.

In April 1985, Kidd Creek Mines staked 63 contiguous claims in central Reid Township (Figure 4). In June of that same year, P. A. Blackburn surveyors cut 10.62 km of transit controlled base line comprised of four 800m spaced east-west base lines and one north-south line. The origin for the grid is the center township survey pin, Lot 7 & 6, Con III & IV (the legal survey fabric of Reid Township was annulled in the 1920's).

Field work in June included establishing a tent camp (10+60E, 7+10N), locating claim posts, diamond drill holes and outcrop areas suitable for hand and mechanical stripping.

Cutting of 100m spaced north-south lines by Mid Canada Exploration Ltd. (under contract), commenced in July. An 88.21 km grid covers 46 of the Kidd Creek Mines Ltd. staked claims.

Mapping of bedrock exposures and geographic features was completed during August and September, 1985. One major outcrop area from 0+80 to 2+80E and 5+50 to 8+00S was mechanically stripped providing more extensive rock exposure on claim 849267 (Figure 6).

In September, magnetic, VLF and horizontal loop EM

surveys were completed on Lines 1+00W to 17+00W. The magnetic survey located two northwest-trending magnetic highs interpreted as diabase dykes.

GEOLOGY

General Statement

The Reid property, located 14 km northwest of the Kidd Creek Mine, is extensively covered by thick glacial drift. Isolated outcroppings occur in the higher south-central portion of the claim group (2+00E, 7+00S), at 11+94E, 4+24N, and as one small outcrop exposed along the Mattagami River at low water level (18+20E, 7+60S). Total rock exposure is less than 5%. Two major lithologies occur in outcrop: 1) mafic volcanic rock comprised of pillow breccia; and 2) medium grained equigranular gabbro.

Volcanic Stratigraphy

Mafic Pillow Breccia

A mafic pillow breccia occurs on the west bank of the Mattagami River at L18+20E, 7+60N. The outcrop is 20m long at low water level, but only 3m long when the river is at normal levels. Observations are difficult due to fine river silt on the outcrop and intense iron staining (carbonate?). Pillow fragments are subrounded, up to lm in length and

oriented to 105° Az. Matrix to the fragments is dark green hyaloclastite. Moderate pervasive chloritization of the fragments gives them a medium to dark green colour on fresh surfaces. Local accumulations of carbonate filled amygdules form 1 to 3% of some fragments. Pyrite (5%) occurs as clusters within a 5 cm wide, 100° Az trending quartz vein on the northend of the outcrop. Moderate pervasive patchy to silicification occurs throughout.

Gabbroic Intrusive

Gabbroic intrusive outcrops in two main areas. The southern most exposure is on claim P-849267 at L1+00E, 7+00S and L2+00E, 7+00S. In this locality the outcrops are two rock knobs that dip off steeply in all directions. The rock is a medium to coarse grained, equigranular gabbro with less than 0.5% pyrrhotite disseminated throughout. Weak fracture controlled epidotization occurs locally. Two isolated outcrops of similar rock occur 100m to the north at 2+10E, 5+80N and 1+95E, 5+50N. Gabbro outcrops again on claim P-849239 at 11+94E, 4+24N. This is the most easterly exposure of this rock type.

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STRUCTURE AND METAMORPHISM

Based on the limited amount of outcrop on the Reid Central claim group little can be said about structure. A principal fracture orientation in the gabbro ranges from 120° to 160° averaging 146°. A secondary fracture set averages 48°. Foliation in the river outcrop occurs at 105°

Regional greenschist facies metamorphism has affected all rock types.

ECONOMIC GEOLOGY

to 110°.

Minor disseminated pyrrhotite occurs in the mafic volcanic rocks. Zones of disseminated pyrrhotite occur locally in the gabbroic intrusion. These zones are intensely Fe-oxide stained on surface.

K. F. OLSHEFSKY

Associate Geologist

APPENDIX I

DIAMOND DRILL LOGS AND VERTICAL SECTIONS

DIAMOND DRILL RECORD COLOR

FEED TOWNSHIP CLAIM R-61078 - Location in on Hole No. R-1 PROPERTY STARTED March 4, SECTION FROM _____TO____ SHEET NUMBER _____1 COMPLETED Murch 10, 1965 DATUM____ 1: 42% I.ATITUDE _ BEARING B 100 W ULTIMATE DEPTH 558 feet ti liliton DEPARTURE __ DIP - 500 PROPOSED DEPTH____ **ELEVATION** __ WIDTH OF SAMPLE BOLD AND BOX SAMPLE NO FORMATION DEPTH FEET dasing in overburden. 0 - 40 Gabbro. Mottled yellowish & een, medium-grained, mansis, chloritic, weakly serpentinized 1,0 - 558 near start of section and to about 350 foet. Black chickitic seems cocur at 30 to 600 to core axic at intervals of several inches to 250, less often thereafter. Very sparse, disseminated pyrite, no magnetite. On the whole an unusually uniform rock. 195-197 - giner grained soction, 3 barren white quartle stringer at end . - few pinhead specks of chalcopyrita)?) almost too fine to identify. 407-450 - greyer, finor grained, lass aftered section. 460-462 - dark green, Pinc-grained basic dike; sharp contacts, first at 300 to dore axid, second at 600. 415-475 - Ciner-grained, durker green section with 3" parron write quartz stringer at 476 and in 176-177 aparno diaseminated pyriliotite and ilw pinheld spacka of chalconyrite. 491, 521 and 52h - Two to comminen barren white quarti stringers. 543-550 - finer grained, lens aftered mection. and of hole. Jasing pulled. Core recovery 95%+ ASSECTAMENT SACTR SIGHED Malis Echinan

N.M.P., TORONTO-STOCK FORM No. SOI MEV. 12/51

190°

PATINO R-1

Gabbra

Azimuth : 190° Dip : - 50°

KIDD CREEK MINES LTD.

Exploration Division

Timmins,ONTARIO

FUNREIDISCENTRAL CLAIMS

N-S VERTICAL SECTION

PATINO R - I

LOOKING WEST

SCALE: 1:5,000

Doto:Olshefsky

Drawn: DEL Project Nº: 204

Date :03 /12 / 85

DIAMOND DRILL HOLE K-1/1 LOCATED AT 54 / 50 SW/8 / 00 NW, DRILLING S45° W AT 55 DEGREES

INTERVAL	FEET	DESCRIPTION
0 - 172	172	Overburden, sand, gravel and boulders.
172 - 200	28	Dacite tuff, hard, dense, light green. Minor pyrite and pyrrhotite veinlets. Core Angle: 45°
200 - 385	185	Dacite tuff, fairly hard, light green, no mineralization. Core Angle: 500
385 - 500	115	Dacite tuff, light green, medium grained to massive, very fine minor veinlets of pyrite and pyrrhotite. Core Angle: 50 - 550
500 - 595	95	Dacite tuff, light green, vesicular, veinlets of calcite. Core Angle: 70° Possible shear zone at 560'
595 - 605	10	Dacite tuff, pale green, foliated at 80°
		END OF HOLE
NOTE:		Mineralization appears to be too weak to provide strong conductors with over 140 feet of overburden.

K 1-1

Matic volcaniciantic

Matic volcaniclastic

Matic volcaniclastic

Azimuth : 225°

Dip : -55°

Location : approx L 180 W at 850 N

KIDD CREEK MINES LTD.

Exploration Division

Timmins,ONTARIO

Kunslefter REID TWD.

VERTICAL SECTION

1 CANADIAN JAYELIN LTD . 1964

LOOKING WEST

1: 5,000 SCALE:

Data: Olshefsky

Drawn: DEL Project No: 203 Date: 05/11/85

APPENDIX II

OVERBURDEN DRILL LOGS BY GULF MINERALS CANADA LIMITED

DATE March & 179 HOLE NO. R. 68 GROLOGIST KOZILA DRILLER EAGNE

HOLE LOCATION 2 1975 1800 Feet N of P-153

BIT No. 18436; 108311 FOOTAGE ON BIT 124'+31' = 155'; RODAIN 31'

HOURS MOVE 8:40-10:15 HOLIRS DRILL 10:15. 11:15 OTHER

SAMPLE		ANALYSES			
SAMPLE	DESCRIPTIVE LOC				
` 	0-2' No Return	 			
	2'-16' Brown Clay - greasy lacustrino clay	1			
	- greasy lacustrino clay				
	- gradational contact]			
<u>E</u>				1	
		! — ! · ·	 -	-	
1]	
†	16:23' Gooy Cay			- 1	
1	areasy lacustrino clay	1 1			
F	mixed gray and brown	L _	_L L		
E	23'. 27.5' Pebby Gravel			T	
01,000	23'. 27.5' Pabbly Gravel	,			
	158 medium to very course sand 252 peobles 30-608 granifies	1 1			
	10-60% granifies			l	
**	10.2 90 gnesses 10.2 tan benale				
[
<u> </u>	27.5-30' No Roturn				
	30'- 30.5' Pebbly Gravel		1 1		
<u> </u>	similar to above gravel		1	- 1	
	30.5'- 31' Rhyolite		- -	- -	
	- aphanitic . very hand				
	- Pala acces mobiled with			- 1	
	- pale green mottled with danker green	i		- 1	
•	bit broke				
	onlind on to almost tit				
	pulled node, changed bit radnilled to 30.5'			ļ	
	would not doill deaper			ľ	
ļ	hole abandoned				
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	31' End of Hole			ı	
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DEPTH	SAMPL.	DESCRIPTIVE LOC	ANALYSES
1.7	A		
	k ±	0-1 No Return 1-8' Organics	
1.	4		
10		8-113.5' Lacustrine Clay	
=	==	8-12' brownish gray of	
<u> </u>	<u>-</u> =	12'- 113.5' gray colour - 1% sand with 1	u.
20 -		occasional pobbles	
]- -			
1:			
70 -			
1-	=-		
1=	<u>-</u> 뢰[**	
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100 =	=	1	

DATE MARCH 6/79 HOLE NO. R-69 GEOLOGIST KOTILA DAILLER HOLE LOCATION_ BIT No ___ FOOTAGE ON BIT_ HOURS MOVE ____ HOURS DRILL _ PAGE 2092 ANALYSES SAMPLE DESCRIPTIVE LOC Nº. Continued 8-113.5 Lacustrine Clay 01, ---02, ---03, ---20% granifies

20% granifies

10% carbonales

40% 5% nkyolite

35% melles

123-124° No Return 127.5 - 132 Andesite tight green a bundant quarte and quarte-ankerte veine 13z' 140 End of Hole

DATE MARCH 67/19 HOLE NO R. 70 GEOLOGIST KOTHA DRILLER GAGNE HOLE LOCATION_ 162+005, 73+95W BIT No. 108311 FOOTAGE ON BIT 132'1 114': 246' HOURS MOVE 2:15-2:45 HOURS DRILL \$100. 8:45 HARLOS OTHER Grange W. SAMPLE DESCRIPTIVE LOC No. ANALYSES N. No Return Brown Clay - greeny locustrine alay - gradational contact 10 14:51 Gray Clay · greavy lacustrine clay Zo Rebbly Gravel 01,110 gaenses carbonale grey and beign thy olives mefice increase in maties -03,110 masies granifier 04,110 chyolite 70_ 05,110 80 08.110 70-109 Grey T:11 - comported, hand day 4.0 griffy chy - 10 % pollates 98' Shal down Harch 6 Continued -

DATE MARCH 67/19 NOLE NO. R. 70 GEOLOGIST KOTHA DRILLER HOLE LOCATION_ BIT NO FOOTAGE ON BIT HOURS MOVE ____ HOURS DRILL ____ OTHER_ PASS 2.52 ANALYSES SAMPLE DESCRIPTIVE LOC No continued Gray Till 90-109 pale to moderate green charities and solicited - minor quants and quarter apidoto veining . trace to 1% pyrite - possibly a sheared to Es 120 End of Holo 114'

DATE March 3 /29 HOLE NO. R. 150 GEOLOGIST KOLLA DRILLER JODOVION

HOLE LOCATION 215 1005, 137 + 30 W

BIT NO. B 57425 FOOTAGE ON BIT 0.1 90': 90'

HOURS MOVE 10:30. 2:15 HOURS DRILL 2:15.5:45 OTHER

No. Sandie	DESCRIPTIVE LOC	ANALYSES					
70 70 70 70 70 70 70 70 70 70 70 70 70 7	0-40' No Rolven - Pase of drilling suggests lacustrine day						
No							
Robin							
30							
	40: 75' Grey Clay 100 % greatly lacustina clay						
50							
<i>(</i> 0)							
70		-					
Po Relian N.S.	80. 86 Sond recorse sand predominately quants	, _					
90 ///// 01	86-87.5 Herefore disearded No Return 86-87 Grani lie Boulder? 41 Cow samall chipprocesses						
	87.5 - 90 Basalt medium grained shearer citaritie basalt moderate to dark green 10 Encl of Holo						

DATE INCLE 3, 1979 HOLE NO. RISL GEOLOGIST SOUTH DRILLER SEDOMIN

HOLE LOCATION 215.00 S 110.88 N

BIT No. 57425 FOOTAGE ON BIT 90'-704'

HOURS MOVE HOURS DRILL 0900 - 1500 OTHER

No. No.		SAMPLE DESCRIPTIVE LOG		ANALYSES						
NR NR		0-12 N	le Keturn Clay - grey	, greasy to	s ticky					
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0	-	35 -708	No Return	_ _	· ·	· -				
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7 NR					-					_
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DATE Abren 2,1979 HOLE No. RIST GEOLOGIST Smith DRILLER JADANIE HOLE LOCATION ZIS+005 110+88 W BIT NO FOOTAGE ON BIT HOURS MOVE ____ HOURS DRILL ____ OTHER___ ANALYSES SAMPLE DESCRIPTIVE LOC 108-114 Bedrock - Gabbro-or-offered-basalt - disseminated pyrite dink ... 01 EOH

DATE Man 4+5 HOLE No. R-152 GEOLOGIST Smill+ IM DRILLER DAM

HOLE LOCATION L 215 5 84 +88 W

BIT No. 57425 FOOTAGE ON BIT 204+198-402 Redvill 157'

HOURS MOVE _____ HOURS DRILL // Su. Move rod 3 hours

Pull rod + red rill / Show, Wall Su. Move rod 3 hours

3 3 SAMPLE		DESCRIPTIVE LOC	ANALYSES					
DEPTH CANPHIC LOG	1/0				ļ			
		0-10 No Return						
10		10-50 Clay -grey, greasy -s. Ity + slightly sandy						
10	NS.							
30 - (1	مستوم المستويد							
40-11-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-		50-80 No Return						
50 1-	NR	30 80 700 70 70 70 70 70 70 70 70 70 70 70 7		-		-		
60-						-		
&		80-137 Very Limited Return						
90	N. 5.	_80-137 Very Limited Return - clay, grey, greasy - very little grit						
100-								

DATE Man 4 + 5 HOLE NO R- 152 Grovers & Smith + fm Dances Don HOLE LOCATION 1215 5 84+88 W ANALYSES DESCRIPTIVE LOC No N. 5 N.S. 137-157 · medium grained 01 Coarse sand +10 150. Silt, very Sine sand.
- no clay
- no clay
- very Sew soull pubbles 02 160-- pour return 03 EOH 198' Hole Abandoned - rods jamming bad 04 05

DATE MORCH 6,79 HOLE NO. RISS GEOLOGIST SMITH DRILLER JOBONIA HOLE LOCATION 215 S 58 +08 W BIT No 57425 FOOTAGE ON BIT 402 - 419 Bit worn out HOURS MOVE HOURS DRILL 10:00 - 16:30 OTHER CANDNIC LOG ANALYSES SAMPLE DESCRIPTIVE LOC No 0-2 Organics Clay - tan brown , silty to sandy 10 -12-17 Bedrock - Andesitic basalt - fine grained - green - disseminated pyride 01 ditainer. 10.

01	ATE_	lozu	6.,15	79_ HOL.	E No.	_L13	<u>-</u>		F010E	15 T a	Souz	4	DRIL	4ER 5	bosai	n.
				L162+												_
BIT No. 108310			3/0	FOOTAGE ON BIT D-110 New bit												
HO	URS M	More			Houl	85 DI	RILL.	1000 -	/630		. 05	HER				
					····		<u> </u>									_
											ANALYSES					
DEPTH		73	NPIE 10			IPTIV	15 1	Loc								
	*			0-4 01 4-12 C1	ganics lau -	tan br	-o-w-n;	silly								
10 -		1		12-35					<i>ʻ</i> s4 1 19	sik	,			-		
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40 -		-						•					<u></u>			
50 -							+ +		-							
60 -				68-80	Sand	y Gre dioride mimor	avel . e , mat carbo	fine med fics, g	gr. san gr. pei neisse:	d. blles s		-			 - 	
' 70 -			01			10% - Die			ks	-				-		:
do -	0	I WAR	0Z Q3	80-85 -	77 - 79 -8	montly 30 - sil 5% pob	y diori	te + g fine s. % sand	10%	ואניי	40%	1				
50 .	\(\frac{1}{2}\)	The second	04 05 05110	85-99	8 <u>7-8</u> 9/ -	A Bour	later = . Ig - cl	grant halcoch	rile ge ide, can te ven							-

DATE March 4, 1979 HOLE NO. RIST GEOLOGIST SMITH DRILLER HOLE LOCATION LIGTS 47-52 W HOURS MOVE ____ HOURS DRILL . ANALYSES SAMPLE DESCRIPTIVE LOG No 99-105 Till - pebbly sandy to sitty clay 105-110 Bedrock - Andositic taff - fine grained - green 06 07 110 EOH



Ministry of Northern Affairs and Mines

Name and Postal Address of Person Certifying

Report of Work

(Geophysical, Geological,

Geochemical and Expenditures) # /:
133/86 Mining



ype of Survey(s)		7		42A13SE006	9 2.9086 F	EID			900
GEOLOGICAL						Reiç	Town	nship 's Licence No.	<u></u>
Holder(s)						*		's Licence No. 1848	
Kidd Creek 1	Mines Ltd.						<u>.</u>	1040	
571 Moneta	Avenue, P.O.	Box 1	1140. Ti	mmins. O	ntario	,			·
Survey Company				Date of Surve	y (from & t	(O)		Total Miles of line	Cut
Kidd Creek 1	Mines Ltd.			-	8,5. 2,5	Q Q	3. ₁ 8,5.	54.81 m	iles
Name and Address of Author (o	f Geo-Technical report)								
Kevin Olshefsky	, P.O. Box 1	140, 5	71 Mone	ta_Ave	Timmir	ıs,	Onta:	rio P4N	<u>7H9</u>
redits Requested per Each C Special Provisions		<u> </u>		aims Traversed	(List in nu			nce) ining Claim	Expend.
Special Provisions	Geophysical	Days per Claim	Prefix	Number	Days Cr		Prefix	Number	Days Cr.
For first survey:	- Electromagnetic		P	849224	40	11			
Enter 40 days. (This includes line cutting)	- Magnetometer		1000			1	100		
	_		1,04	849225	40	- i	22		
For each additional survey:	- Radiometric		1	849226	40	_	mt.		
using the same grid: Enter 20 days (for each)	- Other			attached	list				
Eitter 20 days (for each)	Geological	40	1 See	actached	TISC,	4			
		40				-			
	Geochemical		.41.24			_	444		- 1
Man Days	Geophysical	Days per Claim					341.71		
Complete reverse side	- Electromagnetic		4.4			7 [1000		
and enter total(s) here	- Electromagnetic		1			- 1	24.		
	- Magnetometer					_			
.**	- Radiometric	İ							
	- Other					1			
	3 0 (116)					-			
	Geological		474						
	Geochemical		100		ŀ				
Airborne Credits		Days per				1		-	
		Claim				-			
Note: Special provisions	Electromagnetic] [
credits do not apply to Airborne Surveys.	Magnetometer				- 		PORCUPINE	MINING DIVISION	케
	Radiometric		RE	CORDE	<u>: D '\</u>	וחוו			
		<u> </u>				High			Ш —
Expenditures (excludes pow Type of Work Performed	er stripping)					lh n	APR	2 N 1086	
Type of Work Fortormed				PR 3 0 198	6 1		AFR	3 0 1300	.
Performed on Claim(s)				11 100		1	1	<u>`</u>	
						╇╍╅	ALL A		
			98-200			」	4		
			*41.534					·	
Calculation of Expenditure Day		Total				7			
Total Expenditures		s Credits			i	[\$67 pe 3		
\$	+ 15 = _							mber of mining vered by this	1
Instructions							report of		51
Total Days Credits may be a choice. Enter number of day			l	For Office Use	Only				
in columns at right.	s credits per claim select	eu		s Cr. Date Record			Mining 8	RIII	7
			Recorded	0 Chu	230/8	16	- (Manle	
	corded Holder or Agent (] [2,07	Date Approv	ed as Recor	ded	Branch D		·
April 30,1986		1-14] ["\	Die Ku	rsed	M	aler	nen.	
Certification Verifying Repo								haring and are	1 *baa
I hereby certify that I have a					rt of Work	annexe	ea nereto,	naving performed	. the Work

Kevin Olshefsky, P.O. Box 1140, 571 Moneta Ave. Timmins, Ontario P4N 7H9

MINING CLAIMS TRAVERSED (Continued)

Mining C	laim	Expend.	Days	Cr.
P-8492	27	4	0	
P-8492	28	4		
P-8492	29	4		
P-8492	30	4	0	
P-8492	31	4	0 .	
P-8492		4		
P-8492		4	-	
P-8492		4		
P-8492		4		
P-8492		4 4		
P-8492 P-8492		4		
P-8492 P-8492		4		
P-8492	5	4		
P-8492		4		
P-8492		4		
P-8492	50	4	0	
P-8492	51	4	0	
P-8492	64	4		
P-8492			0	•
P-8492	-		0	
P-8492 P-8492			0	
P-8492 P-8492		. =	0	
P-8492			0	
P-8492		_	0	
P-8493		_	0	
P-8493		4	10	
P-8493	347	4	0	
P-8493	348	4	10	
P-8493	350	4	10	

Kerry hepsky

Ontario

Ministry of Natural Resources

GEOPHYSICAL – GEOLOGICAL – GEOCHEMICAL TECHNICAL DATA STATEMENT

TO BE ATTACHED AS AN APPENDIX TO TECHNICAL REPORT FACTS SHOWN HERE NEED NOT BE REPEATED IN REPORT TECHNICAL REPORT MUST CONTAIN INTERPRETATION, CONCLUSIONS ETC.

Type of Survey(s)GEOLOGICAL	
Township or Area REID TOWNSHIP	MINING CLAIMS TRAVERSED
Claim Holder(s) KIDD CREEK MINES LTD.	List numerically
Survey Company KIDD CREEK MINES LTD.	P 849224 (prefix) (number)
Author of Report KEVIN OLSHEFSKY	P 849225
Address of Author Box 1140, 571 Moneta Ave., Timmins	P 849226
Covering Dates of Survey June 17, 1985 to Sept. 25, 198 (linecutting to office)	
Total Miles of Line Cut 54.81 miles	(see attached list)
SPECIAL PROVISIONS CREDITS REQUESTED Comparison Comparison DAYS per claim	
Geophysical	The state of the s
ENTER 40 days (includes ————————————————————————————————————	
line cutting) for first -Magnetometer. -Radiometric.	
·····/	
ENTER 20 days for each additional survey using Geological 40	
same grid. Geochemical	
AIRBORNE CREDITS (Special provision credits do not apply to airborne surveys)	
MagnetometerElectromagneticRadiometric	***************************************
(enter days per claim)	
DATE: April 30, 1986 SIGNATURE: Keur Olshelsky	
Author of Report of Agent	and the second s
Res. GeolQualifications	
Previous Surveys	2.2 484 7 14 2
File No. Type Date Claim Holder	
	g office to see
T	
	TOTAL CLAIMS 51

GEOPHYSICAL TECHNICAL DATA

GROUND SURVEYS - If more than one survey, specify data for each type of survey

Number of Stations	Number of Readings
	Line spacing
Contour interval	
Instrument	
Accuracy - Scale constant	
3	
Base Station check-in interval (hours)	
· · · · · · · · · · · · · · · · · · ·	
Instrument	
Coil configuration	
Coil separation	
Accuracy	
Instrument	☐ Shoot back ☐ In line ☐ Parallel line
Frequency	er en
Parameters measured	(specify V.L.F. station)
Tatameters measured	
Instrument	
Scale constant	
Corrections made	
Corrections made	
Days station targe and reserved	
Elevation accuracy	
Instrument	
Method	☐ Frequency Domain
Parameters – On time	
0.00 -1	Range
_ Delay time	
- Integration time	
— Off time — Delay time — Integration time Power	
뙤 Electrode array	
Electrode spacing	
Type of electrode	

INDUCED POLARIZATION

SELF POTENTIAL				
Instrument		Range	<u> </u>	
Survey Method				·
Corrections made			<u></u>	
RADIOMETRIC				
Instrument			<u> </u>	
Values measured				
Energy windows (levels)		;		
Height of instrument	Ва	ckground Count	.,	
Size of detector				· · · · · · · · · · · · · · · · · · ·
Overburden	(type, depth - include outcrop map)			
OTHERS (SEISMIC, DRILL WELL LO		en e		t.
Type of survey				
Instrument				
Accuracy				
Parameters measured				
Additional information (for understand	ding results)			
AIRBORNE SURVEYS			<u> </u>	
Type of survey(s)	· · · · · · · · · · · · · · · · · · ·			
Instrument(s)		· · · · · · · · · · · · · · · · · · ·		
Accuracy	• •			
Aircraft used	• •			
Sensor altitude				
Navigation and flight path recovery m	ethod			
Aircraft altitude		Line Spacing		
Miles flown over total area		Over claims only		
Miles flown over total area				•

GEOCHEMICAL SURVEY - PROCEDURE RECORD



Numbers of claims from which samples taken	
Total Number of Samples	ANAL VIICAL METHODS
Type of Sample(Nature of Material)	ANALI TICAL METRODS
•	n.n.m. 1 1
Average Sample Weight	—— p. p. b. □
Method of Collection.	Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)
Soil Horizon Sampled	Others
Horizon Development	Field Analysis (tests)
Sample Depth	
Terrain	
	Reagents Used
Drainage Development	
Estimated Range of Overburden Thickness	
220000000000000000000000000000000000000	Extraction Method
	Analytical Method
	Reagents Used
SAMPLE PREPARATION	Commercial Laboratory (tests
(Includes drying, screening, crushing, ashing)	Name of Laboratory
Mesh size of fraction used for analysis	Extraction Method
	Analytical Method
	Reagents Used
	General
General	
· · · · · · · · · · · · · · · · · · ·	
· · · · · · · · · · · · · · · · · · ·	

MINING CLAIMS TRAVERSED (Continued)

Mining Claim	Expend.	Days	Cr.
P-849227	4	0	
P-849228	4	0	
P-849229	4	0	
P-849230	4	0	
P-849231	4	0	
P-849232	4	0.	
P-849233	4	0	
P-849234	4	0	
P-849235	4	0	
P-849236	4	0	
P-849237	4	0	
P-849238	4		
P-849239	4		
P-849240	4		
P-849241	4		
P-849242	4		
P-849243	4		
P-849244	4	-	
P-849245	4		
P-849246	4		
P-849247	4		
P-849248	4		
P-849249	4		
P-849250	4		
P-849251	4		
P-849264	4		
P-849265	4		
P-849266	4		
P-849267	4		
P-849267 P-849268	4		
P-849269	4		
P-849270	4		
P-849271	4		
P-849272	4		
P-849273	4	_	
P-849274	4		
P-849275	4		
P-849276	4	-	
P-849277	4		
P-849278		0	
P-849279	4	_	
P-849280	4		
P-849281	=	0	
P-849337		0	
P-849342		0	
P-849347		0	
P-849348		0	
P-849350	4	0	

40. Kein alshefsky Mining Lands Section

File No 2.9086

Control Sheet

		•		ν.		
	TYPE CRESCOUNT	GEOPH'	YSICAL			
		GEOLO	GEOLOGICAL			
		GEOCE	EMICAL .			
						
		EXPEN	DITURE			
MINING LAND	S COMMENTS:					
						
•			\$			
•	· · · · · · · · · · · · · · · · · · ·					
		***************************************		 /		
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a.						
		,				
		•				

Day 6/84

Signature of Assessor

Date

June 4, 1986

Your File: 133/86 Our File: 2.9086

Mining Recorder
Ministry of Northern Development and Mines
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

RE: Notice of Intent dated May 14, 1986 Geological Survey on Mining Claims P 849224, et al, in Reid 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,

J.C. Smith, Supervisor Mining Lands Section

Whitney Block, 6th Floor Queen's Park Toronto, Ontario M7A 1W3

Telephone: (416) 965-4888

SH/mc

cc: Kidd Creek Mines Ltd 571 Moneta Avenue P.O. Box 1140 Timmins, Ontario P4N 7H9 Attention: Kevin Olshefsky Mr. G.H. Ferguson Mining & Lands Commissioner Toronto, Ontario

Resident Geologist Timmins, Ontario

Encl.



Technical Assessment Work Credits

2.9086

May 14, 1986 Mining Recorder's Report of Work No. 133-86

Recorded Holder KIDD CREEK MINES LTD Township or Area REID TOWNSHIP Type of survey and number of Mining Claims Assessed Assessment days credit per claim Geophysical Electromagnetic ____ Magnetometer _____ days Radiometric ___ _____ days Induced polarization _____ __ days Other ____ Section 77 (19) See "Mining Claims Assessed" column P8849224 to 235 inclusive Geological 40 days 849237 to 247 inclusive 849249-50-51 Geochemical ______days 849264 to 273 inclusive 849276 to 281 inclusive Man days Airborne 🗌 Ground X Special provision X Credits have been reduced because of partial coverage of claims. Credits have been reduced because of corrections to work dates and figures of applicant. Special credits under section 77 (16) for the following mining claims 10 DAYS 20 DAYS P 849274-75 P 849236-48 849337-42-48-50 849347 No credits have been allowed for the following mining claims insufficient technical data filed not sufficiently covered by the survey

The Mining Recorder may reduce the above credits if necessary in order that the total number of approved assessment days recorded on each claim does not exceed the maximum allowed as follows: Geophysical - 80; Geologocal - 40; Geochemical - 40; Section 77(19) - 60.



may 28/86

Ministry of Northern Development and Mines

May 14, 1986

Your File: 133-86 Our File: 2.9086

Mining Recorder
Ministry of Northern Development and Mines
60 Wilson Avenue
Timmins, Ontario
P4N 2S7

Dear Sir:

Enclosed are two copies of a Notice of Intent with statements listing a reduced rate of assessment work credits to be allowed for a technical survey. Please forward one copy to the recorded holder of the claims and retain the other. In approximately fifteen days from the above date, a final letter of approval of these credits will be sent to you. On receipt of the approval letter, you may then change the work entries on the claim record sheets.

For further information, if required, please contact Mr. R.J. Pichette at (416) 965-4888.

Yours sincerely,

J.C. Smith, Supervisor Mining Lands Section

Whitney Block, 6th Floor Queen's Park Toronto, Ontario M7A 1W3

SH/mc Encl.

> cc: Kidd Creek Mines Ltd 571 Moneta Avenue P.O. Box 1140 Timmins, Ontario P4N 7H9

Attention: Kevin Olshefsky

Mr. G.H. Ferguson Mining & Lands Commissioner Toronto, Ontario



Ministry of Northern Development and Mines

> Notice of Intent for Technical Reports

May 14, 1986

2.9086/133/86

An examination of your survey report indicates that the requirements of The Ontario Mining Act have not been fully met to warrant maximum assessment work credits. This notice is merely a warning that you will not be allowed the number of assessment work days credits that you expected and also that in approximately 15 days from the above date, the mining recorder will be authorized to change the entries on the record sheets to agree with the enclosed statement. Please note that until such time as the recorder actually changes the entry on the record sheet, the status of the claim remains unchanged.

If you are of the opinion that these changes by the mining recorder will jeopardize your claims, you may during the next fifteen days apply to the Mining and Lands Commissioner for an extension of time. Abstracts should be sent with your application.

If the reduced rate of credits does not jeopardize the status of the claims then you need not seek relief from the Mining and Lands Commissioner and this Notice of Intent may be disregarded.

If your survey was submitted and assessed under the "Special Provision-Performance and Coverage" method and you are of the opinion that a re-appraisal under the "Man-days" method would result in the approval of a greater number of days credit per claim, you may, within the said fifteen day period, submit assessment work breakdowns listing the employees names, addresses and the dates and hours they worked. The new work breakdowns should be submitted directly to the Land Management Branch, Toronto. The report will be re-assessed and a new statement of credits based on actual days worked will be issued.

PORCUPINE MINING DIVISION

SCALE LINEH 40 CHAINS

LEGEND

PATEMILL LAND CROWN TANK SALE LEASES ADCATED LAte. ROADS MARKONI II BOJAN KALL NATS POWER TOMES MARSH FR DO SEE W. William anathurtu

NOTES

400 surface rights reservation along the of test of an take and traces

LLI <u>(7)</u> LL.

> Subdivision of this two into acts of the essions annulled Aug 19, 1953

Flooding rights for areas along Mattagami River are reserved to Onturio Hydro L 5 7685

MI MA MED REFORESTRATION APR 14/32

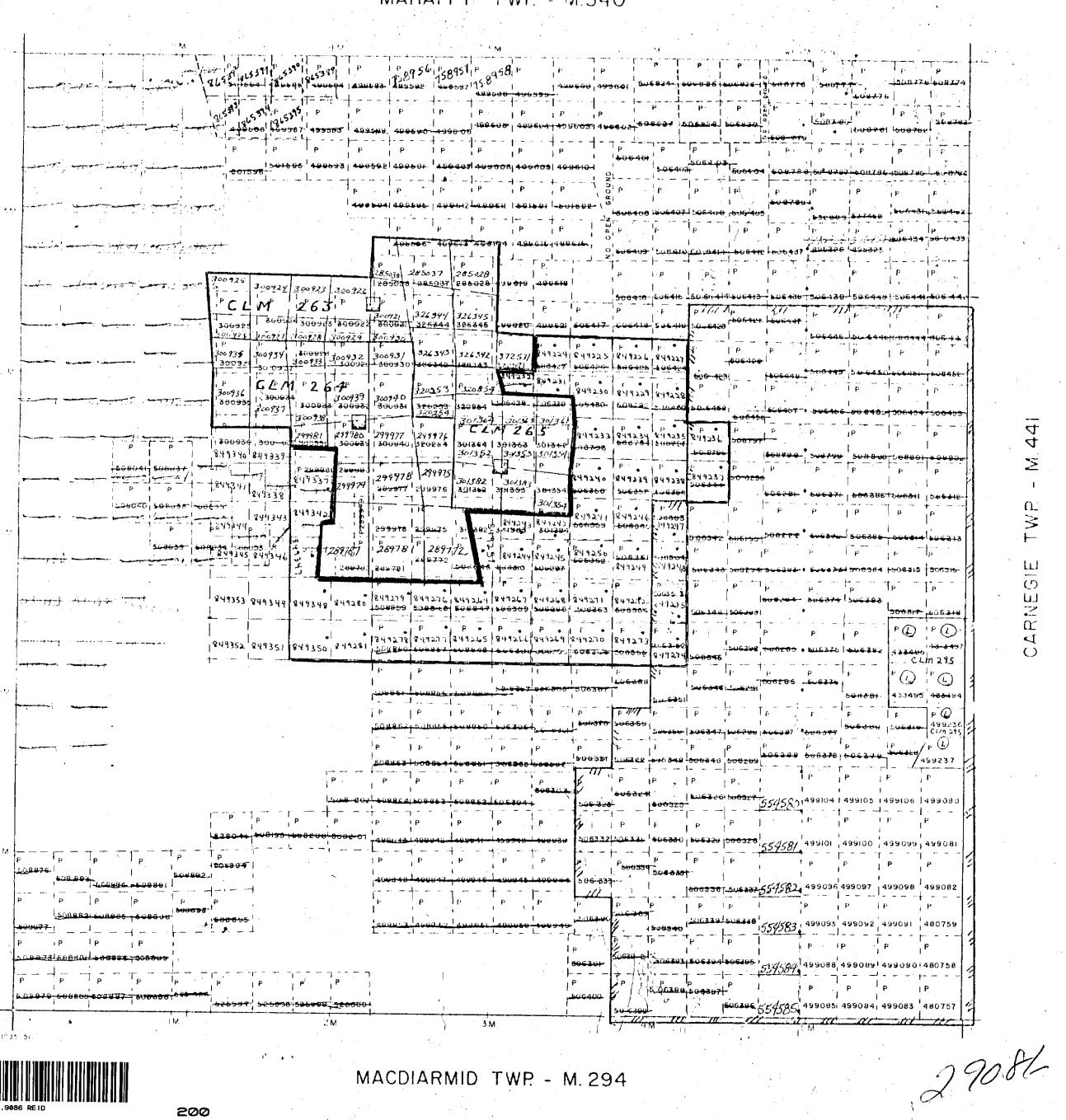
Withdrawn for disposition by means of a special grant com 293

Rec Oct 5/19

M.575

MINISTRY OF NATURAL RESOURCES

SURVEYS AND MAPPING BRANCH



- M.60I

THORBURN

MACDIÁRMID TWP - M. 294

