

DIAMOND DRILL LOG

HOLE No. 87-12

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Property MIDNIGHT GULCH		NTS 105012		Claim JL		Elevation 4900'		Azimuth 170°		Length 259		Dip -50				
Coordinates 4440N / 1+20W		Dip Tests -50° at E.O.H.		Advance 166.48'		Depth 198.41'		Date Collared JULY 22		Date Completed JULY 24						
Purposes TEST E/W LIMEINMENT & MINERALIZATION AT 100' & 150' DEPTHS						Drilled by CARON D.D.		Assays by ACME		Logged by HUGH MACKINNON						
Interval		Rec'y %	RQD	DESCRIPTION	Sample No.	Interval		Core Width	Cu Pb Zn Ag As Au (ppb)							
From	To					From	To		Cu	Pb	Zn	Ag	As	Au (ppb)		
0	6'			CASING												
6'	21'			ANDESITIC TUFF, LAPILLI TUFF & BRECCIAS												
15'	43'	97	0.08	Dark green to brownish green, pervasive weak limonitization & chloritization												
16'	43'	96	0.23	- 6'-9': mostly blocky & broken core, strong Fe (limonitic) alt of lapilli tuff												
				- 9' - 6" Fault gouge zone												
				- 9' - 13': more greyish coloured, angular 'dirty' quartz (silicification) zones, w/ weak to strong silicification throughout lapilli tuff. trace py	8515	11'	12'	1"	6	9	87	.3	8	2		
				- 13' - 15': Fine grained tuff, blocky fracture with white qtz intillings. Brecciated at 13'6", with non tuffaceous infilling.		38.5m	3.6m									
				- 15' - 16': Blocky & broken core												
				- 16' - 17': Lapilli tuff, weakly brecciated by sets of hairline to 4mm ankerite(?) & white qtz filled fractures. Fracture orientation commonly 20-40° w/ 2ND set at 30° offsetting larger vns up to 8mm.	8516	16'	18'	2"	6	14	102	.1	15	14		
				- 17' - 21': Lapilli tuff w/ 30% ≤ 10mm rounded to subangular volcanic fragments. Tray 17'6" is 2.5cm breccia band at 30° to CIA, with 25-40% 2-5mm feldspar x'tals & 10-25% tuff fragments in a fine matrix. Intrusive breccia?		4.88m	5.49m									
21'	35'			ANDESITIC LAPILLI TUFF												
				Dark green to grey green; moderately chloritized. 40% broken & blocky core at top unit.												
				Variable fragment size, generally ≤ 20cm. Weakly to moderately silicified toward top.												

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Interval		Rec'y %	RQD	DESCRIPTION	Sample No.	Interval		Core Width						
From	To					From	To							
				≤ 10 cm crystal tuff between 29' & 31'.										
38'	39'6"			ALT'D ANDESITIC LAPILLI TUFF										
				Dark green moderately chloritized w/ 35% light brownish white moderately argillic (clay) (?) & siliceous alt'd ≤ 15mm volcanic fragments. Core broken for lower half of unit.										
39'6"	43'			ANDESITIC LAPILLI TUFF										
				Green to greenish brown moderately chloritized, weakly limonitized. 39'-40' : Weakly foliated (at @ 5° to C.A.) Lower contact sharp 50-60° to C.A.										
43'	45'6"			ALT'D ANDESITIC TUFF										
43'	45'	80	0.10	Green at top of unit grading to brown. Fine grained, w/ limonite & wad along fractures. Blocky core.										
45'6"	46'6"			RHYOLITE										
				Pinkish brown, felsic v. fine grained, broken core, poor recovery										
46'6"	54'6"			ALT'D DISHEARED PORPHYRITIC ANDESITE (?) FLOW										
				Orangeish brown, w/ 3mm elongated sericitized feldspar (?). Foliation at @ 70° to C.A. Strong limonitic alteration.	8517	47'	50'	3'	12	6	36	.3	3	2
						11.3/m	15.3/m							

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Interval		Rec'y %	RQD	DESCRIPTION	Sample No.	Interval		Core Width						
From	To					From	To							
54'6"	62'13.90"			Mixed bleached tuff & rhyolite lavas										
				Fine grained dark green to brown, fairly massive, mixed pebble lithologies of rhyolite (A.A.), + tuff at 57'-58'6", & 59'-59'6". May be an overburden seam?										
62'	97'			ANDESITIC LAPILLI TUFF										
70	86	99	0.12	Grades from strongly limonitically bleached & weakly foliated (at 20°-40° to r.a.) to weakly bleached (limonite spotting & 5% alt'd fragments) 1-2% ≤ 5 mm limonite & carbonate fracture filling on vns. weak carbonate all. Becomes ^{slightly} mottled at depth, w/ moderate chloritization & weak epidotization 1-2% calcite fracture/tension gash fillings.										
				- 75'-76' : Broken core rubble										
				- 77'-80'6" : Mostly broken core, strong limonitization along fractures - 2 bands of fault gouge?										
				- 87'6"-88'6" : Amygdaloidal flow w/ 7% 1mm chlorite + carbonate filled amygdules. chloritized & hematized gneiss & patch.	8518	87'6"	88'6"	1'	22	25	131	.2	11	2
				- 96' : 9 cm v. fine grained clast.										
				Lower contact irregular										
97'	122'			ANDESITIC TUFF										
				Dark green fm. grained, occasionally weakly mottled, moderately chloritized, v. weak epidotization. $\leq 10\%$ calcite tension gash & fracture filling generally increasing w/ depth, often as multi generation networks, minor epidote veining, & strong chloritization										
96	111	88	0.55											
111	139	90	0.67											

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Interval		Recy %	RQD	DESCRIPTION	Sample No.	Interval		Core Width						
From	To					From	To							
				along fracture at depth. - 107' - 109' : Patch of clay in a small - 111' - 113' : clay band - 114' - 115' : Strongly epidotized w/ 3mm calcite vnsd vnlts, weak hematization. - 115' - 122' : Trace py, epidymal; ANDESITIC LAPILLI TUFF.	8519	107'	109'	2'	168	11	110	.5	4	1
					8520	114'	115'	1'	58	53	72	.5	7	2
122'	129'				8521	115'	120'	5'	101	23	111	.8	14	1
				Dark green, v. strongly mottled, w/ anastomosing calcite vns & fractures. Weak pervasive limonitization, moderate chloritization & limonitized fractures	8522	124'	129'	5'	90	11	128	.7	5	1
129'	134'			ANDESITIC AMYGDALOIDAL FLOW										
				- 129' - 130' 6" : Dark orangish/brownish green grading to orangish brown, tuff w/ 10% 1mm chloritic filled amygdules grading into carbonate orqtz filled amygdules (may be a porphyritic flow?). 4cm qtz + ankerite? - carbonate vein at 130'. Flr surrounded by pervasive strong limonitic & weak carbonate & sericite (?) alteration	8523	129'	130' 6"	1' 6"	35	12	83	.4	9	1
				- 130' 6" - 134' 6" : Dark green, with slight orangish brown limonitic bleaching; 10% chloritic amygdules as above. 5mm & 2cm qtz veins at 131' & 132' 6" respectively Tr py, 3% carbonate vnlts & fracture fillings	8524	130' 6"	133' 6"	2' 6"	254	11	107	1.3	8	4
134'	135' 6"			ALTERNATING ANDESITIC TUFF & CRYSTAL / LITHIC TUFF										
				Dark green slightly mottled tuff & light grey crystal / lithic tuff w/ 10% 2-3mm white plagioclase xtals, 10% angular	8525	134'	135' 6"	1' 6"	326	14	94	1.0	6	1

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Interval		Rec'y %	RQD	DESCRIPTION	Sample No.	Interval		Core Width						
From	To					From	To							
				lithic fragments in chloritized, siliceous matrix. well fractured & partially brecciated by hairline to 2mm carbonate & qtz veins. Hematized 1cm fragments with apy & cpx-calcite-chlorite units at base of unit.										
135'6"	138'6"			MIXED ANDESITIC TUFFS & AMYGDALOIDAL FLOWS										
				Dark green, slightly mottled, w/ 1-5% amygdules. moderate to strongly fractured w/ qtz carb infilling fractures & vns. Minor limonite & Fe-carb in & adjacent to veins. -137' : 5cm band with carbonate filled amygdules & qtz-carb veins w/ tr cpx	8526	136'6"	138'	1'	20	7	78	.3	8	1
						(41.1m)	(42.0m)							
138'6"	150'			ALT'D & SHEARED ANDESITIC VOLCANICS										
139'	150'	90	0.06	Orangish brown, strongly foliated at 20-26° to CIA.										
				-138'6" - 142'6" : Strongly Fe carb & limonite, & weak carbonate altered amygdaloidal flows.	8527	139'	144'	5'	88	9	80	.7	2	4
				-142'6" - 145' : Alt'd & sheared lapilli tuff & tuff.		(42.37m)	(43.8m)							
				-145' - 149'6" : Sandy core rubble v. poor	8528	145'	149'	4'	38	17	73	.6	9	1
				rec'y		(44.20m)	(45.12m)							
150'	151'			FINE GRAINED GRANODIORITE (?)										
150'	190'	60	0.04	Dark green w/ 30% mafics (chlorite)										
151'	182'			ANDESITIC LAPILLI TUFF										
				Green to dark green, moderate to weak foliation at between 10-50° to CIA. 3-6% ≤ 1cm qtz or carbonate vns & fracture filling. Occasional chlorite										

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Interval		Rec'y %	RQD	DESCRIPTION	Sample No.	Interval		Core Width						
From	To					From	To							
				Fe carb. or limonite w/ vns. Foliation decreases w/ depth.										
				- 152'-153': Possible chloritized & grainy granodiorite. Upper contact @ 35° to C.A. Large calcite vein. Tr. py.										
				- 151'-155': Limonitically bleached w/ 9mm qtz.										
				- 160'-162': Broken core, +4cm qtz. at 161'	8529	160'6"	161'6"	1'	14	9	85	.4	2	1
				- 164'-165': Strongly foliated, moderate bleaching.										
				- 165'-182': Weak to non-foliated, multi-lithic fragments, several small silicified bands, slightly mottled tr. py.										
182'	184'			ANDESITIC TUFF										
				Green w/ 5% 1mm chlorite xtls. Upper contact @ 45° to C.A.										
184'	242'1"			ANDESITIC LAPILLI TUFF & TUFF										
190	199	83	0.08	Dark green. Upper half: Fragments generally smaller than overlying lapilli tuff (ave < 5mm); weak (< 1%) limonitization of selected mafic minerals; moderately chloritized throughout & sporadically silicified; occasional crystal tuff & lithic tuff (< 15cm) bands. Lower half: Greater percentage of tuffaceous layers; weak to strong epidetization & chloritization, either pervasive or along fractures & vns. Scattered (1-3%) < 5mm carbonate vns.										
199	221	89	0.51											
241	259	75	0.43											
				- Limonite & Fe carb altered < 10 cm bands at 218' & 229'6".										
				- 227'8"-228'6": 15cm epidote-calcite ± qtz vn w/ a smaller epidote-calcite vnls. Smaller vns are fractured & offset by carbonate-chlorite vns & fractures.	8530	227'1" (69.14m)	229'1" (69.80m)	2'	81	13	101	.5	6	2

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Interval		Rec'y %	RQD	DESCRIPTION	Sample No.	Interval		Core Width						
From	To					From	To							
				- 231' - 237' : Crystal tuff (maybe a flow?) w/ 15-30% ≤ 1.5 mm slag x tals.										
				- 237' - 242' 1" : As above but becomes more ls alt'd w/ depth.										
242' 1"	250' 10"			ALT'D, BRECCIATED & STRAINED LAPILLI TUFF & FELSIC FLOWS										
				- 242' 1" - 242' 6" : Brown to brownish green lapilli tuff, moderately foliated at 70° to C.A. Lithic fragments partially stretched out, & more strongly alt'd than matrix.	8531	242' 1"	243' 1"	1'	5	8	71	.2	4	1
				- 242' 6" - 243' : Yellowish brown, xtal tuff & lapilli tuff, less sheared than above unit.										
				- 243' - 250' : Grey to buff brownish grey, strongly alt'd, porphyritic, flow banded, & weakly brecciated felsic (rhyolitic) flows, w/ 1% cl. altered ltn cubedra phenocrysts,	8532	243'	245' 1"	2'	76	10	43	.6	2	1
				at 243' - 244' 4", 247' - 247' 11" & 249' 8" - 250' : Brecciated & variably alt'd lapilli tuff. Angular, silicified, irregular shaped, orangish brown to grey (often rimmed) altered fragments ≤ 27 mm in a grey ^{variably} chloritized(?) Fe alt'd (?) matrix with ≤ 10 mm lithic fragments. Chaotic fragmental & matrix, pattern but roughly aligned 50° to 70° to C.A. Possible fault breccia, w/ an alteration overprint. chlorite & quartz.	8533	245'	247' 1"	2'	40	14	37	.4	2	1
				Later stage (?) brecciation at 243' 11", 246' 9" - 246' 11", 247' - 247' 2" & 248' 7". 1-2% ≤ 2 mm quartz.	8534	247'	250'	3'	33	11	48	.5	4	2
				- 250' - 250' 10" : less altered lapilli tuff.										
250' 10"	259'			ANDESITIC LAPILLI TUFF										
				Dark green to grey, moderate to strongly chloritized, moderate silicification in places. 2% calcite										

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