WP-6275A

803937

IMPERIAL OIL LIMITED
MINERALS SECTION
DRILL LOG

PROJECT: Sulphurets 2153	GROUND ELEV.
HOLE NO.: 16	BEARING: 180°
LOCATION: West of Iron Cap	DIP: −60
	TOTAL LENGTH: 304.50m
LOGGED BY: T. Ferguson, E.M.C.	HORIZONTAL PROJECT
DATE: Sept. 6/80	VERTICAL PROJECT
CONTRACTOR: Arctic	ALTERATION SCALE
CORE SIZE: BQ	absent / slight / moderate / intense
DATE STARTED: September 2 - Drill move; September 4 - start drilling	TOTAL SULPHIDE SCALE
DATE COMPLETED: September 10 PM	traces only / < 1% / 1% – 3% / 3% – 10% / > 10%
DIP TESTS	

COMMENTS

Depth	Dip	Azimuth
27.13m	58°	191°
88.09m	56°	195°
118.57m	55.5	197°
149.05m	56°	193°
194.77m	55.5	197°
240.49m	56°	349° (invalid due to magnetite?)
270.97m	53.5°	109° (invalid due to magnetite?)
301.45m	54°	329° (invalid due to magnetite?)

LEGEND

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DEPTH (METRES)	%Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (8.14m = 26.7', ≈27 m = 88.6', ≈58m = 190.3')	ALTERATION
				Overburden: 0.0 – 8.14 : lower 1.3 m cored.	
				Altered intrusive? 8.14 – ≈27 : Altered feldspar-amphibole porphyry intrusive? moderately to strongly silicified and sericitized; light grey to light green, fine to medium grained; abundant small (< 3mm) sericitized/chloritized? feldspar and/or amphibole commonly preserved; locally white small feldspars also preserved; intensely fractured, microfractured – infilled by qtz, py, moly; irregular to locally weakly developed/locally scattered, qtz-calcite veins (these veins void of sulphides typically *)	Moderate Sericitized Silicified
				8.14 – 15.24 : several zones of broken core; probably several fracture zones	
				* These veins < 2 cm wide, typically youngest veins; also various qtz veins locally present up to 10 cm wide – These typically have date fine fractures but are older qtz – calcite veinlets; these do not typically contain sulphides although moly-py locally concentrated adjacent to them; flourite locally present in all three types of veins	
			Relation 30°/A	15.25 – 19 : brecciated zone; qtz with minor carbonate (calcite?)	
				24.8 – 25.4 : strong grey qtz veining	
				Altered intrusive? ≈27 – ≈58 : Intensely silicified intrusive	Intensely Silicified
				27.1 – 27.7 : broken, oxidized	
				27.8 – 27.9 : grey qtz vein	
				24.5 – 30.0 oxidized fractures subparallel to c/A	

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLE INTERVAL	SAMPLE WIDTH	ASSAY NUMBER	% Cu	% Mo	%	Au	Ag	COMPOSITE ASSAYS
3.14-84.35: mineralization consists of py & Moly; py occurs disseminated throughout & in fractures; varies from about 3 to 10% py; moly almost always in very fine fractures; both py & moly typically very fine grained; moly usually occurs alone but locally py & qtz in same fracture; Moly sometimes not visible but presence indicated by bluish tinge; cpy uncommon; locally py content up to 15%; relatively uniform py and moly distribution; rarely moly as clusters of fine grains; py is yellow & due to fineness of grain size difficult to detect all the cpy.		3.14								
		9.00	3.0	2345	.212	.029		.008	.33	
			3.0	2346	.122	.046		.002	.14	
		12.0								
			3.0	2347	.152	.018		.002	.16	
		15.0								
			3.0	2348	.100	.013		.002	.11	
18.25-19: higher py-moly content, minor cpy, all/largely associated with cpy/moly.		18.0								
			3.0	2349	.179	.088		.004	.28	
		21.0								
21-24: MoS_2 grade 180.5%										
			3.0	2350	.209	.030		.002	.48	
		24.0								
			3.0	2351	.182	.035		.002	.28	
		27.0								
			3.0	2352	.141	.042		.002	.18	
			(3.5 m recovered)							
		30.0								

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70.9m = 232.6'

DEPTH (METRES)	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION
					31.45: trace pink Kspar? in qtz veinlet.	
35						
					36.0 - 42.3 : numerous fractured & broken zones;	
40			20°/A		40.0 : 2cm mud seam	
					42.34 - 42.42 : qtz vein with 2-10% py.	
45					44.9 - 51.2 : intense microfracturing, local brecciation.	
					45.9 : minor pink fluorite in qtz vein; also brownish red Kspar?? in the qtz (Kspar or quartz)	
					46.7 - 48.0 : broken and rubbly, lost core, probably brecciated fault zone	
50					50.75 - 51.2 : Qtz vein; pink calcite abundant calcite Qtz subordinate	
55					56.1 : Kspar & minor fluorite (purple)	
					57.6 - 57.9 : qtz vein with purple & white qtz with purple fluorite	
				Altered Intrusive	58 - 70.9 : brecciated zone; well preserved	Moderate to Intense Silicification
60				Brecciated	syenitic porphyry (Amphibole - feldspar) fragments locally; possible biotite locally; intrusive	

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLE INTERVAL	SAMPLE WIDTH	ASSAY NUMBER	% Cu	% Mo	%	Au	Ag	COMPOSITE ASSAYS
			3.0	2353	.192	.029		.002	.24	
		33.0								
			3.0	2354	.132	.014		.002	.30	
		36.0								
37.9 - 42.0 : lower moly content; about 50% ? lower than overlying zone			3.0	2355	.196	.024		.002	.18	
		39.0								
			3.0	2356	.132	.025		.003	.24	
		42.0								
			3.0 (3.5 = received)	2357	.150	.033		.002	.26	
		45.0								
			3.0	2358	.162	.039		.002	.20	
		~~48~~ 48.0								
			3.0	2359	.122	.025		.002	.18	
		51.0								
52.1 - 64 : moly content probably lower than overlying zone; however, host is dark, pyrite fine grained, mostly difficult to detect.			3.0	2360	.150	.027		.002	.19	
		54.0								
			3.0	2361	.218	.036		.002	.29	
		57.0								
58 + - 58.75 : 15% to 25% py in veinlets.			3.0	2362	.191	.023		.007	.31	
		60.0								

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107.9m = 354'

DEPTH (METRES)	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION
					material altering syenite is rich in pyrite, qtz, [illegible] two intrusive phases - one py rich (25%?) and one qtz-rich; complex breccia zone with many other types of alteration: silicification, prob. pyritization	
					58-70.9: Moderately to intensely silicified, locally	
					63.8-63.9: flourite in veinlets.	sericitized ~~[illegible]~~
65						
					~~[illegible]~~	
70				Altered Intrusive??	70.9-107.9: generally intensely silicified only local moderate silicification	~~[illegible]~~ intensely
					71.3-71.8 - broken locally with sericite	silicified
75						
					77.45-78.2: py-qtz-calcite vein	
80						
85			slips 45°/A		84.35-84.50: brecciated qtz vein with chlorite-py slips, possible shear zone	
					86.1: minor Kspar?? in groundmass. 86-90: local patchy pale pink Kspar? as alteration.	
					87-87.2: qtz-calcite breccia vein	
					88.25-88.35: grey qtz-vein	
90					87: after 87 no intrusive texture preserved.	

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLE INTERVAL	SAMPLE WIDTH	ASSAY NUMBER	% Cu	% Mo	%	Au	Ag	COMPOSITE ASSAYS
60.95: cpy on qtz-filled veinlet										
61.3: minor cpy on qtz vein										
		~~62.0~~	3.0	2363	.149	.016		.006	.19	
58-66: locally 15 to 25% disseminated py.										
		63.0								
			3.0	2364	.221	.029		.007	.11	
65		~~65.0~~								
		66.0								
66-69: MoS_2 present at 0.5%			3.0	2365	.143	.027		.008	.10	
		69.0								
70			3.0	2366	.191	.013		.009	.62	
72-75: Moly-qtz-py veinlets, veinlets up to 1cm. Moly content (as MoS_2) is 2%		72.0								
			3.0	2367	.146	.058		.009	.68	
75		75.0								
75.18: minor patch cpy.										
			3.0	2368	.182	.040		.011	.92	
78.05: minor cpy disseminated		78.0								
80			3.0	2369	.229	.050		.011	.96	
		81.0								
83.1: minor cpy on fracture plane			3.0	2370	.149	.052		.008	.47	
generally		84.0								
84.35-156.5: only ~~[illegible]~~ minor to trace visible moly locally,										
85 similar py content as above zone; cpy usually occurs, moly is disseminated			3.0	2371	.158	.025		.007	.30	
85.3-85.5: minor to trace moly + possible cpy.		87.0								
85.9-86.5: minor moly.			3.0	2372	.123	.038		.009	.17	
90		90.0								

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DEPTH (METRES)	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION (111.4m = 365.5', 130m = 426.5')	ALTERATION
					91.9-92.3: fractured, broken; subparallel fractures; some mud probable brecciated infilled by py-qtz-(moly).	Pg/A
			36° C/A vein		93.25-93.4: grey qtz vein with minor moly, oxidized	
95					95.9-96.1: calcite spotting possibly with zeolite?	
			45° C/A veinlet		98.6: qtz-calcite veinlet	
100					99.77-100.10: qtz-calcite veining and breccia	
			45° C/A vein		102.1: dtn patch with fine grained biotite? 102.52-102.72: qtz-calcite vein; orange tapinto calcite, qtz, minor	
105					107.5-107.9: grey qtz veining; minor cpy patch	
			50° C/A	Altered sediment	107.9-111.4: Moderately to intensely silicified sediment; local foliation lamination py laminae sericite foliation (v. often irregular); medium to fine grained, light grey.	Moderate to intense silicification
			55° C/A		111.0-111.43: probable bedded sequence of fine grained to coarse grained sediment; small clasts, common wacke	
110			45° C/A bedding		1 cm in size; some massive porphyry clasts; cut off by altered intrusive at bottom	
					112.15-112.3: grey qtz vein with py & trace moly	
115				Altered Unit	111.4-130: Intensely silicified; primary nature unknown	Intense Silicification
					117.2-118: fine calcite spots, <1-2mm; alt'n feature	
120						

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLE INTERVAL	SAMPLE WIDTH	ASSAY NUMBER	% Cu	% Mo	%	Au	Ag	COMPOSITE ASSAYS
			3.0	2373	.102	.034		.005	.19	
		93.0								
93.4-94.0: moderate moly content										
94.2-95.2: 15-20% disseminated py			3.0	2374	.200	.028		.003	.33	
95										
		96.0								
			3.0	2375	.129	.032		.003	.20	
98-6: py-calcite-fluorite veinlet with minor py-cpy		99.0								
100			3.0	2376	.311	.030		.008	.67	
		102.0								
			3.0	2377	.262	.021		.002	.26	
105		105.0								
			3.0	2378	.154	.030		.009	.11	
		108.0								
110			3.0	2379	.268	.016		.009	.18	
		111.0								
			3.0	2380	.163	.018		.011	.21	
113.5-114.9: slightly higher moly content		114.0								
115			3.0	2381	.199	.028		.009	.20	
		117.0								
			3.0	2382	.118	.026		.003	.11	
120		120.0								

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141m = 462.6'
161m = 528.2'

DEPTH (METRES)	% Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION
			py lamination 60°/A			
125			veins 35°c/A		125.5-125.6: calcite-qtz vein, 35°c/A	
					128.3-129.7: semicontinuous subparallel grey qtz vein	
130				Altered Sediment?	130.5-130.9: grey qtz vein with strong moly slips and patches	Intensely silicified
					128.3-130.7: brecciated zone	
			lamina 50-60°c/A		130-141: py common as pseudomorphs, locally disrupted siliceous layering; chloritic? layering; pervasively altered, disrupted sediments possibly cherts; zones and patches with higher py content often contain chlorite?	
135					136.4-139.2: grey qtz vein with qtz-calcite stringers; some shears, present subparallel c/A.	
140				Altered unit	141-161: as for 111.4-130, uncertain primary nature	Intensely silicified
145					145.50-146.0: broken, sheared, sericitic slips	
					148.3-148.2: major cataclastic zone; broken quartz stringers, breccia; local m	CATACLASTIC
					148.3-151.55: intense qtz-calcite stringers	
			4/2 veinlets 60°/A		148.3-148.4: intense qtz veinlets all //	
150					148.7-149.7: grey qtz vein with 20% altered host	

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLE INTERVAL	SAMPLE WIDTH	ASSAY NUMBER	% Cu	% Mo	%	Au	Ag	COMPOSITE ASSAYS
			3.0	2383	.119	.030		.007	.21	
122.7-123.1 = laminated py; discontinuous & probably secondary feature; 20% py.		123.0								
125			3.0	2384	.157	.023		.006	.18	
		126.0								
			3.0	2385	.178	.040		.008	.21	
128.3-130.9: strong moly with local py.		129.0								
130 ~~128~~ 130.9-133: strongest moly mineralization overlying material above 128.3			3.0	2386	.278	.059		.008	.51	
130-141: py both as dissemination and in laminae; pyrite concentrated in ~~veins~~ up to .5m zone ~~(contact)~~ (10-30% py)		132.0								
			3.0	2387	.251	.029		.009	.19	
135		135.0								
			3.0	2388	.148	.013		.006	.14	
		138.0								
140			3.0	2389	.262	.015		.010	.16	
		141.0								
			3.0	2390	.102	.014		.002	.08	
143.5-145.5 = better than average moly ~~this~~ for the zone		144.0								
145			3.0	2391	.214	.023		.003	.10	
		147.0								
			3.0	2392	.309	.013		.007	.20	
150		150.0								

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DEPTH (METRES)	% Core Recy	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION (180.2m = 591.2')	ALTERATION
			45°C/A fracture foliation	151.60-156.5: locally moderate to strong foliation; numerous fractured broken zones; qtz-calcite stringers common strongly silicified except locally in shears where sericite common	
155				156.5-174.8: intense qtz-calcite stringers; local broken zones some gouge with chloritic slips.	
				158.0-158.4: shear fault; some chloritized chlorite-sericite slips; moderate clay.	
160			Altered sediments		
			shear 45°C/A	161.0 3: mud seam	
			bedding 45°C/A	161-180.2: disrupted sediments; includes mottled cherts and fine grained clastics: - laminated; chlorite common; pyrite floaters locally; dark pinite mineral locally with qtz in veinlets (possible kyanite? staurolite?);	strongly chloritized locally
165			45	163.8: fine lamination	
			45°C/A bedding?	166.4: laminated; ~~all sediments~~ chloritized sediments and cherts locally magnetic; zone locally include altered intrusive	
				166.8: moderately magnetic	
170					
				171.5-172.7: broken crushed zones; some mod. local	
				172.7-180.0: strong chloritization and hematization; moderately to strongly magnetic	
				173.5-174.6: kspar? flooding	
175				175.5-179.9: broken, fractured.	
180					

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MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLE INTERVAL	SAMPLE WIDTH	ASSAY NUMBER	% Cu	% Mo	%	Au	Ag	COMPOSITE ASSAYS
151.6 - 156.5: locally strong moly and overall possibly 1% cpy (trace)		153.0	3.0	2393	.232	.046		.008	.22	
155			3.0	2394	.277	.042		.009	.31	
156.5 - 159.0: no significant moly noted; pyrite erratic, localized distribution; cpy noted locally but overall uncommon; py common on fractures & veinlets; py overall less than ~~[illegible]~~ 3%.		156.0	3.0	2395	.310	.021		.007	.47	
160		159.0	3.0	2396	.317	.016		.008	.30	
163.48: small patch cpy with flakes (suspect) white [illegible] in veinlet		162.0	3.0	2397	.320	.016		.010	.29	
165		165.0	3.0	2398	.186	.009		.012	.29	
170		168.0	3.0	2399	.166	.006		.004	.24	
175		171.0	3.0	2400	.191	.004		.039	.31	
177.45 - 177.55: 25% py		174.0	3.0	1801	.412	.004		.005	.29	
179.45: minor patches cpy in veinlet		177.0	3.0	1802	.459	.005		.027	.31	
180		180.0								

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190.9m = 6263'
194.8m = 6391'
304.5m = 9991'

DEPTH (METRES)	%Core Recy	LITHOLOGY	STRUCTURE		GEOLOGICAL DESCRIPTION	ALTERATION
				Altered Intrusive 186.2-190.9	moderately silicified, sericitized, chloritized feldspar-amphibole porphyry intrusive; upper contact broken; pale green-coloured altered-sericitized feldspar phenos in a feldspathic groundmass; locally magnetic with visible magnetite; rare 5 mm K-spar phenocryst; irregular, flow-oriented 40° by amphiboles locally; fine-grained white feldspars	
			45°/12 contact			locally
185					182.6-183.1: conglomeratic zeolitic? upper contact ≈ 45°c/12; 3-5% discrete and patchy py; clasts of chert?, intrusive granite? and sediment	
					186.1-186.8: broken, some sericite-clay	slippy
					187.8-188.4: broken	
					190-190.9: zeolitic common	
190			45-50°c/12		amphibole orientation	
				intrusive-sediment contact	190.9-194.8: contact zone between intrusive and probable sediments (chert? oolitic sediments?); probable fault zone; well fractured; qtz-calcite veinlets common; contamination of intrusive and fault circulation; local clay-rich	
195			50°/12		lower fault contact	
					195.7-196.: calcite-qtz vein & breccia; minor cpy, py patch in vein	
				clasts of sediments	194.8-304.5: grey, siliceous, fine to medium grained chert and clastic sediments; locally conglomeratic chert clasts in grey slightly less siliceous and less oolitic; locally in zones flourite-bearing veinlets common; [illegible]	
	fault		fault orientation 20-30°c/12		196.0-196.2: probable fault/breccia zone with vein	
200					199.5-200.25: fault zone; rock locally broken qtz-calcite veinlets; ~~some~~ sulphide content lower (leached).	
					202.7-203.4: broken 201.6-202.4: qtz veining with cross-cutting flourite-calcite veinlets 201.6-207.8': qtz veining common	
205					194.8-213.5: predominantly chert.	
					209.95: qtz-calcite veinlet; flourite veining & py, 1/ft	
210						

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i	MINERALIZATION DESCRIPTION	TOTAL	SULPHIDE	SAMPLE INTERVAL	SAMPLE WIDTH	ASSAY NUMBER	%	%	COMPOSITE ASSAYS
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