DRILL HOLE RECORD

825642

PROJECT NAME :	RAINBOW
HOLE NUMBER :	RDH-90-02
LOCATION :	MIDWAY MINE AREA
PROJECT NUMBER :	661
CLAIM NUMBER :	

DATE STARTED (M/D/Y):	10/01/90
DATE COMPLETED(M/D/Y):	10/03/90
DATE LOGGED (M/D/Y):	10/04/90
UNITS (F/M) :	M

PLOTTING COORDS	
GRID :	RAINBOW
NORTH:	89+75 N .
EAST :	93+75 E .
ELEV :	≈985 m .

ALTERNATE COORDS	
GRID :	
NORTH :	+___
EAST :	+___
ELEV :	.

COLLAR BRNG	
GRID :	180° ' "
ASTRONOMIC:	180° ' "
COLLAR DIP:	-60° ' "

COLLAR SURVEY(Y/N) :	N
RQD LOG (Y/N) :	N
PULSE EM SURVEY(Y/N):	N

CONTRACTOR :	LONE RANGER
CORE STORAGE :	BOUNDARY FALLS FARM
CASING :	LEFT IN HOLE
PLUGGED (Y/N) :	N
HOLE SIZE :	NQ

LOGGED BY :	L. Lee
START DEPTH:	0 m
FINAL DEPTH:	154.57

PURPOSE/COMMENTS : Test Midway shear @ depth

DIRECTIONAL DATA: A = Acid Test, L = Light Log, M = Multishot, T = Tropari

DEPTH (m)	TYPE A/L/M/T	ASTRONOMIC AZIMUTH	DIP	FLAG	COMMENTS
37.5	A		-60		
97.86	A		-60		
154.57	A		-62		

HOLE NO. RDH-90-02

LOGGED BY L. Lee

FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
0 - 3.05 m	«CASING»							
3.05 - 7.9 m	TERTIARY BIOTITE MONZONITE DYKE «TERTIARY DYKE»	Dark grey brown	fine-med	Massive, fresh dyke w 5% 1-2mm biotite, 20% mafics (px?) in purple grey fsp rich fine grained matrix. Locally grades to coarser grained w 20-30% 2-3mm fsp (@ top and bottom of interval) 7.9 m 10 cm gouge zone @ lower contact		- Sauss of fsp in coarser grained sections - v minor carb stringrs		
7.9 - 9.4	«QTZ-FSP PORPH»	Pale green	fine	5% 2 mm qtz eyes, remnant 20% v fine (1mm) fsp in fine green siliceous matrix		- Min qtz veins, mod pervasive silic'n - some or fracs «silic'n»		7.9 - 8.0 Fault Zone
9.4 - 13.1 m	TERTIARY BIOTITE MONZONITE DYKE «TERTIARY DYKE»	Dark grey-brown	med	Altered interval of dyke as above. Coarser grained w 20% sauss fsp as in coarse intervals above Rx broken, minor gouge zones ie) 12.9 m 13.1 sharp lower contact @ 40°		- fsp sauss - mod carb stringrs		9.4 - 10.1 «Fault Zone» broken core, poor recov
13.1 - 34.4 m	«SERPENTINE»	Black-green	fine	13.1 - 15.9 m Interval of str foliated grey-black serp (random) w gouge & 6x zones w white carb clasts Upper contact sharp @ 40° Lower contact gradational into green foliated serp Strongly magnetic 15.9 - 23.4 Dark green, well foliated, str magnetic serpentine Foln @ 45-60°		13.1 - 15.9 m locally hematitic 15.9 - 23.4 10% late carb stringrs, par to foln & random		13.1 - 15.9 m «Fault Zone»

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
13.1 - 34.4 cont	Serpentine cont			23.4 - 30.8 m Pale grey, str foliated, weak - non magnetic serp. Str talc alt'n Fol'n @ 75-80° Gradational contact to massive, non foliated serp below 30.8 - 34.4 m Pale grey talc alt'd serp as above but massive, non foliated - weakly foliated		#23.4 - 30.8 lt Str talc alt'n Minor qtz uns - white-grey, v fine, par to fol'n, to 1 cm wide Mod carb vning par to fol'n << talc alt'n >> 30.8 - 34.4 Mod talc white carb vning	23.4 - 30.8 Minor diss py & py as stringrs along fol'n 30.8 - 34.4 Minor py	
34.4 - 47.5m	<< Qtz - Fsp Porph >>	Pale green-grey	med	34.4 - 41.6 m 5%. grey qtz eyes avg 2mm, 25-30% fsp, avg 1-2 mm green (clay - chl alt'd) in fg grey gmass. 41.6 - 45.6 Pale grey green qtz-fsp porph as above but fsp white - pale green (sauss) 45.1-45.2 10 cm grey silic'd, py rich, well sheared zone & mod bx 45.6 - 47.5 Coarse grained porphyry w 5% qtz eyes avg 2mm, 60% fsp avg 2-3 mm in fg grey gmass 47.4-47.5 10 cm rusty silic'd zone above contact w serp		#34.4 - 41.6 lt Weak - Mod pervasive clay alt'n of mtrx fsp clay-chl alt'd min qtz-py stringrs Sericite on fracs << clay alt'n >> 41.6-45.1 Weak - mod perv clay alt'n of mtrx. fsp sauss. Minor qtz-py & late carb units. 45.6-47.5 Mtrx weak - mod silic'd fsp sauss.	#34.4 - 41.6 m lt << 5-10% py >> 5-10% py - finely dissem & dissem as envelopes to 4 cm wide around qtz-py fracs & stringrs #41.6 - 45.6 2-5% py - finely dissem as stringrs & less commonly dissem in alt'n envelopes to stringrs. 45.6 - 47.5 2-5% py - dissem & with qtz in fine stringrs #41.6 - 47.5 lt << 2-5% py >>	

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
47.5 - 49.6 m	«Serpentinite»	Grey	fmg	47.5 - 49.55 Grey fmg w mod developed fol'n Massive, v. siliceous Non mag. prop lense of serp (because of fol'n) in intrusion 49.55 - 49.60 Orange qtz vn, massive @ 50° ~~49.6 contact @ 50°~~		#47.5 - 49.55 # V. str pervasive silic'n & grey qtz along fol'n Min late grey qtz-py vnlts (x cutting) «silic'n»	47.5 - 49.55 Min py in vnlts 49.55 - 49.60 Min py	
49.6 - 60.1	«Qtz-Fsp porph.»	Pale green-grey	Med	49.6 - 54.5 m Pale grey-green, massive, w 2-5% qtz eyes, 2mm, 15%. Fsp avg 2mm (saus). V minor v. narrow gouge bands Gradational into coarser grained interval below 54.5 - 57.5 m Coarser grained interval of QFP w 30-40% fsp, avg 3mm (saus) 57.5 - 60.1 m Med grey-green QFP w minor qtz eyes, 30% fsp avg 1-2mm, (green, clay-chl alt'd) - fsp show weak alignment. 60.1 sharp contact @ 80° w serp'		«clay altn» 49.6 - 54.5 Weak clay altn of matrix. Fsp saus Min late qtz-carb vnlts 54.5 - 57.5 Mod clay altn of matrix. Fsp saus. 57.5 - 60.1 Mod rusty fracs, envelopes to 40cm Pervasive clay altn of matrix. Clay-chl alt'd fsp Mod late carb vnlts	«2-5% py» 49.6 - 54.5 ~~Disseminated~~ diss py & narrow grey py rich envelopes around qtz stringers. 54.5 - 57.5 2-5% fine diss py & vnlts 57.5 - 60.1 2-5% fine diss py & vnlts	

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
60.1 - 79.8	«Serpentine»			60.1 - 63.2 Grey fny - aphanitic massive - weakly foliated serp. Str silic'd & wt by qtz vns. Mod rusty zones to 30 cm 61.8 - 4 cm qtz vn w 15% marip 62.2 - 62.5, 30 cm rusty zone w 20% qtz vning & minor marip 63.2 - 63.4 Fault zone Rusty clay gouge & alt'd serp 63.4 - 65.0 Rusty str foliated serp fol'n @ 70° 65.0 - 66.3 Grey str foliated serp fol'n @ 60-70° Weakly magnetic Local rusty patches. 66.3 - 67.5 Grey. weakly foliated serp - str silic'd w 10% marip 67.5 - 69.2 Grey str foliated serp w local silic'd & bx zones to 40 cm fol'n @ 50° Local rusty zones to 30 cm. 69.2 - 71.7 Massive - weakly foliated grey serp, mottled texture weak - non magnetic		#60.1 - 63.2 ll - v. str. silic'n - local qtz vning to 4 cm w up to 15% mariposite tr - 2% mariposite throughout interval «silic'n, marip» #63.4 - 65.0 ll 10-15% qtz as ribbons along fol'n + mi late xtalline qtz vns Minor marip «10-15% qtz» 65.0 - 66.3 Weak silic'n, <5% grey qtz as ribbons along fol'n #66.3 - 67.5 ll v str silic'n + late xtalline ~~ruggy~~ calc vning - 10% mariposite - mod rusty zones «silic'n, marip» 67.5 - 69.2 Locally bx & silic'd + late ruggy xtalline calcite vns 69.2 - 71.7 Weak - mod talc alt'n Mi late qtz-carb vnlts.	#60.1 - 63.2 ll 2% diss py «2% py»	#63.2 - 63.4 ll «Fault Zone»

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
60.1 - 79.8 cont	serp			71.7 - 72.6 Dark green v fine grained massive serp. Sharp upper & lower contact @ 60°		72.6 - 79.8 weak - mod talc alt'n Min late qtz-carb units.		
				72.6 - 79.8 Grey serp as in 69.2 - 71.7				
79.8 - 83.8	«Fsp Porph»	Green	Fng	79.8 - 80.2 Fault zone @ 45° Buff clay gouge & broken alt'd porphyry		80.2 - 82.4 Fsp saus, perv clay alt'n, chl-sericite on fracs	80.2 - 83.8 Min py - diss & in fkts	#79.8 - 80.2# «Fault Zone»
				80.2 - 83.8 Fng fsp porph - green w 30-40% fsp. < 1mm, (saus) in fng mtrx. Local gouge zones Broken lower contact				
83.8 - 110.0	Tertiary Biotite Monzonite Dyke «TERTIARY DYKE»	Dark Grey	Med	83.8 - 87.4 Med grained intrusive w 30% fsp up to 4mm, 5% bi, 20% mafics (px) to 3mm in fng mtrx. Non magnetic		83.8 - 87.4 fsp alt'd to clay		
				87.4 sharp contact @ 50° to fng grained intrusive				
				87.4 - 97.7 Dark grey, fng, massive w 5% fine bi & 10%-20% fine fsp in grey groass - Weak alignment of phenos. Mod magnetic				

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
83.8 - 110.0 m cont...	Tertiary Biotite Monzonite Dyke			97.7 Sharp contact @ 50° 97.7 - 104.1 Coarse grained intrusive similar to 83.8 - 87.4 50% plag avg 2-3mm, 10% Kspar avg 1 mm, 5% bio, 20% mafics (px) up to 3mm in fng grey gneiss 104.1 Sharp contact @ 50° 104.1 - 110.0 fng massive intrusive as in 87.4 - 97.7 110.0 sharp contact @ 80°				
110.0 - 114.0	«Qtz Fsp Porph»	Pale Green	fine	110 - 111.5 Rare qtz eyes, 15% fine fsp in fng green matrix		110 - 111.5 Fsp sauss	110-111.5 2% fine diss py & py stringrs	
111.5 / 114.0				#111.5 - 114.0 ft «bx» bleached bx zone - 90% clasts of bleached silic'd & clay altd porph w black pyritic matrix sharp upper contact lower contact gradual - dt assimilation of		#111.5 - 114.0 ft silic'n & clay alt'n of clasts «silic'n, clay alt» for by microdiorite??	#111.5 - 114.0 ft 5% - 10% fine py in bx matrix «5-10% py»	#111.5 - 114.0 ft «Fault Zone»
114.0 - 127.9	«Microdiorite»	Green-brown	fine	114.0 - 122.5 Massive fine grained intrusive w 20% fsp to 1 mm, 20% mafics (px) to 4mm but gen much less (may be partly resorbed) in fng matrix (pale pink fsp - Kspar rich?)		114.0 - 122.5 Mod late qtz-carb stringrs		

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
114.0 – 127.9 cont	Microdiorite			122.5 - 123.7 Grey green ~~sil~~ microdio - gradational upper & lower contacts. Str shearing	~~or~~ cherty assim'd xenolith	~~122.5-123.7~~		
				123.7 - 125.2 Microdior as in 114.0 - 122.5				
				125.2 - 125.5 Fractured zone w str sericite & clay on fracs - Fault zone		125.2 - 125.5 Sericite + clay on fracs		/125.2 - 125.5/ « Fault Zone »
				125.5 - 127.9 Microdior as in 114.0 - 122.5 - grad. ↓ downwards into aphanitic pale green cherty rx, similar to 122.5 - 123.7				
127.9 – 138.3	« Brooklyn Conglom »	~~Green~~ Grey-Green	Coarse	~~Matrix~~ Clast supported w 80+% angular clasts from sand size up to ± 6 cm, avg ~ .5 cm. Clasts are 30% white-grey chert, 30% green dior - gst (+ cherty gst) + minor mudstn, 15% lst V. ~~limey~~ ~~marly~~ mtxe % of lst clast & size of clasts increases down hole V weak bedding @ 70-80° to CA Graded w coarser & finer grained sections		Minor late carb vnlts	1-2% interstitial py throughout + tr cpy (?)	~~[redacted]~~ Triassic Brooklyn Sharpstone Conglom.

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FROM TO	ROCK TYPE	COLOUR	GRAIN SIZE	TEXTURE AND STRUCTURE	ANGLE TO CORE AXIS	ALTERATION	SULPHIDES	REMARKS
138.3 - 141.1	<< Fsp porph flow >>	Green	fine	40% lath shaped fsp (pale green), show weak alignment @ 30° to CA in frig grey-green mtrx. Locally contains clasts & intervals of conglom above.		Mine late qtz-carb vnlts (+py)	2% fine diss py & stngrs. << 2% py >>	
141.1 - 142.0	Tertiary Biotite Monz Dyke << TERTIARY DYKE >>	dark brown-grey	fine	Dark grey-brown frig biotite rich dyke. 20% fine bio - in fsp rich mtrx. Sharp contacts @ 60-70°				
142.0 - 154.57	& Brooklyn Conglom >>			as in 127.9 - 138.3. % of lst clasts increases down. Rims of lst are sharnified to reddish garnet - 1-2 mm rims on clasts to 6 cm. 142.9 - 143.1 Dark grey-br biotite rich dyke as in 141.1 - 142.0. 151.6 - 152.3 frig green intrusive dyke - looks like finer grained version of fsp porph flow in 138.3 - 141.1. Contains clasts of conglom (xenoliths)		Min late qtz-carb vnlts. Weak epid. throughout. 145.9 - 148.0 str epid alt'n of mtrx & lst clasts, local str hem flooding << str ep alt'n >>	2% py - diss; mostly in mtrx. << 2% py >> 151.6 - 152.3 1-2% fine diss py	
154.57	END OF HOLE							

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Line 5-7 m

ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm: T Ag	gm: T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au			
19956	7.9	9.4			1.5																		
19957	13.1	14.6			1.5																		
19958	14.6	15.9			1.3																		
19961	32.4	34.4			2.0																		
19962	34.4	36.0			1.6																		
19963	36.0	37.5			1.5																		
19964	37.5	39.0			1.5																		
19965	39.0	40.5			1.5																		
19966	40.5	41.6			1.1																		
19967	41.6	43.0			1.4																		
19968	43.0	44.5			1.5																		
19969	44.5	46.0			1.5																		
19970	46.0	47.5			1.5																		
19971	47.5	49.6			2.1																		
19972	49.6	51.0			1.4																		
19974	52.5	54.0			1.5																		
19975	54.0	55.5			1.5																		
19976	55.5	57.0			1.5																		
19977	57.0	58.6			1.5																		
19978	58.6	60.1			1.6																		

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ASSAY SHEET

Sample Number	From ( )	To ( )	Estimate Cu	Estimate Zn	Length ( )	% Cu	% Zn	% Pb	gm: T Ag	gm: T Au	% SiO_2	% TiO_2	% Na_2O	% MgO	% Fe	PPM Cu	PPM Zn	PPM Pb	PPM Ag	PPB Au			
19979	60.1	62.2			1.1																		
19980	62.2	63.4			1.2																		
19981	63.4	65.0			1.6																		
19982	66.3	67.5			1.2																		
19983	67.5	69.2			1.7																		
19984	79.8	81.5			1.7																		
19988	111.5	113.0			1.5																		
19989	113.0	114.0			1.0																		
19991	126.8	127.9			1.1																		
19992	127.9	130.0			2.1																		
19993	130	132			2																		
19994	132	134			2																		
19996	136	138.3			2.3																		
19997	142.0	144			2																		
19998	144	146			2																		
19999	146	148			2																		
20000	148	150			2																		
20001	150	152			2																		
20002	152	154.57			2.57																		

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LITHOGEOCHEMISTRY

			MAJOR OXIDES										TRACE ELEMENTS									
SAMPLE NUMBER	FROM ( )	TO ( )	SiO_2	Al_2O_3	CaO	MgO	Na_2O	K_2O	FeO	MnO	TiO_2	P_2O_5	ppm Cu	ppm Zn	ppm Pb	ppm Ag	ppb Au	Rock Type	Alt	Min	Grid	
19955	5.0	7.0																				
19959	20.0	22.0																				
19960	26.0	29.0																				
19973	51.0	52.5																				
19985	81.5	83.0																				
19986	94	96																				
19991	99	102																				
19990	115	118																				
19995	134	136																				

Hole No. _____ Entered by _____ Logged by _____ Page No. _____