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KIDD CREEK MINES LTD.

GEOLOGICAL REPORT

ON

WILKIE 22

WILKIE TOWNSHIP

N.T.S. 42-A-9/10

PROJECT 932

SEPTEMBER, 1985

1

W. K. SMITH Associate Geologist

RECEIVED

1107 1 - 1985

MINING LANDS SECTION

SCHEDULE A

, **.**

L-618113	L-618119/	L-758220′	L-758209′	L-790110
L-618114	L-618120	L-758221	L-758210 [~]	L-790111
L-618115	L-618121	L-758222 [×]	L-758212 ⁻	L-790112
L-618116	L-618122 🗹	L-758223´	L-758213	L-790113
L-618117		L-758224	L-758214´	L-790114
L-618118 /		L-758225	L-758216	L-790115
		L-758226	L-758217	L-790116
		L-758227	L-758218´	L-790117
		L-758228		L-790118
		L-758229		

Islan Smith, Oct 25/85

CONCLUSIONS

The Wilkie 22 property lies on the south limb of a syncline whose axis passes from the southwest corner of Coulson Township through Wilkie Township in a west-northwesterly direction. Rocks strike in an easterly direction and dip steeply north. Volcanic stratigraphy from south of north is mafic volcanic, felsic volcanic, ultramafic volcanic and mafic volcanic.

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Further diamond drilling is recommended to determine the extent of units along strike.

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INTRODUCTION

Gridded claims on the Wilkie 22 property total 37. They are located in Lots 9 through to 12, Concession II, Wilkie Township and in Lots 1 and 2, Concession II, Walker Township. The claims were recorded on the following dates:

$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	May 28/81	Jun. 26/81	Nov. 16/83	Jan. 29/84	Feb. 3/84
	L-618113 L-618114 L-618115 L-618116 L-618117 L-618118	L-618119 L-618120 L-618121 L-618122	L-758220 L-758221 L-758222 L-758223 L-758224 L-758225 L-758226 L-758227 L-758228 L-758228 L-758228	L-758209 L-758210 L-758212 L-758213 L-758214 L-758216 L-758217 L-758218	L-790110 L-790111 L-790112 L-790113 L-790114 L-790115 L-790116 L-790117 L-790118

LOCATION

The Wilkie 22 property is located about 60 km ENE of Timmins Ontario (Figure 1). The claims lie in Lots 9, 10, 11 and 12, Concession II, Wilkie Township and Lots 1 and 2, Concession II, Walker Township.

ACCESS

Access may be gained by the Shallow River or by muskeg roads which originate along the north boundary of Carr



Township or by helicopter.

TOPOGRAPHY

Topography over most of the area is generally flat to gently rolling, but is locally hilly. The greatest relief of 20m to 25m occurs along the Shallow River and intermittent stream valleys which drain into it.

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Most of the property is covered by mature poplar with undergrowths of hazel and "moose" maple, but the north half of the property contains extensive areas of black spruce and older swamp.

PREVIOUS GEOLOGICAL WORK

D. K. Burke of Sylvanite Gold Mines reported on the 1939 Baulieu, Coderre Thompson claims located in Lots 10 and S1/2 of Lot 11, Concession II, Wilkie Township. He discovered three sulphide occurrences. The first occurrence consisted of occasional one half inch pyrite-filled fractures in massive pillow lava. The second occurrence was a weak shear along the contact between pillowed flows. The shear contained "quartz medium pyrite". The last occurrence streaks and tuff which shear in siliceous included a weak

contained disseminated pyrite, chalcopyrite and galena. Assays from the three occurrences returned "trace".

- 1960 Texasgulf Sulphur Company completed an extensive airborne electromagnetic survey (AEM) which included Wilkie Township. An anomaly located in NW quarter N1/2 Lot 12, Concession II corresponds to a 1962 Noranda Mines ground electromagnetic-magnetic anomaly and to a 1978 Noranda Mines AEM anomaly (Figure 2).
- 1962 Noranda Exploration cut a grid over 58 unpatented claims occurring between Lots 6 to 12, Concessions I and II, Wilkie Township. Magnetometer and Junior electromagnetic surveys (JEM) revealed an anomaly which was recommended for drilling in the NW quarter of N1/2 Lot 12, Concession II. This conductor is equivalent to KCML horizontal loop EM anomaly "A" (Figure 2).

Diamond drill hole #1 aimed at the conductor intersected a "graphitic schist" from 90.8m to 92.5 m. Another conductor ("graphitic zone") occurred from 82.5m to 94.1m. Diamond drill hole #2 located about 152.4m to the east of hole #1 intersected a graphitic shear zone from 87.5m to 98.1m which contained



"slight to moderate pyrite"

Diamond drill holes #3 and #4 sectioned below a chalcopyrite showing currently known as the Main Showing. It is located in NW quarter, S1/2 Lot 10, Concession II. Drill hole #3 was drilled into the "pit zone" to a depth of 46.2m. Anomalous geochemical values came from pillow lava between 14.0 m and 18.7m. These values are listed in the following table:

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Sample #	% Copper	oz/Ton Gold	Sample Interval
W1'7	1.39	0.02	1.5 m (14.0 to 15.5)
ASTW	0.55	0.01	1.6 m (15.5 to 17.1)
WT8B	2.31	0.005	1.5 m (17.1 to 18.7)

Drill hole #4 located about 38.1m west of hole #3 was drilled to 45.7m in pillow lava. No geochemical data was reported for the hole.

1964 - Monpre Mining Company delineated 5 conductors with 1965 their reconnaissance electromagnetic (EM) survey in N1/2 Lot 1, Concession I and SE1/2, S1/2 Lot 1, Concession II, Walker Township. Drill holes #1 and #2 aimed at Monpre anomalies "E" and "C" respectively occur in the southeast guarter of S1/2 Lot 1,

Concession II, Walker Township (Figure 2). Drill hole #1 intersected predominantly mafic volcanics ("andesitic"). Sample #1 contained 0.3% copper and 0.5% zinc from quartz calcite stringers from 82.9m to 83.0m. Drill hole #2 intersected "acid volcanic" from 53.3m to 64.3m. It was reported to contain 2 to 3% chalcopyrite, pyrite over 0.3m. A sample of this ran 0.26% copper and trace gold. From 64.3m to the end of the hole at 123.7m mafic volcanics were intersected. Drill holes #3, #3A, #4 and #5 were, drilled in Concession I, Walker Township. No mineralization was reported for them.

- Continental Copper Mines drilled three holes in 1965 Wilkie Township, Hole VW 65-4 located in the N1/2Lot 9, Concession II corner northwest intersected predominantly mafic volcanic ("andesitic flows") (Figure 2). Minor pyrite was reported between 103.6m and 338.6m in concentrations of 1% over 1.5m. Both VW 65-1 and VW 65-2 were drilled in Concession I. No anomalous geochemistry was reported for either hole.
- 1970 Hecla Mining Company drilled one hole in the northwest corner S1/2 Lot 10, Concession II (Figure

Noranda Exploration surveyed unpatented claims in Lot 1972-10 and SE1/2 S1/2 Lot 9 using magnetometer 1973 and electromagnetics (VLEM). Four vertical loop but were not drilled. were discovered conductors Diamond drill hole W-73-5 located in the NW1/4, S1/2 Lot 10, Concession II, Wilkie Township was aimed at showing, Noranda's previously discovered copper currently known as the Main Showing (Figure 2). It intersected mafic volcanics which were reported as andesitic flows with some dacitic pillows and , sections. Minor amounts of chalcopyrite, sphalerite, pyrrhotite and pyrite were reported throughout the hole. At 66.8m 2% pyrrhotite and 5% chalcopyrite were reported over 2.5 cm. Drill hole W-73-6 located in the south west corner N1/2 Lot 10, Concession II intersected "dacite tuff breccia" from 71.7m to 91.4m (Figure 2). It contained numerous weakly conductive graphitic sections. Sample 1577 from 115m to 116.3m of a quartz calcite stringer in mafic flows and flow breccias contained 1% zinc, 0.22 oz silver and 0.02% copper.

- 1977 Hollinger Mines completed horizontal 100p a electromagnetic (HLEM) survey on unpatented claims in Lots 8, 9, 10 and 11, Concession II. Wilkie Township. Four probable bedrock conductors were discovered. Drill hole WI-1-1-77 located in SE1/4, N1/2 Lot 10, Wilkie Township was intended to test Hollinger's anomaly A (Figure 2). Ultramafic volcanic was intersected from 54.9m to 86.4m. It contained minor sphalerite galena, pyrite and pyrrhotite. Felsic volcanic occurred from 86.4m to 181.3m. Near , the contact of the ultramafic and felsic from 87.8m a "serpentinized dacite and graphite" 92.0m to pyrite. section contained about 25% Drill hole aimed at another ΕM anomaly in the WI-1-2-77 N1/2Lot 10, Concession northwest corner II intersected felsic volcanic which was reported as rhyolite to dacite (Figure 2). The rock was variably altered to chlorite, sericite and carbonate. Many sections were reported to be sheared and brecciated.
- 1978 Hollinger Mines airborne MK VI INPUT survey revealed a conductor in N1/2 Lot 12, Concession II, Wilkie Township. This conductor appears to correspond to Texasgulf's 1960 airborne anomaly and to Noranda's

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1962 JEM anomaly. It was tested by holes #1 and #2 in 1962 by Noranda Mines (Figure 2).

- Creek Mines exploration optioned 10 Wilkie 1983 Kidd prospector, Jack local from а Township claims Chevalier. These claims are located in Lots 10 and stratigraphic hole WI-22-1 11, Concession II. Α fulfilled necessary assessment requirements on the optioned claims (Figure 2). It intersected tholeiitic rhyolites which contained traces of copper and zinc. Sample #AA21359 taken from 45.5m to 46.5m contained 0.21 % zinc over 0.3m. Probable extensions of the belt were staked along strike to the east and west to 84 claims. Following the total bringing the release of a government airborne electromagnetic survey in May 1984 a total of 10 claims were staked by the company. These claims occur mainly in N1/2 of Lots 1, 2 and 3, Concession II, Wilkie Township, and N1/2 Lot 12, Concession II, Coulson Township.
 - 1984 Kidd Creek Mines Ltd. undertook detailed geological surveys on the Wilkie 22 property during the late spring and summer. East-west control lines totalling 13.3 km were established by an Ontario Land Surveyor in Concession II, Lots 1 and 2, Walker Township and

Lots 9 to 12, Wilkie Township. A north-south grid with 100m line spacings totalling 66.4 km was cut on 37 unpatented claims between the control lines. Tie 500m north and south of lines cut 400m and the baseline totalled 7.2 km. Grid geology and vegetation were mapped at 1:5000 (Figure 3). A portion of the grid containing the most outcrop was remapped at 1:500 scale with final plots at 1:1000. Mechanical stripping by a muskeg mounted backhoe and manual stripping provided additional outcrops for detailed mapping. Twelve trenches were dug into overburden in search of till and float boulders. Twelve claims were staked in December 1984. These occur in the N1/2 Concession III, Lots 10, 11 and 12.

Diamond drill hole WI-22-1 was deepened from 183m to with traces of basalts cored 420m. The hole sphalerite near the bottom of the hole. Magnetometer, loop electromagnetic (HLEM) horizontal VLF and grid. NO new surveys were conducted over the surface pulse discovered. Α conductors were covered the central electromagnetic (PEM) survey portion of the grid near the Shallow River. Borehole PEM surveys were completed in diamond drill holes WI-22-1 and WI-1-2-77. An away-from-hole-anomaly was detected from the latter hole. Claim posts for the

Chevalier Option and adjacent claims were adjusted and duplicate tags were added where needed.

Between January 20th and March 2nd, Kidd Creek Mines Ltd. drilled six diamond drill holes for a total of 2121.4m. These holes are WI-22-2, WI-22-3, WI-22-4, W1-22-5, WI-22-6 and WI-23-1 (Figure 3). Borehole pulse electromagnetics (PEM) was completed in the holes in late May - early June.

BEDROCK GEOLOGY

The Wilkie 22 property is within a poorly exposed section of the Abitibi Greenstone Belt. Much of the property is underlain by thick sequences of pleistocene varved clays. Geological information has been obtained from mapping outcrops along or near the Shallow River and from diamond drilling (Figure 3).

Volcanic stratigraphy on the Wilkie 22 property is situated on the south limb of a syncline whose axis passes from the southwest corner of Coulson Township through Wilkie Township in a west northwesterly direction. Rocks strike in an easterly direction and dip at high angles to the north. The south half of the property is underlain by at least 740m of mafic volcanics. These include massive, pillowed and flow brecciated flows. Pillow morpholog indicates that stratigraphic tops are north. Mafic volcanics are about 440m thick. These flows can be aphyric, quartz porphyritic, feldspar porphyritic, or quartz-feldspar porphyritic. Overlying felsic volcanics is ultramafic komatiite flows which measure up to 40m thick. The felsic ultramafic contact trends 90° on the east side of the grid and bends south to 103° on the west side. Sheared mafic volcanics overlie the ultramafic flows. One outcrop of diabase was found on the property. It belongs to a northerly trending dyke. Of the Matachewan Savarm.

Wallace Smith WALLACE K. SMITH

Hasou Geoo	ert of Work physical, Geological, chemical and Expendit	ures)	286 Mining	42A 10NE 04 10	2.8620 WIL	K IE	aded areas below	900
Type of Survey(s)	LA 6/0/1	5)-			Township	or Area		
				· .	WIL	KIE Prospector's	Licence No.	
KIDD CREEK MIN	IES LTD.					T-184	48	
571 Moneta Ave	enue, P.O. Box	1140, Ti	mmins, (Ontario P4N	7H9			
Survey Company KIDD CREEK MIN	NES LTD.			Date of Survey 25 05 8 Day Mo.	(from & to) 5 30 (Yr. Day	08 84 Mo. Yr.	tal Miles of line (41.3	Cut
Wallace K. Smi	ith, P.O. Box 1	140, 571	Moneta	Avenue, Ti	mmins, (Ontario]
Credits Requested per Each	Claim in Columns at ri	ght	Mining Cla	aims Traversed (List in num	erical sequence	ce) ng Claim	Expend.
Special Provisions	Geophysical	Claim	Prefix	Number	Days Cr.	Prefix	Number	Days Cr.
For first survey: Enter 40 days, (This	- Electromagnetic		L	618113		L	/58225	
includes line cutting)	- Magnetometer		1.110 - 1.110	618114			758226	
For each additional survey:	- Radiometric			618115		•	758227	
using the same grid:	- Other			618116			758228	
Enter 20 days (10) bach	Geological	20	ALC: NO	618117			758229	
	Geochemical			618118		122517	790110	
Man Days	Geophysical	Days per	Sec. 44	618119			790111	
Complete reverse side	Electromannetic	Claim		618120			790112	
and enter total(s) here				618121			790113	-
MINING DIV.	A K Eviagnetometer		1914	610102			700114	
I K E I E I M				750000			700115	
	or Uthe			/58209			790115	
AN	Geological PM			758210			/90116	
/ 18 19 10 11 12 1 121	3 45p5 or Brical			758212			790117	
Airborne Credits		Claim		758213			790118	
Note: Special provisions	Electromagnetic			758214				
to Airborne Surveys.	Magnetometer			758216				
	Radiometric			758217			WED-	
Expenditures (excludes por	wer stripping)			758218		KECE		
Type of Work Performed				758220		Invi-1	5 1985	
Performed on Claim(s)				758221				
				758222	MI	NING LAN	DS SECTION	
				750222				
Calculation of Expenditure D	eys Credits	Total		750225				
Total Expanditures	+ 15] = [vs Credits		100224	<u>1</u>	Total num claims cov	ber of mining rered by this	37
Instructions	annortioned at the claim	holder's	r		<u>Óst</u>	report of t	work.	
choice. Enter number of d	ays credits per claim selec	ted	Total Day	For Office Use /s Cr. Date Record		Mining H	day	
			Recorded		I S O 190		K	5
Date Oct. 24, 1985	Recorded Holder or Agent	(Signiture)	100	Date Appyov	7. 2 /	- Granch 9	X	\sum
Certification Verifying Re	port of Work	knowledge of	the facts set	forth in the Repo	// ort of Work ar	nnexed hereto,	having performed	the work
or witnessed same during a	and/or after its completio	n and the ann	exed report	is true,			·	
Name and Postal Address of Wallace K. Smi	Person Certifying th, Kidd Creek	Mines L1	td. 571	Moneta Ave	nue, P.	0. Box 11	40 by (Signature V	
Timmins, Ontar	io			0ct. 2	4, 1985	lifel	lare Son	M
1362 (81.9)								



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	Wilkie Tow	nship		
Claim Holder(s)	Kidd Creek	Mines Ltd.		MINING CLAIMS TRAVERSED List numerically
<u>́Р.О.</u>	Box 1140,	571 Moneta Ave.	, Timmins, Ont	
Survey CompanyK	idd Creek M	lines Ltd.		(See Schedule A attached)
Author of Report	allace K. S	mith		(prefix) (number)
Address of Author	71 Moneta A	ve., P.O. Box 11	140, Timmins,	
Covering Dates of Su	rvcyMay	25 - August 30,	1984	
Total Miles of Line C	ut	(linecutting to office)		
SPECIAL PROVIS	IONS STED	Geophysical	DAYS per claim,	
		Electromagnetic	c	
ENTER 40 days (ir	cludes	Magnetometer		
line cutting) for firs	st			
ENTER 20 days fo	r each	-Other		
additional survey u	sing	Geological 20		
same grid.		Geochemical		
AIRBORNE CREDIT	S (Special provisi	ion credits do not apply to	airborne surveys)	
Magnetometer	Electromagn	etic Radior	metric	
	(enter da	ays per claim)	01	
DATE:	985 SIGNA	TURE: Wallace	Smith	
Res. Gcol	Qualifi	ications		
Previous Surveys	-			
File No. Type	Date	Claim Hol	lder	
	••••			
				TOTAL CLAIMS_37

837 (5/79)

OFFICE USE ONLY

GEOPHYSICAL TECHNICAL DATA

N	lumber of Stations		Numb	er of Readings	•
S	tation interval		Line s	pacing	
P	rofile scale				
С	ontour interval				
k	Instrument				
1	Accuracy – Scale constant				
	Diurnal correction method				
	Base Station check-in interval	(hours)			
	Base Station location and value	c			
d.	Instrument		en e		
d d H	Coil configuration				
	Coil separation				
	Accuracy				
	Method:	ixed transmitter	Shoot back	In line	Parallel line
	Frequency				
l			(specify V.L.F. station)	
	Parameters measured				
	Instrument	. er synere en werde a - ar de trevansen de tale, anges a de tale de service de tale de tale de tale de tale de			
1	Scale constant				
	Corrections made				
J	Base station value and location	·····			
	Elevation accuracy				
	Instrument				
	Method Time Domain			Frequency Domain	
	Parameters – On time			Frequency	
	- Off time			Range	
	– Delay time				
	- Integration time	-			
	Power		•		
	Electrode array				
	Electrode spacing				
	Type of electrode	arren bizanler un na ren bizanleta era a az az azarren erakar bizarbetak			

SELF POTENTIAL

Instrument	Range
Survey Method	
Corrections made	

RADIOMETRIC

Instrument		
Values measured		
Energy windows (levels)		
Height of instrument	Background Count	
Size of detector	~	
Overburden		
	(type, depth – include outcrop map)	
OTHERS (SEISMIC, DRILL WELL I	OGGING ETC.)	
Type of survey	·	
Instrument		
Accuracy		
Parameters measured		
Additional information (for understa	nding results)	
AIRBORNE SURVEYS		
Type of survey(s)		
Instrument(s)		
Accuracy	(specify for each type of survey)	
	(specify for each type of survey)	
Aircraft used		·····
Sensor altitude		
Navigation and flight path recovery m	ethod	
Aircraft altitude	Line Spacing	
Miles flown over total area	Over claims only	<u></u>

GEOCHEMICAL SURVEY - PROCEDURE RECORD

• • • •

Numbers of claims from which samples taken_____

Total Number of Samples	ANALYTICAL METHODS		
Type of Sample			
Method of Collection	Cu, Pb, Zn, Ni, Co, Ag, Mo, As,-(circle)		
Soil Horizon Sampled	Others		
Horizon Development	Field Analysis (tests)		
Sample Depth	Extraction Method		
Terrain	Analytical Method Reagents Used		
Drainage Development	Field Laboratory Analysis		
Estimated Range of Overburden Thickness	No. (tests)		
	Extraction Method		
	Analytical Method		
	Reagents Used		
SAMPLE PREPARATION (Includes drying, screening, crushing, ashing)	Commercial Laboratory (tests)		
Mesh size of fraction used for analysis	Name of Laboratory		
	Extraction Method		
	Analytical Method		
	Reagents Used		
Gcneral	General		



Kidd Creek Mines Ltd.

Box 1140 571 Moneta Avenue, Timmins, Ontario P4N 7H9 (705) 267-1188

Exploration Division

December 16, 1985

S. E. Yundt Director Land Management Branch Whitney Block, Room 6643 Queen's Park Toronto, Ontario M7A 1W3

Dear Sir:

Re: Resume of Qualifications, File 2.8620

I, Wallace K. Smith do declare that I am a 1983 graduate of the University of Waterloo with an Honours Earth Science degree (BSc). I have been working in geology since graduation.

Yours truly

Wallace K. SMITH

WKS/pp

RECEIVED DEC & C Emp MINING LANDS SECTION



December 10, 1985

File: 2.8620

Kidd Creek Hines Ltd 571 Moneta Avenue P.O. Box 1140 Timmins, Ontario P4N 7H9

Dear Sir:

RE: Geological Survey submitted on Mining Claims L 618113, et al, in Wilkie Township

In order to complete the above-described submission, please submit a resume of the qualifications of Wallace K. Smith (as detailed on the enclosed). When submitting this information, please quote file 2.8620.

for further information, please contact Susan Hurst at (416)965-4888.

Yours sincerely,

S.E. Yundt Director Land Management Branch

Whitney Block, Room 6643 Queen's Park Toronto, Ontario M7A 1W3 Phone: (416)965-4888

SH/mc

cc: Mining Recorder Kirkland Lake, Ontario #421 Encl.

Kidd	Creek	Mines	Ltd.
Box 1140)		

571 Moneta Avenue, Timmins, Ontario P4N 7H9 (705) 267-1188

Exploration Division

October 25, 1985

Mr. George Koleszar Mining Recorder Ministry of Natural Resources Recording Office 4 Government Road East Kirkland Lake, Ontario P2N 1A2

Dear Mr. Koleszar:

Enclosed you will find the Report of Work outlining all information required by the Mining Recorder's Office. Included is a geological report as well as a map on the Wilkie 22 property.

Yours truly

WALLACE SMITH

WS/pp Encls.



Mining Lands Section

File No 28620

Control Sheet

 TYPE OF SURVEY
 GEOPHYSICAL

 GEOLOGICAL
 GEOCHEMICAL

 EXPENDITURE
 EXPENDITURE

MINING LANDS COMMENTS:

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Aust

Signature of Assessor

m 2/8/86

Date







