E1

ESSO RESOURCES CANADA LIMITED

ESSO MINERALS CANADA

803753

DRILL LOG

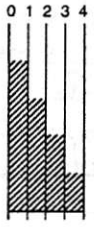
PROJECT: 2153	GROUND ELEV.: 1411 m
HOLE NO.: 39	BEARING: 180°
LOCATION: Sulphurets Gold Zone at DDH 12, 38	DIP: -70°
	TOTAL LENGTH: 637 Ft. 194.16 m
LOGGED BY: Dane Bridge	HORIZONTAL PROJECT:
DATE: Sept 18 - 20, 1981	VERTICAL PROJECT:
CONTRACTOR: Arctic Diamond Drilling	ALTERATION SCALE
CORE SIZE: BQ	
DATE STARTED: Sept 17, 1981	
DATE COMPLETED: Sept 20, 1981	TOTAL SULPHIDE SCALE
DIP TESTS:	
COMMENTS:	LEGEND

absent

slight

moderate

intense



traces only

< 1%

1% – 3%

3% – 10%

> 10%

R. D. PENHALL LTD., MADE IN VANCOUVER, CANADA
DUKSBAK WATERPROOF

PAGE 1 OF 18 | PROJECT: | HOLE NO. 39

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				0.0 - 5.10 : overburden							
5				5.10 - 18.60: moderately altered andesite, originally 'chloritic', hb (feld) andesite: med gray, F.g, moderately silic. Fied - K-Feldspathized							
			/30	Fv, Fdln? andesite locally abundant remnant Feldspar grains?,							
		55 / 50		very minor chlorite grains, sooty pyritic lines. Fractures							
				5-40mm py. v. or possibly clasts and produces a blotchy or onion-skinned							
10			30	shear texture							
				9.55 - 12.00 : intensely silicified zone, light gray, mainly very intensely fractured, minor clasts.							
15				@ 16.95: 2cm bx zone developed from fracture zone, tectonic bx							
			Fvs								
			30-55	18.60 - 23.23 : moderately altered andesite							
20				w. 5% patches of relatively unaltered green chloritic andesite and 5% patches w. relict chl grains.							
			40	4cm py v							

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS oz/t Au	ASSAYS ppm Ag	ASSAYS % Cu	ASSAYS ppm Mo	ppm Zn	ppm As	ppb Hg
5.10 - 9.55 : avg 15-20% py, very fine grained and medium grained, dissem, one vein		5.10										
				4.45	5108	.062						
							1.4	.218	68	270	430	680
9.55 - 12.00 : avg 5% py, med grained, dissem.		9.55										
				2.45	5109	.024						
							5.8	.018	34	346	134	720
12.00 - 18.60 : avg 15-20% py, mainly med grained, dissem and thin veins, about 1/3 very fine grained py, minor coarse cp in 3 py veins		12.00										
				3.30	5110	.043						
							2.0	.100	36	314	540	980
		15.30										
				3.30	5111	.010						
							2.0	.072	12	336	266	500
18.60 - 23.23 : avg 10% py, med g., irreg veins and dissem		18.60										
				2.40	5112	.006						
							4.6	.058	16	1060	300	480
		21.00										
				2.23	5113	.006						
							2.4	.048	14	288	120	390

 PROJECT: HOLE NO. 39

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				23.23 - 52.58 : weakly altered andesite : mainly med - dk green F.g. chloritic andesite w. minor to 15% 1-2 mm chlorite grains, after hb?, and minor chloritic patches, ~30% local zones of light green to light gray weakly to intensely silicified - K-Feldspathized andesite., very minor and discontinuous calcite veins, a few rare qz-py veins.						
30		55		30.32 - 31.03 : brecciated and intensely silicified section w. sharp, slightly irregular contacts							
40				40.65 - 63.79 : minor qz-py veins, total of 79, mainly 2-5 mm thick qz > py. about 1/3 of the veins contain minor calcite							

PAGE 4 OF 18 | PROJECT: | HOLE NO. 39

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS oz/ton Au	ASSAYS ppm Ag	ASSAYS % Cu	ASSAYS ppm Mo	ppm Zn	ppm As	ppb Hg
		23.23										
23.23 - 47.00 : avg 10% py, mainly med grained dissem. in both				3.77	5114	.007						
andesitic and altered rock, very minor py veining							1.8	.037	8	78	22	8
		27.00										
				3.00	5115	.004						
							1.2	.0415	15	78	250	130
		30.00										
				3.00	5116	.012						
							1.4	.048	16	86	166	440
		33.00										
				3.00	5117	lost est						
						.005						
		36.00										
				3.00	5118	.005						
							1.6	.052	20	220	34	150
		39.00										
				3.00	5119	.006						
							1.4	.0725	18	350	256	300
		42.00										
				3.00	5120	.006						
							1.2	.056	22	134	274	190
		45.00										

PAGE 5 OF 18 | PROJECT: | HOLE NO. 39

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
50				52.58 - 63.79 : weakly to mod. altered andesite: transition to > 50% weakly to moderately silicified - K - Feldspathized rock w. remnants of green chloritic andesite, moderate intensity of qz and qz-cal veins w. py.							
55											
60		20	2cm py v.								
65		50	5cm py v	63.79 - 71.55 : moderately altered andesite: light grey w. slight greenish cast, 2-5% faint relict chlorite grains, fine-grained, slightly granular in appearance, trace relict Feld grains?							
			22 cm qz v zone + py								

PAGE 6 OF 18 | PROJECT: | HOLE NO. 39

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS oz/tn Au	ASSAYS ppm Ag	ASSAYS % Cu	ASSAYS ppm Mo	ppm Zn	ppm As	ppb Hg
				3.00	5121	.005						
							1.2	.055	20	140	344	22
		48.00										
47.00 - 49.60 : 2-5% py												
				3.00	5122	.009						
49.60 - 58.00 : avg 15% py,							1.2	.049	24	150	196	120
medg, dissem												
and minor qz-py veins		51.00										
				3.00	5123	.008						
							1.2	.076	20	196	296	220
		54.00										
				3.00	5124	.068						
							1.2	.0805	88	126	336	250
		57.00										
58.00 - 64.50: avg 10% py												
				3.00	5125	.120						
							2.0	.113	24	196	344	500
		60.00										
				3.00	5126	.020						
							1.2	.0655	32	182	352	310
		63.00										
64.50 - 68.60 avg 15% py,				3.00	5127	.012						
dissem and on							1.8	.056	22	156	252	220
irreg veins, minor distinct												
veins		66.00										
				3.00	5128	.028						
							1.0	.120	40	316	426	450

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
			10 shear	mainly very uniform w. local zones of Fracturing.							
			35 Fault								
70											
		c 50	50 contact Fr. w. some slip.	71.55 - 185.57 : breccia unit							
				71.55 - 88.05 : moderately silicified and K-Feldspathized volcanic breccia w. ~5% soft light-green chloritic patches, both matrix and clasts, apparently mainly matrix, : mainly medium							
75		50	1.5cm pyV	gray w. moderately distinct clasts, clasts mainly > 5cm and closely packed, no matrix other than some chloritic patches?							
			25 shear								
80				81.70 - 82.20 : broken core in Fault? zone, orientation unknown							
85											
		35	15 shear								
		25	shear 15cm qz-pyV	88.05 - 154.90 : moderately silicified - K-Feldspathized breccia w. 20% pale green waxy, soft chlorite patches							
90		40									

PAGE 8 OF 18 | PROJECT: | HOLE NO. 39

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS oz/tn Au	ASSAYS ppm Ag	ASSAYS % Cu	ASSAYS ppm Mo	ppm Zn	ppm As	ppb Hg
68.50 - 154.90 : avg 20% py, m.g, dissem and minor irreg veins.		69.00		2.55	5129	.053						
							1.2	.212	40	376	474	140
		71.55										
				3.45	5130	.013						
							1.2	.091	24	312	252	500
		75.00										
				3.00	5131	.007						
							1.0	.084	20	72	126	160
		78.00										
				3.00	5132	.009						
							1.0	.068	16	80	32	265
		81.00										
				3.00	5133	.011						
							1.4	.034	8	104	96	320
		84.00										
				3.00	5134	.014						
							1.0	.031	12	72	78	310
		87.10										
				3.00	5135	.038						
88.05 - 88.85: minor dissem cp w. dissem and vein py							1.4	.192	24	130	230	480
		90.00										

 PROJECT: HOLE NO. 39

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
				the chlorite patches range from small to 15 cm, are commonly							
		90	7 cm py v	sub-rounded, and appear to be clasts rather than matrix filling, a few minor zones of qz infilling of frs occur.							
			9 cm py v	93.00 - 94.10 : minor purplish-brown color w. the chlorite,							
		55		possibly some biotite							
95											
				100.00 - 102.35 : fractured							
100				zone w. hairline to 1 cm calcite veins and some calcite infilling							
				around rotated fragments							
105											
			20-30								
			shear zone w. qz v.	109.22 - 110.25 : very fine grained to aphanitic section w.							
110				zones of fine breccia, 1-10 mm clasts in 50-75% matrix, minor chlorite							

PAGE 10 OF 18 | PROJECT: | HOLE NO. 39

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS oz/tn Au	ASSAYS ppm Ag	ASSAYS % Cu	ASSAYS ppm Mo	ppm Zn	ppm As	ppb Hg
68.50 - 154.90 : avg 20% py med. grained				3.00	5136	.012						
							6.4	.007	20	86	248	100
		93.00										
				3.00	5137	.023						
							1.4	.032	28	86	184	420
		96.00										
				3.00	5138	.035						
							1.2	.051	14	50	174	310
		99.00										
				3.00	5139	.025						
							2.6	.025	12	70	222	310
		102.00										
				3.00	5140	.023						
							1.6	.061	14	100	640	960
		105.00										
				3.00	5141	.039						
							1.2	.056	12	44	240	150
		108.00										
				3.00	5142	.032						
							1.0	.038	8	58	238	170
		111.00										
				3.00	5143	.015						
							1.0	.047	20	48	230	180

PAGE 11 OF 18 | PROJECT: | HOLE NO. 39

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
115			50	5cm py v.							
120			25	Fr							
			30 / 35	Frs — 123.20 - 123.50: Fractured and weakly foliated zone w. qz veins. 124.00 - 124.65: ribboned py along core axis							
125			20	Fr							
			40	Fol'n							
130			50	Fol'n? — 133.60 - 139.03: semi-massive py							
135											

PAGE 12 OF 18 | PROJECT: | HOLE NO. 39

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS oz/ton Au	ASSAYS ppm Ag	ASSAYS % Cu	ASSAYS ppm Mo	ppm Zn	ppm As	ppb Hg
		114.00										
				3.00	5144	.017						
							1.0	.052	24	38	98	120
		117.00										
				3.00	5145	.012						
							1.4	.037	16	152	90	90
		120.00										
				3.00	5146	.044						
							1.4	.057	24	72	232	320
		123.00										
				3.00	5147	.028						
							1.4	.033	16	88	82	400
		126.00										
				3.00	5148	.019						
							1.4	.044	20	90	136	410
		129.00										
				3.00	5149	.019						
							1.4	.041	24	48	112	300
		132.00										
				3.00	5150	.030						
							1.6	.067	80	84	106	580
		135.00										

PAGE 13 OF 18 | PROJECT: | HOLE NO. 39

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	ALTERATION B	ALTERATION C	ALTERATION D	ALTERATION E	FRACTURE INTENSITY	% VEIN QTZ.
			40 - shear								
140											
145											
150			40 - shear	150.50 - 151.40 : a few clasts of sections w. 10% chlorite grains after euhedral tabular hb? phenos, minor section is weakly altered and silicified.							
			~25 20cm fr- shear zone 30 15	151.90 - 185.57 : intensely fractured and sheared volcanic breccia, unit is light gray, mod. altd, w. ~5% chlorite patches, Fragmental texture is difficult							
155											

 | PROJECT: | HOLE NO. 39

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS oz/tn Au	ASSAYS ppm Ag	ASSAYS % Cu	ASSAYS ppm Mo	ppm Zn	ppm As	ppb Hg
		159.00										
				3.00	5159	.065						
						.058	1.4	.013	36	192	156	[illegible]
										1950 ppm F		
		162.00										
				3.00	5160	.045						
163.75 - 185.57 : avg 10-15% py, med. grained, dissem.						.033	1.0	.014	22	296	172	80
		165.00								1890 ppm F		
				3.00	5161	.058						
						.043	1.6	.036	34	154	168	300
		168.00								1700 ppm F		
				3.00	5162	.035						
						.025	2.4	.116	48	112	64	520
		171.00								1885 ppm F		
				3.00	5163	.006						
							2.4	.044	20	96	101	110
		174.00										
				3.00	5164	.018						
							3.4	.047	24	62	181	250
		177.00										
179.66 - 180.03: no sulphides				3.00	5165	.012						
							1.2	.021	30	70	183	330
		180.00										

 PROJECT: HOLE NO. 39

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
			18 / 25	frs.							
			35-45 c	185.20 - 185.57 : highly sheared w. about 3.0% F.g. pyrite							
185			35 / 45	185.57 - 189.70 : shattered, intensely silicified andesite: light gray, F-m-grained w. granular texture, avg 10% F-g pale green dissem chlorite as very diffuse grains, all parts of rock are very hard, contains 10% zones of white, silic, pulverized and silicified xx w. fine clasts and 2-3% calcite							
		c	38	189.70 - 193.30 : shattered, int silic and: mainly lt-med gray-green, F.g., locally slightly granular w 10% fine chlorite grains							
190		38		193.30 - 194.16 : aphanitic andesite: mottled cream to med green, int frs, silic, chl on all frs, core shattered							
				~~194.16 E.O.H.~~							
				189.70 - 194.16 : core shattered							
				185.57 - 193.30 : a few vane, 1-2 cm aphanitic clasts occur in the unit which appears to be derived from 'chloritic' hb andesite.							

 PROJECT: HOLE NO. 39

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS oz/ton Au	ASSAYS ppm Ag	ASSAYS % Cu	ASSAYS ppm Mo	ppm Zn	ppm As	ppb Hg
				3.00	5151	.014						
							4.0	.072	12	130	230	300
		138.00										
				3.00	5152	.013						
							1.4	.098	20	38	178	90
		141.00										
				3.00	5153	.037						
						.034	1.6	.067	20	58	246	330
										2050 ppm F		
		144.00										
				3.00	5154	.107						
						.097	1.8	.068	19	86	300	730
										2140 ppm F		
		147.00										
				3.00	5155	.032						
						.029	1.2	.053	24	56	210	350
										1830 ppm F		
		150.00										
				3.00	5156	lost						
						≥.074						
						may be as high as .116						
		153.00										
154.90 - 163.75 : avg 20% py, medium-grained, about 50% of the py in veins.				3.00	5157	.175						
						.144	1.4	.068	26	176	322	3750
										2260 ppm F		
		156.00										
				3.00	5158	.145						
						.115	1.8	.076	28	66	420	2550
										2260 ppm F		

N2/E2

PAGE 15 OF 18 | PROJECT: | HOLE NO. 39

DEPTH (m)	% CORE REC	LITHOLOGY	STRUCTURE	GEOLOGICAL DESCRIPTION	ALTERATION A	B	C	D	E	FRACTURE INTENSITY	% VEIN QTZ.
				to distinguish due to intense fracturing and shear zones,							
			20 shear	the rock appears mod-int siliceous and is fractured							
160		35	35 18cm pyv bounded by shears 25cm pyv	every 5-10 mm, trace calcite on frs, locally 1% 1-3mm dk green-black clasts; hard, possibly originally chloritic, now silicified.							
165			25 shears w. 5-10mm gouge 40								
			20								
170			35 shear 3cm gouge								
				172.40 - 174.35: mainly sheared and broken							
175			35 55								
		38 c 40	40	179.66 - 180.03: andesite, red green, f.g., sharp contacts, sheared at contacts.							
180											

PAGE 18 OF 18 | PROJECT: | HOLE NO. 39

MINERALIZATION DESCRIPTION	TOTAL SULPHIDE	SAMPLES FROM	SAMPLES TO	SAMPLES WIDTH	SAMPLE NUMBER	ASSAYS oz/ton Au	ASSAYS ppm Ag	ASSAYS % Cu	ASSAYS ppm Mo	ASSAYS ppm Zn	ASSAYS ppm As	ASSAYS ppb Hg
				3.00	5166	.011						
							2.2	.021	20	152	89	38
		183.00										
				2.57	5167	.009						
							3.2	.027	22	278	129	28
		185.57										
185.57 - 189.70 : avg 5% py, m-g, dissem, trace cp.				4.13	5168	.008						
							2.4	.244	52	84	9	28
		189.70										
189.70 - 193.30 : avg 5-8% py, dissem, avg <1% cp, mainly local coarse patches				3.60	5169	.017						
							1.4	.282	58	48	29	30
193.30 - 194.16 : 2-5% py, 1% cp, dissem.		193.30										
		194.16		0.86	5170	.029						
							1.4	.356	52	46	45	480