

Kerr McGee

Birchdale

Tilson Creek

MINERALS EXPLORATION
DRILL LOG71-23-35 FILE #1
STATE LEASE 8862ITEM
2

DRILL HOLE NO.:

TC-35-1

Folder: 14

Doc #: 15

LOCATION: State

County

FWL:

FSL:

1/4

1/4

Section

T.

R.

GRID COORDINATES:

Minnesota

Koochiching

1900

1900

NE

SW

35

71N

23W

L84W sta 5 + 50 N

PROSPECT:

TOTAL DEPTH:

AZIMUTH:

INCLINATION:

DATE COLLARED:

DATE COMPLETED:

DRILLER:

Tilson Creek

462'

350°

-50°

10-22-87

10-25-87

Koepp

CORE LOGGED BY:

DATE:

PROPERTY:

Minerals

Surface

E. J. Krish

10-87

State of Minnesota

Boise Cascade

SUMMARY OF DRILL LOG

SUMMARY OF MINERALIZATION

DRILLING INFORMATION

DEPTH	UNIT	DEPTH or THICKNESS	ANALYSES				ROTARY / PERC.	BIT SIZE	DEPTH
			ppb Au						
0- 50	Glacio-lacustrine clay (St. Louis Lobe)						ROTARY / PERC.	4 1/2	From 0 to 80
50- 76	Glacio-fluvial sand and gravel (Rainy Lobe)								
76-100.3	Chlorite-calcite schist	378 - 382	4020	(.117	opt)				
100.3-116	Amphibole-chlorite-calcite schist	400 - 402	260						
116 -124	Chlorite-calcite schist	402 - 404	1460	(.043	opt)		CORING		From to
124 -209.5	Amphibole-chlorite-calcite schist							3'	From 80 to 462
209.5-219	Laminated chlorite-calcite schist								From to
219 -246	Amphibole-chlorite-calcite schist								From to
246 -261.7	Quartz-biotite-chl schist						ABANDONMENT METHOD:		
261.7-403.5	Amphibole-chlorite-calcite schist								
403.5-429	Chlorite-calcite schist						REMARKS:		
429 -462	Amphibole-chlorite-calcite schist								
							Acid Tests:		
							-49° @ 200'		
							-50° @ 450'		
							100% core recovery unless noted		

CN-8862

VISUAL ESTIMATES

[illegible]

Drill Hole No: TC-35-1 Prospect: Tilson Creek
 Core Logged by: E. J. Krish Date: 10-87 Scale 1" = 10' Page 3 of 8

VISUAL ESTIMATES

PY ----- PO -----

DEPTH	INTERVAL	LITHOLOGY	% REC	DESCRIPTION	%	1	2	3	4	5	6	8	10	15	20	40	60	80	100
70			X																
76'			X																
80			X																
@ 88' ± 66°																			
90	24.3																		
@ 96' ± 66°																			
100	100.3'																		
100-105 ± 5°-75°																			
@ 108' ± 55°	15.7																		
110																			
55° @ 116'																			
120	8'																		
124'																			
@ 125 ± 55°																			
130																			
contorted	85.5																		
@ 137' ± 38°																			
140																			

76-100.3 Chlorite-Calcite Schist

lt gry gry to med grn gry (5GY 8/1 to 7/1). Well foliated and sheared. Wavy boudined alternating domains of 60% grn gry (chl > ser) and 40% wht (calcite > qtz). mod-com f-m gr leucoxene, no magnetite. 1/2% dissem po along foliae. T.S. @ 97.5' (Ch: 30-35%, plag 20-25%, calcite 15-17%, qtz 12-15%, hnbd 10-12%)

@ 94' 2" qtz vein w/ tr py-cpy

@ 100.3 gradational contact w/ amph. schist

100.3-116 Amphibole-Chlorite-Calcite Schist

gry blk (N2) and dk grn gry (5G 4/1) alt/w v. lt. gry (N8). Well foliated and sheared. Locally contorted foliae...alt mafic and carbonate domains commonly wavy and boudined. Abu vf-vc gr blk hnbd Mod chlorite after hnbd. Lg hnbd x-tals give mottled appear. Locally com contorted qtz veinlets ± 2-3% dissem py-po. Locally com. f-m gr brn hnbd (?) and brn mica (phlogopite?) asso/w contacts of qtz veinlets

100.3-103.5 highly sheared and contorted com brn mica. 3% py + po. Mod com qtz veining. Grad upper contact and shear lower contact @ 11° to C.A. Major shear zone

103.5-109 Chlorite schist w/ minor intercalated amph-chlorite schist. Com calcite in both. Sheared contacts. Chl schist contains minor amph. Po > py in amph schist (1-2%)

107-108 5% po as segs along foliae asso/w qtz-carb

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VISUAL ESTIMATES

PY _____ PO _____

[illegible]

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VISUAL ESTIMATES

PY _____ PO _____

DEPTH	INTERVAL	LITHOLOGY	% REC	DESCRIPTION	%	1	2	3	4	5	6	8	10	15	20	40	60	80	100
210				<u>209.5-219 Laminated Chlorite-Calcite Schist</u> Grn blk (5GY 2/1) well foliated, v. finely lamina- ted. mafic 85%...chl + amph(?). Sp-mod calcite domains alt w/ mafic domains. 1-2% ragged segs and clots of py-po along foliae. Scattered serici- te microfractures. mafic tuff?															
@ 214' ± 82°	8.5																		
219																			
220				<u>215-219 calcite coated fractures @ 15° to C.A.</u> Rock bleached adj to fractures @ 218' 2" wide calcite + sericite filled fracture @ 219' sheared faulted contact															
contorted																			
230	27'			<u>219-246 Amphibole-Chlorite-Calcite Schist</u> grn blk (5G 2/1) highly sheared & locally contor- ted. Well foliated. Com-abu v.c.g. amphib (1-5 mm). Locally highly fractured w/ bleached wall rk. Locally com qtz veining and silica flooding. 1-2% py-po as ragged clots and segs along foliae and asso/w qtz veining. Locally com v.c.g. leucoxene															
@ 237' ± 74°																			
240				<u>223-226 Com. micro-fracts w/ bleached country</u> rock. Sl amphib, com chlorite 5% po															
very poorly foliated				<u>233-234 Com v.c.g. leucoxene</u> <u>236-246 Abu m-v.c.gr amphib Sp-mod calcite, chl</u> and qtz in disrupted, boudined veinlets. Sp tourmaline															
246																			
250				<u>@ 246' sheared fault contact @ 25° to C.A.</u> <u>246-261.7 Quartz-Biotite-Chlorite Schist</u> dk gry (N3) w/ lt olive gry (5Y 4/1) bleached microfractures and lt brn gry (5YR 6/1) cherty layers. Sheared and well foliated w/ local con- torted zones. Sp-mod thin wavy calcite stringers. Mod vfg phlogopite(?). Rel hard...silicified. 1/2-1% po-py except asso/w sp. v. thin qtz-calcite- po stringers. T.S. @ 251' felsic-int tuff?															
@ 256' ± 83°	15.7																		
260				<u>259-261.7' unsilicified chlorite-calcite schist</u> <u>@ 261.7' irreg gradational contact</u> <u>261.7-403.5 Amphibole-Chlorite-Calcite Schist</u> mod grn blk (5G 3/1) and gry blk (N2). Sheared & well foliated. Sp-mod thin boudined qtz-calcite ± py veinlets. Locally com chlorite and phlogo- pите(?) Chl after amphib. Local com leucoxene. tr-sp po except locally asso/w qtz veining (2-5%)															
82° @ 261.7																			
270	141.8'																		
@ 274' ± 74°																			
280																			

T.S. @ 251
 plag 55-60%, qtz
 15-17%
 bio 5-7%, chl 5-7%

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VISUAL ESTIMATES



















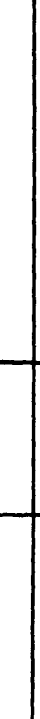











PY _____ P0 _____

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VISUAL ESTIMATES

PY-----PO-----

DEPTH	INTERVAL	LITHOLOGY	% REC	DESCRIPTION	%	1	2	3	4	5	6	8	10	15	20	40	60	80	100	
420	25.5			408.5-412.5 Same as 246-261. v.f. laminated, cherty, chl schist w/ abu thin x-c calcite-ser. microfractures. Locally 2-3% po																
75° @ 423				412.5-413.5 highly contorted																
@ 427' ± 72°				413.5-429 poor-mod-foliation, local sp calcite, local contorted, no inc in po @ 423.5 sharp irreg contact																
430 429	33			429-462 Amphibole-Chlorite-Calcite Schist as above well foliated, sheared. Intercalated w/ v.f.g. chlorite-calcite schist 426-429 chlorite schist 434-440 contorted, calcareous amphibole schist w/ com ser. bleaching. @ 444' 1/8" calcite-qtz-py veinlet x-cutting 1" thk silicious laminated layer. 10-15% py in layer and veinlet. Com sericite bleached selvages																
@ 433' ± 64°																				
440																				
@ 441' ± 72°																				
@ 448' ± 65°																				
450																				
@ 452' ± 70°				448-452 laminated chlorite schist (tuff?) @ 452 1/2" silicious qtz-calcite-py foliation-parallel veinlet (10% py) 452-456 com qtz veinlets and calcite. Locally com bleaching (sericite). Cherty 456-462 TD alteration of amphibole → chlorite w/ remnants of blk amphibole in chlorite matrix. Well foliated w/ com calcite. T.S. 461.5																
460		462' TD																		
69° @ 462'																				