CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
416 W. Congress St., Suite 100
Tucson, Arizona 85701
520-770-3500
http://www.azgs.az.gov
inquiries@azgs.az.gov

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James Doyle Sell Mining Collection

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HOLE NO. M-75

Coordinates: N 361,060.25 E 762,537.52

Dip Vert. Bearing —

Date started 8/24/63 Completed 9/25/63

Collar Elevation 3341.9 Total Depth 919.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
251.0	265.0	14.0				Cal-cgl						Overburden, B.R. 265.0'
265.0	276.0	11.0		.02		Arg	RUN	Sp "Live Lim", Tr Hem, Jaro. Tr-sp Ser., Tr Chry Tr Blk Cu	RUN	45°	ST. Ser & FeOx & FeSO4 filled fracs	Alt + Leached, ST. Ser Alt along fracs
	286.5	10.5		.03		Arg	RUN	As Above, Mod Ser, Tr Native Cu	RUN	45°	As Above	ST. Alt. Leached Arg
	295.0	8.5		.03		Arg	RUN	" "	RUN	15-50	Mod LIM + Ser filled fracs & slips	Intense Ser Alt, Arg bleached wht.
	306.3	11.3		.02		"	"	" "	"	40°	wk fracs & slips	As Above
	316.6	10.3		.04		"	"	" Tr cc, py	"	45°	Mod fracs & Slips	Decr in Ser & LIM
	327.2	10.6		.12		"	"	Sp cpy-py, Tr cc. Moly, Mod Ser	RUN	50°	As Above	Base of Ox 319.0'
	338.3	11.1		.08		"	"	Wk cpy-py, Tr cc-Moly, Mod Ser	RUN	60°	" "	Incr. in Silica
	349.0	10.7		.07		"	"	As Above	"	40°	wk Ser filled frac	Dense Siliceous Arg (Silt?)
	360.0	11.0		.08		"	"	" "	"	"	As Above	" " Patches MS
	369.0	9.0		.07		Arg-QTzT	RUN	Wk cpy-py-Moly as vnlts Mod QTz vning, Mod Ser	RUN	20-40°	Mod Ser filled fracs	Dense Siliceous DK Gry Arg (May be impure QTzT)
	379.6	10.6		.08		Arg	RUN	As Above	376.0'	Brkn	2' Chlor. GG. fit zone	Brkn Alt Arg.
	389.0	9.4		.08		"	"	" "	RUN	45°	Wk-Mod Ser + Chlor filled fracs	Alt. Siliceous Arg
	399.7	10.7		.10		"	"	" "	"	"	" "	" "
	409.5	9.8		.07		"	"	" "	"	"	" "	" "
	415.0	5.5		.09		"	"	" "	"	"	" "	" "
	425.6	10.6		.11		"	"	" "	"	"	" "	" "
Sample	435.3	9.7		.10		"	"	" "	"	"	" "	" "
	445.2	9.9		.09		Arg	RUN	Tr cpy-py-moly, wk-medser & talc, qtz vning	RUN	30 to 60°	Wk-mod ser & talc filled fracs Qtz vlts.	Dk bra, tan, & occas gr Arg w/ local drkesis text.
	456.6	11.4		.07		"	"	As above w/ local Feld rep'l; wk ser f.	"	0-90°	Some, local Brkn	As Above w/ mod ser & M. + feld rep'l
									453.0	±30°	0.2' ox-gg	
	466.2	9.6		.07		"	"	" "	Brkn	30-85°	As above	As Above
	473.5	7.3		.06		"	"	" "	"	"	" "	" "
	480.8	7.3		.06		"	"	" "	"	"	" "	" "
	491.4	10.6		.08		"	"	" "	"	60°	Mod Ser & talc filled fracs	"
	501.4	10.0		.09		"	"	" "	498.2	50°±	2" chlor filled flt.	" "
	511.7	10.3		.07		"	"	" "	RUN	50°±	Mod Ser filled fracs	Siliceous Arg
	520.0	8.3		.07		Arg	RUN	Sp cpy-py, Tr Moly, Sp chlor	RUN	Brkn	Mod. St. frac Arg.	Dk. Brn Arg. + QTz vns
	525.0	5.0		.06		"	"	" "	"	"	" "	" "
	528.1	3.1		.08		"	"	" "	"	"	Brkn	" "
	533.6	5.5		.16		"	"	" "	533.6	Brkn	Arg-Mt cnt in flt	" Fern Rec'g

HOLE NO N-75

Coordinates N 361,060.25 E 762,537.52

Dip Vert Bearing —

Date started 8/24/63 Completed 9/25/63

Collar Elevation 3341.9 Total Depth 919.0

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
533.6	545.9	12.3		.26		Hf-Arg; qtz brm gg	Run	disc cpy-py-moly in st chl-clay gg	Run	—	Poss flt.	Mixed Hf-Arg-Qtz breccia in chloritized gange.
545.9	556.7	10.8		.75		"	Run	As Above w/ increase in gar towards end	"	—	cont'd poss flt zone	As Above w/ gar towards end.
	567.1	10.4		1.44		Tt	"	Stra, vlts, pats, diss cpy-py; CO_2, Trem-Act, ep, chl	Run	40-50°	CO_2 filled fracs, sul vlts	Grn to tan Tt w/ patches of pale grne Hf.
	574.0	6.9		.78		Tt-Hf	"	weakly suls & As Above	567.1-582	"	As Above	As Above to 568.3' and as in 533.6' to 556.7' to end.
					91.5' @ .85				568.3-end	—	brkn, gry poss flt	
	584.8	10.8		.72		Tt-Hf	Run	Mod cpy-py, Tr Moly, Tr Mag Mod chlor, Tr Trem, sp Ser.	Run	Brkn	Entire Run is Brkn & may be Poss Flt zone	GGy, dk Grn Hf & Tt with patches of Arg
	595.5	10.7		.58		"	"	As Above	Run	Brkn	As Above	As Above
	605.3	9.8		.2		Arg	"	Sp cpy-py-Tr Moly, Tr ser.	"	"	Brkn Arg-Hf cont.	Siliceous frac Arg.
	610.0	4.7		.14		"	"	" "	"	"	Brkn-Frac Arg	" "
	617.9	7.9		.59		Hf	Run	Mod cpy-py, Tr Mag-chlor, Moly	Run	GGy	GGy Brkn Hf, Arg-Hf cont. is GGy-chloritic	Pale-dk Grn. chloritic Hf, with occas. pale Arg.
	623.2	5.3		.88		Hf	Run	Mod-st suls, As Above	Run	20°±	Vry wk. fracs, vague Bx, Text.	Soft, Chloritic Hf.
	628.6	5.4		.68		"	"	" Mod suls	"	"	As Above	" "
	637.4	8.8		2.32		Hf-Tt	"	wk-st py-cpy; wk ser ep, CO_2, Qtz, Ep, chl; Tr Trem, Act.	Run ± 637.4	Brkn "	Brkn w/ local Bx-gg Hf-Tt & Qtzt cont.	Mixed gray Hf & Tan Tt very brkn, bare Rock
	643.0	5.6		.28		Qtzt	"	Tr suls; med ser.	Run	45-60°	Fracs	Dense wht Qtzt Poor Rock
	646.2	3.2		.30		"	"	As Above + Tr Feld.	"	"	" "	wht Qtzt w/ pale Feld.
	649.7	3.5		.29		"	"	" + Tr moly	"	Brkn	Brkn.	wht Qtzt w/ Hf in Siliceous
									646.2	±60°?	Hf-Qtzt Bx recem w/ chl. (± Hf?)	Poor Rock
	660.5	10.8		.11		QTzT	"	As Above	Run	30°±	wk ser & chlor filled fracs	Vr. Poor Rock, Dense wht Qtzt
	669.0	8.5		.07		"	"	" "	"	40°±	St. Brkn & fract	Dense Qtzt, diss Moly
	679.2	10.2		.06		"	"	" cont Moly	Run	?	Brkn	Qtzt - patch Arg Text.
	686.6	7.4		.12		"	Run	Tr cpy-py-Moly, chlor, Ser	Run	40°±	Brkn GGy, wkr in Qtzt	Qtzt, wkr in Arg.
	694.4	7.8		.12		"	"	" "	"	"	" "	" pats tan Arg
									694.4	Brkn	Qtzt - Mp cont.	
	709.9	15.5		.09		Mp	Run	Tr suls, Moly; Mod-st ser; Qtz-feld repl; Tr mica-chl.	Run 709.9	0-90° ± 30°	Fracs, slips, Qtz vlts. Mp - Qtzt cont.	Pk, ltgr, wht Mp w/ mod-st ser alt.
	721.7	11.8		.23		Qtzt	Run	Tr suls-Moly, Qtz vlts Mod ser	Run	0-90°	CO_2 filled fracs, Qtz vlts Brkn	Gr-wht Qtzt w/ mod ser; faint Argillic Text.

MIS-807-A 75

HOLE NO. M-75

Coordinates: N 361,060.25 E 762,537.52

Dip vert Bearing –

Date started 2/24/63 Completed 9/25/63

Collar Elevation 3341.9 Total Depth 919.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
721.7	728.8	7.1		.45		C-Arg	Run	Tr-wk diss sulf, ser, chl	Run	Brkn	fragmented	lt grn to brwn C-Arg
								sp Qtz vlts, wk-mod CO_3	± 728.3	Brkn	Brkn C-Arg & Hf cnt.	w/ wk ser-serp, chl Alt.
	739.0	10.2		.40		Hf	"	Diss cpy-py-moly; Tr chl;	Run	30-50	wk fracs & slips w/ CO_3	Pale grn Hf w/ mod CO_3
								Scat CO_3 & Gyp vlts	734.2	± 30°	GG-Bxzone 0.2'	
	745.4	6.4		.26		Hf	"	As Above w/ Gar, Trem	743.0	± 25°	0.05' int Qtz vlt in frac	As Above but grades
								& Act in last 1.0'	Run	30-50°	As before	to brn Tt in last 1.0'
	757.2	11.8		.40		Tt	Run	Mod Py w/ cpy; Scat	Run	20-60°	Fracs, slips, CO_3, gyp, &	Brwn Trem-Act-sp Tt
					98.9 @ 1.34			pats sp, Trem, Act, St CO_3			sul vlts	w/ sp scat ints pale grn Hf
								Tr moly, gyp.				Grades to Hf @ 757.2
	764.5	7.3		.69		Hf	"	wk sulf; Tr moly; pats	759.9	± 30°	0.5' Bx-GG zone w/ CO_3	Grn clayey Hf w/ pats
								gar, CO_3, wk serp & chl.	Run	30-70°	Fracs, slips, CO_3 vlts.	Gar, Trem, Act. Grades
												to Tt @ 764.5'
	772.6	8.1		1.16		Tt	Run	Pats & vlts cpy-py; St Trem	Run	varied	CO_3, Gyp, sul filled fracs	Yellow brwn Tt
								act, mod CO_3; Tr Gyp				
	779.9	7.3		.12		Tt	"	As Above + brwn fog	"	"	As before	Brwn to Maroon Tt;
									772.7	Brkn	1.0' (?) GGy zone	poor Rec'y
	790.1	10.2		1.80		Tt	Run	Mod St cpy-py as vlts &	785.0	65°	2" Calcite filled flt.	Dense Grn. Grn
								Replac, Tr Sphal, Mag Calc				
	801.2	11.1		1.51	.10 Zn	Tt	Run	As Above, Diss cpy-sphal	Run	40°±	wk fracs	As Above
	811.9	10.7		3.67	4.12 Zn	Tt	Run	St cpy-sphal, Tr Hem	Run	45°±	wk sul & calc filled fracs	St Diss. Sphal
								Tr Born. Tr Mag.				
	820.6	8.7		3.40	.10 Zn	Tt	"	Mod Cpy-born, Tr Sphal	Run	60°±	wk fracs, Gyp + Ca filled	Grn Tt with Patches Hf
							816.4	St Born in 1' at 816.4'				
	830.6	10.0		.13		Mb	Run	Tr cpy-py-Sphal	Run	45°±	Vry wk fracs, GGy zone	White Re Xlized L.S.
									829.6'	?	at 828.6', Poss Flt	
	838.4	7.8		.09		Mb	"	As Above	Run	50°	Vry wk fracs	As Above
	847.8	9.4		.21		Mb	"	" "	Run	40°±	As Above	Patches of Tt @ 845.8'
847.8	855.7	7.9		.47	21.0' @ .56	Tt	Run	Tr cpy-py-Tr Hem & Mag	Run	50°	wk fracs, Brkn, Poor Rec.	Tt-Mb cnt is gradational
	859.0	3.3		.80		Tt	"	Mod cpy-py, Tr Sphal, Hem	Run	?	Brkn GGy, Poor Rec.	Pale Grn, Gar, diss cpy.
	869.8	9.8		.55		Tt-Mb	"	Sp-Mod cpy-py, Tr Hem-Moly	Run	70°±	wk calcite & sul filled fracs	Tt with Patches of Mb
	879.3	10.5		.06		Mb	Run	Tr sulf	Run	30-60°	wk fracs	White x-line Mb, Grad cnt.
	889.5	10.2		.04		Mb	"	" " Mod Gyp, Tr Moly	Run	40°±	Mod Gyp filled fracs	Gypsiferous Mb, Patches Hf
	894.1	4.6		.30		Gyp-Mb	"	As Above	"	"	As Above	As Above
	902.0	7.9		.03		"	"	" "	"	"	" "	White Gypsiferous Mb
												with Patches of Hf

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-76

Coordinates: N 361,060.25 E 762,537.52

Dip Vert Bearing —

Date started 8/29/63 Completed 9/24/63

Collar Elevation 3341.9 Total Depth 919.0

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
902.0	913.2	11.2		.53	.53	Mb-Hf	RUN	Sp cpy-born-Py, Mod Gyp Tr. sphal., Tr chlor, Tr Moly	RUN 906.0'	20° 65°	BrKN. Frac Mb-Hf, Vnlt with disc cpy & born pervasive into hanging wall & foot wall	Pale grn Hf, c̄ Mb. Mod Gyp. Cu. Min. is small pod assoc. with vn Hf.
	915.0	1.8		.03		Mb-Hf	RUN	Tr. Sulf, Tr chlor	RUN	—	BrKN. Poor Rec.	Pale grn Hf.
	919.0	4.0		.03		QTzT	RUN	Tr sulf, Tr ser	RUN	—	BrKN, Poor Rec	Dense white QTzT Mb-QTzT cont. is BrKN
					BOTTOM							

MIS-807-A 75

HOLE NO. M-74

Coordinates N 361,654.62 E 763,339.42

Dip Vert. Bearing —

Date started 8/20/63 Completed 9/17/63

Collar Elevation 3293.4 Total Depth 914.8

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
220.0	223.2	3.2				Cal cgl						Overburden, B.R. 223.2'
223.2	231.5	8.3		.27		Arg	RUN	Tr Chry, Blk cuox, ST LIM SP ser, Tr chlor, Tr NaTcu	RUN	?	BrKN, GGy	Leached, Alt Arg
	236.8	5.3	.13	.17		Mp	RUN	Mod ser, sp chry, Tr cc Tr Jarosite	RUN	40°	wk fracs. Mp-Arg cont. GGy	ST. Alt. - Leached Mp.
	244.0	7.2	.13	.34		Arg	RUN	Sp-chry-Blk cuox, Tr NaT.cu. ST. LIM, sp Jaro, Tr chlor	RUN	35°	wk. fracs, LIM coated	Alt-Leached Arg
	251.6	7.6	.10	.25		"	"	As Above, sp c.c.	"	20-50°	BrKN, GGy,	ST. Leached Arg.
	263.2	11.6	.06	.36	28.8' @ .47/.13 w.s	"	"	" "	"	"	As Above, Poor Rec.	" "
	270.3	7.1	.44	.76		"	"	ST. chlor, sp-Mod cc., sp LIM, Tr NaTcu cu.	RUN	60°±	GGy, chloritic fracs	ST. chlor. Alt
	280.4	10.1	Tr	.38		Ark-Arg	RUN	sp cpy-py-cc., Mod ser sp. chlor. Tr LIM	275.0	GGy	GGy 10" flt zone at 275, +40° fracs	Base of ox. 272.7
280.4	290.8	10.4		.44				As Above	RUN	60°	Mod chlor filled fracs + slips	ST Alt Arkosic Arg.
	299.5	8.7		.44		"	"	" " Tr Moly	RUN	40-70°	As Above	As Above
	309.0	9.5		.44		"	"	" "	"	50°±	" "	" "
	318.0	9.0		.43		"	"	Sp-Mod cpy-py, sp ser, Tr Moly	RUN	45°	Mod fracs	Arkosic Arg. - Vague Cgl. Text.
	328.8	10.8		.31		"	"	As Above, cpy as diss. & in lts	"	40-70°	Str fracs	As Above, Occas. Qtz vn.
	336.7	7.9		.50		"	"	" "	"	75°	Str chlor filled fracs.	Incr. in cpy as vnlts.
	347.6	10.9		.44		"	"	" "	"	"	" "	" "
	355.9	8.3		.36		"	"	Sp. cpy-py, Tr Moly, sp ser & chlor	"	50°	" "	Decr. in Cgl. Text.
						Mp	352.0	sp cpy-py, Tr Moly, Mod ser	"	35°	wk fracs	ST. Alt. Mp
						Ark-Arg	358.5	As Above	"	50°	Mod chlor filled fracs	
	366.5	10.6		.22		"	RUN	Sp cpy-py, Tr Moly, sp ser	360.5'	60°	wk 2" GG. filled flt.	Arkosic Arg.
	374.1	7.6		.43	153.2' @ .40	"	"	As Above	RUN	60°±	Mod Ser filled fracs	" "
	384.6	10.5		.37		Ark	RUN	Sp cpy-py, Tr Moly, Mod ser	RUN	45°	ST. ser filled fracs	Str Alt Arkose
	392.4	7.8		.37		"	"	As Above	"	"	As Above	Alt Ark., incr in Silica
	404.2	11.8		.38		Ark	RUN	Sp-Mod. cpy-py, Tr Moly, Mod ser	RUN	60°±	Mod fracs	" " cont. incr in SiO_2
	413.0	8.8		.34		"	"	As Above	"	"	" "	2' Patch Mp at 408.4
						Mp	408.4 To 410.9'	ST. ser, sp sulf				
	423.1	10.1		.41		Ark-Cgl	RUN	Sp-Mod cpy-py as diss. & vnlts, Tr Moly, sp ser	RUN	60°±	Mod ser filled fracs & slips	Alt. Ark. with patches of Congl. Text.
	433.6	10.5		.56		"	"	As Above	RUN	50-75°	As Above	Cont. Vague Cgl. Text.
	442.7	9.1		.25		"	"	" "	"	"	" "	" "

MIS-807-A 75

HOLE NO. M-74

Coordinates N 361,654.62 E 763,339.42

Dip Vert ± Bearing —

Date started 8/20/63 Completed 9/17/63

Collar Elevation 3293.4 Total Depth 914.8

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
442.7	452.1	9.4		.19		Ark-Arg	RUN	Tr-Sp cpy-py, Tr Moly, Mod ser	RUN	40°	Mod ser filled fracs & slips	Shattered Arg with Ark. Text.
	462.7	10.6		.12		"	"	As Above	RUN	40-80°	wk " " "	Decr. in Ark Text.
	474.0	11.3		.13		"	"	" "	"	"	As Above, Sp Qtz vning	Str. Ser. Alt. Along Qtz vns.
	481.4	7.4		.14		"	"	" "	"	"	" "	" "
	490.7	9.3		.16		"		As Above, Sp chlor	RUN	75°±	Mod Ser & chlor filled fracs	" "
	499.2	8.5		.33		"	RUN	" "	"	70°±	" "	Mod ser. Alt.; cpy as diss. & vnlts
	508.8	9.6		.13		Arg	"	" "	"	45°	" "	Decr. in Ark Text.
	518.3	9.5		.14		Ark-Arg	"	" "	"	60°±	" "	ST Alt. Ark-Arg
	527.6	9.3		.09		"	"	" "	519.5	GGY	2 ft. flt zone, ST. chlor	Brkn GGY flt zone
	537.2	9.6		.06		"	"	" "	RUN	65°	ST. fracs & Slips	Incr in cpy & Moly
537.2	548.7	11.5		.67		Hf	RUN	Mod cpy-py, Tr Moly, Tr Mag Mod chlor, Tr hem, Sp Ser.	537.2	Brkn	Brkn Hf-Arg Cont. Mod 45° fracs	Pale Grn Hf with diss. & vnlts of cpy; Patches Arg.
	555.3	6.6		.42		Hf	"	As Above	RUN	30°	Mod chlor & ser filled fracs	As Above
	563.5	8.2		2.21		"	"	Local mod py-cpy-mag &	"	30-50°	St chl, ser, & talc filled fracs	" "
					75.1 @ .99			As Above	± 563.5	brkn	Hf-Arg cnt in brkn zone	
	572.1	8.6		.19		Arg	RUN	wk diss & vlt. py w/ tr cpy Mod ser & gyp; pats Qtz w/ mod cpy.	RUN	30-50	ser-gyp filled fracs, slips, qtz vlts	Mod ser alt Arg w/ pats Hf
	582.1	10.0		.31		Arg	"	As Above, local talc	"	"	As before & brkn	" "
EOM ▶	587.9	5.8		.89		"	"	" "	"	"	" "	
									586.0-end	± 60°	Recem bx zone w/ sp gar.	" "
	600.1	12.2		1.46		Arg-Hf-QTzT	RUN	Scat pats & vlts cpy-py, qtz vlts, CO_3, serp, ser. Tr $FeOx$, $MnCO_3$.	RUN	varied	Fracs, Qtz-CO_3 vlts locally brkn	Mixed Tan sericitized Arg, pale grn Hf & wht QtzT and.
	609.1	9.0		.10		QTzT	"	Tr wk sh's; wk-mod ser, Tr CO_3, serp, moly	RUN	30-50°	As Above	Dense, locally vuggy QtzT w/ pats tan Arg.
	618.5	9.4		.10		Qtz-Arg.	"	As Above; weaker suls	"	Brkn	Brkn & ground; poor rec'y	Mixed frags of Arg & QtzT
	627.5	11.0		.06		"	"	" "	RUN	"	As Above	siliceous Arg
	639.6	10.1		.08		QTzT	RUN	Tr cpy-py-Moly, Sp ser	RUN	40°±	ST fract. QTzT	Dense white QTzT
	644.0	4.4		.29		"	"	As Above	"	"	" "	" "
	651.2	7.2		.32		"	"	" "	"	"	" "	" "
	661.8	10.6		.27		"	"	" wk ser	"	30-60°	" "	" "
	673.0	11.2		.26		"	"	" "	"	"	" "	" "
	686.0	13.0		.45		"	"	Sp suls " "	"	"	" "	" "
									678.4	± 50°	Recem flt bx 0.1'	

MIS-807-A 75

HOLE NO. M-74

Coordinates N 361,654.62 E 763,339.42
Dip Vert Bearing —
Date started 8/20/63 Completed 9/17/63
Collar Elevation 3293.4 Total Depth 914.8

GEOLOGIC LOG
MISSION UNIT

③

2C145

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
686.0	696.0	10.0		.15		QTzt	RUN	Sp cpy-py, Tr Moly, Mod ser	RUN	35°	WK ser. filled fracs	Dense white QTzt
	706.3	10.3		.39	51.5' @ .51	"	"	As Above	"	"	As Above	As Above
	711.7	5.4		.42		"	"	" "	"	45°±	" "	" "
	713.8	2.1		1.83		"	"	Vlt cpy @ ± 713' wk ser. serp & Tr MnCO3 @ end.	"	"	" "	" Poor Rec'y
									± 713.6	Lost	QTzt - Hf cnt	
	724.5	10.7		.81		Hf	"	Diss & vlt cpy-py; mod serp & clay, sp QTz vlts; Tr moly	RUN	20-60°	Fracs, sul vlts, locally brKn. Some fracs vuggy	Tan, Ltgr & pale grn Hf
	735.4	10.9		.32		QTzt	"	Diss cpy-py (wk) mod Ser.	"	"	Fracs & slips locally brKn	Dense wht QTzt w/ pats Arg.
	744.9	9.5		.06		"	"	As Above	"	"	Same	As Above
	750.8	5.9		.05		"	"	" "	"	"	" "	" "
	757.9	7.1		.04		"	"	" "	"	50°±	" "	" "
	766.5	8.6		.05		"	"	" "	766.5'	45°	Flt. cont of QTzT & Tt	Chlor & calc filled flt.
	775.7	9.2		1.14		Tt	RUN	Mod-st Cpy-Py, Mod hem, sp chlor, Tr Moly, sp calc.	RUN	20-40°	wk calc filled fracs	Tt. with patches Hf & Mb
	782.5	6.8		1.82		Tt-Hf	"	As Above	"	20-75°	Fracs., slips, sul vlts	Mixed Tt-Hf w/ pats Mb
	787.0	4.5		.15		"	"	Mod py w/ cpy, st hem stain Mod-st CO3, sp chl	"	"	" "	As Above; Maroon & grn color. Poor Rec'y
	790.3	3.3		.06		"	"	As Above	"	"	" "	Same
	795.8	5.5		.22		"	"	" + Tr MnCO3.	"	"	" "	" "
	803.6	7.8		.73	80.7' @ .93	"	"	Mod-st cpy-py; mod Hem Tr moly, sp, gyp, CO3	RUN ±802.6	varied ±45°	Fracs, gyp, CO3 vlts. 0.6' Recem flt? bx. w/ Mb below.	Hem stained Tt-Hf to 801.4 & Gr Hf to end
	806.9	3.3		.25		Mb-Tt	RUN	Diss cpy, Tr bn, serp, hem.	RUN	BrKn	BrKn & ground. Tt-Mb cnt Lost.	Serp Mb to ± 805.3' & Tt to end. Low Rec'y
	816.5	9.6		.49		Hf-Gyp	RUN	Sp-Mod. cpy-py-Born, Mod Gyp, Tr Trem & Act, Tr Serp	RUN	45°	Wk, Gyp & sul filled frac.	Hf & Pale white, Serp & Trem
	826.5	10.0		.92		"	RUN	As Above	RUN	40°-60°	As Above, Vuggy in Part	As Above
	830.3	3.8		.95		"	"	" "	"	"	" "	" "
	838.0	7.7		1.61		Hf. Tt	RUN	Mod-st cpy-born, Mod chlor Tr Moly, Sp QTz, diss & vlts	RUN	65°±	Wk-Calc & sul filled fracs Vuggy.	Pale Grn-Gry, Hf & Tt; cpy is also noted as small encrustations on Hf fract. surfaces
	847.2	9.2		1.47		"	"	As Above	RUN	50°±	As Above	As Above; cont. encrustations
	855.9	8.7		.14		Hf-Mb	RUN	Wk-Tr suls; wk serp, sp Qtz vlts. Tr Trem-Act-wel.-chl	" ±853.4	20-85° ±20°	Fracs, slips Qtz bx in slip.	Mixed pale grn Hf & Ltgr Mb w/ wk serp. Cnt gradational Mb @ end.

MIS-807-A 75

HOLE NO. M-74

Coordinates N 361,654.62 E 763,339.42

Dip Vert Bearing —

Date started 8/20/63 Completed 9/17/63

Collar Elevation 3293.4 Total Depth 914.8

GEOLOGIC LOG

MISSION UNIT

④

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
855.9	861.6	5.7		.08		Mb	Run	Tr suls, Trem-Act, serp	Run	± 45°	wk fracs & slips	Lt gr Mb
	874.8	13.2		.18		"	"	As Above, Tr wol	"	30-50°	Vuggy fracs	As Above
	885.9	11.1		.21		"	"	Tr suls, Serp	"	"	As Above	wht Mb
	894.0	8.1		.22		"	"	" "	"	"	" "	" "
	904.9	10.9		.16		"	"	" Scat pcts chl & serp	"	"	" "	" "
	914.8	9.9		.07		"	"	" "	"	"	" "	wht xline Mb.
	Bottom		9/17/63									

MIS-807-A 75

HOLE NO. M-73

Coordinates: N 361,731.63 E 762,235.25

Dip Vert Bearing —

Date started 7/31/63 Completed 8/19/63

Collar Elevation 3297.0 Total Depth 885.6

GEOLOGIC LOG

MISSION UNIT

①

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	190.0					Alluv						Top CCg ± 165'?
	220.5	30.5				CCg						BR ∓ 220.5'
	231.5	11.0		.17		Mp	Run	wk yel lim st ser, Tr Cu Ox, & serp.	Run	30-50°	Fracs w. lim, ser, serp & Qtz vlts.	Leached Mp w/ st ser
	241.0	9.5		.12		"	"	As Above + st clay	"	—	brkn & clayey	Stalt & brkn leached Mp.
	251.9	10.9		.03		"	"	" decr cu ox.	"	20-85°	Fracs, shears & qtz vlts.	Lt gr leached & brkn Mp
	261.7	9.8		.05		"	"	" + Tr "live" lim, MnOx	"	"	As Above	" "
	268.1	6.4		.08		Mp & Arg	"	" + Tr chl & Nat Cu @ end	264.7	Lost	Mp - gr Arg cnt	Base ox @ 268.1
	272.2	4.1		.26		Arg	"	Tr cpy - cc - py - Nat cu - Moly; wk chl & serp	Run	20-85°	Fracs, sul vlts, Qtz vlts	Gr - brn Arg w/ wk ser alt & wk chl & serp
	281.8	9.6		.24		"	"	As Above	"	20-85°	Fracs - brkn	As Above
	290.4	8.6		.21		"	"	Tr py, cpy, cc; wk-mod Ser Tr chl, serp	"	30-65	As Above	Lt gr - tan Arg
	300.5	10.1		.09		"	"	Tr suls, Mod ser & qtz	"	"	" "	Tan - brn Arg w/ mod ser.
	307.7	7.2		.06		"	"	As Above	"	"	" "	" "
	318.1	10.4		.09		Mp	Run	Tr py, cpy, moly, st ser & gg	307.7 Run	Brkn ± 70°	Arg - Mp in ? ? cnt, lineation of gr & wht colors & sp slickensides	Sgy & brecciated Mp in poss flt zone w/ frags Arg
	327.2	7.1		.07		"	"	Tr suls, mod. Qtz - Feld Repl.	"	20-85	Fracs, qtz-feld vlts & brkn	Lt gr [illegible] Mp
	338.8	11.6		.09		"	"	As Above		30-60°	Fracs & qtz vlts	As Above
	349.3	10.5		.07		"	"	" "	"	"	" "	" "
	354.1	4.8		.14		"	"	" " Tr " "	"		" "	" "
	365.5	11.4		.08		"	"	Sp scat vlts & diss cpy-py wk ser, scat qtz vlts w/ moly, Tr mica	"	"	Fracs, shears, qtz vlts.	Lt gr Mp
	375.8	10.3		.07		"	"	Sp scat pat & diss cpy-py & As Above	Run	"	" "	" "
	381.2	5.4		.07		Mp	"	As Above; incr mica & Qtz	"	"	" "	Lt gr slf Mp.
	390.4	9.2		.05		Arg - Qtzt	Run	Sp pat & vlt cpy-py; wk ser.	Run	20-70°	As Above	wht Qtzt w/ pots tan Arg 381.4 - Mp - Qtzt cnt (20°)
	399.9	9.5		.05		Qtzt	"	As Above	"	30-60°	" Locally brkn	wht, locally tan Qtzt.
	408.2	8.3		.10		Mp	"	Scat vlt & pat cpy-py; Tr Moly, wk Qtz - Feld repl, ser, Tr serp	399.9 Run	± 50° 30-50°	Qtzt - Mp cnt @ frac Fracs, slips, Qtz vlts.	Lt gr to pale pk Mp w/ wk Qtz - feld repl & wk ser alt.

MIS-807-A 75

HOLE NO. M-73

Coordinates N 361,731.63 E 762,235.25

Dip Vert Bearing —

Date started 7/31/63 Completed 8/19/63

Collar Elevation 3297.0 Total Depth 885.6

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
A0 to 2	419.1	10.9		.11		Mp	RUN	Tr sulf, moly, serp, gyp wk ser.	RUN	30-60°	Fracs, slips, qtz vlts, Locally brkn, Gyp vlts.	Lt gr - pk Mp w/ wk-mod ser alt.
	430.6	11.5		.12		"	"	As Above	"	20-70°	As before	Lt gr Mp w/ wk-mod ser.
	440.1	9.5		.14		"	"	" "	"	"	" "	As Above
	451.3	11.2		.13		"	"	" + Incr serp, Tr biot	"	40-60°	" "	" + wk pk feld repl
	458.3	7.0		.10		"	"	" "	"	"	" "	" "
	465.3	7.0		.14		"	"	Sp scat sul vlts & as Above	"	"	" + sp sul vlts	" "
	477.4	12.1		.12		"	"	Sp cpy + py VNlts + diss. Mod-st. ser, sp Gyp, Tr Moly & Chlor	RUN	50°±	wk Gyp + Sul filled fracs	ST. Alt Monz; fresh Biot. Moly vnlts.
	484.3	6.9		.12		"	"	As Above	RUN	40-80°	As Above + QTz vning	Monz. ST. feld. near QTz vns
	491.4	7.1		.11		"	"	" "	RUN	55°	" "	" "
	501.0	9.6		.15		"	"	" "	"	45°	" "	" "
	509.4	8.4		.12		"	"	Incr in Gyp & Silica	503.0'	45°	Small flt zone, wk Bx	ST. Alt Mp.
									505.0'	60°	As Above	
	518.2	8.8		.15		"	"	Mod Chlor gg	517.0'	80°	Mod flt zone, Brkn GGy	Mp is Brkn, ST Alt & ggy
	525.4	7.2		.18		"	"	Tr Sp Cpy-py-Moly, Mod Ser Mod Chlor. gg., sp Gyp	518.2	80°	2' flt zone + 45° fracs	ST. Alt. Brkn Mp.
	530.6	5.2		.13		"	"	As Above	529.0	70°	4" flt, wk fracs	ST. Ser
	538.1	7.5		.16		"	"	" "	RUN	55°	wk Ser & Gyp filled fr	" "
	551.0	12.9		.14		"	"	" "	RUN	70°±	Mod Gyp + Sul filled fracs	Vry ST. Ser Alt; fresh Bio
	561.9	10.9		.15		"	"	" "	557.0	70°±	3" flt. Zone	
	571.9	10.0		.16		"	"	" "	RUN	60°±	Mod Gyp filled fracs & wk flts.	Cont. Ser Alt., incr. in SiO_2
	578.6	6.7		.20		"	"	" "	577.6	20°±	wk 2" Chlor filled flt zone, wk Gyp fill fracs	Cont. incr. in SiO_2. Mod Ser., fresh Biot.
	590.0	11.4		.15		Mp	"	" "	RUN	30°±	wk Gyp filled fracs	As Above
	600.2	10.2		.14		"	"	" "	"	"	" "	" "
	612.9	12.7		.17		"	"	" "	608.1	70°	wk flt, + wk Gyp filled fracs	" "
	620.6	7.7		.15		"	"	" "	RUN	10-50°	Mod Gyp filled fracs	" "
	628.8	8.2		.07		QTzT	RUN	Tr cpy-py-Moly, sp ser. sp Chlor, sp Gyp	620.6	65°	3" flt cont Below. Mp + QTzT	QTz ST Ser Alt, Patches Mp & Arg.
									626.0	65°	2" flt GGy + QTzT Bx	high & Flt in QTzT
	638.6	9.8		.07		QTzT-Arg	RUN	As Above	RUN	50°	wk Gyp filled fracs	Light tan Arg, Patches QTzT

MIS-807-A 75

HOLE NO. M-73

Coordinates N 361,731.63 E 762,235.25

Dip Vert Bearing —

Date started 7/31/63 Completed 8/19/63

Collar Elevation 3297.0 Total Depth 885.6

GEOLOGIC LOG

MISSION UNIT

DEPTH			% COPPER			ROCK	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average	TYPE	Depth	Description	Depth	Dip	Description	
638.6	645.4	6.8		.09		Arg	RUN	Tr cpy-py-Moly, Sp ser Tr. Gyp & Calcite	RUN	45°	wk Gyp filled fracs	Dense Arg-Patches Qtzt
	653.5	8.1		.08		Arg-Qtzt	"	As Above, slight incr in Gyp	Run 650.5	30-60° ±50°	" " Recem flt bx	As Above, grades to dense Ltgy Qtzt across run
	663.7	10.2		.08		Qtzt	"	" Incr Moly local wk cpy	RUN	30-45°	wk gyp filled fracs	Dense Ltgr-wht Qtzt w/ pats Arg
	673.8	10.1		.05		"	"	Tr cpy-py-moly-ser-gyp	"	30-50°	wk Fracs	Dense wht Qtzt
	685.4	11.6		.06		"	"	Tr-wk diss sulf sulf & As before	"	30-70°	Fracs, some vuggy; locally brkn	As Above
	695.4	10.0		.04		"	"	Tr sulf, moly, ser, gyp.	"	30-45°	Fracs, locally brkn	" "
	705.5	10.1		.05		"	"	" "	702.6-08.4	±30°	Int. Mp	As before w/ pats Arg & int. Mp.
									Run	20-85	Fracs & shears, brkn	
	711.2	5.7		.05		"	"	" "	"	Brkn	Very brkn	Brkn Qtzt
	722.8	11.6		.07		"	"	" "	"	"	" "	"
	730.4	7.6		.10		"	"	" "	"	"	" "	" "
	740.2	9.8		.06		"	"	" "	"	30-85°	Fracs w/ wk ser & gyp.	Less brkn wht Qtzt
	750.8	10.6		.05		Qtzt	"	Same + local chl & clay	744.0-49.0	±60°	Bx-Gg-clay zone w/ frags An, Qtzt, Tr chl (Poss flt.)	Dense wht Qtzt, brkn & clayey through poss flt.
	760.3	9.5		.03		"	"	Tr sulf, Moly, ser, wk gyp	RUN	30-85°	Fracs & gyp vlts.	Dense wht Qtzt w/ wk Gyp.
	770.3	10.0		.17		"	"	As Above	"	brkn	brkn & ggy (Poss shatter zone)	wht brkn Qtzt w/ poor rec'y
	774.0	3.7		.18	.27	"	"	" "	"	30°	wk fracs	"
	781.7	7.7		.48	.48	Hf	RUN	Sp-Mod Cpy-Born Py, sp Gyp, Calcite, Mag	781.7	45°	10" +/- zone Qtz-Hf cont.	Hf, patches, Mb, tr, cpy
	791.9	10.2		.13		Mb	RUN	wk cpy-py, St Calcite vns	RUN	45°	wk Calcite filled fracs	Wk Gry Mb. Grad Cont of Hf & Mb.
	803.9	12.0		Nil		Mb	"	As Above	RUN	30-60°	As Above	As Above, Vuggy in Part
	814.0	10.1		.01		"	"	" "	"	"	" "	" "
	824.0	10.0		Nil		"	"	" "	"	"	" "	"
	833.1	9.1		Tr		"	"	" "	"	"	" "	"
	839.5	6.4		Nil		"	"	" "	"	45°	" "	" "
	849.4	9.9		Nil		"	"	" "	"		" "	Patches white Mb
	860.1	10.7		Nil		"	"	As Above - Mod Serp	"	30°	" "	As Above, white Serp Mb 849-853
	870.5	10.4		Nil		"	"	" " Mod. Serp, Kaolin	"	"	" "	Last 3" wht clay gg.
	877.7	6.5		Tr		Mb-Serp	RUN	Tr Sulf, St white Clay (Kaolin & Serp)	RUN	GGy	GGy, intense clay devel. with Serp frags	Pure white clay near end cont.

MIS-807-A 75

HOLE NO. M-71

Coordinates N 361,465.84 E 764,487.94

Dip Vert Bearing —

Date started 7/13/63 Completed 7/31/63

Collar Elevation 3222.9 Total Depth 779.3

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	160.0					Allur						Top CCg ± 145'
	171.7	11.7				CCg						BR ± 171.7'
	179.0	7.3	.06	.20		Arg	Run	wk FeOx; Tr CuOx & ser alt.	Run	30-40°	sp wk fracs	Leached sandy Arg
	189.5	10.5	.06	.25		"	"	As Above + Tr Jarosite	"	20-60°	fracs locally brkn	Leached; brkn Ltbrn Arg
189.5	194.4	4.9	.23	.44	0.44	"	"	Tr-wk Cu Ox; wk Fe Ox, Mn Ox; wk ser, chl; Tr Jarosite	"	"	As Above	Ltgr, Tan & brwn Sandy Arg. Base Oxidation I 194.4'.
	205.2	10.8		.35		Arg	"	Tr suls; wk ser, qtz	Run	30-50°	wk fracs & Qtz vlts	Tan to brown Arg
	211.6	6.4		.18		"	"	As Above + Tr Moly	"	"	Same locally brkn	As Above
	221.5	9.9		.20		"	"	" "	"	20-85	fracs, slips	" "
	229.8	8.3		.15		"	"	" "	"	"	" "	" "
	241.8	12.0		.20		"	"	Same w/ incr in ser	Run	"	ggy fracs & slips	" "
	253.0	11.2		.11		"	"	Tr suls; wk ser; mod sil	"	20-60°	fracs, qtz vlts	Brwn silf Arg.
	263.7	10.7		.24		"	"	" "	"	"	" "	" "
									260-61.7'	±55°	Bx-gg zone w/ st clay	
	274.3	10.6		.15		Arg	Run	As Above	Run	30-60°	wk fracs, slips, qtz vlts	" "
	283.5	9.2		.17		"	"	wk-mod py w/ lesser cpy, Tr Moly; wk ser & serp	Run	20-40°	As above; locally brkn	" "
	293.4	9.9		.18		"	"	Incr py-cpy-ser-serp		50-70°	fracs, slips, qtz, sul vlts	As before but becomes sandy to conglomeritic in last 3 ft.
	303.8	10.4		.30		Arg & cgl	Run	Mod py; wk cpy; Mod ser & clay & Qtz.	Run	40-85°	fracs, slips, st sul vlts	Mixed ints of Arg & cgl w/ local Arkosic Text &
	313.4	9.6		.24		Arg-Cgl	"	wk-Mod py; lesser cpy & As before	"	30-65	As Before	As Above
	321.8	8.4		.15		Arg-Fp(?)	"	wk vlt & diss suls st sils wk ser.	"	"	" "	Arg w/ pats cgl; 313.7 to 317.6 Fp(?) w/ st silf wk feldspath & faint purple Text
	333.7	11.9		.22		Arg-cgl	"	As Above.	"	"	" "	Brwn & gr Arg cgl w/ mod silf
	344.7	11.0		.21		"	"	" "	"	"	" "	Same locally Arkosic
	358.5	13.8		.17		"	"	" "	"	"	" "	" "
	368.3	9.8		.18		"	"	" "	"	"	" "	" "
	375.0	6.7		.15		"	"	" "	"	"	" "	" Local st silf.
	386.6	11.6		.23		"	"	" "	"	"	" "	" "
	397.5	10.9		.26		"	"	" "	"	"	" "	" Locally silf, locally Arkosic

MIS-807-A 75

HOLE NO. M-71

Coordinates N 361,465.84 E 764,487.94

Dip Vert Bearing —

Date started 7/13/63 Completed 7/31/63

Collar Elevation 3222.4 Total Depth 779.3

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
397.5	407.6	10.1		.22		Arg cgl	Run	wk diss py w/ lesser cpy; Mod silf wk ser.; Tr gyp.	Run	20-60°	fracs, slips, qtz vlts; locally brkn	Brwn to tan Arg-cgl w/ local st silf; locally Arkosic
	419.1	11.5		.17		"	"	As Above	"	"	As before	No change
									413.1 - 14.5'	± 30°	Recem bx zone	
	432.5	13.4		.30		"	"	" "	Run	30-60°	fracs & Qtz vlts	" "
	444.3	11.8		.22		"	"	wk diss & vlt cpy; wk gyp; Tr serp wk py	"	"	fracs & slips & gyp vlts	Brwn Arg cgl w/ gyps ser alt.
	454.7	10.4		.27		"	"	wk diss cpy py & As before	"	"	As Above	Same w/ zones brwn Arg
	464.6	9.9		.29		"	"	wk-mod diss cpy-py; wk gyp; Tr serp	"	"	" "	" st cgl text.
	473.6	9.0		.22		"	"	Decrease cpy & As before	"	"	" "	As Above
473.6	485.0	11.4		.40		"	"	wk cpy Mod py & As Above	"	"	" "	" "
	495.3	10.3		.66		"	"	" "	"	"	" "	" Locally silif.
	507.9	12.6		.63		"	"	" "	"	"	" "	" "
	515.2	7.3		.76		"	"	Mod diss py w/ lesser cpy; wk ser; Tr gyp	Run	"	wk fracs, gyp, qtz vlts	Locally silf Arg cgl.
	525.2	10.0		.89	90.3' @ 0.77	Arg cgl	Run	As above incr cpy	"	30-50°	Same	Tan to lt gr w/ brwn frags.
	534.8	9.6		.89		"	"	As Above	"	30-60°	" "	Same w/ incr ser alt @ end.
	542.0	7.2		1.07		"	"	Same w/ incr cpy, silica, & bor.	"	30-70°	" "	Incr Qtz, Tr Feld repl.
	553.5	11.5		1.27		Arg cgl & Qtzt	"	Mod-st cpy-py incr'd st silf & wk-mod ser	"	"	" "	Mixed ints cgl & Qtzt w/ zones & pats porph Text.
	563.9	10.4		.96		Qtzt	Run	wk cpy, Mod py; wk ser; Tr Moly.	"	30-85	Fracs & slips; locally Brkn	Grades to Qtzt w/ porph-like material & Arg in final 2.5' of run
	569.1	5.2		.27		Qtzt	"	As Above	"	"	As before; Some Vugs.	Wht Qtzt w/ wk ser alt.
	576.8	7.7		.33		"	"	Scat vlts & diss cpy-py Tr ser	Run	30-85°	Fracs; some w/ Recem gg & bx. Locally brkn.	As Above
	585.7	8.9		.25		Qtzt-An	"	As Above barren An.	"	"	" "	" w/ An from 582.4 to end
									582.4	—	Qtzt - An cnt.	
	591.3	5.6		.12		Qtzt	"	As before; Tr sulf	Run	20-90°	fracs & brkn	An to 586.2 & wht Qtzt as above to end
									586.2	± 50°	An Qtzt cnt	
	594.8	3.5		.30		Qtzt	"	As Before w/ wk cpy	Run	Hi 4	Vuggy fracs	wht Qtzt w/ wk ser.
									594.8	± 45	Qtzt Hf cnt @ frac.	

MIS-807-A 75

HOLE NO. M-71

Coordinates N 361,465.84 E 764,487.94

Dip Vert Bearing —

Date started 7/13/63 Completed 7/31/63

Collar Elevation 3222.9 Total Depth 779.3

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
594.8	602.0	7.2		.67		Hf	Run	Mod cpy-py w/ st clay	Run	30-85°	St shears & brkn	wht to pale grn Hf.
	614.5	12.5		.92		Hf	"	Local mod-st diss & vlt	"	"	fracs, slips, sul vlts	dense wht & pale grn
					50.2'			cpy-py & less clay, wk Mag			Locally brkn & sheared	Hf w/ wk-mod clay
Bx ▶	623.5	9.0		1.21	@	"	"	As above + serp; Mod Mag	"	30-60°	As Above	Gr-wht clayey Hf.
	635.0	11.5		.32	0.78	"	"	As before w/ decrim cpy, Mag	"	± 35	fracs w/ gyp & clay	Locally dense & siliceous.
	645.0	10.0		.84		"	"	Mod cpy-py & As Above	"	"	" "	As Above w/ pats Tr.
	649.4	4.4		.25		"	"	Tr-wk suls, gyp, serp, CO_2	646.2-48.1	Vert	Vuggy frac w/ st CO_3	" "
									649.4	60°	Hf-Arg cnt	
	659.4	10.0		.07		Qtzt	Run	Tr suls; wk ser	Run	20-75°	fracs, slips, brkn	Lt gr, locally tan Qtzt.
	666.0	6.6		.11		"	"	As Above; sp pats cpy	"	"	No change	Same
	672.0	6.0		.03		An	"	Tr suls, wk biot.	"	"	" "	Greenish blk. An w/ 80° cnts @ 666.2 & 672.0'
	681.9	9.9		.12		Qtzt	"	As Qtzt above	"	"	" "	As Qtzt before.
	690.8	8.9		.13		"	"	Same w/ incr suls @ end	"	"	" Less brkn	" "
									690.8	40°	Qtzt-Hf cnt w/ gar & cp	
690.8	701.1	10.3		1.73	1.73	Hf	Run	Grades wk-st cpy-py w/ Mod Mag @ end; Tr gyp. pats Gar.	Run	30-60°	fracs & slips & cpy-py-mag vlts.	Lt gr & pale grn Hf w/ pats & zones gar, Tr cp, Act. Trem, serp, & Talc.
	705.6	4.5		.28		Hf	"	St-Mass Mag w/ cpy-py serp	"	30-50°	Slips & Mag-sul vns.	Grn Hf w/ mass mag vns
	709.5	3.9		.19		Hf	"	wk suls, Tr Mag, serp, talc.	Run	45-60°	fracs, slips, scat sul vlts	Pale grn Hf
	719.2	9.7		.31		"	"	wk-mod suls & As before	"	30-50°	" Local Recem bx.	Pale grn to Lt gr Hf.
	723.0	3.8		.22		"	"	" "	"	"	" "	" "
									723.0	20°	Slip cnt w/ Qtzt	
	729.0	6.0		.02		Qtzt	Run	Tr suls, wk-mod ser	Run	20-85°	fracs w/ ser & talc.	Lt gr Qtzt w/ wk-mod ser
	739.7	10.7		.05		"	"	Sp tr suls; wk-mod ser	"	"	" "	As Above
	743.5	3.8		.04		"	"	" "	"	"	" "	" "
	745.5	2.0		—		Qtzt(?)		No Core				
	747.1	1.6		.06		"	"	Tr suls, wk ser, CO_3	747.1	± 50°	Gry Qtzt-Hf cnt	
	755.0	7.9		.07		Hf-Mb	"	Tr-wk bn, sph, cpy, py Mod-st serp, talc, Tr gyp.	Run	45-55°	calc filled fracs & slips w/ talc.	Mixed pale grn Hf & serp Mb w/ local wk suls & Talc.
	57.6	2.0		.23		Mb	"	Tr suls, serp, gyp	Run	Brkn	Poor Recy	Lt gr brkn Mb
	763.6	8.2		.07		"	"	Tr suls; Mod serp & gyp	"	40-60°	wk fracs & slips	Lt gr, wht & pale grn Mb.
	779.3	13.5		.04		"	"	As Above	"	"	" "	" "
	Bottom											

HOLE NO. M-70

Coordinates N 362,334.33 E 761,976.47

Dip Vert Bearing —

Date started 7/6/63 Completed 7/30/63

Collar Elevation 3281.4 Total Depth 759.3

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	191.0					Alluv						Top ccg ? Top BR ± 191
	200.0	9.0		.04		Mp	RUN	WK FeOx; Tr biot; local st clays; WK-Mod ser.	RUN	BrKn	Some 30-40° fracs.	Leached Mp
	210.0	10.0		.06		"	"	As Above	"	"	As Above + Qtz vlts	Leuco-Mp Leached
	212.7	2.7		.06		"	"	" "	"	"	" Poor Rec'y	" "
	218.3	5.6		.04		"	"	" Incr in FeOx	"	20-60°	Fracs, Qtz vlts locally brKn	" "
	225.3	7.0		.04		"	"	" "	"	"	" Poor Rec'y	Fe stained Mp.
	229.0	3.7		.03		"	"	" "	"	"	Fracs; locally BrKn	" "
	233.2	4.2		.03		"	"	" Tr serp	"	"	" Poor Rec'y	" "
	243.5	10.3		.14		"	"	WK FeOx, serp, chl, ser Tr Suls & Moly below 241'	RUN	30-60°	Fracs & slips w/ serp & chl	As Above to base Oxides @ 241' & Ltgr Mp to end.
	251.0	7.5		.13		"	"	WK py, Tr cpy & Moly; WK serp & chl; Mod Ser.	RUN	"	As Above	Mod alt Ltgr Mp w/ pale greenish cast.
	262.1	11.1		.12		"	"	" "	"	"	" "	ST Alt Mp
	271.7	9.6		.12		"	"	" "	"	"	" "	" "
	280.9	9.2		.15		"	"	" "	"	"	" "	" "
	292.5	11.6		.28		Mp	RUN	WK cpy-py, Tr Moly, Mod Ser, Tr chlor,	RUN	50°±	Mod. fracs with sul qg; chlor + serp.	SP-Mod Alt Mp.
	302.3	9.8		.11		"	"	Tr cpy-py & As Above	"	30-60°	" "	" "
	313.0	10.7		.11		"	"	" "	"	"	" "	" "
	323.0	10.0		.09		"	"	As Above + Qtz-feld repl.	"	40-70°	" & Qtz vlts	" "
	336.6	13.6		.11		"	"	" + Tr biot	"	"	" "	brKn alt. Mp
	347.7	11.1		.11		"	"	As Above	"	"	" "	" "
	359.4	11.7		.17		"	"	Sp seat vlts cpy-py-gyp WK ser, serp, Tr Moly	"	20-90°	fracs, gyp vlts, Qtz vlts	Ltgr-pK Mp
	371.0	11.6		.14		Mp	RUN	As Above	"	20-60°	As Above	WK Alt Mp
	382.3	11.3		.14		"	"	" "	"	"	" "	" "
	391.1	8.8		.13		"	"	" "	"	"	" "	" "
	400.2	9.1		.17		"	"	Same w/ slight incr in suls	"	30-70°	fracs, slips, qtz, gyp vlts	Incr in sericitization
	411.3	11.1		.17		"	"	" "	"	"	" "	As Above
	420.3	9.0		.13		"	"	WK-Tr suls Mod gyp-WK ser	RUN	30-50°	Gyp filled fracs	WK ser alt.
	432.8	12.5		.13		"	"	As above	"	"	" "	As before
	443.6	10.8		.10		Mp	RUN	Tr suls, gyp WK ser, serp.	"	"	" "	" "
	453.9	10.3		.11		"	"	Same + Tr Moly incr in gyp.	"	30-60°	fracs, slips, gyp.	" "

MIS-807-A 75

HOLE NO. M-70

Coordinates N 362,334.33 E 761,976.47

Dip Vert Bearing —

Date started 7/6/63 Completed 7/30/63

Collar Elevation 3281.4 Total Depth 759.3

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
453.9	464.2	10.3		.12		Mp	Run	Tr suls, biot, serp; wk ser, gyp, Talc.	Run	20-60°	Fracs, slips, gyp vits	Lt gr-pk Mp w/ wk ser alt
	472.2	8.0		.10		"	"	As Above	"	"	As before	No change.
	479.2	7.0		.16		"	"	" "	"	"	" "	" "
	489.5	10.3		.11		"	"	As Above; wk-Mod ser.	"	40-60°	" "	wht Mp w/ mod ser alt.
	499.8	10.3		.14		"	"	" "	"	"	" "	" "
	506.2	6.4		.16		"	"	" "	"	"	" "	" "
	516.2	10.0		.15		"	"	" "	"	"	fracs, slips, gyp & sulfs	Same + mod silt.
									516.2	±50°	Mp-Qtzt cnt @ frac	
	522.4	6.2		.11		Qtzt-Mp	Run	Tr suls, wk ser, Tr gyp	517.8	±40°	1.2' int Mp	Mp as before; wht qtzt w/ pats arg.
									521.6-end	–	Mp int; End cnt w/ Arg	
	531.6	9.2		.07		Arg	"	As Above	Run	30-50°	fracs, Qtz vits; Mp int @ 526.3' (0.2')	Tan to brwn Arg w/ pats Qtzt & short Mp int.
	539.9	8.3		.08		"	"	" "	"	"	" "	Lt brn Arg w/ wk ser & med-gt silt.
	550.2	10.3		.07		"	"	" "	"	"	" "	" "
	561.8	11.6		.09		"	"	As before + Tr moly	560.0	45°	0.3' int Mp w/ biot	Brwn Arg w/ wk ser & pats Qtzt. Grades to Qtzt. Second
									Run	20-50	As before	
	571.0	9.2		.12		Qtzt	"	Tr suls, chl, moly; wk ser, gyp	Run	30-45	wk fracs, gyp & Qtz vits.	wht Qtzt w/ zones & pats Arg & wk ser.
	580.4	9.4		.10		Qtzt-Mp	"	sp str & vit cpy; Tr serp; wk gyp & ser.	572.0-737	±45°	Mp int w/ biot, ser, serp.	wht Qtzt w/ 1.7' Mp int.
									Run	30-45	As Above	
	589.4	9.0		.08		Qtzt	Run	As before; local incr moly & ser; No serp.	582.4	±45	1.5' Bx-gg w/ mod Moly (Poss Flt.)	wht Qtzt w/ local mod ser & clay; pats Arg
	595.2	5.8		.10		Qtzt	Run	Tr-wk suls w/ ser; mod clay	Run	30-60°	fracs locally brkn	As Above
	605.0	9.8		.10		"	"	Tr suls & Moly; Mod gyp, & clay; wk ser.	596.8-601.4	85-90°	Gyp cemented bx Poss Flt	wht Qtzt w/ wk ser Alt & mod gyp in Hi & fracs.
									602.0-5.0	85°	Frac w/ gyp & Bx	
	615.1	10.1		.07		"	"	Sp scat pats & vits cpy-py & As before w/ less gyp.	Run	30-50°	fracs; gyp & sul vits	wht Qtzt w/ wk ser alt.
Bx →	625.5	10.4		.07		"	"	Tr suls, gyp, & ser	"	"	fracs & gyp vits.	" "
	634.0	8.5		.07		"	"	As Above	"	"	" "	" "
	643.0	9.0		.07		"	"	" "	"	"	" "	" "
	651.0	8.0		.05		"	"	scat sul vits & As before	Run	"	" "	" "
							646.9	0.35', 35° Sul vn				

MIS-807-A 75

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-75

Coordinates: N 361,060.25 E 762,537.52

Dip vert Bearing –

Date started 8/24/63 Completed 9/25/63

Collar Elevation 3341.9 Total Depth 919.0

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
721.7	728.8	7.1		.45		C-Arg	Run	Tr-wk diss suls, ser, chl sp Qtz vlts, wk-mod CO_3	Run	Brkn	fragmented	Lt grn to brwn C-Arg
									± 728.3	Brkn	Brkn C-Arg & Hf cnt.	w/ wk ser-serp, chl Alt.
	739.0	10.2		.40		Hf	"	Diss cpy-py-moly; Tr chl; Scat CO_3 & Gyp vlts	Run	30-50	wk fracs & slips w/ CO_3	Pale grn Hf w/ mod CO_3
									734.2	± 30°	GG-Brzone 0.2'	
	745.4	6.4		.26		Hf	"	As Above w/ Gar, Trem & Act in last 1.0'	743.0	± 35°	0.05' int Qtzt in frac	As Above but grades
									Run	30-50°	As before	to brn Tt in last 1.0'
	757.2	11.8		.40		Tt	Run	Mod Py w/ cpy; scat pats ep, Trem, Act, st CO_3 Tr moly, gyp.	Run	20-60°	Fracs, slips, CO_3, gyp, & sul vlts	Brwn Trem-Act-ep Tt w/ sp scat ints pale grn Hf. Grades to Hf @ 757.2
					98.9 @ 1.34							
	764.5	7.3		.69		Hf	"	wk suls; Tr moly; pats gar, CO_3, wk serp & chl.	759.9	± 30°	0.5' Bx-GG zone w/ CO_3	Grn clayey Hf w/ pats
									Run	30-70°	Fracs, slips, CO_3 vlts.	Gar, Trem, Act. Grades to Tt @ 764.5'
	772.6	8.1		1.16		Tt	Run	Pats & vlts cpy-py; st Trem-Act, mod CO_3; Tr Gyp.	Run	varied	CO_3, Gyp, sul filled fracs.	Yellow-brwn Tt.
	779.9	7.3		.12		Tt	"	As Above + bem frag	"	"	As before	Brwn to Maroon Tt;
									772.7	Brkn	1.0' (?) GGy zone	poor Rec'y
	790.1	10.2		1.80		Tt	Run	Mod-St. cpy-py as vnlts & Replac, Tr Sphal, Mag calc	785.0	65°	2" calcite filled flt.	Dense Grn Garn
	801.2	11.1		1.51	.10 Zn	Tt	Run	As Above, Diss cpy-sphal	Run	40°±	wk fracs	As Above
	811.9	10.7		3.67	4.12 Zn	Tt	Run	St. cpy-sphal, Tr Hem Tr Born. Tr Mag.	Run	45°±	wk sul & calc filled fracs	St. Diss. sphal.
	820.6	8.7		3.40	.10 Zn	Tt	"	Mod Cpy-born, Tr sphal	Run	60°±	wk fracs, Gyp + calc filled	Grn Tt with Patches Hf
							816.4'	St. Born vn 7" at 816.4'				
	830.6	10.0		.13		Mb	Run	Tr cpy-py-sphal	Run	45°±	Vry wk fracs, GGy zone	White Re xlized L.S.
									829.6'	?	at 829.6', Poss Flt	
	838.4	7.8		.09		Mb	"	As Above	Run	50°	Vry wk fracs	As Above
	847.8	9.4		.21		Mb	"	" "	Run	40°±	As Above	Patches of Tt @ 845.8'
847.8	855.7	7.9		.47	21.0' @ .56	Tt	Run	Tr cpy-py-Tr Hem & Mag	Run	50°	wk fracs, Brkn, Poor Rec.	Tt-Mb cnt is gradational
	859.0	3.3		.80		Tt	"	Mod cpy-py, Tr sphal, Hem	Run	?	Brkn GGy, Poor Rec.	Pale Grn, Gar; diss cpy.
	868.8	9.8		.55		Tt-Mb	"	Sp-Mod cpy-py, Tr Hem-Moly	Run	70°±	wk calcite & sul fill fracs	Tt with Patches of Mb
	879.3	10.5		.06		Mb	Run	Tr suls	Run	30-60°	wk fracs	White X-line Mb, Grad cnt.
	889.5	10.2		.04		Mb	"	" " Mod Gyp, Tr Moly	Run	40°±	Mod Gyp filled fracs	Gypsiferous Mb, Patches Hf
	894.1	4.6		.30		Gyp-Mb	"	As Above	"	"	As Above	As Above
	902.0	7.9		.03		"	"	" "	"	"	" "	White Gypsiferous Mb with Patches of Hf

HOLE NO. M-69

Coordinates N 361,736.40 E 762,487.96

Dip vert Bearing —

Date started 6/18/63 Completed 7/12/63

Collar Elevation 3288.2 Total Depth 245.4

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
191.0	208.6	17.6				cal-cgl						Cal-cgl - Bed Rock CWT. 208.6'
	219.6	11.0		.05		Arg	RUN	Mod Lim, Tr Hem, Tr BIKCU Ox, Mod Ser, Tr Chry, Tr Chlor Mod Kaolin, Tr MN Ox	RUN	BrKN	BrKN, GGy, ST clay, OXID.	STr. Leached BrKN Arg
	229.8	10.2		.25		Arg	RUN	As Above + Tr Jarosite	RUN	30-60°	BrKN, ST Fracs, Tr QTz vns	Leached, Alt, Arg
	237.2	7.4		.03		"	"	" " + Tr Native Cu	RUN	"	As Above	Decr IN Oxidation
	242.1	4.9		.04		"	"	Tr py: cpy, Tr Hem + Lim Tr Cu ox + MN ox, sp Ser	RUN	35°±	" "	Partly Leached, Alt Arg
	254.0	11.9		.05		"	"	As Above	"	"	" "	As before w/ local hem "fog"
	266.7	12.7		.07		"	"	Faint Tr suls; Mod Fe ox Tr Mn Ox; wk ser	Run	30-60°	Lim filled fracs.	Leached; wk hem "fog"
	276.7	10.0		.25		"	"	As Above w/ less Fe Ox Tr chl & Nat cu, ec?	"	"	As above to 273.0 ser in fracs to bottom	wk leached Arg; Base oxides @ ± 273'
	287.9	11.2		.11		Arg	Run	Tr cpy-py-cc-moly; wk ser, chl.	Run	30-80°	Fracs & slips w/ ser, chl.	Brn Arg; wk alt, sp Qtz vlts.
	296.6	8.7		.07		"	"	As Above	"	"	" "	Same, locally brKn
	307.9	11.3		.12		"	"	Tr cpy-py-Tr Moly, Mod ser	RUN	20-60°	wk fracs.	Pale gry Arg. Mod Alt.
	315.3	7.4		.10		"	"	As Above	"	50°±	wk ser filled fracs	As Above
	323.6	8.3		.07		"	"	" "	"	40°±	" "	" "
	332.8	9.2		.07		"	"	" "	"	"	" "	" "
	340.1	7.3		.08		"	"	" "	340.1	BrKN	6" GGy flt zone	INCr IN silica & QTz WING
	347.3	7.2		.10		"	"	" "	RUN	30°±	wk ser + Chlor filled fracs	DK. Gry. Arg.
	356.8	9.5		.10		Arg	RUN	Tr cpy-py, Tr Moly, sp ser	RUN	45°	As Above	TAN-Gry Arg with Ark. Text.
	365.7	8.9		.08		"	"	As Above	"	"	" "	" "
	375.1	9.4		.11		"	"	" "	"	BrKN	Badly Broken, & frac	BrKN Arg
	385.5	10.4		.09		"	"	" "	"	"	BrKN, GGy, Poss flt.	Gry Arg. BrKN, Mod SiO_2
	395.3	9.8		.27		Mp	Run	wk Tr cpy-py; st ser & clay	Run	"	As Above	wht to lt gr Mp w/ pats Qtz, st ser alt, poor Brk
395.3	397.4	2.1		.80		Mp-Arg	"	st py w/ cpy in scat vlts st ser	RUN	± 45°	Sul vlts, qtz vlts very brKn	Mixed pats Mp-Arg w/ st ser alt.
	403.9	6.5	240'	.38		"	"	As Above	RUN	BrKN	BrKN-GGy, wk fracs	ST. Ser Alt IN Arg.
	412.0	8.1	@	.08		Arg	"	Sp-Mod cpy-py, Tr Moly, ST Ser	RUN	45°±	BrKN flt + Ser filled fracs	White Alt. Arg
	419.3	7.3		1.01		Tt	RUN	Mod-ST. cpy-py, Tr Moly Tr Mag & Hem, Sp Chlor	419.3	GGy	GGy-BrKN Hf-Arg Cont. Poss. flt.	ST. Brn Gar with Patches Hf.
	427.5	8.2		.06		QTzT	RUN	Tr cpy-py, Tr Moly & ser.	RUN	55°±	wk fracs	Tt-QTzT cont. BrKN, Pat Hes Arg

HOLE NO. M-69

Coordinates N 361,136.40 E 62,487.96

Dip Vert. Bearing ——

Date started 6/18/63 Completed 7/2/63

Collar Elevation 3288.2 Total Depth 945.4

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
427.5	434.8	7.3		.05		Arg-QtzT	RUN	Tr cpy-py-Moly, Sp Ser	RUN	40°±	wk Ser filled fracs	Tan Arg. with Patches QTzT.
	439.3	4.5		.04		Arg	"	As Above	"	"	" "	As Above
	447.4	8.1		.11		"	"	" "	"	"	Mod fracs	" "
	457.0	9.6		.09		"	"	Tr cpy-py-Moly- Mod ser	RUN	30-60°	" "	" "
	468.3	11.3		.06		"	"	" "	"	BrKN	BrKN, GGy - Poor Rec.	" "
	476.8	8.5		.10		"	"	" "	"	"	" "	" "
EOM	482.7	5.9		.05		"	"	" "	"	"	" "	" "
	487.0	4.3		.04		"	"	" "	"	"	" "	" pats Mp near end
	497.7	10.7		.12		Mp	RUN	As Above + Mica	RUN	30-60°	Fracs, gyp vlts	wht-pale pK-Ligr Mp. wk ser
	508.2	10.5		.12		"	"	As Before	"	"	" "	As Above
	517.2	9.0		.12		"	"	" "	"	"	" "	" "
	528.6	11.4		.07		"	"	Tr suls st ser & gyp	"	BrKn	Strongly sheared & brKn	Lauco-porph. w/ st gyp.
	540.0	11.4		.12		"	"	Tr suls, Moly; wk ser; Mod Qtz, tr Feld repl. wk ser.	RUN	35-50°	wk fracs, slips, Qtz vlts	wht to pale pK Mp. Mod Alt.
	550.0	10.0		.15		Mp	RUN	As Above	RUN	60°±	As Above	Mod Alt Mp
	558.3	8.3		.20		"	"	" "	"	30-60°	" "	" "
	568.2	9.9		.13		"	"	Scat pats & vlts py w/ wk cpy & As Above	"	"	" locally brKn	" "
	579.3	11.1		.13		"	"	Tr suls & As Before	"	"	" "	" "
	588.6	9.3		.13		"	"	" "	"	"	" BrKn & sheared	Local st ser & clay Alt.
	598.4	9.8		.14		"	"	" "	"	"	" Locally brKn	" "
	603.1	4.7		.18		"	"	" "	"	"	" "	" "
	606.6	3.5		.16		"	"	" "	"	"	" "	" poor Rec'y
	619.2	12.6		.14		"	"	Same + Tr biot & serp.	"	"	" "	wk-Mod ser alt.
	621.4	2.2		.11		"	"	" "	"	"	Br Kn	" poor Rec'y
	629.3	7.9		.15		"	"	Tr suls; Mod qtz; wk ser, Tr talc & serp & Moly	RUN	20-50°	fracs, slips wgg, Qtz vlts	wht; pK & tan Mp w/ mod qtz repl & pats Arg. Grad Arg-Mp cnt from 628.3 to end of run
	641.5	12.2		.09		Arg	RUN	Tr suls, Moly, ser, Talc	RUN	20-80°	Fracs; some vuggy; qtz vlts	Tan-Brown Arg w/ qtz vlts
	652.3	10.8		.07		"	"	As Above	"	"	Same; locally vuggy & brKn	As Above
	662.3	10.0		.06		"	"	Same w/ scat pats cpy-py	"	30-60°	wk fracs; qtz vlts w/ sals.	Tan Arg w/ sp scat pats QTzT
	669.2	6.9		.07		Arg-QTzT	"	Tr cpy-py & As above	"	"	" "	Mixed wht QTzT & Tan Arg
	679.6	10.4		.09		QTzT	"	As Above	"	"	" "	wht QTzT w/ sp scat pats Tan Arg.

MIS-807-A 75

HOLE NO. M-69

Coordinates N 361,736.40 E 762,487.96

Dip Vert Bearing —

Date started 6/18/63 Completed 7/12/63

Collar Elevation 3288.8 Total Depth 845.4

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
679.6	689.4	9.8		.10		Qtzt	Run	Tr-wk cpy-py, Tr ser, wk clay Tr Moly	Run	20-85	fracs & shears, locally vuggy & brkn	wht Qtzt w/ wk ser alt.
	701.1	11.7		.08		"	"	As above	"	"	As above; more brkn & vuggy	As before
	709.1	8.0		.07		"	"	" "	"	"	Same but less brkn Local gg on fracs	" "
	715.7	6.6		.11		"	"	" "	Run	"	As Above	wk ser alt.
									713.1	40° ±	Bx-gg w/ suls	
	721.0	5.3		18		"	"	wk-Mod cpy-py, Tr Moly & ser	Run	20-40°	wk fracs & sul vlts.	weakly alt wht Qtzt.
	731.1	10.1		.11		Qtzt	Run	Very thin vlts cpy-py, Tr Moly, serp, chl, ser	Run	"	As Above, locally brkn	As Above
	737.4	6.3		.13		"	"	As above	"	"	" "	" w/ slight incr in ser.
									736.1	± 60°	0.4' gyp filled Bx zone	
	743.4	6.0		.10		"	"	local wk suls & As before	Run	30-50°	fracs, brkn, Bx-gg.	As Above; local impure Jas
	750.9	7.5		.09		"	"	"	"	"	" "	" "
	761.7	10.8		.12		QTzT	Run	Tr Suls, Sp Ser, Tr Gyp	Run	45° ±	wk Gyp + py filled fracs	" "
761.7	766.8	5.1		.51		Hf	Run	Sp cpy-py, Mod chlor, Sp Gyp, Tr Hem, Tr Mag, Tr Moly	761.7	10°	Wk Flt cont of Hf & QTzT. Run Mas Mod Gyp filled fracs	DK. Grn. Chloritic Hf
	775.2	8.4		.53	57.7' @ .83	Hf	Run	As Above	Run	35°	Mod Gyp filled fracs.	Pale Grn Hf.
	781.4	6.2		.37		Hf	"	" "	"	"	" "	" "
	788.8	7.4		1.46		Hf	Run	Mod-St cpy & py, Mod chlor	Run	5°-40°	Sp Gyp filled fracs	DK Grn Hf, patch Tt
	799.0	10.2		.74		Tt	Run	Mod-St cpy & py; St. Gar.	Run	40°	wk Gyp filled fracs	Brn. Gar. Cpy as units.
	811.0	12.0		.63		Tt	Run	Mod-St. suls, St. Hem + Gyp sp chlor, Tr Mag.	Run	20-80°	Mod Gyp + sul filled fracs	St Hem stain, patches of Hf, + Massive Gyp
	819.4	8.4		1.47		Tt	Run	As Above; Local st CO_3, Bn.	"	± 40°	wk fracs w/ suls, gyp.	Dense lt grn Tt w/ local st CO_3 repl.
									817.1-18.3	± 50°	CO_3 cem frac zone	
	829.6	10.2		.22		Mb	Run	Sp sul vlts; st gyp, Tr gar Mod serp.	719.4	± 60°	Tt - Mb cnt.	wht Mb w/ greenish cast
									Run	20-50°	Gyp & serp filled fracs	
	843.5	13.9		.12		Mb	"	Tr cpy-bn-cpy, Mod-St serp wk gyp.	Run	"	As Above	As above locally mottled
									843.5	± 50°	Mb-Hf cnt in shear zone	w/ serp in gr Mb, pats Hf
	850.6	7.1		.16		Hf	"	Tr suls; Mod serp; wk gyp; pets Trem, clot.	Run	40-60°	wk fracs & slips.	Pale grn, locally clayey serp Hf.
	860.7	10.1		.03		Hf	"	As Above	"	"	" "	As Above, decrease in serp
	870.7	10.0		.05		Hf-Tt	"	" "	Run	"	" "	Mixed Hf-Tt

MIS-807-A 75

HOLE NO. M-69

Coordinates N 361,736.40 E 762,487.96

Dip Vert Bearing —

Date started 6/18/63 Completed 7/12/63

Collar Elevation 3288.2 Total Depth 945.4

GEOLOGIC LOG

MISSION UNIT

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DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
870.7	880.1	9.4		.01		Hf-Tt	Run	Tr-wk py, Tr cpy-Moly; Mod gyp; Trem-Act & Serp.	Run	30-45°	wk fracs & gyp vlts	Pale yel-tan mixed Hf-Tt
	892.4	12.3		.01		Hf	"	Tr suls & Moly; Mod Serp wk gyp; Tr Trem-Act	Run 892.4	" 30°	" " Hf-Mbent fracs	Pale yel-grn-tan Hf
	903.2	10.8		.01		Mb	Run	Tr suls, Mod serp	Run	30-85°	fracs; some Vuggy	DK gr Serpentinized Mb
	916.6	13.4		.16		"	"	As Above + chl & bn	"	30-70°	As Above	DK gr-gr-wht Mb w/ serp & chl Alt & pats Hf.
	925.6	9.0		.01		"	"	Faint tr suls tr serp	"	30-60°	" "	Mixed gr & wht Mb
	935.1	9.5		.02		"	"	As Above	"	"	" "	As Above w/ pats Hf
	945.4	10.3		.04		"	"	" "	"	"	" "	wht Mb
					Bottom							

MIS-807-A 75

HOLE NO M-68

GEOLOGIC LOG

MISSION UNIT

①

Coordinates N 361,437.49 E 762,742.94
Dip Vert. Bearing —
Started 6/11/63 Completed 7/5/63
Elevation 3278.6 Total Depth 922.3

DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
199.1	4.1				Cal-Sgl						Bed Rock 193.7'
198.7	4.6		.11		Arg	Run	Mod Lim, Sp Ser, Tr Cc Tr Blk Cuox	Run	50° ±	Leached fractures	Leached & Alt Arg
203.0	8.3		.07		"	"	wk Fe Ox, Mnox, Tr "live" Lim, Mod ser	Run	"	As Above	As Above w/ local Arkosic Text.
216.9	11.4		.07		"	"	As Above + Tr blk Cuox	"	30-60	" & brkn	" "
225.0	6.6		.13		"	"	same w/ wk hem.	"	"	" "	" "
								225.0	± 30°	Arg-Mp cnt @ frac.	
230.5	5.5		.09		Mp-Arg	Run	Tr Fe-Mnox stringerplay	225.7-226.6		Int of Arg.	Leached & gy Mp w/ Arg
								227.6-end	Lost	Mp bx in gg zone	intercept
241.0	10.5		.02		Mp	"	" "	Run	—	Brkn	Leached Mp V. Poor Rec'y w/ frags Arg.
247.0	6.0		.05		Mp-Arg	"	" "	"	"	Brkn	Mixed ints Arg & Mp.
[illegible]	9.5		.09		Mp	"	As before w/ Tr Nadec & chl	251.5	—	Base Oxides	wht leached Mp w/ local chl gg.
								Run	—	Brkn	
262.[illegible]	4.0		.15		Arg	"	Tr py-cpy-cc wk ser.	"	± 40	wk Fracs, brkn	Lt gr Arg w/ ser alt.
267.9	2.4		.07		"	"	Tr sulf wk ser	"	30-60°	Fracs	As Above
265.[illegible]	1.4		.07		"	"	Tr py-cpy-Moly Mod ser.	Run	35°	wk fracs	ST Alt, Gry Arg
270.[illegible]	1.2		.10		"	"	As Above	"	"	"	" "
[illegible]	0.7		.10		"	"	" "	281.0	45°	Brkn, Gry 6" Alt zone	" "
[illegible]	11.2		.10		"	"	Sp py-cpy, Tr Moly, Sp ser	Run	40-80°	Sp Ser & Sul filled fracs	Sul's as ints in Arg
3[illegible]	11.7		.09		Arg	"	As Above	"	50° ±	As Above	As Above
316.0	3.7		.23		"	"	wk py-cpy; Tr Moly,	"	40°	" "	" "
317.5	9.5		.15		"	Run	Tr py-cpy-Moly, Sp Ser	"	30-50	" & brkn	" locally silf.
321.5	3.5		.14		"	"	As Above	"	"	As Above	" Ser alt
325.0	4.0		.09		"	"	" "	"	"	" "	" "
328.4	3.4		.28		"	"	" Slight incr in Moly	"	"	Mod ser in fracs, brkn	" "
331.0	2.6		.12		"	"	" Decrease Moly; Tr Sero	"	"	Brkn & gy	" Mod ser alt.
335.0	4.0		.21		"	"	Tr sulf, Mod ser	"	"	fracs & brkn	" V. poor Rec'y
338.3	3.3		.11		"	"	wk sulf & As before	"	±70°	fracs & slies	" Fair Rec'y
347.8	9.5		.15		"	"	Tr sulf & Moly; As Above	"	Hi ∠	fracs & brkn	" Poor Rec'y
353.9	6.1		.08		"	"	" "	"	20-80°	fracs locally gy	wk-mod ser; sp qtz vlts
362.3	8.4		.10		"	"	" "	"	50° ±	As Above	As Above Into Mp
373.0	10.7		.06		Arg-Brk	"	" "	"	30-60°	" "	Arg-Brk Arkosic Text.
384.3	11.3		.08		"	"	" "	"	"	" "	Incr IN Arkosic Text

MIS-807-A 75

HOLE NO. M-68

Coordinates N 361,437.49 E 762,742.94
Dip Vert. Bearing —
Date started 6/11/63 Completed 7/5/63
Collar Elevation 3278.6 Total Depth 922.3

GEOLOGIC LOG
MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
384.3	393.3	9.0		.09		Arg-Ark	Run	Sp cpy-py, Tr Moly, Sp Ser.	Run	30°	wk fracs	Tan Arg with Arkosic text
	401.6	8.3		.08		"	"	As Above	"	45°	" "	As Above
	410.7	9.1		.25		Arg	"	" "	"	40°±	St. fracs, BrKn, ggy	Tan Arg. BrKn
									410.4'	35°±	BrKn, GGy flt zone	
410.7	421.4	10.7		.46		Hf	Run	Sp cpy-py, Tr Moly, Tr Hem Tr. Mag, Sp chlor, Tr Ser	417.5'	BrKn	Begin Str BrKn, GGy flt zone, Str. Bx	Hf, BrKn with Patches of Arg + QTz, GGy, crushed
	430.4	9.0		.20		Hf-Arg Bx	Run	As Above	Run	BrKn GGy	Entire Run BrKn + GGy	BrKn GGy flt zone
	437.9	7.5		2.09		Hf	Run	Str cpy-py, Tr Mag + Moly St chlor + Ser	Run	BrKn	St. Mineralized BrKn + GGy	Dk. Grn. Hf with St cpy-chlor, Patches Tr
	446.0	8.1		1.17	50.2' @	Hf-Bx	"	Mod-St cpy-py; As Above	"	"	Mod min. brKn-ggy	" "
	450.0	4.0		2.95	.99	Hf	"	As Above	"	"	" "	" Poor Rec'y
	460.9	10.9		.56		Hf-Mp	Run	Mod cpy-py st chl & ser Sp sacch. sul vits.	451-54.2	±30°	Ggy-bx zone (poss flt ent w/ Mp below	Hf as before to ± 452' followed by Lance porph
	466.8	5.9		.18		Mp	"	Sp vits & blebs suls; wk-mod ser; wk feldspath.	Run	30-55°	fracs & slips; locally brKn	Lance-Mp w/ wk Qtz Rep.
	484.4	17.6		.07		Mp-Qtzt-Arg	Run	wk suls, Mod-St ser	"	BrKn	Very brKn (flt zone?)	Mixed frags Mp-Qtzt-Arg. V. poor rec'y
	486.5	2.1		.07		Qtzt-Arg	"	As Above	Run	BrKn	fractured & sheared	Quartzitic matrix w/ pats tan Arg
	497.2	10.7		.07		Arg	Run	Tr cpy-py-Moly, Sp Ser	490.0	BrKn	BrKn flt zone, St Ser.	Arg, Patches QTzT
	505.0	7.8		.05		QTzt	Run	As Above	Run	40°	Sp ser filled fracs	Dense white QTzT
	515.7	10.7		.04		"	"	" " incr in Moly	"	30-60°	wk fracs + QTz veins.	As Above
	523.8	8.1		.03		"	"	" "	"	"	" "	QTzT, wk Patches Arg
	531.9	8.1		.05		"	"	" "	"	"	" "	As Above
	536.0	4.1		.06		"	"	Sp cpy-py, Tr Moly, Sp Ser	Run	"	" "	White Fract. QTzT
	539.6	3.6		.07		"	"	As Above	"	BrKn	fractured & brKn	" "
	542.4	2.8		.04		"	"	" "	"	±30°	wk fracs locally [redacted]	" "
	548.3	5.9		.04		"	"	" "	"	-	BrKn - shattered	[redacted] wht Qtzt w/ pats Arg & ggy
	558.8	10.5		.03		Arg-Qtzt	"	" "	"	30-80°	Fracs; locally BrKn	Mixed tan Arg & wht Qtzt
	565.0	6.2		.06		"	Run	Tr suls & Moly; wk-mod ser	Run	30-70°	Fracs, wk gg on some	As Above
									562.0	±40°	0.3' flt gg-bx.	
	575.0	10.0		.06		QTzT	Run	As Above	Run	±40°	wk fracs, Tr Ser	Dense White QTzt
	584.6	9.6		.06		"	"	Tr cpy-py-Moly, Mod Ser	Run	35°±	Vry wk fracs.	As Above
	593.0	8.4		.11		"	"	As Above	"	45°±	" "	" "
	597.1	4.1		.11		"	"	Sp cpy-py, Tr Moly, Ser	598	45°	Mod 6" flt zone, Sul GG.	QTzT, Patches Arg

HOLE NO M-68

Coordinates N 36143749 E 762.742.99

Dip Vert Bearing —

Date started 6/11/63 Completed 7/5/63

Collar Elevation 3278.6 Total Depth 922.8

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
597.1	607.8	10.7		.47	2.47	Hf-Qtz	Run	Tr-Mod cpy-py, Tr Moly, st Ser, Tr Chlor	Run	30°±	wk fracs	Intense Ser Alt. Hf with patches of white Qtz
	617.7	9.9		3		Mp	Run	wk cpy-py, Tr Moly, st ser	Run	Brkn	Brkn Gry Mp	Intense Ser Alt. up to cont at 607.8
	621.0	3.3		.15		Mp	"	As Above	Run	45°±	Sp fracs + Slips	Mp-Arg cont. 45° at at 621.0
	631.0	10.0		.08		Arg	Run	Tr cpy-py-Moly, Sp Ser	Run	30-60°	Mod Ser filled fracs	Tan Alt. Also Qtz
	642.8	11.9		.08		Arg	Run	As Above	"	"	As Above	Arg-Patches Not Qtzt
	654.6	11.8		.08		Arg	"	Sp pats & vits py-cpy; Tr Moly, Tr-wk ser	Run	20-40°	wk fracs w/ Tr serp & Talc; Qtz vits.	Tan-brn ring w/ pats Qtz & Qtzt.
	663.2	8.6		.12		Arg-Qtzt	Run	As Above; Inner ser	"	30-60°	fracs; locally brkn; Qtz vits	Mixed Tan Arg & wht Qtzt
	667.3	4.1		.07		Arg & Qtzt	"	" "	"	"	As Above	" Sp vuggy fracs.
	670.0	2.7		.07		"	"	Tr suls in bx zone	"	Brkn	Nilbx w/ wk gy.	Qtzt-Arg Bx zone (Poor Rock)
	677.4	7.4		.01		Qtzt	Run	Tr-wk ground suls; wk ser	Run	30-60°	fracs & shears	wht Qtzt w/ pats Arg
	687.5	10.1		.10		"	Run	Sp suls, Tr moly; wk ser	"	30-50	" "	wh. Qtzt w/ wk ser alt.
	697.1	9.6		.10		"	"	As above	"	"	vuggy fracs w/ suls.	As above
	705.0	7.9		.12		"	"	" "	"	30-70°	fracs locally brkn	" "
	717.5	12.5		.12		"	"	Same w/ incr in py-cpy	"	"	" st shearing	" "
	721.3	3.8		.14		"	"	" "	"	Brkn	Brkn, Str fracs	Dense white Qtzt
	733.5	12.2		.10		"	"	" "	"	40°±	wk fracs	" "
	744.5	11.0		.14		"	"	Tr cpy-py-Moly, sp ser	Run	40°±	wk Qtz + Ser filled fracs	" "
	755.2	10.7		.10		"	"	As Above	"	"	As Above	" "
~~EOM~~ ▶	767.1	11.9		.15		"	"	" "	"	"	" "	" "
767.1	777.5	10.4		.64		Qtzt & Hf	Run	wk to locally mod diss & vit cpy-py, wk clay, Med gyp. Tr sp, chl.	± 768 Run	40° 30-90°	Qtzt-Hf cont @ slip wk fracs, gyp-qtz-sul vits	Dense pale grn Hf w/ gyp & pats Qtzt, first 0.9' Qtzt
	787.0	9.5		.32		Hf	Run	As Above	"	30-70°	As before	Same w/ more clay
	797.4	10.4		.50		"	"	" "	"	"	" "	" "
	806.4	9.0		.62	90.2' @ 0.57	"	"	Scat pats & vits cpy-py; sp gyp-chl & clay	"	"	" "	As above w/ lesser clay
	816.4	10.0		90		"	"	Incr suls, pats gar, cp	"	"	" "	pale yel-grn w/ pats gar & fold.
	822.6	6.2		.66		Hf-Tt	"	As Above + Tr Moly, hem.	"	"	" "	Mixed Hf-Tt w/ pats fold Local qtz. Mottled Text

GEOLOGIC LOG

MISSION UNIT

HOLE NO. M-68

Coordinates N 361,437.48 E 766,742.39

D present Bearing —

Date started 6/11/63 Completed 7/5/63

Collar Elevation 3278.6 Total Depth 922.3

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
822.6	832.6	10.0		.71		Hf	RUN	wk py-cpy-gyp; Tr moly, pats gar-ep	RUN	10-30°	Mod Calc & Gyp filled fracs	Pale gry-Grn Hf
	842.5	9.9		.19		Hf	RUN	Tr-Mod py-cpy, Sp Gyp Tr Mag-Moly, ep, Scr	RUN	30°	As Above	Hf, Pale Gry-tan, Patches of Tf
	853.0	10.5		.46		Hf	RUN	Sp-Mod-cpy-py, Tr Moly Tr Hem, Tr Bn	RUN	45°	" "	As Above
	857.3	4.3		1.02		Hf-Tf	RUN	Mod-St. cpy-py, Mod Hem Tr Mag-Moly	RUN	50°	" "	Hf, patches Tf, cpy is as VNS & Pods
	865.8	8.5		.03		Hf	RUN	Sp cpy-py, Tr Bn	RUN	20°	wk Gyp filled fracs	Tan-white Hf
	875.5	9.7		.02		Hf	"	As Above	RUN	40°	Vry wk Gyp filled fracs	Grey. Cont. with Mb.
	882.4	6.9		.03		Mb	RUN	Tr Bornite, cpy-py.	RUN	—	Race fracs	White Recrystlized L.S. (Mb)
	892.6	10.2		.04		Mb	"	" "	"	"	" "	" "
	902.8	10.2		.03		Mb	RUN	Tr Sulfs	RUN	—	RUN Shows Vague Bx & Re-cementation with L.S. Matrix	DK Gry Mb with elongated Pods of White Mb
	913.0	10.2		.03		Mb	RUN	Tr Sulfs	RUN	45°	WK Cal filled fracs	DK Gry - white Mb
	922.3	9.3		.02		Mb	RUN	Tr Sulfs	"	"	" "	White Mb
					Bottom							

HOLE NO. M-67

Coordinates N 363,548.89 E 761,990.83

Dip Vert Bearing —

Date started 5/17/63 Completed 6/18/63

Collar Elevation 3252.8 Total Depth 1172.0

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	181.0					Alluv						Top CCg
	195.7	14.7				Ccg		Typical CCg.				BR ± 195.7
	206.0	10.3		.25		Mp	Run	wk Fe-Mn ox Tr Cu ox st ser wk serp Tr biot	Run	-	Br bx & clayey	Leached Mp w/ sp qtz vlts
	211.3	5.3		.16		"	"	As above	"	"	" "	" Base Oxides 211.3
	224.0	12.7		.17		"	"	Tr sulf, st ser, clay, trace qtz vlts.	Run	±60°	Poss flt bx-gg @ 217.0', & 218.9' Fracs & qtz vlts	Leuco-porph w/ st ser alt.
	233.4	9.4		.18		"	"	As above w/ less ser & more qtz.	"	30-50°	Fracs & slips, qtz vlts	" Mod ser alt.
	242.3	8.9		.18		"	"	Sp wk qtz vlts w/ cpy & As before	"	"	" "	" "
	253.1	10.8		.19		"	"	" "	"	"	" "	" "
	264.0	10.9		.23		"	"	" "	"	"	" "	" "
									256.1	±30°	2' bx-gg zone	
	275.0	11.0		.18		"	"	As above w/ st ser & clay	Run	30-50°	Fracs, slips, bx & gg	" w/ st ser alt.
	285.3	10.3		.20		"	"	Trcpy-py-moly-gyp, Mod ser.	"	20-60°	wk fracs & slips; sp qtz vlts.	Pale pk to wht Mp w/ mod ser alt.
	295.3	10.0		.16		"	"	As above + tr biot	"	"	" "	" "
	302.7	7.4		.11		"	"	" "	"	"	" "	" "
	310.6	7.9		.16		"	"	" "	"	"	" "	" "
	318.3	7.7		.15		"	"	" "	"	"	As above; occasional thin bx-gg on fracs.	" "
	327.4	9.1		.10		"	"	" "	"	"	" "	Same w/ incr in qtz
	339.2	11.8		.10		"	"	" "	"	"	" "	" "
	345.0	5.8		.13		"	"	" "	"	"	" "	" "
	355.3	10.3		.17		Mp	Run	Sp vlts & diss sulf, sp gyp wk-mod ser; Tr serp & Talc & biot.	Run	25-50°	Fracs, gyp vlts, qtz vlts	" "
	369.6	14.3		.17		"	"	As above	361.5	60°	Br-gg zone 0.4'	" "
	378.8	9.2		.14		"	"	" "	Run	30-50°	As in previous runs	" "
	386.0	7.2		.13		"	"	" "	"	"	" "	" "
	397.8	11.8		.15		"	"	" "	"	"	" "	" "
	403.9	6.1		.13		"	"	" "	"	"	" "	" "
	413.4	9.5		.20		"	"	" "	"	"	" "	Poor Recovery
	425.6	12.2		.18		"	"	Slight incr in sulf	"	"	" "	As in previous runs.

MIS-807-A 75

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-67

Coordinates: N 363,548.89 E 761,990.83

Dip Vert Bearing —

Date started 5/17/63 Completed 6/18/63

Collar Elevation 3252.8 Total Depth 1172.0

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
425.6	435.6	10.0		.22		Mp	Run	wk-Tr suls, wk ser, Tr biot	Run	20-70°	Fracs & slips	Pale pk tan Mp w/ wk
	448.5	12.9		.16		"	"	As above + Tr gyp	"	20-50°	Fracs; some gg	ser, serp & Mod silf & feldspar
	459.7	11.2		.14		"	"	" w/ slight incr inser	"	"	" "	More ser alt lesser silf.
									455.1	30°	0.3' bx-gg zone (FH?)	
	472.1	12.4		.11		"	"	As Above	Run	30-60°	Fracs & slips	As Above
	480.6	8.5		.10		"	"	" No biot	"	"	" "	" "
	490.6	10.0		.13		"	"	Sp pats & vlts cpy-py Tr gyp	"	40-70°	" wk gg	" "
								wk ser & serp.				
	499.4	8.8		.10		"	"	As Above	"	"	" "	" "
	512.6	13.2		.11		"	"	" "	"	"	" "	" "
	519.8	7.2		.13		"	"	Tr cpy-py-Moly, Mod ser	Run	50°±	wk gyp filled fracs	T. Alt. Mp.
								Tr gyp + serp.				
	527.5	7.7		.13		Mp	Run	As Above	Run	"	As Above	As Above, Incr in SiO_2
	540.9	13.4		.15		"	"	" "	"	"	Pass flt (45°) at 540.9	" "
	547.8	6.9		.11		"	"	" "	"	40°-80°	wk gyp filled fracs	" continues in SiO_2
	560.8	13.0		.13		"	"	" "	"	35°±	As Above	ST Alt. Mp
	574.7	13.9		.12		"	"	" "	"	30-60°	" "	" "
	581.7	7.0		.14		Mp-Qtzt	"	Sp vlts cpy-py; As before	580.4	±30°	Mp-Qtzt cnt in brkn zone	Mp as above, wk-mod
												ser in wht Qtzt
	591.6	9.9		.04		Qtzt	"	sp-wk cpy-py; Tr moly	Run	30-45°	Fracs & shears; some	Dense wht talcy Qtzt
								wk-sp ser			w/ wk bx-gg	w/ wk ser alt
	601.8	10.2		.08		"	"	Tr suls, ser, moly	596.1	±65°	Recem Bx zone	As Above
									Run	30-50°	As before	
	609.8	8.0		.10		"	"	As above	"	"	" "	" "
	619.6	9.8		.17		"	"	Same + local gyp + Incr	"	"	" w/ gyp	Incr in ser w/ Qtzt
								in ser & py-cpy	613.9-15.7	-	Mp & gyp mixed w/ Qtzt	& Mp int.
	629.7	10.1		.11		"	Run	Tr-wk cpy-py; Tr Moly;	Run	30-70°	Fracs & slips w/ gyp &	wht Qtzt w/ impure
								wk ser, gyp?			Thin gg seams.	Tan zones, wk ser alt.
	636.3	6.6		.24		"	Run	As Above	Run	60°±	As Above	As Above
	642.4	6.1		.48	0.48	Hf-Tf	Run	Sp-cpy-py, sp chlor, sp-Mod	Run	20-80°	Sp Cal + ser filled fracs	Dense Siliceous, Hf+Tf, Hf
								feld., Tr Moly, sp Ser				QTZT cont. ≈ 50° flt, slip
	654.0	11.6		.12		Arg	Run	wk suls, Tr feld, sp ser	Run	30-60°	wk ser + chlor filled fracs	Dense Tan Arg
	658.2	4.2		.09		"	"	Tr-wk suls & As Above	658.2	40°	Arg-Hf cnt @ Feld-	" "
											Qtz filled flt.	
	670.2	12.0		.17		Hf	Run	Sp vlts cpy-py; wk gyp, chl	Run	Varied	Gyp filled fracs	Dense pale grn Hf w/ CO_2

HOLE NO M-67

Coordinates N 363,548.89 E 761,990.83

Dip Vert Bearing —

Date started 5/17/63 Completed 6/18/63

Collar Elevation 3252.8 Total Depth 1172.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
670.2	680.1	9.9		.19		Hf	Run	wk-mod cpy-py, wk gyp, CO_3 Tr Ep, chl, serp, gar.	Run	10-70°	Gyp filled fracs sp Qtz vlts.	Pale grn-grn Hf w/ mod local CO_3.
680.1	687.0	6.9		.62	25.1' @ .63	Hf-Tt	Run	As Above	683.2	40°	Hf-Tt cnt @ Gyp filled frac	Hf as above to 683.2 & brn Tt Grades to Hf @ end.
												686.9 Grad cnt to Hf.
	695.2	8.2		.5		Hf	Run	wk-mod cpy-py-chl; wk Gyp Tr trem-Act, Ep.	Run	Varied	Gyp, chl, Qtz vlts & fracs	Pale grn to yel locally clayey Hf.
	705.2	10.0		.79		Hf	Run	wk-mod cpy-py; wk chl Gyp, serp; Tr mag & $MnCO_3$	Run	"	As Above	Dense pale grn to gr Hf w/ local sp Qtz vlts, pats $MnCO_3$, & mod zones serp.
	709.5	4.3		.19		Hf-Mb	Run	wk suls, $MnCO_3$, serp & Gyp. Tr ser near end	Run 709.5	" ±60°	fracs, slips, qtz-gyp vlts flt cnt w/ Qtzt below	Pale grn Hf mixed w/ wht to pale grn serp Mb; local pats tan Qtzt.
	716.3	6.8		.04		Qtzt	Run	Tr suls & moly; wk ser & gyp	Run	30-50°	fracs & slips	Wht-ltgr Qtzt w/ local wk ser alt near fracs
	725.5	9.2		.17		Qtzt-Hf	"	local wk cpy-py-sph & As before w/ Tr hem, chl	"	"	" "	Qtzt as above & pale grn dense Hf w/ faint bx Text.
	735.3	9.8		.29		Qtzt-Hf	"	" + Tr $MnCO_3$ & CO_3	"	"	" "	Mixed ints wht Qtzt & grn Hf
									734.9	±55°	Hf-Qtzt cnt @ gyp vlt.	
	744.1	8.8		.05		Qtzt	Run	Tr suls; wk-mod ser; Tr gyp	Run	30-60°	fracs, slips sp gyp vlts	wht-ltgr dense Qtzt w/ wk-mod ser alt.
	756.6	12.5		.08		"	"	As Above	"	"	" "	" "
756.6	762.7	6.1		1.66	.06	Tt	"	Mod-st cpy-py-st hem fog; wk gyp; Tr ep & CO_3	756.7	Grad.	Qtzt-Tt cnt	Maroon Tt w/ seat pats & frags Qtzt (has faint flt bx texture)
									762.7	±30°	Tt-Qtzt cnt	
									Run	30-50°	fracs & gyp vlts	
	771.2	8.5		.05		Qtzt	Run	Tr suls, wk ser & gyp.	"	30-40°	wk fracs & gyp vlts	wht Qtzt w/ wk ser alt.
	783.3	12.1		.19		"	"	As Above	"	30°	As Above	As Above
	788.6	5.3		.22		Hf	Run	sp-mod cpy-py, Mod Hem Mod chlor, sp Gyp, Tr Mag	Run	45°	Mod Gyp & Cal filled fracs	Hf, St. Hem Stain.
	798.6	10.0		.04		Hf	"	sp mod suls, Near in Hem	Run	40-70°	As Above	Hf, Pale grn; sp silica
	808.6	10.0		.11		Hf	"	sp-cpy-py, specular & Gyp	Run	55°	Vr wk fracs	Siliceous Hf, Patches QTZT & Tr
	818.7	10.1		.11		QTZT	Run	Tr suls, sp ser, Mod Gyp	Run	40-80°	wk fracs + Patches Bx	White, Gypsiferous QTZT, Pos. flt.
	828.7	10.0		.06		"	"	As Above	"	50°	wk Gyp filled fracs	Dense white QTZT

HOLE NO M-67

Coordinates N 363,548.89 E 761,190.63

Dip Vert Bearing —

Date started 5/12/63 Completed 6/18/63

Collar Elevation 3252.8 Total Depth 1172.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
828.7	835.3	6.6		.04		Arg-Gyp	RUN	Tr cpy-py, ST Gyp, Tr calc	RUN	40°	Sp. Gyp filled fracs	F.G. Gypsiferous Arg, Tan.
	845.3	10.0		.04		"	"	Tr cpy-py, Tr Moly, chlor, ST Gyp	RUN	30°-70°	Mod Gyp filled fracs + Vn Its	As Above
	855.3	10.0		.03		"	"	As Above	"	40°	As Above	white Gypsif. Arg
	865.3	10.0		.05		"	"	" "	"	55°	wk Gyp filled fracs.	Dense tan Gypsif. Arg
	875.3	10.0		.04		"	"	" "	"	70°	wk fracs, Sp Gyp vnlts.	Dense, Gry " "
	885.3	10.0		.08		"	"	" "	884.3'	80°	2" fit, wk fracs	As Above
	895.3	10.0		.07		Hf-Gyp	RUN	Tr cpy-Py-Born, Tr Hem. Tr Chlor, calc, Mod Gyp	RUN	45°	wk-Mod Gyp + Calc filled fracs	Grad. Cont of Gyp-Arg & Gyp-Hf at 885.3±
	905.3	10.0		.13		"	"	As Above	RUN	70°	Vry wk Gyp filled fracs	Gypsif-Hf, lack in Gyp.
	915.3	10.0		.17		"	"	" "	"	"	As Above	As Above.
	924.2	8.9		.03		QTzT	RUN	Tr Sulfs, Sp Gyp + Sch, sp chlor	915.3'	Brkn	Gyp-Hf & QTzT cont	white Sericitic QTzT
	935.2	11.0		.03		"	"	As Above	RUN	50°±	As Above	As Above
	943.7	8.5		.02		Mb-Bx	RUN	Tr Sulfs, QTz, Ser, Calc	935.2'	30°	Fit cont of QTzT + Mb 2" fit zone, The entire run is Bx + Recemented with Calcite + Some QTz	Dk Gry Bxed Recrized L.S, Stringers + Pods of Calcite + occasional QTz.
	949.1	5.4		.02		Mb	RUN	Tr cpy-py-Bn, sp-Mod Ser	943.7	70°	Ser filled 3" fit cont of dk gry Bx-Mb + Pure white Mb	Dense white Mb.
	959.0	9.9		.03		Mb	"	As Above	RUN	35°	wk calcite filled fracs	As Above
	964.7	5.7		1.57	1.57	Mb	RUN	Str cpy-py, Tr Sphal sp chlor, Tr Bn, Tr wall + Trem	RUN	40°	Tr Sul filled fracs. Run + Mineralization, Terminated by wk 60° fit at 964.7'	white Mb, with ST cpy as diss.-pods-stringers + wk vnlts.
	974.0	9.3		.09		Mb	RUN	wk cpy-py, sp Hem + chlor Tr Bn,	974.0	25°	wk fit slip cont of Mb with Arg(?)	Dense white Mb, Tr Hf at end of run
	981.5	7.5		.01		Arg(?)	RUN	Str ser, sp sulfs, Tr chlor	981.5'	47°	fit cont with Mb,	ST Alt Arg(?) with patch of Mb at 977.0'
	992.7	11.2		.06		Mb	RUN	Tr cpy-py-bn, sp calc vnlts	992.7	24°	Fit slip cont. with QTzT, (argillic Text)	Dense white Mb
	1002.1	9.4		.02		Arg(?)	RUN	Tr py-cpy, Mod Ser + Talc sp chlor, Tr Moly	RUN	50°±	Sp-Mod Ser + Talc filled fracs, Modrly Brkn	White-Gry Arg with patches of QTzT.
	1009.2	7.1		.01		Arg(?)	RUN	As Above	1003.0'	46°	ST fit to 1004.3'	Cont vague Arg. with QTzT. patches, Broken
									1008.5	72°	ST fit zone Begins	fit zone

HOLE NO. M-67

Coordinates N 363,548.89 E 761,990.83

Dip Vert. Bearing —

Date started 5/17/63 Completed 6/18/63

Collar Elevation 3252.8 Total Depth 1172.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
1009.2	1016.4	7.2		.06		Ark + Flt. gg	Run	Crushed & pulverized. cpy & py	1009.2	60°	Entire Run is a ggy + Bx flt zone	ST Alt + Bx Ark + Arg. crushed Suls with ser + Talc
	1026.6	10.2		.01		Ark (Arg?)	Run	ST. Ser + chlor, Tr Moly, Tr Talc. Sp cpy - py, Mod ser & chlor	Run	40°	Mod fracs	Silicified + Alt Ark + Arg Patches of Mp
	1033.3	6.7		.04		"	"	As Above	Run	30-60°	Mod ser filled fracs	Dense silicified
	1039.8	6.5		.02		"	"	" "	"	"	" "	Dense Arg with patches with Arkosic Text.
	1046.4	6.6		.03		"	"	Tr Sul's, Sp ser, Tr Gyp	Run	40°	Wk fracs	Dense Silicified clastic with Arkosic Text.
	1056.9	10.5		.02		"	"	As Above, suls as Frags, stringers + "Pods"	1056.0'	Brkn	GGy Flt zone 2"	Cont. ST. Alt, Arkosic Argillite
	1066.0	9.1		.01		"	Run	As Above	1064.0'	GGy	Flt zone 9"	ST. Alt. Silicified Arkosic Arg This rk has patches that have a vague cgl. Text.
	1076.0	10.0		.01		Ark.	Run	Tr Suls, Sp Ser, Tr Gyp	Run	60°	Sp Talc + Chlor filled fracs	As Above
	1082.8	6.8		.05		"	"	As Above	1079.6	70°	Wk Flt, But 1 ft. segment of Hf lies below this flt.	Ark with patch of Hf
	1090.6	7.8		.02		Ark (?)	Run	Tr Suls, Mod ser + Talc	1082.8	50°±	4 ft. Flt zone	ST. Flt Zone To 1086.0'
						Arg. cgl	Run	As Above	1086.0	Brkn	Arg-cgl below Flt zone	then cgl. Arg (silicified)
	1101.6	11.0		.01		Ark (?)	Run	" "	1095.8-98'	Brkn	Hf + shear zone flt (?)	Silty Arg w/ pats Ark & cgl. All silicified
						Arg-cgl			Run	40-60°	Wk ser filled fracs	
	1109.7	8.1		.02		"	"	" "	"	"	" Locally brkn	As Above
	1120.1	10.4		.03		"	"	" "	"	30-60°	" Sp Mb fracs	" "
	1129.2	9.1		.03		"	"	" Local wk Py - cpy	"	30-50°	Ser & serp filled fracs.	" "
	1138.7	9.5		.03		"	"	Tr cpy-py; wk-Mod ser & talc	"	40-60°	As Above	" "
	1145.0	6.3		.01		"	"	As above + local serp	Run	"	" "	" "
	1149.7	4.7		.02		Arg-cgl	Run	As Above	Run	60°	" "	Flt zone at end of run
	1155.4	5.7		.03		Bx-Mb	1149.7'	10" crushed sul Bx zone	1149.7	16°	10" crushed sul zone	Blk. sul gg + Bx
								sp suls in white Mb	1151.0	8°	6" crushed-re-cemented sul Bx	As Above. Bx is Limy with sul + Mb frags
								that lies between flts	1153.8'	20°	2' Flt Bx, Frags Mb calcite + Mb + Granite	This Bx zone is the contact Between Seds + ST Alt. (?) Granite

HOLE NO. A-67

Coordinates N 363,548.89 E 761,990.83

Dip Vert Bearing —

Date started 5/17/63 Completed 6/18/63

Collar Elevation 3252.8 Total Depth 1172.0

GEOLOGIC LOG

MISSION UNIT

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
1155.4	1162.2	6.8		.01		Granite	Run	Qtz, Muscovite, felds, Mod Spr	Run	40-60	Fractured & Broken	Mod. Altered Granite
	1167.6	5.4		.01		"	Run	As Above	"	"	As Above	As Above
	1172.0	4.4		.02		"	"	" "	"	30-60	" "	As Above last 2.0' less altered
	Bottom											

HOLE NO. M-66

Coordinates N 361,737.90 E 762,736.97

Dip Vert Bearing —

Date started 5/20/63 Completed 6/11/63

Collar Elevation 3282.1 Total Depth 951.6

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	190.0					Alluv						Top CCg ± 165
	202.0	12.0				CCg						BR cut ± 202'
	206.0	4.0		.04		Arg	RUN	wk-mod FeOx, ser, sp CCg vlts.				Ser alt Arg Poor Rec'y (Leached)
	218.2	12.2		.04		"	"	Mod FeOx; Tr "Live" lim mod-st ser & clay	RUN	45-60°	Fracs w/ clay; brKn	Lt tan to brown Arg
	229.1	10.9		.11		"	"	Same w/ wk MnOx, Tr nat cu	"	"	" "	As above w/ wk local chl
	240.3	11.2		.04		"	"	Incr in FeOx local thru	"	varied	St Fracs; local gg	" "
	252.3	12.0		.04		"	"	Oxides decrease accross run; wk "Live" lim @ start	"	20-60°	Fracs, slpe, stepts, local thin bx-gg on fracs	No change but less brKn
	262.0	9.7		.03		"	"	wk FeOx; Tr "Live" lim, Nat cu wk-mod chl & serp wk ser.	"	"	" "	As above w/ wk silt in vlts
	270.8	8.8		.18		"	"	As above + Tr cu, cpy, py	"	"	" brKn	As Above; more brKn
	276.7	5.9		.17		"	"	Same w/ No "Live" lim	"	"	" "	" Base Dribs @ 276.7
	288.8	12.1		.09		"	"	wk-Tr suls; sp Tr cu & Nat cu; wk ser & chl	"	40-60°	Fracs locally shattered	Brown to lt gr Arg w/ short zones showing faint porph-like text.
	301.5	12.7		.12		"	"	As above w/ Tr suls & No Nat cu.	"	"	As before	Same w/ wk-Tr ser alt & wk-mod silt.
	310.8	9.3		.11		"	"	" "	"	"	" "	" "
310.8	321.6	10.8		.64	.64	Arg	RUN	~~sp mod py~~, py, sp ser + chlor	RUN	50°±	wk ser coated Fracs	DK Gry Alt Arg
	330.2	8.6		.33		"	"	As Above	"	30-70°	As Above	As Above, wk cgl Text.
	340.3	10.1		.14		"	"	" "	336.0'	BrKn	Poss flt AT 336.0'	Alt, BrKn Arg.
	352.2	11.9		.10		"	"	" sp Qtz veining	RUN	50°±	wk ser + Qtz filled fracs	St Alt. Lt. Gry Arg
	364.0	11.8		.11		"	"	As Above	"	"	" "	" "
	374.9	10.9		.14		"	"	" + Tr moly	"	"	" "	" "
	384.8	9.9		.18		"	"	" "	"	"	As above & brKn	" "
	392.3	7.5		.16		"	"	" "	"	"	" Less brKn	Not as strongly altered
	403.6	11.3		.11		"	"	" "	"	"	BrKn & sericitized	St Alt Lt gr Arg; ~~bm pch~~
	412.6	9.0		.12		"	"	Tr suls & as before	"	20°	" "	" "
	419.3	6.7		.18		Arg & gg	RUN	wk suls, moly, st gg	RUN	–	BrKn & ggy Poss flt	Arg & clayey Hf like gg poor rec'y
	430.2	10.9		.25		"	"	" "	"	–	Poss cont'd ftzone	Mod Arg & Hf br in ml gg
	441.3	11.1		.32		"	"	" Mod py & sul gg	"	"	" "	" "
	453.1	11.8		.26		"	"	" "	"	"	" "	" "

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HOLE NO. M-66

Coordinates N 361,737.90 E 762,736.97

Dip Vert Bearing —

Date started 5/20/63 Completed 6/11/63

Collar Elevation 3282.1 Total Depth 951.6

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
453.1	462.0	8.9		.34		Hf	RUN	WK-Sp cpy-py, Sp chlor	RUN	45°	WK cal & Ser filled fracs	Pale grn Hf, patches Arg
	474.1	12.1		.72	.72	"	"	Mod cpy - Tr Hem & Mag Tr Moly	RUN	40°	As Above	As Above
	478.2	4.1		.30		Arg	RUN	Sp cpy - py, Tr Moly	RUN	BrKN	WK fracs, BrKN	Tan Arg. Hf-Arg Cont is 30° flt at 478.2'
	482.5	4.3		.11		"	"	" "	"	"	" "	Tan Qtzitic Arg; Poor Rec'y
	492.8	10.3		.05		Qtzt	"	As Above + st sericitay No Mag.	RUN	Hi ∠	Shearing - BrKn	wht qtzt w/ pats tan Arg & st ser alt.
	503.0	10.2		.04		"	"	As Above	RUN	BrKn	WK fracs	As above, Poor Rec'y
	515.2	12.2		.13		"	"	" "	"	"	" "	" better Rec'y.
	522.5	12.3		.06		"	"	" "	"	"	" "	" "
	530.9	3.4		.06		"	"	" "	"	"	" "	" "
	541.0	8.1		.23		Mp	RUN	Sp cpy-py, Tr Mol. st. Ser, sp chlor	535.0'	BrKN	BrKN ggy 2' flt. zone	st. Alt. BrKN Mp, ggy cont.
	551.6	10.6		.32		"	"	As Above	"	50°	WK-Mod. Ser + QTz filled fracs	As Above
	562.0	10.4		.53	.53	"	"	" "	"	"	" "	" "
Fom ▷	569.0	7.0		.13		QTzT	RUN	Tr: Sp cpy-py-Moly, sp ser	RUN	40°	WK Ser filled fracs	Dense white QTzT Mp-QTzT cont. is WK 30° flt slip.
	580.0	11.0		.07		QTzT	RUN	As Above	571.0	BrKN	1 ft flt zone, BrKN ggy	BrKN, Alt QTzT, Tr Mp.
	590.6	10.6		.11		"	"	" "	RUN	"	BrKN, WK ser filled fracs	Dense white QTzT
	599.7	9.1		.18		"	"	" "	"	"	WK Ser & Py filled fracs	As Above
	609.6	9.9		.12		"	"	" "	"	"	As Above	" "
	614.8	5.2		.11		"	"	" "	"	"	"	" "
	624.2	9.3		.08		"	"	" "	"	"	BrKN QTzT,	" "
	630.6	6.4		.11		"	"	" "	"	50°	St. fracT.	Dense white QTzT.
	639.2	8.6		.10		"	"	" "	"	BrKN	BrKN, St. fracs	" "
	650.3	11.1		.12		Arg	RUN	Tr cpy-py, Tr Moly, Mod Ser	645.8	30°	BrKN, ggy flt zone 6"	Arg-QTzT BrKN cont 639.2'
									650.3	40°	Grad cont (?) Arg + QTzT	
	659.8	9.5		.14		QTzT	RUN	As Above	RUN	40-70°	Mod Ser + Sul filled fracs	Dense white QTzT
	663.7	3.9		.15		"	"	Sp pats cpy-py; As before	"	"	" "	" "
	675.6	11.9		.12		"	"	" "	"	–	BrKn	As Above poor rec'y
	677.8	2.2		.30		Hf	RUN	Sp-Mod cpy-py, Mod chlor	RUN	50°	WK calc filled fracs	Pale Grn Hf, cont. BrKN
677.8	687.0	10.8		1.12	20.8 @	Hf	RUN	Mod cpy, Sp Mag-chlor, Py	RUN	40°	Mod calc + Sul filled fracs	Hf, patches st Mag + Tr
	697.0	10.0		1.29	1.20	Hf	"	Mod. st cpy-py, Sp Mag-chlor	"	60°	As Above	As Above
	706.0	9.0		.25		Hf	"	Sp cpy-py-Mod chlor	"	45°	Mod cal & Gyp filled fracs	Pale grn To Gry Hf

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HOLE NO. M-66

Coordinates N 361,737.90 E 762,736.97

Dip Vert Bearing -

Date started 5/20/63 Completed 6/11/63

Collar Elevation 3282.1 Total Depth 951.6

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
706.0	718.0	12.0		.29		Hf	Run	Sp-Mod Cpy-Py, Mod Chlor Sp Gyp, Tr Hem, Tr Moly	Run	50°	Sp Calc + Gyp filled fracs	Pale grn Hf, decr in Suls sp Tr.
	724.5	6.5		.03		Tt	Run	Sp Suls, Tr Gyp + Calc	Run	45°	WK fracs	Dense Brn Tt, WK Suls Grad. cont with Hf.
	730.0	5.5		.03		Tt-Hf	Run	Sp cpy-py; WK Moly & As before	"	20-45	WK fracs & gyp vlts.	Brn Tt mixed w/ pale grn Hf
	742.0	12.0		.03		Hf	"	As Above w/ local WK cpy, & Tr chl	737.6	70°	0.4' Gyp vlt	Pale grn Hf w/ chl alt.
									Run	20-60°	As Above	
	751.5	9.5		.23		Hf	"	As Above + mod gyp & hem stain in flt zone	"	"	" "	Hf as before w/ zones of st gar.
									746.5-48'	± 60°	Recem & Gyp filled flt	
751.5	762.2	10.7		.47		Hf-Tt	"	As Above (No flt) w/ Tr Trem-Act-wol.	Run	20-30°	fracs, slips & Gyp vlts.	Mixed Tan-grn Tt & dense yel-grn Hf w/ blebs Mb
									762.2	-	Hf-Mb cnt.	
	771.5	9.3		.27		Mb	"	Tr suls, gyp, wol	Run	Low ∠	WK fracs	wht Mb w/ sp pats wol Grades to Hf w/ gar @ end
	779.7	8.2		1.94		Hf-Tt-Mb	Run	WK-mod cpy, Bo, Py; WK Gyp Tr Trem-Act-Wol-Moly	"	20-45°	fracs & gyp vlts	Mixed ints of Tan-grn Tt, yel-grn Hf & wht wol Mb.
	786.2	6.5		.61	716' @ .59	Mb	"	WK-mod Bn, cpy, Py Tr moly; sp pats gar, Tr Wol	Run	"	As Above	wht Mb w/ pats grn gar.
	797.0	10.8		.31		Mb	Run	Tr-WK suls; Tr gyp, serp.	"	40-90°	WK fracs & gyp vlts	wht Mb w/ zones serp
	806.5	9.5		.07		Mb	"	Tr-WK suls; WK-mod gyp	"	40-60°	" "	" "
	813.4	6.9		.32		Mb	"	" "	"	"	" "	Increase in clay; Mod serp
									813.4	Irreg.	Mb-Arg cnt	
	823.1	9.7		.90		Arg-gyp	Run	Tr-WK bn, cpy, py; WK-mod ser; Tr gar, serp, CO_3	Run	30-70°	Gyp filled fracs.	Ltgr to tan gypsiferous Arg w/ blebs gar & local mod ser alt.
					166.5' @ .98							
	831.4	8.3		Tr		Arg	"	Tr suls & As Above	"	"	" "	Ltgr to tan dense, locally gypsiferous Arg w/ zones approaching a siltstone.
	840.3	8.9		Nil		Arg	Run	Tr suls; WK ser, gyp; Tr Moly	Run	20-60°	WK gyp filled fracs.	Tan to brn Dense Arg
840.3'	847.9	7.6		.54		Gyp-Mb-Hf	Run	Tr-WK cpy-bn-cpy; WK wol, gar. Mass gyp first 2 ft	"	"	WK fracs	Mixed Mb-Hf w/ st gyp (Anh) & pats wol & gar.
	860.3	12.4		3.78		Hf-Tt	Run	Mod ST-bn, cpy, py; WK-Tr gyp local CO_3	Run	"	" "	Mixed Grn Tt & wht clayey Hf

HOLE NO. M-66

GEOLOGIC LOG

MISSION UNIT

Coordinates N 361,737.90 E 762,736.97

Dip Vert Bearing —

Date started 5/20/63 Completed 5/[illegible]/63

Collar Elevation 3282.1 Total Depth 951.6

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
	871.2	10.9		2.72		HF	RUN	Sp-Mod Cpy-Py-BN, Mod Color, Tr Mod, Sp Gyp	804.0	60°	Sul qz filled Flt	White Hf, diss bn
	874.1	2.9		.13	73.7 @ 1.68	HF	"	WK-Sp Cpy-bn, Mod Gyp	Run	30°	WK Gyp filled fracs	Dyke Below Hf
	886.0	11.9		.30		HF	"	WK Sulf, ST. Gyp	Run	45°	WK Gyp + Sul filled fracs	White-Tan Gyp-Hf
	893.6	7.6		1.50		Hf	Run	Sp-Mod Cpy-bn-Py, Mod Gyp, Tr chlor, trace Moly	Run	40-60°	Gyp + Sulfide filled fracs + VNlts	As Above
	904.0	10.4		.80		Hf	Run	As Above	Run	"	As Above	As Above, Patches QTzT
	914.0	10.0		1.98		HF	Run	Sp-Cpy-bn, Mod Gyp-Sul	Run	30°	WK Gyp filled fracs	[illegible]
	924.1	10.1		.07		QTzT	Run	WK Sulf, Mod Gyp, Tr Moly	Run	30°	As Above	Hf QTzT cont Grad 914.0
	935.0	7.9		.03		QTzT	Run	WK Cpy-bn, Mod Moly	Run	30°	Vr, WK Sul filled fracs	QTzT with diss Molybdn
	941.1	9.1		.01		"	"	WK Sulf, WK Gyp, Tr Ser	Run	45°	WK fracs	Dense QTzT
	951.6	10.5		.01		"	"	As Above	"	"	"	"
					Bottom							

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-65

Coordinates N 362,618.54 E 761,974.40

Dip Vert Bearing —

Date started 5/2/63 Completed 5/17/63

Collar Elevation 3279.3 Total Depth 857.8

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	191.0	191.0				O.B.						over burden, BR. at 191.0'
191.0	201.9	10.9		.03		Mp	RUN	Mod Ser, Kaolin, Tr Lim Tr Jarosite	RUN	?	BrKN GGy	ST. Alt & Leached Mp.
	210.7	8.8		.10		Mp	RUN	Mod ser, Kaol., Tr Lim, Tr Jaro, Tr MnOx & Blk Chex	RUN	55°±	wk ser + Lim filled fracs	cont ST. Leached & Alt. Mp.
	220.1	9.4		.11		Mp	"	As Above	RUN	30-50°	As Above	As Above
	229.0	8.9		.07		Mp	"	" "	"	"	" "	" "
	240.5	11.5		.39		"	"	As Above + wk py-cpy	"	"	" "	" "
									236.0	–	Base Oxides	Leached porph below 236.0'
	250.8	10.3		.11		"	"	Tr suls; Mod ser, serp, Kaolin; wk Fe Ox on fracs	RUN	30°-60°	Fracs & slips sp Qtz vlts.	ST sericitized Mp w/ wk feldspath & silif.
	261.3	10.5		.14		"	"	As above less Fe Ox	"	"	" "	" "
	270.9	9.6		.12		"	"	Same + Tr moly	"	"	As before; locally brkn	No change
	281.0	10.1		.11		"	"	As above + Biot	"	"	" "	" "
	291.0	10.0		.11		"	"	As above	"	"	" "	" "
	301.2	10.2		.12		"	RUN	" "	"	"	" "	" "
	311.0	9.8		.12		"	"	Tr py-cpy; wk biot ser, Feld, qtz; Tr serp Talc gyp	RUN	30-50	Fracs; slips; sp scat Qtz vlts.	Lt gr to pk Mp w/ wk sericitization, feldspath, & silf.
	319.6	8.6		.09		"	"	" "	"	"	" "	" "
	327.7	8.1		.10		Mp	"	" "	"	"	" "	" "
	340.2	12.5		.10		"	"	" "	"	"	" "	" "
	351.1	10.9		.15		"	"	As Above w/ incr in Gyp & Tr Moly	RUN	30-60°	Frac, slips & gyp vlts.	Pale pk to lt gr Mp.
	360.6	9.5		.09		"	"	As Above	"	"	As before	" "
	369.0	8.4		.13		"	"	" "	"	"	" "	" "
	379.4	10.4		.12		Mp	RUN	Sp scat vlts cpy-py wk ser, sp gyp; local steilf Tr biot & chl & Moly	RUN	30-40°	" "	" "
	390.1	10.7		.11		"	"	As before	"	"	" "	" "
	396.5	6.4		.10		"	"	" "	"	"	" "	" "
	400.0	3.5		.10		"	"	" "	"	"	" "	" "
	410.1	10.1		.13		"	RUN	" "	"	30-50	" "	Same w/ Mod silf & feldspath
	418.0	7.9		.16		"	"	As above	"	"	Same + qtz vlts	" "
	426.4	8.4		.12		"	"	Tr suls; As before	"	"	" "	" "

HOLE NO. M-65

Coordinates: N 362,618.54 E 761,974.40

Dip Vert Bearing —

Date started 5/2/63 Completed 5/12/63

Collar Elevation 3279.3 Total Depth 857.8

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
426.4	436.5	10.1		.12		Mp	Run	Tr suls; wk-mod ser; wk Biot; Tr chl-moly-wk silt	Run	40-60	fracs, gyp & qtz vlts	wht to pk Mp w/ wk silt & feldspath; wk-mod ser wk
	446.2	9.7		.11		"	"	" "	"	"	" "	" "
	456.4	10.2		.12		"	"	As before + wk gyp	"	"	" "	" "
	465.0	8.6		.12		"	"	" "	"	"	" "	" "
	472.6	7.6		.22		"	"	" "	"	"	" "	" "
	482.8	10.2		.13		"	"	As above w/ increase in SiO_2	"	"	" "	" "
	489.1	6.3		.12		"	"	" "	"	20-60°	" "	" "
									489.1	50°	Mp - Qtzt frac @ gyp vlt.	
	496.7	7.6		.05		Qtzt	Run	wk-Tr suls; wk ser; Tr scrp sp gyp	Run 492.0	30-50° ± 60°	wk fracs & gyp vlts 0.3' int Mp.	wht & impure tan Qtzt w/ sp pats & lenses brown S. Arg
	505.3	8.6		.04		Qtzt-Arg	Run	sp pats & stks py-cpy; Tr moly wk-Tr ser-gyp	Run	30-60	fracs; slips; Gyp vlts	Mixed ints Arg & Qtzt
	515.4	10.1		.07		Qtzt	"	As above	"	"	As above	wht Qtzt w/ impure tan ints & sp pats & lenses S Arg.
	521.0	5.6		.08		QTzT	"	As Above	"	"	" "	" "
	531.2	10.2		.12		"	529.0'	ST. VN, 1ft. of Sphal-py-cpy-Tr Pb	"	"	" "	" "
	541.3	10.1		.06		Arg	Run	Tr cpy, py, ser	Run	"	" "	QTzT Arg cont at 541.3
	551.0	9.7		.06		"	"	As Above	"	"	wk fracs, vague Bx	Arg with Patches QTzT
	561.3	10.3		.04		"	"	" "	"	60°	" "	As Above
	566.4	5.1		.07		Arg	Run	Tr cpy-py-Moly, Sp Ser	Run	45°±	Vry wk fracs	Dense Arg
	575.2	8.8		.08		"	"	" "	"	"	" "	" " Tr QTzT
	585.2	10.0		.09		QTzT	Run	Tr Suls, sp Gyp	Run	"	Wk Gyp filled fracs	Dense white QTzT
	592.0	6.8		.22		"	"	As Above	"	"	As Above	As Above
592.0	605.2	13.2		.63		Hf	Run	Sp-Mod cpy-py, Tr Mag Mod Chlor, Tr Moly	Run	30-60	Mod-ST Gyp + cal filled fracs	45° Hf-QTzT cont at 592.0'
	610.9	5.7		.79		Hf	Run	Mod cpy-py, Tr Mag Mod Gyp + Chlor	Run	30-80°	As Above	Hf, Small patch Bx at 610.8, Poss flt.
	620.4	9.5		.38		Hf	Run	As Above	Run	"	" "	Tr Mp at end of run
	626.5	6.1		.16		Mp	"	Sp cpy, py, Tr Moly+ser	Run	45°±	Wk Gyp filled fracs	Hf-Mp cont at 620.4'
626.5	635.6	9.1		1.04		Tt	Run	Mod-ST cpy + py, Mod chlor, Tr Mag, sp Gyp	Run	40°±	Sp Gyp + cal filled fracs	Dense Tt with patches of Hf.
	645.6	10.0		.55		Tt	"	As Above	"	30-70°	As Above	As Above
	655.4	9.8		.63		Tt	"	" "	"	"	" "	" "

HOLE NO. M-65

Coordinates: N 362,618.54 E 761,974.40

Dip Vert Bearing -

Date started 5/2/63 Completed 5/17/63

Collar Elevation 3279.3 Total Depth 857.8

GEOLOGIC LOG

MISSION UNIT

(3)

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
655.4	663.5	8.1		.63		Tt	RUN	WK-Mod diss + vnlts cpy-Py; Trem-Act, Tr epd. chlor gyp.	RUN	40-60°	Gyp filled fracs & sul vnlts	Brown-Tan dense Tt with Local wk sulf.
	673.7	10.2		.75		"	"	WK-ST, vnlts, patches & diss cpy-py, cmt As Above	"	"	As Above	As Above
	680.1	6.4		.55		"	"	" "	"	"	" "	Some with Local hem stain & ST. SiO_2
	690.2	10.1		.55	168.8' @ 1.22	"	"	WK-Mod cpy-py	"	"	" "	Pale grn to tan Tt decr in Silica
	700.2	10.0		.41		"	"	As Above, Local-ST. cpy incr in Gyp	"	"	" "	As Above
	710.2	10.0		1.33		"	"	" "	"	"	" "	" "
									710.2	± 60°	Gyp filled fracs with Tt BX (poss. flt.?)	" "
	720.2	10.0		1.43	505' @ 2.60	"	"	" "	RUN	40-70°	fracs, Gyp & QTz vnlts	" "
	730.2	10.0		3.49		"	"	" "	"	"	" "	" "
	740.5	10.3		2.93		"	"	WK-ST cpy, py, ST Gyp hem stain	"	"	As Above	Pale grn, Tan + Hem Tt with ST Gyp.
	750.7	10.2		3.76		"	"	Mod-ST cpy, py, As Above	"	"	" "	" "
	760.8	10.1		.97		Tt-Hf	RUN	WK-Mod cpy-py; ST SiO_2 Gyp	RUN	30-50°	fracs; QTz, gyp vnlts	Tan Tt with silicif grades to Pale grn Silicif Hf.
	673.3	12.5		.07		QTzT	RUN	Tr Sulf, Ser, gyp	760.8	± 50°	0.6' Hf-QTzT flt cont, with wk cpy-py-chlor fracs Locally brkn.	white QTzT with wk Ser Alt.
									RUN	Varied		
	782.3	9.0		.04		"	"	As Above	"	"	" "	" "
	791.5	9.2		.02		"	"	" "	"	45°	WK Ser & Gyp filled fracs	" "
	800.3	8.8		.03		"	"	" "	"	"	" "	" "
	806.7	6.4		.02		"	"	" "	"	"	" "	" "
	814.6	7.9		.03		"	"	" "	"	"	" "	" "
	824.8	10.2		.02		"	"	" "	"	"	" "	Dense white QTzT
	833.0	8.2		.02		"	"	" "	"	"	" "	" "
	839.8	6.8		Tr		Mg (?)	RUN	Trauls, st ser; Feld & Qtz; Tr biotite, Gyp	RUN	40-50°	Fracs & slips w/ ser & gyp.	Dense white siliceous serisitized rock w/ faint porphyry text.

MIS-807-A 75

HOLE NO. M-65

Coordinates N 362,618.54 E 761,974.40

Dip vert Bearing -

Date started 5/2/63 Completed 5/17/63

Collar Elevation 3279.3 Total Depth 857.8

GEOLOGIC LOG

MISSION UNIT

④

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
839.8	847.6	7.8		Tr		Mp (?)	Run	As in previous run	Run	40-60	As before	No change
	857.8	10.2		.01		Mp(?) Qtzt	"	As before	"	"	" "	Mp same to 857.4 &
									865.0-574	±60	St clay, gyp, & ser	dense wht Qtzt to end
	Bottom										zone	

MIS-807-A 75

HOLE NO. M-65

Coordinates N 362,618.54 E 761,974.40

Dip Vert Bearing —

Date started 5/12/63 Completed 5/17/63

Collar Elevation 3279.3 Total Depth 852.8

GEOLOGIC LOG

MISSION UNIT

①

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N S	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Deptr	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	191.0	191.0				O.B						Over burden, BR. at 191.0'
191.0	201.9	10.9		.03		MP	RUN	Mod Ser, Kaolin, Tr Lim Tr Jarosite	RUN	?	Brkn Gry	ST. Alt + Leached MP
	210.7	8.8		.10		MP	RUN	Mod Ser, Kaol., Tr Lim, Tr Jaro, Tr MnO_x + Blk Cuox	RUN	55°±	wk Ser + Lim filled fracs	Cont ST. Leached + Alt. MP.
	220.1	9.4		.11		MP	"	As Above	RUN	30-50°	As Above	As Above
	229.0	8.9		.07		MP	"	" "	"	"	" "	" "
	240.5	11.5		.39		"	"	As Above + wk py-cpy	"	"	" "	" "
									236.0	-	Base Oxides	Leached porph below 236.0'
	250.8	10.3		.11		"	"	Tr suls; Mod ser, serp, Kaolin; wk Fe Ox on fracs.	RUN	30°-60°	Fracs & slips, sp Qtz vlts.	St sericitized MP w/ wk feldspath & silif.
	261.3	10.5		.14		"	"	As above less Fe Ox	"	"	" "	" "
	270.9	9.6		.12		"	"	Same + Tr moly	"	"	As before; locally brkn	No change
	281.0	10.1		.11		"	"	As above + Biot	"	"	" "	" "
	291.0	10.0		.11		"	"	As above	"	"	" "	" "
	301.2	10.2		.12		"	RUN	" "	"	"	" "	" "
	311.0	9.8		.12		"	"	Tr py-cpy; wk biot ser, Feld, qtz, Tr serp Talc gyp	RUN	30-50	Fracs; slips; sp scat Qtz vlts.	Lt gr to pk MP w/ wk sericitization, feldspath, & silf.
	319.6	8.6		.09		"	"	" "	"	"	" "	" "
	327.7	8.1		.10		MP	"	" "	"	"	" "	" "
	340.2	12.5		.10		"	"	" "	"	"	" "	" "
	351.1	10.9		.15		"	"	As Above w/ incr in Gyp & Tr Moly	RUN	30-60°	Fracs, slips & gyp vlts	Pale pk to ltgr MP
	360.6	9.5		.09		"	"	As Above	"	"	As before	" "
	369.0	8.4		.13		"	"	" "	"	"	" "	" "
	379.4	10.4		.12		MP	RUN	Sp scat vlts cpy-py wk ser, Sp gyp; local st silf Tr biot & chl & Moly	RUN	30-45°	" "	" "
	390.1	10.7		.11		"	"	As before	"	"	" "	" "
	396.5	6.4		.10		"	"	" "	"	"	" "	" "
	400.0	3.5		.10		"	"	" "	"	"	" "	" "
	410.1	10.1		.13		"	RUN	" "	"	30-50	" "	Same w/ Mod silf & feldspath
	418.0	7.9		.16		"	"	As above	"	"	Same + qtz vlts	" "
	426.4	8.4		.12		"	"	Tr suls; As before	"	"	" "	" "

HOLE NO. M-65

Coordinates N 362,618.54 E 761,974.40

Dip vert Bearing —

Date started 5/2/63 Completed 5/12/63

Collar Elevation 3279.3 Total Depth 852.8

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
426.4	436.5	10.1		.12		Mp	Run	Tr suls; wk-mod ser; wk Biot; Tr chl-moly-wk silt.	Run	40-50	fracs, gyp & gtz vlts	wht to pk Mp w/ wk silf & feldspath; wk-mod ser alt
	446.2	9.7		.11		"	"	" "	"	"	" "	" "
	456.4	10.2		.12		"	"	As before + wk gyp	"	"	" "	" "
	465.0	8.6		.12		"	"	" "	"	"	" "	" "
	472.6	7.6		.22		"	"	" "	"	"	" "	" "
	482.8	10.2		.13		"	"	As above w/ increase in SiO_2	"	"	" "	" "
	489.1	6.3		.12		"	"	" "	"	30-60°	" "	" "
									489.1	50°	Mp - Qtzt frac @ gyp vlt.	
	496.7	7.6		.05		Qtzt	Run	wk-Tr suls; wk ser; Tr serp Sp gyp	Run	30-50°	wk fracs & gyp vlts	wht & impure tan Qtzt w/ sp pats & lenses brwn S. Arg
									492.0	∓ 60°	0.3' int Mp.	
	505.3	8.6		.04		Qtzt-Arg	Run	Sp pats & Stks py-cpy; Tr moly wk-Tr ser-gyp	Run	30-60	fracs; slips; Gyp vlts	Mixed ints Arg & Qtzt
	515.4	10.1		.07		Qtzt	"	As above.	"	"	As above	wht Qtzt w/ impure tan ints & sp pats & lenses & Arg.
	521.0	5.6		.08		QTzT	"	As Above	"	"	" "	" "
	531.2	10.2		.12		"	529.0'	ST. VN, 1ft, of Sphal-py-cpy-Tr Pb	"	"	" "	" "
	541.3	10.1		.06		Arg	Run	Tr cpy, py, ser	Run	"	" "	QTzT Arg cont at 541.3'
	551.0	9.7		.06		"	"	As Above	"	"	wk fracs, vague Bx	Arg with Patches QTzT
	561.3	10.3		.04		"	"	" "	"	60°	" "	As Above
	566.4	5.1		.07		Arg	Run	Tr cpy-py-Moly, Sp ser	Run	45°±	Vry wk fracs	Dense Arg
	575.2	8.8		.08		"	"	" "	"	"	" "	" " Tr QTzT
	585.2	10.0		.09		QTzT	Run	Tr Suls, sp Gyp	Run	"	wk Gyp filled fracs	Dense white QTzT
	592.0	6.8		.22		"	"	As Above	"	"	As Above	As Above
592.0	605.2	13.2		.63		Hf	Run	Sp-Mod cpy-py, Tr Mag Mod Chlor, Tr Moly	Run	30-60	Mod-ST Gyp + cal filled fracs	45° Hf-QTzT cont at 592.0'
	610.9	5.7		.79		Hf	Run	Mod cpy-py, Tr Mag Mod Gyp + Chlor	Run	30-80°	As Above	Hf, Small patch Bx at 610.8', Poss flt.
	620.4	9.5		.38		Hf	Run	As Above	Run	"	" "	Tr Mp at end of run
	626.5	6.1		.16		Mp	"	Sp cpy, py, Tr Moly+ser	Run	45°±	wk Gyp filled fracs	Hf-Mp cont at 620.4'
626.5	635.6	9.1		1.04		Tt	Run	Mod-ST cpy + py, Mod chlor, Tr Mag, sp Gyp	Run	40°±	Sp Gyp + cal filled frac	Dense Tt with patches of Hf.
	645.6	10.0		.55		Tt	"	As Above	"	30-70°	As Above	As Above
	655.4	9.8		.63		Tt	"	" "	"	"	" "	" "

HOLE NO. M-65

Coordinates: N 362,618.54 E 761,974.40

Dip Vert Bearing -

Date started 5/2/63 Completed 5/17/63

Collar Elevation 3279.3 Total Depth 857.8

GEOLOGIC LOG

MISSION UNIT

(3)

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
655.4	663.5	8.1		.63		Tt	RUN	WK-Mod diss + vnlts cpy-py; Trem-Act, Tr epd. chlor gyp.	RUN	40-60°	Gyp filled fracs & sul vnlts	Brown-Tan dense Tt with Local wk sulf.
	673.7	10.2		.75		"	"	WK-ST. vnlts, patches & diss cpy-py, cont As Above	"	"	As Above	As Above
	680.1	6.4		.55		"	"	" "	"	"	" "	Some with Local hem stain & ST. SiO_2
	690.2	10.1		.55	168.8' @ 1.22	"	"	wk-Mod cpy-py	"	"	" "	Pale grn to tan Tt decr in Silica
	700.2	10.0		.41		"	"	As Above, Local-ST. cpy incr in Gyp	"	"	" "	As Above
	710.2	10.0		1.33		"	"	" "	"	"	" "	" "
									710.2	∠60°	Gyp filled fracs with Tt BX (poss. flt.?)	" "
	720.2	10.0		1.48	505' @ 2.60	"	"	" "	RUN	40-70°	fracs, Gyp & QTz vnlts	" "
	730.2	10.0		3.49		"	"	" "	"	"	" "	" "
	740.5	10.3		2.93		"	"	wk-ST cpy, py, ST Gyp hem stain	"	"	As Above	Pale grn, Tan + Hem Tt with ST. Gyp.
	750.7	10.2		3.76		"	"	Mod-ST cpy, py, As Above	"	"	" "	" "
	760.8	10.1		.97		Tt-Hf	RUN	wk-Mod cpy-py, ST SiO_2 Gyp	RUN	30-50°	fracs; QTz, gyp vnlts	Tan Tt with silicif grades to pale grn Silicif Hf.
	673.3	12.5		.07		QTzT	RUN	Tr Suls, Ser, gyp	760.8	∠50°	0.6' Hf-QTzT flt contc, with wk cpy-py-chlo	white QTzT with wk Ser Alt.
									RUN	varied	fracs Locally brkn.	
	782.3	9.0		.04		"	"	As Above	"	"	" "	" "
	791.5	9.2		.02		"	"	" "	"	45°	wk Ser + Gyp filled fracs	" "
	800.3	8.8		.03		"	"	" "	"	"	" "	" "
	806.7	6.4		.02		"	"	" "	"	"	" "	" "
	814.6	7.9		.03		"	"	" "	"	"	" "	" "
	824.8	10.2		.02		"	"	" "	"	"	" "	Dense white QTzT
	833.0	8.2		.02		"	"	" "	"	"	" "	" "
	839.8	6.8		Tr		Mp (?)	RUN	Tr suls; st ser; Feld & Qtz; Tr biotite, Gyp	RUN	40-50°	Fracs & slips w/ ser & gyp.	Dense white siliceous serisitized rock w/ faint porphyry text.

MIS-807-A 75

HOLE NO M-65

Coordinates N 362,618.54 E 761,974.40

Dip vert Bearing -

Date started 5/2/63 Completed 5/17/63

Collar Elevation 3279.3 Total Depth 857.8

GEOLOGIC LOG

MISSION UNIT

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DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N S	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
839.8	847.6	7.8		Tr		Mp (?)	RUN	As in previous run	RUN	40-60	As before	No change
	857.8	10.2		.01		Mp(?) Qtzt	"	As before	"	"	" "	Mp same to 857.4 &
									855.0-57.4	±60	St clay, gyp, & ser zone	dense wht Qtzt to end
	Bottom											

MIS-807-A 75

HOLE NO. M-64

Coordinates: N 361,748.59 E 762,987.75

Dip Vert Bearing —

Date started 4/8/63 Completed 4/30/63

Collar Elevation 3271.1 Total Depth 959.0

GEOLOGIC LOG

MISSION UNIT

P.M. ①

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	198.0					Alluv						Top CCg ± 190'; BR I 200.0'
	200.0	2.0		.06		CCg		Hem stained				
	209.0	9.0		.06		Arg	Run	St hem, ser, & clay	Run	–	Bx-gg	St Alt Arg brin clay gg.
	219.6	10.6		.08		"	"	St hem, lim, Mod-wk "Live lim" Mod MnOx, st clay & ser.	"	–	Very BrKn	As before; locally leached.
	228.0	8.4		.09		"	"	Tr "live" lim, st FeOx wk CuOx & MnOx, v.st ser.	"	"	" "	As before.
	238.0	10.0		.17		Arg	"	" "	"	30-70°	fracs; Less brKn	Less brKn; Mod leached v.st ser.
	249.5	11.5		.07		"	"	St FeOx; Tr CuOx, st Ser & serp; Tr "live" lim wk-Tr MnOx.	Run	"	" "	As before w/ st clay
249.5	259.5	5.0		1.26	133' @ 1.00	"	"	wk FeOx; Tr-wk Cu, Mod Nat Cu st chl & serp.	"	"	" "	st chl alt. Base Oxides 254.5'
	262.8	8.3		0.84		"	"	Tr sulf; wk ser; Nat Cu in chl & serp.	"	"	" "	Brn-gr Arg w/ local Arkosic Text.
	273.0	10.2		.13		"	"	wk sulf, ser	"	"	" "	" "
	284.5	11.5		.16		"	"	" "	"	"	" "	" "
	289.7	5.2		.14		Arg	"	" "	Run	–	Very brKn	Arkosic Arg (poor Rec'y)
	300.5	10.8		.11		"	"	" "	"	45-60	fracs & qtz v/ts.	Brn-gr Arg w/ local Arkosic Text.
	311.7	11.2		.13		"	"	" "	"	"	" "	" "
	321.7	10.0		.12		"	"	Tr cpy-py, sp Ser, Tr chlor	Run	40-70°	wk ser + qtz filled fracs	As Above
	331.2	9.5		.18		"	"	As Above	"	"	As Above	" "
	341.0	9.8		.31		"	"	" "	"	"	" "	" "
	352.0	11.0		.20		"	"	" "	"	"	" "	" "
	361.5	9.5		.12		"	"	" "	"	"	" "	" "
	371.5	10.0		.16		Arg	Run	Tr cpy-py, sp Ser-chlor	Run	BrKN	BrKN ggy, ST Ser, ST fracs. (Poss. Flt zone	ST Alt + BrKN Arg Arkosic Text.
	379.4	7.9		.23		"	"	As Above	Run	?	As Above "	As Above
	383.8	4.4		.15		"	"	" "	"	"	Vry ST BrKN + ggy	Poss Flt zone
	392.8	9.0		.33		"	"	" incr in cpy	"	60°±	BrKN-ggy ST Ser	" " Poss Flt at 388.0'

MIS-807-A 75

HOLE NO. M-64

Coordinates N 361,748.59 E 762,987.75

Dip VERT Bearing —

Date started 4/8/63 Completed 4/30/63

Collar Elevation 3271N Total Depth 959.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
392.8	400.5	7.7		.33		Arg	RUN	SP cpy-py, Mod Ser, chlor	RUN	30-60°	wk-Mod Qtz + Ser filled fracs	Arg with ST. Arkosic Text.
	410.5	10.0		.33		"	"	As Above, Tr Calc	"	45°	As Above	BrKN Alt Arg.
	416.4	5.9		.18		Arg	"	SP-Mod cpy-py, Mod Ser + Chlor, Tr Calc, Tr Moly	RUN	"	BrKN, Gry (Poss Flt zone)	Very Alt + BrKN. Cont with Hf at 416.4'
416.4	424.4	8.0		.98		Hf	RUN	Mod-ST cpy, py, St Chlor SP Ser. + Calc, Tr Hem Tr Moly, Tr Mag	RUN	45-80°	Mod Cal + Chlor filled fracs, some with Hem gg on Slips.	Well Mineralized Hf
	433.0	8.6		.70		Hf	RUN	As Above	RUN	50°±	As Above	Well MIN Hf, 6" patch MP at 428.7'
	441.5	8.5		1.35	45.9' @ 1:16	Hf	"	As Above, Decr in Chlor	"	50°±	SP fracs + Some 1" QTz vnlts.	Hf. shows incr. in Silica
	449.9	8.4		1.27		Hf-Bx	"	Mod Sul MIN.	445.6	Bx	wk fracs To 445.6' then ST. Bx + gg, Flt zone	Bx zone - frags of Arg + Hf in Chlor + Kaolin Matrix
	458.2	8.3		1.60		Hf-Bx	RUN	Mod cpy-py, chlor, Tr Hem-Mag, Tr Moly	RUN	Bx	ST. Bx	Cont Hf-Arg Bx
	462.3	4.1		.93		Hf-Bx	"	As Above	RUN	"	"	Hf-Arg Bx cont with Arg at 462.3'
	468.5	6.2		.12		Arg	RUN	SP cpy-py, Tr Moly Tr Ser	RUN	45°±	wk fracs, BrKN, 40° Bx filled flt at 468.3'	40° flt cont with MP at 458.5'
	478.6	10.1		.18		MP	RUN	Tr-SP cpy-py, Tr Moly STr Ser, Tr Chlor	RUN RUN	35°± 40°±	wk Ser + QTz filled fr. Brk ggy, Poss flt. Patches Hf + Arg	ST Alt Mp, MoS_2 As vnlts Alt MP, with Poss sed inclusions.
	488.7	10.1		.13		MP	"	As Above				
	496.6	7.9		.26		Arg	RUN	SP-Mod cpy-py, Mod Ser	RUN	45°±	BrKN, ggy, wk fracs	Alt Arg + Mp cont at 496.6'
496.6	508.6	12.0		.86	20.7' @ 1:16	Hf	RUN	Mod cpy-py, Tr MoS_2, Mod Chlor, SP Ser, Tr Mag	RUN	40-80°	Mod fracs + Calc + QTz Vnlts	Pale grn To Grn Hf. Hf-Arg cont at 508.6'
	517.3	8.7		1.56		Hf	"	As Above + Tr Hem	RUN	"	As Above	Hf, with wk patches of Arg + QTz vning
	522.2	4.9		.33		Hf-Arg	"	wk-mod py - wk cpy, Tr Moly wk-mod ser	519.2 RUN	– –	Hf-Arg cnt @ frac Very brKn	Hf & Arg as before
	532.3	10.1		.18		Arg	"	As before w/ qtz Rapl.	"	30-45°	fracs; brKn; poor rec'y	Tan Arg w/ at local qtz.
	540.3	8.0		.10		"	"	" "	"	"	" ; less brKn.	As above; wk ser.
540.3	552.3	12.0		3.46	3.46	"	± 540' ± 551 RUN	75° vlt cpy-py 0.6' Mass cpy-py in Qtz vn Mod-St cpy-py wk Ser.	RUN	–	Strongly broken; poor rec'y	BrKn & sheared tan Arg w/ local qtz vns.

MIS-807-A 75

HOLE NO. 15-64

Coordinates N 364,748.52 E 762,982.75

Dip Vert. Bearing —

Drilling started 4/8/63 Completed 4/30/63

Collar Elevation 3211±1 Total Depth 959.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER NS	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
552.3	564.3	12.0		.25		Arg	Run	Sp-Mod diss & strs suls wk-mod ser, Tr chl, moly	Run	20-60°	fracs, slips, Qtz vlts.	Tan Arg w/ local st ser; pats Hf
	569.9	5.6		.12		Arg-Qtzt	"	wk-Tr sulf, st-Mod ser, Tr MoS2	Run	varied	very strongly brkn & sheared.	Tan-wht Mixed Arg & Qtzt w/ st ser & clay alt.
	581.0	11.1		.07		Qtzt	Run	Tr Suls, Mod ser, Tr Moly	Run	Brkn	Brkn, gg Bx, Poss flt zone from 279.0-281.5'	St Brkn Qtzt
	589.0	8.0		.16		MP	Run	Tr Suls, Mod ser, chlor, Moly	Run	30-70°	wk ser & sul filled fracs	Str Alt Mp
	597.0	8.0		.15		Arg	Run	Tr Suls, Mod ser	Run	40°	wk fracs	St. Alt Arg
	605.0	8.0		.34		Hf	Run	Sp-Mod cpy-py, Tr ser Sp chlor, Tr Mag	Run	45°	Vry wk Calc filled fracs	Pale green Hf with Patches of Arg
605.0	616.4	11.4		.44		Hf	"	As Above	Run	"	As Above	As Above Patches Tr
	626.8	10.4		1.37	29.4 @ .78	Hf	"	Mod-St cpy-py, Tr ser chlor, Tr Moly, Tr Mag	Run	10-45°	Mod Calc & Sul filled fracs	Well Mineralized green Hf with Patches Tr
	634.4	7.6		.48		Hf-Arg	Run	Sp Suls, Mod ser, Tr Moly, Tr chlor	Run	40°±	wk ser & Calc filled fracs	Hf with Mod Patches of Arg
	643.8	9.4		.26		Arg	Run	wk cpy-py, Sp ser, Tr Moly	Run	40-60	wk ser filled fracs	Dense Arg, Arg-Hf Cont at 643.8'
	654.6	10.8		.25		Qtzt	Run	Scat pats & strs cpy-py; wk ser; Tr Moly	648.6	60°	Recem bx (vuggy, poss flt.) Run - 40-60° Fracs	Dense wht Qtzt w/ wk ser, wk sulf.
	664.5	9.9		.13		"	"	" "	Run	—	Brkn & shattered	" "
	673.8	9.3		.16		"	"	Tr cpy-py Tr ser	"	50-60°	Fracs; Locally shattered	" "
	678.0	4.2		.11		"	"	" "	"	20-80°	Vuggy fracs	Dense wht Qtzt; poor Rec'y
678.0	682.9	4.9		.42		"	"	Scat pats & strs cpy-py, Tr Moly; wk ser	"	"	" "	Dense wht Qtzt
	690.8	7.9		.24		"	"	As Above	Run	45°±	wk-Mod Vuggy fracs	Dense white Qtzt
	700.7	9.9		.75	61.5' @ .93	Hf	Run	Sp-Mod cpy-py, Tr Moly Mod chlor, Tr hem	Run	40°	wk Calc & Sul filled fracs	Pale grn Hf, diss cpy, vnlts, Patches Qtzt Grad (?) Qtzt-Hf Cont 690.8'
	708.3	7.6		.19		Hf	Run	As Above, Sp Gyp	Run	40-70°	Mod Calc & Gyp filled fracs	Pale grn, Gypsiferous Hf
	719.5	11.2		2.24		Hf	"	Mod-St cpy-py, Sp chlor Sp Gyp, Tr Moly, Tr Mag	Run	"	As Above	Dark grn St chlor, Hf
	729.5	10.0		1.23		Hf	"	As Above w/ st Mag	Run	"	" "	Pale to dk grn Hf w/ st chl
	739.5	10.0		.67		"	"	Tr - occasionally mod cpy py; Sp Gyp; wk chl	"	"	" "	wh to pale grn Hf

MIS-807-A 75

HOLE NO. M-64

Coordinates N 361,748.59 E 762,987.75

Dip Vert Bearing —

Date started 4/8/63 Completed 4/30/63

Collar Elevation 3271.1 Total Depth 959.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
739.5	749.5	10.0		.24		Hf	Run	WK-Mod cpy-py; sp Gyp & chl, pats gar, Trem, Ep.	Run	30-50°	Fracs, Gyp vlts	Pale grn Hf w/ sp pats & ints gar & Trem.
	759.5	10.0		.23		Hf	"	WK-Tr cpy-py; wk chl Tr Moly & Ep & Trem	"	"	" "	" "
	765.3	5.8		.28		Hf	"	As Above	"	"	" "	" "
	775.5	10.2		.38		Hf - Tt	"	Tr cpy-py; wk diss & pat bn in Tt ints. wk Trem, wol; Tr chl, Moly	"	30-40°	wk fracs	Mixed wht Hf & yel-grn Tt
775.5	782.8	7.3		.47		Hf	"	Tr cpy-py; wk bn; Tr Moly; Trem, wol. mod gar.	Run	∓30°	As above	wht Hf w/ pats & short ints gar.
	792.7	9.9		.22		"	"	Tr-wk py-Cpy-Bn; Tr Sph, Trem, Gar, Hem, Moly, Gyp; wk wol.	"	30-80°	Fracs w/ gyp & hem.	wht Hf w/ blebs Trem, wol & gar.
	801.3	8.6		1.04	60.9' @ 1.09	Hf-Tt	Run	wk-locally mod bn Tr cpy py; wk Hem, Trem, wol.	Run	30-50°	" "	Mixed wht Hf & yel-grn Tt w/ Trem & wol.
	811.4	10.1		1.84		Hf-Tt-Mb	"	wk cpy-py; Mod Bn; Tr sph wk wol; Trem.	809.5	±30°	Tt-Mb cnt @ wk frac w/ gyp.	Mixed Hf-Tt as above to 809.5'; wht Mb to end
	820.5	9.1		0.14		Mb	"	Tr cpy-py-bn-serp	Run	±30°	wk fracs	wht Mb w/ sp pats wol.
	829.4	8.9		0.57		Mb	"	" Last 0.4' st diss bn	"	"	" "	As Above Grades to Hf @ 829'
	834.8	5.4		3.82		Hf	Run	Mod-st cpy-py-Bn; sp pats gar. sp Gyp	"	"	" "	wht Hf w/ sp pats gar, local wk CO_2.
									834.8	40°	Hf-Qtzt cnt	
	845.0	10.2		.07		Qtzt	Run	Tr suls, wk ser.	Run	30-50°	Fracs	Dense tan, lt gr, & wht Qtzt
	851.7	6.7		.05		"	"	As Above	"	"	" "	" "
									851.7	±60°	Qtzt-Hf cnt	
	856.5	4.8		.08		Hf	"	Tr suls; Tr moly, serp.	Run	30-50°	wk fracs.	Pale grn silt Hf, wk CO_2
	867.0	10.5		.03		Qtzt	"	Tr-barren suls; sp Gyp wk ser.	Run	30-70°	Fracs & slips w Gyp, ser.	Dense tan to lt gr Qtzt
									860.8	55°	Recem flt (?) bn.	Moderately fractured.
	876.8	9.8		.02		Qtzt	Run	Sp Tr suls; wk ser; sp gyp	Run	50-60°	Fracs & Gyp flts.	Dense tan to wht Qtzt.
	884.5	7.7		.03		"	"	As Above	"	"	" "	" "
	893.5	9.0		.04		"	"	" "	"	"	" "	" "
	904.1	10.6		.01		"	"	As Above w/ st gyp	"	"	" "	As before w/ incr in gyp
									904.1	low ∠	Qtzt-Hf cnt @ gyp vn.	
	912.6	8.5		1.17		Hf	Run	Mod diss py w/ cpy-bn; wk Gyp; Tr Trem, local clay zones	909.5-16.1	± 35°	Clayey, vuggy zone w/ mod suls (flt?)	Dense pale grn Hf.

HOLE NO. M-64

Coordinates: N 361,748.59 E 762,987.75

Dip Vert Bearing —

Date started 4/8/63 Completed 4/30/63

Collar Elevation 3271.1 Total Depth 959.0

GEOLOGIC LOG

MISSION UNIT

(5)

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
912.6	921.0	8.4		.27		Hf	RUN	SP-Mod cpy-py, Tr Born. Tr chlor, calc, Molx, Hem	919.0'	45°	Mineralized flt. + wk fracs	Dense-Pale grey, Siliceous Hf
	931.6	10.6		.03		QTzT	RUN	wk. Tr cpy + py, Tr Ser	RUN	30-70°	wk Ser + gyp filled fracs	Dense white QTzT
	941.3	9.7		.02		"	"	As Above	"	"	As Above	As Above
	948.6	7.3		.03		"	"	" " 1 inch in Gyp	"	"	" "	" "
	959.0	10.4		.03		QTzT	RUN	Nil sulfs, sp Ser + Gyp	RUN	40°±	wk fracs	Dense white QTzT
					BOTTOM							

MIS-807-A 75

HOLE NO M-64

Coordinates N 361,748.59 E 762,987.75

Dip Vert Bearing —

Date started 4/8/63 Completed 4/30/63

Collar Elevation 3271.1 Total Depth 959.0

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	198.0					Alluv						Top CCg ± 190'; BR ± 200.0'
	200.0	2.0		.06		CCg		Hem stained				
	209.0	9.0		.06		Arg	Run	St hem, ser, & clay	Run	–	Bx-gg	St Alt Arg brxn clay gg.
	219.6	10.6		.08		"	"	St hem, lim, Mod-wK "Live lim" Mod Mn Ox, st clay & ser.	"	–	Very BrKn	As before; locally leached.
	228.0	8.4		.09		"	"	Tr "live" lim, st Fe Ox wK Cu Ox & Mn Ox, Vst ser.	"	"	" "	As before.
	238.0	10.0		.17		Arg	"	" "	"	30-70°	fracs; Less brKn	Less brKn; Mod leached V.st ser.
	249.5	11.5		.07		"	"	St Fe Ox; Tr Cu Ox, st Ser & serp, Tr "live" lim wK-Tr Mn Ox.	Run	"	" "	As before w/ st clay
249.5	254.5	5.0		1.26	133' @ 1.00	"	"	wK Fe Ox; Tr-wK Cu Mal, Nat Cu st chl & serp.	"	"	" "	st chl alt. Base Oxides 254.5'
	262.8	8.3		0.84		"	"	Tr suls; wK ser; Nat Cu in chl & serp.	"	"	" "	Brn-gr Arg w/ local Arkosic Text.
	273.0	10.2		.13		"	"	wK suls, ser	"	"	" "	" "
	284.5	11.5		.16		"	"	" "	"	"	" "	" "
	289.7	5.2		.14		Arg	"	" "	Run	–	Very brKn	Arkosic Arg (poor Rec'y)
	300.5	10.8		.11		"	"	" "	"	45-60	fracs & qtz vlts.	Brn-gr Arg w/ local Arkosic Text.
	311.7	11.2		.13		"	"	" "	"	"	" "	" "
	321.7	10.0		.12		"	"	Tr cpy-py, SP Ser, Tr chlor	Run	40-70°	wK ser + qtz filled fracs	As Above
	331.2	9.5		.18		"	"	As Above	"	"	As Above	" "
	341.0	9.8		.31		"	"	" "	"	"	" "	" "
	352.0	11.0		.20		"	"	" "	"	"	" "	" "
	361.5	9.5		.12		"	"	" "	"	"	" "	" "
	371.5	10.0		.16		Arg	Run	Tr cpy-py, sp Ser-chlor	Run	BrKN	BrKN ggy, ST Ser, ST fracs (Poss. Flt zone	ST ALT + BrKN Arg Arkosic Text.
	379.4	7.9		.23		"	"	As Above	Run	?	As Above "	As Above
	383.8	4.4		.15		"	"	" "	"	"	Vry ST BrKN + ggy	Poss Flt zone
	392.8	9.0		.33		"	"	" iner in cpy	"	60°±	BrKN - ggy ST Ser	" " Poss Flt at 388.0'

MIS-807-A 75

HOLE NO. M-64

Coordinates N. 361,748.59 E 762,987.75

Dip vert Bearing —

Date started 4/8/63 Completed 4/30/63

Collar Elevation 3271.4 Total Depth 959.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
392.8	400.5	7.7		.33		Arg	RUN	Sp cpy-py, Mod Ser, + chlor	RUN	30-60°	wk-Mod Qtz + Ser filled fracs	Arg with ST. Arkosic Text.
	410.5	10.0		.33		"	"	As Above, Tr calc	"	45°	As Above	BrKn Alt Arg
	416.4	5.9		.18		Arg	"	Sp-Mod cpy-py, Mod Ser + Chlor, Tr Calc, Tr Moly	RUN	"	BrKn, Gsy (Poss Fit zone)	Very Alt + BrKn. Cont with Hf at 416.4'
416.4	424.4	8.0		.98		Hf	RUN	Mod-ST cpy, py, St chlor Sp Ser. + Calc, Tr Hem Tr Moly, Tr Mag	RUN	45-80°	Mod Cal + Chlor filled fracs, some with Hem gg on slips.	Well Mineralized Hf
	433.0	8.6		.70		Hf	RUN	As Above	RUN	50°±	As Above	Well MIN Hf, 6" patch MP at 428.7'
	441.5	8.5		1.35	45.9' @ 1:16	Hf	"	As Above, Decr in chlor	"	50°±	Sp fracs + Some 1" QTz vnlts.	Hf. shows incr. in silica
	449.9	8.4		1.27		Hf-Bx	"	Mod Sul MIN.	445.6	Bx	wk fracs To 445.6' then ST. Bx + gg, Fit zone	Bx zone - frags of Arg + Hf in Chlor + Kaolin Matrix
	458.2	8.3		1.60		Hf-Bx	RUN	Mod cpy-py, chlor, Tr Hem-Mag, Tr Moly	RUN	Bx	ST Bx	Cont Hf-Arg Bx
	462.3	4.1		.93		Hf-Bx	"	As Above	RUN	"	"	Hf-Arg Bx cont with Arg at 462.3'
	468.5	6.2		.12		Arg	RUN	Sp cpy-py, Tr Moly Tr Ser	RUN	45°±	wk fracs, BrKn, 40° Bx filled fit at 468.3'	40° fit cont with MP at 458.5'
	478.6	10.1		.18		MP	RUN	Tr-Sp cpy-py, Tr Moly Str Ser, Tr Chlor	RUN RUN	35°± 40°±	wk Ser + QTz filled fr. Brk gsy, Poss fit	Str Alt MP, MoS_2 As vnlts Alt MP, with Poss sed inclusions.
	488.7	10.1		.13		MP	"	As Above			Patches Hf + Arg	
	496.6	7.9		.26		Arg	RUN	Sp-Mod cpy-py, Mod Ser	RUN	45°±	BrKn, gsy, wk fracs	Alt Arg + Mp cont at 496.6'
496.6	508.6	12.0		.86	20.7' @ 1:16	Hf	RUN	Mod cpy-py, Tr MoS_2, Mod chlor, Sp Ser, Tr Mag	RUN	40-80°	Mod fracs + Calc + QTz Vnlts	Pale grn To Grn Hf. Hf-Arg cont at 508.6'
	517.3	8.7		1.56		Hf	"	As Above + Tr Hem	RUN	"	As Above	Hf, with wk patches of Arg + QTz vning
	522.2	4.9		.33		Hf-Arg	"	wk-mod py - wk cpy, Tr Moly wk-mod ser	519.2 RUN	- -	Hf-Arg cnt @ frac Very brKn	Hf & Arg as before
	532.3	10.1		.18		Arg	"	As before w/ qtz Rapl.	"	30-45°	fracs; brKn; poor rec'y	Tan Arg w/ st local qtz.
	542.3	8.0		.10		"	"	" "	"	"	" ; less brKn.	As above; wk ser.
540.3	552.3	12.0		3.46	3.46	"	± 540' ± 551 RUN	75° vlt cpy-py 0.6' Mass cpy-py in Qtz vn Mod-St cpy-py wk Ser.	RUN	-	Strongly broken; poor rec'y	BrKn & sheared tan Arg w/ local qtz vns.

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HOLE NO M-64

Coordinates N 361,748.59 E 762,982.75

Dip Vert Bearing —

Date started 4/8/63 Completed 4/30/63

Collar Elevation 3271.11 Total Depth 959.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
552.3	564.3	12.0		.25		Arg	Run	Sp-Mod diss & strs suls wk-mod ser, Tr chl, moly	Run	20-60°	fracs, slips, Qtz vits.	Tan Arg w/ local st ser; pats Hf
	569.9	5.6		.12		Arg-Qtzt	"	wk-Tr Suls, st-Mod ser, Tr MoS_2	Run	varied	very strongly brkn & sheared.	Tan-wht Mixed Arg & Qtzt w/ st ser & clay alt.
	581.0	11.1		.07		Qtzt	Run	Tr Suls, Mod ser, Tr Moly	Run	Brkn	Brkn, gg Bx, Poss flt zone from 279.0-281.5'	st Brkn Qtzt
	589.0	8.0		.16		MP	Run	Tr Suls, Mod ser, chlor, Moly	Run	30-70°	wk ser & Sul filled fracs	Str Hit Mp
	597.0	8.0		.15		Arg	Run	Tr Suls, Mod ser	Run	40°	wk fracs	st Hit Arg
	605.0	8.0		.34		Hf	Run	Sp-Mod cpy-py, Tr ser Sp chlor, Tr Mag	Run	45°	Vry wk Calc filled fracs	Pale green Hf with Patches of Arg
605.0	616.4	11.4		.44	29.4 @ .78	Hf	"	As Above	Run	"	As Above	As Above, patches Tt
	626.8	10.4		1.37		Hf	"	Mod-st cpy-py, Tr ser chlor, Tr Moly, Tr Mag	Run	10-45°	Mod Calc & Sul filled fracs	Hf Mineral. red green Hf with Patches Tt
	634.4	7.6		.48		Hf-Arg	Run	Sp Suls, Mod ser, Tr Moly, Tr chlor	Run	40°±	wk ser & Calc filled fracs	Hf with Mod Patches of Arg
	643.8	9.4		.26		Arg	Run	wk cpy-py, Sp ser, Tr Moly	Run	40-60°	wk ser filled fracs	Dense Arg, Arg-Hf cont at 643.8'
	654.6	10.8		.25		Qtzt	Run	Scat pats & strs cpy-py; wk ser, Tr Moly	648.6	60°	Recem bx (vuggy, poss flt.) Run-40-60° Fracs	Dense wht Qtzt w/ wk ser; wk silf.
	664.5	9.9		.13		"	"	" "	Run	—	Brkn & shattered	" "
	673.8	9.3		.16		"	"	Tr cpy-py Tr ser	"	50-60°	Fracs; locally shattered	" "
	678.0	4.2		.11		"	"	" "	"	20-80°	Vuggy fracs	Dense wht Qtzt; poor Rec'y
678.0	682.9	4.9		.42	61.5' @ .93	"	"	Scat pats & strs cpy-py, Tr Moly; wk ser	"	"	" "	Dense wht Qtzt
	690.8	7.9		.24		"	"	As Above	Run	45°±	wk-Mod Vuggy fracs	Dense white Qtzt
Pct. 100%	700.7	9.9		.75		Hf	Run	Sp-Mod cpy-py, Tr Moly Mod chlor, Tr hem	Run	40°	wk calc & Sul filled fracs	Pale grn Hf, diss cpy & inits, Patches Qtzt Grad (?) Qtzt-Hf Cont 690.8'
	708.3	7.6		.19		Hf	Run	As Above, Sp Gyp	Run	40-70°	Mod calc & Gyp filled fracs	Pale grn, Gypsiferous Hf
	719.5	11.2		2.24		Hf	"	Mod-st cpy-py, Sp chlor Sp Gyp, Tr Moly, Tr Mag	Run	"	As Above	Dark grn st chlor, Hf
	729.5	10.0		1.23		Hf	"	As Above w/ st Mag	Run	"	"	Pale to dk grn Hf w/ stch
	739.5	10.0		.67		"	"	Tr - occasionally mod cpy py; Sp Gyp; wk chl	"	"	" "	wh to pale grn Hf

MIS-807-A 75

HOLE NO. M-64

Coordinates N 361,748.59 E 762,987.75

Dip Vert Bearing —

Date started 4/8/63 Completed 4/30/63

Collar Elevation 3271.1 Total Depth 959.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
739.5	749.5	10.0		.24		Hf	Run	WK-Mod cpy-py; Sp Gyp & Chl, fats gar, Trem, Ep.	Run	30-50°	Fracs, Gyp vlts	Pale grn Hf w/ sp pats & lnts gar & Trem.
	759.5	10.0		.23		Hf	"	WK Tr-cy-py; WK chl Tr Mo, & Ep & Trem	"	"	" "	" "
	765.3	5.8		.28		Hf	"	As Above	"	"	" "	" "
	775.5	10.2		.38		Hf-Tt	"	Tr cpy-py, wk diss & pat bn in Tt lnts. WK Trem, wol, Tr chl, Moly	"	30-40°	wk fracs	Mixed wht Hf & yel-grn Tt
775.5	782.8	7.3		.47		Hf	"	Tr cpy-py; WK bn, Tr Moly, Trem, wol. mod gar.	Run	±30°	As above	wht Hf w/ pats & short lnts gar.
	792.7	9.9		.22		"	"	Tr-WK Py-Cpy-Bn, Tr Sph, Trem, Gar, Hem, Moly, Gyp, wk wol.	"	30-80°	Fracs w/ gyp & hem.	wht Hf w/ blebs Trem, wol & gar.
	801.3	8.6		1.04	60.9' @ 1.09	Hf-Tt	Run	WK-locally mod bn Tr cpy py, WK Hem, Trem, wol	Run	30-50°	" "	Mixed wht Hf & yel grn Tt w/ Trem & wol
	811.4	10.1		1.84		Hf-Tt-Mb	"	WK cpy-py; Mod Bn, Tr sph. WK wol; Trem	809.5	±30°	Tt-Mb cnt @ wk frac w/ gyp.	Mixed Hf-Tt as above to 809.5', wht Mb to end
	820.5	9.1		0.14		Mb	"	Tr cpy-py-bn-serp	Run	±30°	wk fracs	wht Mb w/ sp pats wol.
	829.4	8.9		0.57		Mb	"	" Last 0.4' st diss bn	"	"	" "	As Above. Grades to Hf @ 829'
	834.8	5.4		3.82		Hf	Run	Mod-st cpy-py-Bn, sp pats gar. Sp Gyp	"	"	" "	wht Hf w/ sp pats gar, local wk CO_3
									834.6	40°	Hf-Qtzt cnt	
	845.0	10.2		.07		Qtzt	Run	Tr suls, wk ser.	Run	30-50°	fracs	Dense tan, Lt gr, & wht Qtzt
	851.7	6.7		.05		"	"	As Above	"	"	" "	" "
									851.7	±60°	Qtzt-Hf cnt	
	856.5	4.8		.08		Hf	"	Tr suls, Tr moly, serp.	Run	30-50°	WK fracs.	Pale grn Silt Hf, wk CO_3
	867.0	10.5		.03		Qtzt	"	Tr-barren suls, sp Gyp WK ser.	Run	30-70°	Fracs & slips w Gyp, Ser.	Dense tan to Lt gr Qtzt
									860.8	55°	Recem flt (?) bx.	Moderately fractured.
	876.8	7.8		.02		Qtzt	Run	Sp Tr suls, WK ser, sp gyp	Run	50-60°	Fracs & Gyp vlts.	Dense tan to wht Qtzt
	884.5	7.7		.03		"	"	As Above	"	"	" "	" "
	893.5	9.0		.04		"	"	" "	"	"	" "	" "
	904.1	10.6		.01		"	"	As Above w/ st gyp	"	"	" "	As before w/ incr in gyp
									904.1	Low ∡	Qtzt-Hf cnt @ gyp vn.	
	912.6	8.5		1.17		Hf	Run	Mod diss py w/ cpy-bn; WK Gyp; Tr Trem, local clay zones	909.5-11.1	±35°	Clayey, vuggy zone w/ mod suls (flt?)	Dense pale grn Hf.

HOLE NO. M-64

Coordinates N 361,748.59 E 762,987.75

Dip vert Bearing —

Date started 4/8/63 Completed 4/30/63

Collar Elevation 3271.1 Total Depth 959.0

GEOLOGIC LOG

MISSION UNIT

(5)

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
912.6	921.0	8.4		.27		Hf	RUN	SP-Mod cpy-py, Tr Born. Tr chlor, calc, Moly, Hem	919.0'	45°	Mineralized flt. + wk fracs	Dense-Pale gray. Siliceous Hf
	931.6	10.6		.03		QTzT	RUN	wk. Tr cpy + py, Tr Ser	RUN	30-70°	wk Ser & gyp filled fracs	Dense white QTzT
	941.3	9.7		.02		"	"	As Above	"	"	As Above	As Above
	948.6	7.3		.03		"	"	" " 1 inch in Gyp	"	"	" "	" "
	959.0	10.4		.03		QTzT	RUN	Nil sulf, sp Ser + Gyp	RUN	40°±	wk fracs	Dense white QTzT
					BOTTOM							

MIS-807-A 75

HOLE NO. M-63

Coordinates N 361,128.73 E 764,491.51

Dip Vert Bearing —

Date started 4-15-63 Completed 5-1-63

Collar Elevation 3259.0 Total Depth 864.7

GEOLOGIC LOG

MISSION UNIT

P.M ①

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	191.0	191.0				Allux						Top CCg ± 184'
	199.3	8.3				CCg						BR ± 199.3'
	209.1	9.8		.10		Arg	Run	WK Fe Ox & Tr "Live" lim. St Ser. Tr Cu Ox.	Run	30-40°	WK fracs w/ CC_2 & qtz vlts.	Light leached Arg w/ local clay zones.
	220.3	11.2		.08		"	"	WK Fe - Cu Ox; WK-St ser WK "Live" lim, & Mn Ox Tr chl, serp, & Nat Cu.	"	30-60°	" "	As above; locally foggy.
	226.1	5.8		.09		"	"	As above + Tr Cu.	"	"	" "	" "
									± 226'	-	Base Oxides	
	235.0	8.9		.17		"	"	Tr cpy-py-Cc; WK-mod ser & clay; Tr chl on fracs.	Run	30-70	WK Fracs w/ ser & chl gg & bx.	brn & gr Arkosic Arg locally brkn
	244.4	9.4		.15		"	"	Sp beat vlts py-cpy-Smeared suls, WK-Tr Ser & talc.	"	"	fracs & qtz vlts	As above, Not as brkn
	254.1	9.7		.20		Arg	Run	As Above. Tr chlor Tr Moly	Run	30°-60°	fracs with ser + QTz	Arg - occasional Patches with Congl Text
	264.5	10.4		.38		"	"	As Above	Run	20-90°	Mod QTz + Ser filled fracs	Arg As Above
	274.2	9.7		.39		"	"	WK-Sp Cpy-Py, Tr Moly Tr Ser + Chlor	Run	50°±	ST fracs, (Bx?) with Ser	ST fracs, with QTz+Ser Run has Bx Text.
	284.3	10.1		.22		Arg	Run	As Above	Run	20-80°	Mod fracs + QTz Vning	Decr. in Bx
	292.3	8.0		.25		"	"	Incr in Cpy + Py, WK Moly, Sp Ser + chlor	Run	"	ST. fracs, + Ser Alt.	Congl Text (Bx?) incr in Ser + Suls.
	301.0	8.7		.28		"	"	As Above	Run	40-50°	Mod fracs + Cgl Text.	sp suls, incr in Cgl. Text
	311.3	10.3		.26		"	"	WK Suls, sp Ser	"	"	WK fracs, No cgl Text	dense, Alt Arg
	319.9	8.6		.23		"	"	" "	"	"	" "	" "
	324.4	4.5		.20		"	"	As Above, incr in Ser.	"	"	" "	" "
	333.3	8.9		.34		Arg	Run	Sp Cpy - Py, Sp Ser + chlor	327.4'	35°	4" flt zone, Bx+sul gg	Arg with WK cgl Text.
	342.3	9.0		.24		"	"	" " "	Run	40-80°	WK Ser + Qtz filled fracs	As Above
	353.9	11.6		.34		"	"	Tr Cpy - Py, Sp Ser + Chlor	"	"	" "	" "
	364.3	10.4		.26		"	"	" "	"	"	" "	Incr in Cgl text.
	372.3	8.0		.31		"	Run	Sp Cpy - Py - Ser - Chlor Tr Moly	Run	60°±	Mod Ser & QTz filled fracs	Incr in Suls + Cgl Text.
	382.2	9.9		.35		Arg-Cgl	Run	Sp Cpy - Py, Incr in Ser	Run	60°	WK fracs,	Cgl Text, Mod Ser Alt
	386.3	4.1		.31		"	"	Sp-Mod Suls "	"	"	" "	" "
386.3	397.1	10.8		.44		"	"	" "	"	30-60°	" "	" "

MIS-807-A 75

HOLE NO. M-63

Coordinates: N 361,178.73 E 764,491.51

Dip vert Bearing —

Date started 4-15-63 Completed 5-1-63

Collar Elevation 3259.0 Total Depth 864.7

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
397.1	404.4	7.3		.43	28.3 @ .52	Arg-Cgl	Run	Tr-wk diss & vlt cpy-py w/ mod ser; Tr to enclips Tr moly	Run	20-60°	Fracs & slips	Tan-brn Arg w/ cgl Text, Mod Ser alt.
	414.6	10.2		.66		"	"	As above w/ local mod sulf.	"	"	" "	As before
	424.5	9.9		.27		"	Run	" "	"	30-70°	" "	As before; local silf.
									419.6-15.7	—	Brkn & clayey	
	431.1	6.6		.23		Arg-Cgl	Run	Tr-sp cpy-py, Tr Moly, Tr ser, Tr chlor	Run	36°±	wk fracs	Brn Arg with Cgl Text
	442.7	11.6		.20		"	"	As Above	Run	40°±	sp fracs; 70° fit At 439.5'	As Above
	453.7	11.0		.18		"	"	" "	"	50°±	wk Ser & QTz filled fracs	" "
	463.0	9.3		.16		QTzT	Run	Tr Sulf, Tr Ser	Run	45°±	wk fracs	Dense white QTzT, Arg-Cgl + QTzT cont at 463.0'
	473.0	10.0		.25		Arg-Cgl	Run	Sp cpy-py, Tr Moly, Tr ser Tr gyp, Tr chlor	Run	45°±	wk Gyp filled fracs	QTzT - Arg-Cgl cont at 473.0'
	484.3	10.7		.33		"	"	As Above	Run	"	" "	Dense Arg-Cgl, Mod Silica
	491.6	7.3		.26		"	"	" "	"	"	" "	" "
	499.6	8.0		.33		"	"	As Above; sp-wk sulf	"	40-70°	Fracs; Slips	" "
499.6	512.2	12.6		.38		"	"	" "	"	10-50°	" "	" "
	522.6	10.4		.33		"	"	" Mod ser	"	20-60°	Fracs, slips w/ ser, serp, & gyp.	Gr-Tan Arg-Cgl w/ mod ser, wk sil.
	532.0	9.4		.33		"	"	As above; local wk cpy	"	"	" "	" "
	541.6	9.6		.43		"	"	" "	"	20-70°	Fracs; gyp v/lts	dense silic Arg w/ wk ser.
	550.2	8.6		.40	138.2' @ .42	"	"	" "	"	"	" "	" "
	555.0	4.8		.41		Arg-Cgl	Run	Sp cpy-py, Tr Moly, Tr Ser Tr Gyp, Tr chlor, Mod SiO_2	Run	40-60°	Wk. Ser + Gyp filled fracs + vnlts.	Arg-Cong, ST. Silicified, frags have Angular shape in Many cases.
	564.1	9.1		.35		"	"	As Above	Run	"	" "	As Above
	575.3	11.2		.34		"	"	" "	"	"	" "	" "
	583.2	7.9		.38		"	"	" "	"	"	" "	This Type of Material Probably corresponds to Pima's "Pyroclastics"
	595.3	12.1		.47		Arg-Cgl	Run	Sp Sulf as disc + vnlts	Run	45°±	Wk fracs + vnlts.	Cont Silicified ~~Cong-Tex~~ Arg.
	601.5	6.2		.67		"	"	" "	"	"	" "	" "
	610.0	8.5		.54		"	"	" "	"	"	" "	" "

MIS-807-A 75

HOLE NO. M-63

Coordinates N 361,178.73 E 764,491.51

Dip Vert Bearing –

Date started 4-15-63 Completed 5-1-63

Collar Elevation 3259.0 Total Depth 864.7

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
610.0	618.0	8.0		.69		Arg-Cgl	RUN	Sp Cpy-py, Tr Moly as vnlts, "Blebs", & diss.	RUN	40°-60°	WK Ser-Gyp-Sul filled fracs & vnlts	Dense Silicified Cgl Angular & Rounded frags.
	625.1	7.1		.24		"	"	As Above	"	"	As Above	As Above
	637.8	12.7		.45		"	"	" "	"	"	" "	" "
	645.3	7.5		.18		Qtzt	RUN	As before w/ wk ser on fracs	RUN	30-70°	As Before	Wht to pale tan Qtzt Arg-Qtzt cnt grad through first 0.3' of run.
	657.1	11.8		0.16		Qtzt	"	" "	"	"	" "	As Above; locally brkn and vuggy
	665.3	8.2		0.19		"	"	" "	"	"	" "	" "
	678.8	13.5		0.34		"	"	" "	"	"	" "	" "
	692.1	13.3		0.18		"	"	Sp pats & vlts cpy-py, Tr Moly & wk Ser.	"	Varied	Vuggy fracs; locally brkn	Tan to lt gr impure Qtzt w/ zones of Arkosic or sandy texture.
692.1	704.0	11.9		0.51	23.3' @ .78	Qtzt	RUN	As before; wk-mod cpy	"	"	" "	As above locally Argillitic
	715.4	11.4		1.07		"	"	Same w/ incr cpy & Moly	"	"	" "	" "
	723.8	8.4		.23		"	"	decrease in cpy & Moly	"	"	Same but less brkn	" "
	731.7	7.9		.11		"	"	Tr cpy-py-ser-gyp-Moly	"	"	" locally brkn	Dense tan to wht Qtzt.
	742.6	10.9		.23		"	"	As Above; Tr-wk suls	"	"	As before	No Change
742.6	752.8	10.2		1.55		Hf	RUN	Mod-ST cpy-py, Mod calc Mod chlor, Tr Mag, Tr Moly	RUN	30-45	wk calc & Sul filled fracs	Pale grn Hf, Pods & diss cpy; Hf-QTzT cont at
	760.9	8.1		1.43		"	"	As Above	759.9	45°	GGy-Bx zone, Poss. FIT	As Above
	771.6	10.7		1.61	58.2' @ 1.07	"	"	" " Tr Hem	RUN	40°±	BrKN, GGy, " "	" "
	780.8	9.2		.90		"	"	Mod cpy-py, Tr Moly, Mod Chlor, Tr Mag. SP Gyp	RUN	20-60°	wk-Mod, calc & chlor filled fracs	Hf, Patches Arg.
	790.8	10.0		.53		"	"	As Above	"	Vague	wk fracs	Pale grn Hf, incr in Gyp
	800.8	10.0		.41		Hf	"	SP-Mod Suls, incr in Gyp & Silica	RUN	"	wk Gyp & cal filled fracs	Pale grn – White Gyp & Hf & Mb (?)
	805.4	4.6		.13		Hf	"	SP Suls, incr in Silica SP Hem & chlor	RUN	"	wk Hem & Gyp filled fracs.	Dense Siliceous Hf, 70° FIT cont with QTzT at 805.4'
	813.2	7.8		.08		QTzT	RUN	wk-SP Suls, Tr Ser & Gyp	RUN	45°±	wk Ser & Gyp filled fracs	Dense QTzT, Hf-QTzT cont 813.2'
Bx	816.6	3.4		.13		Hf	RUN	Mod cpy-py, SP chlor, & Gyp	RUN	Vague	wk fracs-Bx Text,	BrKN Hf-Bx
	823.0	6.4		.10		"	"	SP-Mod Cpy, py, Tr Moly incr in Gyp, Tr Hem	RUN	"	cnt Bx Text, Poss FIT zone	White-Pale Grn Hf. Mod Gyp

MIS-807-A 75

HOLE NO. M-63

Coordinates N 361,178.73 E 764,491.51

Dip Vert Bearing —

Date started 4-15-63 Completed 5-1-63

Collar Elevation 3269.0 Total Depth 864.7

GEOLOGIC LOG

MISSION UNIT

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DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
823.0	828.9	5.9		.05		Mb	RUN	WK-Tr Sulf, Tr chlor, Tr Born.	RUN	30-60°	WK calc filled fracs	Pure white Mb
828.9	837.8	8.9		.63	.63	Mb	"	Sp-Mod born, Tr sphal.	RUN	"	" "	Mb, WK Patches ++.
	848.7	10.9		.06		"	"	Tr sulf; Mod clay	"	30-50°	WK Fracs & slips w/ sp ox	wht Mb w/ sp pats chert.
	855.1	6.4		.01		"	"	sp Tr sulf; WK clay; Tr wol	"	"	" "	" "
	864.7	9.6		.03		"	"	sp Tr sulf; Tr gar & wol, chert.	"	"	WK Fracs.	Locally clayey wht Mb w/ sp pats gar.
		Bottom										

MIS-807-A 75

HOLE NO. M-63

Coordinates N 361,178.73 E 764,491.51

Dip Vert Bearing —

Date started 4-15-63 Completed 5-1-63

Collar Elevation 3259.0 Total Depth 864.7

GEOLOGIC LOG

MISSION UNIT

P ①

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	191.0	191.0				Alluv						Top CCg ± 184'
	199.3	8.3				CCg						BR ± 199.3'
	209.1	9.8		.10		Arg	Run	WK Fe Ox & Tr "Live" lim. St Ser. Tr Cu Ox.	Run	30-40°	WK fracs w/ CO_3 & qtz vlts.	Light leached Arg w/ local clay zones.
	220.3	11.2		.08		"	"	WK Fe - Cu Ox; WK - St Ser WK "Live" lim, & Mn Ox Tr chl, serp, & Nat Cu.	"	30-60°	" "	As above; locally foggy.
	226.1	5.8		.09		"	"	As above + Tr Cu.	"	"	" "	" "
									± 226'	-	Base Dribble	
	235.0	8.9		.17		"	"	Tr cpy - py - Cc; WK - mod ser & clay; Tr chl on fracs.	Run	30-70	WK Fracs w/ ser & chl gg & bx.	brn & gr Arkosic Arg locally brkn
	244.4	9.4		.15		"	"	Sp scat vlts py - cpy - Smeared suls, WK - Tr Ser & talc.	"	"	fracs & qtz vlts	As above, Not as brkn
	254.1	9.7		.20		Arg	Run	As Above, Tr chlor Tr Moly	Run	30°-60°	fracs with ser + QTz	Arg - occasional patches with Congl Text
	264.5	10.4		.38		"	"	As Above	Run	20-90°	Mod QTz + Ser filled fracs	Arg As Above
	274.2	9.7		.39		"	"	WK - Sp Cpy - Py, Tr Moly Tr Ser + Chlor	Run	50°	St fracs, (Bx?) with Ser	St fracs, with QTz + Ser Run has Bx Text.
	284.3	10.1		.22		Arg	Run	As Above	Run	20-80°	Mod fracs + QTz Vning	Decr. in Bx
	292.3	8.0		.25		"	"	Incr in Cpy + Py, WK Moly, Sp ser + chlor	Run	"	St. fracs, + Ser Alt.	Congl Text (Bx?) incr in ser + Suls.
	301.0	8.7		.28		"	"	As Above	Run	40-50°	Mod fracs + Cgl Text.	Sp suls, incr in Cgl. Text
	311.3	10.3		.26		"	"	WK Suls, Sp Ser	"	"	WK fracs, No cgl Text	dense, Alt Arg
	319.9	8.6		.23		"	"	" "	"	"	" "	" "
	324.4	4.5		.20		"	"	As Above, incr in Ser.	"	"	" "	" "
	333.3	8.9		.34		Arg	Run	Sp cpy - Py, Sp ser + chlor	327.4'	35°	4" flt zone, Bx + sul gg	Arg with WK cgl Text.
	342.3	9.0		.24		"	"	" " "	Run	40-80°	WK Ser + Qtz filled fracs	As Above
	353.9	11.6		.34		"	"	Tr cpy - py, Sp ser + chlor	"	"	" "	" "
	364.3	10.4		.26		"	"	" "	"	"	" "	Incr in Cgl text.
	372.3	8.0		.31		"	Run	Sp cpy - py - Ser - chlor Tr Moly	Run	60°±	Mod Ser + QTz filled fracs	Incr in Suls + Cgl Text.
	382.2	9.9		.35		Arg-Cgl	Run	Sp cpy - py, incr in Ser	Run	60°	WK fracs,	Cgl Text, Mod Ser Alt
	386.3	4.1		.31		"	"	Sp - Mod Suls "	"	"	" "	" "
386.3	397.1	10.8		.44		"	"	" "	"	30-60	" "	" "

MIS-807-A 75

HOLE NO. M-63

Coordinates: N 361,178.73 E 764,491.51

Dip vert. Bearing —

Date started 4-15-63 Completed 5-1-63

Collar Elevation 3259.0 Total Depth 864.7

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
397.1	404.4	7.3		.43	28.3 @ .52	Arg-Cgl	Run	Tr-wk diss & vlt cpy-py w/ mod ser; Talc envelops Tr moly	Run	20-60°	Fracs & slips	Tan-brn Arg w/ cgl Text, Mod Ser alt.
	414.6	10.2		.66		"	"	As above w/ local mod sulfs.	"	"	" "	As before
	424.5	9.9		.27		"	Run	" "	"	30-70°	" "	As before; local silf.
									419.6-15.7	—	Brkn & clayey	
	431.1	6.6		.23		Arg-Cgl	Run	Tr-sp cpy-py, Tr Moly, Tr Ser, Tr chlor	Run	36°±	wk fracs	Brn Arg with Cgl Text
	442.7	11.6		.20		"	"	As Above	Run	40°±	sp fracs; 70° flt At 439.5'	As Above
	453.7	11.0		.18		"	"	" "	"	50°±	wk Ser + QTz filled Fracs	" "
	463.0	9.3		.16		QTzT	Run	Tr Suls, Tr Ser	Run	45°±	wk fracs	Dense white QTzT, Arg-Cgl + QTzT cont at 463.0'
	473.0	10.0		.25		Arg-Cgl	Run	Sp cpy-py, Tr Moly, Tr Ser Tr gyp, Tr chlor	Run	45°±	wk Gyp filled fracs	QTzT-Arg-Cgl cont at 473.0
	484.3	10.7		.33		"	"	As Above	Run	"	" "	Dense Arg-Cgl, Mod Silica
	491.6	7.3		.26		"	"	" "	"	"	" "	" "
	499.6	8.0		.33		"	"	As Above; sp-wk sulf	"	40-70°	Fracs; Slips	" "
499.6	512.2	12.6		.38		"	"	" "	"	10-50°	" "	" "
	522.6	10.4		.33		"	"	" Mod ser	"	20-60°	Fracs, slips w/ ser, serp, & gyp.	Gr-Tan Arg-Cgl w/ mod ser, wk sil.
	532.0	9.4		.33		"	"	As above; local wk cpy	"	"	" "	" "
	541.6	9.6		.43		"	"	" "	"	20-70°	Fracs; gyp vlts	dense silic Arg w/ wk ser.
	550.2	8.6		.40	138.2' @ .42	"	"	" "	"	"	" "	" "
	555.0	4.8		.41		Arg-Cgl	Run	Sp cpy-py, Tr Moly, Tr Ser Tr Gyp, Tr chlor, Mod SiO_2	Run	40-60°	Wk Ser + Gyp filled fracs + vnlts.	Arg-Cong, ST. Silicified, frags have Angular Shape in Many cases.
	564.1	9.1		.35		"	"	As Above	Run	"	" "	As Above
	575.3	11.2		.34		"	"	" "	"	"	" "	" "
	583.2	7.9		.38		"	"	" "	"	"	" "	This Type of Material Probably corresponds to Pima's "Pyroclastics"
	595.3	12.1		.47		Arg-Cgl	Run	Sp Suls as diss + vnlts	Run	45°±	Wk fracs + vnlts.	Cont Silicified Cong-Tuff Arg.
	601.5	6.2		.67		"	"	" "	"	"	" "	" "
	610.0	8.5		.54		"	"	" "	"	"	" "	" "

MIS-807-A 75

HOLE NO. M-63

Coordinates N 361,178.73 E 764,491.51

Dip Vert Bearing –

Date started 4-15-63 Completed 5-1-63

Collar Elevation 3259.0 Total Depth 864.7

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
610.0	618.0	8.0		.69		Arg-Cgl	RUN	Sp Cpy-py, Tr Moly as vnlts, "Blebs", & diss.	RUN	40°-60°	WK Ser-Gyp-Sul filled fracs & vnlts	Dense Silicified Cgl Angular & Rounded frags.
	625.1	7.1		.24		"	"	As Above	"	"	As Above	As Above
	637.8	12.7		.45		"	"	" "	"	"	" "	" "
	645.3	7.5		.18		Qtzt	RUN	As before w/ wk ser on fracs	RUN	30-70°	As Before	Wht to pale tan Qtzt Arg-Qtzt cnt grad through first 0.5' of run.
	657.1	11.8		0.16		Qtzt	"	" "	"	"	" "	As Above; locally brkn and vuggy
	665.3	8.2		0.19		"	"	" "	"	"	" "	" "
	678.8	13.5		0.34		"	"	" "	"	"	" "	" "
	692.1	13.3		0.18		"	"	Sp pats & vlts cpy-py, Tr Moly & wk Ser.	"	Varied	Vuggy fracs; locally brkn	Tan to ltgr impure Qtzt w/ zones of Arkosic or sandy texture.
692.1	704.0	11.9		0.51	23.3' @ .78	Qtzt	RUN	As before	"	"	" "	As above locally Argillitic
	715.4	11.4		1.07		"	"	Same w/ incr cpy & Moly	"	"	" "	" "
	723.8	8.4		.23		"	"	decrease in cpy & Moly	"	"	Same but less brkn	" "
	731.7	7.9		.11		"	"	Tr cpy-py-scr-gyp-Moly	"	"	" locally brkn	Dense tan to wht Qtzt.
	742.6	10.9		.23		"	"	As Above; Tr-wk sulf	"	"	As before	No Change
742.6	752.8	10.2		1.55		Hf	RUN	Mod-ST cpy-py, Mod calc Mod chlor, Tr Mag, Tr Moly	RUN	30-45	wk calc & Sul filled fracs	Pale gra Hf, Pods & diss cpy; Hf-QTzT cont at
	760.9	8.1		1.43		"	"	As Above	759.9	45°	GGy-Bx zone, Poss. FIT.	As Above
	771.6	10.7		1.61	58.2' @ 1.07	"	"	" " Tr Hem	RUN	40°±	Brkn, GGy, " "	" "
	780.8	9.2		.90		"	"	Mod cpy-py, Tr Moly, Mod Chlor, Tr Mag. SP Gyp	RUN	20-60°	wk-Mod, calc & chlor filled fracs	Hf, Patches Arg.
	790.8	10.0		.53		"	"	As Above	"	Vague	wk fracs	Pale gra Hf. incr in Gyp
	800.8	10.0		.41		Hf	"	Sp-Mod Sulf, incr in Gyp & silica	RUN	"	wk Gyp & cal filled fracs	Pale gra – white Gyp, & Hf & Mb (?)
	805.4	4.6		.13		Hf	"	Sp sulf, incr in Silica Sp Hem & Chlor	RUN	"	wk Hem & Gyp filled fracs	Dense Siliceous Hf, 70° FIT cont with QTzT at Bos. 4'
	813.2	7.8		.08		QTzt	RUN	wk-Sp Sulf, Tr Ser & Gyp	RUN	45°	wk Ser & Gyp filled fracs	Dense QTzT, Hf-QTzT cont 813.2'
Bx	816.6	3.4		.13		Hf	RUN	Mod cpy-py, Sp Chlor, & Gyp	RUN	Vague	wk fracs-Bx Text,	Brkn Hf-Bx
	823.0	6.4		.10		"	"	Sp-Mod Cpy, py, Tr Moly incr in Gyp, Tr Hem	RUN	"	cnt Bx Text, Poss FIT zone	White-Pale grn Hf. Mod Gyp

MIS-807-A 75

HOLE NO. M-63

GEOLOGIC LOG

MISSION UNIT

Coordinates N 361,178.73 E 764,491.51
Dip VERT Bearing —
Date started 4-15-63 Completed 5-1-63
Collar Elevation 3269.0 Total Depth 864.7

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
823.0	828.9	5.9		.05		Mb	RUN	WK-Tr Suls, Tr chlor, Tr Born	RUN	30-60°	WK Calc filled fracs	Pure white Mb
828.9	837.8	8.9		.63	.63	Mb	"	Sp-Med born, Tr Sphal.	RUN	"	" "	Mb, WK Patches to
	848.7	10.9		.06		"	"	Tr suls, Med clay	"	30-50°	WK Fracs & slips w/ sp bx	wht Mb w/ sp pate chal.
	855.1	6.4		.01		"	"	Sp Tr suls; WK clay; Tr wol	"	"	" "	" "
	864.7	9.6		.03		"	"	Sp Tr suls; Tr gar & wol, chast	"	"	WK Fracs.	Locally clayey wht Mb w/ sp pate gar.
		Bottom										

MIS-807-A 75

HOLE NO. M-62

Coordinates N 362,338.21 E 262,225.07

Dip vert Bearing —

Date started 3/18/63 Completed 4/6/63

Collar Elevation 3283.2 Total Depth 878.0

GEOLOGIC LOG

MISSION UNIT

Print

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
195.0	202.4	7.4				Cog						
	213.0	10.6		.12		Mp	Run	Tr Cu, Chry; wk to Mod Fe, Mn Ox	202.4 Run	Inc 20-40°	Cog-Mp at Fracs	Biot-Qtz Mons, Rel unalt; St Qtz w/ feld seq
	221.0	8.0		.11		Mp	Run	Wk Cu on fracs, wk Fe, Mn Ox	Run	20-70°	"	As above
	229.5	8.5		.09		Mp	Run	" " "	"	"	"	" "
									229.5	—	Brkn, Gay Pos Fit Zone	St Alt & Leached, Mp
	236.6	7.1	N.I	.58	39.7' @ .73	Mp	Run	As Above, Sp Chry	Run	40°±	wk Leached fracs	As Above
	245.5	8.9	.02	.49		Mp	Run	Tr. Chry, Mnox, fracs, ser	Run	?	Brkn, gay. Poor Rec.	St. Alt Mp Leached
	253.3	7.8	Tr	.87		Mp	Run	Sp-Mod Chry, Sp Mno Mod Lim & Ser, Sp Chlor	Run	?	Brkn gay	St. Alt & leached.
	264.2	10.9	Tr	.92		MP-Arg?	Run	Mod Chry, Blk Cuox, Tr Feox Mod Ser, Mod Chlor, Sp feld spath, Tr Native Cu	Run	45°±	Sp Chry filled fracs	Arg(?) with Mp Text in Part; Intr. Feds Base of Ox. 264.2'
	275.2	11.0		.19		MP-Arg	Run	Sp Cpy, Tr Moly, Sp Py Mod Chlor, Mod Ser	Run	35-70°	Sp Ser, & Sul filled fracs	St Alt Mp with Pieces of Arg & or QTzT with vague Mp Text.
	287.0	11.8		.16		Mp	Run	V wk diss py-cpy, Tr moly	Run	30-50°	" " " "	St alt Mp w/ clays of feld.; Poor Rec.
	294.7	7.7		.12		Mp	"	As above w/ tr Mica	"	30-70°	As before	Leuco-porph w/ vits Qtz & sp seed pots, feldspathized Arg & or Qtzt.
	296.3	1.6		.10		"	"	" "	"	30-40°	fracs w/ st ser.	Leuco-Mp (poor rec'y)
	307.0	10.7		.10		"	"	" "	"	20-50°	fracs w/ ser, serp, Sul	As in previous runs.
	312.0	5.0		.16		"	Run	Wk sulf, Tr moly; med-st ser, serp; wk silf.	Run	20-40°	" "	Leuco-porph w/ local silf
									310 - end	?	Strongly broken	As before w/ poor rec'y
	316.7	4.7		.10		"	"	" "	Run	20-90°	fracs & slips	
	322.4	5.7		.10		Mp	Run	" "	"	"	Same, locally brkn.	As before w/ better rec'y
	331.7	9.3		.12		"	"	" "	"	"	" "	" "
	340.0	8.3		.15		"	"	Wk sulf, Sp Gyp, Tr Moly, Mod St Ser, Serp, wk Silf	"	50°±	" "	St Alt Mp, Brkn
	355.5	15.5		.16		"	"	As Above	"	50°±	wk gyp filled fracs	St Alt Mp; Good core
	367.7	12.2		.16		"	"	" "	"	"	" "	" "
	375.0	7.3		.16		"	"	" "	"	"	" "	" "

MIS-807-A 75

HOLE NO M-62

Coordinates N 362,328.31 E 262,225.87

Dip Vert Bearing —

Date started 3/18/63 Completed 4/6/63

Collar Elevation 3283.2 Total Depth 878.0

GEOLOGIC LOG

MISSION UNIT

②

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
375.0	383.6	8.6		.09		Mp	Run	wk suls, gyp; mod ser wk silf	Run	30-60	Gyp filled fracs & qtz vlts	Sericitized Mp w/ wk silf
	392.0	8.4		.18		"	"	Tr diss & vlt cpy-py, Mod gyp & as above	"	"	" "	" "
	403.0	11.0		.16		"	"	" "	"	"	" "	" "
	412.0	9.0		.14		"	"	As above w/ pats cpy-py	"	"	" "	" "
	421.7	9.7		.14		"	"	wk suls & as before	"	"	" "	" "
	433.4	11.7		.15		"	"	" "	"	"	" "	" "
	438.6	5.2		.18		"	"	" "	"	"	" "	" "
	449.0	9.4		.18		Mp	Run	wk cpy, Tr Moly, St Ser Mod gyp, Sp chlor	Run	35°±	Mod Gyp filled fracs, wk Qtz vnits	Very Str Ser Alt fresh xline Moly
	460.8	11.8		.16		Mp	"	As Above	"	30-80°	As Above	[illegible]
	471.8	11.0		.15		"	"	" "	"	"	" "	[illegible] Ser. Alt. (secondary Sulf?)
	482.1	10.3		.16		"	"	" "	"	"	" "	" "
	490.9	8.8		.17		"	"	" "	"	20-90°	Mod-St Gyp filled fracs	" "
	502.1	11.2		.17		"	"	" "	"	"	Wk-Mod " "	" "
	512.4	10.3		.18		"	"	" "	"	30-70°	" "	" "
											Mod 70° flt At 509.0'	
	523.9	11.5		.19		"	"	Sp Cpy + Py. incr in Moly St Ser, Sp Chlor + Gyp	Run	30-90°	Wk Ser + Gyp filled fracs	St. Ser. Alt., fresh Sulf. (Secondary ?)
	534.2	10.3		.20		"	"	As Above	Run	45°±	As Above	" "
	541.2	7.0		.18		"	"	" "	"	"	" "	" "
	549.1	7.9		.05		Arg	Run	Sp cpy-py; Tr moly; St ser @ cnt; wk gyp & ser through run.	541.2	10°	Clp - Arg cnt @ gyp filled frac.	Tan & brn Arg w/ wk silf.
									Run	20-50°	fracs & slips w/ gyp.	
	559.1	10.0		.05		"	Run	Sp sent pats isolos cpy-py wk ser & gyp. Tr moly.	"	30-60°	fracs, gyp-qtz vlts.	Sp pats qtz-fold repl & Mp
	571.5	12.4		.05		Arg-Qtzt & Mp	"	As above	"	"	" "	Tan Arg w/ pats Qtzt & short int Mp @ 562.1 w/ Qtz-Feld repl.
	581.0	9.5		.06		Qtzt	"	Tr cpy-py; wk moly; wk-mod ser, wk CO_3 & sul gg en fracs. Tr serp, Mod gyp.	Run	15-45°	fracs & slips, some w/ bx-gg	Dense wht Qtzt w/ pats brn Arg & med gg.
									573.5	75°	gg-bx w/ wk suls (fill?)	
	589.4	8.4		.08		"	"	As above	Run	20-50°	fracs & slips	Dense wht Qtzt w/ wk pats Arg.

HOLE NO. M-62

Coordinates N 362,338.31 E 762,225.07

Dip Vert Bearing —

Date started 3/28/63 Completed 4/6/63

Collar Elevation 3283.2 Total Depth 878.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
589.4	598.4	9.0		.08		Qtzt	RUN	Wk vlts cpy, py; Tr moly	RUN	20-70	Fracs w/ gyp, wk cpy vlts	Dense tan-white Qtzt wk ser
	606.7	8.3		.08		Qtzt	"	Wk-Tr cpy-py; wk ser	"	20-45	" "	Impure tan Qtzt w/ pats Arg.
	617.2	10.5		.11		"	RUN	As Above	"	"	" "	" "
	627.4	10.2		.12		"	"	" "	"	"	" "	" "
EOM →	637.2	9.8		.13		"	"	" "	"	"	" "	" "
	647.3	10.1		.09		"	"	Tr sulf, moly, wk gyp, ser	"	15-70°	Y, wk fracs	Tan Qtzt
	654.0	6.7		.10		"	"	" "	RUN		" "	" "
									650.4	±30°	Recem flt bx w/ Moly	
	664.1	10.1		.12		"	"	Sp scat pats & strs cpy-py-moly-sph, wk ser; Mod gyp	RUN	30-50°	wk fracs.	Dense wht to lt gr Qtzt
	674.3	10.2		.08		"	RUN	" "	RUN	30-60°	fracs, gyp vlts.	Same (poor rec'y)
	683.6	9.3		.09		"	"	" "	"	"	" "	dense wht Qtzt
	691.3	7.7		.12		"	"	Wk-Tr cpy-py, Tr Moly, wk ser, Tr gyp; hematite	"	"	" "	" "
	701.4	10.1		.18		Qtzt	"	Wk-mod py, wk cpy in strs & vlts., wk-mod ser; wk gyp; wk zones hem stain	RUN	20-70°	" "	Dense Qtzt w/ wk-mod ser in fracs & shears w/ sulf.
	710.8	9.4		.09		"	"	Wk sulf, Mod ser; wk gyp	709.1	Lost	1.6' bx-gg zone	Sericitized wht Qtzt.
									RUN	Varied	As before	
	716.0	5.2		.06		Qtzt	"	St ser; wk Sul gg & Tr hem stain.	RUN	Lost	Bx-gg (poss flt cut w/ Hf below)	Qtz bx in gr gg; very poor rec'y.
716.0	722.8	6.8		1.32	1.32	Hf-Te	RUN	Mod-st pat & vlt cpy-py. st hem stain, Mod Qtz-fel repl; wk gyp; Tr Mag, det.	RUN	±40°	Sub parallel fracs, gyp vlts, recem bx in te, sul vlts.	Mixed foggy Hf & Te w/ 1.0' int. st qtz-fel at start
	732.5	9.7		.08		Qtzt	"	Tr cpy-py Mod-st ser wk gyp; Tr chl	722.8	±40°	Te - Qtzt cut @ gyp vlt.	wht brkn Qtzt w/ st ser
	743.3	10.8		.04		"	"	Tr sulf; st ser; wk gyp	RUN	Varied	wk fracs w/ gyp.	As above; less brkn
	753.1	9.8		.07		"	"	" "	"	"	" "	" "
	762.9	9.8		.04		"	"	" "	"	"	" "	" "
	772.2	9.3		.04		"	"	Same w/ incs. in gyp	"	"	" "	" "
	779.1	6.9		.05		"	"	" "	"	"	" "	" "
	788.2	9.1		.02		"	"	Tr sulf; Mod gyp-ser.	787.5	40°	0.7' Recem flt bx.	" "

MIS-807-A 75

HOLE NO 01-62

GEOLOGIC LOG

MISSION UNIT

• Coordinates N 342,338.31 E 762,225.07

Dip Vert Bearing —

Date started 3/18/63 Completed 4/6/63

Collar Elevation 3283.2 Total Depth 878.0

DEPTH From	DEPTH To	DEPTH Interval	% COPPER NS	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
788.2	798.6	10.4		.03		Qtzt	Run	Tr suls, wk ser, Mod Gyp	Run	30-50°	fracs, slips, gyp vlts.	Dense wht Qtzt
	806.2	7.6		.04		"	"	" "	"	30-60°	" "	" "
	814.5	8.3		.03		"	"	" "	"	30-80°	" "	" "
									814.5	30°	Qtzt - Hf @ slip w/ serp.	
	823.5	9.0		.07		Hf - Mb	Run	Tr suls, wk gyp; Mod serp	816.4	60°	Hf - Mb cnt @ gyp vlt.	Leuco-Hf to 816.4' & Mixed
									Run	30-60°	wk fracs, Gyp vlts	Gr & wht Mb w/ mod serp
												& wk gyp to end
	830.6	7.1		.09		Mb	Run	Tr Suls, Mod gyp	Run	20-60°	wk fracs, Gyp	Mb As Above, Patches Hf
	840.7	10.1		.03		Mb - Hf	"	As Above	832.5'	45°	5" flt zone, ST. Serp	Mb with ST Patches Hf
	847.5	6.8		.04		Mb-Hf-Gyp	Run	Tr Suls, Mod. ST Gyp, Tr Serp.	Run	40°±	wk Gyp filled fracs	Mb with ST. Gyp + Hf
	857.6	10.1		.06		"	"	" "	853.0'	?	2' Gsy zone, Poss. flt	Mb-Hf with ST. Gyp
	867.6	10.0		.04		"	"	Tr smeared Suls on fracs	Run	45°±	wk flts with Serp +	White Mb + Gyp-Serp on
								Tr Serp + Mod Gyp			Suls, Gyp filled fracs.	Slips
	878.0	10.4		.02		Mb	Run	wk Tr Suls, ST Gyp	Run	30-60°	wk Gyp filled fracs	White Gypsiferous Mb
					Bottom							

MIS-807-A 75

KER

HOLE NO M-61

GEOLOGIC LOG

MISSION UNIT

Coordinates N 361,169.54 E 763,993.38
Dip Vert Bearing —
Date started 3/18/63 Completed 4/15/63
Collar Elevation 3267.6 Total Depth 1064.5

DEPTH From	DEPTH To	DEPTH Interval	% COPPER NS	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	191.0	191.0				R.B.						Overburden
191.0	201.3	10.3				CCg						Cal Cgl. B.Rat 201.3'
	210.8	9.5	.01	.23		Arg-Cgl	RUN	Tr Chry, Cuprite, MNo, FeOx Tr Ser, chlor	RUN	38°-50°	WK Ser filled fracs	Mod Alt + Leached
	220.9	10.1	.35	.55	161' @ .94	"	"	As Above, Tr Gyp	"	30°-50°	WK Ser & Gyp filled fracs	As Above
	226.9	6.0		1.60		Arg	RUN	Mod Chry, sp MNo, FeOx Cuprite, Tr Ser, Sp CC.	RUN	45°±	Sp Chry + ser filled fracs	Incr IN Chry, Tr Tenorite Base of Ox. 226.9'
	236.8	9.9		.31		Arg	RUN	Tr-Sp CC., Py, Tr Cpy Sp ser, Tr Moly, Tr Sep	RUN	20°-70°	WK. Ser + Sul filled fracs	Alt. Arg,
	244.4	7.6		.25		Arg-Cgl	Run	As Above	RUN	"	As Above	Cont Alt. + Congl Text.
	253.0	8.6		.30		"	"	Sp Cpy, Tr Ser, Tr Moly	RUN	50°	WK fracs with Sul. gg	As Above
	262.6	9.6		.20		"	"	As Above	RUN	40°-80°	As Above	ST. Cgl Text, Sp Sulf
	273.1	10.5		.16		"	"	" "	RUN	20°-90°	" " ST. VRT FIT	Cont. ST. cgl. Text, ST. Ser + Sul. gg. filled Vert. FIT.
	281.4	8.3		.29		"	"	Sp Cpy, sp Ser, sp py, Tr Moly + chlor, Tr gyp	RUN	20°-90°	ST VRT fracs.	As Above
	286.4	5.0		.36		"	"	As Above	Run	45°±	WK Sul + Ser filled fracs	ST. Congl. Text.
	294.6	8.2		.20		"	"	" " , Mod Ser	"	30°-70°	WK Gyp + ser filled fracs	" "
	304.2	9.6		.23		"	"	As Above	"	"	" "	" "
	313.3	9.1		.20		"	"	" "	"	30°-75°	WK Gyp-Sul-Ser filled fracs	" "
	325.2	11.9		.22		"	"	" "	"	30°-90°	As Above	" "
	331.9	6.7		.15		"	"	" "	"	60°	Sp Gyp + Sul gg filled fracs	" "
	343.0	11.1		.17		"	RUN	Sp-Tr Cpy, Sp-Mod Ser	RUN	50°	WK Ser filled fracs	Cont Cgl Text. fragments Angular, Looks like course grnd. Ark.
	353.8	10.8		.30		Arg-Cgl	RUN	Sp-Tr Cpy, py-Mod Ser	RUN	50°±	" "	Rock has definite Arkosic Text. But's dense & Silicified Appears Pyroclastic in Part
	365.3	11.5		.16		"	RUN	As above w. sulf smear on fracs	RUN	"	" "	As above w. stronger clay content
	374.7	9.4		.22		"	"	" "	"	"	" "	" "
	383.3	8.6		.34		"	"	" "	RUN	30-70°	" "	As above but denser w/ less clay
	394.5	11.2		.27		"	"	" "	"	"	" "	" "
	405.3	10.8		.28		"	"	" "	"	"	" "	" "

MIS-807-A 75

HOLE NO. M41

Coordinates N 361,169.54 E 763,993.38

Dip Vert Bearing —

Date started 3/18/63 Completed 4/15/63

Collar Elevation 3262.6 Total Depth 1069.5

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
405.3	414.8	9.5		.39		Arg & Cgl	Run	wk disp & wit py-cpy Mod ser; Tr sec & tale on fracs	Run	30-70°	wk fracs	Dense silt Arg & Cgl
	425.0	10.2		.39		"	"	wk-Tr sulf, Mod-st sericitic clays.	"	"	" "	As above w/ disappearing at 4.5 ft.
									418 ft end	—	st bx-gg zone.	
	434.0	9.0		.33		"	"	As above w/ mod ser.	Run	30-75°	st fracs w/ gg	Mod silt weak gg
	444.8	10.8		.21		"	"	" "	"	"	As before; locally chalcocite	" "
	455.2	10.4		.19		"	"	" "	Run	30-75	Mod grn ser filled fracs.	Mod sericitic gtz. alt
	465.4	10.2		.21		"	Run	wk cpy-py, Tr Moly, Mod Ser sp chlor.	"	" "	As Above	" "
	476.3	10.9		.20		"	469'	st Moly in frac zone	"	30-60	fracs w/ carp, Moly, ser, gtz.	" "
							Run	As before				
	487.0	10.7		.26		"	"	" "	"	"	" "	" "
	499.5	12.5		.21		"	"	" "	"	"	" "	" "
	508.2	8.7		.29		"	"	" slight incr in sulf.	"	25-80	" "	" "
	519.0	10.8		.68		"	Run	Sp cpy-py; Mod encased sulf, Mod ser, Tr carp & moly	Run	30-90°	fracs & slips w/ gg-bx	As before w/ some st bx zone
									515.3-17.0	50°	Ross filt bx-gg	
	529.0	10.0		.70	46.5' @ .76	Arg & Cgl	"	wk-Mod cpy-Py, Mod ser; Tr Moly	Run	20-60°	fracs w/ gg	Mod ser, gtz, & feld alt
	535.2	6.2		.99		" "	Run	Mod cpy-py, Tr Moly	Run	40°	wk grn ser filled fracs	Silicified Cgl frags, quartz frags
	544.9	9.7		.95		"	"	As Above	"	30-70	" "	" "
	554.7	9.8		.58		"	"	" "	"	"	" "	As Above, locally st. Arg.
	562.7	8.0		.27		Arg	Run	wk-Sp. cpy-py; Tr Moly & Ser	Run	40°	Sp Ser & Gyp filled fracs	Dense, silicified Arg
	570.6	7.9		.14		Arg	Run	wk cpy-py, Tr Moly, sp Ser	"	65°	wk Ser filled fracs	Dense, Arg
	580.8	10.2		.28		"	"	As Above	"	30-60°	As Above	" " wk in Silica
	584.9	4.1		2.73	2.73	HF	"	Mod-st cpy-py, Tr Moly-wk Ser, Tr Feld	Run	45°	wk cal & gyp filled fracs.	Alt HF, HF & Arg. cont. at 580.8
	594.6	9.7		.33		QTzT	"	wk-Tr sulf, sp Ser	Run	10°-50°	wk fracs, Tr Ser	Dense white QTzT
	601.2	6.6		.21		"	"	As Above	"	"	" "	" "
	612.5	11.3		.48	.48	"	"	" "	"	"	" "	" "
	621.9	9.4		.11		"	"	" Tr fl, CO_2	"	10-60°	Same w/ local silt bx	" "
							621.0	c.1'-60°-Bx-gg w/ st cpy	625.4	50°	Recent filt bx	
	629.4	7.5		.14		"	Run	As before	Run	30-70°	fracs & slips	" "
	639.7	10.3		.21		"	"	Sp sect Arg cpy-py; wk ser Tr tab & indog on slips	"	"	" "	As before; locally bx'd

HOLE NO M-61

Coordinates N 361,169.54 E 763,993.38

Dip Vert Bearing —

Date started 3/18/63 Completed 4/15/63

Collar Elevation 3267.6 Total Depth 1064.5

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
639.7	646.6	6.9		.20		Qtzt	Run	Sp cpy-py wk ser	Run	50-70°	fracs (Brkn)	Dense wht-gr Qtzt
	653.3	6.7		.16		Qtzt	Run	" "	"	"	" "	" "
~~Com~~	660.0	6.7		.25		Qtzt	Run	" "	"	"	" "	" "
	670.0	10.0		.24		"	"	Sp cpy-py, Tr Moly; wk ser. Tr gyp	"	"	" "	" "
670.0	682.2	12.2		.42	.42	"	"	" + vlts & stks cpy-py	"	"	" "	" "
	688.6	6.4		.15		"	"	Tr cpy-py-Moly-ser	"	"	" "	" "
	697.8	9.2		.19		"		As above; locally wk cpy-py	"	"	" "	" "
	707.8	10.0		.21		"	"	As before w/ inter in ser	"	"	" "	Same but locally clayey
	715.6	7.8		.29		"	"	" "	"	"	As above; locally shattered	Dense wht Qtzt w/ wk ser.
715.6	725.1	9.5		.55	.55	"	Run	Sp vlts-stks cpy-py-Moly wk ser, Tr Talc & Cal	"	"	" "	" "
	734.0	8.9		.22		"	"	" "	"	"	" "	" "
	746.6	12.6		.29		"	"	As Above	"	"	" "	Dense white Qtzt, sp ser
	751.5	4.9		.35		"	"	wk vlts of cpy-py-Moly	"	40°±	wk fracs	As Above
	761.0	9.5		.31		"	"	" "	"	"	" "	" "
761.0	771.0	10.0		.49	20.8' @ .53	"	"	" "	"	"	" "	" "
Cut Nn	781.0	10.0		.62		"	"	" "	"	15-25°	" "	" "
Start Bx	790.2	9.2		.33		"	Run	Wk - Tr cpy-py - ser	"	40-50°	fracs & sul vlts.	" "
							785.6 To 797.8'	Hit. vlt st py w/ wk cpy				
	799.6	9.4		.19		"		Wk-Sp cpy-py-ser	To 797.8	40-50°	Wk fracs + sul vlts	White Qtzt
						Hf	797.8 - 799.6	Mod cpy-py. Tr Born	797.8 - 799.6	50°	Vr wk fracs	Hf-Qtzt cont is s very wk slip (May be Sed Cont?)
	811.1	11.5		.08		Tt-Hf	Run	Tr cpy-py - ser	Run	"	" "	Tt & Hf mixed.
811.1	821.1	10.0		2.45		Tt-Hf	Run	St cpy-py; hem stain.	Run	"	" "	Mixed Hf-Tt w/ wk
					21.2' @ 1.37				820.2	40°	Recem flt (?) bx (Tt-Qtzt cnt)	eos & pats Qtzt.
	832.3	11.2		.41		Qtzt	"	wk cpy-py Tr ser, Talc	Run	varied	fracs & slips	Lgr Qtzt (v poor Rec'y)
	842.5	10.2		.32		"	"	wk-Tr cpy-py; ser	"	"	fracs & pings; locally brkn	Lgr-wht Dense Qtzt
	852.1	9.6		.17		"	"	" "	"	"	" "	As above locally clayey
	863.7	11.6		.34		"	"	wk cpy-py; Tr Moly, ser	"	20-70°	" "	" "
	874.3	10.6		.20		"	"	" "	"	"	" "	" "
	881.2	6.9		.20		"	"	wk-Tr cpy-py; Tr Moly, ser.	"	"	" "	" "
	889.9	8.7		.23		"	"	" "	"	"	" "	" "
	898.9	9.0		.12		"	"	" "	"	"	" "	" "

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-61
Coordinates N 361,169.54 E 763,993.38
Dip Vert Bearing —
Date started 3/19/63 Completed 4/15/63
Collar Elevation 3262.6 Total Depth 1064.5

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
898.9	908.9	10.0		.13		Qtzt	Run	Wk-Tr Str cpy-py, wk ser; Tr gyp	Run	30-60	Wk fracs	Dense wht Qtzt
	919.7	10.8		.19		"	"	" "	"	"	" "	" "
919.7	926.5	6.8		.55	16.3' @ .60	Qtzt-Hf	Run	Wk-Mod cpy-py; wk ser. St CO_3 in Hf & along fracs in Qtzt.	Run	varied	fracs & sul stgr. Faint bx-like appearance along Hf-Qtzt cnts.	Dense wht Qtzt to 922.7' followed by Calc Hf w/ Trem-Act to 923.9' & wht dense Qtzt to end. Cnts 30° & 60°
	936.0	9.5		.64		Hf	"	Wk-mod & locally st cpy-py w/ mod-st CO_3; wk Trem-Act-gar.	926.7 Run 936.0	45° 30-60 60°	Qtzt-Hf cnt @ healed frac. fracs & sul vlts. Hf-Qtzt cnt w/ bx	Mixed lt grn, grn, maroon & tan Hf w/ Act-Trem gar locally abundant. Pats Qtzt. 30-60° lineation of bx-like appearance (Pass thru zone)
	940.1	4.1		.23		Qtzt-Hf	Qtzt 938.1 -	Wk-Tr cpy-py Hf Mod-St diss & vlt cpy-py- wk CO_3, pats Trem-Act, & gar. Tr pyrrhotite (?)	938.0	70°	Qtzt-Hf cnt @ slip	Dense wht Qtzt followed by dk grn & tan Hf w/ pats gar
940.1	950.7	10.6		.52	.52	Hf	Run	St py w/ wk-mod cpy in diss & vlts. Tr pyrh(?). Pats gar	Run	30-60°	fracs & slips & sul vlts, locally brkn	Dense pale grn to soft wht Hf w/ local pats gar & Tr Trem-Act.
	955.3	4.6		.11		Hf	Run	Tr cpy-py Mod Talc.	Run	-	Brkn	Soft wht Hf.
955.3	964.1	8.8		.70	16.9' @ 1.35	"	"	Mod-St diss & pat py cpy w/ local St mag. wk pyrh(?) Sp gyp.	"	20-50°	Gyp filled fracs & lineation of sulfs.	Dense pale grn, wht & lt gr Hf.
	972.2	8.1		2.65		"	Run	As above w/ local St serp-talc; wk gyp	"	"	" "	" "
	979.2	7.0		.10		Qtzt	Run	Sp pats cpy-py; wk gyp	" 972.4	20-60° 60°	fracs & gyp vlts. Hf-Qtzt cnt @ frac	Dense wht Qtzt.
	988.4	9.2		.04		"	"	" "	Run	30-60°	wk fracs.	" "
	997.1	8.7		.11		"	"	As before & Tr Moly	"	"	" "	" "
	1000.6	3.5		.33		Qtzt-Hf	"	Tr cpy-py Sp vlts Moly & pats, wk ser, gyp, chl.	Run 1000.0	" 56°	" " Qtzt-Hf cnt @ gyp-sul vlt.	As above w/ pat Hf to cnt & pale grn Hf w/ st talc to end. Patches Tt

MIS-807-A 75

HOLE NO. M-61

Coordinates N 361,169.54 E 763,993.38

Dip vert Bearing —

Date started 3/18/63 Completed 4/15/63

Collar Elevation 3267.6 Total Depth 1064.5

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
1000.6	1010.5	9.9		1.05	28.4' @ 1.18	Hf	Run	Mod-st py-cpy; Tr mol-sph-bn-gyp-gar.	Run	40-60°	fracs, slips, gyp & sul vlts.	Dense pale grn to soft wht Hf.
	1019.4	8.9		1.41		Hf	"	wk-mod py-cpy; Tr bn sph, wol, gyp; wk gar.	"	"	" "	As before w/ pats gar.
	1029.0	9.6		1.09		Hf-Tt	Run	wk-mod py w/ lesser cpy Tr $MnCO_3$, sph, bn, Wol	Run	"	" "	Mixed wht Hf & grn Tt w/ Tr wol, Trem, Act.
	1036.5	7.5		.28		Hf	"	wk suls; sp pats gar w/ Tr Trem, Act; Tr wol, bn.	"	"	wk fracs	Soft wht to tan Hf.
	1045.1	8.6		.25		Hf-Mb	"	As before	"	"	" "	Hf as above & wht Mb w/ wk serp, pats Hf & Tr wol.
									1039.6	±50°	Hf-Mb cnt.	
1045.1	1054.8	9.7		.72	.72	Hf-Mb	"	st py-cpy in 1.8' Hf int.; wk-Tr suls, Tr bn in Mb.	Run	30-40°	wk fracs & cnts	Wh Mb as above w/ 1.8' int Hf w/ st suls.
	1064.5	9.7		.15		Mb	Run	Sp scat vlts cpy-py Tr serp, tale, wol.	Run	30-50°	wk fracs.	Wht xline Mb w/ Tr wol.
	Bottom											

MIS-807-A 75

HOLE NO. M-60

Coordinates: N 362,334.50 E 262,724.20

Dip Vert. Bearing —

Date started 3/27/63 Completed 3/28/63

Collar Elevation 3262.4 Total Depth 292.2

GEOLOGIC LOG
MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	191.0					Alluv						Hole B.T. Top Clay line
	218.0	27.0				Clay						B.G. 218'
	228.4	10.4		.30		Arg	Run	mod Sp-Mod Cpy, Tr Cpy, wk sec alt.	Run	30-40°	Fracs	Hyd. Shows Arkosic Arg
	239.2	10.8		.30		Arg (Congl)	Run	wk Mag, Sec, Sec, Tr Cpy	Run	10-60°	wk-Mod fracs w/ Tr Cpy	Crs. gr. Arg., Congl Text Mod silica, Mod alteration
	249.3	10.1		.11		"	Run	As Above, Tr Cpy w/ a cpy	Run	"	As Above	Cont. Congl. Text
	252.6	3.3		.16		"	"	" Tr Cpy Py	"	"	" "	As Above
	264.0	11.4		.25		Arg	"	wk Fe Ox on fracs w/ wk sec alt. Tr Cpy - Py - a cpy, wk sec	"	30-60	" "	Hyd. Arkosic Arg w/ faint cgl texture & Qtz vits.
									264.0	—	Fault Breccia	
264.0	276.7	12.7		.41	23.2' @ 0.56	"	"	wk diss Py, Tr cpy, Mod Tr Inf sec in fracs	Run	20-90°	Fracs & slips w/ Cpy	" "
	282.2	10.5		.74		"	"	Trace in cpy	"	"	" "	Arg. [illegible] more broken
	297.0	9.8		.19		Arg	"	wk diss cpy & py, Tr Mo	"	10-70°	wk fracs & Tr Qtz vns	" "
	306.2	9.2		.18		"	"	As Above	Run	20-70°	Mod Qtz filled fracs	Arg, Patches Mp & Qtz T
	316.3	10.1		.12		"	"	" "	"	"	Br Rn, wk Sec filled fracs	As Above
	323.4	7.1		.14		Arg	Run	wk fracs cpy & py, Mod Sec	Run	30-60°	As Above	ST Alt Arg, ggy, Patches Mp & Qtz T
	332.5	9.1		.10		Mp	Run	wk diss cpy, Tr cpy, Sp Sec Tr chlor	Run	40°±	wk fracs	Alt Mp (Monzonite) Tr Sec
	342.7	10.2		.17		Mp	Run	As Above	Run	45°±	Brkn, wk fracs	As Above, Mod Sec
	352.0	9.3		.17		"	"	Tr cp, py, cpy, Mod Sec	Run	?	Br Rn, Poor Rec	Very Poor Rec, Mod Alt
352.0	364.0	12.0		.74	42.0' @ 1.02	Hf	Run	Sp Arg, Mod Cpy & Py, Sp Chl Tr Sec, Tr Cpy, Tr Mo	Run	30-60°	wk col & Cpy filled fracs, Poss Flt Zn.	Br Rn, Poor Rec. St chlor Alt. Mod patches Mag.
	373.1	9.1		1.49		Hf	Run	As Above	Run	30-60°	wk col & Cpy filled fracs	Alt, St Chlor & Mag
	385.2	12.2		1.09		Hf	"	Mod Sulfs, one chlor	"	?	Br Rn ggy, chlor, clay	Alt, Very Poor Rec, Poss Flt Zn
	394.0	8.7		.27		Hf	"	Sp-Mod Sulfs, Mod chlor	"	?	As Above	As Above, Poss Flt Zn
	406.2	12.2		.21		Arg	Run	Sp cpy, py, Mod Cpy, Tr Sec	Run	30-70°	Mod Cpy filled fracs	Dense Siliceous Arg.
	414.1	7.9		.17		"	"	As Above	"	10-90°	As Above	As Above
	426.2	12.1		.19		Arg	Run	wk-Sp cpy, py, Mod Cpy	Run	"	" "	Arg., Patches Hf
426.2	436.3	10.1		1.74	w/ @ 1.79	Arg	"	Mod "	"	"	" "	Arg-Cpy, Patches Hf
	446.2	9.9		.30		"	"	" "	"	"	wk Cpy filled fracs	Arg. Patches of Tf
	455.5	9.3		.10		"	"	Sp cpy, py, Tr Mo, trace Cpy	Run	40°±	wk fracs	Dense Siliceous Arg

MIS-807-A 75

HOLE NO. M-60

Coordinates N 362,334.54 E 762,724.98

Dip Vert Bearing —

Date started 2/27/63 Completed 3/18/63

Collar Elevation 3262.4 Total Depth 903.2

GEOLOGIC LOG

MISSION UNIT

(2)

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
455.5	463.8	8.3		.10		Arg	Run	vit py w/ Tr cpy; wk sec Tr Moly; wk gyp	Run	30-90°	fracs & slips; broken	brown coarse Arg w/ pats Qtzt; 457.8' e.o. Mp int
	472.8	10.0		.09		"	"	Mod vit & diss py, Tr cpy, sec Tr Moly wk gyp.	"	"	" "	As above
	484.2	10.4		.10		"	"	" "	"	"	" "	" "
									483.0	65°	Bx-gg zone	
	496.5	12.3		.02		"	"	" "	Run	30-70°	fracs & slips	" "
	505.0	8.5		.05		Arg & Qtzt	"	Tr diss py-cpy-moly	"	"	" " + Qtz vits	Grades to tan impure Qtzt across run
	512.3	7.7		.04		Arg & Qtzt	Run	Tr diss cpy & py	Run	"	wk fracs & slips	Dense Siliceous Arg.
	517.3	5.0		—	No core							No Core
	527.4	10.1		.26		Arg	To 521.7	wk cpy-py, Tr Moly	527.4-521.7	"	Brkn, gsy, wk fracs	Siliceous Arg
						Mp	BT 521.7	wk-Mod py, Sp cpy & Moly	521.7-527.4	40°	wk Chlor & Ser filled fracs	ST ALT Mp, Mod Ser
	531.6	4.2		.31		Mp	Run	As Above	Run	40°	As Above	As Above
3x	540.0	8.4		.13		Arg	Run	wk cpy & py as vn lts & diss., Tr Moly & Ser.	Run	30-60°	wk Ser & Chlor filled fracs	Arg, Mod silica
	550.0	10.0		.06		Qtzt	Run	Tr sulf w/ mod ser.	"	—	very broken	Impure pale tan Qtzt w/ pats tan Arg.
	557.0	7.0		.05		"	"	Tr sulf	"	"	" "	" "
	568.0	11.0		.16		Mp	"	Tr diss cpy-py-moly st ser, Qtz & feld. Tr serp & gyp.	"	30-70°	fracs, slips, Qtz & ser vits	Pink Tolenaa-porph w/ Mod-St Qtz-feld repl.
	573.4	5.4		.19		"	"	" "	"	"	" "	" "
	583.4	10.0		.19		"	"	As above + wk muscovite	"	"	" "	" "
	593.4	10.0		.16		"	"	" "	"	"	" "	" "
	598.5	5.1		.10		"	"	" "	±598.5	30°	Mp-Qtzt cut in bx-gg zone	" "
	610.7	12.2		.08		Qtzt & Arg	"	wk-Tr diss, vit, str cpy-py wk ser; Tr gyp & moly.	Run	20-50	wk fracs & slips.	wht Qtzt grades to brn Arg across run.
	620.5	9.8		.09		Arg.	Run	Tr py-cpy; st gyp; wk ser.	612.6-620.0	30°	Gyp cemented bx zone.	Brn coarse grained Arg w/ gyp filled fracs & pats Qtzt.
620.5	623.9	3.4		.45	35.5' @ 0.53	Arg	Run	As above	Run	20-30°	Gyp filled fracs	Sa. Mg.
									623.9	30°	Arg-Hf cut @ gyp vit.	
	634.4	10.5		.54		Hf	Run	scat vit & pat cpy-py w/ Tr Mag-Moly, st gyp & clay	Run	0-90°	fracs, slips, gyp vits	Soft tan to pale grn Hf.

MIS-807-A 75

HOLE NO. M-60

Coordinates N 962,324.54 E 962,726.98

Dip Vert Bearing —

Date started 2/22/63 Completed 3/18/63

Collar Elevation 2267.8 Total Depth 903.2

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
639.4	646.0	11.6		.54		Hf	Run	As in previous run	Run	0-90	No change	As before w/ st 20-45°
									646.0	45°	Hf - Arg cnt @ frac	sub parallel gyp vits @ end
	654.5	8.5		.10		Arg	"	wk - Tr diss & vst cpy-py Tr Moly; st gyp, Tr serp near end	654.5	90°	Arg - Hf cnt @ frac	Brn gypsiferous Arg
654.5	661.0	6.5		.53	16.5' @ 0.52	Hf	Run	Scat vlt, cte, & pots cpy py; st gyp vits, Tr Mob & Mag	Run	0-20°	fracs, alpx, gyp vits	Pale grn gypsiferous Hf
	671.0	10.0		.52		"	"	" "	"	"	" "	" "
	683.6	12.6		.22		"	"	" "	"	"	" "	" "
									683.6	20°	Hf - Qtzt cnt @ frac	
	693.6	10.0		.09		Qtzt	Run	wk scat vlts cpy-py; wk gyp; Tr ser	Run	30-60°	wk fracs	Impure tan Qtzt
	701.0	7.4		.09		"	"	As Above	Run	30°±	wk, Gyp filled fracs	ST Alt Qtzt
701.0	711.0	10.0		1.20	18.3 @ 1.35	Hf	Run	Sp-Mod cpy-py diss & in lts Tr Mag, chlor, ser	Run	10-25°	Mod Gyp-Sil & cal filled fracs	Mod Alt Hf
	719.8	8.8		.84		Hf	"	As Above,	Run	"	As Above	Patches of ST Color
	725.7	8.4		.09		"	"	wk cpy-py, Tr Moly	Run	20-70°	wk cal & Gyp filled fracs	Pale grn dense Hf, wk sils.
	735.0	6.8		.08		"	"	As Above	Run	40°±	As Above	As Above
735.0	743.7	8.7		.45	0.45	Hf	Run	wk-Sp cpy-py, Tr Mag, Mod ser Gyp	Run	30-80°	Mod Gyp & cal filled fracs	Pale grn - white Hf
	754.5	10.8		.09		Hf	Run	As Above, incr in chlor + cpy	"	45°	Gyp in frac.	As Above
754.5	764.1	9.6		.53	0.53	"	"	ST cpy-py-chlor, Sp ser + Gyp, Tr Mag	Run	40-60°	Mod Gyp & cal filled fracs	Sils diss. & in lts, Tr Tactite
	774.2	10.1		.20		Hf	Run	Sp-Mod Sils, incr in Gyp	Run	60°±	As Above	Pale white Hf, patches Tr + Mag, ST Gyp Replac.
	784.3	10.1		.07		"	"	wk-Tr sils; Tr moly, st gyp wk serp.	"	30-60°	" "	" "
	793.9	9.6		.09		"	"	As above w/ wk-st Moly incr in cpy.	"	"	" "	" "
									793.3	65°	p.r. st Moly in frac.	
	803.9	10.0		.03		"	"	As before w/ local pots Moly	Run	30-60°	As before	" "
	812.5	8.6		.05		Hf	Run	Same w/ Tr Moly	"	30-60°	" "	Pale grn dense Hf w/ pots Tr.
	822.2	9.7		.32		Hf-Tt	Run	Sp scat vlts & diss cpy-py Tr Ser, gyp, talc.	"	"	w/ fracs	Mixed Hf-Tt w/ clay.

MIS-607-A 75

HOLE NO. M-60

Coordinates N 362,334.54 E 762,724.78

Dip Vert Bearing —

Date started 2/23/63 Completed 3/18/63

Collar Elevation 3762.8 Total Depth 903.2

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
822.2	832.3	10.1		.09		HF	Run	Sp sect 30° wk cpy-py; wk-Tr sph; Tr CO_2; lt wal.	Run	30-50°	Frac & slips	wk wal HF w pale gry gov
	842.3	10.0		.25		HF	"	As above w Tr bn.	"	"	" "	" "
	849.0	6.7		.28		"	"	" "	"	"	" "	" "
849.0	858.7	9.7		1.11		WF-TF	Run	Fine disc bn, cpy, py, wk pale CO_2 in gov; Tr sph & wal.	"	"	" "	Mixed dance wht HF & gry TF
	868.8	10.1		1.34	34.4' @ 1.39	HF-TF	"	As above w local st bn wk	"	"	" "	" "
	874.3	5.5		1.45		HF-TF	Run	wk disc bn, Tr py-cpy-sph st CO_2, gyp, wk-Tr wal.	Run 870.8	" 45°	As above 0.5' Recent fit bx (?) w bn	Mixed wht-gr HF & gry TF w pale Ab
	883.4	9.1		1.72		HF-TF	"	Med-st disc bn, cpy, py (Tr sph) wk-mod CO_2; wk carb, gyp.	Run 883.8	30-50° 30°	Frac & slips 0.4' Bx in sand & gyp (fill)	" "
	889.0	5.6		.06		HF	"	wk-Tr sulf; st gyp & clay; wk CO_2.	888.8-end	250°	Mixed Qtzt & HF bx w gg zone (Prec fill) cnt w Qtzt.	Hgr HF w st clay to 888.8 & Mixed HF-qtzt bx in gg. To end.
	895.5	6.5		.35		Qtzt	"	wk sulf, wk-mod gyp Tr sph; wk carb.	Run	30-70°	Frac, slick & gyp wk	Hgr Qtzt
							892.3	Patch cpy in frac zone.				
	903.2	7.7		.03		Qtzt	Run	Tr sulf; wk Tr bn.	"	45-80°	" "	As above
	Bottom											

MIS-807-A 75

HOLE NO. M-59

Coordinates: N 362,335.23 E 762,473.60

Dip Vert Bearing —

Date started 2/5/63 Completed 3/26/63

Collar Elevation 3280.5 Total Depth 915.2'

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	200.0					Allur						Top CCg ± 160 (?)
200.0	217.4	17.4				CCg						BR ± 217.4
	230.5	13.1		.11		Arg	Run	wk-med FeOx, Tr "live" Lim & CuOx.	Run	Varied	fracs w/ atra ccg & bx in CCg matrix	dk brn Arg w/ vlts CCg, CO3, wk ser.
	241.5	11.0		.20		Arg	"	Same + wk MnOx	"	"	" "	" "
	252.0	10.5		.19		"	"	Same + Tr ser wk chl.	"	-	broken & gsy.	brn Arg w/ wk ser, serp
	262.7	10.7		.08		"	"	wk-med FeOx; Tr Nat cu, cov, CuOx, Cusils.	"	-	broken & shattered	" "
	272.2	9.5		.06		"	"	" "	"		" "	" "
											272.2 Base Oxides	
	282.9	10.7		.08		"	"	Tr FeOx, Cu, Nat Cu, py, cpy, chl, serp, ser, talc.	Run	30-50°	Fracs & slips & qtz vlts	brn Arg locally brkn.
	292.1	9.2		.20		"	"	" "	"	"	" "	" "
	299.6	7.5		.12		"	"	wk diss py w/ lesser cpy - wk Moly, Tr ser, cos	"	"	" "	" "
	309.6	10.0		.12		"	"	Same + Tr Nat Cu in chl	"	"	" "	locally shattered
	319.5	9.9		.12		"	"	" "	"	-	shattered & broken	brn brkn Arg; wk-med ser
	324.0	4.5		.08		"	"	" "	"	-	" "	" "
	329.4	5.4		.18		"	"	" "	"		" "	Some poor recovery
	340.2	10.8		.28		Hi-Arg	"	Tr sulf; Nat cu in chl	"	-	V. broken (low rec'y)	Mixed frags Arg & chl HF
	350.0	9.8		.09		"	"	" "	"	-	" "	" "
	375.0	25.0		.08		Gypsand(?)	No Recovery					Poss gyp sand in flt (?) zone
	377.0	2.0		.07		Gyp	"	Barren	"	Low ∠	Lt grn banding	Mass wht gyp w/ faint grn banding. (poss chl)
Bx -	387.4	10.4		.09		Gyp	"	Faint Tr diss cpy, py	"	20-35°	fracs	Massive wht gyp.
									387.4	30°	Gyp-HF cnt @ frac	
	397.0	9.6		.68		Hi-Arg	"	wk pats, vlts, diss cpy-py	Run	30-50°	fracs & slips & gyp vlts.	Mixed ints Lt grn HF &
							394.5	Tr mag w/ mod py & cpy to 395.1	394.5-395.1	20°	Recem flt bx	brn Arg w/ qtz, serp, chl
	409.0	12.0		.12		Arg	Run	Mod py - wk cpy, Tr Moly	Run	-	Broken & shattered Poor Recovery	brn - Tan Arg w/ pats qtzt; wk - mod ser.
	412.3	3.3		—		Arg?		No Core recovered				
	419.5	7.2		.09		Arg & Qtzt	Run	wk - mod py - wk cpy	Run	-	" "	Mixed Arg & Qtzt w/ qtz vlts
	429.2	9.7		.12		Arg & Qtzt	"	" "	"		" "	" "
	437.6	8.4		.11		" "	"	" "	"		" "	" "
	443.0	5.4		.08		" "	"	" "	"		" "	" "

MIS-807-A 75

HOLE NO. M-59

Coordinates: N 362,335.23 E 762,473.60

Dip Vert Bearing —

Date started 2/5/63 Completed 2/26/63

Collar Elevation 3280.5 Total Depth 915.2

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
443.0	454.0	11.0		.07		Qtzt	Run	wk-mod py lesser cpy	Run	40-60°	Fracs, Qtz vlts	Qtzt w/ pats tan Arg; wk Ser.
	465.7	11.7		.05		"	"	As above + Tr Moly	"	"	" "	" "
									465.7	-	Shattered Qtzt - Mp cont.	
	475.5	9.8		.15		Mp	"	wk diss py-cpy; St ser; Mod serp; Tr-wk biot; Tr chl	Run	30-75°	fracs & slips; St brKn.	Lt pk to Ltgy Mp w/ wk Orthoclase-Qtz repl.
	485.1	9.6		.13		"	"	" "	"	"	" "	" "
	490.0	4.9		.15		"	"	Same w/ increase in biot & py; decrease in ser	"	30-50	Same but less brKn.	Increase in Orthoclase-Qtz Repl.
	500.0	10.0		.24		"	"	As above + more cpy	"	"	More brKn but same	As above.
	510.2	10.2		.17		"	"	decrease in cpy	"	"	" "	" "
	519.9	9.7		.14		"	"	weaker biot	"	"	" "	" "
	526.1	6.2		.11		"	"	" "	"	"	" "	" "
	530.1	4.0		.13		"	"	" "	"	"	" "	" "
	532.5	2.4		.16		"	"	" "	"	"	" "	" "
	542.5	10.0		.10		"	"	As above w/ Tr py-cpy	"	—	very broKen	" "
	549.5	7.0		.13		"	"	" "	"	—	" "	" "
	553.0	3.5		.07		"	"	" "	"	"	" "	" "
	563.1	10.1		.08		Qtzt	"	Wk strs Py, lesser Cpy; Smeared Sulf on fracs	"	Varied	fracs, slips; St hi %	Broken Wk Qtzt w/ clay, ser on fracs; Mp-Qtzt ct missing.
	575.0	11.9		.09		"	"	" "	"	"	St hi %	As above but solid; Poor rec. from 5431-667
	586.5	11.5		.13		"	"	" "	"	20-40	fracs. slips	Solid Wk Qtzt
	596.7	10.2		.15		"	"	" "	"	Varied	" "	" " "
	610.7	14.0		.06		"	"	Tr cpy-py, Mod Gyp Tr Moly	"	20-60°	" "	" " "
610.7	622.5	11.8		.51	.51	QtzT - Hf	"	Sp cpy-py-Mag, Gyp, Serp	"	10°-70°	Mod gyp filled fracs	QtzT To 612.0' Then Hf Patches Tr + Serp. Hf-Qtz cont. is Low 10° to Flat.
	630.5	8.0		.12		Hf	"	Wk cpy-py, Tr Mag	"	10-70°	As Above	Hf, patches Mag + Tr
630.5	640.6	10.1		.61		Hf	"	Mod cpy-py-Tr Mag + Hem Mod gyp; Sp Epidote	Run	10-50°	St. gyp + Sul Filled fracs	Hf, St Fracs + Patches Tr + Mod Epid.
	650.5	9.9		.42		Tr	Run	Mod cpy-py-Tr Mag wk Epid.	Run	"	" " "	Tr with Mod patches of Hf.
	659.7	9.2		.54		Tr	"	St. cpy-Py-Tr Mag + Moly	Run	10-40°	Sp Fracs, Gyp + cal filled	Tr As Above

HOLE NO. M-59

Coordinates N 362,335.23 E 762,473.60

Dip Vert Bearing —

Date started 2/5/63 Completed 2/26/63

Collar Elevation 3280.5 Total Depth 915.2'

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
659.7	669.5	9.8		.58		Tt	RUN	Mod cpy-py, Tr Moly	RUN	15-60°	Mod. Gyp + cal filled fracs	Dense Brn Gar, patches Hf
	678.2	8.7		.11		Arg	RUN	SP cpy-py	RUN	10-70°	wk gyp filled fracs	Arg. with patches of tr
	687.0	8.8		.86		Hf	RUN	Mod cpy-py, Tr Moly	"	5-90°	Mod gyp filled fracs	dense grn. Hf, Mod cpy
												units
	695.4	8.4		.81	130.2' @ .65	"	"	" " "	"	"	As Above	As Above, incr in Tt
	701.8	6.4		.59		"	"	SP cpy-py	"	"	" "	Decr in cpy & Tt
	711.0	9.2		.28		"	"	SP-cpy-py, Tr Mag	"	20°-50°	wk py & Gyp filled fracs	" " , Silicious
	721.0	10.0		.43		"	"	" " "	"	"	As Above	Pale Grn Hf, diss Suls
	730.5	9.5		.34		"	"	SP-wk Suls, sp Gyp + chlor	RUN	30°	" "	As Above
	740.7	10.2		.81		Hf	RUN	ST Suls " "	"	30-60°	Mod Cal + Gyp filled Fracs	White Gypsiferous Hf
	750.7	10.0		.72		"	"	Mod Suls, Mod Mag, Tr Serp + chlor	"	20-70°	ST fracs,	fractured white Hf
	760.7	10.0		.85		"	"	wk-Mod suls; Tr pyrrhotite st serp & chl wk gyp	"	"	" "	Lt to dk grn Hf w/ pats gar; local CO_3.
	765.7	5.0		.11		Hf & Tt	"	st diss py; wk diss cpy Tr bn, Moly, Trem-Act, Mod gyp, serp, chl	"	"	" "	Mixed grn Hf & tan Tt
	773.0	7.3		.33		Hf	"	As above slight inc in cpy	"	"	" "	Pats Tt
	782.3	9.3		.13		"	"	Tr-wk vlt & diss cpy-py Tr bn; Mod gyp, serp, chl	"	"	" "	Ltgrn & wht Gyps Hf.
782.3	787.5	5.2		1.08		Hf & Gyp	"	Mod diss suls; st gyp Tr sph & bn.	"	"	St gyp filled fracs.	Mixed Hf & Mass Gyp.
					35.7' @ .78				875.0	60°	Flt bx w/ gyp filling	first ½ same second ½
	797.7	10.2		.99		"	"	Incr in suls.	Run	20-70	St fracs	Ltgrn to gr Hf.
	808.0	10.3		.34		"	"	wk suls; local Mass gyp.	"	"	" "	Mixed Hf & Mass Gyp.
	818.0	10.0		.85		Hf & Mb	"	Mod sph, Tr bn, cpy, Mn CO_3; St CO_3; Tr wol.	"	30-60°		wht Gyps Hf w/ st CO_3. wht zones Mb.
	828.0	10.0		.04		Qtzt	"	Tr suls; wk ser, gyp.	"	20-75	fracs & slips	Ltgr to tan impure Qtzt.
	835.3	7.3		Tr		"	"	" "	"	"	" "	" "
	845.3	10.0		.38		Hf & Mb	"	wk diss cpy, bn, sph, py; Mod Gyp; serp.	835.8	40°	Qtzt-Hf cnt	Ltgr to wht Hf & pale grn
									842.3	15°	Hf-Mb cnt	serp Mb.
	855.4	10.1		.14		Mb + Hf	"	Tr suls, wol; Mod serp	852.3	Lost	Mb-Hf cnt	Mb As above; soft wht Hf.
	865.5	10.1		Nil		Hf	"	Tr suls; Mod gyp; St clay	Run	20-45	Gyp v'ts & fracs	Soft wht & tan clayey Hf
	874.4	8.9		.03		Hf	"	" "	"	"	" "	" "
	885.2	10.8		.03		Hf-Mb	"	Same + wk serp	"	20-55	" "	Mixed wht Hf & pale grn serp Mb

HOLE NO. M-59

Coordinates N 362,335.23 E 762,473.60

Dip Vert Bearing –

Date started 2/5/63 Completed 2/26/63

Collar Elevation 3280.5 Total Depth 915.2'

GEOLOGIC LOG

MISSION UNIT

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
885.2	895.2	10.0	.03			Hf-Mb	Run	Tr sulf; wk carb; Mod gyp st clay, Tr wol	Run	30-60°	Gyp vlts & fracs	Mixed soft wht clayey Hf & wht to pale grn Mb (lends in wht to ltgr Mb)
	905.2	10.0	Tr			Mb	Run	Nil	Run	"	" "	Mixed Wh & Lt gr pure Mb
	915.2	10.0	Tr			Mb	Run	"	"	"	" "	" " " "
	Bottomed											

MIS-807-A 75

HOLE NO. M-58

Coordinates N 362,928.75 E 761,965.86

Dip vert Bearing —

Date started 1/23/63 Completed 2/5/63

Collar Elevation 3271.5 Total Depth 726.5

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	190.0					overburden						OVER BURDEN
190.0	197.5	7.5				Col Conq						Cal Conq BR 197.5
	205.5	8.0		.04		MP	RUN	Tr cc, cpy, py, MN, Ser, MNOx	RUN	BrKN	BrKN, ggy	ALT, leached, Mod Ser
	216.0	10.5		.12		MP	"	" "	"	45° ±	BrKN, ggy, WK Fracs	" "
	223.0	7.0		.11		MP	"	" "	"	"	" "	Tr Sec. BIOT, Base of oxe 223.0
	232.0	9.0		.15		"	"	Tr cc, cpy, py, Ser, chlor	"	30°-50°	WK Fracs, with gyp & chlor	Fresh, ALT MP, Mod Ser
	241.0	9.0		.13		"	"	As Above + Tr Moly	"	"	" "	As Above - Mod Ser
	251.5	10.5		.09		"	"	" "	"	"	" "	" " Mod Silicification & Feldspathization, ST Ser
	255.7	4.2		.14		"	"	" "	"	"	" "	" "
	267.2	11.5		.12		"	"	" "	"	"	" "	" "
	277.7	10.5		.11		"	"	" "	"	"	" "	" "
	287.6	9.9		.11		"	"	" "	"	"	" "	" "
	297.6	10.0		.11		"	"	" "	"	"	" "	" "
	308.7	11.1		.15		"	"	Tr cpy, cc, py, Ser, Gyp, Chlor Talc, Moly	"	"	" "	Mod ser ALT, SP Silica
	320.2	11.5		.16		"	"	" "	"	"	" "	" "
	331.5	11.3		.16		"	"	" "	"	"	" "	" "
	339.4	7.9		.14		"	"	" "	"	"	" "	" "
	351.0	11.6		.10		"	"	" "	"	"	" "	" "
	365.5	14.5		.09		"	"	" "	"	20-70°	" "	" "
	376.6	11.1		.09		"	"	" "	"	30-60°	Fracs w/ gyp, chl & clay	Same w/ tr biot
	389.3	12.7		.10		"	"	" "	"	"	As above & qtz v/ts	" "
	396.4	7.1		.09		"	"	" "	"	"	" "	" "
	405.1	8.7		.08		"	"	" "	"	"	" "	" "
	416.8	11.7		.07		"	"	" "	"	30-70°	" "	As above, less biot
	430.2	13.4		.10		"	"	" "	"	"	"	" "
	440.2	10.0		.10		"	"	" "	"	"	"	" "
	450.2	10.0		.14		"	"	" "	"	"	" "	ST ALT, Mod Ser, Tr Kaolin
	462.3	12.3		.09		"	"	" "	"	"	" "	As Above
	467.2	4.9		.15		"	"	" "	"	30°-60°	Decr IN Fracs, cont qtz vns	ST. ALT, INCR IN Silica
	473.7	6.5		.08		"	"	As Above, INCR IN QTz	"	"	Vr WK Fracs	ST ALT, patches QTZT (?)
	477.2	3.5		.07		QTzT	RUN	Tr cpy-py-Gyp-Talc-Moly	RUN	45°-70°	WK Fracs, chlor + Talc on shears	45° FIT CONT BOT. MP+QTZT
	487.5	10.3		.12		"	"	" "	"	"	WK Gyp + Talc Filled Fracs	Dense, white QTZT + Ser

MIS-807-A 75

HOLE NO. M-58

Coordinates N 362,928.75 E 761,965.86

Dip Vert Bearing —

Date started 1/23/63 Completed 2/5/63

Collar Elevation 3271.5 Total Depth 726.5

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
487.5	497.7	10.2		.27		QTzT	RUN	Tr cpy, py, Moly, Ser, Talc	RUN	45°-70°	WK gyp + Talc Filled Frac	Dense wht. QTzT, patches Tt
	501.3	3.6		.09		"	"	" "	"	"	" "	" "
	514.5	13.2		.27		HF	"	Tr cpy-py, Moly, sp Gyp & chlor	RUN	40°	Mod Gyp + cal Filled Fracs	LT Grn Hf
514.5	524.6	10.1		.53		"	"	" "	"	20°-50°	" "	As Above, Patches Tt
	534.6	10.0		.20		"	"	" incr in Chlor	"	"	" "	Dense Hf, incr in Tt
	543.5	8.9		.81		Tt	"	sp cpy-py, Tr Moly, sp Gyp + chlor Tr Mag Hem	"	20-70°	ST Gyp Filled Fracs	Red Brn Tt, Patches Hf
	553.5	10.0		.66		Tt	RUN	As Above, incr in cpy	"	30-70°	As Above	Dense Tt, Mod chlor
	563.5	10.0		.69		"	"	" " cont incr in cpy, Mod Silica	"	"	WK, Gyp + cal Filled Fracs	Dense Tt, Mod chlor & Silica
	573.5	10.0		1.49	131.5' @ 0.81	"	"	ST cpy, py, sp Moly	"	"	As Above	Mod. ST cpy, diss. & UNITS
	583.5	10.0		.83		"	"	ST cpy, & ST Moly	"	"	" "	ST cpy & ST diss Moly
	593.5	10.0		.97		"	"	ST cpy, decr in Moly Mod chlor & Hem, Tr Mag	"	20-80°	Mod. ST gyp Filled Fracs	Dense, Tt, Tr Hf
	606.0	12.5		1.59		"	"	As Above, Mod Hem	"	"	" "	Dense, Hem rich, Tt, ggy & Mod Gyp at end of RUN
	616.0	10.0		.91		"	"	Mod cpy, Mod Gyp, sp Hem, Tr Mag, Tr chlor & cal	"	40°-80°	Wide Gyp Filled Fracs	Dense Tt with ST Gyp + Hem
	626.0	10.0		.97		"	"	As Above	"	20°-80°	Mod. Gyp filled Fracs	As Above
	636.0	10.0		.33		Tt + Hf	"	Decr. in cpy, sp chlor, Mod Gyp	"	"	" "	Dense Tt with Patches of Hf
	646.0	10.0		.40		Tt + Hf	"	" " Mod chlor	"	"	Gyp + Cal Filled Fracs	Tt + Hf, sp cpy, incr in Cal
	656.0	10.0		.04		QTzT	"	Tr cpy + py, Tr Moly	"	40°-70°	WK Gyp + Cal. filled Fracs	Dense white QTzT, Mod Ser-Alt
	661.0	5.0		.07		QTzT	"	" "	"	"	" "	QTzT As Above To 660.0' Then Low & cont with Tt. wk suls
						Tt	660.0	wk suls, Tr Hem & chlor				
	670.5	9.5		.04		QTzt	RUN	Tr. cpy-py-Moly	"	40°-70°	WK Gyp + cal. filled fracs	Dense QTzT, patches of Tt
670.5	680.7	10.2		.47		Tt	"	Sp. cpy-py-Moly, Tr chal + Gyp	"	20°-80°	Mod Gyp + cal filled fracs	Dense, Silicified Tt, Mod Suls, & Gyp
	690.7	10.0		2.19	30.0' @ 1.76	Tt	"	ST cpy-Py, Tr Moly. ST Gar sp Gyp & cal	"	"	Mod. ST Gyp filled fracs	ST Brn. Gar, Mod ST suls
	700.5	9.8		2.65		Tt	"	As Above	"	30°-70°	As Above	As Above
	710.7	10.2		.37		Mb		Tr cpy-py-Moly	"	20-80°	WK Gyp filled fracs.	White Mb, Patches Tt
						QTzT	708.0	Tr Suls	"	20° cnt	" "	Dense white QTzT 708.0'
	718.5	7.8		.04		"	RUN	Tr Suls	"	40°	" "	As Above

HOLE NO. M-58

Coordinates: N 362,928.75 E 761,965.86

Dip Vert Bearing —

Date started 1/23/63 Completed 2/5/63

Collar Elevation 3271.5 Total Depth 726.5

GEOLOGIC LOG

MISSION UNIT

③

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
718.5	726.5	8.0		Tr		QTzT	RUN	Tr cpy-py-Moly, Gyp	RUN	40°	wk. Gyp filled fracs	Dense white QTzT
		Bottom of Hole										

MIS-807-A 75

HOLE NO. M-57

Coordinates N 361,176.61 E 764,293.02

Dip Vert Bearing —

Date started 2/28/63 Completed 3/18/63

Collar Elevation 3257.2 Total Depth 865.8

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	191.0							Ore burden				Rock Bit, BR-191.0'
191.0	200.0	9.0		.11		Arg	RUN	Tr. Cuox, LIM, MNO, Ser	RUN	25°-70°	Brkn, wk ser filled fracs	Leached, Alt. Arg wk gravs
200.0	210.0	10.0	.19	.99		"	"	Tr, cc, Cuox, "Live Lim", ser Hem, MNO	RUN	"	WK LIM + Ser, on fracs	As Above, Base of OXD at 209.0'
	218.4	8.4	.03	.98		Arg	RUN	Mod cc, + ser, sp py	RUN	30-65	WK-Mod ser + color fill fracs	ST. Alt. Arg with Mod c c
	227.4	9.0	Tr	.50		Arg	RUN	WK diss cpy-cpy; smeared suif on fracs, Tr moly				Lt brn & gr Arg w/ ser & clay alt on fracs, gtz vlts.
									RUN	20-80	St fracs & slips	
	237.9	10.5		.54		"	"	" "	"	"	" "	" "
	247.0	9.1		.40		Arg	RUN	WK diss cpy-py, Tr moly	RUN	"	WK-Mod fracs	Brwn Arg Vague Arg. Text.
	254.5	7.5		.25		"	"	As Above	"	"	As Above	As Above
	265.3	10.8		.46		Arg	"	Sp diss cpy-py. Tr moly	RUN	30-70°	WK fracs, + qtz vnlts	Arg with vague Cong. Text
	277.4	12.1		.51		Arg (mkt)	RUN	Sp. diss dunite cpy & py	RUN	"	" "	As Above, Silicified
	287.3	9.9		.39	167.4'	"	"	WK-mod diss & vlt cpy-py	"	"	" "	" "
	296.8	9.5		.78	@	"	"	" "	"	"	" "	" "
	306.5	9.7		.61	0.67	"	"	" "	"	"	" "	" "
	316.2	9.7		.60		"	"	" "	"	"	" "	" "
	327.7	11.5		.65		"	"	As above + sp pats cpy	"	"	" "	" "
	333.6	5.9		1.94		"	"	Mod diss & vlt cpy-py-ser	"	25-50°	fracs & slips	" "
	345.2	11.6		.88		"	"	Mod - Tr diss, vlt, pat cpy - py; wk ser, mod clay	"	25-70°	" "	" "
	356.2	11.0		.91		"	"	" "	"	"	" "	" "
	367.4	11.2		.53		"	"	" "	"	"	" "	Cgl text less vague.
	375.0	7.6		.28		"	"	WK - Tr diss cpy-py + ser	"	"	" "	" "
	386.7	11.7		.36		Arg & cgl	"	" "	"	"	fracs, slips, gyp - Qtz vlts	leases cgl in silf Arg.
386.7	394.0	7.3		.40	59.6'	"	"	" "	"	"	" "	" "
	402.9	8.9		.36	@	"	"	" "	"	"	" "	" "
	412.4	9.5		.43	0.40	"	"	" "	"	"	" "	" "
	424.9	12.5		.35		"	"	" "	"	"	" "	" Traces feldspath."
	436.3	11.4		.45		"	"	" "	"	"	" (Strong tr 4) "	Some increase clay, gyp
	446.1	9.8		.28		"	"	" "	"	"	" " "	Silicified Arg w/ cong. text
	456.4	10.3		.29		"	"	" "	"	"	Fracs slips, Qtz vlts.	" " " "
	466.7	10.3		.30		"	"	" "	"	"	" " " "	" " "
	476.2	10.0		.34		Cgl	"	St diss py w/ lesser cpy; vlets	"	30-60°	" "	Tan-gr silf cgl
	485.2	8.5		.36		"	"	" "	"	"	" "	" "

MIS-807-A 75

HOLE NO. M-57

Coordinates N 361,176.61 E 764,243.02

Dip Vert Bearing —

Date started 2/26/63 Completed 3/18/63

Collar Elevation 3257.2 Total Depth 865.8

GEOLOGIC LOG

MISSION UNIT

②

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
485.2	495.1	9.9		.29		Arg & Cgl	Run	Vwk- Med diss & vlt py w/ lesser cpy; wk ser, Talc & Tr gyp.	Run	20-70°	Fracs, slips & qtz vlts.	Ltgr to dk brown Mixed Arg & cgl w/ scat gg zones.
	505.2	10.1		.29		"	"	" "	"	"	" "	" "
505.2	515.4	10.2		.44		"	"	" "	"	"	" "	Same + st silf.
	525.0	9.6		.34		"	"	" "	"	"	Same w/ scat. 40° gg zones.	" "
	536.7	11.7		.43		"	"	" "	"	"	" "	" "
	541.0	4.3		.53	67.5' @ 0.47	"	"	" "	"	20-30°	fracs, gg, bx	wk silf; st clay & gg.
	551.2	10.2		.51		"	"	" "	"	20-50°	fracs, slips, qtz & gypvlts.	wk clay, st silf
	564.5	13.3		.58		"	"	" "	"	"	" "	" "
									563.5-end	45°	Bx-gg zone	
	574.7	10.2		.43		"	"	" "	Run	20-40°	As in previous runs	" "
	584.9	10.2		.22		"	"	" "	581.5-end	30-35°	Bx-gg zone	Med clay & silf
	593.5	8.6		.24		"	"	wk diss & vlt cpy-py; Tr moly; Med ser, talc wk silc.	Run	20-50°	fracs, gyp-qtz vlts	Lt brn & Ltgr Arg & cgl Tr Qtz-fald repl.
	603.1	9.6		.23		"	"	Med - tr diss & vlt cpy-py; wk-med ser, Talc, wk gyp, Qtz-fald repl. Tr moly	"	"	" "	Med-st silf; wk clays.
603.1	612.8	9.7		.54		"	"	As above but wk-med cpy.	"	"	" "	st silf ; wk clays
	620.0	7.2		.86		"	"	" "	"	"	" "	" "
	632.2	12.2		1.87		"	"	Pats, vlts, & diss cpy-py St Qtz & feld; wk ser.; Tr moly.	"	30-60°	fracs, qtz & aul vlts.	Various colored pebble cgl w/ st Qtz-fald repl. to 629' & ltgr & tan mixed Arg & Qtzt to end. Tr moly in Qtz.
	643.9	11.7		1.30		Qtzt	"	St diss cpy-py; Med Talc & serp entmas. Tr moly.	"	30-60°	fracs & slips; locally broken.	Lt gr to wht Qtzt. Cut gradations.
	652.7	8.8		.51		"	"	wk-Tr cpy-py-moly wk clay & ser	"	"	" "	" "
	663.0	10.3		.27		"	"	As Above	"	"	" "	" "
	674.5	11.5		.41		QTzT	Run	wk cpy-py, Tr Moly, Tr Ser	Run	20°-58°	wk fracs + slips	Dense white Alt QTzT
	682.0	7.5		.54		"	"	As Above	"	"	" "	" "
	694.0	12.0		.37		"	"	Wk-cpy-py-moly-ser.	"	30-80	" "	" "
	704.0	10.0		.93		"	"	Med cpy-py Tr moly-ser	"	"	" "	" "
Bx	709.0	5.0		.34		"	"	Tr-wk cpy-py; Tr moly-ser.	"	"	" "	" "
	710.2	1.2		2.44		Qtz	"	St cpy in Qtz vn.	"	45°	Qtz vn. (poss flt.)	Qtz vn in poss flt zone.

MIS-807-A 75

738.3

HOLE NO. M-57

Coordinates N 361,176.61 E 744,293.02

Dip Vert Bearing —

Date started 2/25/63 Completed 3/18/63

Collar Elevation 3257.2 Total Depth 865.8

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
710.2	721.5	11.3		.37		Qtzt	Run	Tr-wk py-cpy; Tr moly & ser, gyp.	Run	20-50°	fracs & slips w/ wk bx.	Dense wht to lt gr Qtzt.
	725.6	4.1		.51		"	"	" "	"	30-50°	Parallel fracs; st broken	As above
									±725.5	50°	Qtzt - Hf cont in brkn zone	
	738.3	12.7		2.21	240.5' @ .89	Hf	Run	Mod-st diss & vlt cpy-py, Tr CO_3; wk clays, serp; Tr sp.	Run ±738.1	40-50° 50°	wk fracs; sul vlts; slips. Hf - Qtzt cnt.	Lt gr to pale grn silt Hf w/ tr gar & CO_3.
	748.3	10.0		.25		Qtzt	Run	wk vlt cpy-py, Tr moly & ser.	Run	30-70°	fracs & slips	Dense wht Qtzt.
	761.0	12.7		.54		"	"	As above, wk cpy	Run	30-70°	wk fracs + slips	Dense White Qtzt
	768.0	7.0		.09		"	"	" & Tr cpy	"	"	" "	" "
	777.5	9.5		1.56		Hf	Run	Mod cpy-py, st Mag, sp chlor Tr calc, Tr Moly, Tr born	Run	40°	sp calc filled fracs	Qtzt-Hf cont 45° shows wk slip cont.
	782.0	4.5		.09		Hf	Run	Tr cpy-py, Tr Talc	Run	30-50°	wk fracs, gg 6" flt zone at 782.1	Alt Hf, Mod flt zone at 782.1', lmer in Chlor
	792.6	10.6		1.72		"	"	Mod-st cpy-py w/ mod Mag Tr sp, CO_3, Moly, bn.	"	"	As before	Soft wht, pale grn & gr Hf.
	802.0	9.4		1.53		Hf	"	Mod cpy-py; st Mag, sp chl, serp, calc; Tr bn	796.1-end	90°	bx-gg in pass flt zone.	dk gr clayey Hf
	813.6	11.6		1.37		"	"	No change	802.6-11.3	90°	Cont'd bx-gg zone	811.3-end wht Hf w/ st serp.
	820.0	6.4		1.07		"	"	wk-mod cpy-py; wk Mag st local serp Tr sp, talc, born.	814.5-16.0	35°	Bx-gg zone w/ wk mag.	As above to 814.5' & soft clayey Hf w/ gg to end.
	830.3	10.3		.68		"	"	" "	Run	30-50°	fracs, slips, sul vlts	Soft wht Hf
	838.2	7.9		.39		"	"	wk-Tr Suls & Accessories as above, No Mag. wk gar.	Run	"	fracs & slips.	As before w/ pots Mb
	843.6	5.4		.58		Hf-Tt-Mb	"	Tr suls, wk serp.	843.6	30°	Hf - Mb cnt @ shear zone	Mixed Lt grn Hf, Tt & gr to wht Mb
	854.3	10.7		.04		Mb	Run	Tr suls, serp.	Run	±50°	fracs & gr banding	Wht Mb w/ Lt gr banding
	865.8	11.5		.03		Mb	"	" "	"	"	" "	banding stronger
	Bottom											

MIS-807-A 75

HOLE NO. M-56

Coordinates: N 363,227.35 E 761,964.14

Dip Vert Bearing —

Date started 11/8/63 Completed 11/23/63

Collar Elevation 3266.9 Total Depth 785.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	190.0					Alluv						Top CCg ± 165'
	196.7	6.7		—		CCg		Typical congl.				BR. ± 196.7
	209.1	12.4		.08		Mp	Run	Mod Fe oxide; Tr Jarosite, lime limy, chalcotrichite	Run	30-50°	Frac & gtz vlts.	Fractured Mp w/ occas CCg seams; st clay alt.
	220.5	11.4		.19		"	"	Mod Fe ox; Tr Jarosite & Cu ox.	"	"	" " Locally shattered.	Tan Mp w/ mod sericite & clay alt; wk accp. of fold.
	229.4	8.9		.13		"	"	" "	"	"	" "	No change
	237.4	8.0		.17		"	"	wk Cu ox & Cu silic. Mod Fe ox.	237.8	Low ∠	Base Oxides @ frac.	" "
	248.2	10.8		.14		"	"	Mod vlt & disspy w/ tr cpy & moly	Run	30-40°	Qtz vlts & frac w/ mod clay & gg	Pk to ltgr Mp w/ st ser, accp alt; local fold & gtz mod; tr biot & chl.
	258.1	9.9		.12		"	"	as above	"	"	as above, sp ser	as above
	267.1	9.0		.14		"	"	" "	"	"	" "	" "
	277.0	9.9		.13		"	"	" "	"	"	" "	" "
	288.3	11.3		.16		"	"	" "	"	40°-50°	wk, frac, Tr gtz veining sp ser, chlor	Mod Alt, sp ser, sp frac Euhedral biotite
	295.2	6.9		.15		"	"	" "	"	30-50°	" "	Same w/ wk frack Ortho
	305.5	10.3		.14		"	"	" "	"	"	" "	" "
	315.5	10.0		.11		"	"	wk diss py-cpy	"	20-40°	" "	" "
	325.5	10.0		.12		"	"	" "	"	20°	frac & gtz vlts	wk alt, sp ser serp, tr biot, chl, Talc & gyp contacts
	335.5	10.0		.13		"	"	" "	"	"	" "	" "
	344.5	9.0		.12		"	"	" "	"	40-50°	" "	" "
							336.0	50° vlt py w/ wk cpy				
	355.1	10.6		.10		"	Run	wk diss py-cpy, Tr moly	"	30-40°	frac, gtz-gyp vlts	" "
	364.2	9.1		.12		"	"	" "	"	30°&60°	frac w/ gg & gyp-gtz vlts	Same w/ mod clay
	376.6	12.4		.12		"	"	" "	"	"	" "	
									320.3-71.3	30°	br-gg zone (gouge & lit)	Local st clay & gg
	384.6	8.0		.13		"	"	wk cpy-py, Trace moly Sp-Mod Ser, Sp Gyp	Run	30°-50°	Gyp filled frac.	Mod-st Alt, Tr. Talc & chlor
	394.0	9.4		.11		"	"	as above	Run	"	" "	" " " "
	398.6	4.6		.14		"	"	" "	"	"	" "	" " " "
	402.5	3.9		.07		Arg.	Run	Tr cpy-py-Moly, wk ser	Run	45°	Vry wk frac	Dense, siliceous Tan Arg.
	411.0	8.5		.12		QTzT	Run	Tr cpy-py-Moly, wk ser	Run	20°-50°	wk frac	Dense, white QTzT

MIS-807-A 75

HOLE NO. M-56

Coordinates: N 363,227.35 E 761,964.14

Dip Vert Bearing —

Date started 11/8/62 Completed 11/23/62

Collar Elevation 3266.9 Total Depth 705.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
411.0	421.1	10.1	.08			Qtzt	Run	Tr cpy, py, moly, Gyp, Ser	Run	20°-40°	Wk Gyp filled fracs	Drusy siliceous Qtzt, Tr Tr; near cont. of run
	425.5	8.4	.14			" "	"	as above	" "	"	as above	as above
	435.4	5.9	.11			" "	"	" "	" "	"	" "	" "
	443.9	8.5	.07			"	"	" "	"	20-30°	" "	" "
	453.5	9.6	.05			"	"	" "	"	"	" "	" "
	463.0	9.5	.06			"	"	" "	"	"	" "	Same w/ wk sec alt.
									465.9	20°	Gyp-bx-sg	
	475.4	12.4	.03			"	"	" "	Run	30-50°	fracs & gyp vlts	" "
	478.8	3.4	.06			"	"	" "	"	"	" "	" "
									478.8	60°	Run - Hf cont. gyp alt.	
478.8	487.7	8.9	.40			Hf	"	wk diss & str cpy-py	Run	varied	Gyp & qtz vlts & fol.	Pale grn Hf w/ st gyp w/ local chl, serp, ep. Tr gar
	488.7	10.0	.58			Hf	"	wk-mod py; trace cpy	"	"	" "	As above w/ short intervals of Tt
									496.0	20°	Known Hf bx w/ sulf.	
	505.5	7.8	1.18			Hf	"	Mod diss & vlt cpy-py Tr mag	Run	Varied	Gyp, Qtz, Sul vlts	As before less Qtzt
	516.3	9.8	1.01			"	"	" "	"	"	" "	" "
	525.0	9.7	.85			"	"	" "	"	"	" "	" "
	532.8	7.8	1.31			Hf-Tt	"	wk-mod diss & vlt cpy-py Tr mag; wk bun stain	"	20-50°	" "	Mixed pale grn Hf & tan brown Tt w/ st gyp w/ tr tremo, serp, chl, ep
	542.8	10.0	.84			Hf-Tt	"	" "	"	"	" "	" "
									550.8	10°	0.4' int Qtzt (c-grn?)	
	552.7	9.7	.52			" "	"	" "	Run	varied	As before	Tt-Hf same; lt gr Qtzt (c-grn?) w/ mod gyp w/ sec alt.
						Qtzt	559.4	wk sulf.	559.4-end	level	Int Qtzt (c-grn?)	
	561.8	9.7	.75		123.2 @ .74	Qtzt	Run	" "	563.2	40°	Qtzt - Tt cont	Qtzt as above; Tt: Tan-brn, st gyp, pots Qtzt, wk-mod local ep chl, serp; Tr Tan-brn Tt
						Tt	563.2-	wk-mod diss cpy-py	Run	varied	fracs, Qtz, Gyp vlts	
	573.5	12.1	.62			Tt	Run	As above + wk moly	576.2	30°	0.4' gyp vn	Tt as above w/ short Qtzt ints
	583.0	9.5	.51			Tt	Run	" "	Run	20-40°	Gyp vlts	Same w/ pots Hf

MIS-307-A 75

HOLE NO. M-56

GEOLOGIC LOG

MISSION UNIT

- Coordinates: N 363,227.35 E 761,964.14
  Dip Vert Bearing —
  Date started 11/6/63 Completed 11/23/63
  Collar Elevation 3246.9 Total Depth 785.0

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
583.0	591.6	8.6		.48		Tt	Run	wk str & disc cpy-py	Run	20-30°	fracs, gyp vlts	Tan Tt w/ pots Hf, Qtzt, wk cpy, py, gyp; Tt Trem.
	602.0	10.4		.61		Tt	Run	" "	"	"	" "	" "
									602.4-end	20°	Reverse flt bx	
	612.4	10.4		.19		Qtzt	Run	Tr suls	602.0	Lost	Tt - Qtzt cont	wk qtzt w/ wed cpy &
									609.3-11.8	45°	Tt - int in Reverse flt.	tals w/ fracs; Tt-Hf
									Run	30-60°	fracs w/ gyp & tals	int in bx zone.
	615.5	3.1		.03		Qtzt	Run	" "	Run	—	Shattered	Qtzt w/ above; dense
									615.1	30°	Qtzt - Hf cont @ frac	gyp Hf w/ frac, wk Cb.
	620.0	4.5		Nil		Hf	Run	" "	Run	30°	Vuggy frac w/ gyp	Hf as above w/ local
									619.1	30°	Reverse flt bx 0.2'	gyp & wed cpy.
620.0	630.2	10.2		Nil		Hf	"	Tr - wk fine disc cpy-py	620.6	70°	Vuggy frac	Sand (Reduce to Bx)
	640.0	9.8		Nil		Hf - Tt	"	Tr fine disc cpy-bn-py-moly				Mixed pale grn Hf & tan Tt w/ short ints & pots Mb; Acc: Trem, gyp, clay
	650.2	10.2		.13		Hf - Tt	"	Tr - wk fine disc cpy-bn-py moly	Run	20-40°	fracs, slips, gyp vlts	" "
	662.0	11.8		.35		Hf	"	" "	"	"	" "	Pale grn Hf w/ local at clay; pots grn, w/ Trem & tals & cpy
	672.0	10.0		.35		Hf	"	wk-mk fine disc cpy-bn-py	"	"	" "	" "
	682.7	10.7		.32		Hf	"	" "	"	"	" "	" "
682.7	693.1	10.4		2.08	2.08	Hf	"	Mod-v.st disc cpy-py; bn; Tr sph	"	20-40°	Gyp filled fracs	Same + wk gyp
	700.0	6.9		.21		Hf	"	wk disc cpy-py	"	"	" "	Soft chalky Hf w/ st gyp; local at gyp
700.0	709.8	9.8		1.58	1.58	Hf	"	Mod-st disc cpy, bn, sphy, py; wk bxw				As before; locally dense.
	724.6	14.8		.03		Gyp-Qtzt	"	Reverse	Run	5-20°	linoatrix	More gyp w/ Anhy (?)
										varied	Gyp vlts in Qtzt	fragx shows 5-20° linoation; fractured
												Qtzt from 718.8'-721.6'
	733.2	8.6		Nil		Gyp	"	Tr py - cal	Run	30-40°	Gyp - cal vlts in gyp	As above
	737.0	3.8		Nil		Hf	Run	Tr cpy - py; Gyp	Run	" "	wk sals with gyp vlts	Hf: qtzt + lite
	743.6	6.6		Nil		QTZT	Run	Tr - suls, Gyp vlts	" "	30-40°	wk fracs, with gyp	QTZT: [illegible]
	750.6	7.0		Nil		" "	" "	" "	" "	"	" "	" " ST Gyp "

HOLE NO. M-56

Coordinates: N 363,227.35 E 761,964.19

Dip Vert Bearing —

Date started 11/8/63 Completed 11/23/63

Collar Elevation 3266.9 Total Depth 785.0

GEOLOGIC LOG

MISSION UNIT

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DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
750.6	758.8	8.2		Nil		QTzT	RUN	Tr CPY-PY, GYP UNITS	RUN	30°-60°	WK fracs, GYP UNITS	Patches Arg & ST GYP
	765.4	6.6		Nil		" "	"	" "	"	"	" "	" "
	775.0	9.6		Nil		" "	"	" "	"	"	" "	Dense QTzT, decr. IN GYP
	785.0	10.0		Nil		" "	RUN	Tr SULS	"	35°-50°	WK GYP filled Fracs	as above
	BOTTOM											

MIS-807-A 75

HOLE NO. M-55

Coordinates: N 361,155.50 E 762,987.43

Dip Vert Bearing --

Date started 5/1/63 Completed 5/20/63

Collar Elevation 3279.1 Total Depth 880.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	190.0	190.0				Alluv						Top CCg ± 190.0
	220.8	30.8		—		CCg						CCg-BR ± 220.8
	230.5	9.7		.08		Arg	RUN	wk lim, bazm; Faint tr "Live lim"; st clay	RUN	—	Very brkn & clayey	Moderately leached wht to pk Arg w/ st clay
	241.5	11.0		.08		Arg	RUN	As Above, Tr Ser	RUN	30-60°	wk fracs, filled with Ser & QTz veins	Leached, Alt. Arg
	251.3	9.8		.08		Arg	"	" "	"	"	" "	" "
	260.6	9.3		.18		Arg	"	" "	"	"	" "	Base of Oxidation 260.6'
	271.0	10.4		.23		"	"	Mod ser + kaolin, wk cc, py Tr cpy, Tr Moly	RUN	"	wk Ser + qtz filled fracs	Alt Grey Arg
	279.0	8.0		.09		Arg	"	As Above	RUN	45°	As Above	As Above
	284.6	5.6		.12		"	"	" "	RUN	"	" "	Vague cgl text.
	295.0	10.4		.12		Mp	RUN	Tr py-cpy-moly; wk-mod ser; Mod silf.	"	—	brkn	Mod-st silf light purple
	305.0	10.0		.15		Mp & Arg	RUN	As above w/ st ser, tale & chl	"	—	As before	Mixed into Arg & leuco-porphy w/ st tale etc.
	314.0	9.0		.13		Arg	RUN	Tr sulf, moly; Mod ser & tale & chl; Tr serp	RUN	30-60°	fracs & slips	lt to dk gr Arg w/ local Arkosic texture
	323.9	9.9		.12		Arg & Mp	"	As before + gyp.	"	30-85°	fracs, slips, grad cnts. Local st gg-bx	gr Arg w/ into Mp.
	329.4	5.5		.10		"	"	" "	"	"	As Above Local gg-bx	" "
	337.0	7.6		.16		"	"	" "	"	"	" "	Same w/ low vec'y
	346.2	9.2		.15		"	"	" "	"	"	" "	Faint felsite porph texture.
	357.4	11.2		.24		Arg	RUN	wk sulf Tr moly, mod ser wk silf	RUN	30-70°	Fracs, slips; scat sul vlts, locally brkn	lt gr silf Arkosic Arg
	367.1	9.7		.23		"	"	As above	"	"	" "	" "
	371.3	4.2		.16		"	"	" "	"	"	" "	" "
	382.4	11.1		.13		"	"	wk sulf, ser; Tr tale	"	"	Fracs; slips w/ gg; gtz vlts.	brwn Arg w/ sp parts cgl
	390.7	8.3		.15		"	"	As above + Tr Moly	RUN	Varied	Fracs & slips; locally brkn.	As before; Faint porph like Texture last 1.4'
	400.3	9.6		.16		Arg-Mp(?)	RUN	Tr sulf; wk-mod ser Tr Moly	"	"	" "	Mixed Arg & Mp(?) w/ Arkosic to porphyritic Text w/ ser alt
									395.6-97.2	Hi ∠	bx-gg zone (poss flt).	
	411.8	11.5		.18		"	RUN	As Above	RUN	Varied	Fracs, slips; locally brkn	" "

MIS-807-A 75

HOLE NO. M-55

Coordinates N 361,155.50 E 762,987.43

Dip Vert Bearing —

Date started 5/1/63 Completed 5/20/63

Collar Elevation 3279.1 Total Depth 800.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
411.8	418.0	6.2		.21		Arg	Run	Sp vlt cpy-py; wk silf & ser	Run	40-70	Fracs & Qtz vlts	Brn silf Arg w/ sp
									417.7	+40°	Arg - Mp cnt	seed pots cgl
	423.4	5.4		.13		Mp	"	Tr sulf; Mod ser	Run	30-70°	Fracs - slips - Arg cnt & cnd	Lenco Mp w/ wk silf
	431.9	8.5		.14		Arg	"	Tr sulf; wk - med ser	"	"	As above	Lt gr Arg w/ mod silf
								Mod silf Sp Tr moly	431.4	Lost	Arg - Mp cnt in shears.	& wk-med ser alt.
	440.3	8.4		.08		Arg-Mp	"	" "	Run	30-60°	Fracs & shears	Mixed gr to brn Arg &
												lenco-Mp w/ wk-st
												silf & ser alt.
	450.5	10.2		.15		Arg-Mp	"	As above	"	"	" "	As before
	453.6	3.1		.10		Arg-cgl	"	Sp disc sulf; wk ser	"	"	" "	brown Arg w/ wk ser alt.
												local cgl
	463.0	9.4		.12		Arg	"	" "	"	30-75	" "	Same minus cgl
	474.9	11.9		.12		"	"	" "	"	"	" "	" "
	486.3	11.4		.20		"	"	Slight incr in sulf.	"	"	" locally brkn	" "
	496.9	10.6		.22		"	"	" "	"	"	" "	" "
	507.3	10.4		.17		"	"	" "	"	"	" "	" "
	512.3	5.0		.16		"	"	" "	"	"	" Loco brkn	dense brown Arg
	521.8	9.5		.15		Arg	"	Tr cpy-py-moly-ser; wk	Run	30-60°	Fracs - qtz vlts	Dense brown siliceous Arg.
								qtz.				
	532.7	10.9		.11		"	"	As above	"	20-60°	" "	" "
	543.6	10.9		.11		"	"	" " sp feldspath.	Run	"	wk fracs & qtz vlts	Dense Sil Arg, Patch Mp(?)
	551.6	8.0		.18		"	"	" "	"	"	" "	Dense Siliceous Arg.
	561.9	10.3		.08		"	Run	" "	"	"	" "	As Above
	570.1	8.2		.08		Arg	"	" incr in Moly	Run	"	" "	Dense Arg, incr in Alt.
	581.7	11.6		.14		"	"	" "	"	"	" "	Arg, incr in carbs
581.7	589.9	8.2		.68	.68	Hf	Run	Mod cpy-py, Tr Moly, Mod	Run	40°±	Mod Cal & Sul filled	Arg-Hf cont. at 581.7'
								chlor, Tr Mag, Sp Cal			fracs	5° cont
	592.8	2.9		.11		Mp.	Run	ST Ser, Tr cpy-py	Run	20-60°	wk Ser filled fracs	ST Ser Mp.
								Tr Moly				
	601.8	9.0		.11		MP	Run	ST. Ser, Tr cpy-py	Run	Brkn	Vuggy Brkn Mp	ST Alt-Vuggy Tr cpy
								Sp Moly				
	610.5	8.7		.16		MP	"	As Above	"	"	" "	" " Tr Hf
	616.7	6.2		.33		MP	"	" "	"	"	" "	Mp - incr in Hf Patches
616.7	621.0	4.3		.46		Hf	Run	Sp-Mod cpy Py, Tr Moly	Run	"	Brkn Hf, wk fracs	Hf, patches Mp
								Mod chlor, Tr Mag				

HOLE NO. M-55

Coordinates N 361,155.50 E 762,987.43

Dip Vert Bearing —

Date started 5/1/63 Completed 5/20/63

Collar Elevation 3279.1 Total Depth 800.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
621.0	625.0	4.0		.41	27.8' @ 0.52	Hf-Mp	RUN	Hf-wk sulfs, Mp-Tr sulfs	RUN	-	Brkn, Poss flt zone	Hf as before,
									± 622.0	?	Hf-Mp cont	Poor Rec'y
									± 625.0	?	Mp-Hf & QTzT cont.	
	635.8	10.8		.40		Hf-QTzT	RUN	Wk-Locally mod cpy-py st ser & clay, Tr chlor	RUN	-	Brkn + ggy - Poss flt	Mixed brkn + ggy Hf & QTzT
	644.5	8.7		.76		Hf-QTzT	"	As Above	RUN	30-60°	Fracs, lineation of Bx frags	As Above
									640.3-644.5'	± 60°	Bx - gg & vuggy zone (flt?)	
	653.0	8.5		.10		QTzT	"	Tr - Locally wk cpy-py	RUN	-	Brkn	Tan, impure QTzT Poor Rec'y
	655.8	2.8		.10		"	"	" "	RUN	—	Brkn, 30° fracs	Tan - white QTzT
	667.0	11.2		.15		"	"	Wk-Tr py-cpy-Moly-ser	"	20-80°	fracs - slips	Lt gry - white QTzT
	677.2	10.2		.08		"	"	" "	"	"	" "	" "
	687.1	9.9		.08		"	"	" "	"	"	" "	" "
	694.2	7.1		.11		"	"	Tr Sulfs, Moly, Ser	"	"	As before, Locally brkn	As Above
	703.5	9.3		.27		"	"	Sp cpy-py, Tr Moly + Ser	"	50°±	fracs, slightly Vuggy	" "
	713.5	10.0		.45	0.45	"	"	Sp-Mod cpy-py	"	40°-60°	Wk ser + Gyp filled fracs	QTzT, Tr Arg.
	722.6	9.1		.10		"	"	Wk Sulfs, Tr Ser, Moly, Gyp	"	"	As Above	As Above
	732.0	9.4		.12		"	"	" "	"	"	" "	" "
	740.3	8.3		.22		"	"	" "	"	"	" "	white QTzT
	747.8	7.5		.11		"	"	" "	"	"	Slightly Vuggy	As Above
	758.9	11.1		.14		"	"	Sp-wk py, cpy-moly, ser	"	"	As above	" "
	767.3	8.4		.14		"	"	As Above	"	"	" "	" "
	776.2	8.9		.15		"	"	" "	"	"	" "	" "
	786.3	10.1		.17		"	"	Sp pats & strs sulfs, moly Tr ser.	RUN	30-80°	Fracs, slips, locally brkn	" "
	791.6	5.3		.30		"	"	As above	"	30-50°	" "	wht QTzT; wk iner in ser.
									791.6	50°	QTzT - Hf cnt @ frac	
791.6	800.0	8.4		2.04	27.6 @ .96	Hf	RUN	Mod-st cpy-py; Tr mag wk-mod chl	RUN	30-60°	Fracs, sul vlts	Pale grn to grn Hf w/ chl
									799.6	± 60°	Recem flt zone to end	
	811.5	11.5		0.19		"	"	Sp cpy-py, Tr Mag, Chlor Sp gyp	RUN	[illegible]	Sp fracs, Mod Gyp	Pale grn Hf, Patches Tr
	819.2	7.7		.94		Tr	RUN	Sp-Mod cpy-py, Tr Mag, Tr Gyp, + chlor, Tr Moly	RUN	60°±	Sul units at 60° Gyp frac filling at 30°	Hf-Tr Cont at 818.5'
	830.0	10.8		.20		Tr	"	Sp. cpy " "	RUN	50°±	Gyp filled fracs	Dense brn Tr
	840.2	10.2		.18		"	"	Sp-Mod cpy-py, Tr Moly	"	"	As Above	" "

HOLE NO. M-55

Coordinates N 361,155.50 E 762,987.43

Dip Vert Bearing —

Date started 5/1/63 Completed 5/20/63

Collar Elevation 3279.1 Total Depth 880.0

GEOLOGIC LOG

MISSION UNIT

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
840.2	850.2	10.0		.17	-	Tf	RUN	WK-S P cpy-py, Tr Moly Tr Hem, Mag, Tr Gyp + Chlor	RUN	45°±	WK Gyp filled fracs	Dense Brn Tf, Mod Hem Stain
850.2	861.2	11.0		2.18	} 2.18	"	858.5'	ST cpy Vn. 6", disscpy	RUN	50°±	Sp Gyp filled fracs	Tf - Mb cont is 60° fit.
	870.0	8.8		.07		Mb	RUN	Tr. cpy, py, Moly, Born	RUN	30°±	WK fracs	Pure white Mb
	880.0	10.0		.02		Mb	"	AS Above, Tr chlor	"	"	" "	AS Above
					Bottom							

MIS-807-A 75

HOLE NO. M-54

Coordinates N 362,913.51 E 761,723.58

Dip Vert Bearing —

Date started 12/21/62 Completed 1/8/63

Collar Elevation 3269.0 Total Depth 747.9'

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	191.0			—		Alluv						Top Cg ± 170 BR ± 190'
	201.4	11.4		.11		Mp	Run	wk-mod Lim; wk pots "Live Lim"; Mod dendrites & vits Mn Ox; wk Tr Cu Ox, Cc.	Run	30-50°	Qtz vits & fracs	Lt gr to pk & yel mona w/ mod ser & st calche in fracs in upper 5 ft of run. Less alt in lower portion.
	211.7	10.3		.10		Mp	Run	wk Fe, Mn Ox; Tr Cu Ox & cc.	Run	30-60°	As above	Same w/ biot-chl & wk local serp.
	217.5	5.8		.10		Mp	Run	As above + v. wk diss py @ end; Tr moly	217.0 Run	— varied	Base Oxides fracs & Qtz vits	Mod serp near fracs
	220.2	2.7		.12		Mp	Run	vits & diss py; Tr cc in 2nd half w/ moly.	218.3-end	Low ∡	Bx-gg w/ tr cc. st talc & ser.	St alt to ser & Talc
	223.0	2.8		.10		Mp	Run	Tr sulf & moly				Lense porph w/ v st ser & talc. (0.5 reason)
	233.8	10.8		.09		Mp	Run	wk fine diss py; Tr cc. wk moly on fracs	Run	Low ∡	fracs & slips w/ moly, & v st ser-talc gg.	V st ser, mod qtz, orthoclase; mod ser p.
	243.6	9.8		.09		MP	Run	Tr cc, wk py, Tr Moly	"	—	wk Fracs.	Mod ALT, Mod st ser, Fe.
	252.3	8.7		.08		"	"	" "	"	Low ∡	Brkn gay zones, st ser	St Alt, Mod qtz units.
	262.3	10.0		.11		"	"	Tr cpy, cc, wk py, Tr Moly	"	—	Wk Fracs.	St. Alt, Fresh Bio
	270.0	7.7		.10		MP	"	Tr cpy, cc, py Tr Moly	"	Low ∡	Wk Fits & Frac.	Mod ALT, Mod qtz, Mod Feld
	280.6	10.6		.10		"	"	" " "	"	"	Mod low ∡ FIT, mod gg	Deer in Ser. cont Mod qtz, incr. in Feld.
	290.7	10.1		.08		"	"	" " " Tr Gyp on Fracs.	"	—	Wk Fracs, Tr Gyp on Fracs	Mod-st ALT, Mod Ser cont. Feld.
	301.2	10.5		.10		"	"	as above	"	—	Wk Low ∡ Fracs	as above
	310.0	8.8		.10		"	"	Tr cpy, py, Moly, wk Gyp	"	—	" "	Mod ALT, deer in Ser, cont Feld
	320.0	10.0		.14		"	"	" "	"		" "	Mod ALT, Mod Ser, wk Gyp on Fracs, Tr Talc
	327.7	7.7		.09		MP	Run	Tr cpy, py, Moly; wk Gyp	Run	Low ∡	Wk Low ∡ Fracs	Mod ALT, Mod ser, cont Gyp on Fracs
	335.5	7.8		.10		Mp	Run	Tr fine diss cpy, py	"	30°	Fracs & gyp vits	Wk ser, mod serp; ortho abun w/ qtz.
	343.7	8.2		.15		"	"	Tr str & diss cpy, py occas fracs w/ moly	"	"	As above w/ sp Hi ∡ gyp vits	Mod alt to ser, serp.

MIS-807-A 75

HOLE NO. M-54

Coordinates N 362,913.51 E 761,723.58

Dip vert Bearing —

Date started 12/21/62 Completed 1/8/63

Collar Elevation 3269.0 Total Depth 747.9

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
343.7	349.7	6.0		.12		Mp	Run	Tr pots & vlts py-cpy	Run	Varied	Fracs & slips	Mp wk mod serp, ser alt
	360.6	10.9		.13		"	"	Tr-pots py w/ less cpy Tr moly	"	25-30	Fracs, slips, Gyp vlts.	st qtz, orthoclase, ss Bet, wkly serp
	366.6	6.0		.11		"	"	As above	"	"	Fracs; gyp qtz vlts	st silf, feldspath, mod-wk serp wk bet ser
	377.2	10.6		.11		"	"	Tr-wk vlt & diss py w/ Tr cpy	375.2-377	35°	bx-gg w/ st serp; wk sulf	Same w/ increase in ser & serp, weaker bet
									Run	10-45°	Gyp-qtz vlts; fracs slips w/ st sulf py, tr.	
	387.4	10.2		.13		Mp	"	Tr str-diss cpy-py Tr moly	"	"	Same	As above w/ less serp, inc in bet, tr chl
	398.9	11.5		.16		"	"	No change	"	"	"	As before
	408.7	9.8		.12		"	"	" "	"	"	"	" "
	416.3	7.6		.14		"	"	" "	"	"	"	" "
	425.0	8.7		.12		"	"	" "	"	"	"	" "
	433.5	8.5		.10		"	"	" "	"	Low ∠	Brkn ggy zone last 6"	ggy zone is Mp. Hf cont
	440.5	7.0		.60	.60	Hf	433.5	Hf, Mod-St cpy, py, Tr Moly	"	45° ±	Wk Fracs with Gyp & cpy	Very St cpy as 6" vn at 438.7'; 75° d.p.
	450.0	9.5		.15		Hf	Run	Md cpy, py, Tr Moly, Mod Gyp, Tr Mb & Gar	"	40°-70°	Wk Gyp Fracs, sp cpy vnlts.	Hf with patches of St Alt, Mp, sp chlor
	458.9	8.9		.23		Hf	"	as above	"	"	" "	as above
	468.2	9.3		.13		Mp	458.9	Tr py, cpy, Moly, Ser, Gyp, chlor, QTz	"	30°-70°	Wk Fracs, + QTz vnlts	Mp, Alt, Mod QTz vnlts Patches of QTz'ite, Hf, Arg
	476.6	8.4		.06		Arg	468.2	as above	"		" "	dense, Siliceous, Arg (QTz)
	485.6	9.0		.07		"	Run	Tr, cpy, py, Moly, Gyp	"	50° ±	Wk Fracs + QTz + Gyp vnlts.	dense siliceous, last 4' May be QTz'ite
	494.4	8.8		.36		"	"	as above to 487.0'	"	30°-70°	St Fracs & vns, filled	Sp-Mod sulf w Gar
EOM ▶						Tt	487.0	then, Mod-St cpy, diss & vns	"		with Gyp, Silica & sp sulf	+ Hf, Mod chlor
	495.8	1.4		.33		Tt	Run	Mod diss & vlt cpy	"	Varied	As above	V-siliceous Tt w/ gar
									495.8	45°	Tt-Mp ct @ gyp vlt	gar, ep
	501.4	5.6		.17		Mp	Run	Tr py-cpy, moly on fracs	Run	20-50°	Fracs & gyp vlts	V-dense but Mp w/ st ok feld
										20°	Mp-Tt ct	
501.4	509.8	8.4		.90		Tt-Hf	Run	Mod-st diss & vlt cpy; Local st diss moly in Tt & gyp	Run	Varied	Fracs & gyp vlts	Mixed Tt-Hf w/ pots st sp Mostly mass gyp last 2' run

MIS-807-A 75

HOLE NO. M-54

Coordinates: N 362,913.51 E 761,723.58

Dip ~~Vert~~ Bearing —

Date started 12/21/62 Completed 1/8/63

Collar Elevation 3269.0 Total Depth 747.9

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
5098	520.0	10.2		.53		Tt	Run	Mod-st diss & vlt cpy; st diss moly in gyp @ beg run	Run	Varied	gyp vlts	Br Tt w small pots sec Tt; wk tem
	530.2	10.2		.48		Tt	Run	Mod diss & vlt cpy; local diss moly	Run	30-50°	Fracs w gyp, some cpy vlts	As above
	540.4	10.2		.82		Tt	Run	As above	Run	50-70°	St gyp vlts w hem	Br-lt gr-mar unit local st gyp hem
	550.6	10.2		.66		Tt	Run	Mod diss & vlt cpy; local Tr moly on fracs	Run	50-70°	As above	Maroon-lt gr Tt w local st gyp & hem
	560.5	9.9		1.92		Tt	Run	Mod-st diss & vlt cpy	Run	30-70°	As above	As above, lesser gyp, st hem
							555.2	St near mass cpy vn	555.2	10-25°	st cpy vn	
					129.2' @ 1.14				Run	20-70°	cpy vlts	Maroon-lt gr Tt w pots Hf, serp, cp, hem on fracs
	569.5	9.0		1.06		Tt	Run	Mod diss, vlt cpy	Run	Varied	gyp vlts	
									567.1	70°	Recom flt bx w/ cpy	
	579.7	10.2		.44		Tt	"	Wk-mod diss & 60° vlt cpy w/ tr moly	Run	varied	slips & gyp vlts showing small displacements	Tan Tt w/ st gyp tr cp, wk tremolite
	590.0	10.3		1.45		Tt-Hf	"	Tr-wk pot, diss & vlt cpy	584.7-85.7	45°	Recom flt bx-gy w/ st gyp & cpy.	Alternating wts lt gra & yel-gra Tt w/ st gyp & Mod
							584.7	Mod-st cpy in flt zone.				
	600.2	10.2		1.58		Tt-Hf	Run	Mod-st diss & vlt cpy Tr moly	597.2-99.2	±40°	Mass gyp vn	Mixed Tt-Hf as above.
									Run	30-70°	Fracs & gyp vlts	
	610.4	10.2		.79		Tt-Hf	Run	Wk-mod diss & vlt cpy	609.1-5.6	Low ∠	Mass gyp vn	As before w/ st cpy in Tt ints
	620.4	10.0		3.13		Tt	Run	Mod-st diss & vlt cpy; Tr moly	Run	Varied	fracs, gyp & cal vlts	yel-gra Tt w/ st gyp.
	630.6	10.2		1.10		Tt	"	Mod diss & vlt cpy; wk hem	"	20-85°	fracs & gyp vlts	Tt as above; Mb wkt w/ hem in fracs.
						Mb	629.4	Tr sulf	629.4	40°	Tt-Mb cont	
	640.8	10.2		.12		Mb	Run	" "	Run	30°/70°	gyp vlts & fracs	wkt to lt gr Mb w/ serp & Tr cal near fracs.
	650.5	9.7		.10		Mb	"	" "	"	"	As above	Grades to Hf @ end
	655.6	5.1		.02		Hf	"	Tr sulf	650.5	—	Grad Mb-Hf cont	Lt gra to wht w/ above
									655.2	Low ∠	Hf-Qtzt cont (flt?)	Hf w/ st gyp.
	664.5	8.9		.03		Qtzt	"	Tr strs cpy-py	Run	40-50°	fracs & gyp vlts.	Wt tan to wht Qtzt w/ local ser near fracs.
	673.0	8.5		.03		Qtzt	"	Tr moly cpy nil.	"	30-85°	" "	" "
	682.9	9.9		.03		"	"	" "	"	"	" "	" "

HOLE NO. M-54

Coordinates: N 362,913.51 E 761,723.50

Dip vert Bearing —

Date started 12/21/62 Completed 1/8/63

Collar Elevation 3262.0 Total Depth 747.9

GEOLOGIC LOG

MISSION UNIT

(4)

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
682.9	687.7	4.8		.03		QTz-Tc	RUN	Tr. py, cpy, Tr cak + gyp	RUN	40°-90°	WK gyp Filled Fracs	Tr. sulfs
687.7	694.4	6.7		.02		MP (QTzite?)	RUN	Tr, cpy, py, Moly	RUN	50°±	WK Talc + Chlor Filled Fracs	dense, siliceous rk, appears
											WK indication of	To have been an altered
											elongation & parallelism	QTzite, consid. Fold influence
											in mafics + sulfides	WK. Mafics, Patches QTzite
694.4	704.0	9.6		.02		MP (QTzite?)	RUN	Tr py, cpy, Tr Talc + gyp	RUN	"	as above	CONT as above. There
								Tr Moly			Euhedral Feldsp QTz	is an increase in what
											eyes are visible	appears to be Feldspathization
704.0	714.5	10.5		.02		MP (QTzite?)	RUN	as above	RUN	"	Very WK Fracs	as above. This
											"Ghost" Euhedral Feldsp	could be the first stage
											cont. QTz eyes	of a granitized QTzite
	725.2	10.7		.03		"	"	" "	RUN	"	" "	Grades to pure Qtzt @
						Qtzt	722.4	Tr sulfs	722.4	—	Grad cnt to Qtzt	722.4 w/ wk ser on fracs.
	735.2	10.0		.02		Qtzt	RUN	" "	RUN	40-50°	fracs w/ gyp	Freety wht Qtzt w/ local
									731.4	30°	frac w/ gg-bx	WK Clay; Gyp stng; wk ser.
	747.9	12.7		.02		Qtzt	"	" "	736.0	40°	bx-gg in frac	Freety wht locally impure
									RUN	30-50°	As above	tan Qtzt w/ local bx-gg
	Bottom											wk ser.

MIS-807-A 75

HOLE NO. M-53

Coordinates: N 341,443.62 E 762,990.20

Dip Vert Bearing —

Date started 1/22/63 Completed 2/25/63

Collar Elevation 2282.4 Total Depth 994.7

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	191.0					Overburden						Top C Cg ±
	197.8	6.8				C Cg						BR. ± 197.8
	207.6	9.8		.08		Mp	Run	wk Cu Ox, Fe Ox, Mn Ox Tr "Live" lim, Cc, Cu Sil's	Run		Broken	Strongly weathered & alt Leuco-Mp st clay & bx
	217.1	9.5		.03		Mp	"	wk "Live" lim, Fe Ox, Tr Cc	"		"	" "
	228.7	11.6		.07		Mp	"	As above + Tr Cu Ox	"		"	" "
	237.6	10.9		.06		Mp	"	" "	"		"	Same w/ frags Arg in clay zones & short intr Arg
	243.4	2.8		.06		Arg	"	" "	±242 Run	— 30-45°	Mp-Arg cut in gg zone. frags & slips & qtz vlts	dk brn coarse grained Arg w/ st silf, ser.
	257.6	9.2		.17		Arg	"	wk Fe, Mn Oxides, Tr "live lim" wk cc, Tr py.	±251.0 Run	— 30-60	Basic Oxides frags, slips w/ st gg	Grades to gr Arg w/ st ser, gg, Tr chl, serp
	268.5	10.9		.10		Arg	"	Tr-wk py-cpy-cc, Tr moly	"	"	" "	Lt gr Arg w/ mod ser-clay alt Local gg & bx
	273.7	10.2		.12		Arg	"	" "	"	40-70°	Fracs, qtz vlts, slips w/ st gg.	As above w/ st qtz-ser alt. Local Fp texture
	288.8	10.1		.11		Arg	"	Tr cpy, py, cc, Tr Moly	"	40°-60°	wk Fracs, Tr qtz veins & gg	As above
	298.3	9.5		.11		"	"	as above, sp gyp & Ser	"	"	" gg at 293.0'	Poss. FIT zone at 293.0'
	307.5	9.2		.09		"	"	" "	"	40°-70°	wk Fracs, Tr qtz veins	Dense, Mod silica, ALT along Fracs
	312.5	5.0		.11		"	"	" "	"	"	" "	" "
	322.4	9.9		.16		"	"	" "	"	"	" "	" "
									319.9	30°	bx-gg zone 1.0'	
	333.7	10.3		.21		"	"	" "	Run	30-70°	As before w/ mod gg-bx.	" "
	343.1	10.4		.23		"	"	" "	"	"	" "	" "
									337.5' and	±45°	FIT bx-gg zone	
	352.9	9.3		.13		"	"	" "	Run	30-60°	Fracs w/ ser, serp, wk clay	" "
	361.2	8.8		.14		"	"	Tr cpy-ox-Moly, sp Gyp & Ser	Run	30°-60°	Fracs with ser. serp & gyp	Dense ALT, mod ser + silica
	371.3	10.1		.11		"	"	" " "	"	" "	Brkn gg, Fracs with ser, serp & gyp	Mod. Chlor. gg.
	381.8	10.5		.10		"	"	" " "	"	" "	Fracs as above, sp qtz vns	Dense, incr. in SiO2

MIS-807-A 75

HOLE NO. N-53

Coordinates: N 261,442.42 E 742,292.20

Dip Vert Bearing _____

Date started 1/22/63 Completed 2/25/63

Collar Elevation 2282.4 Total Depth 924.7

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
381.5	387.0	5.2		.21		Arg	Run	Tr pcls sec	Run	10-70°	wk fracs & qtz vlts	Mod ser & st silf
	392.0	5.0		.13	21.6' @ .65	"	Run	wk, Mod cpy, py, tr moly Mod qtz, ser	392.2-392.5	± 30°	Silt gy-bx ent on HF.	Light gn-wer Arg wi pots Mt selvage in silt zone
	402.6	10.6		.09	.83	"	"	As Above	Run	"	Brkn, ggy, wk fracs	Arg with st qtz vning
	408.6	6.0		.63		"	"	Alt Arg, ST Qtz, Tr cpy, py Moly, ser, chlor	Run	30-70°	Brkn, ggy, st Qtz vng	Alt Arg as above
	417.4	8.8		.13		"	"	As Above	"	"	" "	" " "
Sam.	422.1	4.7		.14		"	"	" "	"	"	" "	As Above, Tr Mp at End
	431.0	8.9		.26		"	"	" "	"	45°	" "	Arg, Alt, Patches Mp
	439.2	8.2		.72	26.6' @ .65	"	"	Mod cpy, Trace, Moly, sesser	"	30-60°	Dense, Siliceous Arg with ggy Flt zones	ST. Qtz vning & Tr Mp
	449.5	10.3		.70		Arg ?	"	ST py, Trace, Tr moly, ser	"	"	ST Qtz vning & ggy Fracs	Mixture of HF-Arg-QTzT & Mp with Mp.
	457.5	8.0		.40		Mp	"	As above, ST ser	"	30-70°	Mod ser & Talc filled Fracs Last Ft. is ggy Flt Bx	Brkn Mp with patches of Sers. Bx zone at end
	467.4	9.9		.06		QTzT	"	Tr cpy-py-Moly, Tr ser	"	20-50°	wk sys & Talc filled Fracs	Dense wht QTzT, Tr Arg
	477.4	10.0		.09		"	"	As Above	"	"	As Above	As Above
	486.3	8.9		.13		"	"	" "	"	"	Brkn, ggy, Mod Qtz vng	As Above
	496.3	10.0		.08		"	"	" "	496.3-509	Vert	Vuggy frac wi bx & gg	" "
									491.3	40°	Recem flt bx	
	502.5	7.2		.08		"	"	" "	Run	20-60°	Brkn, ggy, shattered	" "
	514.1	10.6		.13		"	"	Sp pots & tr cpy-py-moly wk ser	"	"	" "	" "
	518.3	4.2		.12		"	"	Tr cpy-py-Moly, Tr ser	"	"	" "	" "
	522.5	4.2		.11		"	"	Sp vlts & tr cpy-py-Moly	"	30-70°	Sul vlts & fracs	Dense wht QTzT - wk ser vlts
	532.2	9.7		.07		"	"	" "	524.8	70°	Vuggy frac. (last 6.0')	" "
	542.2	10.0		.29		"	"	" "	Run	30-80°	fracs (vuggy) Sul vlts, Qtz vlts	" "
							538.7	30° vn py vlts in Qtz				
	552.2	9.8		.16		"	Run	Dis & str cpy-py; Tr Moly	"	"	As before	" "
	562.6	10.6		.25		"	"	" "	"	"	" "	" "
									562.9-end	20°	Recem flt bx.	
	573.3	10.7		.19		"	"	" "	Run	30-80°	fracs, Qtz vlts	" "
	583.4	10.1		.20		"	"	" "	"	"	" "	" "
									574.3	80°	1.4' Open frac	
									577.9	Vert	1.3' open frac.	

MIS-807-A 75

HOLE NO. M-53

Coordinates: N 361,443.62 E 762,390.20

Dip Vert. Bearing —

Date started 1/22/63 Completed 2/25/63

Collar Elevation 3282.4 Total Depth 984.7

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
583.4	595.2	11.8		.13		Qtzt	Run	wk cpy, py, Moly; wk ser	587.2	25°	Recem flt zone w/ Moly	Dance wht Qtzt w/ pats
									594.6	75°	Recem flt bx w/ Sul gg	tan Arg; Locally broken
	601.3	6.6		.07		Qtzt	Run	wk-Tr cpy-py-Moly	Run	–	Shattered & broken	As above w/ more ser.
											Sp N. & fracs	& zones Qtz replacement
	604.6	2.8		.16		Mp	Run	wk cuic, Moly, Qtz; Ser	Run	–	broken, sp Qtz vlts	Lenco-porph
									601.8	30°	Qtzt-Mp cnt @ Sul vlt.	
	611.1	6.5		.19		Arg	Run	Sp pats of st cpy-py w/	± 604.6	30°	Mp-Arg cnt.	
								Tr sph; Mod Qtz vlts; wk-	Run	–	broken & shattered	Coarse-sandy brn Arg
								Mod ser, talc, & Tr serp, st CO_3				w/ Mod Qtz repl.
611.1	615.8	4.7		.45		Hf	Run	wk to occasionally mod disc	"	30 & 70°	fracs, CO_3 & Qtz vlts	Lt grn soft Hf w/ sp pats
								& vlt cpy-py w/ Tr Moly;	611.1	20°	Arg-Hf cnt @ vuggy frac.	Mb; Tr Mol & gar.
					35.9'			Mod ser, clay; st CO_3; Tr gar				
	622.5	6.7		1.17	@	Hf	"	Same w/ inc in cpy	620.0-end	–	Poss flt bx-gg (brkn)	As above + Tr Act-Trem
	635.0	12.5		.55	.64	"	"	Fine disc & vlt cpy-py; st	Run	20-45°	fracs & CO_3 & Qtz vlts.	Pale gr-grn Hf w/ soft
								clay; wk CO_3 & Qtz vlts.				clayey ints
	647.0	12.0		.51		"	"	As above + Tr mag; incr	"	"	" "	Lesser clay
								CO_3; wk carp	647.0	30°	Hf-Qtzt cnt @ frac.	
	656.9	9.9		.17		Qtzt	"	Tr-wk cpy-py; Tr Moly	Run	50-70°	fracs, shears, slips	Ltgr to wht Qtzt w/ pats
								wk-mod ser & talc.				Tan siliceous Arg.
	669.2	12.3		.11		"	"	Slight incr in py-moly	"	"	" "	As above; broken
	671.0	1.8		.34		"	"	wk cy-cpy-moly st ser, talc	"	35°	fracs & shears	Same w/ 1.0' Mp int
									670.0	40°	Mp to end.	
	681.8	10.8		.14		"	"	wk-Tr cpy-py-Moly; wk ser	673.0	70°	Mp-Qtzt cnt @ frac.	First 1.0' Mp rest as before
								talc.	Run	30-60°	fracs, slips, shears.	
	692.1	10.3		.21		"	"	" "	"	"	" "	As above without Mp.
	703.0	10.9		.19		"	"	" "	"	"	" "	" "
	712.9	9.9		.14		"	"	" "	"	"	As before but more brkn	" "
	722.6	9.7		.25		"	"	wk-mod py wk-Tr cpy				
								Tr Moly, wk ser, Tr Moly	Run	30-60°	fracs & shears, locally	dense wh to ltgr Qtzt
											brkn	locally Arg; siliceous; Qtz vlts.
	732.0	9.4		.19		"	"	" "	"	"	" "	" "
	740.2	8.2		.12		"	"	As above w/ incr in ser.	"	"	" "	" "
	748.4	8.2		.08		"	"	Same w/ wk ser.	"	20-70°	" "	" "
	755.3	6.9		.08		"	"	" "	"	"	" "	" "
									755.3	55°	Qtzt-Hf cnt @ frac.	

HOLE NO. M-53

Coordinates: N 361,443.62 E 762,990.20

Dip vert Bearing —

Date started 1/22/63 Completed 2/25/63

Collar Elevation 3282.4 Total Depth 984.7

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
755.2	763.5	8.2		.16		Hf	Run	wk & occas mod diss & vlt cpy-py, wk-st CO_3; local talc on fracs	Run	20-40°	fracs, slips, Gyp vlts.	Soft wht, ltgr, & Ltgrn Hf w/ st clay
	774.4	10.9		1.37	21.2 @ 1.27	Hf	Run	Scat strs cpy, local diss cpy; local mag	Run Run	20-40° low ∠	as above Cpy strs	Creamy Hf w/ st serp clay; Some Ser, Act, Gat, CO_3 on fracs
End NX	784.7	10.3		1.23		Hf	Run 775.6-780	As above Mod strs, pats cpy in nent mass Serp	Run	20-50°	Fracs, slips w/ Gyp	Creamy Hf w/ local mass Serp
Start Bx	787.5	2.8		.27		Hf	Run	Scat strs Cpy	Run	20-40°	As above	Creamy Hf; gradational Hf-Arg ct ≐ 787.5
	800.1	12.6		.07		Arg	Run	Tr. cpy-py, Tr gyp	Run	30-70°	wk fracs, w/ Gyp	Brn Arg, Tr Hf.
800.1	810.0	9.9		1.18		Arg-Hf	"	Mod cpy-py, Tr gyp	Run	30-48	" "	Arg-Hf ct ≐ 804.5'
	821.9	11.9		.49		Tt	"	" , Tr Moly	"	"	" "	Hf grds To Tt
					65.9'			Tr Mag				
	833.4	11.5		2.09	@ 1.04	Tt	"	ST cpy-py, Mod Moly, Tr Born, sp. gyp	Run	20°-60°	wk-Mod fracs	Dense ST gar Tr, diss Moly
	842.2	8.8		.47		Tt	"	SP-Mod spy-py, Mod gyp	Run	45°	wk-Mod gyp filled fracs	" " "
	855.0	12.8		.66		Tt		Mod cpy, Tr py, Tr Moly	Run	30-60°	" " "	" " "
	866.0	11.0		1.34		Tt	"	" " "	Run	"	Vry wk fracs	" " "
								Tr Hem, sp Gyp				
	870.9	4.9		.39		Mb	Run	Tr, cpy-py. sphal, Tr Hem	Run	20°	Vry wk calc filled fracs	Pure white Mb. Tt Mb cont. 45° at 870.9'
	880.6	9.7		.02		QT2T	Run	Vry wk Tr Suls, Tr Gyp	Run	40-60°	wk Gyp filled fracs	Dense white QT2T
	888.0	7.4		Tr		"	"	" "	"	"	" "	" "
	898.0	10.0		.08		Hf	Run	wk cpy-py-Born-Moly sp gyp	Run	20-45°	sp Gyp & cal filled fracs	Mod Mineralized Hf, patches Tt.; diss Born & Moly
898.0	908.7	10.7		2.80	36.0' @ 1.20	"	"	St cpy, Born	"	"	" "	As Above
	913.6	4.9		.19		HF & Gyp	Run	Tr suls, Mod Gyp	Run	20-50°	wk Gyp filled fracs	Pale, Gypsiferous Hf
	924.5	10.9		.60		Hf	"	Tr Born, Cpy, py, sp Gyp	Run	"	" "	White " " Hf
	934.0	9.5		.61		Hf	"	" "	"	"	" "	" " "
	943.2	9.2		.15		Qtzt	"	Tr cpy-py, gyp, sat	"	20-40°	" "	Dense tan Argillaceous Qtzt
	953.4	10.2		.08		Qtzt	Run	" "	"	"	" "	As above w/ pats Hf
	962.7	9.3		.52		Qtzt & Hf	"	" "	"	"	" "	Mixed Qtzt as above & wht silt Hf; Tr serp.
							955.7	0.6' st diss bn				

MIS-807-A 75

HOLE NO. M-53

Coordinates: N 361,443.62 E 762,990.20

Dip Vert Bearing —

Date started 1/22/63 Completed 2/25/63

Collar Elevation 2282.4 Total Depth 984.7

GEOLOGIC LOG

MISSION UNIT

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
962.7	970.3	7.6		.03		Mb-Hf	Run	Tr diss cpy-py-bn; Mod serp & talc; wk CO_3 Tr wol.	Run	20°-50°	fracs w/ serp & Talc.	Lt gr to wht silt Mb & Hf.
	977.2	6.9		.19		Mb-Qtzt	Run	Tr cpy, bn in Mb.	Run	20°	fracs	Mixed Silt Mb & Qtzt; Cts. grad, local wall
	984.7	7.5		.04		Qtzt	Run	Mb	Run	20-70°	fracs	Pure Lt. gr Qtzt
	BOTTOMED											

MIS-807-A 75

HOLE NO. M-52

Coordinates: N 363,523.46 E 761,702.38

Dip vert Bearing ——

Date started 11-19-62 Completed 12-7-62

Collar Elevation 3261.0 Total Depth 873.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	191.0					Alluv						CCg 2
	196.8	2.8				CCg						B.R.E. 192.0
	202.5	8.7		.18		Arg	Run	Mod Fe oxides, Tr cu ox, wk local lavesite (?)	Run	varied	Frac & Sto vlts, locally shattered	Brittle to dk arg, locally coarse gtz, local CO2 into vuggs
	209.7	7.2		.31		Arg	Run	Mod-st Fe-Mn ox, wk local Cu ox	Run	"	As above	Some, pinks calcite
									209.7	—	Base Oxides	
	222.7	13.0		.33		Arg	Run	Tr sulf, mely, not as in small vugs & on frac, wk low stain @ start	Run	20-70°	Frac w/ sulfg, gtz vlts	Dat as broken, wk sxr, clay over frac, and cliff
									222.5	60°	Bx-gg zone (0.3')	
	224.5	11.8		.15		Arg	Run	20°-70° vlts py w/ tr cp, wk py, mely on frac.	Run	20-70°	Frac & Sul-gtz vlts	Mod clay & sxr on frac, wk Lox
	243.0	9.3		.12		Arg	Run	wk py-cpy - mely in frac	Run	20-60°	Frac w/ gg	As above, locally broken & shattered
									236.5	local	St zone Bx-gg	
	247.3	2.5				Arg-Mp	Run	wk py, Tr cpy, mod mely	243.9	60°	0.4' Mp to 244.3	Arg as above w/ bxg
									248.9	40°	0.8' Arg to 249.7	st crs w/ Mp lens w/
				.12					249.6	30°	Mp to end	altered w/ clay, mp well
	256.8	9.5				Mp	Run	wk sulf, mod mely	Run	varied	Frac w/ gg - calcite vlts	local st sx gg in broken zones
									255.5-end	20-70°	St Bx-gg zone Rd in bxg	
	266.0	8.2		.12		Arg	Run	wk vlt py-cpy	Run	20°	Frac w/ st clays gg	Tan Arg w/ mod st sxr, wk-mod gtz-cp vlts
	275.0	10.0		.16		Arg	Run	mod vlt-disc sulf, mod mely	Run	—	Strongly broken	17 gg-clay sxr wk
									270.3 mod	—	st Bx-gg zone	silt & 30° gtz vlts
	279.6	4.6		.29		Arg	Run	wk sulf, mod mely	279.6 mod	60°	Tit Bx-gg w/ mod mely & wk sulf.	Mostly clay & gg
	288.0	8.8		.11		Mp	Run	wk disc & mod vlt py w/ tr cpy - mely	279.6	local	Arg - Mp ct.	Grow to gk Mp w/ st sxr; Tal-ox frac
									Run	30-45	St frac w/ sxr - Tal	
	297.7	9.3		.13		Mp	Run	wk py - mely in gtz vlts	Run	—	Broken w/ st gg - clay	St sx - very much clay
										30-60°	Frac & gtz vlts	
	307.4	9.7		.12		Mp	Run	As above	Run		Same	As before
	316.6	9.2		.11		Mp	Run	wk - mod disc & vlt py w/ tr cpy - mely	Run	—	Strongly broken 310-316.6	Bx, tan & gg to 316.6'
											30-45° Frac w/ tal & sxr, sulfg, trace	& st sxr, gg & gtz vlts to end

MIS-807-A 75

HOLE NO. M-52

Coordinates: N 363,523.46 E 761,708.38

Dip vert Bearing ——

Date started 11-19-62 Completed 12-7-62

Collar Elevation 3261.0 Total Depth 873.0

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
316.6	325.0	8.4		.11		Mp	Run	wk-med diss & vlt py w/ tr cpy.	Run	30-60°	Fracs w/ bx-gulgg-serp Talc & qtz vlts.	lt tan to pk & gr Mp w/ wk biot; st ser alt of felds.
	331.3	6.3		.14		Mp	Run	45-50° vlts py, Tr moly	Run	30-60°	As above + gyp vlts.	Mod ser & serp.
	337.3	6.0		.11		Mp	Run	wk vlt py-moly (Low vein)	Run	50° 30-40°	Frac w/ serp qtz vlts	Mod ser & serp, st Feld along qtz vlts.
	345.5	8.2		.12		Mp	Run	wk vlt, diss py-cpy; Tr moly; wk sulf gg in fracs	Run Run	Varied 40°	Fracs w/ gyp, serp Some qtz, py vlts	As above
	354.2	8.7		.11		Mp	Run	As above	Run	50°	50° predominant - fracs w/ gyp, serp	Fresh to alt Mp; local st ser; qtz vlts, Moss gyp 349.9 to 350.8'
	361.4	7.2		.13		Mp	Run	wk vlt & diss sulfs	Run	40-60°	fracs & gyp-qtz vlts	st gyp vlts, wk ser, mod serp
	371.0	9.6		.13		Mp	Run 367.2	same Low ~~%~~ py vlt	Run	30-70°	fracs, gyp-qtz vlts	As above w/ weaker gyp.
	380.0	9.0		.13		Mp	Run	30-40° vlt py & wk diss sulfs Tr moly-cpy	Run	20-70°	fracs, slips, qtz-gyp vlts. some thin gg on slips.	wk-mod ser & serp. Talc on fracs; ± 3% biot.
	388.5	8.5		.11		Mp	Run	wk diss py-cpy	364.5 Run	30° 20-80°	0.3' gg-bx w/ wk sulfs. As above	Same but more strongly fractured
	395.5	7.0		.14		Mp	Run	As before	Run	30°	Fracs - most prominent	Mod alt to ser, talc, serp
	404.0	8.5		.12		Mp	Run	" "	Run	varied	Fracs - slips w/ gg-bx. clay-ser-serp-talc	As above
	411.8	7.8		.10		Mp	Run	wk diss & vlt cpy-py, Tr moly	Run	60-~~[illegible]~~	As before	Mod - wk alt st qtz - mod Feld.
	421.8	10.0		.13		Mp	Run	As above	Run	varied	Fracs, gyp-qtz vlts	" " " " "
	431.8	10.0		.21		Mp	Run	wk diss py-cpy sp blebs cpy-moly	Run	"	" " " "	st silf; wk ser, mod serp-talc on fracs
	441.8	10.0		.13		Mp	Run	" " " " "	Run	Hiz	slips, fracs, gyp-qtz vlts	" " "
	451.0	9.2		.13		Mp	Run	wk diss py-cpy; Tr moly	Run	Hi ~~%~~	slips w/ serp, talc & gyp.	st talc, serp & clay
	461.4	10.4		.15		Mp	Run	" " " " "	Run	"	" " " "	As before
	468.7	7.3		.15		Mp	Run	" " " " "	Run	"	" " " " "	More ser, & serp, Talc etc.

HOLE NO. 52

Coordinates: N 363,523.46 E 761,708.38

Dip Vert. Bearing ——

Date started 11-19-62 Completed 12-7-62

Collar Elevation 2640 Total Depth 873.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
468.7	477.1	8.4		.11		Mp	Run	V. wk diss py-cpy; local blebs py-cpy w/ tr sph.	Run	20-30°	Fracs w/ clay, gyp	Lt pk Mp - V st Pot prop. test local gto site
	487.7	10.6		.11		Mp	Run	V-wk fine diss py-cpy	Run	20-35	As above	As above
	500.5	12.8		.16		Mp	Run	Wk str & fine diss py-cpy	±487.8	60°	Gyp vn	Hgr - pk w st sec zone
									Run	mod	Fracs, alos, gyp-gto vlts	& tale. 2.3% bio wise
	512.6	12.1		.08		Mp	Run	Same	Run	20-85	Slics, gyp vlts, local gto vlts	As above
	521.8	9.2		.10		Mp	Run	Wk diss py-cpy, Tr sph & moly	516.4	70°	bx-gg w/ gyp & gto	St serc, local st silic & bleach
									517.7	75°	bx-gg w/ gyp & gto	
	530.7	8.9		.13		Mp	Run	Wk vlts, diss & blebs py w/ less cpy, Tr moly	Run	80-90°	Fracs & slics w/ sec zone, gyp-gto vlts.	As before
	539.9	9.2		.14		Mp	Run	Same	533.0	local	bx-gg w/ vlts & gto	St sec, mod serc
	548.2	7.8		.14		Mp	Run		Run	30-40	St fracs w/ much clay, gg, gyp, gto vlts	V st clay, gg, gyp, gto
	555.5	8.2		.15		Mp	Run	As before	Run	20-70	Fracs & gyp-gto vlts	Wk clay, mod serc, bx, tale, sec
	564.7	9.2		.14		Mp	Run	Wk vlts & blebs py, Tr cpy, local st moly vlts	"	"	" " " "	Wk. mod serc, zone, Mod st bx, tale
	572.9	9.2		.12		Mp	Run	As above	568.0	85°	0.8' st gg - bx zone w/ st silic	" " " " local st sec
	582.6	8.2		.12		Mp	Run	Wk fine diss py-cpy; Mod moly	Run	20-25	Fracs w/ st clay, sec & gyp-gto vlts	St clay & sec zone, Gto - tale, Bit coarse
	589.3	6.7		.19		Mp	Run	As before w/ mod py	Run	mod	Fracs, gyp-gto vlts	St sec, tale, gto, tr chl, mica, orp
	596.8	7.5		.13		Mp-Qtzt	Run	Wk diss & vlt py-cpy, Tr moly on fracs & diss	591.1	65°	Mp-Qtzt ct	Wh-gr Qtzt w/ ± Mp inc's from 2-5". Cts generally show st sec, tale, gyp, local sec zone, mn-alt & good. Show very large ct Qtzt w/ Mp showing slips @ 1st trace
									Run	65-70	Mp-Qtzt cts	
	605.9	9.1		.02		Qtzt-Mp	Run	V-wk dissp py-cpy; Tr moly	Run	30-50	Fracs	Wh-lt gr Qtzt; ?
									605.0	30°	Qtzt-Mp ct	1st Mp; mn alt on cts
									605.9	?	Mp-Qtzt ct	

HOLE NO. M-52

Coordinates: N 363,523.46 E 761,708.38

Dip Vert Bearing ——

Date started 11-19-62 Completed 12-7-62

Collar Elevation 3261.0 Total Depth 873.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
605.9	612.5	6.6		.17		Qtzt	RUN	Wk vlts & pat py-cpy	RUN	Varied	Fracs	wh-lt gr Qtzt; short pats Mp along fracs w/ st, ser, gyp, sch
	620.6	8.1		.14		Qtzt	RUN	As above	RUN	Varied	Fracs w/ gyp	Wh Qtzt grading to
									620.6	20°	Qtzt-Hf ct, irreg w/ st gyp	impure Qtzt w/ br part @ end run; med-st gyp
	632.5	11.9		.33		Hf	RUN	Tr thin vlts py-cpy w/ chl-serp borders	RUN	45°	Fracs	Dense lt grn soft Hf w/ dk grn pats
									"	0-70°	Gyp vlts w/ tr hem coatings.	
	642.6	10.1		.11		Hf	RUN	V. wk Tr py-cpy	RUN	30-45°	fracs & slips.	st serp. & clay, local hem stain; wk CO_2.
										0-70°	Gyp vlts	wk local pats gar.
	650.3	7.7		.30		Hf-qtzt	RUN	Tr thin sul vlts through out.	646.2	56°	Hf-Qtzt cnt @ frac w/ py vlt.	Lt grn dense soft Hf w/ st gyp, serp to 646.2;
									RUN	45-70°	fracs, slips w/ gyp & serp.	followed by lt gr Qtzt w/ wk ser, & increasing serp & gyp to end.
	652.8	2.5		.42		Tt	RUN	Mod diss & strs cpy-py Tr bn.	650.3-51.1	50°	Racem flt cnt w/ Tt.	Tan - maroon Tt w/ st CO_2;
									RUN	Varied	Gyp - CO_3 vlts.	
	663.0	10.2		.66		Tt	RUN	Mod fine diss py-cpy bn & 60° vlts py-cpy Tr mely strs in qtz.	RUN	60°	parallel gyp, Qtz, CO_3, & sul vlts in racem fracs.	As above w/ alternate 60° maroon & tan banding
	667.7	4.7		1.34	27.4 - @ .71	Tt	RUN	Mod to st diss & 60° vlts cpy-py w/ tr mely & bn. (Tr wk magn pyrrhotite?)	RUN	60°	As above w/ sp 30° cross fracs & vlts. 60° fracs show small displacements of vlts.	Lt grn - Tan Tt
	677.7	10.0		.54		Tt	667.7	0.4' 60° cpy-bn-py vn in CO_3 & qtz.	672.0	Hiz	Vn gyp 0.3'	V. st. gyp & CO_3; Maroon, green & tan Tt; Tr Act-Tram-Ep.
							RUN	wk-mod fine diss & vlt py-cpy w/ Tr bn.	673.1-75.6	70°	Racem flt bx w/ st gyp & CO_3	
									677.0-end	Hiz	Racem flt bx as above	
	687.7	10.0		.21		Tt	RUN	wk-mod cpy-bn-py in CO_3 & gyp vlts.	RUN	Hiz	Racem flt. bx, cont'd from above	As above. locally contains small vugs
	700.3	12.6		.20		Tt	RUN	wk-Mod cpy-v. fine bn?	RUN	40°	Fracs & vlt CO_3-cpy & gyp	Grn-yel Tt w/ irreg pats & vlt hem, CO_3 & gyp
									687.7-90'	80-90°	Post Min flt bx w/ CO_3	

MIS-607-A 75

HOLE NO. M-52

Coordinates: N 763,523.94 E 761,708.38

Dip Vert Bearing ——

Date started 11-19-62 Completed 12-7-62

Collar Elevation 3261.0 Total Depth 873.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
									695-96.5	Vert	Post min flt w/ Co3 gyp	
									698-700	70-90	St gyp vlts	
700.2	705.7	5.4		.04		Gyp-Ht	Run	Mod cpy in sp Tt pats	Run	80°	Gyp-anhyd' vlt	Wht-pink gyp & anhyd' cutting min Tt.
	718.5	12.8		.34		Tt	Run	wk-mod cpy tr bn	Run	0-20°	Gyp-Co3 vlts	Grn-brn Tt w/pats-vlt hem
									714.5-16	80°	Post min flt w/ gyp-Co3	710.8-714.5 - Hornfelsic
	728.5	10.0		.79		Tt	Run	Mod cpy in 20-40° vlts & diss.	Run	60°	Gyp-Co3 vlts	Grn Tt w/ num pats
									726.3-29	60-80°	Bx & gg w/ st gyp filling	vlts hem, Co3, gyp 727.5-28.0 wht
					23.8 @ .64				728.0	20°	Gg w/ hem cuts above steep struc	mass gyp
	732.4	3.9		.43		Tt-Hf	Run	Wk diss & vlt qtz-cpy py	Run	0-20°	Gyp vlts	Mixed brn-grn gar and pyroxene-pats qtz
	742.3	9.9		.56		Tt	Run	Local mod pats & str cpy-py, Tr moly	Run	0-20°	Gyp vlts, tan vlts	Dominant lt gr gar w/ num. gyp vlts
	748.4	6.1		.14		Tt	Run	As above; local st. mostly on fracs & diss	Run, 747.0	20-90°, 90°	Fracs cpy str	Lt gr, fn grained Tt; local st hem; less gyp, local calc
	754.1	5.7		.03		Tt	Run	St vlts & diss moly; wk diss py-cpy	Run	20-90°	Fracs	As above w/ pat qtz replacements
	759.0	4.9		TR		Gyp	Run	Tr sulf in fracs	Run	Varied	Frac & gyp vlts	Mass gyp; local sel; fracs Tr present
	761.8	2.8		TR		Tt	Run	Tr sulf; small hem vlts	759.0	Irreg	Gyp Tt ct	Lt gr fine grained Tt w/ pat gyp; ✓ calc
	764.5	2.7		.19		Qtzt	Run	Tr sulf	761.8	80°	Tt-Qtzt ct	Lt gr Qtzt; Calc along fracs
	773.4	8.9		.11		Tt	Run	Tr sulf, hem strs	764.5	Sub(?)	Qtzt-Tt ct	Calc Tt; local pat qtz; local gyp
	782.0	8.6		.05		Gyp-Hf	Run	Sulf nil	779.8	10°	Flt bx w/ qtz-hem Tt	Wht-tan gypsiferous Hf - few pats gar Wo & Mb
	787.4	5.4		.02		Gyp-Hf	783-84	40° Fracs w/ st moly	Run	45°	Fracs w/ gyp vlts	Similar to above less gypsiferous
							785.4-end	Fine diss moly				
	792.2	4.8		.17		Hf	791.4-end	Tr cpy-py moly & sul gg	791.4-end	50°	Sul gg & gyp vlts	Mod soft dense gar Hf

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HOLE NO. M-52

Coordinates: N 363,523.96 E 761,708.38

Dip Vert. Bearing —

Date started 11-19-62 Completed 12-7-62

Collar Elevation 3261.0 Total Depth 873.0

GEOLOGIC LOG

MISSION UNIT

(6)

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
									RUN	20-80°	Fracs w/ gyp vlts	Pyts Cov in Hf
792.2	802.3	10.1		.24		Hf-Tt	RUN	Sulf tr to nil	792.4	20°	Slip w/ gyp termin. flt noted last run	Num pyts brn gov in dense grn Hf
									RUN	20-40°	Gyp vlts	
	812.3	10.0		.97		Tt	RUN	Wk to St diss, cpy Tr bn	RUN	20-40°	Num gyp vlts	M.g. brn-grn Tt
	822.0	9.7		.39		Tt	RUN 819-20.6	Wk to st diss cpy St moly.	821.3-21.9	30°	Flt zone-bx & sul gg	
	827.5	5.3		.54	28.4 / 2.89	Hf	RUN	Wk cpy-bn vlts & diss.	833.5	30°	0.8' Mass gyp between 30° slips	Lt grn mod soft Hf
									RUN	Var.	Gyp vlts	
	830.9	3.4		2.65		Hf	RUN	Mod diss cpy tr bn, moly	RUN	Var.	Tr gyp vlts	As above w/ coarser text - fibrous near end - seep or Act.
							830.6-end	Mod mag.				
[illegible]	[illegible]	11.6		.06		Hf	RUN	Wk to v-wk diss cpy Tr moly, bcm on fracs	RUN	20-70°	St 20° & 70° fracs w/ gyp, seep	Cream to lt gr f.g. Hf; local iots gyp, impure Qtzt.
[illegible]	[illegible]	9.8		.04		Hf	RUN	Tr sulf	RUN 847.1	20 Irreg	fracs w/ gyp Hf - Qtzt cct	Cream Hf, local st. gyp
	852.0	9.9		.02		Qtzt	RUN	Nil	RUN	Varied	Num fracs w/ gg, poss flts	Wh to lt gr Qtzt; V-broken w/ gg; some ser, cal, gyp on fracs
	867.6	10.6		.02		Qtzt	RUN	Tr sulf - thin coat ings on fracs.	RUN	20°	Fracs	Wht f.g. qtzt some ser - gyp on fracs.
	873.0	5.4		.03		Qtzt	RUN	"	872.6-68.2	Lowa	Gouge - soft zone	
									RUN	20°	Fracs.	
		Bottom										

MIS-807-A 75

HOLE NO. M-51

Coordinates: N 36,144.82 E 763,230.69

Dip Vert Bearing —

Date started 11-23-62 Completed 12-26-62

Collar Elevation 3286.2 Total Depth 1066.4

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	190.0					Alluv						
	202.0	12.0				C Cg						BR ± 200.1
	207.3	5.3		.04		Arg	Run	wk Fe Ox, Tr hem	Run	30-45°	Fracs w/ Limonite; very broken	Lt gr Arg w/ st silf; local porph-like blebs ser
	214.5	7.2		.03		Arg	Run	Mod FeOx; wk hem	211.0-end	—	St bx-gg	As above w/ more
									Run	—	All very broken	Fe stain, st clay & gg.
	218.4	3.9		.05		Arg	Run	Same w/ local med hem	Run	—	bx-gg	As above
	229.5	11.1		.11		Arg	Run	Same w/ Tr "live lim"; Mn ox.	Run	—	Strongly broken	st ser, serp, talc
	234.4	4.9		.09		Arg	Run	st Fe Ox; local st hem; Tr "live lim" - Mn ox.	234.4	35°	Base Oxides @ Frac	Less strongly altered.
									Run	-	As above	
	244.2	9.8		.17		Arg	Run	wk - med diss, locally st vlt py w/ tr cc; Tr moly	234.4-238.5	—	St bx-gg zone w/ py	Lt gr Arg w/ local qtz veins, mod-wk ser; wk serp-talc on fracs.
									238.5-end	20-70°	St fracs	
	254.5	10.3		.17		Arg	Run	Fine diss & vlt sulfs, Tr moly	Run	varied	Fracs & qtz vlts. locally broken	Lt brn, gr Arg w/ peta dk brown Arg. wk clayey fracs
	265.2	10.7		.17		Arg	Run	As before	Run	"	Same	Local mod ser, wk chl.
	275.4	10.2		.10		Arg	Run	As before + local st moly on some fracs w/ qtz.	269.1	60°	Bx-gg wk sulfs	Shatter zones near bx
									273.4	30°	Bx-gg (poor min.)	Mod clay, ser, wk chl on
									Run	"	As in previous 2 runs.	fracs
	287.1	11.7		.14		Arg	Run	wk diss & smeared sulfs & sul gg; most moly	Run	-	Strongly broken w/ bx-gg @ 276.6, 278.2, 281.2, 283.5	Mod - st clays & gg
									287.1	broken	Arg - Mp at @ frac w/ st bx-gg.	
	296.7	9.6		.10		Mp	Run	wk diss & sp vlt py w/ moly in qtz vlts Tr cpy.	Run	20-70°	Fracs & qtz vlts.	Lt gr & pk Mp w/ mod-st ser & talc
									289.2	40°	Frac w/ bx-gg; No sulfs	
	303.3	6.6		.12		Mp	Run	As above; Tr moly on fracs	Run	40°	Fracs w/ mod bx-gg	As above w/ qtz strs, local bx zones; v broken
	304.6	1.3	—	—	NO CORE RECOVERY						NO CORE RECOVERY	
	307.2	2.6		.07		Mp	Run	Wk diss, vlt py; Some sulf gg.	Run	50	Fracs	As above w/ st diss & vlt qtz; Shatter zone w/ bx - 304.6 to 305.8 (Poss flt)

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HOLE NO. M-51

Coordinates: N 361,144.82 E 763,230.69

Dip Vert Bearing _____

Date started 11-23-62 Completed 12-26-62

Collar Elevation 3286.2 Total Depth 1066.4

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
307.2	315.3	7.1		.22		Arg	Run	Med fine diss py; lesser cpy; some sulf gg; mod moly on fracs	307.4	?	Mp-Arg ct (NOT VISIBLE)	Lt br Arg, st clay content; Clay & gg zones @ beg & end of run
									Run	40-80°	Fracs w/ st clay, serp, wk qxp	
	325.3	10.0		.21		Arg	Run	V wk diss py-cpy; Some sulf smear on fracs, Tr moly	Run	40-90°	Fracs; st 50° Frac set w/ clay	Lt br-gr Arg, Mod clay content
									Run	Varied	Small qtz strs.	Cream to lt br & gr Arg, local v-dense qtz-sericite; local st clay; Prob flt zone - qtz-sericite frags in gg
	334.8	9.5		.24		Arg	Run	As above, stronger moly; small cpy strs in flt zone	328.3-331.4	60-70°	Prob flt zone	
									Run	50°	Fracs	
	344.0	9.2		.34		Arg	Run	Fine diss & wk str py-cpy	Run	60°	Fracs & slips & qtz vlts, locally broken	wk-mod ser
	352.2	8.2		.20		Arg	Run	wk vlt-str-diss py w/ tr cpy, moly	Run	30-70°	Fracs w/ wk ser & gg & qtz vlts	Pale dk brn dense Arg w/ local sgl-like Texture sp pats qtz-fel
	361.9	9.7		.15		Arg	Run	wk pats & vlts py w/ less cpy - wk moly on some slips	Run	30-70	Fracs & qtz vlts	Same
	371.7	9.8		.32		Arg	Run	wk-mod diss & pat py w/ wk cpy; Tr moly	368.9-end	30-60°	Qtz vlts & ss like appearing rock (poss recem flt)	dk brun to bn fg Arg to 367.1. Then st qtz & marl-like pats to end
									371.7	Wk	Arg - Mp ct.	
	382.3	10.6		.13		Mp	Run	sp wk vlts py-cpy.	382.2-382.3	Wk	st clay & br zone w/ wk anh, Pos flt.	St clay & ser to 371.2 st silf & wk fold to end. Lt gr Mp
	392.0	9.7		.11		Mp	Run	Wk diss & vlt py-cpy	Run	Varied	Fracs w/ wk clay; St hi & Fracs,	Dense Mp w/ local st ser
	401.7	9.7		.10		Mp	Run	As above w/ tr moly	Run	Varied	As above	As above - wk ser
	409.4	7.7		.10		Mp	Run	V-wk diss, vlt py-cpy	Run	Varied	As above	V-dense Mp w/ diss & small vlts qtz.
	418.2	8.8		.23		Mp	Run	Wk diss, vlt, pat py; lesser cpy, Tr moly	Run	Varied	As above	As above w/ increase ser, clay & fold alt end of run. - some flt gg
	429.2	11.0		.25		Mp	Run	wk-mod diss py Tr moly - cpy	Run	Varied	As above - More highly frac.	Wk-mod alt Inco porphyry
									429.0	Low ∠	Fault gg	

HOLE NO. M-51

Coordinates: N 361,144.82 E 763,230.69

Dip Vert Bearing —

Date started 11-23-62 Completed 12-26-62

Collar Elevation 3286.2 Total Depth 1066.4

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
429.2	439.9	10.7		.23		Mp	Run	wk-mod diss py w/ somewhat weaker cpy & moly	Run	0-90°	St fracs w/ clay & gg; Poss flt zone to 431.6; 30-60° qtz vlts	lt gr Mp w/ st alt to ser, local st silf. Tr biot. v wk orthoclase. (Qtz monz?)
	447.7	7.8		.24		Mp	Run	wk vlt & diss py-cpy-moly locally mod.	Run	30-70°	Less intense fracs w/ mod ser & talc; qtz vlts.	As before w/ less ser.
	454.5	6.8		.26		Mp	Run	As above	Run	30-50°	Sp fracs w/ st gg. qtz vlts.	st silf, mod clay & ser (Qtz monz?)
	466.2	11.7		.28		Mp	Run	" "	Run	30-70°	fracs & qtz vlts	Same w/ very local wk serp.
	476.4	10.2		.21		Arg	Run	Sp qtz vlts w/ cpy-moly	Run	Var	St frac - broken	Tan to dk gray Arg siltst
									466.8	0°	Gg zone - [illegible] /Mp not clear	
	485.5	9.1		.13		Arg	Run	Suls wk to tr, except 482.9-83.9 - St moly	482.9 - 483.9	0-30°	Zone of flt gg w/ qtz - moly filling	Dk gray siltst w/ pat Mp 480, 83, 85
	496.2	10.7		.13		Arg	Run	Suls wk to tr except 485.5 - 92.8 St moly tr cpy	Run	60-80	Fracs & num v. thin qtz vlts	Dk gray siltst.
	507.4	11.2		.20		Arg	Run	Num fine vlts qtz - cpy - moly - py	Run	45-60°	Fractures	Dk gray siltst
	516.0	8.6		.26		Arg	Run	Wk-mod cpy-py in set bleached zones	Run	20-60°	Fractures	Dk gray siltst w/ tan to wht bleached pats.
	523.1	7.1		.18		Arg	Run	Num replacement vlts qtz - cpy-moly	523.1	20°	Grad cat w/ leuco Mp	Dk buff f.g. Arg prob rextal. siltst
	532.0	8.9		.15		Mp	Run	Wk diss cpy - py. moly - on fracs	Run	20-80°	Slips & fractures	Wht st alt Mp - tr brn biot? Por. text very faint.
	540.3	8.3		.18		Mp	Run	Tr py-cpy. Mod moly on fracs.	532-35.4	70°	Num slips w/ sul gg	Mp as above - more por text vis.
	548.6	8.3		.13		Mp	Run	Wk small pat cpy-py, Tr moly	Run	Hi ∠	St hi ∠ fracs & slips w/ clay, gg	Dense wh Mp w/ ser; diss & vlt qtz
	557.5	8.9		.13		Mp	Run	As above	Run	Hi ∠	As above but stronger	As above; increase gg, clay.

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-51
Coordinates N 361,144.82 E 763,230.69
Dip Vert. Bearing ——
Date started 11-23-62 Completed 12-26-62
Collar Elevation 3286.2 Total Depth 1066.4

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
557.5	566.6	9.1		.16		Mp	RUN	Wk diss, small pats py-cpy	RUN 569-660	Hi ∡ ?	Fracs, slips V-stgg, clay-poss flt.	Wh Mp w. ser; local st gg, clay
	577.6	11.0		.13		Mp	RUN	As above; Tr moly	RUN	Varied	Fracs, st hi ∡	Dense Mp; w. ser Diss & vlt qtz
	585.4	7.8		.10		Mp		As above	RUN 581.8	Varied 70°	As above Slip w. st gg; prob flt	As above; local st ser
	593.2	7.8		.11		Mp	RUN	As above	RUN	Varied	St hi ∡ fracs	Dense, relatively unalt Mp
	604.0	10.8		.11		Mp	RUN	V. wk, fine diss py; local st moly on fracs	RUN 597.5-600.0	Varied —	As above V-broken zone w. clay, gg; prob flt	As above, local gg, clay
	614.1	10.1		.10		Mp	RUN	Wk diss, small pats py, lesser cpy; sulf smear on fracs, wk moly	RUN 614.1	Varied Irreg	Fracs - st hi ∡ Mp-Arg ct - grad(?), no alt zone	Slightly stronger clay, ser alt
	620.7	6.6		.06		Arg	RUN	Mod diss & vlt py, lesser cpy; Local st moly on fracs	RUN	20-70°	fracs w. wk clay	Dense br to gray Arg, w/ qtz vlts.
	626.0	5.3		.08		Arg	RUN	As above; lesser moly	RUN 626.0	20-70° 70°	as above; increase clay Arg-Mp ct w. clay	As above
	636.1	10.1		.04		Mp	RUN	Wk diss, vlt py-cpy sulf smear on fracs, Tr moly	RUN	Varied	Fracs - st hi ∡	Wh Mp w. med-st clay alt
	646.0	9.9		.08		Mp	RUN	"	RUN	Varied	As above	As above
	656.3	10.3		.10		Mp	RUN	"	RUN	40-60°	Fracs & slips w/gg	Leuco Mp - Mod alt
	667.4	11.1		.11		Mp	RUN	"	RUN 667.4	60-90° Low ∡?	" Grad cnt w/ Arg	Core st. frac-broken-gougy Mp sim to above
	674.1	6.7		.10		Arg	RUN	Tr py, qtz-py vlts	RUN	60-90°	Fracs & slips	Dense, gray-buff Arg
	679.6	5.5		.13		Arg-Mp	RUN	Suls tr to nil	674.4-76.2	30°	Bx & gg zones	Arg ch. to Mp across 30° Bx & gg 674.4-76.2
									676.2-end	60°	Fracs & slips	and back to Arg-678.8 Start BxWL 679.6
	686.1	6.5		.97		C-Arg-Hf	684.7-end	Wk 20° qtz-cpy-py vlts	686.1	20°	Pre & post min slip w/cpy & cnt w/Qtzt	Buff Arg at start grade to C-Arg & chl Hf end
	695.1	9.0		.10		Qtzt	RUN	Tr cpy, moly	RUN	50°	Fracs, slips	Start buff silty qtzt grades to wht, f.g. sl wgg

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HOLE NO. M-51

Coordinates N 361,144.82 E 763,230.69

Dip Vert Bearing ——

Date started 11-23-62 Completed 12-26-62

Collar Elevation 3286.2 Total Depth 1066.4

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
695.1	704.5	9.4		.16		Qtzt	RUN	Tr to wk moly on fracs, py-cpy in vugs & pats	RUN	Hi∠?	Irreg. zones bx & gg & vuggy qtz vlts	Wht, f.g. w/ num vuggy seams w/ sulf & for gg
	713.3	8.8		.18		Qtzt	RUN	As above - poss stronger	RUN	70 & 20°	Irreg. vuggy qtz - sul vlts	As above
									712.0	Low ∠?	Bx & gg	
									713.3	10-20°	0.2' Bx & gg - flt	
	721.0	7.7		1.13	1.13	Hf	RUN	Mod 0-20° vlts cpy & qtz - cpy	RUN	0-20°	Sul vlts & sul gg streaks	Poss fault zone. V. poor core recov. Wht to lt grn Hf
	724.0	3.0	—	—	—	No	core	recovered —	—	—	—	Some cave —
	727.6	3.6		.23		Hf	RUN	Wk diss cpy in brn serp pats	RUN	20°?	Thin brn serp bands	Dense lt grn Hf. V. poor core rec. Poss some cave
	729.4	1.8	—	—	—	0.1'	Recovery — No Assay	—	—	—	—	— Some cave —
	740.0	10.6		.30		Hf	RUN	Wk-mod py w/ tr cpy	RUN	20-60°	Fractures, slips	Dense, hard to soft lt grn Hf.
	742.6	2.6		.07		Gyp	RUN	Tr py-cpy 0° vlts	RUN	0°	Fractures, slips	F.g. pure wht xtalline gyp w/ tr sulf
	751.0	8.4		.64	0.64	Hf	RUN	Wk-mod cpy py diss & 20° vlts	RUN	20°	Fracs, some w/ gyp & sulf.	Hard, dense grn - grey Hf, pats qtz
	762.0	11.0		.16		Qtzt	RUN	Wk to tr cpy, moly in qtz vlts, pats	RUN	45° 20-90°	Fracs. Qtz vlts and pats - replacement	Lt grn Hf at start grades to dk brn dense Qtzt - resem Arg. Wht repl pats and vlts of qtz.
	773.5	11.5		.17		Qtzt	RUN	Similar to above	765.3-65.5 RUN	Hi∠? 0-20°	Bx & gg - flt Qtz - sul vlts	765.5 - 66.0 Mp. Qtzt similar to above but w/ long ints. of pure wht qtzt repl
	780.5	7.0		.13		Qtzt	RUN	Similar to above	RUN 780.5	0-20° 45°	Qtz sul vlts & fracs Frac & grad cnt w/ Biot Mp	Pure wht qtzt at start grades to mott brn Qtzt & back to wht
	792.5	12.0		.14		Mp-Qtzt	RUN	Tr diss cpy-py - tr St moly on fracs.	RUN 791.7	10-30° 50°	Fracs & slips Gg & bx seam	St alt Mp w/ biot 780.5 - 88.8. Remain. wht qtzt
	802.7	10.2		.20		Qtzt	RUN	Tr cpy	RUN	20°	Fracs & slips	F.g wht Qtzt

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HOLE NO. M-51

Coordinates N 361,144.82 E 763,230.69

Dip Vert. Bearing —

Date started 11-23-62 Completed 12-26-62

Collar Elevation 3256.2 Total Depth 1066.4

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
802.7	813.3	10.6		.18		Qtzt	RUN	Tr cpy	RUN	20°	Fracs	F.g wht qtzt
	818.5	5.2		.17		Qtzt	RUN	Tr to nil cpy py	RUN	10-20°	Fracs	"
	827.5	9.0		.12		Qtzt	RUN	"	"	"	"	"
	829.0	11.5		.19		Qtzt	RUN	Wk irreg vlts cpy-py	RUN	Hi ∠	Irreg qq seams	"
	830.6	11.6		.20		Qtzt	RUN	"	"	60°	Tr qtz vlts	"
									850.6	40°	Pre Min fault zone Cut w/ Hf	F.g wht qtzt
	852.6	7.0		.95	1.63 @	Hf	RUN	Wk-mod diss cpy	850.6-851.1	40°	Fbt qq w/ sulf	hard, dense lt gray
							856.6-860	Diss sph	RUN	0-20°	Gyp vlts & chl bands	Hf w/ pods dk gray chl
	866.9	9.3		1.10	1.64	Hf	RUN	Mod cuss cpy-py	RUN	20-30°	Gyp vlts	As above except
							866.6	C.1' vlts mass cpy-gyp				858.6-866.0 which has
												st gyp-sericite rem.
	875.8	8.9		.25		Hf	RUN	Sulf tr to wk	RUN	0-90°	Gyp vlts	lt gray Hf w/ sul
												vlts bordered w/dk
												gray chl.
	882.7	10.9		.18		Hf	RUN	Tr-wk Sing. diss cpy-py	RUN	"	"	Light Hf w/ st gyp,
												wk clay; tr qtz.
	896.9	10.2		.66	2.13 @ .65	Hf-Qtzt	RUN	wk diss & vlt cpy-py	RUN	mixed	Fracs & gyp vlts.	Soft pale gray Hf w/ st gyp
							895.5	wk cpy-py vlt, Tr moly	895.2	—	Grad Hf-Qtzt out	grading across run to Qtzt
									897.7-898.0	25°	Recem Fh be (pod min)	Fate calc-sere in Hf.
	908.0	11.1		.64		Qtzt	RUN	wk-mod diss & vlt py	RUN	30-50°	Fracs & gyp vlts.	lt gr Qtzt, wh clt.
								wk vlt cpy; Tr moly				
	915.9	7.9		.17		Qtzt	RUN	Tr-wk diss cpy-py	RUN	30-40°	Fracs	Increasing sers alt to
									915.9	Incl	Qtzt-Hf cont.	mod
	922.0	9.1		.66		Hf	RUN	Sp vein & fine cpy-py	920.0-922.0	Hi ∠	Pale pod min Fh	Pale gray Hf w/ st gyp
											w/ st gyp vlts.	& pale brown sts w/
												Fh zones in pale gray
	933.2	7.2		1.62		Hf-Tt	RUN	Mod to diss fine cpy	RUN	Tt 40-60°	Fracs	Mixed Hf as above
												& light gray Tt.
	942.4	10.2		1.56	32.1 @	Tt	RUN	wk-mod fine diss & vlt	939-942.4	Hi ∠	Recem Fh be w/ st Cu	Light gray to maroon Tt
								cpy; Tr sph.				w/ pen. Fe O2 specs
												Na, Tr op. Incl Cu
	952.2	9.8		.41	1.16	Tt-Hf	RUN	Tr zones carry mod	RUN	Low ∠	Gyp vlts & Fracs.	Mixed zn of c phase
								diss cpy w/ Tr bn.			Alterns between Tt &	Tt. wid in Hf. Mod
											Hf gradational	local Fe.

MIS-807-A75

HOLE NO. M-51

Coordinates N 361,144.82 E 763,230.69

Dip Vert Bearing ——

Date started 11-23-62 Completed 12-26-62

Collar Elevation 3286.2 Total Depth 1066.4

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
695.1	704.5	9.4		.16		Qtzt	RUN	Tr to wk moly on fracs, py-cpy in vugs & pats	RUN	Hi∠?	Irreg. zones bx & gg & vuggy qtz vlts	Wht, f.g. w/ num seams w/ sulf & lor
	713.3	8.8		.18		Qtzt	RUN	As above - poss stronger	RUN	70 & 20°	Irreg. vuggy qtz - sul vlts	As above
									712.0	Low ∠?	Bx & gg	
									713.3	10-20°	0.2' Bx & gg - flt	
	721.0	7.7		1.13	1.13	Hf	RUN	Mod 0-20° vlts cpy & qtz - cpy	RUN	0-20°	Sul vlts & sul gg streaks	Poss fault zone. poor core re. Wht to lt grn
	724.0	3.0	—	—	—	No	core	recovered —	—	—	—	Some core
	727.6	3.6		.23		Hf	RUN	Wk diss cpy in brn serp pats	RUN	20°?	Thin brn serp bands	Dense lt grn. V. poor core Poss some
	729.4	1.8	—	—	—	0.1'	Recovery — No Assay	—	—	—	—	Some cave
	740.0	10.6		.30		Hf	RUN	Wk-mod py w/ tr cpy	RUN	20-60°	Fractures, slips	Dense, hard to lt grn Hf
	742.6	2.6		.07		Gyp	RUN	Tr py-cpy 0° vlts	RUN	0°	Fractures, slips	F.g. pure wht xtalline gyp w/
	751.0	8.4		.64	0.64	Hf	RUN	Wk-mod cpy py diss & 20° vlts	RUN	20°	Fracs, some w/ gyp & sulf.	Hard, dense grn grey Hf, pats qtz
	762.0	11.0		.16		Qtzt	RUN	Wk to tr cpy, moly in qtz vlts, pats	RUN	45° 20-90°	Fracs. Qtz vlts and pats - replacement	Lt grn Hf at st grades to dk brn Qtzt - resem Arg. Wht repl pats an vlts of qtz.
	773.5	11.5		.17		Qtzt	RUN	Similar to above	765.3-65.5 RUN	Hi∠? 0-20°	Bx & gg - flt Qtz - sul vlts	765.5 - 66.0 Mp. Qtzt similar to but w/ long ints, pure wht qtzt rep
	780.5	7.0		.13		Qtzt	RUN	Similar to above	RUN 780.5	0-20° 45°	Qtz sul vlts & fracs Frac & grad cnt w/ Biot Mp	Pure wht qtzt at Start grades to brn Qtzt & back to
	792.5	12.0		.14		Mp-Qtzt	RUN	Tr diss cpy-py - tr St moly on fracs.	RUN 791.7	10-30° 50°	Fracs & slips Gg & bx seam	St alt Mp w/ biot — 88.8. Remain. wht
	802.7	10.2		.20		Qtzt	RUN	Tr cpy	RUN	20°	Fracs & slips	F.g wht Qtzt

HOLE NO. M-50

Coordinates N 362,942.14 E 762,218.87

Dip Vert Bearing —

Date started 12-8-62 Completed 12/20/62

Collar Elevation 3269.0 Total Depth 306.8

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	180.0					Alluv & Cog						Rockbit Top Cog ± 160'
	205.5	25.5				Cog						B.R. cut not recovered
												B.R. ± 200'
	208.8	3.3		.04		Mp	RUN	Fe Ox	RUN		Core frac - broken	Mod alt Biot Hp
	218.5	9.7		.09		Mp	RUN	Fe Ox, Tr Cu Ox	RUN	40°	Fracs & slips	As above, 215.2-end
									215.2	20°	St qg seam	St alt and mod gouge
	229.5	11.0		.15		Mp	RUN	Fe Ox, Tr Cu Ox	RUN	Vac	Fracs, slips	Dense, built calcite
							226.1-end	Tr py w/ Fe Ox				pacs. Avg. Frac ± 1.0'
												run dep. Mp
	234.6	5.1		.15		Mp	RUN	Diss py w/ tr cpy	232-32.5	50°	Bull qtz vlt	St alt leuco Mp
									RUN	30 & 90°	Slips - qg	
	238.9	4.3		.12		Mp	RUN	"	"	"	"	Mod Alt - Poor rec.
	249.1	10.2		.13		Mp	RUN	Diss py w/ tr cpy	"	"	Fracs & slips w/ St	St alt Mp 244-end
								tr St moly on fracs			ser-qtz, some sulf	brn biot alt - Felds
												alt to lt grn ser
	260.3	11.2		.14		Mp	RUN	Tr py-cpy. St moly on	RUN	30 & 60	Fracs	St alt Mp w/ tr brn
								fracs 249.1-253.7				pk feld. 256 - end
												grn chl mafic pch
	269.5	9.2		.16		Mp	RUN	Tr diss cpy py moly	RUN	30°	Fracs	St alt Mp w/ fresh
								Some 30° qtz-sul vlts				brn biot and abun
												grn chl.
	276.7	7.2		.16		Mp	RUN	As above, sulf weaker	RUN	30°	Fracs	Sim. but mafics weaker
	284.8	8.1		.19		Mp	RUN	Sulf tr to nil	RUN	30°	Fracs & slips	St alt Mp. 280.2
												-283.6 v wk mafics
	292.0	7.2		.13		Mp	RUN	Tr diss cpy-py-moly	RUN	30 & 45	Fracs & slips	St alt Mp - biot-chl
	303.4	11.4		.12		Mp	RUN	Tr to wk diss & sp 50°	RUN	Hiz	St fracs w/ qg-moly	St ser, wk-mod sericite
								vlts cpy-py; Moly in		30 & 60	fracs & qtz vns w/	wk biot & chl. qtz vns
								qtz vns & on fracs			sulf	vuggy; Mod extensive
	315.1	11.7		.10		Mp	RUN	wk - st py; Tr - wk	307.3-26	45°	Br-qg w/ st py (pos ft)	Mod qtz-feld alt, sil
								cpy & Moly as above	RUN	varied	As in previous run	clay on fracs; Mod alt
	324.3	9.2		.15		Mp	RUN	Tr-wk diss & str cpy-py	RUN	20 & 70	fracs & qtz vlts	Same
								moly	323.2	66°	Br-qg - w/ sulf.	
	333.7	9.4		.14		Mp	RUN	As above	RUN	80°	Fracs & qtz vlts	St qtz - feld

MIS-BOT-6 75

HOLE NO. M-50

Coordinates: N 362,942.14 E 762,218.87

Dip Vert Bearing ——

Date started 12-8-62 Completed 12/20/62

Collar Elevation 3269.0 Total Depth 504.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
333.7	345.2	11.5		.18		Mp	Run	disc & str py w/ Tr cpy & moly	335.3	65°	1.4' Bx-qg w/ sulf	↓ st ser alt & 30-70°
									342.0-end	30°	st Bx-qg - py	vuggy qtz vlts
	352.1	6.9		.16		Mp	Run	Mod - wk disc py w/ lesser cpy; Tr moly	Run	30-70°	Fracs, gyp & qtz vlts	Hence Mp w/ mod ser & clay alt.
									360-end	70°	qtz bx & qg w/ py	
	359.7	7.6		.14		Mp	Run	wk disc & vlt py-cpy Tr moly	Run	30-80°	Fracs & gyp vlts	wk alt mp; Mod qtz-feld xspl.
	369.1	9.4		.21		Mp	Run	As above	369.9-end	Hill	Frac w/ talc & gyp	wk - mod ser; wk mod serp.
									Run	30-50°	As before	
	380.4	11.3		.16		Mp	Run	wk disc py	374.2-end	60°	Fracs filt bx & qg w/ sulf	ss clay, gyp, qg biot & chl.
									Run	30-80°	As above	
	394.2	13.8		.16		Mp	Run	Mod disc & vlt py w/ Tr cpy & cpb	Run	"	Same	Mod qtz, biot, gyp w/ chl.
	401.9	7.7		.17		Mp	Run	As above	Run	30-80	Fracs, gyp & qtz vlts	No change
	411.7	9.8		.17		Mp	Run	wk diss cpy-py Tr moly	Run	90°	Fracs, qtz-gyp vlts	Mod - st alt w/ abun fresh biot
	421.2	9.5		.16		Mp	Run	Tr - wk cpy py, moly	Run	50°	Frac, qtz-gyp vlts seams st ser	As above
	435.2	14.0		.17		Mp	Run	As above, stronger moly	435.7	50°	St qg seam	St alt Mp w/ abun fresh biot
									Run	0-50°	Fracs. slips & wk gyp vlts	
	443.8	8.6		.17		Mp	Run	Tr-wk cpy-py-moly	Run	50°	Fracs, gyp vlts & zones ser alt	St alt Mp w/ biot some parts pk feld and silif.
	451.4	7.6		.17		Mp	Run	Tr cpy-py-moly	449.8	40°	Qg & bx w/ gyp vlt	St alt Mp - trace silif. Abun biot
									Run	0-50°	Fracs, slips w/ sed	
	459.0	7.6		.17		Mp	Run	Wk cpy-py moly	Run	10-50°	Fracs, tr gyp	As above - less biot
	469.2	10.2		.18		Mp	Run	Tr cpy-py moly	Run	"	"	Mod - St alt w/ fresh biot
	474.3	5.1		.22		Mp	Run	"	474.3	25°	0.4' post Mp bx 25°	"
											forms Mp in Mk qg	474.5 Flt cut Mp-Hf
	485.5	11.2		.35		Hf	Run	Tr - wk diss cpy in Hf	474.3-77	20°	Numm slips - contin of Flt zone above	Dense, soft H gm Hf. Pat bxn Avg.°-Qtz 472.2-91.8. 491.8 to 493.5 Pat bxn Tr
									Run	0-20°	Fracs & slips w/ st gyp vlts	
	495.5	10.0		.54	.54	Hf	Run	Sct 50° cpy vlts & pots st diss cpy	Run	0-50°	"	Sim to above - more abun ser pots.

MIS-807-A 75

HOLE NO. M-50

Coordinates N 362,924.14 E 762,218.87

Dip Vert Bearing —

Date started 12-8-62 Completed 12/28/62

Collar Elevation 3269.0 Total Depth 806.8

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
495.5	505.5	10.0		.18		Hf	Run	Tr to wk diss cpy	498.9	70°	Post min bx & gg	Lt grn soft Hf 495.5
											- st fault	-499.9 patr brn hyp
									Run	20-50	Fracs w/ gyp &	
											vlts dk grn chl.	
	513.2	7.7		.25		Hf	Run	As Above	Run		"	509.9 - end Ltgr-brn Qtzt
	523.4	10.2		.47	.47	Hf	Run	wk pate, diss & vlt cpy	515.0	30°	Int gr qtzt between 2	Lt grn-gr Hf w/ short
								Tr moly			fracs	intr qtzt & gray st gyp
									Run	30-60	As before	& clay, mod chl.
	533.6	10.2		.36		Hf	Run	wk-mod diss py w/ wk	Run	10-30°	fracs; gyp vlts w/	As above w/ local
								cpy, Tr moly & neg.			chl & serp.	st gray
	543.6	10.0		.15		Hf-Qtzt	Run	Tr-wk py-cpy; mod	536.0	60°	Hf-Qtzt cnt @ frac w/	Hf as above; Ltgr
								moly vlts in Qtzt			wk bx & chl.	Qtzt w/ wk alt & pale
												brn color.
	553.6	10.0		.03		Qtzt-Hf	Run	wk moly in Qtzt w/ Tr	Run	Hf &	fracs	Ltgr-brn impure Qtzt
								cpy. Tr sulf in Hf.	552.0	60°	Qtzt-Hf cnt @ Hf w/	followed by Ltgrn dens
											gyp	Hf.
	563.6	10.0		.15		Hf	Run	Tr-wk diss cpy	Run	30-45°	fracs & gypsum	Ltgrn Hf w/ pale
								Tr moly				grn, wk CO_2
	573.7	10.1		.21		Hf-Tr	Run	wk-mod diss cpy-py	Run	"	As above	Mixed tan Tr & lt
								Tr moly				grn Hf all w/ Tr cp &
												CO_2.
	583.8	10.1		.03		Tr	Run	Tr cpy moly	580.2-end	70°	Vuggy CO_2 vlt	Dense, dk brn to grn
												Tr w/ hem in matx
												(Fe-Tr) Lost circulat
												ion along CO_2 vlt
	589.7	5.9		.74		Tr	Run	Mod-st diss cpy	586.4-87.7	70°	Vuggy CO_2-py-cpy	Dense Fe-Tr -
								Tr moly-sph.			vlt in Tr bx	Stronger hem. vlts
	599.7	10.0		1.66	29.9 @	Tr	Run	St diss cpy-some				Dense Fe Tr St hem
								diss. w/ qtz masses				
	604.3	4.6		.61	1.97	Tr	Run	Wk-mod diss cpy	Run	50°	Set gyp vlts	As above - Fe Tr
										30°	Hem vlts	
	613.7	9.4		2.16		Tr	Run	"	Run	30-50°	Twin gyp vlts	Grn Tr - sp hem
							612.5-12.8	Mass cpy in 30° vlt				by end run
	629.3	10.6		.36		Tr	Run	Tr to Mod diss cpy	Run	50-90	Gyp vlts	Grn Tr - wk-mod hem
												613.7-14.7 Hf cont

MIS-807-A 75

HOLE NO. M-50

Coordinates: N 362,942.14 E 762,218.87

Dip Vert Bearing —

Date started 12/8/62 Completed 12/20/62

Collar Elevation 3249.0 Total Depth 806.8

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
624.3	629.6	5.3		.02		Tt	Run	wk fine diss cpy-bn-py; Mod hem in flt zone	624.3-25.7	60°	Recem flt bx	Tan, Mgrn, & maroon Tt w/ wk chl, Tr serp, mod CO_3. Mod-st hem "fog"
	639.6	10.0		.10		Tt-Hf	Run	Tr-wk diss cpy-py. Tr diss moly	629.6-32.6	50-60°	Recem flt bx, sil CO_3 mgyp.	Mixed yel-tan Tt & lt grn Hf, all w/ wk-mod CO_3, gyp vlts, & fog.
									634.6	90°	0.1' gyp filled frac	
									Run	30-50°	fracs & gyp vlts.	
	649.6	10.0		Nil		Tt-Hf	Run	Tr fine diss suls & hem	Run	30-vert	fracs & gyp vlts	Mixed tan & grn Tt & ltgrn to gr Hf; Mod-st CO_3, st gyp; faint "fog"; Tr cp, chl, serp.
									647.1-48.5	Vlz	gyp vn w/ pots py	
	654.6	5.0		Nil		Tt	Run	Tr-wk cpy-py; Tr moly	654.6	Low ∡	Tt-qtzt cnt @ frac w/ wk cpy	Grn, tan & maroon Tt w/ short int's serpentinized Hf; Mod CO_3; wk local alt.
	663.0	8.4		.04		Qtzt	Run	Tr suls	Run	50-60	fracs & gyp vlts.	ltgr-tan Qtzt w/ Tr serp; v wk alt.
	668.4	5.4		.10		Qtzt	Run	Tr cpy-py, wk moly	Run	"	Same w/ wk moly	As above
									668.4	Low ∡	Qtzt-Hf cnt @ frac.	
	672.6	4.2		.09		Hf-Tt	Run	Tr-wk diss cpy-py, local st moly on fracs	Run	360°	Lineation of bx in poss recem flt.	Mixed tan Tt & lt grn Hf w/ st gyp; wk CO_3, serp
	682.6	10.0		.05		Hf-Tt	Run	Tr-wk local diss cpy-py-sph; Tr moly @ end	672.6-79.0	—	Hf & gar bx in Gyp matrix Poss flt zone	Strongly gypsiferous Mixed Hf & Tt w/ local st serp & CO_3 near end.
	690.0	7.4		.90	.90	Gyp-Anhy	Run	Mod-st diss & pat cpy-sph; Tr moly	Run	60°	Poss pre-min flt	Frags Mb, Hf, Qtzt, & Anhy in gyp matrix.
							689.2	65° 0.1' vn mass moly w/ pat cpy	689.9	60°	Anh-Tt cnt @ moly vlt.	
	702.0	12.0		.02		Tt	Run	Mod-st local moly Tr v. fine diss suls	690.5-91.0	60°	Int wht Mb	Maroon, grn, & tan Tt w/ varied & strs & pods SiO_2 & gyp vlts.
									691.6-92.2	35°	Abun parallel qtz strs.	
									695.7-96.8	50°	Recem flt bx w/ st SiO_2 & moly	
	705.8	3.8		.95	.95	Tt	705.0	0.6' Med diss cpy	705.8	10°	Tt-Qtzt cnt @ Gyp vlt.	Tan & grn Tt as above
							Run	Tr diss suls				
	712.6	6.8		.02		Qtzt	Run	Tr suls	Run	20-90°	Gyp vlts & fracs	Lt gr, locally gypsiferous Qtzt, wk serp on fracs

MIS-807-A 75

HOLE NO. M-50

Coordinates N 362,942.14 E 762,218.87

Dip Vert Bearing —

Date started 12/8/62 Completed 12/28/62

Collar Elevation 3269.0 Total Depth 806.8

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
712.6	722.6	10.0		.02		Qtzt	Run	Tr sulfs	Run	10-70°	fracs & gyp vlts	ltgr-tan Qtzt w/ st
									722.6	Low ∡	Qtzt-Hf cnt. @ fracs	gyp, w/ serp on fracs
	732.6	10.0		.01		Hf	Run	Tr-nil sulfs	Run	20-80°	fracs & gyp vlts.	Soft Hgrn Hf w/ st serp
									731.3	30°	Hf-Qtzt cnt @ recem	& gyp, Sp sulfs Qtzt.
											flt (0.8') w/ st bow.	
	740.6	8.0		.01		Qtzt	Run	Tr-nil cpy-moly	Run	30°	fracs	v vuggy ltgr to wht Qtzt
												v wk ser alt.
	753.5	12.9		.03		Qtzt	743.6	70° vlt py w/ wk cpy, moly	Run	30-70°	fracs	as above
							Run	Tr moly				
	759.0	5.5		.01		Qtzt	Run	Tr cpy-moly	Run	"	fracs & gyp vlts	Local mod ser near fracs
	769.0	10.0		.02		Qtzt	Run	Sp vlts moly	Run	10-85°	As above	Local tan impure zones
	776.4	7.4		.03		Qtzt	Run	Tr-nil sulfs	769.0-769.4	Hi ∡	bx-gg zone (vuggy)	ltgr-wht Qtzt w/ st gyp
												& clay; mod ser in fracs
	784.8	8.4		.09		Qtzt	Run	Tr diss cpy-py	Run	20-60°	fracs & gyp vlts	st gyp; Tr ser & serp
	791.8	7.0		.05		Qtzt	Run	" " "	Run	60-80°	As above	Mod gyp; Tr ser, serp.
	802.0	10.2		.04		Qtzt	Run	Tr-nil sulfs	Run	Hi ∡	gyp vlts	st gyp; wk ser, serp.
	806.8	4.8		.01		Qtzt	Run	Sulfs nil	Run	30-50°	fracs & gyp vlts	v wk alt.
					END	OF	Hole					

MIS-807-A 75

HOLE NO. M-49

Coordinates N 361,447.20 E 763,239.63

Dip Vert Bearing —

Date started 12/27/63 Completed 1/21/63

Collar Elevation 3277.5 Total Depth 1095.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	196.0			—	No. Tot							O.B
196.0	207.7	11.7	.58	0.73	.58 .73	ARG	RUN	WK-Mod Chry, Tr cc, Mod HEM Tr MN ox, + Blk Ox, Tr Ser	RUN	—	BrKN, ggy, Gyps on Fracs	Mod "Live" Lim, fracs
	217.8	10.1		.08		"	"	decr. in chry, - as above	"	—	BrKN, wk fracs, Tr Gyp	Patches QTz, cont Lim
	228.4	11.4		.10		"	"	as above	"	—	" "	as above
	238.9	10.5		.12		"	"	Tr cc, py, Tr cpy, decr in HEM + Lim	RUN	90°-35°	Wk Fracs, Tr qTz VNITS Wk Gyps on fracs	Base of oxidation at 238.0'
	247.6	8.7		.18		"	"	Tr cpy, cc, py	"	"	Wk Fracs + qTz VNITS	Tr Lim on Fracs, patch of MP at 243.7' To 242.7'
	256.3	8.7		.16		MP	256.3	ALT, Leached, Tr chry + cc	"	Low ∡	Wk Fracs, Mod qTz VNITS	Wk patch of Oxid. end at 254.0, Tr cc + Mod Ser, at end
	266.5	10.2		.15		Arg	266.5	Tr cc, cpy, Mod py, Tr ser	"	90°-15°	ggy Low ∡ Fit at 266.5; Ser and Talc on Fracs.	Mod qTz VNITS, Tr feld
	276.2	9.7		.13		Arg	RUN	as above + Tr gyp	"	"	" " "	Incr in Silica, Small patches of Mp, Tr Moly + Gyps
	283.6	7.4		.40		"	"	Tr cpy, Mod py, Tr Moly, Tr ser Tr Gyp	"	45°	Fracs + ST QTz VNS	Cont. Silicification, ST QTz VNS, wk cpy as VNITS.
	292.2	8.6		.15		"	"	as above	"	30-70	" "	Cont ST qTz vning, Tr Feldspathization
	302.0	9.8		.14		" MP	" 293.5	Tr cpy, Moly, Py, Ser " "	"	45° "	Mod avg. Fracs + qTz VNS "	decr in Silica, int cont of Mp + Arg at 293.5'
	312.8	10.8		.21		ARG	302.0	Sp cpy, py, Tr Moly, chlor, ser, Gyp	"	2°-75°	Wk Fracs @ 45°, Mp-Arg cont. @ 2°, Mod qTz VNS	Mp-Arg cont. is low, does not appear to be a fit cont
	322.0	9.2		.15		ArG	RUN	as above	"	45°±	Wk Fracs, Mod. qTz VNITS	Wk Silica, Tr Mp patches
	333.3	11.3		.15		"	"	" "	"	45°±	St. network of fine fracs + QTz VNITS, Tr feld along Frac	Mod. fine fracturing approx To Feldspathization
	340.2	6.9		.22		"	"	" "	"	"	" "	Incr in Feldspath
EOM ▶						Mp	338.0	Wk cpy, py, Tr Moly + ser	338.0	58°	Mp-Arg cont BrKN + ggy	Wk Fracs in Mp
	351.5	11.3		.10		Mp	RUN	" " " " "	RUN	30-60	Fracs (vuggy) qtz vits	Mod ser, st silf
	360.2	8.7		.13		Mp	"	" " " " " "	"	45-70	Broken & ground	Mp same
						Arg	352.4	Tr diss py-cpy	352.4	± 30	Mp-Arg cont	Arg H to dk brn w/ silf wk alt texture Arkosic Texture
									RUN	Hi ∡	Vuggy qtz vits.	
	368.0	7.8		.10		"	RUN	Tr diss sulfs	"	"	fracs	Mod serp-talc, [illegible]

MIS-807-A 75

HOLE NO. M-49

Coordinates: N 361,447.20 E 763,239.63

Dip Vert Bearing —

Date started 12/22/62 Completed 1/21/63

Collar Elevation 3277.5 Total Depth 1095.0

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
368.0	381.4	13.4		.13		Arg	Run	Tr diss & vlt cpy	Run	30-45°	Fracs & qtz vlts.	Lt to dk brn Arg w/ Arkosic Text. wk alt.
	389.8	8.4		.13		Arg	"	wk vlt py Tr cpy sp Moly vlts on fracs	"	40-70°	Fracs & qtz vlts	As above w/ wk
									389.8	±45°	Arg-Mp cnt @ qtz vlt	Talc on fracs.
	398.2	8.4		.16		Mp	389.8	wk cpy-py, Tr Moly	Run	0-90°	Fracs - broken	Lauca-porph w/ wk silf & feldspath. st clay & ser on fracs
	404.0	5.8		.16		Mp	Run	wk sulf; Tr moly	"	-	Strongly broken w/ much clay-gg	" " "
	411.7	7.7		.11		Mp	"	Tr sulf	404-7.3	60°	bx-gg; poss flt.	Mp bx in flt. Lt gr qtzt
						Qtzt	404.7	Tr diss py-cpy	±404.7	-	Mp-qtzt cnt in flt.	bx in flt & solid to end; wk alt
	422.0	10.3		.08		Qtzt	Run	Tr sulf; wk moly	Run	-	Very broken;	Lt gr to wht Qtzt w/ wk ser & sp short intr Mp.
	434.6	12.6		.09		Qtzt	"	Same but weaker moly	"	30-60°	fracs; locally broken	Local st clay; locally impure brn Qtzt.
	443.0	8.4		.09		Qtzt	"	Tr diss & vlt py-cpy	"	"	" "	" "
	446.7	3.7		.12		"	"	" "	"	"	" "	" "
									446.7	±60°	Qtzt-Mp cnt @ frac	Lt gr to tan Mp w/
	453.0	6.3		.06		Mp	"	wk py lesser cpy; Tr moly	Run	30-55°	fracs w/ st clay wk gg	st ser alt Local short 30° Qtz vlts. wk Ortho.
453.0	457.0	4.0		.46		Mp	"	Tr-wk sulf	±455.0	Last	Mp-Qtzt cnt in bx zone	st bx-gg throughout run.
						Qtzt	455.0	wk vlt py-cpy				
	462.1	5.1		1.10		Qtzt	Run	Mod-st cpy-py	±458.0	±40°	Qtzt-Hf cnt	Broken tan Qtzt &
						Hf	±458	wk diss cpy; Tr mag & hem	Run	45°	Fracs & CO_3 vlts.	Red to lt grn Hf w/ st CO_3 & gg.
	472.0	9.9		.91		Hf	Run	10-50° strs mod cpy-py	Run	10-65°	Fracs & CO_3 vlts.	Lt grn Hf w/ pats ser wk serp & clay
	480.8	8.8		1.18	423' @ .94	Hf	"	Mod vlt cpy-py w/ wk-mod mag & Tr hem	"	25-50°	Sul, gyp, CO_3 vlts & fracs w/ st clay & gg. Poss flt zone.	Lt grn to dk gr Hf w/ st clay & bx; sp pats cp; wk CO_3 & gyp vlts.
	489.5	8.7		1.09		Hf	"	Mod py-cpy w/ st mag to 485.9; wk sulf & mag to end.	Run	40°	Pre min flt bx & gg	As above w/ v. st clay

MIS-807-A 75

HOLE NO. M-47

Coordinates: N 361,447.20 E 763,239.63

Dip vert Bearing —

Date started 12/27/62 Completed 1/21/63

Collar Elevation 2277.5 Total Depth 1095.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
489.5	495.3	5.8		.61		Hf	Run	Tr sulf & mag.	± 495.3	± 50°	Hf-Arg cnt @ frac	Ltgrn Hf frags in st
									Run	—	Poss flt bx-gg	clay, serp, & chl.
	505.5	10.2		.33		Arg	Run	wk diss py	"	30-60	Fracs; qtz, CO_3 vlts	brown Arg w/ st clay
											v. broken gg-bx	No change
	518.0	12.5		.26		Arg	"	"	"	30-70°	" "	
518.0	528.4	10.4		.49	21.5' @ .49	Arg	"	Mod diss & vlt py; lesser cpy; mod sulf smear, Tr moly	Run	20-45°	" "	Lt br Arg w/ st clay alt; Vuggy w/ qtz xls v-broken, C
	539.5	11.1		.39		Hf	528.4-530.6	Mod vlt cpy	528.4	?	Arg-Hf ct	2' Hf int @ beg run w/
						Qtzt	Run	Wk vlt, diss py-cpy; Tr moly	Run	20-70°	Fracs	hem, qtz vlts; Qtzt w/ wk clay alt
	551.9	12.4		.33		Qtzt	Run	V-wk diss, vlt py, cpy Tr moly	Run	Hi ∡	St hi ∡ fracs	Wh-lt. gr Qtzt, wk ser & clay
	563.8	11.9		.09		Qtzt	Run	As above	Run	Hi ∡	" "	As above; locally v-broken
	573.3	9.5		.13		Qtzt	"	" "	"	"	" "	" "
	578.6	5.6		.11		Qtzt	"	Tr cpy; py; moly	± 579	40°	0.6' int Mp	Frosty wht Qtzt w/ wk ser; 0.6' int Mp w/ st ser serp, wk Qtz-fold. (Lo recy)
	586.4	7.8		.31		Qtzt	581.2 Run	Low ∡ cpy-py vlt WK-Tr diss cpy-py; Tr moly	Run	—	Broken & shattered	wht Qtzt w/ wk ser alt along fracs on frags.
	593.2	6.8		.34		Qtzt	"	As above	"	—	Same w/ lead at gg.	As before w/ st CO_2 from
									± 192.5	± 60°	Qtzt-Hf cnt.	190' to end.
									± 190.0	lost	Frags Mb & CO_2 to 191.0	
593.2	603.9	10.7		1.40	22.5' @ .96	Hf	Run	Mod diss & vlt cpy-py Tr sph, moly	Run	30-45°	fracs & CO_2 vlts	Ltgrn Hf w/ pate Mb; st chl wk serp & talc.
	614.9	11.0		.70		Hf	Run	fine diss & vlt cpy-py	608.3	30°	Qtz vlt w/ cpy; moly	As above w/ qtz vlts
									611.5	25°	flt bx-gg w/ wk cpy	locally broken
	626.5	10.6		.78		Hf	"	" "	Run	25-50°	fracs & qtz vlts	" "
	632.0	6.5		.16		Hf	"	Tr diss cpy-py	Run	"	" "	
	638.8	6.8		.36		bx-gg	"	30 to 40° vlt & diss py w/ wk cpy; Tr moly in Qtz	Run	30-40°	flt zone; cnt between Hf & brn Arg	Ltgrn; gr; tan Hf-qtzt-Arg frags in clay gg.
	650.8	12.0		.13		Arg	"	Tr-wk diss & vlt cpy-py-moly	"	30-75°	fracs w/ clay & ser.	Brn to tan Arg w/ mod ser alt & sp qtz vlts.
										35°	sp Qtz vlts	
										—	Locally shattered.	

HOLE NO. M-42

Coordinates: N 361,447.20 E 763,239.63

Dip Vert Bearing —

Date started 12/27/62 Completed 1/31/63

Collar Elevation 3277.5 Total Depth 1095.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
650.8	661.0	10.2		.06		Arg	Run	Tr-wk py-cpy; Tr moly	Run	–	Very broken & shattered wl qtz-Arg frags Possible flt zone	Broken brn Arg w/ wk-mod gar on frags, qtz vlts & local gg.
	669.2	8.2		.32		"	Run	Sp-py-cpy, moly	Run	–	Brkn, Poor rec	as above
669.2	679.0	9.8		1.55		"	Run	as above	Run	–	Vry brkn, ggy	Brkn, ggy, Mod ser, & chlor
	690.0	11.0		.90		"	"	" "	"	–	" "	Decr. in gg.
	698.1	8.1		2.62		HF	Run	Mod cpy, py, Tr Moly, Tr hem	Run	25°±	Wk, Low 4 Fracs	Pale grn, Hf, st pods cpy, Mod chlor, Tr silica
	709.1	11.0		1.79		Hf	"	Mod vlt & diss py wl cpy	702.5	±30°	Hf-Tz cnt	Hf as above; Lt brn to
						Tz	702.5	St py-mod cpy vlts & diss. Tr mag.	Run	20-90°	Vuggy fracs & and vlts	tan Tz w/ pats Hf & Mb Mod Trem; Tr Tram, ep.
	717.2	8.1		1.67		Tz	Run	" "	"	"	" "	Tz as above
	729.0	11.8		–		Tz (?)		No Core Recovered	Possible		large cavity (?) or	flt zone (?)
	730.0	1.0		4.18		Tz-Hf	Run	St cpy-py	±729.2	Last	Tz-Hf cnt	Tz as above; Lt grn
Bx b												clayey Hf w/ CO_3 vlts.
730.0	741.4	11.4		1.57	1.58 @	Hf	"	Mod-st diss & vlt cpy-py	Run	Varied	fracs & gyp vlts	Lt grn Hf w/ zones st gar;
							740.0-41.0	Tr mag & hem stain				st gyp; wk-tr Tram & ep
	751.5	10.1		.96	1.53	Hf	Run	As before w/ tr mag	"	"	" "	" "
	762.7	11.2		0.90		"	"	" "	753.3-60.2	90°	Gyp vlt w/ st cpy	As before w/ sp pats gar
	772.7	10.0		2.30		"	"	" " tr-wk moly	Run	50°	fracs & gyp & qtz vlts	Same + st local silf &
												mod pats gar; ep, wk trem
	783.0	10.3		2.05		"	"	Grades st to wk vlt & diss cpy-py; wk-tr moly; tr mag.	"	30-50°	" "	Lt grn & gr Hf w/ local st gyp, gar, ep; wk min @ end.
	793.0	10.0		1.40		"	"	wk-mod vlt & diss cpy-py tr Mn CO_3 (?)	"	"	" "	Same w/: mod gyp; wk-tr gar, ep, trem. Local CO_3
	805.0	12.0		.85		"	"	" "	"	"	fracs & gyp vlts	" "
									803.2-04.0	50°	Pass flt w/ st micas.	
	815.0	10.0		.34		"	"	wk vlt & diss cpy-py	Run	30-40°	fracs & gyp vlts	" "
	820.0	5.0		.29		"	"	wk fine diss cpy-py; Tr moly	820.0	30°	Hf-Qtzt cnt @ gyp vlt	wk pats gar, ep, talc, serp.
	825.0	5.0		.12		Qtzt	"	wk-tr diss & str cpy-py tr moly	Run	30-70°	fracs & gyp vlts.	Tan impure Qtzt w/ local pats brn gar

HOLE NO. M-49

Coordinates: N 361,447.22 E 763,239.63

Dip Vert Bearing —

Date started 12/27/62 Completed 1/21/63

Collar Elevation 3277.5 Total Depth 1035.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
825.0	835.0	10.0		.22		Qtzt	Run	wk-tr diss pats cpy py	Run	30° & 50°	Gyp vlts	Tan-ltgrn impure Qtzt
							827.3-28.6	Local mod vlt moly (Hi%)				wi wk talc-ser alt.
	846.8	11.8		.27		Qtzt	Run	wk py-cpy vlts	"	30-50°	fracs wi wk gyp, ser.	Tan impure Qtzt; wk alt.
	859.1	12.3		.03		"	"	Tr py-cpy-moly	"	"	" "	" "
	871.1	12.0		.32		"	To 868.6	Tr sulfs	"	30-60°	" "	Qtzt as above to 868.6; Tan
							868.6-end	wk py-cpy indiss & vlts.	871.1	60°	Grad Qtzt-Hf cont @ frac.	& ltgrn grades to Hf @ end.
871.1	881.1	10.0		.75		Hf-Tt	Run	Mod vlt & diss cpy-py to	Run	30-60°	fracs, gyp vlts	Mixed ltgrn Hf & tan Tt
								879.9; wk diss sulfs to end				wi mod qtz & clay, wk ep.
								wk moly throughout run				Tr trem-act; pats Qtzt.
	892.0	10.9		.16		Hf-Tt	"	wk-tr vlt & diss cpy-py;	"	"	" "	Less qtz; no Qtzt pats
								wk moly				wk CO_2 in Tt. Soft clayey Hf.
	901.4	9.4		1.13	90.4' @ 1.02	Hf-Tt	"	Mod near vert strs py-cpy	"	30°	" "	Same but grades to pure
								throughout; Tr moly				ltgrn Hf @ end
	911.4	10.0		1.18		Hf	"	Mod-st strs & diss cpy-py	"	"	" "	Ltgrn Hf wi wk local gar.
	921.6	10.2		.97		Hf	"	Mod near vert strs cpy-py	"	40-60°	fracs, gyp-qtz vlts	As above wi pats Qtzt.
	931.5	9.9		.62		Hf-Tt	"	" "	"	"	" "	Mixed Tt-Hf wi pats Qtzt,
												Qtz, Tr trem; Mod clay
	941.5	10.0		2.40		Hf-Tt	"	As above wi mod bn	"	"	" "	Hf-Tt as above wi less
						Mb	939.7	Tr sulfs	939.7	30°	Hf-Mb cont @ frac.	qtz, mod-st CO_3; ltgr-wht Mb wi mod serp To
												end.
	951.5	10.0	Nil			Mb	Run	wk-Tr py-cpy vlts.	Run	40° & 60°	fracs & gyp vlts.	Ltgr-wht Mb wi Tr mal,
								Tr sph.	950.5-51.0	50°	Recem flt bx wi serp, sub	wk serp.
	955.1	3.6		.04		Mb	"	" "	952.3	Low ∠	Mb-Qtzt cont @ frac.	Mb wi st clay; Qtzt
						Qtzt	952.3	Tr py-cpy	955.1	45°	Qtzt-Hf cont	Ltgr wi wk pats Hf
955.1	961.7	6.6		1.28	15.3' @ 1.38	Hf-Tt	Run	Mod diss cpy-bn-py	Run	30-60°	Qtz, gyp, sul vlts.	Mixed yel-grn & wht Hf-Tt
								Tr sph.				wi tr mal, trem; wk clay
	970.4	8.7		1.45		Hf-Tt	"	" "	"	"	" "	" "
									970.4	65°	Hf-Qtzt cont @ frac.	Sharp sul cutoff @ cont.
	983.0	12.6		.16		Qtzt	"	Tr py-cpy-moly	Run	30-60°	fracs & thin gyp vlts.	Ltgr-wht Qtzt; wk ser alt.
	991.7	8.7		.11		"	"	" "	"	"	" "	" "
	1001.7	10.0		.06		"	"	Tr sulfs	"	"	" "	" "
	1012.3	10.6		.04		"	"	" "	"	"	" "	" "
	1022.0	9.7		.05		"	"	" "	"	"	" "	" "

HOLE NO. M-47

Coordinates: N 361,497.20 E 763,239.63

Dip Vert Bearing —

Date started 12/27/63 Completed 1/21/63

Collar Elevation 3277.5 Total Depth 1095.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
1022.0	1032.0	10.0		.01		QTZT.	RUN	Tr sulf, Tr gyp	RUN	30°-60°	WK Fract with Thin gyp vein	Dense white QTZT, WK ser Alt
	1043.8	11.8		.03		" "	"	" "	"	"	" "	" "
	1053.8	10.0		.11		Hf	RUN	Tr-sp Py + cpy, Tr mol + Born	RUN	30°	" "	White Hf, Tr Trem, chlor
	1063.8	10.0		.02		Mb	RUN	0.5 o.b.w.r.	RUN	30°-70°	WK calc filled Fract, gyp	Mb, Serp, Alt, Tr chlor, Trem
	1072.6	8.8		.12		Mb	RUN	Tr py, cpy, Mod Born	"	" "	" " "	Mb, Patch MOD Born, sp Trem
	1079.6	7.0		1.04	12.9' @ .68	Hf	1072.6-1079.9	St diss bn, Tr py-cpy,				Hf clayey w/ wol & Mb
							1079.9-end	Tr sulf	"	"	" "	wk incrd cpy.
	1090.5	10.9		.45		Mb	RUN	WK-Tr bn, cpy, py, sph	"	"	" "	Mixed Hf-Mb w/ clay, serp
							1086.5	0.2' 10° wk mass bn, cpy				
	1095.0	4.5		.02		Mb	RUN	Tr sulf	"	"	" "	"
	Bottom											

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HOLE NO. M-48

Coordinates: N 363,527.78 E 742,207.98

Dip Vert Bearing —

Date started 11-2-62 Completed 11-17-62

Collar Elevation 3258.9 Total Depth 836.0

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	195.0					Alluv						C Cg ±
	200.6	5.6				Ccg						BR ± 200.6
	210.0	9.4		.07		Mp	Run	wk-med Fe-Cu ox; Tr Mn ox.	Run	20-60°	Fracs & Qtz vlts.	Cream colored to brn Mp w/ st ser, wk chl repl biot, Mod qtz repl in vlts.
	219.0	9.0		.09		Mp	Run	As above	Run	30°	Fracs w/ ser & oxides.	Med-st ser wk biot.
	226.9	7.9		.12		Mp	Run	As above; wk sulfs @ end	Run	30°	" "	Same.
	236.0	9.1		.16		Mp	Run	wk vlt & diss py; Tr Cu & moly	226.9-229	Low ∠	bx & sul gg; poss flt	Ltgr Mp w/ st ser, wk biot & chl, some qtz repl.
									Run	20-35°	fracs w/ qtz vlts & clay	
	242.3	6.3		.12		Mp	Run	As above w/ wk Oxides in fractured zone	239.8-50.0	Lost	fractured & crushed zone w/ wk Fe-Mn Oxides.	Same w/ st ser.
	251.5	9.2		.17		Mp	Run	wk sulfs to 243.3 & Fe, Mn, Cu Oxides to end	243.3-end	—	Broken & ground w/ st bx & clay; poss flt.	Mp as above to 243.3 followed by crushed & brecciated Mp w/ st clay & Med-st oxides.
										30°	Fracs @ start of run.	
	260.6	9.1		.13		Mp	Run	Mixed wk sulfs & oxides	Run	—	Continued crushed & broken zone to end	Very low Recovery ± 11% Rock crushed & broken w/ st clay gg
									260.6	—	Base Oxides	
	271.4	10.8		.22		Mp	Run	wk vlt & diss sulfs Tr moly	Run	30°	Fracs w/ gg, qtz.	Ltgr Mp w/ st ser, talc, clays.
	281.5	10.1		.19		Mp	Run	wk sulfs; wk moly	Run	30-60°	Fracs & slips w/ gg	Locally broken & alt to ser.
	292.6	11.1		.21		Mp	Run	wk diss & smeared sulf, tr moly	Run	30-60°	As above	Ltgr Mp w/ qtz, biot fresh & alt feld; st ser; locally broken
	302.3	9.7		.19		Mp	Run	As above	Run	30°	Slips w/ talc & gg	No change
	316.6	13.3		.17		Mp	311.2	70° vlt py-cpy	Run	30-50°	Gyp vlts & fracs.	St ser & talc along fracs & slips.
							Run	wk sulfs; wk moly	307.5	60°	Bx-gg	
									309.8	35°	Bx-gg	
	324.7	9.1		.19		Mp	Run	wk vlt & diss sulfs.	321.9	45°	flt gg-bx; sul gg	Med-st ser alt
	335.5	10.8		.19		Mp	Run	vlt & diss py-cpy	Run	30-40°	Gyp vlts; fracs w/ gg.	St clay & ser, biot alt to chl, wk serp.
	345.8	10.3		.19		Mp	Run	As above	Run	30-60°	As above	Y st alt to clay & ser.
	357.2	11.4		.22		Mp	Run	Same but weaker	Run	40-70°	Gyp vlts, fracs, spotty vlts	Same.
									347.5-48.2	65°	flt bx, gg, gyp.	

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HOLE NO. M-48

Coordinates N 363,527.78 E 762,207.98

Dip Vert Bearing —

Date started 11-2-62 Completed 11-17-62

Collar Elevation 3258.9 Total Depth 836.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
357.2	361.8	4.6		.15		Mp	Run	wk-mod py, lesser cpy	Run	30 & 70°	fracs; gyp & qtz vlts	st alt to clay & ser. Tr serp.
	371.8	10.0		.17		Mp	Run	sp vlts py Tr moly	Run	30-70°	As above	Same
	381.8	10.0		.22		Mp	Run	wk diss & vlt py w/ cpy Tr moly	378.6-790 Run	30° 30°	Bx-gg w/ suls fracs & slips w/ talc.	wk-mod ser, silf, biot to chl, Tr serp.
	391.9	10.1		.16		Mp	Run	diss py-cpy-moly	382.8 Run	60°	0.4' Bx-gg as above some gyp	Mod talc, ser, mod. silf.
	402.0	10.1		.17		Mp	Run	diss & vlt py w/ lesser cpy moly.	Run	40-vert	fracs, qtz-gyp vlts.	Same
	412.1	10.1		.15		Mp	Run	As above	Run 411.9	30° 40°	fracs & gyp vlts 0.2' Bx-sul gg	wk ser; mod silf.
	417.1	5.0		.19		Mp	Run	diss py Tr cpy Tr moly	Run	30-50°	fracs & slips w/ gg	Increase in ser.
	425.6	8.5		.22		Mp	Run	vlt & diss py-cpy-moly	Run	35-80°	fracs w talc; gyp vlts	Mod-st talc & clay
	434.8	9.2		.22		Mp	Run	fine diss py-cpy-moly	Run	60-85°	As above w/ st gg.	st talc & clay
	445.0	10.2		.16		Mp	Run	As above	Run	45-70°	Same	Same
	455.0	10.0		.14		Mp	Run	vlt & diss py wk cpy st moly in some fracs.	458.9 Run	50° 30-85°	0.2' Qtzvn w/ py fracs & gyp vlts	wk silf; increase in biot mod talc
	465.1	10.1		.16		Mp	Run	slight increase in diss cpy; Tr moly	Run	30-60°	As above + qtz vlts	weaker biot.
	469.4	4.3		.20		Mp	Run	wk py; Tr cpy; moly				Mod gyp, ser
	479.3	9.9		.19		Mp	Run	stronger moly	Run	30-90°	Gyp vlts	Talc & serp
	487.4	10.1		.16		Mp	Run	vlt & diss py-cpy; wk moly	Run	40-vert	Gyp vlts, fracs, slips	
	499.5	10.1		.12		Mp	Run	wk py less cpy, wk moly	Run	30-70°	Same - some gg	St ser, talc
	509.6	10.1		.13		Mp	Run	30% vlt & diss py w/ cpy	507.2	60°	0.6' Bx-gg Basalt	Mod-st ser, talc, [illegible]
	517.8	8.2		.07		Mp	Run	wk to mod py lesser cpy	517.2	30°	0.2' Bx-gg Mod py	Qtz vns, gyp on fracs, wk ser & talc.
	520.7	2.9		.11		Mp	Run	Same	520.7	40°	Mp-qtzt w/ gyp vlt.	Mod-st ser
	525.8	5.1		.06		Qtzt	Run	sp vlts & stks cpy-py-moly	Run	30-50°	Fracs w/ wk clay	Ltgr to wht Qtzt w/ wk ser alt.
	535.5	9.7		.05		Qtzt	Run	As above	Run	20-70	Fracs & slips	Locally broken
	545.5	10.0		.08		Qtzt	Run	wk vlt py-cpy-moly all on fracs	538.2	70°	0.5' Bx-gg & py-cpy vlt & lesser fracs.	Local st clay & ser. Several 70° fracs.

HOLE NO. M-48

Coordinates: N 363,527.78 E 762,207.98

Dip Vert Bearing —

Date started 11-2-62 Completed 11-17-62

Collar Elevation 3258.9 Total Depth 836.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
545.5	555.5	10.0		.11		Qtzt	Run	vlt & str py-cpy; moly	Run	Varied	Qtz-gyp vlts & fracs w/ talc-clay-gg	Wht Qtzt w/ med ser, clay, Rapl Qtz & st gyp vlts in fracs
									551.3	60°	slip w/ st talc	
	565.5	10.0		.11		Qtzt	Run	As before	Run	30-50°	Fracs & slips w/ wk ser, talc & clay	Alt weaker. Mod vlts gyp.
	572.5	7.0		.12		Qtzt	Run	Sp 60° vlts py-cpy wk moly	Run	30-70°	Fracs as above w/ gyp, wk clay	wk ser.
	582.9	10.4		.13		Qtzt-Mp	Run	wk vlt & diss suls; Tr moly	573.9	30°	Qtzt-Mp ct @ frac	wk alt qtzt as before Mp; Lt gr w/ med ser & biot.
									574.4	Low ∡	0.2' Qtzt int.	
									576.6	Low ∡	Mp-Qtzt ct @ frac.	
									582.3	60°	0.6' Bx-sul gg & gyp	
	591.0	8.1		.10		Qtzt	Run	wk diss pats & vlts cpy-py	Run	60-vert	Fracs & gyp vlts.	Wk ser, med gyp vlts
	596.7	5.7		.16		Qtzt	Run	Same + wk moly	496.1-end	±50°	Bx-gg ct w/ Hf below	Increase clay-gg @ end.
	609.7	8.0		.23		Hf	Run	30-45° vlts py w/ lesser cpy	Run	30-vert	Gyp, qtz vlts, fracs	Lt grn dense clayey Hf w/ local CO_3
									609.7	20°	Hf-Qtzt ct	
	607.8	3.1		.06		Qtzt	Run	Tr suls	Run	25-60	Gyp vlts	Lt tan impure Qtzt w/ v st gyp vlts.
									607.8	30°	Qtzt-Hf ct @ gyp vlt.	
	619.0	6.2		.42	.42	Hf	Run	wk diss py-cpy, sp vlts.	Run	25-70°	Gyp vlts & fracs w/ clay	Hgrn dense Hf w/ CO_3, 618.6-end: pats cp, gar, & act.
							618.4-618.2	Hi ∡ frac zone w/ $MnCO_3$ (?)				
	624.4	7.4		.36		Hf	Run	diss & vlt cpy-py	Run	High	Fracs w/ CO_3 & gyp vlts	Pats cp, Tr act-gar.
							617.8	60° - 0.4' vn Mag, cpy-py	621.4	15°	Hf-Qtzt ct @ frac.	
	630.0	8.6		.14		Qtzt	Run	wk suls.	Run	30-70	fracs w/ gyp, clay, wk chl	Lt gr Qtzt, med ser.
	640.5	10.5		.07		Qtzt	Run	Same + Tr moly	Run	–	very broken	Mod gg through broken zones.
	644.5	4.0		.14		Qtzt	Run	wk vlt py, cpy, tr moly	644.5	lowe	Obscure ct w/ Hf	Lt gr Qtzt
	650.6	6.1		.55		Hf	Run	Py-chl vlts, wk cpy	Run	10-60	¼" gyp vlts	Pale gra-tan Hf w/ dk grn chl vlts, pats brn gar.
	660.7	10.1		.46		Hf	Run	Py-chl vlts, tr cpy local st moly on slips	654.8	65°	Gyp, moly, py, cpy vn.	As above, w/ st sep-talc & gar at end.
					55.5				Run		St. fracs, w/ offset.	
	667.2	6.5		1.63	– @ .76	Hf	Run	St vlt & diss py, cpy	Run	0-45°	Gyp vns	Pale gra-tan Hf w/ local st talc & brn gar
									667.2		Grad. ct w/ Tg	

HOLE NO. M-48

Coordinates: N 363,527.78 E 762,207.98

Dip Vert Bearing ——

Date started 11-2-62 Completed 11-17-62

Collar Elevation 3258.9 Total Depth 836.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
667.2	672.1	4.9		1.08		Tt	Run	Py vlts, minor cpy	667.2	30°	Ct w/ Hf at gyp, hem slip	Gran. brn Tt, w/soft ints, gyp vlts.
	678.7	6.6		.91		Hf	Run	Py vlts, wk cpy st moly w/ gyp	Run	50°	Slips w/ gyp, moly	Lt grn Hf w/soft talc ints, grn chl vlts.
	688.7	10.0		.55		Hf	Run	wk py, w/ minor cpy, moly	Run	20-60°	Gyp vns, slips	As above
	700.0	11.3		.61		Hf	Run	Diss, strs py w/cpy	698.7-700.	50°	st. ll slips, ct w qtzt @ 700.0	Pale grn Hf w/ st gyp. Zone of st [illegible] bx & gg 698.7 [illegible]
									692-96	90°	1" gyp vn	
	710.0	10.0		.05		Qtzt	Run	Py, cpy sparse. Moly vlts, slips.	Run	60-70°	CO_2, vugs	Gr to dirty brn [illegible] Qtzt. Num qtz, [illegible] local gg, vuggy [illegible]
	717.8	7.8		.07		Qtzt	Run	St moly on fracs Sparse py, cpy	717.8	50°	Irreg. Qtzt-Hf ct.	Impure Qtzt w/ [illegible] st clay, gg
									Run	50-60	Slips, fracs	
	728.5	10.7		.26		Hf	Run	Cpy, sulf gg vns @ 40°-50°	720-722	40-70°	Gyp cem. hem bx zone lower ct @ 40°	Chl-hem-gyp bx [illegible] in wh-gr calc Hf.
									722-723	?	Gyp-CO_2-gg zone	Pats dense grn gar toward end
	736.3	7.8		.13		Hf	Run	wk diss suls, moly wk-med hem stain	Run	Low-Hig	Gyp vns.	As above w/ dense grn gar @ top.
									734.4	70°	Chl, red clay gg w/ CO_2 & Hf bx, gyp-vlt w/ Hand.	
									736.2	(?)	Hf - Qtzt ct in broken zone w/ st clay	
	745.5	9.2		.03		Qtzt	Run	Tr suls, wk moly on fracs	Run	50-Hig	Fracs w/ ser, gyp.	Lt gr Qtzt w/ st gyp & clay
	753.9	8.4		.03		Qtzt	Run	Tr suls	Run	Hig	St fracturing w/ clay & gyp vlts.	Med to st ser-clay alt.
	765.0	11.1		.03		Qtzt	Run	Tr moly; suls nil	Run	30 & 60	Fracs w/ gyp & talc.	Less fractured w/ med alt to ser & talc
									756.1	30°	0.1' gyp vn	
	775.6	10.6		.03		Qtzt	Run	Tr py; wk moly	Run	Low & to 85°	Fracs & slips w/ ser, talc	locally broken, med clay alt.
	785.5	9.9		TR		Qtzt	Run	Suls tr to nil	787.0	0	0.2" Gyp	Dense lt gr qtzt
									787.0	20°	0.2" Gg-bx	
									Run	0-80°	Fracs.	
	792.8	7.3		.04		Qtzt	Run	Sp cpy moly	789.3	50°	Bx & recem. seams	Frac wht qtzt

HOLE NO. M-48

Coordinates: N 363,527.78 E 762,207.98

Dip Vert Bearing —

Date started 11-2-62 Completed 11-17-62

Collar Elevation 3258.9 Total Depth 836.0

GEOLOGIC LOG

MISSION UNIT

(5)

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
792.8	802.2	9.4		TR		Qtzt	RUN	Tr moly	RUN	0-70°	Fracs, some w/moly	Frac, wht f.g. Qtzt
	815.0	12.8		.04		Qtzt	805-end	80° fracs w/ moly	813.6	0°	Gg seam w/ gyp	"
	828.2	13.2		.06		Qtzt	815-19.7	70-80° fracs w/ moly tr cpy	RUN	Hi∠	Fracs w/ gyp	"
	836.0	7.8		.03		Qtzt	833.0	Tr cpy moly	RUN	Var	Frac & recem zones	"
		Bottom										

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HOLE NO. M-42

Coordinates N 361,148.91 E 768,493.95

Dip Vert Bearing —

Date started 10/25/62 Completed 11/23/62

Collar Elevation 3271.2 Total Depth 1115.1

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
	184.0					Alluv						Top CCg ± 170 (?)
	212.5	28.5			N.S TOTAL	CCg	213.0 end	Cu, Fe, Mn oxides				BR ± 212.4
	220.9	8.4	.43	.78	.43 .78	Arg	Run	St Fe, Mn, Cu, Ca & Cu Mn silicates, mod hem; Tr Cu last 0.1'	Run 213.3 220.9	– 30° –	Extremely broken & frac. Col fracs. Base Oxides	V. St alt brn, grn, rd stained Arg w/ some Talc, CCg, ser.
	228.6	7.7	Nil	.81	23.3' @ 0.65	Arg	Run	Cu-py to 222.6 py w/ Tr cpy, Cu to end	Run	30-60° 50°	Frags w/ st ser, talc Gtz vlts	Lt gr Arg w/ small pods cgl, gtz-fold rad, st ser, Talc.
	237.8	9.2		.56		Arg-cgl	Run	diss & varied & vlts py w/ wk Cu, cpy	Run	30-60°	As above.	Mixed Arg & cgl as above.
	244.2	6.4		.54		Arg-Mp	Run	Sp pots cpy-py Tr Cu	Run 243.5	– 30°	Strongly brecc. Arg-Mp ct.	It tan to brn Arg w/ pots cgl wk ser, talc & lt gr to pk Mp w/ mod to st ser, wk gyp.
	254.9	10.7		.09		Mp	Run	Wk diss cpy-py; moly & sub gg cont & fracs.	249.8-255	Vert	frac w/ st talc & sul gg	st ser, talc.
	263.3	8.4		.27		Mp-Arg	Run	Diss & stra py w/ less cpy Tr moly.	255.1-256.5 262.3	30° ± 50°	Arg-Cgl intercept Mp-Arg cgl ct.	Mp as above; Arg brn w/ pots & shorts in cgl.
	274.4	11.1		.46		Cgl	Run	diss & strg. py-cpy; Tr moly.	Run	30-50°	Fracs w/ ser & talc.	Lt brn to brown Cgl w/ hl pots & frags & st ser & talc on fracs. Local gtz-fold rad. local st silt, willow
	283.0	8.6		.38		Cgl	Run	As above	Run	30° 50 & 70°	Predominant fracs. Crossed gtz vlts	
	293.0	10.0		.49		Cgl	Run	30-50° vlts & diss py-cpy	Run		As above.	Same.
	303.0	10.0		.50		Cgl	Run	30-70° vlts py w/ less cpy V fine diss sulf throughout	Run	30-70°	Fracs some w/ gg	St silt throughout w/ wk ser.
	313.0	10.0		.48		Cgl	Run	As above	Run	"	"	No change.
	325.0	12.0		.39	140.7' @ 0.56	Cgl	Run	vlts, strg, diss py-cpy	Run	30-50°	fracs most common w/ gtz vlts & small vugs	" "
	335.0	10.0		.39		Cgl	Run	As above	Run	20-70°	Lower & fracs more common	Same, less coarse frags
	345.0	10.0		.57		Cgl	Run	wk diss & vlts py-cpy	Run	"	Same	Larger frags
	355.0	10.0		.63		Cgl	Run	Same + small pots cpy	Run	"	"	Increase in ser & chlor.

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HOLE NO. M-42

Coordinates N 361,148.91 E 763,493.95

Dip Vert Bearing —

Date started 10/25/62 Completed 11/23/62

Collar Elevation 3271.2 Total Depth 1115.1

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
355.0	365.0	10.0		.39		Cgl.	Run	vlts, strs, diss py-cpy moly on some fracs	Run	20-70°	Fracs w/ qtz, ser, some gg wk CO_2	As before w/ st silf & wk ser/clays
	375.0	10.0		.58		Cgl	Run	wk-mod vlts-diss py w/ less cpy	370.2-372	Hiz	Bx-gg zone wk-mod CO_2.	Mod to st clays
	384.0	9.0		1.03		Cgl	Run	Hiz strs + diss py-cpy	Run	30° & 70°	Fracs w/ st clay	As before; broken
	394.0	10.0		.68		Cgl	Run	wk diss & vlt py-cpy Tr moly	Run 393.6	30-70° 65°	Fracs & slips w/ ser. Bx-gg to end	Local st ser & tale on fracs & short inte.
	404.0	10.0		.64		Cgl-Arg	Run	Mod py less cpy	Run	varied	Fracs & slips.	Mod to st ser, Tale. Grades across run to dk brn-bl Arg
	414.0	10.0		.32		Arg	Run	vlt & diss cpy-py	405.7	70°	frac w/ gg-bx, suls	pats cgl, Mod ser on fracs.
	421.0	7.0		.88	0.88	Arg	Run	" "	Run	30°-60°	fracs & slips	Same
	430.0	9.0		.39		Arg	Run	vlts cpy	Run	—	broken & ground	± 44% vac'y
	440.0	10.0		.20		Arg	Run	wk fine diss & vlt py-cpy	Run	varied 30-vert	Qtz vlts & strs w/ wk CO_2. fracs w/ wk ser.	Lt to dk brn dense Arg showing some ± 70° banding
	450.0	10.0		.40		Arg	Run	Scattered pats & vlt py-cpy	Run	30°-50° 30-70°	Qtz vlts Fracs & slips	As above; locally broken & shattered
	460.0	10.0		.75	50.6' @ 0.56	Arg	Run	wk diss py-cpy; much sul gg	Run	-	bx-gg zone showing fracturing from 30°-85°	Very broken w/ clay gg.
	470.0	10.0		.40		Arg	Run	vlt & diss py-cpy	Run ±664.2	20-vert 45°	Fracs & slips Bx-gg (0.5')	St ser, silf alternating faint 70° tan banding.
	480.0	10.0		.34		Arg	Run	as above	Run	30-70°	Fracs & slips w/ ser	As before
	490.6	10.6		.88		Arg	Run 487.2-489	wk-mod diss py-cpy st cpy in filt zone	790.6 Run	Vert Varied	Frac w/ tale & scrp. Qtz vlts	Dense brn Arg w/ gg-bx from 487.2-489.1 w/ st cpy.
	500.6	10.0		.10		Arg	Run	Wk fine diss py-cpy; Sulf smear on fracs	Run Run	Varied 20-85°	Num qtz vlts. Fracs, slips	Dense tan-dark gr Arg local fold, Num fracs w/ clay, sulf smear, some serp & ser.
	506.5	5.9		.15		Arg	Run 505.6	As above + small vlts. 1/2-1" py-cpy vlt	Run Run 505.6	Varied Varied 30°	Num qtz vlts, from v-thin cpy-py vlts 1/2-1" py-cpy vlt	As above w/ lesser clay & alt

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HOLE NO. M-47

Coordinates: N 361,148.91 E 763,493.95

Dip Vert Bearing _____

Date started 10/25/62 Completed 11/23/62

Collar Elevation 3271.2 Total Depth 1115.1

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
506.5	515.0	8.5		.09		Arg	RUN	wk fine diss & vlt py-cpy	RUN	20-75°	Fracs, slips, qtz vlts	Tan-dark gr dense Arg St feld; local clay, sulf smear, ser on fracs
	523.1	8.1		.42	.42	Arg	RUN	wk-mod diss cpy Tr moly	RUN	45-90° 0-45°	Fracs, sul vlts Co3 vlts	516.4-end-Arkosic
	533.3	10.2		.10		Arg	RUN	Tr cpy-py-moly	RUN	0-90° 0-45°	Fracs Co3 vlts	Dk brn Arg w/ some red & tan pats
	541.0	7.7		.08		Arg	RUN	Tr moly-py	RUN	45°	Fracs	
	551.0	10.0		.11		Arg	RUN	Sulf tr-nil	549.2-59 RUN	10-20° 0-45°	Gg seams Fracs	Dk brn to gr Arg w/ tr qtz vlts-pats
	561.0	10.0		.15		Arg	Run	vlts, diss py w/ wk cpy	Run	30-50°	Fracs, sulf vlts	Dk gr-brn Arg w/ pats, zones pk feld recl.
	569.4	8.4		.25		Arg	569.0	Qtz-cal-moly vn	To 562.3 569.0-9.4	35°	Talc-ser-bx-gg zone Moly vn w/ qtz-cal, ser & talc.	Dk gr Arg w/ local st feld recl.
	577.8	8.4		.14		Arg	Run	Qtz-moly vlts Py vlts w/ tr cpy	Run	30-50°	Fracs, sulf vlts	Gr-brn Arg w/ local st ser, feld alt.
	586.8	9.0		.14		Arg	Run	Qtz-moly vlts, diss & vlt py & cpy	Run		As above	As above
	596.8	10.0		.16		Arg	Run	Qtz-moly, diss py-cpy Sulf gg on slips.	Run	15-50°	Fracs, slips, qtz vlts	Gr-brn Arg w/ st clay-feld-ser. Gg ints.
	604.4	7.6		.08		Arg	Run	Moly vlts, py vlts w/ tr cpy.	Run	80°	Fracs, slips	Dk gr-brn Arg, dense, wk feld-ser alt.
	611.0	6.6		.12		Arg	Run	Vns, stks qtz w/ moly wk diss, vlt py, cpy	Run	30-80°	Fracs, qtz vns.	Lt brn-gr Arg w/ pats, stks qtz, local pk feld.
	620.1	9.1		.06		Arg	Run	As above	Run	30-60°	Fracs, slips, qtz vns.	Same w/ local qtz repl near fracs. Mod ser.
	632.4	12.3		.09		Arg	Run	30-60° vlt & fine diss py-cpy	Run 624.0 631.8	" 60° 50°	Same Bx-sulgg-clay Bx-clay	No change
	645.5	13.1		.07		Arg	Run	wk-mod fine diss & vlt py-cpy; moly in fracs	641.0-43.0 Run	Hi ∠ variable	St fracts w gg-serp Fracs & qtz vlts	Same.
	653.0	7.5		.45	.45	Arg	Run	Mod pats, vlts, stks, diss py-cpy, wk moly	Run	50°	Fracs & slips	

HOLE NO. M-47

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Dip Vert Bearing —

Date started 10/25/62 Completed 11/23/62

Collar Elevation 3271.2 Total Depth 1115.1

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
633.0	663.0	10.0		.17		Arg	Run	wk-mod vlt & diss py-cpy - Tr moly	653.0-54.2	85°	frac w/ st serp-talc	dk gr-brn Arg w/ ser alt, Fald repl.
									Run	Hi ∠	fracs & slips	
	670.7	7.7		.20		Arg	Run	As above	Run	30-70	fracs & qtz vlts	very st silf near frac
									665.3	Low ∠	Qtz vn.	Lt gr to tan & brown Arg local st ser. Local fold.
	679.3	8.6		.08		Arg-Qtzt	Run	wk py-cpy	Run	30-60°	fracs & qtz vlts.	As above; grades to impure Qtzt.
	688.5	9.2		.07		Qtzt	Run	wk diss py-cpy; moly on same fracs.	Run	70-80°	fracs & slips.	Impure Lt tan & Lt gr Qtzt Talc on fracs; wk ser
	697.9	9.4		.04		Qtzt	Run	vlt & diss py-cpy, Tr moly	689.1	30°	frac filled w/ Mp-like rock.	As above; med local ser alt.
									Run	30-80°	fracs, slips, Qtz vlts.	
	698.9	1.0		.05		Qtzt	Run	Tr sulfs				30% rec'y As above
	706.2	7.3		.08		Qtzt-Arg	Run	Med py & wk cpy on fracs.	Run	—	Mixed Qtzt-Arg bx w/ med talc & clay Very broken (Poss flt)	Mixed impure Lt tan Qtzt & brn Arg bx.
									±706.0	Lost	Qtzt-Hf cnt.	
	710.5	4.3		1.47		Hf	Run	Mod-st diss & vlt py cpy.	Run	30°	CO_3 vlts.	Grn Hf w/ st ser, CO_3 & clay
	716.3	5.8		.50	24.2 @ .85	Hf-gg	Run	Sulfs in clay	—		—	St clay gg w/ frags Hf. (Bx core, -50%)
	725.0	8.7		.83		Hf	Run	vlt & diss py-cpy	Run	±30-40°	Qtz vlts & fracs.	Lt grn to wh soft Hf (Bx core; -50% Rec'y)
	725.9	0.9		*.78		—	No	core recovery			—	* Lowest adj: % Cu from
	730.4	4.5		.78		Hf-Qtzt	Run	diss py-cpy	±727.8	50°	Hf-Qtzt ct @ frac.	Lt grn Hf-wht Qtzt (± 50% rec'y)
	734.3	3.9		.14		Qtzt		Tr sulfs				very low rec'y of broken & ground pebbles
	741.0	6.7		.16		Qtzt	Run	wk strs & diss py-cpy Tr moly	Run	30 & Hi ∠	fracs w/ gyp.	wht Qtzt w/ wk-mod alt to ser.
	751.0	10.0		.14		Qtzt	Run	Strs, & fine diss py-cpy-moly	Run	-	very broken & chattered w/ some 30 to 40° fracs apparent.	Lt gr to wht Qtzt w/ ser alt & local gg.
	755.4	4.4		.21		Qtzt	Run	As above w/ some 6 in gg.	Run		As before	Same

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HOLE NO. M-47

Coordinates: N 361,148.91 E 763,493.95

Dip vert Bearing —

Date started 10/25/62 Completed 11/23/62

Collar Elevation 3271.2 Total Depth 1115.1

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
755.4	759.2	3.8		.19		Qtzt	Run	vlts, blebs cpy, py Fine moly vlts.	Run	50°-60°	Slips, fracs	Gr-wh, crushed & vuggy
	760.6	1.4		.14		Qtzt	Run	Diss cpy, py, moly on fracs.				As above
	762.8	2.2		.19		Qtzt		As above	Run	50°, 85°	Fracs	As above
	773.5	10.7		.08		Qtzt	Run	Diss py, cpy, moly vlts	Run	60°	Fracs	Broken except for last 8' run.
	777.5	4.0		.08		Qtzt	Run	wk py, cpy, moly vlts	777.5	?	ct w/ bf	Shattered & recem qtzt, brn cal near end.
	786.0	8.5		.75	12.8 @ .89	Hf	Run	Strs, blebs py & cpy	Run	30°-80°	Sulf gg, slips	Vuggy lt grn Hf w/ sulf-chl bands.
	790.3	4.3		1.18		Hf	Run	As above	Run	low ∠	Qtz-sulf vns	Vuggy Hf grades to qtzt near end
	798.8	8.5		.21		Qtzt	Run	30°-50° Moly vlts	Run	High ∠	Slips, sulf gg	Gr-wh qtzt, shattered w/ clay & sulf gg.
	803.2	4.4		.08		Qtzt						Broken, vuggy
	809.6	6.4		.21		Qtzt	Run	wk vlt cpy, mod moly	Run	High ∠	Slips, vugs	Vuggy w/ st clay, gg ints.
	815.4	5.8		.12		Qtzt	Run	Fine strs, blebs py, cpy Moly vlts	Run	low ∠	Fracs	Gr-wh qtzt w/ few vuggy, gg ints.
	817.5	2.1		.06		Qtzt						Broken
	828.3	10.8		.16		Qtzt	Run	wk strs, blebs py-cpy Tr moly	Run	30 & 60°	Fracs	Locally broken, wk alys
	832.0	3.7		.32		Qtzt	Run	vlt, str, bleb cpy-py Tr moly	Run	Hi ∠	Gyp-sul vlts	Sprungs, wk alt.
	842.0	10.0		.27		Qtzt	Run	wk - locally mod, vlt, str cpy-py	Run	Varied 45-60°	Gyp vlts in fracs. fracs w/ serp-Talc	v wk alt.
	852.0	10.0		.12		Qtzt	Run	wk vlt & diss py-cpy	Run	"	As above	Local impure tan Qtzt
	862.0	10.0		.23		Qtzt	Run	wk diss cpy-py	Run	30-50°	St gyp vlts & few Qtz vlts in fracs.	wh & lt gr Qtzt w/ pats lt grn Hf to 854.6; Mg to
									861.0	45°	Recem bx-gg.	855.6 w/ biot, then lt gr-tan Qtzt w/ pats Arg & st ser to end.
	872.0	10.0		.26		Qtzt	Run	vlt & diss py-cpy, Tr moly	Run	Low ∠ to 50°	Fracs, gyp, qtz vlts	Mod ser @ start, v. wk ser @ end; wht Qtzt.

HOLE NO. M-47

Coordinates: N 361,148.91 E 763,493.95

Dip Vert Bearing —

Date started 10/25/62 Completed 11/23/62

Collar Elevation 3271.2 Total Depth 1115.1

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
872.0	881.8	9.8		.26		Qtzt	Run	varied & vlt & str py-cpy	Run	Varied	fracs, gyp, qtz, sul vlts	Grades wk to mod set accross run
	891.4	9.6		.37		Qtzt	Run	Wk-mod diss & vlt cpy-py	Run	0-90°	Thin gyp vlts	Rel pure lt gr f.g. qt
	903.6	12.2		.28		Qtzt	Run	"	Run	"	"	"
									893.8	65°	Gg seam	
	912.2	8.6		.19		Qtzt	Run	Suls wk to nil	905-09	70°	Gyp vlt	"
									Run	50°	Fracs	
	922.1	9.9		.14		Qtzt	Run	Wk diss cpy py tr moly	Run	40°	Fracs	Set faint 40°
									Run	70-90	Gyp vlts	bands-resem. rhyolit
									921-end	Hi ∠	Gg seams w/ moly	
	929.3	7.2		.17		Qtzt	Run	Tr diss cpy py	Run	20-90	Fracs, some w gyp	
									929.3	30°	Grad cnt w/ st min. impure qtzt	Impure qtzt below 929.3 w/ brn gyp
	937.0	7.7		1.12		Qtzt-Hf	Run	Mod diss & pat cpy-py	934.9	-	Grad cnt w/ Hf	First half Qtzt, second half mixed Qtzt & ltgrn
									Run	30-45°	Gyp vlts	Hf
									930.5	Low ∠	Recem flt bx w/ st gyp.	
	945.2	8.2		.77		Hf	Run	fine diss cpy-py	940.6	30°	Bx-gg zone	Lt grn Hf w/ v st serp & talc; gyp in first 2' only
									937.0-40.0	30-60°	Gyp vlts	
	955.0	9.8		.98	68.1' @ 0.90	Hf	950.4-52.3	Mag-cpy-py-gyp in Bx zone	950.5	30°	0.1' cpy-gyp vlt	Lt grn to wh clayey Hf
							Remainder	wk-mod fine diss cpy-py w/ sp 30° vlts cpy; wk hem.	954.2	60°	Mag-cpy-gyp in Bx	w/ gyp in fracs, st serp.
	965.0	10.0		.88		Hf	Run	Wk-mod diss cpy-py-Tr moly	Run	30-60°	Fracs, slips w/ clay & gyp & occasional moly	As above
							959.8	0.5' int mag-py-cpy-hem-gyp				
	975.0	10.0		.55		Hf	Run	30° vlt & diss cpy-py wk-mod moly; Tr aph.	Run	30-50°	fracs-slips w/ gyp-Talc-suls, gg-bx	wk gyp; st serp-talc
									974.7	Low ∠	gg w/ smeared sulf.	
	985.0	10.0		.58		Hf	Run	diss, pat, 30° vlt cpy, moly, py. Tr bn (?)	Run	Low ∠ & 30-60°	Fracs, slips as above	As before w/ pats Qtzt short into tan gar
	998.0	13.0		1.34		Hf	Run	Mod-st diss, pat, & vlt cpy-py-moly; Tr bn, aph 30° & 60° vlt, cpy-py	Run	Low to Hi ∠	slips & fracs w/ sulfs clay, serp, gyp, talc.	Ltgrn, wh, ltgr Hf w/ pats Qtzt, Gar, st clay-serp; all very mixed
	1008.0	10.0		.23		Hf-Tt	Run	Wk to mod diss py-cpy-moly, v wk pats hem.	Run	30°	Fracs & slips	Mixed ltgrn Hf & tan Tt w/ pats qtzt, det-Tr & wk serp. CO2 in Tt
									1007.6	50°	Hf-Qtzt ct @ frac.	
									1005.6	60°	CO2 vn in frac.	

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GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-42
Coordinates: N 361,148.91 E 763,493.95
Dip Vert Bearing —
Date started 10/25/62 Completed 11/23/62
Collar Elevation 3271.2 Total Depth 1115.1

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
1009.0	1022.8	14.8		TR		Qtzt	Run	Tr sulfs, moly	Run	30-70°	Fracs w/ gyp, clay	Ltgr to wh Qtzt w/ wk ser alt.
	1033.4	10.6		.21		Qtzt	1027.5	0.5', 30° int Hf w/ diss cpy-py	Run	15° to vert	Fracs w/ wk gg, gyp; locally broken	Ltgr to wh Qtzt w/ Hf int @ 1027.5; mod-wk ser alt.
							Run	wk Hi & strs py-cpy				
	1038.4	5.0		.49	16.6 @ 0.55	Qtzt & Hf	Run	Med to wk diss & vit py-cpy wk local moly	1034.4	20°	Grad cnt w/ Hf	Ltgr Qtzt w/ mod suls to 1034.4. Green-tan silt Hf w/ 55° color lineation to 1036.4. Ltgr Qtzt w/ wk suls to end.
									1034.4-36.4	55°	color lineation, poss flt.	
									1036.4	50°	sharp cnt @ frac w/ Qtzt.	
									1038.4	70°	Qtzt-Hf cnt.	
	1050.0	11.6		.58		Hf-Tt	Run	wk diss & Hi & vit py-cpy w/ Tr moly	Run	75°	Fracs & slips.	Pale gry to tan Hf w/ st clay, talc, & serp to 1047.9. Maroon Fe Tt w/ mod CO_2 to end, wk pots ap @ end.
									1047.9	40°	Grad cnt w/ Tt.	
							1046.7-47.9	Med diss cpy-bn	1050.0	—	Grad cnt w/ Hf.	
	1056.6	6.6		.34		Hf	Run	wk-mod diss py-cpy-bn	Run	30-45°	Fracs & slips.	Ltgr-wht Hf w/ st wel, mod clay; wk silt, pots Mb.
									1056.6	30°	Hf-Mb cnt @ frac. w/ recem bx	
	1065.0	8.4		.05		Mb	Run	Tr suls	Run	50-60°	Fracs - gyp vlts	Wht banded gr Mb w/ wk pots wel & clay
										30°	Faint banding.	
	1075.0	10.0		Nil		Mb	Run	Tr suls	Run		As above	Grades ltgr to wht to ltgr through run; Mod clay in wh nib int
	1080.2	5.2		Nil		Mb	Run	Tr suls	Run	30°	Faint wht banding	Ltgr Mb w/ pots & faint wht bands.
	1090.4	10.2		.07		Mb	Run	"	Run	30°	As above	Same w/ pots wel.
	1095.1	4.7		.04		Mb-Hf	Run	wk pots cpy in Hf	1091.4	Low ∠	Mb-Hf ct	Mb as above w/ Hf grn to wht Hf w/ st wel, clay, serp
									1095.1	Lo ∠	Hf-Anhydrite ct	
	1104.5	9.4		.03		Anh-Hf	Run	Med diss & vit py w/ cpy	1099.5	Low ∠	Anh-Hf ct	Wh Anh w/ st gyp vlts.
									Run	30-vert	Gyp vlts & fracs.	Ltgrn-gr Hf w/ st CO_2.
	1115.1 Bottom	10.6		.04		Hf-Mb	Run	Tr suls.	Run	30-60°	fracs w/ clay & gyp vlts.	Ltgrn Hf w/ st serp & talc
									±1111.7	—	Grad Hf-Mb ct.	Ltgr & wh Mb w/ local st wht clay wk serp pots wel.

HOLE NO. M-46

Coordinates N 362,442.12 E 762,469.55

Dip Vert Bearing —

Date started 10/10/62 Completed 11/2/62

Collar Elevation 3266.5 Total Depth 815.2

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
192.0	203.7	11.7	.04	.22		Arg	RUN	Tr v fine diss sulf w/ Fe Ox, Tr $CuCO_3$, Cu_2S, Ten(?), Mn Ox	RUN	Varied	Fracs	Gr-Bleached Arg, Dense w/ num fracs w/ Fe Ox; minor cal, Tr Fl, gyp; Sar.
	212.2	8.5		.16		Arg	RUN	No visible py-cpy; Tr Cu_2S, Cu Silic; Mod Fe Ox, Mn Ox on fracs	RUN RUN	Varied 50°	Fracs Prominent frac system	Gr-Bleached Arg, Sl less ox
	224.5	12.3		.15		Arg	RUN	Tr Cu Silic, $CuCO_3$ on fracs, Mod Mn, Fe Ox	RUN	50-80	Fracs	Gr-Bleached Arg, Pat Qtzt, minor cal, $CaCO_3$ xls
	233.7	9.2		.18		Arg	RUN	As above	RUN	50-80°	Fracs	As above, more brok, Sl less Ox
	242.9	9.2		.19		Arg		Tr very fine diss sulf, Tr Cu Silic, Mod Fe, Mn Ox, Tr $CuCO_3$ Tr. Wulf.	RUN	50-80°	Fracs	Gr-Bleached Arg; pat Qtzt, very broken; Sl greater Ox end of run
	250.7	7.8	.09	.25		Arg	RUN	St Fe, Mn Ox, Mod Cu Ox & sils.	250.7	—	Base Oxides	Lt to dk gr Arg w/ local qtzn pats; stall to sar; Strongly broken
							250.1	chalcotrichite in frac zone				
	260.7	10.0		.19		Arg	RUN	30° vlts, strs, & diss py w/ wk cpy - Trace, Moly, v wk Tr Nat cu.	RUN RUN	30-60° 30-70°	Fracs w/ st oxides Fracs	As before w/ chl in upper 2.0 ft of run
	268.0	7.3		.11		Arg	RUN	30° vlts qtz-cpy-py	RUN	20-90°	Fracs	Dk brn w/ pats rextal
	271.3	3.3		.09		Arg	RUN	0-90° vlts qtz-cpy-moly				Dk brn Arg-core broke
	274.7	3.4		.13		Arg	RUN	"	RUN	0-60°	Fracs	St moly 271.7
												274.0-74.7-Rextal.-b.g. por. appearance
	280.0	5.3		.10		Arg	RUN	Tr qtz-cpy-moly vlts	RUN	40-60°	Fracs	Rextal.-pats. resem. Mo
	290.5	10.5		.16		Arg	RUN	Sct 0-30° qtz-cpy-moly vlt	RUN	30-90	Fracs w thin qg	290.5 - st frac-broken
	300.7	10.2		.26		Arg	RUN	0-60° vlts qtz-cpy-py (wk)	291.9	60°	Vuggy $qtz-CO_2$ vlt.	Very broken -50° reg
									RUN	30-90	Fracs w/ thin qg-qtz	wk pats Fold
	306.4	6.4				No core		recovery				No Recovery
	323.6	17.2		1.14	29.1 @ 1.02	Hf-Tt	RUN	diss Nat cu in chl to 314' vlts-diss cpy Mag tend w/ hem.	RUN	—	Very broken st qg pats qg. Pass. fill.	Grn clayey Hf & Tt w/ st serp-chl-CO_3 Sp qtz vlts (-50° reg)

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HOLE NO. M-46

Coordinates N 362,642.12 E 762,469.55

Dip Vert Bearing —

Date started 10/10/62 Completed 11/2/62

Collar Elevation 3266.5 Total Depth 815.2

GEOLOGIC LOG

MISSION UNIT

(2)

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
323.6	335.5	11.9		.85		Hf	Run	wk diss py-cpy	Run	—	Extremely broken & ground	Lt grn Hf w/ st serp, serp, chl. (-60% recy
	338.0	2.5	—			Hf-Arg (?)	—	No core				No core.
	341.5	3.5		.35		Hf-Arg	Run	Tr suls (-50% recy)	Run	—	Possible core	Mixed pebbles Arg & Hf.
	345.6	4.1		.51	15.4 @ .58	Hf-Arg	Run	Mod diss py w/ wk cpy	Run 345.5	30-60° 50°	Gyp vlts in Fracs 0.1' gg-bx	Mixed Lt grn Hf & brn Arg st gyp & clay
	356.9	11.3		.60		Hf-gyp	Run	30-40° vlts & diss py w/ lesser cpy	Run	Varied 30-50°	Gyp vlts in Hf Fracs & slips w/ serp	Mixed Lt grn Hf & massive gyp w/ local pots qtz.
	365.6	8.7		.23		gyp-Hf	Run	Med diss & vlts py; Tr cpy-moly	357.8	50°	frac w/ serp, moly py @ Hf-gyp ct	As above. v wk CO_2
									Run	30-60°	fracs & slips	
	374.5	8.9		.30		Gyp-Hf	Run	Sp py vlts w/ wk cpy.	Run	Varied	Gyp vlts & fracs in both gyp & Hf.	Mixed gyp & Hf w/ st gyp in Hf. wk CO_2
	380.2	5.7		.78	.78	Hf-Qtzt	Run	Vlts, pots py w/ wk cpy wk moly.	377.5-end	—	Gradational Hf-Qtzt ct.	Grn Hf w/ pots grn gar Grading @ 377.5 to mixed Arg & Qtzt.
									Run	30°	Gyp vlts & fracs.	
	387.9	7.7		.28		Qtzt & Arg	Run	Mod diss & vlts py w/ wk cpy & Tr moly	Run	30°	faint Qtzt-Arg banding (Bd?)	Mixed wk Qtzt & brn Arg grading across run to brn Arg w/ Qtz vlts. Sp pots Hf.
	395.5	7.6		.07		Arg & Qtzt	Run	wk vlts & pots py-cpy	Run	30-50°	fracs & qtz vlts	Grades to Qtzt across run. Mod to st ser.
	406.1	10.6		.08		Qtzt	Run	wk diss & 30° vlts suls Moly in Qtz vlts.	Run 405.3-end 406.1	30-50° Low ∡ 15°	fracs & gyp & qtz vlts bx-gg, poss flt. Qtzt-Mp ct @ frac w/ serp.	wh Qtzt w/ pots Lt brwn. wk ser.
	415.5	9.4		.13		Mp	Run	Diss & vlts py-moly Tr cpy.	Run	30°	Qtz vlts & fracs w/ gyp.	Lt tan to pk Mp w/ ± 3% biot, vestal fold. Mod ser
	425.6	10.1		.13		Mp	Run	Hi ∡ vlts & diss py-moly	418.6	Hi ∡	Gyp vlt (2.5') w/ py-moly	As above w/ st alt to ser
									Run	Varied	Gyp vlts & fracs	
	436.8	11.2		.13		Mp	Run	Diss & vlts py-cpy	429.9-30.0 434.7 Run	45° 30° "	Bx-gg st ser. " " As above	Same

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HOLE NO. M-46

Coordinates N 362,642.12 E 762,469.55

Dip Vert Bearing —

Date started 10/10/62 Completed 11/2/62

Collar Elevation 3266.5 Total Depth 815.2

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
436.8	445.6	8.8		.19		Mp	Run	Mod vlts & diss py-moly Tr cpy	Run	Varied	fracs w/ gyp, ser, serp.	Mod to st alt.
	453.2	7.6		.17		Mp	Run	Same				No change
	463.2	10.0		.13		Mp	Run	Wk to mod py; Tr Moly, cpy	Run	30 & 60°	fracs & gyp vlts	Local st Qtz-feld Repl.
	473.1	9.9		.13		Mp	Run	vlts & diss py-moly Tr cpy	Run	30-45° 30-60	Parallel fracs gyp & qtz vlts	As before
	482.8	9.7		.12		Mp	Run	Same	Run 482.8	50°	As above Mp-Qtzt ct @ frac w/ gyp & serp.	Increase in ser.
	491.6	8.8		.06		Qtzt	Run	vlts, stks, diss py-moly Tr cpy	486.6	Low ∠	Bx-gg	Lt tan to lt gr impure
									Run	30-50°	fracs & gyp vlts	Qtzt w/ wk ser.
	500.2	8.6		.06		Qtzt	Run	wk py-moly	Run	60°	fracs w/ gyp & serp.	Same
	510.2	10.0		.07		Qtzt	Run	Same + Tr cpy	Run	Hi ∠	Gyp vlts & fracs	As above
	521.3	11.1		.18		Qtzt	Run	Same w/ cpy in Bx zone	515.9-16.9	25°	Bx-gg zone w/ st gyp	Mod. ser.
									Run	Hi ∠	Gyp vlts & fracs	
	531.0	9.7		.24		Qtzt	Run	diss py-cpy Tr moly	Run	Hi ∠	Gyp vn	Qtzt as above w/ Hi ∠ Gyp vn throughout run
	540.8	9.8		.12		Qtzt	Run	Stks & vlts py, wk cpy	537-38.2	Hi ∠	frac w/ bx	Lt gr to wh Qtzt w/ mod ser alt. pats & blebs
									Run	30-50°	fracs w/ gyp	
	550.0	9.2		.12		Qtzt-Mp	Run	30-50° vlts, py, Tr moly, cpy	542.6	25°	Qtzt-Mp ct	Qtzt same, Mp w/ st. feld, pats Qtz, st ser.
									Run	20-60°	Gyp vlts & fracs.	
	560.5	10.5		.16		Mp	Run	As above	Run	"	" "	Same
	572.4	11.9		.14		Mp	Run	Pats & vlts py, Tr cpy Moly on some fracs.	569.4	40°	0.6' bx-gg zone	St ser, serp; locally broken
									569.0	45°	0.3' gg zone	
									Run	60-Hi ∠	Fracs w/ st serp, Talc	
	575.7	3.3		.11		Mp	Run	" " " "	Run	35°	Fracs as above	Same
	586.9	11.2		.08		Mp-Qtzt	Run	diss sulf, sml gg (-50% rec'y)	575.7-582.7		(?) Lost ct between Mp & Qtzt	Mp & clear to frosty wh Qtzt bx, st ser & gg.
									Run	—	Possible flt zone	
	591.9	9.9		.15		Qtzt	Run	wx vlts & diss py. sp cpy - wk moly	Run	60°	fracs w/ ser, clay	Lt gr to frosty wh Qtzt st ser.
	596.5	4.7		.09		Qtzt	Run	Same	Run	Hi ∠	fracs w/ gg, ser clay	Same

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-46
Coordinates N 362,642.12 E 762,469.55
Dip Vert Bearing —
Date started 10/10/62 Completed 11/2/62
Collar Elevation 3266.5 Total Depth 815.2

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
596.5	607.0	10.5		.68		Hf	Run	wk-mod hi & vlts & diss cpy-py.	596.5	40°	Qtzt-Hf ct @ gyp vlt.	Upper 1.5' hi gyp content
									Run	30-vert	Gyp vlts & fracs w/ talc.	Remainder Lt grn dense clayey Hf.
							603.1	30° cpy-mag vlt.				
	618.3	11.3		.91		Hf	617.0-18.0	Low & mag-cpy vn	Run	varied	fracs w/ gg & gyp vlts	Same
							Run	strs & vlts cpy-py w/ hem.				
	625.0	6.7		.41	54.0 @ .64	Hf	Run	Sp py-cpy vlts.	Run	"	Same	No change
	635.2	10.2		.58		Hf-Tt	Run	Diss & hi vlts py w/ lesser cpy	627.8	20°	Hf-Tt ct @ gyp vlt.	Hf as above to 627.8 followed
									630.4	-	Gradational Tt-Hf at	by 2.6' Tt (brn) & Hf as
												before to end.
	643.0	7.8		.50		Hf	Run	As above	638.4	70°	Qtz vn in frac	Lt gr-grn Hf w/ st feld
									Run	20-75°	fracs & gyp vlts.	repl in first 0.6', Mod ep,
												st ser & clay, serp
	650.5	7.5		.60		Hf	Run	Diss, vlt, pat py-cpy; increase cpy	Run	20-85°	Fracs w/ gyp, cpy-py vlts	Cream-lt tan Hf 1st half run; 2nd half
									650.5	-	Gradational Hf-Qtzt	mixed Hf-Qtzt; scat ep.
	658.8	8.3		.09		Qtzt	Run	Diss, vlts py-cpy, moly on fracs	Run	40-55°	fracs & qtz vlts. very broken last 4.5'	Lt gr Qtzt w/ zones & pats Lt brn Arg.
	667.2	8.4		.19		Qtzt	Run	Tr suls; wk moly	Run	varied	Qtz vlts & fracs	As above w/ less Arg
	671.2	4.0		.17		Qtzt	Run	As before	Run	"	Gyp, Qtz vlts & fracs.	Same
	681.2	10.0		.12		Qtzt-Arg	Run	Wk diss py-cpy. Tr moly	Run	20-vert	Gyp, Qtz vlts & fracs w/ clay & gg	Lt tan Qtzt & Arg (mixed) color grades to lt grn @ end. Mod-wk ser wk serp @ end.
	686.2	5.0		.96	14.3 @ .60	Qtzt-Arg	Run	As above	Run	20-75°	Fracs w/ gyp, clay	Mixed lt gr Qtzt & Arg to lt. gr Hf; local serp, ep; grad ct to pure Hf @ end run
	695.5	9.3		.41		Hf	Run	Pats, vlts cpy-py; wk diss; wk moly, spec on fracs	Run	20-65°	Fracs, slips w/ gyp, wk serp	Cream-tan Hf, local gar; wk serp on fracs,
									694.5	60°	cpy vlt (1/8")	mod gyp. st serp,
									Run	50°	Lineation of gar	moly last .5'
	705.6	10.1		.19		Hf-Tt	Run	Moly on fracs, wk vlt & diss cpy	Run	20-45	Fracs, slips w/ gyp	Pale grn. to tan Hf
									697.3	75°	Movement on late slip.	w/ ints st gar. Gyp uns, no serp after 698.5'

HOLE NO. M-46

Coordinates N 362,642.12 E 762,469.55

Dip Vert Bearing ____

Date started 10/10/62 Completed 11/2/62

Collar Elevation 3266.5 Total Depth 815.2

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
705.6	715.6	10.0		.16		Tt	Run	Cpy vlts	Run	20-50°	Slips, gyp vns	Brn-tan gran. Tt locally soft. st. gyp
							713.8-14.6	Pats, strs cpy				
	723.5	7.9		.80		Tt	Run	wk diss, vlt cpy, tr bn.				Grn-tan Tt w/ pats wol. st. gyp
	730.7	7.2		2.41	29.6 @ 1.91	Tt	Run	St vlt & diss cpy & bn.	Run	50°	Sulf vlts, strs.	Grn-tan mottled gyp-gar-sulf rock
	737.0	6.3		2.05		Tt	Run	Mod-st diss bn	Run	40-50°	Fracs, slips w/ gyp.	Grades to uniform grn-tan Tt w/ flecks sulf. local gyp, hem
	745.2	8.2		2.43		Tt & Hf	Run	Vlt & diss bn, cpy	Run	40-50°	Fracs, slips	Grades to wh-grn wol-gar rock.
							438.2	.3' mass bn-cpy-sph				
	755.4	10.2		.04		Tt & Hf	Run	wk vlt & diss bn, cpy	Run	30-45°	Fracs & gyp vlts	wh-grn wol-gar rock
								faint hem on fracs.		vert	Frac w/ CO_3 & gyp	st CO_3 in gar.
	765.6	10.2		2.90	23.2 @ 1.85	Tt & Hf	759.3-end	Mod vlt & diss bn, cpy	Run	40°	sp Fracs & slips	Increase in wol decrease gar.
									764.3-end	40°	Recem flt bx w/ hem	
	770.5	4.9		1.48		Hf	Run	wk-mod diss & pats bn, cpy st hem stain, wk moly	765.6-69.8	40°	Recem flt bx w/ hem wk gyp vlts.	Red stained bx zone w/ w Hf & wk gar, serp.
	778.6	8.1		.75		Hf	Run	Mod diss bn-cpy, Tr moly	776.5	50°	bx-gg 0.3'	wh to grn Hf w/ pats st gar wk hem stain, mod serp near end.
									777.3-end	25°	Recem flt bx (et w/ Qtzt)	
	787.1	8.5		.04		Qtzt	Run	Tr sulf	Run	20°	Gyp vlts.	wh Qtzt w/ mod serp first 1.5'; wk-mod ser.
	795.7	8.6		.05		Qtzt	Run	Tr sulf & moly	Run	20-vert	fracs & slips, mod clay	wh Qtzt w/ gyp & clays.
	804.6	8.9		.04		Qtzt	Run	Tr py	Run	"	"	locally very broken.
	815.2	10.6		.03		Qtzt	Run	V wk sul gg	Run	-	very broken	wk ser alt.
									813.1	30°	0.1' Gyp vlt w/ bx	
	Bottom											

MIS-807-A 75

HOLE NO. M-45

Coordinates N 361,949.01 E 763,488.75

Dip Vert Bearing ——

Date started 9/28/62 Completed 10/24/62

Collar Elevation 3271.4 Total Depth 974.0

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
190.0	192.0	2.0			NS Tot	Ccgl	Run					Typical Ccgl
	204.0	12.0	.12	.49	0.12 0.49	Cgl	Run	Mod FeOx, MnOx, Tr CuCO3	Run	20-70°	Fracs & slips w/ gg, clay	Tan-dirty wh Arg-Cgl Mod-wk Ox; Cal filling first 2' run; local st CaCO3
	208.8	4.8	.02	.10		Cgl	Run	WK FeOx, MnOx				Dirty wh Arg-Qtz-Cgl WK ox; local gg, st CaCO3
	219.1	10.3	.12	.46	20.4 @ NS Tot 0.14 0.45	Cgl	Run	WK-Mod FeOx, MnOx on fracs, Tr Cu Ox, Not Cu.	Run	45-70°	Frac system	Tan-gr, dense Arg-Cgl; Wk-mod Ox on fracs
	229.2	10.1	.17	.44		Cgl-Mp	Run	As above + Tr CuSi, Cu Sulf	Run 233.2 234.2	95° ? 45°	As above Cgl-Mp ct Mp-Cgl ct	As above - 1' intercept Mp w/ ser
	241.3	12.1		.34		Cgl-Mp	Run	As above + V-wk diss py, cpy	236.9	?	Cgl-Mp Ct	Gr-dirty wh Arg-Cgl WK ox on fracs, 4.5' intercept Mp
	250.1	8.8		.42		Cgl-Mp	Run	WK diss py, lesser cpy	243.6 245.4	45° —	Cgl-Mp ct Mp-Cgl ct; gradation al, as alt zone	Dense gr-dirty wh Arg-cgl; .5' wk clay, gg zone @ beg run
	258.0	7.9		.55		Cgl	Run	WK-mod diss py, cpy, Tr moly on fracs	Run	45°	Frac system	Dense gr Arg cgl, local clay, sulf gg
	268.0	10.0		.60		Cgl	Run	WK-mod diss & vlt py, lesser cpy	Run	40-60	As above	As above
	280.0	12.0		.52				wk vlt py, cpy	Run	60°	Fracs, slips	Black-grey mottled cgl, local feld alt
	284.2	4.2		.73		Cgl	Run	As above	283.0-		St shears	St qtz-feld-sericite
	294.4	10.2		.64	107.2' @	Cgl	Run	Sl weaker cpy	291-92.5		Bx, qtz uns	Grey-brn cgl
	304.4	10.0		.45	0.58	Cgl	Run	wk py, cpy in vlts & blebs	303.0-		St Feld-clay-ser alt, cal wngs	" " "
	314.4	10.0		.49		Arg & Cgl	Run	As above	Run	40-60°	Fracs, su-vlts	Cgl w/ finer gr ints.
	321.0	6.6		.50		Cgl	Run	Sulf sparse, some px rock sert	319.5	75°	Cal, minor bx	Grey-brn cgl
	330.3	9.3		.76		Cgl	Run	wk-mod diss & vlt py, cpy.	Run	High V	Qtz-Sulf vlts	Grey-brn cgl w/ local st CO_3, feld

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HOLE NO. M-45

GEOLOGIC LOG

MISSION UNIT

Coordinates N 341,449.01 E 763,488.75
Dip Vert. Bearing —
Date started 9/28/62 Completed 10/24/62
Collar Elevation 3271.4 Total Depth 974.0

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
330.3	340.0	9.7		.66		Hf-cgl	Run	wk diss, vlt sulf	Run	45°	Fracs, slips w/ ser	Local st. calc sil, feld to 336.0'
	348.5	8.5		.68		Cgl	Run	As above st. ser. feld last half run	Run		St. shearing	Alt increases thru run.
									348.5		Cgl-Mp ct.	
	354.3	5.8		.20		Mp	Run	wk diss, vlt sulf st feld-clay alt, no visible biot	354.3		Irreg. Mp-cgl ct.	Mod. bleached, alt Mp.
									Run	45°	Fracs, slips	
	365.5	11.2		.45	15.8@ 0.50	Cgl	Run	Minor vlts, blebs cpy, py, st. ser. clay	359.4		1' int Mp	Lt brn, st alt cgl, qtz @ Mp cts.
									Run	40-50°	Fracs, shears	
	370.1	4.6		.63		Cgl	Run	As above w/ num qtz-moly vlts				St. feld-ser dev.
	380.1	10.0		.24		Mp	Run	30° Fracs, slips w/ moly, sulf qq	370.1-71.0		Trans. zone, w/ st qtz-pk feld.	Cream-pale pk Mp w/ st ser-clay alt
	393.1	13.0		.24		Mp	Run	Blebs, v. lts py-cpy. Small pats, strs qtz-moly	393.1	40°	Mp-cgl ct	As above
	400.7	7.6		.50		Cgl	RUN	Diss, vlt, strs py-cpy	RUN	30-80°	Fracs, qtz vlts, slips	Dense gr Arg-cgl. Small irreg Mp pat present, local feld in Arg
	410.4	9.7		.53		Cgl	RUN	As above	RUN	20-60°	Fracs	Dense gr Arg-cgl; 8' Mp int @ beg of run, local feld in Arg
									406.6	60°	slip w/ 4" py-cpy vlt, smeared sulf	
	420.6	10.2		.26		Cgl	RUN	Diss, vlt, blebs cpy, py	RUN	20-70°	Fracs, slips w/ ser, clay smeared sulf	DK-lt gr Arg-cgl, increase clay, ser content, feld increase
									420.6	60°	1/2" py-cpy vlt, w/ clay smeared sulf.	
	431.0	10.4		.55		Cgl	RUN	As above + tr moly	RUN	20-70°	Fracs, slips	As above; st qq, clay zone at end of run
	441.1	10.1		.49		Cgl	RUN	Sl stronger cpy, Diss, vlt, blebs cpy-py	RUN	20-70°	As above	Mottled dk-lt gr, fine Arg-cgl, local clay, ser qqp; Cpy:Py ratio increasing
	448.0	6.9		.60		Cgl	RUN	As above	RUN	Low &	As Above	As above; less clay, feld increasing

HOLE NO. M-45

Coordinates N 361,449.01 E 763,488.75

Dip Vert Bearing —

Date started 9/28/62 Completed 10/24/62

Collar Elevation 3271.4 Total Depth 974.0

GEOLOGIC LOG

MISSION UNIT

③

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
448.0	458.1	10.1		.63		Cgl	RUN	Diss, blebs, thin vlts cpy-py	RUN	20°	Fracs	Mottled br-tan-gr Arg-Cgl, less clay, gyp, st pk feld.
	465.5	7.4		.64		Cgl.	RUN	Diss & vlt cpy-py	RUN RUN	60-70° 20-70°	cpy-py vlts Fracs, slips	Dense mottled br-tan Arg-cgl, local lenses dirty-wh qtz, pk feld
	472.7	7.2		90		Cgl-Mp	RUN	As above; Tr moly in qtz vn	RUN RUN 469.2	60-70° Varied 80°	cpy-py vlts Fracs, slips 2" qtz vn.	Arg-cgl as above, Last half run mixed Cgl-Mp; no biot; cts v. irreg
	482.5	9.8		.63	143.3 @ 0.62	Cgl	RUN	As above; less vlts, Tr moly	472.7 RUN	45° Varied	Slip wi gg, clay, poss flt. Fracs, slips	Dense mottled tan-lt pk Arg-cgl; St feld.
	492.6	10.1		.58		Cgl	RUN	Weaker diss, vlts, small pat cpy-py	RUN	20-80°	Fracs, slips wi clay	Dense, mottled gr-tan lt pk Arg-cgl; pk feld present; local small qtz vlts
	501.5	9.9		1.11		Arg	RUN	Stronger cpy	RUN	20-80°	Fracs, slips wi clay	Dense, fine grained gr-cream Arg
	510.7	9.2		.74		Arg	RUN	Diss, small vlts py-cpy	RUN	40°	Fracs, slips, cpy-py vlts	As above; slips cut cpy-py vlts; clay, gg zone @ 518.6 poss flt
	518.0	7.3		.51		Arg	RUN	As above	RUN	20-40°	As above	Dense fn-grained tan-cream Arg; local clay, $CaCO_3$ on fracs
	526.9	8.9		.53		Arg	RUN	As above, Tr hem on fracs	RUN	20-70	Fracs & slips wi clay	As above; 5' alt zone wi st clay, $CaCO_3$ @ 524.0
	535.4	8.5		.85		Arg	RUN	As above, + small pat cpy-py	RUN RUN	Varied Varied	As above cpy-py vlts	As above
	547.5	12.1		.29		Arg	535.4-36.6	0-20° vlts gtz-cpy-moly	RUN 543.0	0-60° Flat	Fracs. 0.3' Bx & gg	Lt-dk brn Arg.
	551.0	3.5		.18		Arg	RUN	Sulfs nil	RUN 550-51	0-60° Low ∠	Fracs Clay - gg	
	560.1	9.1		.95		Arg	RUN	Tr cpy vlts	RUN 559.7	0-60° 80°	Fracs & mm gougy broken zones Gg seam	Arg becomes more dense - lt brown.
	563.0	2.9		1.25		Arg	RUN	Tr cpy vlts	RUN	Var	St Frac - broken	Lt tan Arg

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HOLE NO. M-45

Coordinates: N 361,449.01 E 763,488.25

Dip Vert Bearing —

Date started 9/28/62 Completed 10/24/62

Collar Elevation 3221.4 Total Depth 974.0

GEOLOGIC LOG
MISSION UNIT

④

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
									560.5	Hi ∠	Recement gg & bx	Lt-dk tan w/ wht
563.0	570.6	7.6		.79	34.5' @ - 0.88	Arg	Run	Set qtz-cpy-moly vlts	Run	45-Vert	Qtz-cpy-moly vlts & gg seams	qtz patches
									571.7	25°	Gg seam	
	576.6	6.0		.63		Arg	Run	Tr cpy-moly-py	575.6-76.6	Hi ∠	Gg seams-broken	
	580.6	4.0		.56		Arg	Run	Wk-mod cpy	Run	80-90°	Gg seams-flt zone	Circulation lost this run. V poor core rec.
	585.5	4.9		1.23		Qtzt	Run	Cpy filling vugs in Qtzt bx	Run	Hi ∠?	Premin. fault bx	Rk lt grn-hornfels/sic 580.6-81.0-Mp-Biot poss recrys Qtzt
												581.0-85.5-Recement. Qtzt fault bx-vuggy w/ cpy filling vugs
	590.2	4.7		NO SAMPLE		Qtzt						Poor core recovery
	596.0	5.8		.16		Qtzt	Run	Suls nil to tr	Run		St frac-gougy	No core recovery (0.1)
	599.4	3.4		.16		Qtzt	Run	Wk diss py-cpy in Qtzt & gg.	Run	Varied	As above	Poor core recovery Fractured & crumbly
	604.5	5.1		.19		Qtzt	Run	Wk diss & vlt py-cpy; Tr moly; Smeared sulf	Run	Varied	Fracs	Qtzt & gg w/ clay, sulf smear Fractured but solid Qtzt; gg washed away(?); Poor core recovery
	608.2	3.7		.26		Qtzt	Run	As above	Run	Hi ∠?	Fracs - w/ gg (?)	As above, V-poor recovery
	618.0	9.8		.26		Qtzt	Run	As above	Run	Hi ∠	Fracs w/ wk clay, smeared sulf	Solid wh Qtzt, local recemented bx zones, clay on fracs
	626.8	8.8		.28		Qtzt	Run	Wk fine diss py-cpy, V wk pats, fine vlts	Run	50°	Some cpy-py vlts	As above; locally V-vuggy re-cemented bx
	633.0	6.2		.13		Qtzt	Run(?)	Tr fine diss sulf	Run	Hi ∠	Fracs w/ clay, gg, smeared sulf	No recovery from 629.4 to 632.0; Vuggy re-cement bx @ ≈ 628'; Solid but broken @ 632.0-33.0'
									≈ 628'	Hi ∠	Fracs	
									632-3	Varied	Fracs	
	635.0	2.0		.18		Qtzt	Run	Tr diss sulf, moly	Run	70°-85°	Fracs	Wh-impure bx Qtzt Some re-cem bx
	638.1	3.1		NO SAMPLE		Qtzt?						No recovery; Probably as above w/ gg-bx

MIS-807

HOLE NO. M-45

Coordinates N 361,449.01 E 763,488.75

Dip Vert Bearing —

Date started 9/28/62 Completed 10/24/62

Collar Elevation 3274.4 Total Depth 974.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
638.1	640.3	2.2		.14		Qtzt	Run	As above; some cpy-py in small qtz vlts	Run	Hi ∠	Fracs	As above w/ qtz strs.
	645.6	5.3		1.58	1.58	Qtzt	Run	Wk diss py-cpy in Qtzt; Mod cpy-py in num qtzt vlts	Run Run	Hi ∠ 45° Inv	Fracs Qtz-vlts	Impure alt br Qtzt w/ silication - Pot br silicate(?); num qtz vlts; $CaCO_3$, clay, gg in fracs
	656.1	10.5		.28		Qtzt	645.6-46.9 ± 649.5 Run	St 45° qtz vlts w/ cpy-py Tr cc pots cc in qtz wk fine diss sulf; Tr moly	645.6-46.9 Run	45° –	Qtz vlts in bx-sl ser. very strongly broken.	As before w/ very st ser; pots grn Hf.
	665.8	9.7		.15		Qtzt	Run	70°-vert vlts py w/ cc coating in st qtz.	Run	–	broken - some 50° to vert fracturing	As above
	672.9	7.1		.19		Qtzt	Run	Strs vlts py w/ lesser cpy, wk sulf gg	Run ± 672.9	30-75° –	fracs w/ st ser & sulf gg. Qtzt - Hf ct (lost)	Some w/ wk alt to clays near end.
	678.0	5.1		.78		Hf	Run	diss & 45° vlts py-cpy; Tr moly	Run	45°	Sp qtz vlts.	Lt gr to dense grn Hf w/ st clay, wk serp; Tr Act-Trem; w/ CO_3 on fracs
	688.0	10.0		1.56		Hf-Tt	Run	Diss, strs & 30° vlts py-cpy in qtz-CO_3.	Run	30-70°	Qtz & CO_3 vlts in vuggy fracs.	Mixed lt grn Hf w/ pots tan gar & grn to tan Tt w/ local hem & Act.
	695.7	7.7		1.56	52.1 - @ 1.23	Tt	Run	Fine diss, strs & 30-45° vlts cpy-py	694.0-95.7 Run	45° 30-70°	Poss fH w/ st CO_3 & Tt bx (very vuggy). Qtz & CO_3 vlts.	Lt tan to grn Tt w/ pots & short intervals Hf. St CO_3; Act-Trem
	706.0	10.3		.79		Tt-Hf	Run 703.7	Sp 30-60° vlts & strs cpy. 30° (0.2') vlt qtz-cpy	Run	30-60°	vuggy fracs w/ st CO_3; wk clay, qtz vlts	Lt grn to tan mixed Tt & dense Hf w/ wk clay, pots Mb, v. st CO_3. Locally vuggy. Local st silf.
	708.9	2.9		.44		Tt-Hf	Run	30-45° qtz-cpy vlts.	Run	30-45°	CO_3-qtz vlts.	As before less pots Mb. + Serp.
	714.7	5.8		.80		Tt	Run	vlts-diss py-cpy; Tr Moly	Run	–	Broken & ground.	St CO_3 very vuggy.
	725.0	10.3		1.79		Tt	Run	30-45° qtz-cpy-py vlts Tr moly	Run	30-45	Qtz, CO_3, Sul vlts.	Tan-maroon Tt, Tr Trem; local st hem.

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-95
Coordinates N 361,949.01 E 763,489.75
Dip Vert Bearing —
Date started 8/28/62 Completed 10/24/62
Collar Elevation 3264 Total Depth 974.0

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
725.0	734.5	9.5		.24		Tt-Hf	Run	wk diss & vlts py-cpy local hem stain; Tr bn	Run	30-60°	Fracs, qtz & CO_3 vlts locally broken.	Maroon to tan Tt w/ wk Trem mixed w/ tan to lt gr dense silt Hf w/ wk mod. st CO_3 throughout
	742.1	7.6		.14		Tt-wHf	Run	wk diss cpy & bn	738.1	50°	Tt-wHf ct	Tt as above to 738.1. wHf w/ pats gar, local st clays to end.
									731.9	low ∠	0.2' bx-gg	
									733.6	30°	0.1' bx-gg clay & gar	
									Run	30-90°	Gyp vlts some w/ CO_3	
	752.3	10.2		1.18	18.9' @ .91	Tt	745.6-46.6	30° st cpy vlts	745.6-46.6	30°	cpy in recemented bx	Lt grn Tt w/ wk Trem
							Run	30°-45° vlts py-cpy	749.3	35°	recemented bx zone (0.7')	
									Run	20-40°	Gyp vlts	
	761.0	8.7		.60		Tt	Run	wk to mod 20-75° vlts py-cpy; wk hem stain	Run	20-75°	Gyp vlts & fracs.	Tan FeTt w/ st Trem wk clay
	771.1	10.1		6.53	19.1 @ 12.77	Tt	Run 766.7-end	v. st diss & vn cpy-py near massive py-cpy-mag.	768.5	95°	0.9' py-cpy gg w/ st mag	Tt as above w/ st gyp & clay; wk local feld repl.
									Run	low-Hi	Gyp vlts.	
	780.1	9.0		17.78		Cpy Vn	Run	Mass cpy-py-hem-mag pyrrhotite?	Run	0-90°	Gyp vlts.	Mass cpy-py w/ num irreg to rounded pats hem-mag.
									780.1	45°	Gg seam cnt w/ Tt	
	789.4	8.3		.15		Tt	Run	Tr py cpy bn?	Run	0-40°	Gyp vlts	Lt brn Tt w/ pat $CaCO_3$
	796.5	7.1		.34		Tt	Run	wk-mod diss cpy-py tr bn or mag.	Run	20-45°	Gyp vlts & bands in suls	"
									796.5	0°	Grad cnt w/ Hf	
	805.8	9.3		.31		Hf	Run	Sct 50° vlts cpy-py	Run	0-20°	Gyp vlts	Gr-wht Hf w/ pat brn Tt
	813.0	7.2		.08		Hf	811.4	Thin 40° cpy vlt				Soft dense to loose Hf
	816.5	3.5		.04		Mb	Run	Suls wk to nil	815.0	20°	Gyp vlts	Hard dense Lt grn Mb
									816.5	50°	0.3' flt gg seams & CO_3	
	824.4	7.9		1.30	1.30	Hf	Run	Mod-st diss cpy-py	824.4	40°	Grad cnt w/ qtzt	Dense hard-grn Hf
	834.8	10.4		.12		Qtzt	Run	p pats & 60° vlts cpy-py	829.6	Hi ∠	Frac & broken zone.	Ltgr-wh Qtzt, Alt wk
	840.3	5.5		.40	7.8' @ 0.53	Qtzt	Run	Mod diss & pats cpy-py	840.3	50°	Upper flt & Hf ct.	As above
									839.0	Vert	Gyp vlt in frac.	
	842.6	2.3		.83		Hf	Run	st py w/ lesser cpy & pats & stks mely	842.3	70°	Lower flt & Hf ct	Ltgrn to gr Hf w/ st silt through flt zone.
									Run	50-70°	Recem flt bx-gg	
	852.7	10.1		.08		Qtzt	Run	wk diss & stks py-cpy	Run	30-60°	Fracs w/ gyp, ser, serp.	wh Qtzt, wk alt

HOLE NO. M-45

Coordinates N 361,449.01 E 763,488.75

Dip Vert Bearing —

Date started 9/28/62 Completed 10/24/62

Collar Elevation 3271.4 Total Depth 974.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
852.7	863.6	10.9		.07		Qtzt	Run	Tr diss suls	Run	30°	fracs w/ sers, serp	Lt gr to wh Qtzt w/
							862.0	Shear w/ cpy-py			gyp.	med alt to ser & clay
	873.6	16.0		.12		Qtzt	Run	Sp pats & vlts cpy-py Tr moly	Run	30-60°	As above shattered in places	Same
	877.3	3.7		.13		Qtzt	Run	Diss & bi & vlts cpy-py	874.6	60°	Gyp vlt.	As before; wk alt.
	885.5	8.2		.53	17.5 @	Hf	Run	Wk to mod diss & vlts py-cpy, mod moly in flt. local wk hem.	877.3-878.1	20°	Flt ct between Qtzt & Hf w/ Qtzt bx in upper 1/2 & Hf w/ fold in lower 1/2	Lt tan, pk, & wh Hf w/ med fold to 879.5. St clay & serp remainder
	894.8	9.3		1.49	1.04	Hf	885.7	0.2' - 50° vlt cpy	890.2	40°	Recem flt w/ suls	Lt gr-grn Hf w/ pats Mb & Wal; St clay & serp
							Run	Pats & vlts cpy-py Tr moly	891.7	70°	Bx-gg w/ hem (sw gg	
									894.5	60°	Bx-gg w/ cpy-py-hem.	
	901.7	6.9		.02		Mb	Run	Tr suls	894.8	50°	Hf-Mb ct @ frac.	Lt gr to wh Mb w/ short int's soft w/ clayey Hf & mod serp.
	910.9	9.2		.09		Mb	902.6	50° 0.2' int Hf w/ cpy sph & bng; Remainder tr suls	Run	30-50°	fracs w/ serp & clay	As above in all respects
	920.7	9.8		.04		Mb	Run	Wk diss & stro suls	Run	25-45°	fracs as above	Same & v. small pats gar
	930.7	10.0		.01		Mb	Run	Tr suls	924.7	70°	small bx-gg zone	As above to 928.7 & lt gr
									928.7	40°	ct between serp Mb & lt gr Mb accross bx zone	wh banded Mb w/ wk alt to end.
	936.8	6.1		Nil		Mb	Run	barren	Run	30°-Hz	fracs w/ clay & serp	Lt gr Mb w/ wk alt.
	946.8	10.0		Nil		Mb	Run	Tr suls	Run	"	" " " "	" " " "
	955.8	9.0		Nil		Mb	Run	barren	Run	70°	Sp fracs	Same w/ 30-50° wh banding
	965.8	10.0		Nil		Mb	Run	Tr diss suls				Grades to wh Mb w/ wk serp.
	974.0 Bottom	8.2		Nil		Mb		Thin str cpy-sph at end of run.	Run	varied	fracs w/ clay	Wh Mb w/ pats Hf

HOLE NO. M-44

Coordinates: N 363,236.50 E 762,462.24

Dip Vert Bearing ——

Date started 9/24/62 Completed 10/9/62

Collar Elevation 3260.2 Total Depth 729.1

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	191.0					Alluv						Top CCg ± 170 (?)
	194.3	3.3				CCg						BR 194.3
	205.3	11.0		.02		Mp	Run	Mn, Fe Ox Tr Cu Ox	Run	–	Very broken; some 30-70° fracs can be seen	It brn, Tan, yel, & wht soft clayey Mn Fe Ox zone. St relict qtz. Mica
	213.8	8.5		.17		Mp	Run	Cu, Fe, Mn Ox.	Run	30-60°	Frac all trending in same direction	As above + wk mica.
	222.3	8.5		.18		Mp	Run	Same + Tr not cu in chl. vlt py @ end.	Run 222.3	40-60 –	As before Base Oxides	wk-mod chl in fracs in last 1.0'.
	232.0	9.7		.18		Mp	Run	diss py; Tr cpy; vlts & diss moly; wk cu on py.	Run	40-60°	fracs & Qtz vlts w/ moly. Locally strongly broken	It gr Mp w/ mod to st ser. Mod mica, Tr fl, Mod chl-serp first 1.5 ft.
	243.1	11.1		.19		Mp	Run	Same w/ Tr Cu	Run	"	fracs & Qtz vlts w/ moly; chl gg.	No chl-serp, pk feld.
	253.3	10.2		.15		Mp	Run	As before w/ nil Cu.	Run	"	" " " "	wk fl; serp.; pk feld.
	262.5	9.2		.16		Mp	Run	Same w/ less moly, Tr Cu.	Run	30-70° 25-90°	fracs As before some gyp vlts.	fl nil. stand etc.
	269.7	7.2		.16		Mp	Run	Sp pats & 25° vlts py-cpy-diss py. V wk moly.	Run	15-50°	fracs & gyp vlts. some gg on fracs.	" "
	279.7	10.0		.14		Mp	Run	Lesser py-cpy; nil Cu.	Run	"	" "	As before
	287.2	7.5		.17		Mp	Run	Pats, vlts, diss py, lesser cpy, Moly on fracs.	Run	15-60°	fracs; gyp vlts, qtz vlts.	St. ser; local gg
									285.3	30°	0.6' Br-gg° flt.	
	299.2	12.0		.19		Mp	Run	" " "	Run	30-60°	fracs, gyp, qtz vlts.	No change
	307.0	7.8		.18		Mp	Run	diss py-cpy; wk moly	Run	"	" " " "	Lesser ser.
									306.1-307	25°	Br-gg pass flt.	
	314.7	7.7		.18		Mp	Run	" " "	Run	15-25	As in previous zone.	Mod ser
								Se 50° vlts py, wk cpy.	311.6	70°	flt Br-gg.	
	328.0	13.3		.18		Mp	Run	As above	Run	15-50°	fracs & gyp vlts w/ chl gg.	Mod ser; pk feld pch
	338.3	10.3		.16		Mp	Run	Diss py w/ Tr cpy; wk moly; lt Mn cpy.	Run	"	"	Mod bit; wk serp, Mod pk feld. mod ser.

MIS-807-4/5

HOLE NO. M-44

Coordinates: N 363,236.50 E 762,462.24

Dip Vert Bearing _____

Date started 9/24/62 Completed 10/9/62

Collar Elevation 3260.2 Total Depth 729.1

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
338.3	348.2	9.9		.27		Mp	Run	wk, fine diss & vlt py; lesser cpy, wk moly on fracs & wk diss	Run	Varied	Fracs w/ gyp, wk ser, ser, wk moly	Mp w/ pk & clear fold, biot, ser; diss & vlt qtz
	358.5	10.3		.19		Mp	Run	As above w/ local pot st py	Run 358.6	20-60° Irr.	As above 3" zone of st pot py, st ser	As above w/ stronger ser, especially near fracs
	369.0	10.5		.20		Mp	Run	Wk, fine diss & vlt py; lesser cpy, moly on fracs & wk diss	Run 363.6	20-60° 40°	Fracs w/ gyp, ser, wk moly 1" gg zone	As above; st ser near fracs; stronger gyp
	378.0	10.0		.24		Mp	Run	As above	Run 372.4	20-60 40°	thin py vlts fracs 3" gg zone w/ st ser gyp	As above; Fold contact or fracs alt
	388.4	9.4		.26		Mp	Run	As above	Run	20-60	Fracs w/ gyp, ser	As above
	398.2	9.8		.22		Mp	Run	As above + small pot py	Run	20-60°	predominant 45° frac system w/ gyp	As above; less ser, alt
	406.5	8.3		.21		Mp	Run	As above	Run	20-60°	As above	As above; more ser, alt near end of run
	414.5	8.0		.21		Mp	Run	As above	Run Run 414.5	15-50° 20-40° Irr.	As above Thin py vlts w/ wk moly Mp-Arg-Qtzt	As above + more sericitization 1" gg zone @ 414.5'
	424.9	10.1		.11		Arg-Qtzt	Run	Wk diss & small pot py, cpy; wk moly on fracs	Run	45°	frac system	Mottled br-gr-lt tan Arg-Qtz-ser, gyp Mixed Arg-Qtzt
	435.0	10.2		.10		Qtzt	Run	As above	431.0 432.3	70° 50°	slip w/ soaped sulph slip w/ gg.	Wh Qtzt w/ local ser clay; st grad w/ mixed Arg-Qtzt to wh Qtzt
	445.6	10.6		.11		Qtzt-Mp	Run	Wk diss & small pot py, lesser cpy; wk moly on fracs	439.9 444.0	40° 55°	Poss flt zone - 5' gg zone w/ fracs, clay, gyp Qtzt-Mp ct	Wh Qtzt w/ local clay, ser. Mp w/ biot, st ser.
	454.5	8.9		.21		Mp	Run	As above	Run	20-60°	Fracs	Mp - biot, good ser. Fracs w/ gyp, soaped sulph
	465.6	11.1		.25		Mp	Run	As above	Run	20-60°	As above	As above; small clay gg zone @ 462.8'
												464.4

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HOLE NO. M-44

Coordinates: N 363,236.50 E 762,462.24

Dip Vert Bearing _____

Date started 9/24/62 Completed 10/9/62

Collar Elevation 3260.2 Total Depth 729.1

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
465.6	476.6	11.0		.14		Mp	Run	Wk-v wk diss py, cpy; Wk moly on fracs & diss	Run	Varied	Fracs w/ clay, gyp	Mp-biot; feld alt to ser, clay (Kaolin?)
	482.5	5.9		.16		Mp	Run	As above + small vlts py	Run 482.5'	20-60° Irreg	Fracs Mp-Qtzt ct	Mp-biot; decase, less alt of feld; last 1.0' alt as above
	488.8	6.3		.21		Qtzt	Run	Wk diss py, cpy, moly Wk smeared sulf, moly on fracs	Run	20-65°	Fracs	Wk Qtzt; local selenite gyp in fracs; .6' intercept Mp @ 485.0'
	497.0	8.2		.06		Qtzt	Run	Wk diss & vlt py, cpy, moly	490-91	75°	1" Gypp vn.	Qtzt fracs within gyp vn.
	510.0	13.0		.12		Qtzt	Run	Wk vlt sulf, qtz filled small vugs	Run	High V.	Slips, fracs Small ints serp alt	Run completely fract, broken ser alt
	517.0	7.0		.13		Qtzt	Run	Mod moly on fracs, wk diss & vlt sulf	516.2	50°	Flt w/ clay, Sulf gg	Dense, pure qtzt Ser alt.
	525.6	8.6		.11		Qtzt	Run	St. system sulf gg vlts. Tr py, cpy, moly	Run	50-60°	Gyp-coated slips	
	535.4	9.8		.13		Qtzt	Run	Py, cpy vlts, sulf gg on slips. Local st moly on fracs	Run	High V	Shears, fracs	Badly broken, st ser-clay alt
	543.5	8.1		.18		Qtzt	542.0 Run	St moly Wk vlt & diss py, cpy, moly	543.5	80° 40°	Fracs, shears w/ ser alt Qtzt-Hf ct	Pink calc, st gyp 542.0 to end.
	550.8	7.0		.46	19.8 @ .45	Hf	Run 545.7	Wk-mod sulf vlts Mag-hem int.	Run	70°	Gyp-cal vlts, slips	Gran & wk mottled Hf w/ st. serp, cal, gyp
	563.3	12.8		.44		Hf	Run	Pats, strs py w/ cpy Local st mag-hem-sulf	Run Run 563.3	30-50° 20° 35°	Gyp, cal vlts Slips w/ gg, gyp Hf-Arg ct	Var. gra serp-gyp hf w/ ints mass mag-serp-hem.
	575.5	12.2		.07		Arg-Qtzt	Run	Tr py-cpy, moly on fracs, slips	Run	60-70°	Shears	Grey-tan mottled Impure qtzt (?)
	586.9	11.4		.09		Arg-Qtzt	Run	As above	Run 586.9	40-50° 50°	Fracs, slips Grad. Qtzt-Hf ct.	Rock grades to pure qtzt run end.
	595.5	8.6		.68	17.3 @ .62	Hf	Run	Pats, strs py-cpy w/ cp	Run	40°	Fracs, gyp vlts	Var. gra mottled serp hf w/ bon-tan int serp-talc alt

MIS-807-A75

HOLE NO. M-44

Coordinates: N 363,236.50 E 762,462.24

Dip Vert Bearing —

Date started 9/24/62 Completed 10/9/62

Collar Elevation 3260.2 Total Depth 729.1

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
595.5	604.2	8.7		.57		Hf	Run	Pats, strs py w/ cpy, Local st mag & hem	Run	Var	Gyp vlts, slips	Var grn serp hf w/ st gyp. Talc alt.
	614.2	10.0		.38		Hf	RUN	As above				Becomes dense, more diop
	623.4	9.2		.29		Hf	Run	Num. py-cpy vlts & strs. st gyp	Run	30-40°	Gyp, sulf vlts	Diop-serp hf, w/ gar toward end
	633.6	10.2		Nil		Hf-Tt	Run	Tr Sph; Cpy-py Nil	Run Run	H. 4 30°	Gyp vlts (sel.) 1" fracs	Mixed Tt-Hf; diop; well hf; Br-lt. gr. gar in Tt; Tt calcareous
	643.6	10.0		Nil		Hf-Tt	RUN	Tr sph, cpy-py Local st hem	Last half RUN 640.4' RUN	30-40° 30° Varied	Lineation of gar, hem vlts Poss. flt fracs, slips, gyp vlt	Mixed Tt-well Hf; St hem, sel zone @ 640.4' poss. flt; Tt w/ qtz; $CaCO_3$ & gg & clay at end end
	653.6	10.0		.09		Tt	Run	As above - w/ wk hem	RUN	30-60°	As above	Lt grn - Br Tt; Some clay @ beg run, sl calc 3' gyp vlt @ 650.4'
	663.5	9.9		.56		Tt	RUN 662.2-635	As above small vlts born, cpy, qtz	RUN 662.2-35	Varied 60°	As above Born vlts	Lt grn - br Tt; local clay, Born vlts cut by small slips; Calcareous
	671.0	7.5		4.45		Tt	662-7.1 Run	Near massive born, lesser cpy Mod-st diss, pods, vlts, strs born; lesser cpy	RUN	30°	Some born vlts	Lt grn Tt, med-coarse grained, Some clay alt, local gyp
	679.4	8.4		.68	40.0 @ 2.12	Tt-Hf	Run	Diss, strs, vlt born, cpy; Tr diss moly, Tr sph(?)	Run Run	Varied 30°	Gyp vlts Some born vlts & gar lineation	Lt gr. - creamy wh. Tt w/ admixed Diop Hf; Pk carbonate (Rhod?); local st gyp; Pat relict Hb
	689.3	9.9		2.83		Tt-Hf	RUN	Mod-v. st diss, pats, strs, born, lesser cpy; Tr sph(?)	RUN RUN	Varied Irreg	Num gyp vlts Born strs	Lt gr - creamy wh. Tt-Hf w/ local v. coarse gar; St born cut by st clay & gyp; local pat. Hb
	693.6	4.3		2.78		Hf	RUN	Mod-st diss, strs, born, local st [illegible] hem	692.6 693.6	30° Irreg	Some hem, clay strs Hf Qtz-zt ct.	Lt-grn-cream Hf; 1st 8' run Tt; local $CaCO_3$, gyp

HOLE NO. M-44

Coordinates: N 363,236.50 E 762,462.24

Dip Vert Bearing ——

Date started 9/24/62 Completed 10/9/62

Collar Elevation 3260.2 Total Depth 729.1

GEOLOGIC LOG

MISSION UNIT

(5)

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
693.6	702.3	8.7		.04		Qtzt	RUN	Tr small pots cpy, py	RUN	30-90°	Fracs	Wh broken Qtzt; some gyp, clay on fracs
	712.7	10.4		.05		Qtzt	RUN	Tr diss py	RUN	30-90°	Fracs	As above wi some $CaCO_3$ xls on fracs
	721.1	8.4		.07		Qtzt	RUN	Tr fine diss sulf	RUN	30-70°	Fracs	Pure wh Qtzt, less broken, Minor clay, $CaCO_3$ on fracs
							714.6	1/8" born-cpy vlt	714.6	65°	Born-Cpy vlt	
	729.1 Bottom	8.0		.06		Qtzt	RUN	Tr fine diss sulf	RUN	30-75°	Fracs	As above

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HOLE NO. 11-43

Coordinates: N 34,161.54 E 748,743.49

Dip Vert Bearing ——

Date started 8/20/62 Completed 9/21/62

Collar Elevation 3265.9 Total Depth 1470.4

GEOLOGIC LOG

MISSION UNIT

315.6

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	191.0					overburden						cg ≥ 170 (?)
191.0	216.0	25.0				CCg			216.0	70°	CCg-BR cont.	
	220.7	4.7	.08	.24		Cgl	Run	Mn-Fe Ox	Run	50-90°	Fracs w/ cg (clay)	lt gr Fg stained Cgl
									220.7	Lowl	frac-Base Oxides	w/ dk brn to maroon
												frags.
	229.2	9.5		.26		Cgl	Run	Strs & diss py-cpy	Run	30-70°	fracs & slips w/	As above less Fe stain
								Sulgg			Sulgg, ser & qzp.	local ser-serp.
	242.7	13.5		.28		Cgl	Run	As above tTr moly	Run	"	Same + serp.	Stronger ser.
	251.0	8.3		.29		Cgl	Run	As before w/ local	Run	50-70°	fracs & slips, some	Less ser - w/ Talc
								st moly on some fracs.			w/ minor bx	
	261.6	10.6		.27		Cgl	Run	Hi lvls & diss py-cpy	260.2	45°	Bx-gg	local zones Qtz Arg.
								Molyon fracs.	Run	15-45°	Gyp vlts & slips.	st serp & Talc on fracs
	271.7	10.1		.32		Cgl	Run	wk strs & diss sulf.	Run	"	"	st ser, serp, Talc.
	282.9	11.2		.34		Cgl	Run	Varied & strs & vlts	Run	15-65°	fracs & slips w/ st	"
								cpy-py-Tr moly			ser, serp, Talc wk	
											gyp.	
	293.0	10.1		.50	10.2 @ 0.46	Cgl	Run	As above	287.7-292.0	60°	Bx-gg (poss Flt)	short intr dk brn
												Arg in cgl. St Alt
	303.1	10.1		.41		Cgl	Run	Strs & diss py-cpy	297.4-302.0	60°	Bx-gg w/ st serp,	As above w/ more
								moly on some fracs			Talc & moly (poss Flt)	Buggy fracs & wk CO2
	310.2	7.1		.26		Cgl	Run	Wk py-cpy-Sulgg	Run	20-Vert	fracs & slips w/	St alt. To ser.
											Ser, Talc, gyp.	
	320.9	10.7		.29		Cgl	Run	Wk py-cpy	Run	20-50°	fracs, qtz vlts	Dk gray-brn cgl
									319.3	30°	Bx & gg	
	331.0	10.1		.30		Cgl	326.2	45° Qtz-py-cpy vlt	Run	20-Vert	Frac-gg	Pots qtz-talc vlt
	341.8	10.8		.30		Cgl	Run	Wk py-cpy in qtz vlts	Run	20-45°	Qtz-sul vlts	332.6 Tr Spl
									341.8	50°	Gouge seam & qtz	
	351.9	10.1		.33		Cgl	342.6	45° Qtz-moly-cpy vlt				
							Run	More abun qtz-py-cpy vlts	Run	20-45°	Qtz-sul vlts	
	360.2	8.3		.46		Cgl	Run	As above	Run	20-80°	Qtz-sul vlts & fracs	
	371.0	10.8		.43		Cgl	Run	Se vlts py w/ less py	369.5	60°	gg-sulf seam.	St ser, wk serp.
								Tr moly, Sulgg				
	380.4	9.4		.61		Cgl	Run	60-Vert py-Tr moly	Run	30-50°	Qtz-sul vlts & fracs	w/ pots talc
								vlts, Sulgg			& slips	

MIS-997-A.99

HOLE NO. M-43

Coordinates: N 361,161.54 E 763,743.49

Dip Vert Bearing —

Date started 8/20/62 Completed 9/21/62

Collar Elevation 3265.9 Total Depth 1470.4

GEOLOGIC LOG

MISSION UNIT

19.074 / 11 3.2

(2)

44.185 / 55.1

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
380.4	389.3	8.9		.75		Cgl	Run	Varied % vlts & diss cpy-py	Run	varied	fracs & slips	Stser. serpen slips
	400.3	11.0		.76		Cgl	Run	As before but weaker.	Run		Very broken	St ser local qg-bx
	409.8	9.5		.65		Cgl	Run	wk diss & strs cpy-py	409.3-7.0	30°	Bx-qg zone w/ Tr sulf.	Strongly broken w/ much clay
	419.0	9.2	.5	.93	113.3' @ 0.69	Cgl	Run	Strs & fine diss cpy-py - Moly on fracs.	Run 409.8-12.1	30-45° 60°	fracs w/ moly bx-qg (Poss flt)	St ser & clay
	429.1	10.1	.1	.81		Cgl	Run	Diss py-cpy; st moly on fracs.	Run	70°-vert	fracs w/ st moly	As before
	439.9	8.8		.81		Cgl	Run	70° vlts, wk strs, & diss cpy-py; wk moly	Run	30-70°	fracs w/ sulf, ser, gyp. Locally broken	wk ser local clay
	445.0	7.1		.61		Cgl	Run	wk to mod diss cpy-py	Run	"	As above	Mod ser.
	455.0	10.0		.57		Cgl	Run	Varied % vlts & diss cpy-py	Run 445.3	40-80° 60°	fracs w/ ser. 0.4' Bx zone w/ qtz & wk CO_2	Pots feld in upper half of run
	465.2	10.2		.86		Cgl	Run	Mod diss py-cpy, st sul qg.	469-end Run	70° 30-70°	Bx-qg (poss flt) fracs & slips w/ ser, serp, wk CO_2	St ser & clays.
	472.5	7.3		.25		Cgl	Run	Diss & 60° vlts py-cpy	Run	70°-vert	fracs & slips w/ ser.	Local qtz-feld replacement
	482.9	10.4		.26		Cgl	Run 479.8	Strs & diss py-cpy Large pat cpy	Run	30-70°	fracs	Less ser & clay Local wk gilt
	491.7	8.8		.23		Cgl	Run	Strs, diss, & 30° vlts py-cpy	488.3-89.1 491.0	45° 70°	Bx-qg zone (poss flt) slip w/ qg.	Mod alt, to ser.
	500.5	8.8		.29		Cgl.	Run	vlts, strs, diss, pats py-cpy; Tr moly in qtz. Sul qg.	499.5-end 492.8	30° 40°	Bx-qg w/ sul qg gyp vlt, bx, sul qg	Local mod feld; wk qtz, mod ser.
	510.4	9.9		.31		Cgl	Run 503.3	vlts, strs, diss, pats py-cpy, Tr sph. 30°-0.1' vlt cpy	Run 506.0-7.2	30-45 30°	fracs & slips w/ clays, bx & sul qg & sulf. bx-qg & cpy vlts.	As above
	522.2	11.8		.72		Cgl	Run	70° vlts & diss pats py cpy; Tr moly	Run	30-60° Low ∠	Qtz-feld vlts gyp vlts	St qtz-less feld repl.
	532.4	10.2		.77	55.1' @ 0.80	Cgl	Run	As above	Run		Same	Ser on fracs. St silt. As before
	542.4	10.0		.67		Cgl	Run	vlts, strs & diss py-cpy - Tr moly in qtz.	Run	30-50° & vert	fracs w/ gyp, wk ser & qtz.	" "

MIS-807-A

HOLE NO. M-43

Coordinates: N 341,141.54 E 763,243.49

Dip Vert Bearing —

Date started 11/20/62 Completed 12/2/62

Collar Elevation 3265.9 Total Depth 1272.4

GEOLOGIC LOG

MISSION UNIT

(3)

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
542.4	552.4	10.0		1.00		Sgl-Arg	Run	Mod diss py-cpy, Tr moly-sph	548.2	50°	Qtz-fold vlt (25') w/ mod cpy-py-Tr moly	St silf sgl w/ gyp vlts, wk ser, Tr fl.
									Run	30 to 60°	fracs (grad. ct)	grades to Arg across run
	565.5	13.1		.85		Arg	Run	As above + strs.	Run	30-40°	fracs w/ ser, serp, gyp & qtz vlts.	Mod Qtz-fold rep'd. st silf.
	577.8	12.3		.31		Arg	Run	30°-50° vlts & strs py w/ less cpy Tr moly in Qtz.	Run	30-70°	As before	As above
	587.2	9.4		.18		Arg	Run	Mod vlts py w/ wk cpy.	Run	"	"	Less silf, more ser.
	595.0	7.8		.28		Arg	Run	diss & vlts py w/ less cpy Tr moly	Run	30-vert	Gyp & qtz vlts & fracs w/ ser & sulgg.	Mod ser, locally broken
	601.5	6.5		.09		Arg	Run	vlts & diss py Tr cpy sulgg - wk moly	595.7	30°	Qtz-fold vlt.	Tan & dk brn Arg w/ mod silf.
	611.7	10.2		.13		Arg	Run	wk vlts & diss py Tr cpy	601.8	65°	flt brx w/ st py, Tr cpy-moly & sulgg.	As above
	621.5	9.8		.12		Arg	Run	diss & vlts py-cpy Mod moly in Qtz vlts & on fracs.	615.2	60°	Brx-gg-sulgg	Same w/ more
									Run	30-85°	Qtz vlts w/ moly	
									621.5	25°	Arg-Tt ct.	
	631.2	9.7		2.23	2.23	Tt	622-623.4	St 15° & 60° vlts py w/ cpy	625-630	30°	Pass mineralized flt.	Grn Tt on st scarp; white patches qtzt; sheet 16' wide
							625-629.0	30° Massive vn py-mag cpy.	631.2	25°	Tt-Arg ct	massive sulfs.
	638.9	7.7		.21		Arg (Qtzt)	Run	wk diss sulfs	Run	varied	fracs & slips; varip broken	lt tan & pk Arg w/ short intervals Qtzt or hi qtz Arg.
	646.6	7.7		.05		Arg (Qtzt)	Run	As above	Run		Same	As before
	655.0	8.4		.10		Arg (Qtzt)	Run	wk strs & diss py-cpy	Run	50-80°	fracs & slips w/ ser, sulgg.	lt tan Arg w/ st qtz. w/ ser.
	660.1	5.1		.02		Arg (Qtzt)	Run	wk strs & fine diss py-cpy moly on fracs w/ st qtz.	Run	30-vert	fracs & slips w/ clay, moly & gyp	As above
	670.2	10.1		.13		Arg (Qtzt)	Run	Small pats & wk strs sulfs sulgg w/ cpy on fracs	670.0	60°	Arg-Qtzt ct (change from Hi qtz Arg to over Qtzt)	Mod ser on fracs. st silf throughout.
									660.2	70°	Qtz vlts w/ sulfs	

HOLE NO. M-43

Coordinates: N 361,161.54 E 763,743.49

Dip vert Bearing ——

Date started 8/20/62 Completed 9/21/62

Collar Elevation 3265.9 Total Depth 1470.4

GEOLOGIC LOG
MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
670.2	681.2	11.0		.29		Qtzt	Run	wk to mod vlts & diss py-cpy - Moly on fracs.	679.8-80.9	Low ∠	st. broken zone w/ bx & clay	Frosty white Lt gr Qtz. w/ local clay & ser
							679.2	Low ∠ vlt cpy-sph	Run	30-50°	fracs w/ wk ser.	
	691.2	10.0		.51	.51	Qtzt	Run	Varied ∠ vlts & diss cpy-py; Tr Moly	Run	"	"	As before. Less ser & clay.
	702.2	11.0		.26		Qtzt	Run	30° & 60° vlts py w/ cpy sul gg along slips.	Run	30-50°	fracs & slips w/ sul gg	Lt gr & frosty wk qtzt.
	714.0	11.8		.26		Qtzt	Run	varied ∠ vlts & fine diss py-cpy; Tr moly	Run	30-60°	Yuggy fracs	
									710.3	25°	Bx along frac w/ sul gg	As above + wk clay
	724.1	10.1		.31		Qtzt	Run	wk vlts & diss pats py cpy -	Run	30 & 60°	Gyp vlts & fracs w/ sul gg & short into BX	Lt gr Qtzt.
	727.2	3.1		.24		Qtzt	Run	wk diss suls.				Ser on fracs
	737.2	10.0		.13		Qtzt	Run	Hi ∠ vlts & fine diss py-cpy	Run	Varied	yuggy fracs	wk ser.
	747.2	10.0		.11		Qtzt	Run	As before				wk ser alt in fracs
	757.2	10.0		.83	.83	Qtzt	747.2-52.1	As before	752.1-end	30°	Poss flt w/ st clays, bx & mod sulds; Qtzt throughout.	As above to 752.1 & poss flt bx-gg-sulds to end. Ends in v.l. clear Qtzt.
							752.1-end	Mod py-cpy diss & vlts w/ pats hem & st clays in poss flt zone.				
	765.8	8.6		.13		Qtzt	Run	Varied ∠ vlts py w/ wk cpy; Tr moly.	Run	30-60°	Gyp vlts & fracs	wk clays
	775.5	9.7		.11		Qtzt.	Run	wk suls & sul gg	775.0	50°	Gyp vlt.	More clay near end.
									Run	30°	Gyp vlts & fracs	
	782.0	6.5		1.21		Hf	Run	Diss & 30° to 60° vlts py-cpy wk pats hem.	776.0	-	Gradational ct w/ Hf.	V. st. gyp & clay in Lt grn Hf. wk ep & serp
	792.2	10.2		.46		Hf	Run	Mod cpy w/ lesser py in local pods & vlts; wk diss	Run	0-85°	Gyp vlts w/ st ser.	Lt gr to cream Hf; V. st gyp w/ serp & clay; Mass Gyp layer 787.0-788.0; Hf locally Calcareous
									Run	0-85°	Pred. angle 50-50° - Gyp vlts w/ serp	
	800.7	8.5		1.21	58.3° @ 0.88	Hf	Run	St-v. st. vlts cpy, py; lesser diss cpy	798.7-800.7	85°	½-1" vlt py, cpy; lesser cpy	Lt gr - Cream Hf w/ V. st Gyp; local pat gr gar
									793.3-798.8	30°	Series ribbon-like vlts of mod cpy	
									Run	30-50°	Gyp vlts w/ serp	

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HOLE NO. M-43

Coordinates: N 366,161.59 E 763,743.42

Dip Vert Bearing ——

Date started 8/20/62 Completed 9/21/62

Collar Elevation 3265.9 Total Depth 1470.4

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
800.7	810.9	10.2		1.26		Hf		Mod diss & vlt py, cpy, local st mag	803.1	20°	Gg seam w/ gyp	Lt gr-cream Hf w. sd. gyp & serp; 803.1-809.7 mass gyp
									809.7	70°	Gyp-Hf ct	
									Run	20-75°	Gyp vlts; gyp 50°	
	825.0	14.1		.80		Hf		Pats-vlts cpy-py-mag serp	Run	20-35	Gyp vlts	Lt gr-wht Hf w. cp
									815.0	30°	Thin mag vlts	
	833.8	8.8		.54		Hf	830-32.0	Mod cpy-bornite	829.0	20°	Gg & gyp vlt	Frags to wht Hf
									833.8	50°	1' Gg & bx zone	
	841.4	7.6		.18		Qtzt	Run	Tr cpy-py-moly	Run	30°	Fracs	F.g. wht qtzt
	851.8	10.4		.15		Qtzt	Run	As above	Run	30°	Fracs	847.0 - Fat Mp
	860.2	8.4		.13		Qtzt-Mp	Run	Tr fine diss & vlt cpy, py, moly	860.2	35°	Mp-Qtzt ct	Lt gr-Buff Qtzt; st ser w/ porphyry-like text gyp vlts; 0.7' mp interval @ end of run
									Run	20-40°	Fracs	
	868.6	8.4		.26		Qtzt	Run	Tr diss & vlt py, cpy	866.7	70°	Bx-gg zone; 0.4'	Lt gr Qtzt
									Run	30°	Fracs	
	877.8	9.2		.35		Qtzt-Mp	Run	As above w/ mod moly on fracs	872.4	60°	Qtzt-Mp ct w/ mod Moly	Lt gr Qtzt w/ Mp; intercept from 872.8-880; local ser, gyp
									Run	30°	Fracs	
	885.0	7.2		.30		Qtzt	Run	Vlts, stns, & pats py-cpy	Run	30-50°	" w/ wk serf Gyp	Lt gr to frosty wh qtzt w/ wk ser
	895.0	10.0		.21		Qtzt	Run	Vlts & fine diss py-cpy; sulgg.	895.6-896.4	50°	Bx-gg-gyp	Same
									Run	60°	Fracs & gyp vlts	
	906.7	11.7		.27		Qtzt	Run	As above	Run	30-Nat	Fracs	L wk ser, sulgg.
	911.8	5.1		.11		Qtzt	Run	Sp pats & 50° vlts py-cpy	Run	15-60°	Fracs & gyp vlts	" "
	923.2	11.4		.20		Qtzt	Run	60° vlts cpy-py + wk fine diss	919.5	40	0.1' Bx along frac	Thin veined dip Qtz vlts
									Run	20-60°	As in previous run	
	930.5	7.3		.20		Qtzt	Run	Wk diss & pat py, cpy	Run	30-65°	Fracs	Lt gr Qtzt w/ gyp, ser & smeared sulf on fracs
									930.5	60°	Qtzt-Hf ct	
	936.8	6.3		1.60		Hf	Run	St vlts (50°-65°) py-cpy-sph, Tr diss moly all weakening toward end of run	Run	60°	Gyp vlts	Lt gyp dense Hf w/ chert zones. Tan-dark st serp in last 0.3'
									930.8-938	60°	parallel fractures w/ bx-like appearance, pats pre-min & frac	

HOLE NO. M-42

Coordinates: N 361,141.54 E 763,793.49

Dip Vert Bearing —

Date started 8/20/62 Completed 9/21/62

Collar Elevation 3265.9 Total Depth 1470.4

GEOLOGIC LOG
MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
936.8	945.0	8.2		.19	24.6 @ 0.75	Hf	938.3 & 938.5 Run	2 small 50° vlts py-cpy Tr diss sulf.	Run	20-50°	Fracs, slips & gyp vlts. (Pass fl zone)	Lt gra dense Hf w/wk pots wol; grades to dk grn massive serp w/ 20 to 50° gyp vlts, vw/ CO2
	955.0	10.0		.67		Hf	Run 950.4 952.3	Wk diss sulf. pat cpy 60° vlt py w/ less cpy.	Run	15-35°	Same	Alternate lt gr-grn clayey Hf & massive grn-yel serp w/ gyp vlts
	965.0	10.0		.03		Qtzt	Run	Tr sulf on some fracs	955.1 Run	40° 50-50°	Hf-Qtzt ct. fracs w/ wk sulf gg. ser, serp.	Lt gr qtzt w/ zones lt tan material; wk ser, serp.
	975.0	10.0		TR		Qtzt	Run	As above	Run	30-60°	Same	Same minus serp.
	987.8	12.8		.05		Qtzt	Run	" "	Run	30-70°	"	" " "
	990.7	2.9		.05		Qtzt	Run	" "				" " "
	995.0	4.3		.58	.58	Hf	Run	Diss pots cpy-py wk hem.	990.9 Run	50° —	Qtzt - Hf ct. bx like fracs Qtzt throughout. Pass flt.	Grn & tan Hf w/ st serp & Trem. Contains pots Qtzt
	1005.2	10.2		.15		Qtzt	Run	Strs & diss py-cpy in last 1.0' of run	995.8	55°	Hf - Qtzt ct.	Lt tan Qtzt w/ gyp on fracs.
	1010.0	4.8		1.07	1.07	Hf-Qtzt mixed	Run	Hi % vlts & diss py-cpy-sul gg-TrMal	1005.0	—	Gradational Qtzt-Hf ct.	Mixed Hf & Qtz w/ pots Trem, Serp, ser, Feld,
	1022.3	12.3		.32		Hf-Qtzt	Run	Strs & diss py-cpy	1012.2	45°	st slip w/ gyp, serp & sul gg.	Lt gr-grn Hf w/ chert into Qtzt, st clay & med serp.
									1015.5	30°	fill w/ med sulf, serp gyp, Trem-tal, gg	1015.9 - 12.5 - 30° Qtzt int. wk CO_2
	1031.1	7.8		.36		Hf	Run	Tr strs & pots cpy, lesser py; Irr hem strs	1031.5	50-55°	slips w/ serp, clay	Wh - lt grn Hf; .7' silt qtzt @ beg. of run; Run - wall, local gar, silt
	1041.2	10.1		.05		Hf	Run	Local wk diss sulf.	1037.7	60°	0.3' gyp vlt w/ qtz vlts on either side.	Wh Hf w/ pots Mb st serp & wall, local silt, st CO_2

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HOLE NO. M-43

Coordinates: N 361,161.54 E 763,743.47

Dip Vert Bearing —

Date started 8/20/62 Completed 9/2 1/62

Collar Elevation 3265.9 Total Depth 1470.4

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
1041.2	1051.0	9.8		.33		Hf-Bx	Run 1047.6	WK diss sph, cpy-py 0.5' zone st diss sph-cpy-py	1042.5-44.0	30°	Silf bx zone w/ frags qtzt. Poss flt w/ Diss pats sph-cpy	wh dense Hf w/ local st silf & wol. st. CO_3
	1056.4	5.4		1.80	1.80	Hf-Mb	1051.7-54.7	St 70° vns & pats sph-cpy-py.	1055.9	30°	Hf-Mb ct.	Hf as before. Ltgr Mb w/ st clay
	1065.0	8.6		TR		Mb	Run	Tr suls.	Run	30-50°	fracs some w/ gyp.	Ltgr mb w/ med serp & clay on fracs
	1074.6	9.6		Nil		Mb	Run	"	Run	"	"	Same
	1084.8	10.2		TR		Mb	Run	Barren	Run	50° 30-70° vert	Ltgr & wh banding Gyp vlts in fracs Gyp vlt @ start of run	gr & wh Mb w/ wh & gr banding respectively. Local wk strs & pats serp.
	1094.8	10.0		TR		Mb	Run	Barren	Run		Same	As before
	1104.7	9.9		.09		Mb	Run	"	1103.5	50°	0.1' gyp vlt w/ 0.4' anhydrite on either side.	"
	1114.6	9.9		.02		Mb	Run	"	Run	50° 30-70°	Ltgr & wh banding Gyp vlts & fracs.	Same
	1123.0	8.4		.05		Mb	Run	"	Run	"	As above.	"
	1133.2	10.2		.03		Mb	Run	"	Run	"	" "	Lt to dk gr Mb w/ wh 50° banding & wk serp & clay
	1140.0	6.8		.04		Mb	Run	"	Run	30-50°	"	v wk banding.
	1151.0	11.0		.03		Mb	Run	Barren	Run	70-vert	fracs w/ clay & v wk serp.	wh Mb w/ small local pats gr Mb; st clay wk serp anhy & fracs. sp pats wol
	1162.3	11.3		Tr		Mb	Run	Sp tr diss suls.	1169.3 1165.6	40° Hi ∠	0.2' int. W-Hf. frac w/ serp, gyp & clay	As above
	1172.0	9.7		Tr		Mb-Hf	Run	Sp wk strs suls.	Run	20-50°	fracs & slips w/ serp.	wh Mb & W Hf mixed w/ st clay & wk serp.
	1181.8	9.8		Tr		Mb-Hf	Run	Tr suls & moly in pats qtz.	Run 779.1	" 70°	As above Ct between mixed wh Hf & Mb & gr Mb	As before to 779' then gr Mb w/ wk clay & pats wh mb.

HOLE NO. M-43

Coordinates N 361,161.54 E 763,743.49

Dip Vert Bearing —

Date started 8/20/62 Completed 9/21/62

Collar Elevation 3265.9 Total Depth 1270.4

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
1181.8	1191.9	10.1		.10		Mb-Hf-Qtzt.	1186.2 to 1188.3 Run	wk patch & 50° vlts sph-cpy-py w/ tr bn in bx-gg wk diss & vlts suls.	Run	—	Gr Mb to 1182.8 ct @ 30° w/ wh Mb-Hf to 1183.4 ct @ 40° w/ ltgr Qtzt to 1184.9; ct @ 30° w/ mixed wh Hf & Mb.	Gr Mb unaltered. Qtzt w/ wk ser. Mixed Hf-Mb w/ local st clay & low % gyp vlts.
	1201.9	10.0		.19		Hf-Mb	Run 1201.4-end	Tr py-cpy bn-cpy-sul gg in low % frac zone. (0.1')	1201.9 1201.4	30° 15°	0.4' bx-gg w/ wk suls. bx-gg w/ suls. ct w/ pure Hf.	Mixed Hf-Mb w/ wol qtz, gyp, & wk clay; st ser in last 0.5' of run.
	1206.2	4.3		.25		Hf	Run	diss & vlts py-cpy Tr bn	1206.2 Run	30° 30°	frac ct w/ wh clayey Mb. Poss Flt zone	Ltgr-Ltgrn-& pk Hf w/ bx-like appearance containing pats qtz-fold-gyp-clay.
	1208.5	2.3		Nil		Mb	Run	Barren	1208.5 1207.9	Low % 30°	Mb-Hf ct. to end int. anhydrite	Wh clayey Mb w/ 0.9' int wh to tan anhydrite @ end.
	1215.1	6.6		Tr		Hf	Run	wk diss suls.	Run 1215.1	45-70° 40°	fracs, some showing drag folds. Poss flt zone. Hf-Qtzt ct @ frac.	Ltgrn, Ltgr, & tan to pk Hf w/ bx-like appearance containing pats wh & tan Qtzt, Fold, qtz, chl, serp, gyp & clay. Ends in cs tan Qtzt.
	1221.9	6.8		.09		Qtzt-Hf	Run	fine diss suls.	1219.3 1221.3 Qtzt	50° 50° 50-70°	Qtzt-Hf ct } Poss Flt Hf-Qtzt ct } st fracturing w/ fold & qtz along some fracs in last 0.6'	Ltgr Qtzt w/ st ser & 50-70° fracs; dkgrn Hf w/ st serp & frags Qtzt & fold & qtz.
	1224.9	3.0		.05		Qtzt	Run	Tr suls	Run	30-60°	fracs w/ serp.	Lt tan to pk Qtzt w/ w/ wk ser & fold.
	1235.9	11.0		.08		Qtzt-Arg-Bx	Run	wk suls. Pats cpy in flt zone.	1232.5-end Run 1234.1	35° & 40° 30-70° —	flt zone ct w/ Lt gr Arg below. fracs w/ serp & gg Large pat wh Mb.	Mixed Ltgr Qtzt & Ltbrn Arg to 1232.5' & Bx-gg w/ st chl, serp, Fold, Qtz to end.
	1246.5	10.6		Tr		Arg	Run	Tr suls.	1245.5 Run	40° 40-60	Bx-sulgg zone (0.3') w/ serp. fracs w/ bx-serp.	Lt gr Arg w/ st silf wk ser.

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HOLE NO. M-43

Coordinates: N 361,161.54 E 763,743.49

Dip Vert Bearing —

Date started 8/20/62 Completed 9/21/62

Collar Elevation 3265.9 Total Depth 1470.4

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
1246.5	1253.2	6.7		.03		Arg	Run	Tr sulfs	Run	30-80°	fracs w/ bx-serp-ser.	Lt gr to gr Arg w/ st serp, talc along fracs.
	1263.0	9.8		Tr		Arg	Run	" "	1254.3	40 & 30°	Bx zone (0.7') separating Gr & Gr-buff Arg.	Gr - Gr buff & brn Arg w/ wk ser along fracs
									1256.4	55°	Gr-buff & brwn Arg ct @ frac.	
	1270.0	7.0		Tr		Arg	Run	Tr to Nil sulfs	Run	Var	Cos vlts	Reddish brn Arg w/ chl? — mafic impurity
	1281.3	11.3		Tr		Arg	Run	As above	1276.2	45°	Grad sed cnt	1270.0 – 1276.2 As Above
									1281.3	10°	Thin flt - gg	1276.2 – 1281.3 Arg w/ st chl mott. pseudo diorite
												Few bands gyp and run
	1293.2	11.9		.03		Mp	Run	Tr py - cpy	1291-93.2	40°	Schistose bands - serp	Med alt - some biot
									1293.2	40°	Flt cnt w/ Mb	prob alt sed
												1290.6 - 0.3' dense gyp
	1300.0	6.8		.04		Lms-Mb	Run	Sulfs nil	Run	40-70°	Shears - fracs w/ Cos some gyp	Black lms w/ abun pots, vlts wht Cos
									1298.5	20°	Fault - gg zone	
	1310.0	10.0		.04		Lms-Mb	Run	Tr sulfs; poss graphite(?) on slips	Run	40°	Shears & fracs w/ serp Talc	As before
	1318.2	8.2		Nil		Lms-Mb	Run	Same	317.4	30-40°	Bx-gg-shear w/ drag folds.	Blk Ls w/ gr Mb w/ 35-50° banding along shears st serp & Talc
	1327.8	9.6		Nil		Lms-Mb	Run	As before + Tr moly	Run	30-50°	fracs & slips w/ st serp & talc, v. wk sulfs & st gg. (black & sooty)	As above pass to wh Mb
	1337.9	10.1		Nil		Lms-Mb	Run	Tr fine diss py; graphite (?) on slips.	1332.9	40°	flt bx-gg 0.2'	As before w/ more gr Mb.
									Run	30-50	As above.	
	1344.1	6.2		Nil		Lms-Mb	Run	Same	Run	50°	faint wh banding	dk gr to black Lms
										15-50°	fracs. w/ wk serp.	
									1344.1	40°	Ls-Hf ct @ frac w/ wk serp.	

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HOLE NO. M-43

Coordinates N 361,161.54 E 763,783.49

Dip Vert Bearing —

Date started 8/20/62 Completed 9/21/62

Collar Elevation 3265.9 Total Depth 1470.4

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
1349.1	1354.5	10.7		Tr.		Hf	Run	fine diss suls.; Moly on some fracs. wk pat MnO_2	Run	15-50°	fracs & slips w/ serp & clay.	Varies lt grn to tan Hf w/ pats CO_3, Wol, Trem, serp, clay
	1359.7	5.2		Nil		Ls-Hf	Run	Graphite (?) on some fracs; Tr suls	1358.4	irreg.	Ls-Hf ct. Hf to end w/ bx brn @ end.	Blue-gray Ls w/ pats wh, st serp. ltgrn-tan dense Hf w/ bx-like appearance.
									1359.6	20°	Hf-Ls ct @ frac w/ serp.	
	1365.0	5.3		Nil		Gyp(?)-Hf	Run	Tr suls.	1359.7	40°	Hf-gyp ct @ frac	blue-gr & tan Anhydrite w/ pats ltgrn w/ wk lead CO_3 & Mb-like Texture. wk clayey Hf w/ st serp. Poss. impure massive gyp.
									1363.1	20°	Gyp-Hf ct @ pure gyp vlt.	
	1373.2	8.2		Nil		Gyp-Anhydrite (?)	Run	Suls Nil	1365.7	30°	Hf-gyp ct @ st pure gyp vlt.	Massive blue, gray, grn, & brun impure gyp or anhydrite; Nil CO_3
									Run	30°	fracs w/ pure gyp vlts & wk clay.	
	1383.0	9.8		Nil		Gyp-Anhydrite (?)	Run	" "	Run	30-50°	fracs & slips w/ clay	As before w/ pats ltgrn Hf & clay; v wk pats CO_3.
	1393.0	10.0		.02		Gyp-Anhydrite (?)	Run	Tr suls.	Run	30-70	Same & serp.	wk serp along fracs
	1403.3	10.3		.01		Gyp-Anhydrite (Hf?)	Run	" "	Run	"	"	As before w/ 3.7' int cream colored Hf.
									1397.3	50°	Gyp-Hf ct.	
									1401.0	50°	Hf-Gyp ct.	
	1412.3	9.0		.01		Gyp (?) Anhydrite	Run	Tr fine diss suls.	Run	30-70°	fracs.	wk ser along fracs
									1412.3	20°	Gyp-Hf ct @ slip w/ serp	
	1422.6	10.3		.01		Hf-Ls	Run	Tr suls	1418.7	20°	Gyp vlt (0.2')	Mixed ltgr-grn Hf & black Ls w/ 15-30° cts Med to st yel-grn serp
									Run	15-30°	fracs w/ gyp, serp	
	1433.0	10.4		.02		Serp Hf	Run	Suls Nil	Run	30-50°	Same.	ltgr & wh Hf w/ st serp & CO_3. Bx-gg zone contains lt brn gyp (?) frags.
									1429-end	30-45°	Bx-gg zones; poss flt.	
	1442.4	9.4		.01		Hf	Run	Tr suls in fracs	1441.6-end	10°	flt gg w/ st serp.	ltgr-grn Hf w/ st serp talc & wk Gyp vlts.

MIS-807-A 75

HOLE NO. M-43

Coordinates: N 361,161.54 E 763,743.49

Dip Vert Bearing ____

Date started 8/20/62 Completed 9/21/62

Collar Elevation 3265.9 Total Depth 1470.4

GEOLOGIC LOG

MISSION UNIT

(11)

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
1442.4	1454.4	12.0		.01		Granite(?)	Run	Tr py; faint hem stain first 2.0' & on occas surfaces of biot.	1442.4 Run	Low & 30-45°	Flt-granite(?) ct. fracs most common	Ltgr Granite w/ st alt of feld to ser & biot to chl. First 0.6' shows some lineation of qtz grains @ ± 30°. Orthoclase predominant feld. Pass recrystallization of qtz & feld.
	1460.0	5.6		.02		Granite (?)	Run	Tr sulf; w/ hem stain on some fracs.	Run	10-30° 50-70	most common fracs Occas fracs.	As above
	1470.4 Bottom	10.4		.01		Granite (?)	Run	" "	Run		As above	" "

MIS-807-A 75

HOLE NO. M-42

Coordinates: N 362,922.12 E 762,469.09

Dip Vert Bearing ——

Date started 9/1/62 Completed 9/24/62

Collar Elevation 3269.1 Total Depth 941.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	185.0					Alluv						CCg ± 174.1 (?)
	194.6	9.6				CCg						7.7' Racy
	208.3	8.7		.06		Mp	Run	Mod to st Fe Ox, sp	Run	30-70°	fracs w/ st clay	Lt gr & cream colored
								pats hem, wk Jarosite				Mp w/ st ser & clay
												wk to mod CO_3 in CCg
												along fracs. Tr mica
	210.6	7.3		.14		Mp	Run	St Fe-Mn Ox. wk Cu Ox	204.0-5.7	Hi ∡	Qtz vn w/ wk Fe Ox.	As above, w/ hi ∡
							209.0	20° vlt Cu CO_3	Run	50-80°	fracs & slips w/ st	Qtz vn.
											ser & clay.	
	219.0	8.4		.17		Mp	Run	Fe-Mn-Cu Ox	Run	30-60	fracs w/ clay	Strongly fractured &
										Varied	Qtz vlts	broken w/ st clays & ser.
	229.0	10.0		.15		Mp.	Run	Mn-Fe Ox Tr Cu ox	Run	30-45°	As above	Not as broken.
	241.0	12.0		.13		Mp.	Run	As before w/ v. wk	241.0	Low ∡	Base Oxides accross	wk serp & chl near
								Nat. Cu in last 0.2' of run			frac.	end of run.
								Tr hem, Jarosite.	Run	30-60°	Vuggy fracs	
	249.7	8.7		.24		Mp.	Run	V. wk Fe Ox stain; Tr	Run	45-70°	fracs w/ st chl,	St clay, ser, serp, chl.
								Sulfs, wk Nat Cu			serp & wk nat. cu.	
	260.6	10.9		.23		Mp	Run	wk sulfs Tr moly	Run	"	vuggy fracs w/	ser, serp, chl, wk mica
											st serp, chl.	
	272.0	11.4		.12		Mp	Run	Same more py	Run	"	"	As above w/ less ser,
												chl.
	280.5	8.5		.21		Mp	Run	Disc & 30° vlts py, cpy	Run	30-60°	fracs & slips	St clay; strongly
								moly, sulfs.				broken
	289.2	8.7		.09		Mp	Run	As before less cpy	Run	30°	Qtz vlts.	As above.
	298.5	9.3		.11		Mp	Run	Tr moly-py	Run	50-80°	Qtz vlts	St frac
	310.0	11.5		.13		Mp	Run	Tr py	Run	30-50°	Fracs.	Abun. euhedral Biot
	319.9	9.9		.08		Mp	Run	Tr py - moly	Run	30-50°	Fracs	319.9 - 50° Gyp vlt
												Biot - Run
	327.6	7.7		.08		Mp	Run	Tr cpy - py - moly	Run	60°	Gyp vlts	Biot - Run
	334.6	7.0		.15		Mp	Run	Stronger cpy-moly	Run	20-60°	Gyp & qtz vlts	Biot - Run
	341.0	6.4		.31		Qtzt	Run	WK diss & vlt py, cpy,	334.6	∡	Mp-Qtzt ct	Gr Qtzt w/ ser, st gyp
								WK moly on fracs	Run	20-40°	Fracs w/ Gyp	
	352.0	11.0		.31		Mp	Run	WK diss py, cpy in Mp	Run	Varied	Gyp vlts	Biot-Run; V. st. gyp; 0.6'
												Qtzt intercept @ 345.1'
												Mass impure Gyp - 348.5-351.4

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GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-42

Coordinates N 362,922.12 E 762,469.09

Dip Vert Bearing ____

Date started 9/1/62 Completed 9/24/62

Collar Elevation 3264.1 Total Depth 946.0

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
352.0	363.0	11.0		.38		Mp-Qtzt	Run	Wk diss py, cpy, moly	353.9	30°	1" cpy vlt in gg	Mp @ 352.0-362.9; 353.9-360.2 Mass Wk gyp w/ impure Br banding; Qtzt w/ st gyp, ser
									354-360'	20-50°	Br banding in Gyp	
									360.2	45°	Gyp-Qtzt ct	
	370.0	7.0		.14		Arg-Mp	Run	Wk diss & pat py, cpy; Wk moly on fracs	363.2	Irr.	Arg-Mp ct	Br-gr Arg w/ feld, ser gyp; Mp w/ Bio, gyp, ser
									Run	20-40°	Fracs	
	380.0	10.0		.12		Mp	Run	As above	Run	20-50°	Fracs	Mp w/ ser, clay, gg; 2" qtz vn @ 370.4'
									377.5'	15°	.4' gg zone	
	392.6	12.6		.13		Mp	Run	vlts & fine diss py-cpy Wk moly	Run	15-30°	Gyp vlts	Lt grn & pk feld, st ser & clays. Wk biot.
										Hi ∠	Fracs & slips	
	402.6	10.0		.15		Mp	Run	30° vlts py w/ less cpy Wk moly on some fracs.	Run	20-50°	Gyp vlts & fracs w/ Wk serp.	As above w/ more biot
	409.7	7.1		.13		Mp	Run	Diss & vlts py w/ wk cpy Wk diss moly	403.2	65°	0.3' frac w/ gg	Same
									Run	30-50°	As before	
	420.0	10.3		.15		Mp	Run	Fine diss suls & 2 70° py vlts in Last 1.5' Tr moly	415.4-13.2	50°	flt zone w/ st gg; bx & sulgg.	St pk feld, mod ser, biot
									Run	20-60°	Gyp vlts	
	429.2	7.2		.14		Mp	Run	vlts & diss py-cpy Wk moly	Run	Hi ∠	Gyp vlts & fracs w/ sulgg.	st ser. locally broken Biot
	438.1	8.9		.13		Mp.	432.2 Run	35° vlt py-cpy-moly vlts & diss suls, wk moly	431.6	45°	0.3' ex-gg	Biot
									Run	20-70°	Gyp vlts & fracs.	Less ser more qtz.
	445.5	7.4		.13		Mp	Run	Pots, vlts, & fine diss py-cpy; Tr moly	Run	"	"	Mod alt Jarosite, Gyp & wk talc along fracs
	452.7	7.2		.20		Mp	Run	As above w/ more moly	Run	30-60°	Gyp vlts & fracs w/ ser, Talc, sulgg.	Still carrying Biot
	461.5	8.8		.20		Mp	Run	45-60° vlts, diss py-cpy; vlts moly	Run	30-60°	fracs w/ gyp, Talc, ser, sulgg.	Wk to mod alt, Biot, several ∠ vlts, pk feld.
	466.6	5.1		.17		Mp	Run	Diss & vlts py-cpy Moly	Run	30-45°	Same	As above
	478.3	11.7		.17		Mp	Run	As before	Run	30-60°	"	"

HOLE NO. M-42

Coordinates: N 362,922.12 E 762,468.07

Dip Vert Bearing —

Date started 9/1/62 Completed 9/24/62

Collar Elevation 3264.1 Total Depth 941.0

GEOLOGIC LOG
MISSION UNIT

(3)

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
478.3	488.6	10.3		.17		Mp.	Run	wk diss & vlts py-cpy-moly.	Run	15-60°	fracs w/ gyp & clays.	Lt gr Mp w/ Biot, Musco, ser, & gyp.
	498.9	10.3		.16		Mp	Run	vlts, pats, & diss py-moly-cpy	494.7-95.3	15°	Bx-sulgg-ser-gyp.	PK & gr fels, wk ser, st qtz.
	512.0	13.1		.16		Mp-Qtzt	Run	Same	Run	15-40°	fracs & gyp vlts & qtz vlts	Locally broken w/ mod ser; biot, musco.
									510.0	30°	Mp-Qtzt. ct.	
	525.0	13.0		.06		Qtzt	Run	vlts, pats, diss py; Tr moly.	Run	45-vert	fracs, slips, gyp vlts w/ ser, talc, sul gg, & pats py.	Lt gr frosty qtzt w/ pats ser, & short zones lt tan to pk Arg-like rock
	535.5	10.5		.08		Qtzt	Run	Same w/ wk cpy	Run	30°	fracs w/ ser.	As above w/ stronger ser & clay near end.
	545.9	9.9		.18		Mp.	Run	40 to 70° vlts py-cpy-sulgg. wk diss py Tr Moly	535.4	Lost	Qtzt-Mp ct.	Cream to pk Mp w/ st fels, clay
									Run	40-50°	fracs w/ sulgg	
										50°	Qtz vlts; gyp vlts.	
	555.9	10.0		.17		Mp-Qtzt	Run	As above	Run	30-45°	fracs & slips	Mp as above & Lt gr qtzt w/ wk ser
									549.4	10°	Mp-Qtzt flt ct w/ sulgg & bx.	
	563.1	7.7		.16		Qtzt	Run	Pats & varied & strs py-cpy	Run	30-45°	fracs & slips w/ gyp, ser, talc, sulgg.	Lt gr to tan Qtzt w/ stronger ser
	572.0	8.9		.12		Qtzt	Run	wk pats & strs py-cpy Tr Moly	Run	"	As above w/ small zones.	wk ser.
	584.1	12.1		.11		Qtzt	Run	wk vlts, strs, pats py-cpy - wk moly.	Run	30-vert	cross fracturing common	Very strongly broken last 6.0'
	594.3	10.2		.11		Qtzt	Run	Same	587.5-89.6	30°	flt bx-gg-sulg	Broken to 589.6 - wk to mod ser to end.
									590.6	45°	0.2' bx-gg.	st gyp in fracs (30-70°)
	604.5	10.2		.60		Qtzt-Hf	Qtzt Hf.	vlts & strs py-cpy Local st mag w/ py-cpy, wk hem. Stain	597.0	50°	Qtzt-Hf ct	Qtzt as above (less broken) Lt gry Hf w/ wk hem stain, st gyp in fracs local st clay.
									602.6	50°	0.4' flt w/ st gg	
									Run	30-50°	Gyp vlts & fracs	
	611.5	7.0		1.39		Hf	Run	Mod to st local mag w/ 15° to 50° vlts py-cpy, wk hem.	Run	15-50	As before.	As above.

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HOLE NO. M-42

Coordinates: N 362,922.12 E 762,464.07

Dip Vert Bearing —

Date started 9/1/62 Completed 9/24/62

Collar Elevation 3264.1 Total Depth 941.0

GEOLOGIC LOG

MISSION UNIT

④

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
611.5	621.0	9.5		.36		Hf	Run	vlts & strs & diss py w/ cpy - Hem stain (wk)	Run	15-Vert	gyp vlts & fracs	Lt grn dense to soft Hf w/ st gyp & clay
							618.9	0.1' 30° vlt cpy, mag, py				
	631.0	10.0		.91	51.2' @ 0.84	Hf	Run	Diss py-cpy local Hem v. wk. local mag. Sul. gg.	Run	30-45°	fracs & gyp vlts	Soft clayey Lt grn to gr & wh Hf, very broken.
	638.0	7.0		1.06		Hf	638.4	0.1' 60° vlt cpy	638.5-end	30°	Bx-gg poss flt.	
							Run	vlts, diss, pats py-cpy	Run	30-50°	fracs, gyp vlts w/ st gg & clay & hem.	As above
	645.5	7.5		.95								
	654.6	9.1		.30		Hf	Run	vlts & pats cpy-py	Run	"	fracs & gyp vlts	Lt gr dense clayey Hf.
						Hf	Run	wk strs & vlts cpy-py med hem stain	651.8	Hi ∠	Large vuggy frac. (1.5') w/ st CO_3	Lt gr, grn, & maroon Hf w/ local silf, st CO_3
									Run	Hi ∠	fracs w/ CO_3 & gyp vlts.	wk to med wh clay
	663.8	9.2		2.35	2.35	Hf	Run	Pats, strs, & diss cpy-bn-py & hem stain	663.4	30°	ct between maroon & lt yel-grn Hf w/ gar.	wh, Lt grn, & maroon Hf w/ wk gar in last 1.0'; otherwise As above.
							660.3	0.5' vn st bn-cpy @ 26°				
							662.6	0.1' vn bn @ 30°				
	673.8	10.0		.05		Hf	Run	Tr sulf; Moly in Qtz.	671.5	75°	Hem stained bx in frac. w/ st CO_3. vuggy	wh clayey Hf w/ pats Lt grn gar & bx zones w/ st hem stain.
									Run	30°-60°	fracs, gyp vlts, qtz vlts.	
	681.3	7.5		.10		Hf	Run	Tr sulf, moly.	Run	"	As before.	St grn gar pats; st clay; local st silf.
	691.5	10.2		.21		Hf	Run	wk py, cpy & bn along fractures	Run	Hi ∠	fracs w/ sulf; occas bx & gg.; gyp.	As above w/ st local hem stain & local clay.
									691.5	40°	Hf - Qtzt ct. sharp	
	702.6	11.1		.03		Qtzt	Run	wk sulf; Tr moly	Run	25-70°	fracs w/ dk gr gg.	Lt gr qtzt w/ st clay (ser?) in upper half of run
	715.5	12.9		.03		Qtzt	Run	wk sulf & moly	702.6-4.6	70°	Flt bx-gg qtzt frags.	V. st ser & clay through flt zone. Mod in rest of run. St. gyp
	724.2	8.7		.04		Qtzt	Run	As before	Run	40-Vert	fracs w/ st ser, gyp	As above
	732.5	8.3		.03		Qtzt	Run	Tr sulf	Run	"	"	" "

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HOLE NO. M-42

Coordinates N 362,922.12 E 762,464.09

Dip Vert Bearing ——

Date started 9/1/62 Completed 9/24/62

Collar Elevation 3264.1 Total Depth 941.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
732.5	743.5 (Bx)	11.0		TR		Qtzt	Run	Tr sulf; Moly on fracs.	Run	30-70°	fracs w/ gyp & ser.	Ltgr to tan qtzt w/ med to st ser. Broken badly last 4'
	748.7	5.2		.80	.80	Qtzt-Hf	Run	Mod cpy-py-sph & hem in 30-50° vlts mainly in Hf int.	746.6 748.2	30° 50°	Qtzt-Hf ct Hf-Qtzt ct } Mass Hf.	Qtzt as before: Hf Ltgrn w/ st clay & sulf, med serp.
	758.3	9.6		.13		Qtzt	Run	Diss pots cpy-py Tr moly & sph.	Run	30-60°	Fracs w/ clay	Qtzt as above w/ short ints Ltgrn Hf @ 30° w/ mod clay & serp.
	769.0	10.7		Tr		Qtzt	Run	wk sulf; Tr moly	Run	—	Strongly broken	Ltgr Qtzt w/ mod ser.
	781.5	12.5		.04		Qtzt	772.0	70° vlt cpy	Run	45-70°	fracs	" " " " "
							Run	Tr sulf.		30°	gyp vlts.	
	791.0	9.5		Tr		Qtzt	Run	" "	793.3-794.5	70°	Bx-gg zone	Less ser; not as broken
	798.2	7.2		.16		Qtzt	797.3	70° vlt cpy w/ gyp & spec hem. Run Tr sulf.	Run 797.9	70° 30°	Gyp vlts & fracs 0.5' int serp & gyp in Hf.	wk ser.
	808.1	9.9		.06		Qtzt	Run	Tr cpy-py	806.8 Run 808.1	Lest Hi ∠ 85°	0.3' st bx-gg Gyp vlts Qtzt-Hf ct @ frac.	Mod ser last 1.1'
	816.1	8.0		.06		Hf	Run	Diss moly; wk vlts cpy.	816.1	20°	Hf-Qtzt ct @ frac	Dense wh, Ltgr, & Ltgrn Hf w/ faint feld-qtz & wk clay.
	828.5	12.4		.19		Qtzt	Run	wk to ~~mod~~ diss & irreg vlts cpy-py w/ wk hem.	Run	30-70°	Gyp vlts & fracs	wk to mod ser; Lt tan Qtzt.
	834.5	6.0		.25		Qtzt-Hf	829.5-end	40° vlts bn-cpy-py w/ sul gg	829.5	50°	Qtzt-Hf ct @ frac w/ st serp.	Qtzt as before: Hf Lt grn to Ltgr & dense w/ mod serp.
	845.4	10.9		TR		Hf-Mb	Run	Tr sulf.	834.5 837.1	15° 10°	Hf-gyp ct gyp-Mb ct.	834.5-37.1 Mass gyp clay; 837.1 to end Mixed wh Mb & wal Hf.
	855.4	10.0		.15		Hf-Mb	Run	Tr diss bn-cpy at Hf-Mb cnts	845.9	20°	Gg & gyp vlt ~~or~~ bn	Alternating bands wht Wo Hf & Mb
	865.4	10.0		.07		Mb	Run	Sulf nil				wht Mb w/ tr Wo Hf
	875.4	10.0		.03		Mb	Run	Sulf nil	Run	low ∠	Gyp vlts	wht Mb w/ pots Wo & gyp
	885.2	9.8		.03		Mb	Run	As above	Run	0-70°	fracs w/ gyp	Wht Mb w/ gyp vlts
	895.2	10.0		TR		Mb	Run	Sulf nil				Sl-gray Mb w/ wht pots

HOLE NO. M-42

Coordinates: N 362,922.12 E 762,464.09

Dip Vert Bearing —

Date started 9/1/62 Completed 9/24/62

Collar Elevation 3269.1 Total Depth 941.0

GEOLOGIC LOG

MISSION UNIT

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
895.2	905.4	10.2				Mb	Run	Sulf nil	Run	Low ∡	fracs w/ wk serp.	wh Mb w/ pat's blue gray More gr near end.
	915.4	10.0				Mb	Run	barren	Run	50° 30-50°	Faint wh banding fracs	blue-gray Mb w/ wh banding
	925.4	10.0				Mb	Run	Tr sulf near end	Run		As above	Same
	935.4	10.0				Mb	925.4-932 932.2-end	Tr sulf sp pats & 30° vlts cpy-sph.	Run	30-50°	fracs & slips w/ chl, serp & gg	Pate clay last 4 ft.
	941.0	5.6				Mb-Hf	Run	WK sulf.	940.8	90°	0.2' bx-gg	Mixed wh Hf & Mb w/ st clay, serp
	Bottom											

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HOLE NO. M-41

Coordinates N 361,456.62 E 763,737.31

Dip Vert Bearing —

Date started 7/25/62 Completed 8/31/62

Collar Elevation 3262.2 Total Depth 992.5

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	205.0				Ns Tot	Alluv						B.R ± 204.5 cg ± 170
205.0	215.5	10.5	.25	.43	.25 .43	Arg	Run	Fe ox - Tr grn CuOx	Run	30-70°	Fracs	
	222.7	7.2	.20	.32		Arg	Run	"	"	"	"	St gg & base ox 222.7
	230.8	8.1		.27		Cgl	Run	Tr py-cpy, St sul gg	225.4-30.0	70-80°	Bx & sul gg	
	241.9	11.1		.25		Cgl	Run	Tr py cpy vlts				Dk Brn - blk - small frags
	255.3	13.4		.37		Cgl	Run	Tr py-cpy moly vlts	Run	50-80°	Fracs w/ sul gg	
									255.9-56.6	0°	St blk gg	
	261.0	5.7		.93		Cgl	Run	Wk - Mod diss cpy py				
	272.4	11.4		.41	27.9' @ 0.51	Cgl	Run	vlts - pats - diss py w/ wk cpy.	362.0	35°	0.7' Bx-gg.	strongly broken w/ sul gg
									Run	30-70°	fracs & gg	
	283.2	10.8		.40		Cgl	Run	"	Run	"	"	Same
	294.9	11.7		.53		Cgl	Run	As before w/ tr moly	Run	Varied	fracs & slips w/ bx-gg-smeared sulfs.	short ints ltgr Arg wk ser.
	304.0	9.1		.36		Cgl	Run	Strs & diss py-cpy	Run	30-65°	"	Mod serp & gypr on fracs.
	309.4	5.4		.28		Cgl	Run	As above + moly	Run	30-70°	fracs w/ sul gg gypr.	wk alt to ser.
	320.8	11.4		.23		Cgl	Run	Strs & vlts py-cpy Tr moly	Run	30-65°	fracs & slips	short ints ltgr arg
	332.0	11.2		.34		Cgl	Run	30° & 60° vlts & wk diss py w/ cpy moly on fracs.	Run	30-60	fracs & slips w/ ser - gypr sul gg	Locally broken
	343.0	11.0		.45	28.5' @ 0.50	Cgl	Run	60° vlts - strs & pats Diss py-cpy wk moly.	Run	30-60°	fracs & slips	wk pats feld near fracs
	354.6	11.6		.50		Cgl	Run	Same + Hi L vlts py.	Run	"	"	wk alt.
	360.5	5.9		.59		Cgl	358.4 Run	55° vlt cpy Strs suls along fracs w/ moly.	Run	"	"	St ser on fracs.
	369.5	9.0		.37		Cgl	Run	20 to 70° vlts py w/ wk cpy. Moly on fracs.	Run	30-85°	fracs & slips w/ moly, Talc, ser.	dk gr cgl w/ dk brn frags.
	376.2	6.7		.30		Cgl	Run	30 & 60° vlts - diss py-cpy Tr moly on fracs.	Run	"	"	Locally broken Mod ser - wk talc
	386.5	10.3		.40	.40	Cgl	Run	"	382.9	45°	3.6' bx-gg - flt w/ mod to st py & sul gg & much moly	St clay in gg zone

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HOLE NO. M-41

Coordinates N 361,456.62 E 763,737.31

Dip Vert Bearing ——

Date started 7/25/62 Completed 8/31/62

Collar Elevation 3262.7 Total Depth 992.5

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
386.5	395.5	9.0		.29		Arg-Cgl	Run	Vlts-pats - fine diss py w/ wk cpy	Run	30°-45°	fracs & slips w/ gyp, ser, sulgg.	Grades Cgl-Arg-cgl. Lt gr to tan w/ dk brn & pk frags.
	409.9	14.4		.39		Cgl	Run	30 to 60° vlts py-cpy	Run	25°-65°	"	wk ser & gyp on fracs local 30° qtz vlts w/ sulfs,
	418.6	8.7		.23		Cgl	Run	30° & Hi L vlts - sp pats - wk diss py-cpy Tr moly.	Run	30-45	fracs w/ ser	As above
	423.3	4.7		.29		Cgl	Run	Strs & diss small pats py w/ cpy	Run	"	"	wk local serp.
	434.4	11.1		.36		Cgl	Run	30-70° vlts & fine diss py w/ weak cpy.	Run	30-70°	fracs w/ ser-Talc sulgg.	DK brn & maroon frags. Local st ser.
	445.4	11.0		.45	22.0' @ 0.45	Cgl	"	As above + Tr moly	Run	30-50°	"	coarse grained
	456.4	11.0		.45		Cgl	Run	vlts & diss py-cpy sulgg on fracs.	Run	"	Same	strongly broken. Mod Alt.
	464.3	7.9		.35		Cgl	Run	As above	Run	Varied	fracs & slips	DK gr pats, Tr Fl, st ser.
	476.4	12.1		.50	0.50	Cgl	Run	Strs & pats py-cpy 30-45° vlts py w/ cpy	Run	30-60°	"	" + wk CO_3
	486.3	9.9		.29		Cgl	Run	Same	Run	"	As before	Locally broken
	496.2	9.9		.41		Cgl	Run	Mod diss cpy-py	Run	30°	parallel fracs & slips w/ ser & Talc	Mod alt.
	504.7	8.5		.44		Cgl	Run	Same	Run	40 to 60°	" + gyp	"
									500-501	—	Shatter zone	
	513.3	8.6		.46	54.1' @ .47	Cgl	Run	"	Run	30-70°	As above	Short 25° ints dk brn Arg.
	524.6	11.3		.42		Cgl	Run	vlts & diss pats py-cpy Moly	Run	25-40°	Gyp vlts & fracs w/ st ser.	Qtz-feld rep along same fracs.
	533.4	8.8		.54		Cgl	Run	As before	530.1-530.9	15°	Intercept Mp w/ bio	locally broken, st ser in Mp, wk Fe along some fracs
	540.4	7.0		.63		Cgl	Run	Diss & 35° vlts py-cpy.	Run	35° & Hi L	fracs w/ ser, serp, Talc, Sulgg.	Run ends @ 30° gg bx zone.
	543.5	3.1		.14		Arg			540.4	30°	bx-gg ct w/ Arg.	Lt tan to pk Arg w/ Qtz-like vlts (v dense)

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HOLE NO. M-41

Coordinates: N 361,456.62E 763,737.31

Dip Vert Bearing —

Date started 7/25/62 Completed 8/31/62

Collar Elevation 3262.7 Total Depth 992.5

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
543.5	553.2	9.7	.2	.18		Arg.	Run	Hi vlts & diss pats py-cpy	Run	30-Nil	fracs w/ st ser-serp.	Bleached & lt sil zones
	563.2	10.0	.1	.15		Arg	"	as above	"	"	Same	Locally broken
									561.0	75°	Bx-gg st ser.	st ser, mod serp.
	572.5	9.3		.07		Arg	Run	wk suls Tr moly	Run	25-70°	fracs w/ ser.	As before
	583.7	11.2		.10		Arg	Run	Same w/ wk moly	Run	"	Same + Talc.	"
	593.7	10.0		.25		Arg & Qtzt	Run	wk vlts & & pats diss cpy-py	Run	30°	fracs w/ bx-gg.	Mixed lt tan Arg & lt gr Qtzt showing interfingering
	602.9	9.2		.09		Arg	Run	As before but weaker	Run	30-60°	fracs & slips	Lt tan Arg w/ short ints Qtzt.
	609.0	6.1		.03		Arg	Run	vlts & fine diss py moly on fracs.	Run	30-60°	"	"
	617.8	8.8		.10		Arg & Qtzt	Run	" + cpy	Run	–	Very broken	Mixed lt brn Arg & wk Qtzt alt - ser. (± 55° rocks)
	627.4	9.6		.14		Qtzt	Run	Strs & diss cpy-py	Run	–	"	wk Qtzt w/ ser.
	636.0	8.6		.21		Qtzt	Run	Same + st. moly on some fracs.	Run	30-50°	fracs	As before
	649.5	13.5		.15		Qtzt	Run	As before w/ wk sph	Run	"	"	Less ser.
	658.3	8.8		.14		Qtzt	Run	wk suls.	Run	–	Broken	increase in ser.
	665.5	6.2		.22		Qtzt	Run	wk diss & pods cpy, py	661.8-665.5	Low ∠	flt(?) bx	st. ser in flt(?) zone;
	671.0	5.5		.17		Qtzt	Run	wk py, cpy; finely diss	Run	–	Very Broken	-50% recovery
	681.4	10.4		.33		Qtzt	Run	wk py, cpy; vlt, diss & pods; Tr Moly	612.6	–	1" dia. pod cpy, py	lesser ser; local silif in fracs
									Run	90-60°	Fracs & slips	
	691.4	10.0		.23		Qtzt	Run	Strs & diss py & cpy Tr moly	Run	"	Fracs w/ sulgg-ser & wk talc.	wk ser
	702.1	10.7		.25		Qtzt	Run	45-70° vlts, strs & fine diss py-cpy, Tr moly	Run	"	"	As before; locally broken.
	713.6	11.5		.21		Qtzt	Run	As before + sph	Run	40-75°	Fracs & slips w/ st sul gg, ser, & talc.	Stronger ser & suls.
	717.7	4.1		1.96	1.96	Qtzt	Run	st vlts & diss cpy-py-sph - wk moly	Run	30-70°	Fracs & slips w/ st suls, ser, Serp & Talc, bx	st ser, mod carb. Run poss flt zone.
	726.3	8.6		.18		Qtzt	Run	Strs & diss pats py-cpy - wk sph & Moly	Run	"	st sul gg on some fracs also ser & Talc.	weaker ser, wk carb.

HOLE NO. M-41

Coordinates: N 361,456.62 E 763,737.31

Dip Vert Bearing —

Date started 7/25/62 Completed 8/31/62

Collar Elevation 3262.7 Total Depth 992.5

GEOLOGIC LOG

MISSION UNIT

(4)

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
726.3	733.0	6.7		.32		Qtzt	Run	vlts & strs py w/ weaker cpy	Run	30-50°	fracs w/ sulfgg.	Ltgr to wh Qtzt w/ wk ser.
	739.0	6.0		.31		Qtzt	Run	Pats & Hi ∠ vlts st py w/ less cpy - mod sph	Run	10-45°	As above	med ser
	747.3	8.3		.12		Qtzt	Run	vlts, strs, pats py-cpy, wk sph, Tr Moly	Run 742.0	Hi ∠ 30°	fracs as before flt bx	wk ser.
	749.5	2.2		4.33		Qtzt	Run	st diss & Hi ∠ vlts py w/ lesser cpy wk hem stain	749.5	10°	Gradational Qtzt-Tt ct.	As above
	761.4	11.9		1.40	33.8 @ 1.69	Tt	Run	st 10° to 50° vlts & diss py w/ less cpy - Mod hem stain	Run 753.0-562	10-50° 40°	fracs w/ gyp, sulf, chl. Silf bx zone (Poss flt)	Grn & maroon Tt w/ pats Qtzt, st local Act-Trem, chl, mod CO_2
	769.4	8.0		1.68		Tt	Run	As before	Run	10-40°	fracs w/ CO_2, gyp, st sulf.	As above
	772.6	3.2		1.95		Tt-Qtzt	Run	St. py w/ lesser cpy	770.2 770.9	10° 15°	Tt-Qtzt ct. Bx w/ st qtz, Fe stain to 780.5.	Tt as before. Qtzt lt gr w/ st clay & sulf.
	781.1	8.5		1.33		Hf	Run	strs & vlts & diss cpy, py, wk sph, Tr bn.	772.6 781.1	Lost Lost	Qtzt-Hf ct. Hf-Qtzt ct.	cream colored Hf strongly broken w/ st ser, local st qtz. (-50% rec'y) Poss Bx-gg zone
	791.0	9.9		.13		Qtzt	Run	Sp vlts & wk diss py w/ cpy. Tr moly.	Run	30-60°	fracs & gyp vlts	wk sul gg on fracs w/ gyp & ser.
	801.2	10.2		.13		Qtzt	Run	Tr sulf, Moly on some fracs.	Run 801.2	60° 45°	vuggy fracs Qtzt-Hf ct.	wk ser; serp @ end.
	808.5	7.3		.80	78.6 @ 0.69	Hf	Run	30°-65° vlts st py w/ lesser cpy-sph.	Run	30-60°	fracs w/ st sulf wk CO_2	Lt grn dense silf Hf w/ wk argillact.
	818.0	9.5		.83		Hf	Run	20°-80° cpy-py vlts				Lt grn-dense-vbun Coarmf.
	830.5	12.5		.92		Hf	Run	"	825-30.5	0°-30°	vlts-pats qtz or qtzt and cpy-py	Grad cnt w/ qtzt 830.5 Num pat bun gar in Hf Tr ep-hem-sph in Hf
	838.9	8.4		.42		Qtzt	Run	wk-mod vlts & diss cpy, py. Tr moly on fracs.				Bun alt in qtzt 830.5 -31.5 - wht qtzt below
	848.5	9.6				Tt	839 & 844	50° Cpy-py vlt				Qtzt-Tt grad cnt 838.9

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HOLE NO. M-41

Coordinates: N 34,456.62 E 763,737.31

Dip Vert. Bearing ——

Date started 7/25/62 Completed 8/31/62

Collar Elevation 3262.7 Total Depth 992.5

GEOLOGIC LOG

MISSION UNIT

(5)

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
838.9	848.5	9.6		0.91		Tt	Run	Tr wk diss cpy				Pat CO_3 w/ brn gar Pat Hf, tr ep
	856.5	8.0		0.98		Tt	Run	vlts & diss py w/ less cpy wk diss sph	Run 856.5	30-55° Low ∠	Slips w/ serp & sul vlts. Tt - Qtzt ct.	As above w/ serp
	868.8 (868.5?)	12.3		0.39		Qtzt	Run	Strs & 30°-70° vlts py-cpy-sph.	868.1	20(?)	Qtzt - Hf ct	Lt gr qtzt w/ wk ser
	879.8	11.0		0.40		Hf	Run 877.4	Tr diss suls Pat cpy - sph	Run	25-70°	CO_3 & gyp vlts	Lt grn dense Hf w/ local st serp & clay CO_3.
	883.4	3.6		0.04		Hf-Qtzt	Run	Tr suls; wk hem @ ct.	880.8	60°	Hf - Qtzt ct @ frac.	Lt grn Hf & lt gr qtzt. wk serp & ser.
	891.0	7.6		Tr		Qtzt	Run	Tr suls.	Run	30-60°	Gyp vlts & fracs.	Lt gr qtzt w/ wk ser.
	900.0	9.0		0.08		Qtzt	Run	Wk vlts & strs. py, Tr cpy.	900.0	30°	Qtzt - Hf ct @ frac w/ chl & sph.	Wk to mod ser on Hf & fracs. wk CO_3 @ ends
	909.5	9.5		0.33		Hf-Tt	900.0 Tt	0.1' vlt st sph. wk to mod vlts & diss py-cpy-sph.	901.5 908.5	- 30°	Gradational ct w/ Tt. Tt - Hf ct. Hf w/ pats gar.	Lt grn dense Hf grades into grn & maroon Tt w/ pats Mb. St CO_3 & serp.
	913.2	3.7		0.98	0.48	Hf	Run	Wk to mod local diss py-cpy; wk sph	913.2 Run	50° 30-60°	Hf - Mb ct Gyp vlts & fracs.	Wh clayey Hf w/ pats wol & Tt - mod CO_3.
	922.1	8.9		0.04		Mb	Run	Tr suls	Run	30-60°	Fracs & slips w/ serp. wk clay.	Wh Mb w/ local zones wol & serp.
	932.3	10.2		Tr		Mb	922.6	Small 45° vlt cpy-py	Run	30°	"	As before
	942.6	10.3		Tr		Mb	Run	Barren			Same	Wk pats clay & wol.
	950.1	7.5		0.0?		Mb	Run	"	Run	Hi ∠	Gyp vlts.	" wk serp.
	960.0	9.9		Tr		Mb	Run	Tr suls	Run	50°	Local gr bands.	As before
	970.0	10.0		Tr		Mb	Run	Barren	967.8-70.0 Run	50° Hi ∠	Wk banding gyp vlt.	Last 2.2' gr Mb w/ wh color banding. wk wol.
	980.3	10.3		Nil		Mb	Run	Barren	Run	50°	Wh color banding	Gr Mb w/ no alt.
	992.5 Bottom	12.2		Nil		Mb	Run	"	Run	"	As above	Same

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HOLE NO. M-40

Coordinates: N 363,531.55 E 762,455.48

Dip Vert Bearing —

Date started 7/24/62 Completed 8/20/62

Collar Elevation 3255.2 Total Depth 905.8

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	190.0					Alluv						ccg ± 170'
	200.1	10.1				CCg						BR 200.1'
	207.4	7.3		.03		Mp	Run	Fe-Mn oxide	Run	30°	fracs.	Strongly sericitized soft clayey wk tourmaline colored Mz w/ st CO_2.
					NS Tot							
	215.5	8.1	.23	.46	.23 .46	Mp	Run	Cu-Fe-Mn Oxides	Run	30°-50°	fracs w/ ser & clay & slips w/ bx	St ser & clay wk chl. wk CO_2
	223.4	7.9		.25		Mp	Run	Same w/ wk suls in last 0.4' of run.	Run	–	Strongly broken	As before
									223.0	–	Base Oxides.	
	233.4	10.0		.19		Mp	Run	vlts & strs suls, Moly on fracs & slips.	Run	30-70°	fracs & slips w/ Bx-gg-smeared suls.	Med-ser & clay w/ Bio altering to chl
	242.6	9.2		.29		Mp	Run	Py w/ wk cpy diss along & near fracs Tr moly	234.9	≈ 40°	flt bx-gg (0.7')	St. ser-clay-gg
									238.0	15°	flt bx-gg (1.0')	Local feld.
									Run	–	Strongly broken.	
	250.0	7.4		.17		Mp	Run	vlts, strs, & diss py w/ tr cpy. Moly on fracs	Run	15-50°	fracs & slips w/ smeared suls in gg	Med ser, serp. wk chl
	259.0	9.0		.23		Mp	Run	Tr Moly-cpy-py	258.6	20°	Gg zone	wk-mod alt
	266.0	7.0		.20		Mp	Run	More Abun suls	Run	15-50°	Fracs & slips-sul gg	wk-mod alt
	277.2	11.2		.18		Mp	Run	Tr Moly-py cpy	Run	15-50°	Fracs & slips	Mod alt
	285.9	8.7		.18		Mp	Run	"				
							282.5-286.9	Stronger moly	Run	15-50°	Fracs	Mod alt - Run more dense
	296.0	10.1		.15		Mp	Run	Tr py-cpy stronger moly Nun flat qtz vlts	Run	0-50°	Fracs,	wk mod alt. Biot 289.9 and below
	304.9	8.9		.18		Mp	Run	Tr py-cpy-moly	"	"	" qtz vlts	wk alt - St biot
	311.9	7.0		.21		Mp	Run	wk diss py-cpy, Tr moly	Run	15,50,70°	Gyp vlts	wk alt. - mod biot
	320.2	8.3		.19		Mp	314.0	60° vlt cpy	Run	15-50	"	
							Run	As before	316.0	70°	Bx w/ stg	Same
									317.4	60°	Small thrust displacing 30° gyp vlt.	
	330.4	10.2		.16		Mp	Run	30-50° vlts & diss py-cpy-moly on fracs.	Run	20-60	Gyp vlts & fracs	Med ser, wk bio
	340.5	10.1		.14		Mp	Run	Diss & vlts py w/ wk cpy moly on fracs.	Run	30-70	As above	Same w/ wk alt

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HOLE NO. M-40

Coordinates: N 363,531.55 E 762,455.48

Dip Vert Bearing —

Date started 7/24/62 Completed 8/20/62

Collar Elevation 3255.2 Total Depth 905.8

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
340.5	351.0	10.5		.15		Mp	Run	wk vlts & diss py-cpy moly on fracs.	Run	15-45°	Gyp vlts, slips & fracs.	Mod alt to ser, wk bio
	361.1	10.1		.21		Mp	Run	st diss py w/ mod cpy - Diss moly	Run	"	same	As before
	370.3	9.2		.25		Mp	361.8	15° 0.6' Qtz vn w/ st diss moly	Run	15-85°	As above.	Short ints of serpentized rock near some fracs.
							Run	diss & vlts of py & cpy w/ moly on fracs				
	382.7	12.4		.25		Mp	Run	wk diss & vlts py w/ cpy st sul gg on some fracs - Tr moly.	381.7	60°	flt bx-gg w/ st sul gg.	Local st alt to ser & serp.
									Run	15-70°	fracs, slips & gyp vlts	
	390.5	7.8		.21		Mp	Run	wk diss & strs py w/ some cpy. Tr moly in fracs	Run	20-68	"	Local serp & feld wk ser.
	400.8	10.3		.22		Mp	Run	"	393.5	70°	Bx & sul gg	local st clay
									Run	15-70°	As before w/ Talc.	
	413.9	13.1		.21		Mp	Run	Same	410.3	70°	flt bx w/ sul gg.	Last 2.0' of run st clay.
							404.5	0.1' 30° vlt py	412.8-end	40°	flt bx-gg.	
	417.8	3.9		.10		Mp-Qtzt.	Run	Tr sulf.			Mp-Qtzt ct lost; is between 415.0 & 417.8	-50% rec'y.
	422.5	4.7		.08		Qtzt	Run	Vlts & strs py w/ Tr cpy - Sul gg wk moly.	Run	30-60	fracs & slips w/ ser, Talc - sul gg	St. broken Lt gr Qtzt w/ st gg - bx throughout
	428.2	5.7				Arg(?) Qtzt	Arg (?)	sp pats & fine diss py	422.5	15°	Qtzt-Arg(?) ct	2.5 ft Pk Arg(?) w/ feld followed by Lt gr to wh Qtzt w/ med to st ser. Arg (?) has 15-25° bands Qtzt & contains much Qtz. Poss Qtzt
							Qtzt	strs & fine diss py-cpy Tr moly in both	425.0	15°	Arg(?) Qtzt ct.	
									Qtzt	Varied	strs & vlts gyp & qtz. Sul gg	
	434.0	5.8		.16		Mp-bx-gg-Qtzt	Run	St sul gg w/ vlts py. Tr cpy - moly	Run	15-30°	slips w/ st sul gg & gyp.	St shatter zone w/ mixed Mp-Qtzt in bx & gg. Qtzt vuggy
									428.4	10-18°	Qtzt - Mp ct. lower ct lost in gg zone @ ± 131'	
	446.8	12.8		.16		Qtzt	Run	As above.	Run	20-60	fracs w/ sul gg	St broken Lt gr to wh Qtzt. Locally vuggy

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HOLE NO. M-40

Coordinates: N 363,531.55 E 762,455.48

Dip Vert Bearing —

Date started 7/24/62 Completed 8/20/62

Collar Elevation 3255.2 Total Depth 905.8

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
446.8	456.6	9.8		.15		Qtzt	Run	wk diss sulf. vlts py.	Run	30-70°	fracs & slips w/ sulfgg, clays.	St broken ltgr Qtzt w/ local gg
							452.6	70° frac w/ moly & sulf.				
	465.0	8.4		.13		Qtzt	Run	wk strs & vlts sulf. Tr moly	Run	30-50°	fracs w/ wk sulfgg	wk ser. Locally broken
	474.9	9.9		.15		Qtzt	Run	wk diss sulf	Run	30°-80°	Gyp vlts	Solid ltgr frosty Qtzt.
	484.2	9.3		.17		Qtzt	Run	wk vlts & pats py-cpy	Run	"	Gyp vlts	"
									482.8-483.7	40°	flt bx (recemented)	
	488.4	4.2		.11		Qtzt	Run	"	Run	Varied	Gyp vlts & fracs.	"
	498.6	10.2		.11		Qtzt	Run	vlts-strs py w/ wk cpy Tr moly on fracs.	484.8	30°	slip w/ gyp-sulfgg wk moly. wk bx.	wk ser on fracs.
									Run	Hi ∠	Gyp vlts.	
	508.8	10.2		.11		Qtzt	Run	vlts & pats py w/ weaker cpy.	Run	30-70	Gyp vlts & fracs	st ser @ end.
									507.8-end	30°	bx zone w/ st sulfgg ser.	
	514.4	5.6		.13		Qtzt	Run	Same + moly	Run	30-45°	fracs & slips w/ sulfgg-gyp.	wk local ser.
	524.3	9.9		.11		Qtzt	Run	30 to 60° vlts py-cpy wk moly on some fracs.	Run	30 & 70°	fracs & slips w/ sulfgg - wk ser - gyp vlts	Mod. pats & zones of ser.
	534.3	10.0		.09		Qtzt	Run	wk vlts pats py-cpy sulfgg & moly on slips	Run	"	"	Same
	541.0	6.7		.09		Qtzt	Run	As above	Run	30-50°	fracs & slips	wk local Art.
	548.8	7.8		.09		Qtzt	Run	Sp vlts & pats py-cpy Tr moly.	Run	30°	fracs w/ sulfgg.	
	560.9	12.1		.07		Qtzt	Run	"	Run	30-60°	As before	Last 2.5' extreemly fractured & broken
	570.1	9.2		.10		Qtzt	Run	wk diss & vlts py moly on fracs.	Run	75-70°	fracs & slips w/ serp & sulfgg. Strongly broken	Contains wk argillaceous zones (ltbrn)
	580.5	10.4		.16		Qtzt	Run	"	Run	"	"	Mod serp - Talc,
	583.1	2.6		.28		Qtzt	Run	30° vlts cpy-py	Run	15-45°	Gyp vlts - st CO_2 in frac near end of run.	Ltgr Qtzt w/ increasing Serp & Talc toward end of run. CO_3 in last 0.3'.
									583.1	30°	Qtzt - lt gr ct.	

HOLE NO. M-40

Coordinates: N 363,531.55 E 762,455.48

Dip Vert Bearing —

Date started 7/24/62 Completed 8/20/62

Collar Elevation 3255.2 Total Depth 905.8

GEOLOGIC LOG

MISSION UNIT

④

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
583.1	594.8	11.7		.97	28.6' @ .96	Hf	590.1-591.9	45° intercept st mag w/ cpy & wk py in clay, gyp & CO_2. wk hem.	592.4-end	Low L	Serp - CO_2 - gg zone	Lt grn, Maroon & black Hf w/ zones of fine gr. st Trem, Act, CO_2 Med-st Serp.
	603.3	8.5		1.15		Hf	Run	st mag throughout w/ cpy-py intermixed. hem stain.	Run	30-50°	Poss flt zone	Hf as above w/ st gg throughout
	611.7	8.4		.74		Hf	Run	first 1.8' of run st Mag & cpy Remainder wk pats diss sulf.	Run	-	Poss continuation of flt zone.	As before w/ zones of bleached wh clay occuring in bx like pattern. xl dolo & cal in various vugs.
	615.2	3.5		.20		Hf-clay	Run	wk hem sulf gg.	Run 615.2	- 30°	As above flt - Arg ct.	st bx & gg w/ serp & clay Lt grn - wh - gr.
	623.6	8.4		.13		Arg	Run	wk sulf, Tr moly	Run 623.6	30-50 Low L	fracs & slips w/ st serp & talc. Arg - Tt ct	Lt tan & gr Arg w/ st serp & ser, locally broken.
	632.1	8.5		.23		Hf-Tt		diss vlts & pats cpy-py in Tt. Hf wk sulf.	625.6 632.1	15° Low L	Tt-Hf ct. Hf-Tt ct.	first 20' Tt (grn) Remainder lt gr-grn Hf w/ st serp-Talc-CO_2
	644.8	12.7		.47	.47	Tt	Run	20°-35° vlts & diss pats py w/ lesser cpy	Run	30-70°	fracs w/ CO_3,	Lt grn - maroon & Tan Fe Tt w/ st CO_2 & Act mod serp. short wk pats Hf. Locally vuggy.
	651.7	6.9	BX core	.35		Tt	Run	10°-30° vlts & strs py w/ cpy.	Run	30-85°	fracs w/ gyp - CO_2	Local at hem stain st CO_2 - Mod Trem-Act.
	660.0	8.3		.41	21.0' @ .53	Tt	Run	diss & vlts py w/ cpy Tr moly.	Run 658.2 659.8	30-60° 30° 30°	Gyp vlts. Tt-Hf ct Hf - Tt ct	St Trem - Act, serp wk chl. 1.6' Lt grn Hf
	670.4	10.4		.60		Tt	Run	As above		10-45	Gyp vlts & fracs	Lt grn to grn silt Tt w/ Trem. Act. - CO_2 - gyp.
	672.7	2.3		.64		Tt-Hf	Run	30 & 45° vlts + diss cpy-py - wk moly	672.7 Run	20° 30-50°	Tt - Arg ct Gyp vlts	St dense clay wk CO_2 - Tt-Hf mixed
	678.7	6.0		.02		Arg	Run	wk sulf	Run	varied	fracs w/ gyp.	Lt brn to tan Arg w/ gyp, ser, wk serp.

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HOLE NO. M-40

Coordinates: N 363,531.55 E 762,453.48

Dip Vert Bearing ——

Date started 7/24/62 Completed 8/20/62

Collar Elevation 3265.2 Total Depth 905.8

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
678.7	681.0	2.3		.03		Arg	Run	Tr suls	Run	-	Totally broken	Tan Arg (-50% recy)
	692.8	11.8		.10		Qtzt	Run	Mod moly in fracs, minor smeared sul, Tr py cpy Nil	Run	30-60°	occassional fracs	Wh-gr Qtzite; $CaCO_3$, ser. in fracs
	701.9	9.1		.08		Qtzt	Run	As above	"	"	" "	As above w/ more fracs & seritization
	713.5	11.6		.10		Qtzt	Run	As above	"	"	" "	As above w/ less sericitic alt.
	721.2	7.7		.66	.66	Tt-Hf	713.5-714.5	Moly & Sul gg in flt w/ cpy & py	713.6	50°	Qtzt-Tt flt ct.	1 ft flt ct w/ st clay
							Run		Run	30-40°	fracs & gyp v/ts.	followed by Mixed Tan
							Rest	wk sph Tr cpy-py				Tt & wk Hf w/ st ser & clay - mod wel. wk CO_3.
	731.5	10.3		.06		Tt-Hf	Run	Tr suls, Hem on some fracs.	Run	30°	fracs, some w/ hem.	Mixed Hf-Tt as above
	738.7	7.2		.13		Tt-Hf	Run	wk hem - sph Tr Bn in Tt.	Run	"	" " " "	Same w/ 30° Hf-Tt ints.
									738.7	50°	ct w/ pure Tt	
	743.2	4.5		1.53		Tt	Run	Hem - sph - wk bn, cpy	Run	30-70°	fracs filled w/ CO_3, hem.	Red-brn, maroon, & lt grn Tt w/ wk sp, st CO_3.
							740.4	0.5' zone diss bn & wk py.	743.1	30°	Tt-Hf ct.	
	752.0	8.8		.38		Tt-Hf	Run	St hem stain, Tr bn in fine diss.	750.7	30°	Hf-Tt ct.	Mixed Fe stained Hf & Tt.
									Run	70°	Abundant fracs w/ CO_3.	
	762.3	10.3		.79	495' @ 1.42	Tt	Run	diss bn - st hem	757.8	40°	flt bx	dk grn - lt grn - maroon Tt w/ pats Hf & Trem
									760.3	15°	Tt-Hf ct.	last 2 ft mixed w-Hf & Tt.
	771.1	8.8		.45		Tt	Run	As before w/ sph in last 2.0'	762.4	60°	Hf-Tt ct.	Tt as above w/ local clay & gyp.
									Run	30°	Gyp v/ts	
										40-80°	CO_2 filled fracs.	
	775.1	4.0		1.58		Tt	Run	Diss sph, bn, cpy, py	Run	15° vert	fracs w/ gyp & hem.	Lt grn soft Tt.
	788.2	13.1		3.18		Tt	Run	St diss cpy, mod py, bn, wk sph.	Run	"	"	Ltgrn to maroon Tt w/ st CO_3.
	797.4	9.2		.09		Mb	Run	Tr suls	788.3	50°	Tt - Mb ct	Ltgr to wh Mb
									797.4	50°	Mb - Qtzt ct @ gyp v/t.	

HOLE NO. M-40

Coordinates: N 363,531.55 E 762,455.48

Dip Vert Bearing —

Date started 7/24/62 Completed 8/20/62

Collar Elevation 3255.2 Total Depth 905.8

GEOLOGIC LOG

MISSION UNIT

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
797.4	806.0	8.6		Tr		Qtzt	Run	wk sul gg on some fracs.	Run	15°-vert	fracs & slips w/ gyp. & ser.	Lt gr & wh Qtzt w/ wk ser in fracs.
	817.4	11.4		Tr		Qtzt	Run	Tr suls.	Run	"	Same w/ small vugs in fracs.	"
	827.7	10.3		Tr		Qtzt	Run	"	Run		As before	As above
	836.0	8.3		Tr		Qtzt	Run	Suls. N.L.	828.2-30.5	—	Flt(?) bx	As above w/ st. ser in Bx zone, gyp in fracs.
	846.1	10.1		Tr		Qtzt	Run	Tr suls, wk moly	840.0	60°	Bx zone	Med ser along fracs
	855.1	9.0		Tr		Qtzt	Run	" "	Run	20-70°	Gyp vlts & fracs	V. wk ser
	863.5	8.4		Tr		Qtzt	Run	Tr suls	Run	30-50	Gyp vlts	v. wk alteration
	872.8	9.3		Tr		Qtzt	Run	" + wk moly	871.8	70°	Gyp vlt w/ wk moly.	wk ser near gyp vlt.
	881.0	8.2		.04		Qtzt	Run	Tr suls	Run	30-vert	Gyp vlts & fracs	Frosty wh qtzt.
	889.5	8.5		.05		Qtzt	Run	"	Run	Hi ∡	"	Same
	898.1	8.6		.03		Qtzt	Run	"	Run	Hi ∡	Gyp vlts	"
	905.8	7.7		.02		Qtzt	Run	"	Run	Hi ∡	" & fracs	"

HOLE NO. M-39

Coordinates: N 361,458.13 E 763,985.30

Dip Vert Bearing —

Date started 7/6/62 Completed 7/25/62

Collar Elevation 3259.5 Total Depth 820.8

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	180.0					Alluv						ccg ± 175'
	211.9	31.9			Ns Tot	CCg	Run	wk spots Cu Ox				BR 211.9'
	224.1	12.2	22	.41	.12 .41	Arg & cgl	Run	St Fe, Mn, Cu Ox, Mod Jarosite, wk	224.1	30°	frac - base Ox. w/ st serp on frac,	Lt gr mixed Arg & cgl w/ local st
								Suls near end of run	Run	Varied	fracs - most common 30°.	ser & serp near fracs
	234.3	10.2	.01	.33		Arg & cgl	Run	wk to mod vlts & diss py w/ Tr cpy	Run	"	Same w/ 60° fracs becoming more common	Lt gr to gr Arg & cgl as before w/ less ser & serp.
	244.0	9.7		.47	.47	Arg & cgl	237.5 Run	St 70° vlt 0.2' py-cpy wk vlts & diss py-cpy	Run	"	St slips & fracs w/ smeared suls.	Local st qtz & fald. strongly broken
	254.7	10.7		.17		Arg & cgl	Run	"	Run	"	"	extremely broken
	267.0	12.3		.30		Arg & cgl gg	Run	wk-Mod diss py w/ cpy, wk moly in fracs	261.8 - end	30°±	gg same w/ smeared sulf. clay; pess flt.	Lt gr. Arg w/ ser, clay in fracs, local gg, bx
	279.0	12.0		.19		Arg & cgl	Run	vlts & diss pats py w/ wk cpy - Tr moly	Run	30°-60°	Occas. Hi L fracs w/ smeared suls, ser, clay.	strongly broken Local st silt & fald.
	288.1	9.1		.15		Arg & cgl	Run	"	Run	"	30° to 50° most common.	Local st CO_3 in some fracs
	296.4	8.3		.19		Arg & cgl	Run	wk vlts & diss py & cpy			"	Grading to dk brn.
	306.6	10.2		.16		Arg	Run	"	Run	"	Same w/ local st talc	Shert into cgl. Stsilt
	318.7	12.1		.14		Arg	"	30 to 50° vlts as above. Tr moly on fracs.	Run	"	"	"
									316.9 - end	—	Strongly broken zone	
	329.8	11.1		.21		Arg & cgl	"	"	Run	Varied	fracs 30 to 45° common	As above - locally broken
	340.2	10.4		.26		Arg & cgl	"	cpy somewhat stronger	Run	"	"	"
	347.9	7.2		.18		Arg & cgl	Run	varied dip vlts py w/ Tr cpy - moly on some fracs.	Run		"	coarse grained gr & brown Arg w/ cgl st silt.
	359.2	11.8		.22		Arg & cgl	Run	60°-70° vlts py w/ cpy, Tr moly	Run	30 to 70°	fracs & slips w/ st ser, smeared suls.	" "
	369.4	10.2		.49	21.7 @	Arg & Bx	Run	wk vlts py w/ Tr cpy smeared suls in flts & fracs.	Run		flt bx @ 357.5 (60°, 0.5') 361.7 (45°, 0.7') 365.0 (30°, 0.7') 367.8 (50°, 1.6')	" locally strongly broken between flts.
	380.9	11.5		.51	0.50	Arg & cgl	Run	wk cpy & py vlts. pats cpy	Run	Varied	fracs & slips.	Locally broken

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HOLE NO. M-39

Coordinates N 361,455.13 E 363,985.30

Dip 60° Bearing —

Date started 7/6/62 Completed 7/25/62

Collar Elevation 3254.5 Total Depth 820.5

GEOLOGIC LOG

MISSION UNIT

②

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
[illegible]	388.4	7.5		.24		Arg	Run	vlts & diss py Tr cpy, moly	Run	30 to 50°	fracs & slips w/ ser & wk gyp.	Ltgr Arg w/ short ints cgl local st qtz & ser.
	400.2	11.8		.25		Arg & cgl	Run	Varied dip vlts py w/ wk cpy fine diss py & cpy Tr moly on some fracs.	Run	-	As above	Strongly broken from 391.6 to 395.5. Sp pds dk brn Arg in cgl ints.
	411.3	11.1		.19		Arg	Run	wk to mod diss & vlts py w/ wk cpy	Run	—	" Locally very broken	dk brn Slt Arg w/ wk ser & gyp along fracs
	421.8	10.5		.21		Arg & cgl	Run	As above	Run	—	Same w/ some Hi ∠ slips.	As above w/ local st ser & mostly cgl.
	433.0	11.2		.16		Cgl	Run	diss pats & vlts py w/ wk cpy, Tr moly on fracs.	Run	25 to 70°	fracs & slips w/ smeared suls, ser, gyp.	Grades Ltgr to dk brn Congl w/ st qtz repl. wk zones fold.
	444.8	11.8		.34		Cgl	Run	As above	Run	"	As before w/ occas vugs & CO_3 30° common	Same.
	454.2	9.4		.50	18.6 @ 0.47	Cgl	Run	fine diss, pats, vlts py & cpy in Qtz-fold.	Run	30 to 50°	fracs & vlts suls.	st qtz-fold repl. in most of this run
	463.4	9.2		.44		Cgl-Bx	Run	30-60° vlts py w/ wk cpy	460.0-end	25 to 30°	flt bx-gg	st ser & clay.
	471.6	8.2		.32		Cgl	Run	wk vlts cpy-py - fine diss suls.	Run	30 to 50	fracs & slips w/ ser, serp, gyp.	Local ints st qtz. mod ser.
	481.4	9.8		.31		Cgl	Run	vlts, pats & fine diss py w/ wk cpy.	Run		As before	st qtz-fold repl.
	492.2	10.8		.31		Cgl	Run	Mod py - wk cpy, smeared suls. Tr moly	Run	—	Highly broken	Very broken w/ st ser & talc
	503.6	11.4		.39		Cgl.	Run	"	Run	25-50°	fracs & slips w/ st ser, smeared suls & gyp.	Local st qtz. st ser & talc.
	514.0	10.4		.26		Cgl	Run	As above w/ wk strs sph near end.	Run	"	"	Locally strongly broken
	523.6	9.6		.45		Cgl	Run	Diss py-cpy	517.4 Run	50°	0.3 flt bx-gg. As above	Ltgr cgl w/ cinnamon colored pats. St silt.
	532.7	9.1		.40	28.1 @ 0.49	Cgl	Run	vlts & diss pats py-cpy	Run	30-50°	vlts gyp - fracs & slips w/ ser.	"

MIS-807-A 75

HOLE NO. M-39

Coordinates: N 361,458.13 E 713,985.30

Dip Vert Bearing ——

Date started 7/6/62 Completed 7/25/62

Collar Elevation 3254.5 Total Depth 620.8

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
532.7	542.1	9.4		.63		Cgl	Run	diss & 30-55° vlts & strs py, cpy Tr sph & moly	Run	30-70°	fracs & slips w/ st ser, smeared sulf & wk CO_2.	Ltgr, tan & brwn cgl w/ st ser & clay & Qtz
	553.2	11.1		.28		Cgl	Run-	Same	Run	"	As above w/ wk serp	As above w/ field-CO_2
	566.0	12.8		.26		Cgl	Run	vlts & diss pats py w/ wk cpy. Tr moly	Run	25-40°	fracs & slips w/ wk gg on some. also qtz vlts w/ feld. gyp on some fracs.	Shows st. silf & more feld. Shorts into brn Arg.
	573.2	7.2		.11		Arg	Run	wk sulf.	Run	15-20° 15-50°	Lt tan banding Qtz & gyp vlts	St. silf brn Arg w/ Feld repl wk local Act & ser.
	579.9	6.7		.16		Arg	Run	wk pats & 30 to 60° vlts py-cpy Tr moly	Run	30 & 70°	fracs w/ gyp & ser.	As above less Act.
	587.9	8.0		.79		Qtzt	Run	wk pats & strs py & cpy. Tr moly	Run	Varied	fracs & slips w/ ser, smeared sulf, gyp	Ltgr to wk locally broken Qtzt w/ short into bx, Tr Fl, wk clay & ser. Contain. faint Law L banding.
							585.4	45° vlt cpy-py	583.4	60°	Bx-gg	
									586.7	50°	Bx-gg.	
									580.1	15°	Arg-qtzt ct.	
	598.0	10.1		.51		Qtzt	Run	Mod strs & pats cpy-py, Tr moly, smeared sulf on fracs.	Run	15-30°	parallel frac set. occas, 60° fracs	As before.
									588.7	60°	Bx-gg.	
	605.8	7.8		.24		Qtzt	Run	wk strs & pats cpy-py	599.8	30°	0.3' Bx-gg-sulf.	Local st. ser & clay
									Run	±30°	fracs & slips w/ gyp-ser & clay.	Broken zones
	615.4	9.6		.54		Qtzt	Run	Mod strs & diss py cpy-wk moly on fracs.	Run	±30°	"	same but less broken & no banding
	624.2	8.8		.40		Qtzt	Run	As before w/ st smeared sulf in fracs.	Run	30-70	Higher L fracs more common	St. broken Lt gr Qtzt w/ st. ser & clay around fracs.
	634.2	10.0		.60	111.3' @ 0.54	Qtzt	Run	vlts, strs & fine diss py w/ cpy Tr moly	Run	30-50	fracs & slips w/ ser & smeared sulf.	Less broken & less clay
	645.6	11.4		.52		Qtzt	Run	"	Run	"	Same w/ few Hi L fracs.	Less ser. wk Ep. locally vuggy
	655.0	9.4		.41		Qtzt	Run	"	Run	"	Same w/ parallel low L fracturing	"

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HOLE NO. M-39

Coordinates: N 361,458.13 E 763,985.30

Dip Vert Bearing —

Date started 7/6/62 Completed 7/24/62

Collar Elevation 3254.6 Total Depth 820.8

GEOLOGIC LOG

MISSION UNIT

④

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
655.0	665.5	10.5		.51		Qtzt	Run	vlts & strs & diss py w/ weaker cpy	361.0 Run	±30° –	Bx & broken zone As before	Lt gr Qtzt w/ wk ser Tr. Act & Ep
	676.1	10.6		.51		Qtzt.	Run	wk vlts py-cpy, 30°. Also strs & sp diss pats.	Run	30-50°	fracs & slips w/ wk ser & smeared suls.	Same
	684.1	8.0		.80		Qtzt	Run	strs & pats py-cpy wk moly on fracs.	Run	"	As before	Same less Act & Ep.
	691.2	7.1		.65		Qtzt	Run	strs & 30° to 60° vlts py-cpy	Run	"	"	"
	700.0	8.8		2.11		Hf	Run	st 60° vlts & diss py cpy	Run	50-60°	vlts CO_2	Dense lt gr to grn Hf w/ wk CO_2, Mod Act, serp
	705.0	5.0		1.65		Hf	Run	30 to 50° vlts py w/ cpy	Run	"	" + clay	Same changing to soft clayey Hf near end
	714.5	9.5		.62		Hf	Run	30 & 60° vlts py w/ cpy in gr-grn Hf. wk mag.	Run	30 & 60°	fracs w/ suls serp.	Soft clayey cream colored Hf w/ 60° ints Lt gr-grn dense Hf. St serp.
	726.9	12.4		1.97	65.7 @ 1.73	Hf	Run	vlts & pats cpy, py, local st Mag. along fracs & sul zones	Run	30-70°	fracs & slips w/ Serp, Talc, Suls, Hem.	Gr-grn Hf w/ local pats clay & serp & Talc.
	737.1	10.2		2.62	"	Hf-gg	Run	Same throughout.	727.9 to end	30° to 60°	flt bx & gg w/ st suls & mag.	first 1.0' As before Remainder flt bx-gg w/ Hf bx.
	745.2	8.1		1.76		Hf	Run	Diss Mag, py, cpy	Run	30°	fracs & slips	short clayey zones
	756.9	11.7		1.31		Hf	Run	st. Mag-py vlts (60-75) w/ weaker cpy & wk hem.	Run	50-70°	fracs & apparent lineation & drag folding (poss fault zone)	Lt to dk grn Hf w/ abundant CO_2 vlts, St serp & Act. Locally vuggy.
	765.5	8.6		.06		Arg	Run	30° to 50° vlts suls (sparse)	Run 756.9	30 to 60° 20°	fracs Hf-Arg ct.	Lt gr and tan Sandy Arg w/ local siltf, wk ser
	774.7	9.8		.36		Arg	Run	"	Run 774.7	30° 55°	fracs w/ wk ser. Arg-Hf flt ct.	"

MIS-807-A 75

HOLE NO. M-39

Coordinates: N 361,458.13 E 763,985.30

Dip Vert Bearing —

Date started 7/6/62 Completed 7/25/62

Collar Elevation 3259.5 Total Depth 820.8

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
774.7	785.4	10.7	·	.69	.69	Hf	Run	Diss & 50 to 60° vlts py & cpy	Run	50°	slips off-getting mineralized vlts.	Lt grn, Tan & lt gr Hf w/ st clay, Abundant CO_2, Act. local. vuggy fracs.
	794.0	8.6		.12		Mb	786.3	0.3' vlt st sph w/ med cpy-py. (60°)	785.4	25°	Hf-Mb act.	Lt gr & wh Mb w/ st serp. Occas wk pats Hf w/ Act.
							787.7 Rest	Pat cpy w/ sph & py. wk Sulf, Mn ox, Pat Mn CO_3.				
	800.4	6.4		Tr		Mb	Run	Barren	Run	30-50°	fracs & slips w/ clay	wh to lt gr mb w/ wk strs serp.
	810.6	10.2		Tr		Mb	Run	v. wk pats sph-py.	Run	–	Faint low ∠ gr bands.	"
	820.8	10.2		Nil		Mb	Run	Barren	Run	50-70°	Vuggy fracs	"
	Bottom											

MIS-807-A 75

HOLE NO. M-38

Coordinates: N 361,463.16 E 764,237.66

Dip Vert Bearing ----

Date started 7/6/62 Completed 7/24/62

Collar Elevation 3252.7 Total Depth 801.3

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	210.0					Alluv, ccg						ccg ± 176' BR ± 207
	220.4	10.4	.05	.25		Arg-Cgl	Run	Fe-Mn-Cu Ox-Jarosite wk sulf last 0.3'	220.4	low L	Base Oxides	Lt gr & tan Arg w/
									Run	Varied	fracs w/ fe ox & CO_3	ser along & near
											30° & 60° most common	fracs. Strongly broken
											fracs.	Short ints cgl
	234.8	14.4	.01	.32		Arg	Run	wk to mod vlts & diss	Run	"	As before less Ox.	Lt gr to gr Arg w/
								pats py w/ wk cpy			py on fracs.	local st ser wk ep.
	245.9	11.1		.34		Arg	Run	30° & 60° vlts py w/	Run		"	"
								weaker cpy		Hi L	vn in most of run	(Reliable Assays?)
	255.2	9.3		.36		Arg	Run	60° & Hi L vlts & occas	Run	"	Same w/ 70° to 80°	Local qtz & fold.
								pats & fine diss py & cpy			fracs more common.	
								Tr moly on fracs				
	266.7	11.5		.44		Arg-Cgl	Run	"	Run	"	"	Longer ints cgl
	275.7	9.0		.30	31.4' @ 0.40	Arg-Cgl	Run	"	Run	30 to 60	Occas Hi L fracs	cgl dominant last 5.5'
	286.6	10.9		.44		Cgl	Run	Mod to St vlts py	286.5	75°	Slip w/ st mdg	Tan-lt gr-brwn cgl
								between 45 & 60° w/ mod	Run	45-80°	fracs & slips w/ st	w/ local st qtz-fold
								local cpy.			ser-serp local gg.	st ser near fracs.
	296.8	10.2		.33		Cgl	Run	Varied dip vlts py w/			"	"
								wk cpy Tr moly				
	306.8	10.0		.32		Cgl	Run	"	Run	30-60°	fracs & slips as before	Short ints (Low L) Arg.
												Local st qtz.
	316.6	9.8		.42	.42	Cgl	Run	vlts & fine diss py & cpy	306.8-311.0	Hi L	frac w/ smeared sulf	"
								Tr moly			ser-clay.	
									Remainder	30-50°	fracs (30° most common)	
	326.3	9.7		.19		Cgl	Run	"	Run	30-70°	fracs	Short 30° ints Arg (gr)
	336.5	9.2		.18		Cgl	Run	"			"	St silf. Tr Ep
	347.2	11.7		.29		Cgl	Run	wk to mod 30° to 45° vlts	342.9	50°	Bx-gg (0.3')	gr & wh cgl local
								py. Tr cpy	346.0	65°	0.7' Bx-gg	ints dense gr arg.
	357.0	9.8		.16		Cgl	Run	"	Run	30 to 75°	fracs & slips	"
									353.1	25°	Bx-gg (0.4')	
	368.8	11.8		.39		Cgl	Run	wk vlts & diss py Tr cpy	Run	30 to 70°	fracs w/ CO_3, qtz	St CO_3 & Qtz.
	377.0	8.2		.15		Cgl & Arg	Run	"			ser.	
							373.2	0.2' St py 35° vlt w/	Run	"	"	" Mixed Arg
								wk cpy pats.				
	388.0	11.0		.29		Cgl & Arg.	Run	As above run	Run	"	"	"

MIS-807-A 75

HOLE NO. M-38

Coordinates: N 361,463.16 E 764,232.66

Dip vert Bearing —

Date started 7/6/62 Completed 7/28/62

Collar Elevation 3256.2 Total Depth 801.3

GEOLOGIC LOG

MISSION UNIT

②

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
384.0	397.5	9.5		.29		Cgl	Run	wk vlts & diss py, Tr cpy	391.5-392.0		60° flt bx	Hgr cgl w/ pats
									Run		As before	Arg, st ser wk cbx.
	401.0	3.5		.21		Cgl	Run	40-50° py vlts, tr cpy	Run	50°	slips, vlts	Grey-brn mottled w/ local feld rex
	411.0	10.0		.34		Cgl	Run	Vlt, diss py, blebs cpy	Run	40,80°	Gyp vlts	Grey-brn cgl, local st feld-clay alt.
	421.1	10.1		.19		Cgl	Run	30-40 py-cpy vlts fine diss cpy	Run	High V	slips	Grey cgl w/ st feld-ser alt.
	428.7	7.6		.36		Cgl	Run	Vlts, pats py, cpy	Run	40,70°	Gyp vlts	As before "
	438.7	10.0		.36		Cgl	Run	Same	Run	30,75°	"	"
	448.5	9.8		.31		Cgl	Run	Finely diss & vlts py, cpy Tr MnOx.	Run	"	"	"
	460.7	12.2		.45		Cgl	Run	"	448.9	80°	2-parallel slips w/ thin vlts cpy-py	As before w/ local st silt, w/ some strong
									Run	30-70	Gyp vlts	
	470.8	10.1		.57		Cgl	Run	30-50° vlts cpy & py fine diss cpy occas pats	Run	—	As above	"
	483.0	12.2		.52		Cgl	Run	"	Run	—	"	"
	495.7	12.7		.41		Cgl	Run	Local st pats py-cpy vlts py-cpy diss cpy	Run	—	"	"
									495.0	30°	0.7' flt bx-gg	
	505.0	9.3		.56		Cgl	Run	vlts & pats py-cpy Tr molp.	495.7-496.4	Hi L.	Slip w/ smeared sulfs gyp & ser.	Mod qtz - st feld & ser.
									499-end	30-50°	Traces & slips w/ ser, gyp	
	514.7	9.7		.55	71.2 @	Cgl	Run	vlts, pats, & fine diss py-cpy	Run	Low L.	gyp vlts.	st qtz & feld mod ser
										35°	traces & slips	
	519.6	4.9		.49	0.54	Cgl	Run	As above	Run		Same	"
	527.0	7.4		.83		Cgl-Bx	Run	Smeared sulfs & diss py-cpy	Run	60°	flt bx, gg w/ short ints cgl.	Flt zone w/ short ints cgl bounded by 60° traces & slips. st ser & clay
	538.2	11.2		.67		Cgl	Run	vlts, stks, pats & fine diss py w/ cpy - Tr molp	Run	30-60°	Gyp vlts, traces & slips	Hgr tegr & brown cgl w/ st feld Rep.
	545.7	7.5		.42		Cgl	Run	As above	Run	"	Same	"
	554.8	9.1		.34		Cgl	Run	Same	Run	"	traces & slips	Zones of mod ser.

MIS-807-A 75

HOLE NO. M-38

Coordinates: N 361,463.16 E 764,287.66
Dip Vert Bearing —
Date started 7/6/62 Completed 7/24/62
Collar Elevation 3286.7 Total Depth 801.3

GEOLOGIC LOG
MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
554.8	564.4	9.6		.35		Cgl	Run	Vlts, strs, pats & fine diss py-cpy; moly on fracs.	Run	30 to 45°	fracs & slips w/ gyp, smeared sulfs, ser, serp	Ltgr-tan-pk cgl w/ st silf. Local feld. Ser content increasing. Tr Ep.
	574.3	9.9		1.03	1.03	Cgl	Run	As before w/ last 1.0' of st cpy 30° parallel vlts.	573.3	35°	flt bx showing 30° parallel veining of cpy to end. (Bd?)	Same w/ last 1.0' flt bx w/ pats cinnamon colored Arg. (Silf). Ser.
	581.0	6.7		.27		Qtzt	Run	Fine diss & strs py-cpy smeared sulfs in cracks & fracs.	574.3	60°	flt at w/ broken Qtzt.	Ltgr to wh Qtzt w/ pats of tan & cinnamon Arg cgl in first 2.5' of run. Pats & zones st ser alt throughout run.
									Run	Varied	fracs & slips w/ ser & smeared sulfs.	
	585.7	4.7		.28		Qtzt	Run	St smeared sulfs in fracs.	Run	—	Broken & ground some 30 to 45° fracs.	Minus 50% rec'y.
	589.6	3.9		.77	0.77	Qtzt	Run	30° vlts py-cpy sph pats py-cpy	Run	30 & 60°	fracs & slips w/ ser & smeared sulfs.	Ltgr to clear qtzt locally vuggy near fracs. Mod ser.
	599.9	10.3		.16		Qtzt	Run	wk vlts & strs py-cpy Tr Moly	591.8	40°	Bx-gg w/ py	As above
									593.0	30°	Bx w/ tr Ep.	
									Run	30-40°	fracs (Bd?)	
	610.3	10.4		.20		Qtzt.	Run	wk strs & 30° vlts py-cpy smeared sulfs on fracs.	Run	30-45°	As above	Locally very vuggy w/ increasing ser.
	622.2	11.9		.27		Qtzt.	613.2 Run	60° frac w/ st moly As above	Run	30-70°	fracs & slips w/ ser, smeared sulfs, moly	As in previous 3 runs w/ qtz cand in fracs near end. Locally broken
	626.3	4.1		.74		Qtzt		Low L & 30° vlts py-cpy Tr moly	Run		Same	Same.
	631.0	4.7		1.13		Hf	1st 1.0' 3.7'	flt zone w/ st cpy-py 30 & 60° vlts st py w/ mod cpy	626.3	80°	flt bx w/ st sulfs. Flt at Qtzt-Hf.	Lt grn Hf (~~altered Qtzt?~~) w/ Act, Qtz & feld. Pats Ep @ 628' ~~& Qtzt above~~
									631.0	30°	Hf-Qtzt at	
	637.3	6.3		.45	37.0' @ 0.86	Qtzt	Run	Various angled vlts & strs py w/ lesser cpy	Run	30°	Common fracs.	

HOLE NO. M-38

Coordinates: N 361,463.16 E 764,237.66

Dip Vert Bearing ——

Date started 7/6/62 Completed 7/24/62

Collar Elevation 3256.7 Total Depth 801.3

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
637.3	642.8	5.5		.84		Hf	Run	fine diss & 60° vlts py w/ cpy. Moly @ ct.	Run 637.3	20-35°	slips off-setting sul vlts o.l. c.t.	Lt grn dens Hf w/ st Act, wk gam stain & gyp on frac, wk CO_3 local ct Ep. wk serp.
	653.0	10.2		.93		Hf		"			"	Hf + Talc
	659.2	6.2		1.08		Hf	653.5	0.1' 30° vlt st cpy below bx-gg zone	654.8 658.4	40° 45°	flt bx 0.8' gradational ct. to Qtzt.	As before w/ local st acc & serp. local pats Qtzt.
							Run	15 to 60° vlts py w/ cpy. also fine diss cpy py.				
	669.2	10.0		.08		Qtzt	Run	vlts & strs py w/ wk cpy	Run	30°	frac w/ ser & smeared suls	Ltgr Qtzt w/ local st ser
	676.1	6.9		.11		Qtzt	Run	"	Run	30-50°	"	Same w/ pats Arg.
	680.4	4.3		.18		Qtzt	Run	strs & 30° vlts py-cpy	Run 680.1	15-35 50°	frac. 0.1' int Hf w/ py	Ltgr togr Qtzt w/ lenses & pats Arg, serp & Tr Ep.
	682.8	2.4		.38		Hf.	Run	vlt & st fine diss py w/ weaker cpy	680.7 682.6	20° 20°	Qtzt-Hf ct Hf-Qtzt ct w/ chl.	Ltgrn to gr Hf w/ Act & serp, pats chl & Ep. Tr feld & qtz
	694.4	11.6		.15		Qtzt	Run	wk strs py-cpy w/ occas 30° & 60° vlts.	Run	varied	vuggy fracs; slips w/ ser. CO_3 in vuggs.	Ltgr to wh Qtzt w/ st ser & clay in last 2.0' of run, wk pats & lenses Arg near end.
							689.7	large pat cpy				
	703.4	9.0		.51	35.2' @ 1.85	Qtzt-Hf-Arg	Run	Diss & vlts py & cpy in Hf & Qtzt w/ Arg nearly barren.	Run 700.6-702.3	50-70° 60°	Cnts between rock types. Bx zone (flt?) w/ st serp & chl & suls, wk Ep Act.	Mixed Tan Arg, Ltgrn, gry, & Tan Hf, & Ltgr Qtzt. Feld in Arg. Trem-Act in Hf. wk CO_3 in all types.
	714.9	11.5		2.01		Hf-bx-gg	708.0 to 711.5 Massive Vn Sph-Mag w/ st cpy & py @ 30° 703.4 to 706.2 wk suls 706.2 to 708.0 30° to 50° vlts py & cpy 711.5 to end 30° to 45° vlts py, cpy & smeared suls		703.9 705.2 706.2 711.5 to 713.0	Low ∠ " 30° 30°	Arg-Hf ct. Hf-Arg ct. Arg-Hf ct. poss flt zone	Tan-gry-cream colored Hf w/ short ints Arg in upper 3 ft of run. st gg & clay in last 3.4'

HOLE NO. M-38

Coordinates: N 361,463.16 E 764,237.66

Dip Vert Bearing ——

Date started 7/6/62 Completed 7/29/62

Collar Elevation 3256.7 Total Depth 801.3

GEOLOGIC LOG

MISSION UNIT

(6)

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
714.9	724.9	10.0		1.99		Hf	Run	St vlts & diss cpy-py-sph v. wk mag.	Run	30°	gyp vlts & fracs w/ sulf & clay.	Ltgrn & cream colored dense Hf w/ St Trem-Act
	729.6	4.7		3.73		Hf	727.9	0.3' 60° vn massive cpy w/ py.	729.6	45°	Hf-Arg ct w/ st serp & Talc (pass filter)	"
							Run	diss pats & vlts py & cpy.				
	734.8	5.2		.03		Arg	Run	Wk diss sulf.	Run	30-60°	fracs & slips w/ ser & Talc.	Ltgr sandy Arg w/ St ser.
	747.9	13.1		.05		Arg	Run	"	Run	"	"	wk pats near some fracs of Hf.
	751.6	3.7		.13		Hf	Run	wk sulf	747.9	Low ∠	Arg-Hf ct.	Ltgrn to ltgr Hf w/
									Run	Varied	slips w/ smeared sulf, clay & Talc.	local Trem-Act St clay. v. soft.
	760.4	8.8		.11		Hf-Mb	Run	Small 30° vlts & some strs sulf (smeared) wk Mn Ox - Mn_2EO_3.	760.4	30°	Hf-Mb ct showing minute drag folding.	Mixed wh soft clayey Hf w/ wk wol & Ltgr To wh Mb w/ wk serp.
									Run	25-50°	fracs & slips w/ clay	Locally vuggy
	770.5	10.1		.04		Hf-Mb	Run	Tr sulf, MnOx	Run	-	As above	"
	781.2	10.7		.01		Mb	Run	wk sulf, MnOx. Tr moly.	Run	Low ∠	fracs w/ clay some vuggy	Ltgr to wh Mb w/ local st clays & serp. wk pats Hf
	791.1	9.9		.02		Mb	Run	As above	Run		"	"
	801.3	10.2		.01		Mb	Run	Tr sulf, MnOx	Run	30°	wk gr banding	Ltgr Mb w/ pats clay
	Bottom											

MIS-807-A 75

HOLE NO. M-37

Coordinates: N 363,124.28 E 764,980.95

Dip Vert Bearing ——

Date started 6/28/62 Completed 7/6/62

Collar Elevation 3132.9 Total Depth 416.4

GEOLOGIC LOG

MISSION UNIT

①

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
120.0	133.2	13.2				Ccg						Ccg ± 102 B.R. 133.2
	148.2	15.0				Arg	Run	Fe ox Tr Cu ox	Run	45-Vert	Fracs w/ Oxides	143.7 - 47.4 - Fp 148.2 - Base Ox
	158.4	10.2		.03		Arg	Run	Diss & vlt py	Run	"	Slips and vlts	Buff - wht Arg
	167.0	8.6		.02		Arg	Run	Tr py vlts				Dense - Maroon color
						Arg	Run	"				"
	180.4	13.4		.02		Arg	Run	Diss & vlt py	Run	45-Vert	Qtz - py vlts	"
	191.3	10.9		.03		Arg	"	"	"	"	"	"
												182.5-85.5 St qtz
	204.0	12.7		.02		Arg	"	Diss & vlts py, Tr cpy	"	"	"	Dense redish-brwn color
	214.5	10.5		.04		Arg	"	" " " " "	Run	70°	Slips w/ smeared sulfs, serp - ser.	"
	223.0	8.5		.12		Arg	"	"	Run	varied	As above	"
	232.5	9.5		.05		Arg	"	"			same w/ gyp.	As before - Broken
	242.8	10.3		.03		Arg	"	Diss & vlts py - sph - Tr cpy	"	"	"	"
	251.0	8.2		.08		Arg	"	"	Run	30-85	fracs & slips w/ Talc	"
	262.9	11.9		.14		Arg	"	"	255.0	50°	Bx & sulfs in gg(?) Hf	Serp - gar - gg @ end
									262.5	Lost	flt ct w/ Tt below.	
	269.6	6.7		.55	.55	Arg-Tt	Run	wk diss py - Tr cpy - wk hem on some fracs.	Run	—	Transitional ct in flt zone of Arg & Tt. st. CO_3	Lt grn to tan Tt mixed w/ broken gr & rd-brn Arg w/ st pats ep.
	282.8	13.2		.14		Tt	Run	wk finely diss py w/ Tr cpy & spk - (Bn?) hem on fracs.	Run	30-Vert	fracs & slips w/ gyp, hem, Talc, Serp	Lt Tan Tt w/ local qtz, CO_3 in pats & vlts short ints Hf near end.
	294.6	11.8		.04		Tt	Run	Same w/ Tr moly.			"	Lt tan Tt w/ st clays
	306.8	12.2		.10		Tt-Hf	Run	wk vlts & diss py - cpy Tr moly	303.3	—	Gradational ct to Hf.	Short ints soft clayey Hf; 3 ft Hf @ end
	316.1	9.3		.10		Hf	Run	wk diss py - cpy - Moly	309.2	25°	Bx - gg zone (0.3')	Ltgr to Ltgrn soft Hf w/ st ser & local Qtz.
	324.7	8.6		.12		Hf	Run	wk sulf - good diss moly Throughout.	Run	30-50°	fracs w/ gyp - hem.	"
	334.0	9.3		.04		Hf-Tt	Run	"	326.8		Hf-Tt ct.	Lt. tan Hf & Tt w/ local pats Qtz & st silf

MIS-B07-A 75

HOLE NO. M-37

Coordinates: N 363,124.28 E 764,980.95

Dip Vert Bearing ——

Date started 6/28/62 Completed 7/6/62

Collar Elevation 3132.9 Total Depth 416.4

GEOLOGIC LOG

MISSION UNIT

(2)

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
334.0	343.2	9.2	"	.31		Tt	Run	st diss py w/ wk cpy, Tr moly in Qtz	334.0	75°	Gyp & hem v/lt w/ Bx-gg (Ht?)	Lt grn to tan Tt w/ local st silf-CO_3
	349.7	6.5	"	.14		Tt-Hf	Run	Mod diss py-wk cpy-Tr moly	347±	Lost	Tt-Hf ct in broken zone	Gradational ct to dense silf Hf.
	358.9	9.2	"	.02		Hf-Tt	Run	wk Sulfs-Tr moly	Run	30-60	fracs w/ clay & CO_3	mixed Lt grn Hf & Tt w/ local clay & wk Act-St silf, mod CO_3
	365.5	6.6	"	.08		Hf-Tt	Run	wk sulfs	Run	"	"	"
	376.8	11.3	"	.27		Hf-Tt	367.5 Run	St moly along 70° frac, wk to mod py w/ wk cpy-moly-mn.	367.4	50°	Ct w/ Arg	As above w/ st serp, chl in last 3' of run
	387.5	10.7	"	.02		C-Arg	Run	Tr Sulfs	Run	30-60°	fracs w/ wk ser-Talc-serp, Mod CO_3	Lt gr C. Arg w/ st local Qtz-feld repl, Mod to St CO_3, Tr Ep.
	399.5	12.0	"	.02		C-Arg-Arg	Run	wk py	Run	"	"	Same plus short Arg & Cgl ints.
	407.3	7.8	"	.02		Arg-S Arg	Run	wk v/lts & diss py w/ Tr cpy.			"	Decrease in CO_3, grad. change to S. Arg gr-buff color.
	416.4 Bottom	9.1	"	Nil		S-Arg	Run	"			"	"

MIS-807-A 75

HOLE NO. M-36

Coordinates: N 343,422.15 E 765,197.70

Dip Vert Bearing ——

Date started 6/28/62 Completed 7/6/62

Collar Elevation 3190.2 Total Depth 385.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	75.0					Alluv.						CCg to 70 BR 75
75.0	84.9	9.9		.10		Arg		Fe oxides.	83.7	70°	Fault 99	Wht gray Arg Tr Arg
									Run	45-Vert	Fe Ox lined fracs	
	98.3	13.4		.17		Arg	Run	"	Run		"	Tr Fold EP 95.2
									92.2 & 94.3		Gg zones - broken	
	104.3	6.0	.22	.48		Arg	Run	Fe - Cu oxides	Run	45-Vert	St Fe Ox Tr Cu Ox on fracs. - vlts	Tr Fold - Jarosite
	115.8	11.5		.19		Arg-C-Arg	Run	"	"	"	"	106.8 - 107.8 45 Tr Cu 115.6 - Base
	124.4	8.6		.25		Arg	115.8-116.7 Run	Tr Cc - Fe Ox - Py Pyrite - tr cpy	Run	"	Weak frac	Wht-gray Arg
	135.0	10.6		.21		Arg	Run	60° stks along fracs of py - wk cpy	130.4	Hi L	frac wi st Fe Ox	"
												wk serp
	144.3			.31		Arg	Run	Mod disc py. wk cpy	Run	50-60°	fracs wi serp - smeared sulf	St. fold - very
									142.0	85°	2.0' frac wi smeared sulf wk cpy	Dark Arg & frac wk EP
	155.3	11.0		.41		Arg	Runs	wk to mod disc py wi wk cpy.	150.0	Hi L	2.0' flt zone wi st bx - serp - clays.	Strongly broken locally dk gr
									Run	Varied	fracs & slips wi ser, serp, Fe Ox	
	165.0	9.7		.54	32.7' @ 0.44	Hf	Run	40 to 55° vlts st py wi Serp - wk cpy	156.9	—	Bx zone 0.9' poss flt. St. py - Cc. cts	Lt tan to ltgr Hf wi local pots tp
									Run	40 to 50	vlts py - serp in fracs.	Steep along fracs. Tr cut.
									156.9	—	Arg - Hf ct.	
	172.0	12.0		.40		Hf	Run	As before wi more cpy (pass ore)	Run	"	As before	Tr Rot & wk pots gate
							172.9	3 - 40° - 0.05' vlts cpy				
	182.0	10.0		.08		Hf	Run	wk to none disc sulf	Run	30 to 50	fracs.	Local soft & lagy zones Stronger pots qtz. wk CO_2.
	193.7	6.7		Nil		Hf-Tt	Run	wk disc sulf	Run	"	"	Mixed ltgr to tan Hf wi Lt gr to Tt wi approx 30° into st CO_2

MIS-BCT-A 75

HOLE NO. M-36

Coordinates: N 363,427.15 E 765,197.70

Dip Vert Bearing —

Date started 1/28/62 Completed 7/6/62

Collar Elevation 3190.2 Total Depth 395.0

GEOLOGIC LOG
MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
193.7	199.6	.59		.01		Hf	Run	Tr cpy-py	195.0	45°	0.4' int Tt w/wk cpy	Ltgr to tan Hf w/
									193.7	Low L	clear Tt-Hf ct.	st wol, serp.
	209.6	10.0		.72		Hf-Tt	206.7	1.4' mod diss cpy-py	205.0	35°	vn field	Ltgr to tan Hf mixed
								wk sph.	Run	25-45	wk fracs	w/ short ints grn Tt.
												Tt increasing toward
												end of run. pats wol
	221.5	11.9		2.57		Hf-Tt	211.7	Mod pats cpy-py (1.6')	Run	30°	banding Hf & Tt.	Hf banding (30°) in Tt.
					97.0		219.0	Mod 30° vlts & diss pats cpy	219.0	30°	(poss flt?) many slps	st gts. wk wolf. Act.
					@			py-sph. Tr mn, bm			showing displacement 2.5'	
					1.68						(flt at w/ Tt ?)	
	231.7	10.2		.96		Tt	221.7	Pat cpy-py	222.8	60°	ct between mixed Hf-Tt	grn - locally maroon.
							Run	wk to mod diss cpy-py,			and pale Tt.	Fe Tt w/ st silt w/ CO_2
								Tr sph, hem fog locally.	Run	30 to 60°	fracs & vlts.	
	241.8	10.1		2.21		Tt	Run	Mod diss pats & vlts	Run	30-60	same	Same
								cpy-py wk sph				
							235.2	25° vlt 0.2' sph-cpy				
	246.6	4.8		1.92		Tt	Run	Mod diss cpy-py	246.6	35°	flt ct.	vuggy - st CO_2 - wk serp.
									Run	Varied	fracs w/ CO_2 & vugs.	
	251.8	5.2		.15		Hf-Mb	Run	Tr sulf. FeOx stain	246.6-248.2	35°	flt ct w/ Mb.	First 1.6' flt bx-gg-ch.
									215.4	20°	Bx-gg-serp (c. 4')	Remainder Ltgr Mb
												w/ faint ch low L
												banding & vugs.
	258.6	6.8		Nil		Mb	Run	FeOx Tr Mn CO_2	Run	Varied	fracs, some vuggy	Ltgr & wk vuggy Mb
												wk pats clay-wol
	268.8	9.0		.01		Mb	Run	Tr sulf wk FeOx on fracs.	260.0	35°	0.3' Bx zone	zones mod serp.
	276.5	8.1		.01		Mb	Run	"	Run	Varied	fracs w/ vugs	Tr wol.
	287.3	10.8		Nil		Mb		"	Run	45-60°	filled fracs w/ clay.	st clay & serp last 2'
	295.3	8.0		2.28	2.28	Hf	291.5	0.3' vn stspy-sph	287.6	50°	Mb-Hf ct.	wh clayey Hf w/ st
							Run	Mod to st vlts & pats	Run	30-45°	fracs.	wol - pale gar
								cpy-sph-py wk bern				
	305.2	9.9		.20		Hf	Run	wk sulf. Tr Mn.	305.2	25°	Hf-Tt ct.	local pale Mb wk
							301.3	vlt cpy-py (20°)				gar, Mod wol, local
							303.0	60° vlts cpy-py-sph				st gts.
							304.0	pat cpy-sph				

MIS-807-A 75

HOLE NO. M-36

Coordinates: N [illegible] E 765,197.70

Dip Vert Bearing —

Date started 5/28/62 Completed 7/6/62

Collar Elevation 3120.2 Total Depth 395.0

GEOLOGIC LOG
MISSION UNIT

(3)

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
305.2	310.0	4.8		.03		TE	Run	Tr sulf wk hem	Run	45-60°	fracs some wi gyp	Brn-grn dense TE TE
									309.5	25°	TE - Qf ct	wi pats dense Ltgr
	315.4	5.4		.04		QF-HF	Run	Sp small pats py				Hf. St local qtz-ca
									313.2	50°	Qf - Hf ct	Ltgr to tan Hf wi
									313.7	40°	Hf - Qf ct	2 vns Qf. Pats gar &
									315.3	70°	Qf - Hf ct	St serp in Hf.
	326.9	11.5		.07		Hf	Run	wk diss sulf Tr. moly	319.4	45°	flt wi silt bx	Ltgrn to tan Hf wi
									322.5	60°	"	local st gar wk pats
									326.4	50°	frac w/ gyp-smeared sulf	fold, pats qtz & Arg.
												St. Act.
	336.3	9.4		Tr		Hf	Run	finely diss py - mm. Tr cpy.	334.5	30°	zone bx-gg (flt?)	Soft wb clayey Hf wi
												wk wol-mod gar in
												last 0.6' of run
	344.4	8.1		.03		Hf	Run	wk moly in fracs - smeared sulf. Mn ox.	Run	30-60°	fracs & slip wi bx-gg; smeared sulf-Moly	Ltgrn & Tan Hf wi
												mod gar - St clay-serp
	354.6	10.2		.06		Hf	Run	wk sulf - Tr moly	Run	30-60°	wk fracs	Mod Act. (Soft)
	362.8	7.4		.10		Hf.	364.3	wk pats cpy - py	362.6	45°	Hf - Arg ct.	As above.
												As before grading to
												dense Ltgrn Hf
												over run.
	374.4	9.4		.07		Arg	Run	wk diss cpy-py	Run	30-60°	fracs	Lt tan to pk Arg wi
												St local qtz & fold
												& zones of Arg & sgl.
												Mod, Taber serp
	382.7	7.3		.08		Arg		"			"	St. serp
	387.1	8.4		.03		Arg-Clay		"			"	"
												Ltgrn dacite dikes
	395.0	7.9		.03		Arg-Clay		"			"	Increase in Clay.
	Bottom											"

MCI-607-A 7-62

HOLE NO. M-35

Coordinates: N 363,967.59 E 265,527.28

Dip Vert Bearing —

Date started 6/22/62 Completed 6/28/62

Collar Elevation 3197.2 Total Depth 440.5

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	190.0					Allev						CCg ∑ 188
	209.7	19.7			N.S. Tot.	C.Cg						BR ∑ 209.7
	220.2	10.5	.23	.64	.23 .64	Arg-Hf	Run	Fe-Mn-Cu Oxides	Run	35°	Arg & Hf ints	Ltgr to pk Arg mixed wi short Hf ints & soft clay. Arg locally strongly broken and has many strs CO2.
	225.0	4.8		.08		Bx-Arg	Run	Mn-Fe Ox.	220.2	Lost	Flt wi Bx-gg & oxides. 1.0 ft.	Ltgr & brn bx-gg zone followed by ltgr arg wi st ser throughout
	228.8	3.8		.88	15.8 @ 0.54	Hf	Run	St MnOx Lesser FeOx Mod CuSi & oxides	225.0	30°	Arg-Hf ct	Lt. gr Hf wi local pats Arg & int
	240.8	12.0		.43		Hf-Tt	Run	Mod diss pats cpy-py. wk mn Ox in first 1.0 ft.	228.8 Run	Low L 30°	Bmsn Oxides fracs wi st clay.	Ltgr to ltgrn soft Hf mixed wi short ints Tt & containing mod grn serpent
	248.3	7.5		.26		Hf-Tt	Run	wk to mod diss pats & vlts py wi wk cpy	240.8-242.4		Bx-gg zone wi wk fold - Tr sulfs.	As above wi gg bx at beginning wi wk fold.
	258.5	10.2		.10		Hf-Tt	Run	wk sulfs Tr moly	249.1	20°	Shear wi chl, and sulfs.	As before wi fold content increasing (ct from Arg?)
	268.7	10.2		.06		Hf-Tt	Run	wk vlts & finely diss py-cpy Tr moly	Run	Varied	fracs wi serp-Talc smeared sulfs wk hem.	As before
	278.9	10.2		.47		Tt	Run	wk to mod diss sulfs local pats cpy	273-275		Vuggy fractured zone. St. CO2	Ltgrn to tan clayey Tt wi local st serp
	289.1	10.2		.45	34.9 @ .47	Tt	Run	As before	286.0-cont	—	Bx-gg.	As before wi st broken zones.
	296.3	6.2		.31		Tt	Run 295.0	As above 30° 0.1' cpy-py.	Run	Varied	fracs & slips wi gr sul gg.	Same. (from Arg?)
	303.6	8.3		.60		Hf	Run	wk to mod diss cpy-py. Tr sph.	296.5	25°	Tt-Hf ct.	pk to gr Hf wi low st fold zones & gar zones. Small pats Arg - St. clays

HOLE NO. M-35

Coordinates N 363,861.59 E 265,572.28

Dip Vert. Bearing —

Date started 6/22/62 Completed 6/28/62

Collar Elevation 3197.2 Total Depth 440.5

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
303.6	315.1	11.5		.30		Hf	Run	Small pats diss cpy-py near fracs @ 304.9, 312.4 (0.5') & 315.0.	Run	–	30° fracs common.	pkte Ltgr Hf fractured much like Arg wi st ser Tr. ep.
	324.9	9.8		.30		Hf	Run	Med fine diss cpy-py wi Tr sph.	Run		As above.	Dense Ltgr Hf wi local grn & gry, wk serp.
	331.0	6.1		.19		Arg	Run	Tr. Sul's - wk hem on some fracs.	Run 324.9	30° & 60° Low ∠	fracs wi ser-Talc Hf - Arg ct.	Ltgr Arg wi short intr Hf wi st serp - Med sper.
	340.8	9.8		.69		Hf-Te	Run	Mod diss pats cpy-py	331.0	60°	Gradational Arg-Hf ct.	Ltgr dense Hf mixed wi Ltgrn Te
	348.8	8.0		.20	38.0 @ 1.00	Hf-Te	343.4 347.2	45° vlt cpy-py 1.0' st diss py in serp & clay w/ wk cpy.	Run	30°	parallel fracs.	As before wi short intr Arg w/ st sel.
	359.0	10.2		1.15		Hf-Te	Run	Mod to st diss cpy-py	Run	30°-60°	fracs & shears x serp.	Ltgrn Te wi pats Hf local wk serp. Local st Qtz & Qtz.
	369.0	10.0		1.79		Hf-Te	369-372 Remainder	1st 3ft of run st diss cpy-py. wk diss sulf.	359.2 368.3	60° 45°	0.2' frost Arg wi lower hackly ct wi Te-Hf @ 359.4. Te - Arg ct.	Ltgr Hf & Ltgrn to Tan Te mixed. Small pats or vls of Arg near top of run & at end.
	373.6	4.6		.07		Arg	Run	Tr sulf - wk hem. pat cpy @ 373.6	373.6	25°	Arg - Te ct.	Lt. Tan to pk Arg wi st clay zones around fracs. wk pats Feld. Tr. Ep.
	382.8	9.2		3.50	14.5 @ 2.44	Te	start rest	To 379.0 st cpy-py. wk to Mod cpy-py.	382.8	40°	Te-Hf ct.	grn Te wi st Qtz. Throughout. Small pats Hf & wel stg.
	388.1	5.3		.59		Hf	Run	wk to mod diss pats cpy-py	388.1	60°	Hf - Mb ct.	Ltgr Hf wi local st. grn qtz & pats Mb.
	395.6	7.5		.11		Mb	Run	wk zones of diss cpy-py.	395.6	40°	Mb - Hf ct.	Ltgr. Mb mottled wi Hf.

MIS-807-A 75

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-35
Coordinates: N [illegible] E 765,577.28
Dip Vert Bearing ——
Date started [illegible] Completed 1/28/62
Collar Elevation [illegible] Total Depth 940.5

DEPTH From	DEPTH To	DEPTH Interval	% COPPER M.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
395.6	399.6	4.0		.18		Hf	395.8	50° alignment of med diss pats & py py (0.7')	399.6	50°	Hf - Tl ct.	Mod hard to soft lt gr clayey Hf w/ pats Mb in first half of run, gray pats in last half.
	406.9	7.3		.04		Tt	Run	Wk diss suls, hem on fracs.	406.9 Run	55° 30°-40°	Tt - CArg ct. fracs & slips.	Lt gray & Tan grading to gray Tt w/ hem serp on slips & strs & vlts CO_2
	415.1	8.2		.17		CArg	Run	Tr finely diss suls.	414.7 415.1 Run Run	45° 45° 55° 30°-40°	0.4' flt zone w/ st serp-chl-hem flt ct w/ Arg. CO_2 vlts fracs & slips -	Dense lt brown tpk CArg w/ CO_2 throughout wk pats Ep. vlts CO_2 ends @ flt ct w/ Arg ztgr & brown Arg w/ local st serp zones.
	420.5	5.4		Nil		Arg	Run	Tr. suls.				
	430.7	10.2		.01		Arg	Run	Tr py.	Run	30°	Most common fracs	As before w/ wk fold, short into egl.
	940.5	9.8		Nil		Arg	Run	wk vlts & diss pats py	Run	30°-40°	fracs all common.	As above but bottoms in st fold zone.
	Bottom											

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GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-34

Coordinates: N 363,[illegible] E 765,327.19

Dip Vert Bearing ——

Date started 6/22/62 Completed 6/28/62

Collar Elevation 3202.9 Total Depth 440.2

DEPTH From	DEPTH To	DEPTH Interval	% COPPER H.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	215.0					Alluv.						CCg t 193
	220.3	5.3				CCg						BR. 220.3
	230.1	9.8		.08		Hf	Run	St Mn dendrites: wk Fe Ox Tr Cu Ox	Run	35 to 60°	fracs & slips wi st clays.	Soft cream-colored Hf wi many vlts Fe Ox, local pots unaltered Avg. St Sam throughout
							221.3	St. vlt filled wi Fe Ox				
							227.7	Str. Sph wi Tr sulf, Cu Ox in Rts 30°				
	237.0	8.9		.03		Hf-gg	Run	St Mn Ox - Tr Fe Ox stain.	Run 238.0	30° 20°	Parallel fracs. Hf-gg at. Base Oxides (?)	230.1 - 238.5 As before 238.5 to end Hf-gg wi [illegible] gr clay (Sulf?)
	246.0	7.0		Nil		Hf-clay	Run	Finely diss py along strs, wi cc coatings	Run	—	varied angle slips throughout clay.	cream to ltgr clay mixed wi Hf. OR gr varied dip strs wi fine py throughout. wk zones of ltgrn gat As before wi increase in gat
	252.7	6.7		.33		Hf-clay		Same wi pots clay			Same	
	263.7	11.0		.16		Hf-Tt	Run	wk to mod clay-py in pots wi well around py & Tt mostly.	Run	35 to 60°	Slips wi dkgr clay & hem.	soft ltgrn clayey Hf wi gat grading to grn Tt contact matrix zone.
	272.7	10.0		.35		Tt	Run	wk to mod diss pots clay-py. Strs of hem throughout lithons	Run	mod	fracs & slips wi st sand & hem.	grn Tt wi local st slip [illegible] & hem as fracs. Local st [illegible]
	282.7	10.0		1.20	1.20	Tt	Run	mod to st diss potash with clay-py & hem. Tt mostly.	Run	—	As before	As above.
	[illegible]	9.8		.10		Tt	Run	wk to mod clay-py, st hem in [illegible]	Run 292.7	— 55°	hem. fracs wi Qtz Bx	As before
	[illegible]	3.5		.04		Tt	Run	wk diss clay-py - Tr [illegible]	Run	[illegible]	fracs & slips wi st hem.	" "
	302.0	4.0		.38		Tt-Hf	Run	wk diss pots clay-py & [illegible]	[illegible]	30°	Hf at	Tt as before in [illegible] [illegible]

BIS-807-A 75

HOLE NO. M-39

Coordinates: N 362,843.37 E 765,327.19

Dip Vert Bearing —

Date started 6/22/62 Completed 6/28/62

Collar Elevation 3267.2 Total Depth 440.2

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
304.0	314.2	10.2		.72	20.1	Hf	Run	vlts & diss pats of sph-cpy-py & gr smeared suls.	304.0	Lost	Change from dense silt Hf to soft clayey Hf w/ st sil.	Lt gre to tan soft clayey Hf w/ st sil. Local pats st gar.
	324.8	10.6		.42	.73	Hf	Run	As before.	324.0-end	-	Soft gg & clay	As above
	334.1	9.3		1.09		Hf-gg	Run	St diss cpy Less py sph.	324.8-330.3		St bx-gg-clays w/ suls (f H?)	Soft gr bx-gg in ct w/ lt gre to tan Hf
									330.3	30°	Soft but dense Hf ct.	more solid than above
	341.0	6.9		.07		Hf	Run	wk finely diss suls.	334.1	60°	0.7' Bx in serp w/ suls along frac.	Lt gr strongly broken Hf w/ st serp, wk
									336.0	45°	frac filled w/ Bx-serp w/ Kham-Tr suls. (1.0')	pats gar. (from Arg?) Tr wk ash
	352.8	11.8		.49	.49	Hf-bx	Run	wk to mod diss cpy-py			Approx. 30% of run 30° to 60° fracs filled w/ bx & serp. 0.2' to 0.6' lengths.	As before
	358.9	6.1		.22		Hf	Run	wk sph-cpy-py.	Run	30° to 60°	Into soft clayey Hf w/ st gar. centralized by fracs.	Lt gr to gre Hf w/ st local serp & clay
	370.0	11.1		3.59	3.59	Tr	358.9-363	Va. dense massive cpy-py @ 35°	358.9	35°	Hf-Tr ct	Gre Tr w/ kam stain along fracs local st serp. St cpy in last 1.0' of run.
							Remainder	wk to mod diss pats & vlts cpy-py, wk kam.	370.0	30°	Tr-Mb ct	
	376.3	6.3		.07		Mb	Run	Mn CO_3, Fe Ox-Tr suls	373.1	50°	frac filled w/ Mn CO_3 & Fe Ox	Lt gr. Mb w/ pats Hf, wk mal, wk pats gre gar. wk zones serp.
									Run	30-55°	fracs.	
	385.0	8.7				Mb	Run	St. Fe Ox in vugs & fracs	Run	Hil	Vuggy fracs w/ cal. throughout.	Lt gr Mb w/ 60° wk banding.
	395.0	10.0				Mb	Run	Same.	395-397	Hil	Vuggy fracs.	As before.
	405.0	10.0				Mb	Run	Fe Ox on fracs.	Run	Hil	" " Common	" "
	414.4	9.4				Mb		" " " "	Run	30-60°	fracs w/ Fe Ox & wk clay.	" "
	422.9	8.5				Mb	Run	wk Fe Ox stain Tr suls	Run	30°	Av. wk banding	Lt gr Mb w/ clay zones w/ 30° banding gr.
	433.2	10.3				Mb	Run	Same	433.5	35°	wk-gr Mb ct.	
	440.2	7.0				Mb	Run	Fe Ox on fracs	Run	Hil	Vuggy fracs	Lt gr to gr Mb w/ wk banding
	Bottom									30°	wk banding	

MIS-807-A 75

HOLE NO. M-33

Coordinates: N 243,206.28 E 765,964.91

Dip Vert. Bearing —

Date started 6/18/62 Completed 6/22/62

Collar Elevation 3133.3 Total Depth 337.9

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	120.0					Alluv						No core - BR to 118.0'
	127.7	7.7	Nil	.20		Hf	Run	Fe-Mn Ox wk Cu Ox.	Run	30°	fracs some vuggy w/ CO_3.	Soft lt brn & grn Hf w/ st Mn dendrites
	135.2	7.5	.46	.84		Hf	Run	Sameamned. Cu Ox.	Run	30°-60°	As before	As before
	145.2	10.0	.24	.50	32.3' @ .26 Tot .64	Hf	Run	As before	Run	30°	" "	Same w/ 0.4' 30° int of dense gr Hf @ 147.9 (Mb?)
	155.2	10.0	.26	.62		Hf	Run	Weaker Fe Ox, same Mn Ox, stronger Cu Ox, wk ang last 1.0 ft.	155.2	-	Base Oxides	Gr Hf (mass from Mb?) first 2.0' ft. rest as before only softer.
	160.0	4.8	Nil	.64		Hf	RUN	~~wk-Mod Cu ox, Mn Ox~~ wk py	160.0	good	Hf-Serp Mb ct	Col Hf w/ clay, serp alt wk Fe Ox, Mn dendrites
	169.8	9.8		Nil		Mb	Run	Wk Sulfs, Mn Ox.	164.3-164.5	25°	flt bx-gg-smeared sulf	Lt grn to cream Mb w/ local st alt to serp clays.
	178.3	8.5		Nil		Mb	Run	Tr sulfs, wk Fe-Mn Ox Tr Mn CO_3	173.5	—	St sheared & broken zone	Lt gr to wh Mb w/ local st clayey zones.
									178.0	Hi L	frac filled w/ cal-Fe Ox	
	184.9	6.6		Nil		Mb	Run	As before	Run	30°	fracs.	Same
	195.1	10.2		Nil		Mb	RUN	Tr. Sulfs, wk Fe Ox Mn dendrites at end of run	Run	30°	fracs w/ serp & clay	Gr Mb w/ cal filling fracs.
	205.3	10.2		Nil		Mb	RUN	Fe-Mn Ox & Mn CO_3	196.2	65°	open frac w/ calcite.	Lt gr Mb w/ short 30° Intr Fe stained Mb w/ Mn dendrites & Mn CO_3
									Run	30°	Most abundant fracs.	
	209.9	4.6		Nil		Mb	Run	Wk $MnCO_3$-Fe Ox.	209.9	15°	Mb-Tt ct.	Fe stained Mb w/ st zones clay.
	212.7	2.8		.18		Tt	RUN	St hem fog	212.5	30°	Tt-Hf ct.	Maroon Tt w/ st CO_3.
	215.5	2.8		Nil		Hf	Run	Wk hem	Run	Hi L	vlt filled w/ hem.	Soft wh Hf w/ zones st serp.
	222.1	6.6		.09		Serp.	Run	Fe stain along frac. wk Mn	Run	varied	fracs w/ wk hem & Fe Ox stain.	Mixed zone - Mb-Tt w/ st along in last 0.7' of run. all sts between into Lt Browns, whites, maroons & Rust all mixed.

MIS-807-A 75

HOLE NO. M-33

Coordinates: N 263,706.28 E 765,944.41

Dip Vert. Bearing —

Date started 6/18/62 Completed 6/22/62

Collar Elevation 3133.3 Total Depth 337.9

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	120.0					Alluv						Nacco - BR @ 118.0'
	127.2	7.7	Nil	.20		Hf	Run	Fe-Mn Ox wk Cu Ox.	Run	30°	frac some vuggy wi CO_2.	Soft lt brn & grn Hf wi st Mn dendrites
	135.2	7.5	.46	.84		Hf	Run	Sameerwned. Cu Ox.	Run	30-60°	As before	As before
	145.2	10.0	.24	.50	32.3' @ Tot	Hf	Run	As before	Run	30°	" "	Same wi 0.4' 30° int of dense gr Hf @ 143.9 (Mb?)
	155.2	10.0	.26	.62	.26 .64	Hf	Run	Weaker Fe Ox, same Mn Ox, stronger Cu Ox. wk ends last 1.0 ft.	155.2	-	Base Oxides	Gr Hf (pass from Mb?) first 2.0' ft. rest as before only softer.
	160.0	4.8	Nil	.64		Hf	Run	~~wk-Mod Cu py, MnOx~~ wk py	160.0	grad	Hf-Serp Mb ct	Col hf wi clay, serp alt wk Fe Ox, Mn dendrites
	169.8	9.8		Nil		Mb	Run	wk Sulfs, Mn Ox.	164.3-164.5	25°	flt bx-gg-smeared ck	Lt grn to cream Mb wi local st alt to serp clays.
	178.3	8.5		Nil		Mb	Run	Tr sulfs, wk Fe-Mn Ox Tr Mn CO_3	173.5	—	St sheared & broken zone	Lt gr to wh Mb wi local st clayey zones.
									178.0	Hi L	frac filled wi cal-Fe Ox	
	184.9	6.6		Nil		Mb	Run	As before	Run	30°	fracs	Same
	195.1	10.2		Nil		Mb	Run	Tr. Sulfs, wk Fe Ox Mn dendrites at end of run	Run	30°	fracs w/serp & clay	Gr Mb wi cal filling fracs.
	205.3	10.2		Nil		Mb	Run	Fe-Mn Ox & Mn CO_3	196.2	65°	open frac wi cal/zeo.	Lt gr Mb wi about 30° Int Fe stained Mb wi Mn dendrites & fracs
									Run	30°	Most abundant fracs.	
	209.9	4.6		Nil		Mb	Run	wk $MnCO_3$ - Fe Ox.	209.9	15°	Mb-Tt ct.	Fe stained Mb wi st zones clay.
	212.7	2.8		JB		Tt	Run	St hem fog	212.5	30°	Tt-Hf ct.	Maroon Tt wi st CO_2
	215.5	2.8		Nil		Hf	Run	wk hem	Run	Hi L	Vlt filled wi hem.	Soft wk Hf wi zones st serp.
	222.1	6.6		.09		Serp.	Run	Fe stain along frac. wk Mn	Run	varied	fracs wi wk hem & Fe Ox stain.	Mixed serp-Mb-Tt wi st clay in last 0.7 of run. all sts between int's Lt Grays, whites, maroon & Rust all mixed.

MIS-807-A 75

HOLE NO. M-33

Coordinates: N 263,284.25E 745,344.41

Dip Vert. Bearing —

Date started 5/19/72 Completed 6/22/72

Collar Elevation 2222.3 Total Depth 337.9

GEOLOGIC LOG
MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
222.1	232.0	9.9		.33		Mb	Run	Mn dendrites - Fe Ox - Mn CO_3 wk sulf.	Run	Low	fracturing.	wh to lt gr Mb wi Fe stain & Mn dendrites local pats clay
	241.8	9.8		Nil		Mb		As before	234.9	Hi L	Vuggy frac wi st Mn-Fe oxides & Cal xls.	Same
									238.1	35°	0.3' bx-gg zone	
	251.8	10.0		.19		Hf	248.3	30° - 0.7' vn sph-cpy-py.	242.3	30°	Mb - Hf ct.	Soft cream to wh Hf wi local st gar pats & zones serp Mb & Mn CO_3.
									246.5	15°	Bx-gg for 0.3'	
							Run	Mod to st Mn, Tr sulf	249.9	30°	0.2' Bx-gg	
	261.5	9.7		.07		Hf	Run	wk vlts sulf				Cream to lt grn Hf wi st serp - CO_3 - Clay
	269.2	7.7		Nil		Hf	Run	As before + hem	266.7	25°	slip wi st serp & hem	Lt grn Hf wi short ints Tt @ 30° to 50°
									Run	30°	fracs & slips	
									269.0	30°	brown bx & gg 0.2'	
	277.2	8.0		Nil		Hf	Run	wk finely diss py & wk hem.	275.1-end	30°	flt bx & gg wi st serp & hem.	Ltgrn to ltgr soft Hf wi local pats Mb-sm very broken.
	285.1	7.9		Nil		Hf-Tt	Run	wk vlts sulf - hem	Run	varied	fracs & slips wi CO_3 sulf, hem, & serp.	Mixed ints of ltgrn to gr Hf & lt tan soft clayey Tt.
	294.2	9.1		Nil		Hf-Tt		As before			Same	As above.
	299.8	5.6		Nil		Hf-Tt		" "	299.8	35°	Hf - Arg ct across small flt wi bx-gg.	Same, but ending in ltgrn Hi sil Hf.
	309.7	9.9		Nil		Arg	Run	wk finely diss py.	Run	varied	fracs wi ser & Talc	Lt gr broken Arg. wi local st serp.
	319.8	10.1		Nil		Arg	Run	As before.			Same	As above
	326.8	7.0		Nil		Arg		" "	Run	30-45°	fracts wi ser, serp, Talc, wk CO_3	Lt gr to off arg wi short ints cgl.
	337.9	11.1		Nil		Arg		Same			As above	Same.
	Bottom											

MIS-BOT-A 75

HOLE NO. M-32

Coordinates N 343917.15 E 765,075.53

Dip vert Bearing ——

Date started 6/23/62 Completed ——

Collar Elevation 2505.6 Total Depth 530.2

GEOLOGIC LOG
MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	211.0					Alluv						CCg t
211.0	218.9	7.9				CCg	Run	pebbles wi wk Fe Ox	218.9	30°	CCg-Br ct.	
	226.7	7.8		.13		Arg	Run	Fe, Mn Ox. "Liva" Lim. Tr. Cu Ox.	226.2	30°	Arg-An ct	Lt gr Arg locally vuggy along fracs wi $ "Liva" lim.
									Run	30°	fracs wi gal & "Liva" lim.	
												near end of run
	232.6	5.9		.08		An-Arg	Run	Fe-Mn Ox	±227.3	Lost	An-Arg ct.	As before (-50% recy) Frags only.
	239.6	7.0		.15		Arg	Run	As before + Tr Cu Ox. wk suls near end	239.6	—	Base oxides	Lt gr. Arg wi local
									Run	varied	St. fracturing.	St Ser - St. Lim stain.
	250.6	11.0		.22		Arg	Run	wk to mod vlts & diss pats py wi Tr Cc wk mn.	Run		St. frac & Broken wi 30° & 60° fracs in solid pieces.	Lt. gr Arg wi wk CO2 along fracs. wk pats cp.
	261.9	10.8		.15		Arg	Run	vlts & pats py occas hem around py. Tr CC.	Run		As before	Same
	272.6	11.0		.13		Arg	Run	As before + wk cpy.			Same	Same
	282.6	10.0		.08		Arg	Run	As before + pats sph.			"	"
	293.6	11.0		.07		Arg	283.5	60° vlt wi cpy, py, hem, sph (?)	Run		Varied ∠ fracs wi st serp-Talc & smeared suls.	As before but becomes [illegible] near end of run
							Run	vlts py wi Tr cpy, Cc, sph Smeared suls on fracs. Tr. moly				
	304.2	10.6		.15		Arg	297.6	85° vlt sph-cpy-py	Run		As before	Lt gr. Arg wi local st carp-wk Ep.
							Run	Diss pats & vlts py wi weaker cpy-sph. Tr moly				
	319.9	10.7		.08		Arg	Run	vlts & stks py wi Tr cpy-sph-hem.	Run		Same	Same as above wi serp vn in [illegible] of run @ 30°
	320.4	5.5		.03		Hf	Run	vlts hem.	315.8	30°	serp-Hf ct wi st hem	Lt grn Hf wi [illegible] angle vlts of [illegible] & hem-St local [illegible] gar & Ep.
							320.2	Pat cpy.				

MIS-807-A 75

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-32

Coordinates: N 363,917.15 E 765,025.53

Dip Vert Bearing —

Date started 6/13/62 Completed 6/21/62

Collar Elevation 3205.6 Total Depth 530.2

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
320.4	326.7	6.3		.13		Hf	323.6	70° vlt hem w/ Tr cpy	326.4	70°	Bx-gg-to end run.	Lt grn soft clayey
							324.2	Pats diss cpy				Hf.
	337.1	10.4		.03		Hf	Run	Tr. Sulfs	337.1	30°	Hf-Mb ct	As before
	344.5	7.4		.08		Mb	Run	" " Fe Ox	Run	60°	fracts.	Lt gr Mb w/ st Fe
									344.5	60°	Mb-Tt ct across	Ox stain. Grades
											fract.	wk to st serp thru
												run.
	355.8	11.3		3.35		Tt	351.0	0.7' st diss cpy-py	Run	25 to 60°	fracs & slips filled w/	Grn & maroon Fe
							352.1-end	st diss pats cpy-py			hem & CO_3.	Tt w/ st CO_3.
					24.0' @ 2.94%		Run	St hem stain. Tr mag.				
	364.5	8.7		.52		Tt	Run	Mostly wk diss pats	Run	Hi L	Vuggy CO_3 filled fracs	Same
								cpy-py w/ st hem-Mn.			contain st hem.	
	368.5	4.0		7.06		Tt	Run	Very strong cpy-py	368.5	30°	Tt-An ct	Dk maroon vuggy
								in diss pats & vlts.				Tt w/ st CO_3
								St. hem-Mn.				
	378.7	10.2		Nil		An	Run	St Fe Ox stain in fracs	Run	60°	fracs w/ CO_3-Fe Ox	Bl. Andesite dike
								near ct.				
	388.0	9.3		.02		An	Run	wk Fe Ox on fracs	386.5	60°	frac w/ Bx-gg-Fe Ox	Same
	398.0	10.0		Nil		An		" " " " "	398.0	85°	fracs filled w/	"
											CO_3	
	408.3	9.3		Nil		An		Same	Run	H L	Fracs w/ CO_3	"
	412.8	9.3		Nil		An		Same	412.8	60°	An-Mb ct.	"
	418.4	5.6		.02		Mb	Run	Tr. Sulfs	418.3	35°	Mb-Tt ct, w/	wh mb w/ st
											st serp-hem.	alteration to clay.
												Locally Vuggy.
	422.5	4.1		.19		Tt-An	Run	Tr. Sulfs in Tt	419.0	35°	Tt-An ct, st. serp	Maroon Tt & bl An
								St. hem in Tt.	422.5	60°	An-Tt ct.	Maroon to grn Tt
	432.7	10.2		1.14	14.8' @ 1.17%	Tt	Run	Mod to st cpy-py.	431.4	Low L	Tt-Hf ct.	w/ st diss sulfs.
								St. hem.				Last 1.3' Lt grn Hf.
	437.3	4.6		1.25		Hf	433.7	30°-0.3' vlt cpy-py hem	Run	35°	fracs w/ st hem,	Lt grn Hf w/ local
							Run	wk to mod diss pats &			serp.	pats grn gar.
								stre cpy-py.				
	445.4	8.1		.02		Hf	Run	wk diss sph-cpy-py	445.0	40°	Hf-An ct w/	Lt gr to wh Hf w/ st
											st clay.	wel & clays. Small
												pats grn gar.

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-32

Coordinates: N 363,942.15 E 365,078.53

Dip Vert Bearing —

Date started 6/13/62 Completed 6/21/62

Collar Elevation 3295.6 Total Depth 530.2

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
445.4	447.1	1.7		.04		An.	Run	Barren	447.1	90°	An - Hf ct.	Bl An dike
	449.3	2.2		.23		Hf	Run	Wk. Sulfs	449.3	—	Gradational Hf-Tt ct.	wh wolf clay Hf w/
												wk pots gar near cont.
												Lt grn Tt w/ st CO_2.
	453.0	3.7		.83	83	Tt	Run	Mod. diss cpy-py				
	464.3	11.9		Nil		Mb	Run	Tr Sulfs w/ FeO_2 & Mn	453.1	45°	Tt - Mb ct.	Ltgr Mb w/ 45° int.
								Ox on fracs				of wh Mb @ 464.3
	475.1	10.2		Nil		Mb		Same	Run	30°	fracs	
									468.6	75°	Vuggy fract w/ Cal	Wh vlina Mb w/
											& $FeOx$, Mn dendrites	pots wol & clay.
	489.9	9.8		.04		Mb	479.4	30° str smeared sulfs	Run	Varied	fracs w/ Fe-Mn Ox.	Same
							Run	Tr Sulfs Fe, Mn Ox				
							489.5	25° v lt py.				
	495.0	10.1		Nil		Mb	Run	Fe-Mn Ox on fracs	Run	Hi ∠	Vuggy fracs.	Lt gr Mb w/ 30°
												wh. banding.
	504.8	9.8		Nil		Mb	Run	w/ fe-mn Ox. Tr sulfs.	495.0	25°	int gr to wh Mb	First 3.0' wh Mb w/ st
									498.0	30°	int wh to gr Mb	clay pots. last 6.8' gr
												Mb w/ at least one
												f 60° wh banding.
	513.6	8.8		Nil		Mb	Run	Tr. Sulfs	Run	30°	Color banding parallel	Ltgr & gr Mb w/
											by fracs w/ Gerp.	banding - wh clay & carb
	522.4	8.8		Nil		Mb	Run	As before	520.4	35°	Slip w/ stalaf & carb	As before.
									Run	20°	As previous run	
	530.2	7.8		Nil		Mb	Run	Tr smeared sulfs on	528.0	30°	Gr to wh color change	Gr Mb w/ wh banding
								fracs				changing to wh Mb
												@ 528.0.
	Bottom											

MIS-BOT-A78

HOLE NO. M-31

Coordinates: N 363,684.39 E 765,206.58

Dip Vert. Bearing —

Date started 6/11/62 Completed 6/18/62

Collar Elevation 3136.1 Total Depth 486.2

GEOLOGIC LOG
MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	120.0					Alluv						ccg ±
120.0	129.8	9.8		.09		Hf	Run	Sm Mn Ox, Tr Fe Ox.				BR ± 120' Upper 5 ft Calcite impregnated; Remainder pale yel Hf w/ soft clayey zones & local st. $CaCO_3$. Small pots gar.
	139.8	10.0		.04		Hf	Run	Mn Ox w/ wk Fe Ox & Tr Cu Ox	131.5	35°	frac filled w/ $CaCO_3$ serp.	pale yel Hf as before
	146.2	6.4		.05		Hf	Run	As before	Run	Low	parallel fracs.	do before
	155.1	8.9		.06		Hf	—	" "	Run	—	Low & Hi ∠ fracs.	" "
									151.6	30°	Open frac w/ cal xls.	
	165.1	10.0		.17		Hf	155-162.5	As before	164.1	30°	Hf - Tt ct.	Same w/ last 6' Lt grn Tt.
							162.5-end	wk to mod cpy-py-sph	162.5	—	Base Oxides	
	175.1	10.0		.42		Tt	166.8-174.8	30° Hf intercept w/ st sph wk py-cpy.		⇐	30° Hf - Tt cts.	Lt grn Tt w/ 2' int. Hf.
							Remainder	wk to mod py w/ cpy sph. wk hem stain				
	185.2	10.1		.26	29.2 @ 0.52%	Tt	Run	wk to mod strs & diss py-cpy-sph Tr mly	Run	50-60°	fracs	Lt grn Tt w/ local soft clayey zones.
	194.3	9.1		.93		Tt-Hf	187.7-191.7	St diss pots sph, cpy, py in mixed Hf-Tt zone	187.7	60°	ct w/ mixed Hf-Tt zone	As before w/ int of mixed Hf-Tt & strong
									191.7	60°	ct w/ " " " "	
	205.5	11.2		.22		Tt	Run	wk to mod pots cpy-py-sph	Run	varied	fracs mostly between 30° & 60°	Lt grn Tt w/ local pots clays.
	216.7	11.2		.26		Tt	Run	Same			As before	Same.
	226.3	9.6		.48		Tt-Hf	Run	Mod fine diss sph, lesser cpy, py	226.3	65°	Hf-Mb ct - pos. slt w/ talc coating on surface, neg.	Tt-Hf cont @ 219.1 Tt w/ Hf gr gar; Hf fine grained, wk, w/ sph pot throughout
	233.6	7.3		3.97	30.2' @ 1.86%	Mb-Hf	Mb Hf	Tr. Sulf. St pots sph-cpy mod py w/ trace.	229.9	45°	Mb-Hf ct. as above	Lt gr & wh Mb w/ wk pots clay (1.6') cmon Hf w/ st clay & near massive sulphides.

MIS-807-A T5

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-31
Coordinates: N 368,684.39 E 765,206.58
Dip Vert Bearing —
Date started 6/11/62 Completed 6/18/62
Collar Elevation 3136.1 Total Depth 486.2

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
233.6	237.8	4.2		.80		Hf-Tc	Run	st near massive sph w/ wk to mod cpy-py wk hem on slips	237.0	60°	Hf-Tc ct. slip w/ Talc & hem.	cream Hf w/ st sph wk alogs. Ltgrn Tc w/ st sulf.
	246.9	9.1		2.10		Tc	Run	V. st sph w/ wk tarnished py-cpy	246.6	70°	Tc-Hf ct.	Tc as above
	255.9	9.0		.36		Hf	248.9-248.3	mod to st sph-cpy-py	248.3	20°	flt w/ st bx-gg ending st minerals.	Cream to wh Hf w/ st serp & wal below flt.
							248.3-end	Tr. Sulf.	255.9	30°	Hf-Mb ct across slip w/ st Talc.	
	264.9	9.0		Nil		Mb	Run	Barren				Ltgr Mb w/ short zones of serp.
	270.3	5.4		.10		Mb	Run	wk cpy-py-Fe Ox stain in fracs.	268.6	Low ∠	Bx (Co.?) solid dk gr Co. matrix & Sulf.	Ltgr Mb w/ short dkgr intg-some w/ bx.
	280.3	10.0		Nil		Mb	Run	Tr. Sulf wk Fe Ox + Mn CO_3.	Run	30°	fracs & color banding	Ltgr to wh Mb w/ 30° color banding in short zones.
	290.5	10.2		Nil		Mb	Run	wk Fe Ox.				Ltgr. Mb. w/ wk serp spots
	304.3	13.8		Nil		Mb	Run	wk Fe Ox - Mn CO_3.				Ltgr to wh Mb w/ local st path. clay & wk serp.
	315.1	10.8		Nil		Mb	Run	wk Fe Ox stain in fracs.	Run	30°-55°	fracs w/ Fe Ox.	Solid Ltgr xline Mb.
	326.2	10.1		Nil		Mb		As before			Same	As before
	335.1	9.9		Nil		Mb	329.8	wk Fe Ox on fracs.	329.8	60°	viggy frac w/ Fe Ox & Cal. wk serp.	Mixed xline Ltgr Mb & dense dkgr Mb (Co?) w/ wk banding.
									Run	25°-30°	wk banding (Bd?)	
	344.5	9.4		Nil		Mb	Run	Fe Ox on fracs.	Run	25°-30°	As in previous run.	Dk gr Mb w/ 30° wk banding local wk serp. locally viggy.
	359.6	10.1		Nil		Mb	Run	As before	Run	30° Mb	viggy fracs	Dense Dk gr Mb grading to Ltgr xline Mb.
	364.6	10.0		Nil		Mb	Run	" "				Lt. gr xline Mb.
	374.6	10.0		Nil		Mb	Run	" "	367.2	25°	Ltgr xline Mb - dense dkgr Mb c.t. & frac.	Ltgr to wh Mb & dk gr dense Mb.

HOLE NO. M-31

Coordinates: N 363,684.39 E 765,205.58

Dip Vert Bearing —

Date started 6/11/62 Completed 6/13/62

Collar Elevation 3136.1 Total Depth 484.2

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER M.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
374.6	385.5	10.9		Nil		Mb	Run	Tr py	376.3	70°	Slip w/ st serp-talc	Dk gr Mb serpentin
									Run	30 & 58°	fracs & slips	& talc along & rare
												fracs.
	395.4	9.9		Nil		Mb	Run	" "	Run		As before	Same.
	404.2	8.8		Nil		Mb	Run	Tr sulf				"
	413.9	9.7		Nil		Mb	Run	Barren	408.8	30°	flt w/ serp-qg-bx	Wh Mb w/ st serp
												Talc throughout
	425.9	12.0		Nil		Mb	Run	Tr sulf	416.5	60°	flt w/ qg-bx	Same
	438.5	12.6		.13		Mb-bx-Hf	Run	Barren	Run	30-58°	Shear zone w/	wh serp Mb & lt gry
											Mb-bx-Hf	Hf mixed w/ st serp
									431.1	60°	Mb-Hf ct in bx zone	& talc qg & bx.
	448.8	10.3		.24		Mb-bx-Hf	Run	"	438.5-443.9	30-50°	continued shear zone	Mixed shear int of
									444.4	cont	Bx-qg-Hf ct.	Mb-Hf to 444.4 w/ bx
												qg. Lt gr-grn Hf w/
												wk zsr & wk CO3 to
												end.
	456.5	7.7		Tr		Hf	Run	Tr. sulf & Hem.	Run	Mixed	fracs w/ wk tomat	Lt. gr-grn Hf w/ st
											CO3.	serp-chlor. wk to mod
									454.9	40°	Bx-qg-sulf.	gry Tr. wol-ast. Pan
									456.5	60°	Hf-Arg ct @ slip	wk Arg (?)
	465.1	8.6		Tr		C-Arg	Run	wk wlts smeared sulf.	462.0	45°	Sulf in frac w/	Light gr C-Arg alterng
											sils on either side	heavily to short int to
												garnet. local st CO3
												st ser - Talc throughout
	470.9	5.8		Tr		C-Arg	Run	Tr Sulf.	Run	Local	fracs w/ slaps	Lt gr to grn Arg
											& Talc.	w/ local st Alt to
									470.5	25°	Arg-Tt ct	serp-Talc with local
	480.8	9.9		Tr		Tt-Hf	Run	wk fine diss sulf.	472.7	50°	Tt-Hf ct (grad.)	Lt grn Tt grades
									480.7	50°	Hf-feld ct.	to lt gr. Hf. All w/
												mod to st CO3.
	486.2	5.4		.08		Feld-Arg.	482.4	large Pat sph w/ wk	482.8	50°	feld-Arg ct.	Pr feld rock w/ st
								py-cpy.				sph & 2.4' Arg w/
							Arg.	cpy along fracs.				wk alt. to end.
								(wk)				
	Bottom											

MIS-807-A 75

HOLE NO. M-30

GEOLOGIC LOG
MISSION UNIT

①

Coordinates: N 364,186.78 E 765,824.13
Dip Vert Bearing ——
Date started 5/5/62 Completed 6/11/62
Collar Elevation 3182.9 Total Depth 381.7

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	200.0					Allov						clg @ ±
200.0	216.2	16.2				clg						Br. @ ± 216.2
	221.3	5.1		.14		Arg	Run	Med to st Fe-Mn Ox Tr. Cu Ox	219.0	55°	0.4' frac w/ st Fe-Mn Ox-Cp-clay-CO_2	lt tan fgr arg that is locally vuggy
									Run	varied	fracs filled w/ clay & CO_2	
	232.7	11.4		.07		Arg.	Run	Mn-Fe Oxides	230-end	—	Br-gy zone w/ st clay & talc	lt gr Arg w/ local vlts st CO_2 & clay
									Run	30°-60°	fracs filled w/ gnd-grn talc & clay	local Talc
	242.0	9.3		Nil		Arg.	Run	same + Tr pgnear end of run			Same	As before +
									251.3	—	Base Oxides	Serp
	252.2	10.2		Nil		Arg	Run	wk strs & Diss py w/ cp(?) wk Diss Mn Ox.	Run	40°-60°	fracs w/ smeared sulf & serp-Talc.	lt gr to pk Arg locally vuggy w/ occas pats Feld.
	261.3	5.1		Nil		Arg.	Run	wk py w/ Tr cpy			Same	As before local st Br.
	264.9	7.1		.08		Arg.	Run	As before	Run	30-60°	fracs & stks w/ wk ser-clay	local short wts cgl
	277.1	12.7		.09		Arg-cgl	Run	wk diss py-cpy	168.5	80°	Shear w/ smeared sul	Lt gr to pk Arg & cgl w/ CO_2, Serp, clay in frac
									275.1	80°	flt w/ Br-gy	
	289.3	12.2		.18		Arg-cgl	Run	wk diss pat & stks py-cpy-Tr moly	Run	30-60°	fracs & slips w/ gyp smeared sulf, ser	As before
	301.3	12.0		.04		Arg.	Run	wk diss pat & stks py, lesser cpy	Run	45-60°	As above	lt brn to pk Arg w/ short wts cgl.; ser, smeared sulf & $CaCO_3$ along fracs.
	311.8	10.5		.12		Arg		Same			Same	As before
												lt gr to pk Arg w/ local st clayey zones
	323.1	11.3		.08		Arg		wk py-cpy	317.8	60°	St br zone	Same
									Run	45-60°	As above	
	335.0	11.9		.09		Arg	Run	v. wk diss py, Tr cpy	324.2	60°	flt zone w/ gg-br. py.	Same w/ short wts cgl near frac.
									Run		As before	st. grn & ser & Fe in frac

MIS-607-A 75

HOLE NO. M-30

Coordinates: N 369,186.78 E 765,824.13

Dip Vert Bearing ——

Date started 6/5/62 Completed 6/11/62

Collar Elevation 3182.9 Total Depth 381.7

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
335.0	346.5	11.5		.21		Arg.	Run	WK vlts & diss pots py wi Tr cpy.	±343	Low L	St bx-serp zone wi bem in slips. 65°	Lt gr Arg wi local st Alteration to clay
									Run	40°-60°	slips & shears wi smeared suls, gyp, serp, ser, CO_3.	wi smeared suls-ser-serp-CO_3-gyp in frac last 1.0 ft Cgl.
	357.6	5.1		.10		Cgl	Run	WK diss suls.			Same	Lt gr. cgl wi Qtz & fold zones. Locally Vuggy. Alt as before.
	363.4	11.8		.09		Arg-cgl	355.0	0.5' mod py & cpy pots	355	50°	Shear wi suls.	Lt gr & Tan Arg wi cgl. Small pots cp near Top of run.
							361.5	1.0' mod pots & strs py wi WK cpy				
							Run	WK diss suls.				
	374.4	11.0		.09		Cgl	Run	Tr. Suls.	Run	30 to 60°	fracs & slips wi ser.	Lt gr. cgl wi short ints Arg.
	381.7	7.3		.09		Cgl	Run	WK to mod diss py wi Tr cpy	378-380	High L	Slip wi smeared suls & serp.	As before xints bx.
	Bottom											

MIS-807-A 75

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-29

Coordinates: N 363,717.82 E 764,756.09

Dip Vert. Bearing ——

Date started 6/4/62 Completed 6/13/62

Collar Elevation 3211.6 Total Depth 495.7

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	215.0					Alluv.						ccg @ ± 180
215.0	225.2	10.2		.03		Arg.	215-217	Fe, Cu, Mn Ox, Base Ox?	220.0	70°	slip w/ smeared sulf	BR. ct @ ± 205
							Remainder	wk py. Tr Fe Ox			& ser.	Ltgr to tan Arg, very
												broken w/ ser along
												fracs & slips.
	233.7	8.5		.03		Arg.	Run	wk py Tr cpy	Run	30°	fracs w/ clay, CO_2	As before
											occas gyp.	
	240.5	6.8		.13		Arg	Run	wk diss pats & strs				Same
								py-cpy Tr mm				
	250.3	9.8		.26		Arg-Bx	Run	Same	Run	Hi L	Highly broken w/	Mixed Arg & Bx-gg
											local st clay gg	zones Throughout
	255.3	5.0		1.11	1.11 %	Arg.	Run	Mod to st py w/ wk	253.6	Hi L	frac w/ st py-cpy	Ltgr to pk Arg w/
								cpy Tr mm ox.			gyp-gar on one side	st grn-fold repl.
											o.g.	local hi limits gar.
	266.7	11.4		.23		Tt	Run	wk v/ts py-cpy-st	255.3	30°	Arg-Tt ct.	Grades grn to yel-grn
								Hem on fracs-w/ mn	260.3	60°	Bx-gg w/ st sulf.	Tt w/ local st sulf
									Run	30°-60°	fracs & slips w/	pats qtz-mon fracs
											CO_2, gyp, hem, ser.	wk CO_2.
	277.6	10.9		.43	.43 %	Tt	Run	v/ts & strs Hem-Mn Ox,	Run	30°-60°	As above run	Ltgrn Tt w/ st clay-CO_2.
								w/ tr moly wk diss py-				
								(cpy-cc ?)				
	289.9	7.3		.04		Tt	Run	As before	Run	30-50°	Same	As above, st act-Tmm
	290.1	5.2		.06		Tt	Run	Strs & v/ts Hem-Mn Ox	288.6	45°	slip w/ gg-bx-ser.	Same
									289.-end	—	st clay zone.	
	297.4	7.3		.23		Hf	283.5	Pat cpy-py-moly	290.1	25°	Tt-Hf ct. (st clay)	cream colored Hf
							294.2	st v/t cpy-py	Run	30-50°	slips w/ st talc, ser	w/ local st pat gyp
							Run	wk strs Mn-py-cpy.			clays.	beginning & ending
												in clay zone ct w/ Tt
	305.4	8.0		.18		Tt-Hf-Bx	300.2	Mod diss moly (0.5')	304-end	—	st bx-gg zone	Mixed Ltgrn Tt &
							Run	Tr diss sulf.	Run	varied	slips w/ 10° to 20°	cream colored Hf
											slickensides. (Flt?)	w/ st alt to ser
												clays throughout.
	311.1	5.7		.15		Tt-Hf-Bx	Run	wk v/ts-strs-pats	Run		Same	As in previous run
								py-cpy-Tr moly-wk				
								hem & Mn Ox on slips.				

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-29
Coordinates: N 363,717.82 E 764,756.09
Dip vert Bearing ——
Date started 6/4/62 Completed 6/13/62
Collar Elevation 3211.6 Total Depth 493.7

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
311.1	318.3	7.2		.23		H-Tt	Run	wk to mod diss pats py wi cpy. vlts hem mn ox - Tr. moly	311.1	Level	St clay Bx zone wi hem, sulf.	Mixed Lt grn Tt & green colored soft Hf wi local pats wol, st clay - ser - CO_3
329.6	339.9	10.3		.11		Tt	Run	wk diss sulf - vlts & strs hem - Mn Ox Tr moly	Run	60°	fracs wi strs hem - gyp - serpentine.	Lt grn Tt wi local pats soft clayey Hf, local st CO_3
							320.9	St pat cpy-py				
339.8	350.0	10.2		.04		Tt-Hf	Run	As before + mag?	Run	30° varied	parallel fracs. Gtz filled fracs	Mixed Tt (grn) and dense hard gr-grn Hf wi st CO_3.
345.3	351.8	6.5		.04		Tt	Run	wk diss sulf & Tr moly - strs hem - Mn			As before	Lt grn silf Tt wi st CO_3. Hem in fracs.
352.2	359.1	6.9		.36		Tt	350.9	vlts & diss pats cpy - py to and Tr sph	Run	30-60°	fracs filled wi Gtz, CO_3, hem.	DK grn & maroon Fe Tt wi local st Gtz & CO_3.
							Run	wk scals st hem - Mn Ox	350.5	50°	vlt serp	
361.9	371.2	9.7		.41	.41	Tt-Hf	Run	St hem in Tt ints & wk to mod cpy - py - Tr Bn Throughout run.	Run		As in previous run.	Mixed DK grn & maroon Tt & wh wol Hf wi local small pats serp & clay.
371.2	380.3	9.3		.13		Tt-Hf	Hf ints	wk scals	362.3-end	30°	Slt zone wi st Bx-gg, wk sulf. St. CO_3 locally vuggy	First 2.0 ft mixed Tt-Hf Remainder Fe Tt.
							362.9-362.3	wk to mod diss moly.				
							Run	wk to mod diss py-cpy				
380.3	389.4	9.1		.16		Tt-Hf	Run	wk diss sulf - st local hem.	Run	30-60°	fracs filled wi clay, serp, gyp - CO_3 ibar	Mostly wh wol Hf wi st Fe Tt ints, vuggy in places & vugs filled wi Gyp.
389.9	397.5	7.6		4.32		Tt	Run	Mod. pats & vlts cpy	390.9	90°	Sharp Hf - Tt et	Lt grn to maroon Fe
							397-end	60° near massive vn cpy wi lesser py			accross slip wi st hem.	Tt wi st CO_3 & cal in fracs.
397.1	398.1	10.2		3.81	28.1 @ 2.77%	Tt	Run	Mod to st diss pats cpy - py. Tr moly. St hem vlts & strs & fog.	Run	Varied	fracs & vlts of gtz, CO_3, hem etc	Grades between Lt grn, DK grn & maroon Fe Tt wi vlts gtz & CO_3.

HOLE NO. M-29

Coordinates: N 363,717.82 E 764,756.09

Dip Vert. Bearing —

Date started 6/8/62 Completed 6/13/62

Collar Elevation 3211.6 Total Depth 498.7

GEOLOGIC LOG
MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
398.1	408.4	10.3		.61		Hf-Tt	Run	WK to mod py-cpy local st hem	398.7	60°	frac filled wi hem-gyp	Mixed wh Hf & grn to
									401.6	75°	Vn of CO_2, gyp, Tr fl, Grn on sides.	maroon Fe Tt wi local st clay. Pots silt.
									402	70°	St Talc & clay zone	
	417.0	8.6		.36		Hf	Run	St hem on fracs wk to mod cpy-py	Run	Varied	fracs wi st hem Talc	Lt tan to pk Hf wi st hem in all fracs. much clay. Short ints Tt & gar.
	429.3	12.3		.08		Mb	Run	Tr diss sulf	Run	low L	fracture planes wi serp	Cream to gr Mb, Strongly Serpentized
	436.9	7.6		.18		Mb-Tt	Run	Tr diss py, cpy	Run	—	Broken, ground	As above wi Tt ints. coarse br. gar - 50% reg
	441.0	4.1		.18		Mb-Tt	Run	WK diss & smeared suls.	437.8-440.8	85°	flt filled wi hem-serp-smeared suls.	Lt Tan serp Mb & Tt wi Tan gar. strongly altered to clays.
									438	low L	Mb-Tt ct.	
	450.5	9.5		.15		Tt	Run	Tr diss suls - St hem	441-442.6	Hi L	Slip wi st hem-serp gyp	Lt tan to tt grn soft clayey Tt wi st CO_2 - local serp.
	460.5	10.0		.06		Hf	Run	WK diss suls Tr moly. Mn Ox.	450.5	40°	Tt-Hf ct.	Lt gr to tan soft
									Run	—	varied fracs & slips	dense Hf wi local st serp wk pots gar.
	471.5	11.0		.05		Hf-Bx	Run	Same	Run		As before wi Bx	Same only strongly Broken in most of rock
	478.8	7.3		.21		Mb	Run	Tr. suls.	471.5	—	Gradational ct from Hf to serp. Mb	Ltgrn-gr Serp-Mb wi local ints of wh & gr
									478.6	20°	Ct between serp Mb and unaltered Mb.	Mb & local soft clay.
											across fract.	
	484.3	5.5		Tr		Mb	Run	Same	Run	30°	fracs.	Ltgr to wh Mb wi ints of dk gr vuggy Mb along fracs & sil.
	493.7	9.4		Tr		Mb	Run	Barren				Same
	Bottom											

MIS-BOT-A 75

HOLE NO. M-28

Coordinates: N 363,889.75 E 765,826.34

Dip Vert Bearing —

Date started 5/26/62 Completed 6/9/62

Collar Elevation 3191.0 Total Depth 364.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	195.0					Alluvium						
195.0	203.8	8.8				CCg		Tr Cu Ox				BR ± 203.8
	212.8	9.0	.15	.35	32.9¢ N.S. Tot. .22 .43	Arg.	Run	Mod to st Fe-Mn-Cu Ox Cu Si	Run		Highly broken & fractured wi local st CO_3 & clay.	Lt gr Arg strongly alt to Ser & clay in first 5.0' of run & remainder wi st SiO_2.
	216.7	3.9	.28	.49		Arg.	Run	Mod Fe-Mn-Cu Ox.			Same	Lt gr Arg alt to st clay.
	225.9	9.2	.07	.24		Bx-Arg	Run	St Fe-Mn Ox, Tr CuSi.	216.7-222	25°	St bx-gg wi st Fe ox stain.	Brwn tored bx-gg & Ltgr. fractured Arg.
	236.7	10.8	.39	.64		Arg	Run	Cu-Fe-Mn Ox - CuSi Tr py near run end.	Run	30°	fracs (Bd?) wi clay Fe-Cu Ox.	Lt Jan-gr-grn Arg wi local st ser. wk local silf.
									±236.7	15°	Base Oxides @ clayey frac.	
	243.0	6.3		.03		Arg	Run	Mod py wi cpy in diss pats & vlts. Tr hem.	Run	Low L	fracs wi wk clay & smeared suls.	Lt gr dense silf Arg wi local pats serp.
									237.0	70°	frac wi st suls.	
							237.0	St. py in frac zone				
	253.1	10.1		.02		Arg-cgl	Run	wk diss cp-Mn-cpy. local wk hem.	Run	30-35°	parallel fracs.	Ltgr totam Arg wi int's cgl & st ser zones.
	262.5	9.4		.02		Bx-Arg	Run	wk diss & vlts suls	262.5-259.1	—	St Bx-gg zone	St bx-gg zone & Lt gr. Arg wi local silf.
	274.8	12.3		.03		Arg-Bx	Run	Sp scattered pats py wi Tr cpy	262.5-263.5	30°	St Bx-gg - Tr hem.	Grades from clayey wh to dense gr wi local pats feld replacement. wk pats ep
	286.2	11.4		.03		Arg.	275.5	Mod diss pats py Tr cpy	284.3-end	—	Bx-gg zone wi st ser	Dense gr & wh Arg wi local feld & ep repl.
	296.1	9.9		.03		Arg.	Run	Diss pats & vlts py wi Tr cpy	Run	25°	parallel fracs	As before
									286.2-288	—	st Bx zone	
									294.3-end	—	st Bx gg	
	304.9	8.8		.03		Arg	Run	Same	Run		Near Horizontal banding	As before wi local st qtz-feld repl.

HOLE NO. M-28

Coordinates N 363,889.75 E 765,826.34

Dip Vert. Bearing —

Date started 5/26/62 Completed 6/1/62

Collar Elevation 3191.0 Total Depth 364.0

GEOLOGIC LOG

MISSION UNIT

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DEPTH			% COPPER			ROCK	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average	TYPE	Depth	Description	Depth	Dip	Description	
304.9	317.2	12.3		Nil		Cgl	Run	wk to mod. py wi wk cpy.	309.5	45°	Bx-gg zone (0.3')	Lt gr to pk cgl wi st
									Run	Hi L	fracs wi stqtz-fold repl.	Qtz-fold replacement.
	325.0	7.8		Nil		Cgl		Same	319.9-323.8	—	St broken zone	As before.
									323.8-end	—	Same	
	333.9	8.9		Nil		Cgl-Bx	Run	wk py wi Tr cpy-mn.	Run	varied	fracs & Bx	Mixed cgl & Bx
	344.0	10.1		Nil		Cgl	Run	wk diss sulf.	Run	30°-60°	fracs	Lt gr cgl wi short Bx ints.
	354.2	10.2		Nil		Cgl	353.2	St pats py - wk cpy	353.5-end		St Bx-gg wi wk sulf.	Same
							Run	wk pats & vlts py. Tr cpy.				
	364.0	9.8		Nil		Cgl-Bx	Run	wk py - cpy - mn	360-end	—	Bx-gg	Same

MIS-807-A 75

HOLE NO. M-27

Coordinates N 363,744.92 E 764,937.57

Dip Vert Bearing —

Date started 5/26/62 Completed 6/15/62

Collar Elevation 3176.3 Total Depth 536.2

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	160.0					Alluvium						
160.0	174.1	14.1				CCg			174.1	?	CCg-BR ct.	
	185.0	10.9		.21		Arg	Run	Fe-Cu Ox Tr MnCa	Run	30°-70°	Fracs w/ gyp, FeOx wk CO_3.	Lt gr Arg. w/ local st zones silif.
	195.7	10.7		.27		Arg		Same	Run		St. Bx & Broken material.	St FeOx stain Throughout run
	207.7	12.0		.24		Arg & Bx	Run 202.6	wk py - FeOx Tr nat cu	±296.0 202.3-end	—	Base Oxides 50° Bx-gg zone w/ st clays, serp poss. flt.	Lt gr Arg locally stained w/ Fe Ox & local pats serp.
	217.7	10.0		.08		Arg	Run	wk py Tr cpy	Run	30° Hi L	fracs w/ gr clay & serp.	Brn-gr-bl gg & bx. Lt gr. Arg w/ local Qtz replacement.
	228.6	10.9		.08		Arg	Run	wk py	226.7 228.3	50° 30°	0.1' slip w/ gg-bx st bx-gg zone to end of run.	Same
	239.6	11.0		.12		Arg	Run	Py w/ Tr cpy	Run	30-45°	Fracs w/ clay-gyp. wk CO_3.	Lt brn to pk dense Arg.
	251.4	11.8		.08		Arg	240.6 244.0 249.6	75° vlt mod py w/ cpy 0.7' mod diss pats py w/ cpy. Same	Run	30°	fracs w/ st clays.	Same
	262.0	10.6		.09		Arg		wk suls	259.8-end	Hi L	Shear w/ bx-gg-Tr suls.	"
	273.9	11.9		.06		Arg-bx	262.8 Run	wk pats py-Tr cpy. wk diss suls.	266.2-267 268-271 271.8-272.9	70° — 25°	Bx-gg w/ smeared suls. st bx w/ mod clays. Bx-gg-	Lt gr. Arg w/ ints st Bx-gg - wk serp.
	280.6	6.7		.04		Arg		Tr suls				Lt gr pebbles & frags Arg. -50% rec'g.
	283.1	2.5		.04		Arg		Mod diss py.	Run	30°-60°	fracs w. clay & CO_3	Lt gr. Arg.
	292.9	9.8		.09		Cgl-bx-gg	Run	wk to mod vlts & diss pats py w/ wk cpy.	Run	—	One large frac zone w/ approx 30° cts on either end.	Lt to dk gr Arg cgl mixed w/ st zones Bx-gg. St ser. & serp. in gg. Run very soft.

MIS-807-A 75

HOLE NO. M-27

Coordinates N 363,744.92 E 764,937.57

Dip Vert Bearing —

Date started 5/26/62 Completed 6/5/62

Collar Elevation 3176.3 Total Depth 536.2

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
292.9	300.6	7.7		.03		Arg-cgl	Run	wk vlts & diss pats py	Run	30°-60°	slips wi serp & gg & smeared suls.	Ltgr arg & cgl (mixed) wi st alt to ser & clay locally very vuggy also somewhat brecciated in zones.
	308.2	7.6		.03		Arg	Run	wk diss suls	Run	40 & 50	fracs & slips occas showing 5-8 mm displacement	Lt brn Arg wi local st clays in and near fracs.
	316.5	8.3		.04		Arg	Run	wk to mod diss cpy-py	Run	60°	Occas slips wi st clay wk CO_2	Same
	323.9	7.4		.03		Arg	Run	wk vlts py wi wk cpy			Same	As before
	333.6	9.7				Arg		"			"	"
	345.1	11.5		.08		Arg	Run	wk vlts py-cpy	Run	30 & 60°	fracs & slips.	Lt tan to gr Arg wi
									345.1	20°	Arg-Serp, Mag ct.	local qtz & feld
									339.5	60°	Qtz-feld repl along frac.	repl & clean ct @ end of run.
	348.3	3.2		.28		Serp-Mb	345.1-346.1	st hem-Mag vn in Serp wi wk py-cpy	346.1	20°	Vn - Mb ct.	first 1.0 ft is st ser-Mag vn & Remainder is Lt grn serp Mb.
							346.1-end	Tr hem.				
	357.4	9.1		.10		Mb		Tr suls wk hem.	350.1	30°	0.3' gg-bx-gyp	Wh to ltgrn Mb wi
							356.4-end	Hf wi mod suls.	356.0	25°	0.4' gg bx wi st serp is ct w. Hf.	local pats serp & local bx & gg zones. Ends in 1.0' Hf.
	363.2	5.8		.98	15.9' @ 0.66	Hf	Run	Mod diss pats cpy-py Tr. Moly-sph	358.2	60°	Slip wi st hem, gyp. followed by 0.2' clay & bx zone	Cream colored Hf wi local st pats gar & short intr Mb. local st clays.
	373.3	10.1		.48		Hf-Mb.	Run.	Hf ints generally wk to mod diss py-cpy wi local st sph & tr moly. Mb zones Tr suls only.	368.7	60°	Bx-gg	Mixed Hf & Mb.
									370.4	30°	Bx-gg	

HOLE NO. M-27

Coordinates: N 363,744.92 E 769,937.57

Dip Vert Bearing —

Date started 5/26/62 Completed 6/5/62

Collar Elevation 3176.3 Total Depth 536.2

GEOLOGIC LOG

MISSION UNIT

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
373.3	382.7	9.4		Nil		Mb	Run	Fe-Mn Ox, Tr sulfs wk $MnCO_3$	Run	30°-50°	fracs & slips w/ Fe Ox, serp-clay gyp.	wh to ltgr Mb w/ short intl Hf.
	388.1	5.4		Nil		Mb	Run	Tr sulfs	Run		Same	wh Mb w/ local clay
	399.5	11.4		Nil		Mb-gg	388.1-389.2	clay zone w/ st Mn,	394.7	20°	GG-Bx zone 0.6'	lt pk clay & wk Mb
							Run	Fe Ox, $MnCO_3$ - Mn Ox.	Run	30 to 65°	fracs w/ cal & Fe Ox stain	
	409.0	9.5		Nil		Mb	Run	Tr sulfs	Run	30°	fracs w/ Fe Ox, serp	Ltgr Mb w/ serp on fracs & in wk pats
	420.3	11.3		Tr		Mb-Hf	417.6-18.4	Mod diss cpy-py				Mixed Mb-Hf w/ local
							Run	Tr Sulfs local $MnCO_3$	Run		Same	st clay
	430.3	10.0		Nil		Mb	Run	Mn-Fe Ox				Lt pk to brn Mb w/ local clay gy zones
												local vuggy zones
	440.3	10.0		Nil		Mb	Run	Fe Ox in vugs & fracs.	Run	30°	wh & lgr banding fracs follow bands in general	Ltgr to gr Mb w/ wk banding. Locally
	448.1	7.8		Nil		Mb	Run	Fe-Mn Ox - $MnCO_3$	445.8	25°	0.2' Bx-gg.	wh Mb w/ gr bands. wh Mb w/ ltgr bands.
	458.1	10.0		Nil		Mb	Run	wk Fe Ox stain on fracs.				local wk serp. Ltgr Mb w/ pats
	468.5	10.4		Nil		Mb	Run	Barren				wh mb throughout As above
	478.3	9.8		Nil		Mb	Run	Barren	Run	45-50°	wht bands - patchy	Dk grey w/ wht bands
	488.5	10.2		Nil		Mb	Run	Barren	Run	60°	wht bands	"
	498.5	10.0		Nil		Mb	Run	Barren	Run	40°	Wht bands	Dk grey w/ thin irreg wht bands.
									498.0	20°	Bx band	
	512.2	13.7		Nil		Mb	Run	Barren	503.0	30°	0.3' Flt bx	Wht Mb w/ dk bx bands.
									504.0	low ∠	1.9' "	
							Run	Tr py gg	508.1-512.2	40°	Flt bx & gg	
	518.8	6.6		Nil		Hf	Run	Tr Cpy-py	Run	45°	Vlts - pats CO_3	Lt gry Hf w/ part gray
									520.9	70-90°	Serp-CO_3-hem gg	
	528.9	10.1		Nil		Hf	526.6-28.9	Diss moly-py tr cpy	525.6	80°	Flt gg & CO_3	"

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HOLE NO. M-27

Coordinates: N 363,744.92 E 764,937.57

Dip Vert. Bearing —

Date started 5/26/62 Completed 6/5/62

Collar Elevation 3176.3 Total Depth 536.2

GEOLOGIC LOG

MISSION UNIT

④

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
									528.9	50°	Grad Cnt & qtz-fold vlt	
528.9	536.2	7.3		Nil		Arg	Run	Tr py				Lt grey-dense
									532.4-362	70-Vert	Flt Bx	
		Bottom										

MIS-807-A 75

HOLE NO. M-26

Coordinates N 363,116.89 E 764,465.07

Dip Vert. Bearing —

Date started 5-19-62 Completed 5-26-62

Collar Elevation 3228.2 Total Depth 411.9

GEOLOGIC LOG

MISSION UNIT

①

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	205.0					overburden						
205.0	217.4	12.4				CCg.						BR ct ± 217.4
217.4	226.8	9.4	.07	.21		Arg	Run	Fe - Mn - Cu oxides Tr Cu Si.	226.8	25°	frac - base oxides	Lt gr. Arg wi pk low angle (-5°) bands.
	235.0	8.2	.013	.19		Arg.	Run	wk sulfs - wk to Mod nat cu in fracs in chl.	Run	25-50°	fracs & slips wi st chl & wk to mod nat cu. wk Fe ox.	Same
	245.0	10.0	.013	.10		Arg.	Run	wk vlts & pats py. Tr nat cu in fracs.	Run	20-60°	slips & fracs wi wk chl, serp, ser & Tr. sulfs & nat cu.	Gr Arg wi wk ep & pk low ∠ color bands.
	252.9	7.9		.10		Arg - Cgl	Run	wk diss & vlt py, Tr cpy	247	75°	slip w/ smeared sulf & ser	Gr. Arg w/ local pat Arg-Cgl, high ∠ fracs w/ qtz, ser.
	263.1	10.2		.29		Arg-Cgl	Run ± 260.0	Mod diss py wi Tr cpy. 25° vlt py wi cu(?)	262.8	80°	slip w/ gg - bx - wk sulfs	Ditto
	274.2	11.1		.10		Arg.	Run ± 270.0	As before 30° vlt py & cpy	266.5	30°	cgl int wi st py. vlts (0.5')	Lt. gr. Arg w/ one int. cgl.
	283.3	9.1		.09		Arg.	Run	wk diss & vlts py wi Tr. cpy.	274.6	Hi ∠	slip displacing py vlt 0.1' wi Talc.	
									Run	Varied	slips wi displacements up to 0.1' wi Talc	
	294.5	11.2		.11		Arg	Run	50° to 60° vlts cpy-py	Run	50°-60°	fracs	Gr-buff Arg. wi local lenses cgl & recrystlized felds & qtz.
	305.8	11.3		.07		Arg	Run	finely diss py-cpy Smeared sulfs on fracs.			Same	Lt gr Arg wi tr fluorite, wk clays.
	316.8	11.0		.07		Arg.		As before			Same	gr - pk Arg. wi local st ints qtz-fold alt.
	326.0	9.2		.05		Arg	Run	wk sulfs.			25° fracs common (Bd?)	Lt brn to pk Arg. wi local ints (Lenses?) cgl. st silf.
	335.7	9.7		.34		Arg	Run	wk to mod pats & vlts py - cpy - sph.				As before

MIS-807-A 75

HOLE NO. M-26

Coordinates N 363,116.89 E 769,465.07

Dip Vert Bearing —

Date started 5-19-62 Completed 5-26-62

Collar Elevation 3228.2 Total Depth 411.9

GEOLOGIC LOG

MISSION UNIT

②

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
335.7	345.9	10.2		.12		Arg	Run	vlts & pats py w/ wk cpy.	Run	30° & 60°	fracs & slips w/ clays & wk smeared suls, CO_2	Lt gr to brwn Arg w/ ints cal-local qtz & feld replacement.
	352.6	6.7		.07		Arg.	Run	wk diss py			As before	"
	362.8	10.2		.06		Arg	Run	As before + py in some fracs. Tr cpy	Run	50° & 80°	fracs & slips w/ gyp occasional Hil fracs	"
	374.7	11.9		.06		Arg	371.5-373.7	Mod diss pats py w/ wk cpy.	373.5-end	—	St broken zone	"
	378.8	4.1		.04		Arg.		Tr suls				Highly broken gr arg.
	387.6	8.8		.09		Mb		Tr. suls	378.9 380.0	25° 50°	Arg.-Mb ct. 1.6' Bx zone w/ st hem-CO_2 matrix. Vuggy	wh vuggy Mb w/ local bx zones cemented w/ hem-CO_2.
	398.6	11.0		.04		Mb		wk py-cpy	Run	-	St. shattered & broken vuggy-brecciated	Broken wh to gr Mb w/ local st silica, wk clays.
	407.8	9.2		Tr		An		Barren			Highly fractured	gr-grn An porph. w/ st bio and sparse feld xls. Local vlts cal. St serp along slips indicated by slickensides on fragments.
	411.9	4.1		Tr		An		"			"	As before.
	Bottom											

MIS-807-A 75

HOLE NO. M-25

Coordinates N 363,119.53 E 764,718.65

Dip Vert Bearing —

Date started 5-18-62 Completed 5-25-62

Collar Elevation 3224.1 Total Depth 496.4

GEOLOGIC LOG

MISSION UNIT

①

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	210.0				overburden							Alluv-ccg ct ± 185';
210.0	221.8	11.8			NS Tot	CCg						B.R. ± 221.8'
	233.0	11.2	.40	.65	.40 .65	Arg	Run	Cu-Fe-Mn Oxides	233.0±		Base Oxides	Arg grades lt gr to
									Run	20-35°	fracs w/ st clay	pk w/ dk brn, grn, &
									230.6	55°	0.3' gg-bx slip.	yel stain in & near
												fracs.
	239.8	6.8	Tr	TR		Arg.	Run	wk to mod py w/ Tr	Run	25°-60°	fracs w/ clay, ccg,	gr-buff Arg locally
								cpy, mn. wk Fe, Mn Ox			wk gyp, serp.	broken badly
								near top in fracs	235.6	—	0.4' st bx-gg	
	246.3	6.5	Nil	.03		Arg	Run	wk vlts-pats py	Run	30°-50°	fracs	As before
								w/ Tr cpy				
	255.6	9.3		.05		Arg	Run	Same			Same	Ditto
	264.3	8.7		.05		Arg	Run	wk vlts cpy-py	Run	30°	clean fracs.	Broken & ground low
												recovery.
	271.8	7.5		.04		Arg	Run	Same	Run	30°-70°	fracs w/ st ser. &	Gr-buff Arg w/ local
											Tr smeared suls.	st ser from 264.3 to
												266.8. Very broken.
	282.0	10.2		.04		Arg	273.2	pats diss cpy-py	278.7	40°	st bx-gg w/ wk suls.	
							279.7-end	wk-mod diss cpy-py.	288-end	?	st bx-gg-smeared suls.	
	293.8	11.8		.06		Arg	Run	wk vlts & pats diss	Run	30-50°	fracs.	First 2.0' altered to
								py w/ cpy Tr. Mn.				st clay. Remainder
												as before
	304.0	10.2		.06		Arg.	Run	wk diss & vlts suls.	297.4	40°	Shear zone w/ st	gr-buff to pk Arg.
											clay.	
									Run	20°, 40°	fracs w/ smeared	
											suls.	
	314.0	10.0		.06		Arg.	Run	wk-mod py-cpy	313.8		Shatter zone w/	same
											st gg	
	324.7	10.7		.03		Arg.	Run	wk suls.	320.8-323.0	—	bx-gg zone most	pk to gr Arg. w/
											gg lost.	local st clay-gg.
	332.4	7.7		.09		Arg	Run	wk pats & vlts py w/	328.0	40°	0.4' gg-bx-suls.	gr. Arg.
								Tr. cpy.				
	339.3	7.4		.16		Arg	Run	Same	339.7	55°	0.1' vlt gyp-Arg-Hf	gr Arg w/ short ints
											ct.	cgl.

MIS-807-A 75

HOLE NO. M-25

Coordinates: N 363,119.53 E 764,718.65

Dip Vert Bearing —

Date started 5-18-62 Completed 5-25-62

Collar Elevation 3224.1 Total Depth 496.4

GEOLOGIC LOG

MISSION UNIT

②

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
339.8	345.3	5.5		.54	.54	Tt	Run	wk to mod vlts & diss py wi Tr cpy - Mn.	Run	55°	fracs wi gyp & Qtz.	Lt grn Tt wi local pats & vlts qtz & wk pats sp.
	356.6	11.3		.11		Tt - Hf	345.6	30° vlt py in chl.	351.3	70°	gg-bx zone	Mixed lt grn & Tan Tt & Hf wi st clay & wk vlts qtz. Minor serp. & Talc.
							351.5-353	85° frac wi py wk cpy Tr bn mod aph.	Run	Varied	fracs wi gyp, serp, Talc - wk hem.	
							353.7	70° frac wi st py & wk to mod cpy Tr. mn - sph in chl-serp.				
	365.1	8.5		.16		Tt-Hf	Run	Very wk diss sulfs.	359.1 & 361.1	50°	fracs w/ hem, serp, clay, gyp	Mixed lt grn & tan Tt & Hf, w/ talc, clay, serp alt.
	373.6	8.5		.19		Tt-Hf	Run	wk diss cpy-py-mn	373	85°+	slip w/ hem, Talc, serp	Mixed Hf-Tt
	380.8	7.2		.04		Hf	374.6	60° 0.2' vlt st cpy-py.		30°-60°	fracs & slips wi hem, Talc, gyp.	Lt tan Hf wi st clays serp. Local st gar.
							Run	wk diss & vlts suls -				
	390.8	10.0		.06		Hf	Run	" " " " "	Run	30°-85°	As before	As before
	402.7	11.9		.31		Hf	396.6	0.1' 30° vlt cpy-py	Run	Hi∠	Slips wi st talc, gyp - serp.	Same + local st gar
							399.5	60° vlt py				
							Run	wk diss suls				
	412.2	9.5		.07		Hf	409.4	75° 0.1' vlt st cpy-py	Run	30°-60°	Slips wi smeared suls, st talc, wk gyp & hem.	Lt. Tan Hf wi st clay local wk gar - op
							Run	wk - mod diss cpy-py sph.				
	421.5	9.3		.61		Hf-Tt	Run	diss & vlts py - cpy - sph along and near fracs.	Run	—	st hi∠ fracturing w/ occasional 30° fracs.	Lt Tan Hf mixed wi Tan to grn Tt wi st Talc & hem in frac
							419.4	70° - 0.2' vlt st cpy-py				
	429.6	8.1		1.13		Hf	Run	St sph wi mod cpy-py - Tr moly	428.6 - and 30°		flt zone wi st gg-bx - clays.	Lt. Tan to wh & pk Hf. Local st gar. pats
							428.3	30°, 0.5' vn st cpy-py - Tr bn				
	435.9	6.3		1.88		Hf	Run	Mod diss & vlts cpy-py - sph.	Run	varied	Fracs & slips wi gg-bx zones approx @ 1.5' intervals throughout run.	St. frac cream Hf wi st clay - serp - Talc

MIS-807-A 75

HOLE NO. M-25

Coordinates: N 363,119.53 E 764,718.65

Dip Vert Bearing —

Date started 5-18-62 Completed 5-25-62

Collar Elevation 3224.1 Total Depth 496.4

GEOLOGIC LOG

MISSION UNIT

③

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
435.9	445.0	9.1		1.32	71.9' @ 2.18	Hf	Run	Mod to st diss pats-vlts cpy-py-sph.	442.1	70°	shear wi st suls-serp-Talc.	cream to wh Hf wi local pats gar. Mod clays, serp, Talc.
	455.1	10.1		1.37		Hf		As before	Run	Varied	Fracs & slips wi gyp-hem-Talc	Same.
	463.6	8.5		2.06		Hf-Tt	Run	Mod to st pats & vlts cpy-py-sph	Run	Hi L	Slips showing hor. slickensides	Mixed lt tan Hf & Ltgrn Tt.
	470.0	6.4		4.33		Hf	Run	St diss pats cpy py - wk sph	465.3 Run	Hi L 25-30°	slip wi st hem, gyp. slips	Lt tan cream Hf wi st suls.
	476.4	6.4		5.39		Hf	Run 474.5	Same 1.0' Massive sph wi st cpy	474.5	25°	flt wi massive sph & mod. gg.	Same
	484.1	7.7		3.18		Hf	Run	St sph wi mod to st diss cpy	483-end	—	gradational at to Mb.	As before. Grades to wh Mb in last ft of run
	496.4	12.3		.05		Mb	Run	Tr suls.	Run	25-60°	wh. "breccia like" pats showing allignment at varying dips between 25 & 60° appears somewhat like a flow structure locally.	Ltgr to wh Mb
	496.4	Bottom										

MIS-807-A 75

HOLE NO. M-24

Coordinates: N 363,419.71 E 764,709.11

Dip Vert Bearing —

Date started 5/12/62 Completed 5/19/62

Collar Elevation 3219.2 Total Depth 450.4

GEOLOGIC LOG

MISSION UNIT

①

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
190.0	209.4	19.4				Cal cgl	Run		209.4	20°	cgl - Bk int	
209.4	219.2	8.8	.01	.09		Arg	Run	Fe, Mn ox, CO_2 Black Cu sil (?)	Run	—	Highly broken & Brecciated Rock	Cal filling & frac. strongly int arg w/ ser, clay
219.2	227.1	7.9	.04	.11		Bx	Run	st. Fe, Mn Ox Tr. $CuCO_3$, py. Poss blk Cu sil.	Run	—	St Bx, gg zone w/ st. clay & caliche.	
227.1	229.7	2.6	TR	.07		Arg.	Run 227.3-227.7	wk $CuCO_3$ Fe Ox. Tr py. wk not cu in chl in fracs	Run	50-70°	Fracs filled w/ chl.	Lt gr to brn Arg w/ seams cog, ser.
229.7	237.0	7.3	Nil	.09		Arg.	Run	Mod Diss & v/lt py w/ wk cpy.	Run	30°, 70°	Fracs w/ ser, clays py.	As before + local st. sil.
237.0	245.7	8.7		.10		Arg	RUN	Mod diss & v/lt py	238.0 242.0	70° 70°	S-Arg & bx lense .3' bx zone (flt?)	Gr. Arg. w/ clay alt zones in bx.
245.7	256.3	10.6		.08		Arg	RUN	Weak diss py	251-256		flt gg & bx., slip w/ smeared sulf @ 256	Gr. Arg w/ slips & gg serp, clay
256.3	263.2	6.9		.13		Mb	RUN	Nil	256	—	Mb gg. cont	Bonded & streaked wh & gr Mb
263.2	269.0	5.8		.14		Mb	RUN	Tr py, cpy	RUN	40°	Wh mb bonding	As above, gyp
269.0	272.9	3.9		.07		Hf-Mb		Tr cpy	269.0	Irr	Mb-Hf cont	Lt grn Hf
272.9	281.3	8.4		.05		Mb	RUN	Barren	272.9 280.5	25° 30°	Hf-Mb ct. Stgg-bx zone to end (flt)	Lt gr. Mb w/ st gg-bx zone @ end.
281.3	288.3	7.0		Nil		Mb	RUN	Tr. Sulf	283.5 287.6	45° 45°	frac slip	Lt gr Mb, streaked w/ wh mb, gyp in frac
288.3	292.6	4.3		Nil		Mb	RUN	Mod sph, weak gal, cpy, py (vH)	288.3 RUN	70° 45°	Sulf v/t. Slips w/ clay	Wh. Mb w/ pat Gar gyp in frac
292.6	300.0	7.4		Nil		Mb	RUN	NIL	297.0	70°	frac w/ gyp	Lt gr & wh Mb minor silification
300.0	308.2	8.2		.60	.60	Mb	RUN	Weak diss cpy, Tr sph, gal	303.9	70°	.6' gg zone (flt)	Gr & wh Mb, minor silif w/ Gar, gyp; talc in flt zone
308.2	319.9	11.7		Tr		Mb	RUN	NIL (Tr sulf first .5' RUN)	309.2	70°	Alt zone, talc, serp, .5'	Wh & gr Mb, .3' alt zone @ 313.0 - talc & clay

MIS-807-A 75

HOLE NO. M-24

Coordinates N 363,419.71 E 764,709.11

Dip Vert Bearing —

Date started 5/12/62 Completed 5/19/62

Collar Elevation 3219.2 Total Depth 450.4

GEOLOGIC LOG

MISSION UNIT

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DEPTH			% COPPER			ROCK	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average	TYPE	Depth	Description	Depth	Dip	Description	
319.9	330.7	10.8		Nil		Mb	Run	Tr. Sulfs wk Fe Ox	Run	Varied	Fracs wi clay & wk Fe Ox stain.	Ltgr. Mb (vuggy)
	336.4	5.7		Nil		Mb	331.7	50° Frac wi py & Tr cpy. wk Fe ox			As before	Ltgr-gr Mb wi wk zones clay.
	344.3	7.9		Nil		Hf.	Run	Tr. cpy-py-sph-hem.	336.4	Lost	Mb-Hf ct.	wh Hf wi st wal, local gar & serp in fracs.
	354.4	10.1		Nil		Mb	Run	Tr. Sulfs. occas wk FeOx on fracs.	344.3	Grad	ct Hf-Mb.	Ltgr Mb wi short int's Hf & local st serp.
									352.6	25°	0.2' int act(?) & Serp.	Locally vuggy in fracs.
	364.4	10.0		Nil		Mb	Run	wk Fe Ox stain on fracs.	Run	30-80°	fracs wi vugs filled wi cal xls, Fe Ox stain & clay.	Ltgr to wh mb.
	374.8	10.4		Nil		Mb	Run	As before			same	Ltgr mb wi local parts clay.
	385.1	10.3		Nil		Mb		Same			As before	same
	395.4	10.3		Nil		Mb	Run	Barren	Run	30°	Parallel fracs occas Hf & fracs	As before + wk serp on some fracs.
	404.9	9.5		Nil		Mb	Run	wk Fe Ox in fracs.	Run	Varied	Vuggy fracs.	wh Mb wi 25° gr Mb ints.
	412.6	7.7		Nil		Mb		Barren			As before	Same
	422.6	10.0		Nil		Mb		"	Run	30°	fracs (Bd?)	gr. Mb wi 25°-30° wh banding.
	432.6	10.0		Nil		Mb	Run	Tr Sulfs - $MnCO_3$			Same	As before
	441.6	9.0		Nil		Mb		Barren			Same	dk gr to bl Mb wi occas wh bands @ 25°
	450.4	8.8		Nil		Mb		Tr Fe Ox	Run	30-80°	fracs wi cal xls	dense dk gr Mb wi no banding.
			Bottom									

MIS-807-A 75

HOLE NO M-23

Coordinates N 363,664.27 E 763710.41

Dip Vert Bearing —

Date started 5/8/62 Completed 5/18/62

Collar Elevation 3224.3 Total Depth 621.1

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	200					Overburden						CCg approx 180 ft.
200	203.9	3.9				CCg	Run	wk $CuCO_3$ stain	203.9	5°	CCg-BR ct.	
203.9	214.8	10.9	.36	.56		Cgl	Run	Fe-Mn-Cu oxides	Run	30°	Parallel Fracs.	Gr broken & Fractured
					NS Tot			Tr nat cu				Arg cgl w/ st CO_3 in
					.47 .69							Fracs & st Fe-Cu stain.
214.8	220.6	5.8	.68	.93		Cgl	Run	As before + wk py @ end	Run	30°	Fracs w/ gyp.	As before
							220.6	Base oxides Tr nat Cu				Highly fractured & broken
220.6	228.0	7.4	Nil	.37		Cgl	Run	wk to mod vlts py w/	Run	30°, 50°	Fracs & slips w/	gr. buff cgl w/ local
								minor cpy, mn, Tr cu(?)			smeared suls in serp	st CO_3 pats qtz
228.0	239.0	11.0		.38		Cgl	Run	vlts Py w/ wk cpy	Run	30°, 50°	As before	Same
239.0	249.0	10.0		.44	.44	Cgl	Run	vlts, pats st py w/	250.6 end	30°-50°	Slips w/ st gg, bx	As before w/ st
								wk cpy - mn - cc (?)			smeared suls in serp	bx zone from 250.6
							242.3	small vlt moly in tale			Pass flt zone	to end. St serp, Tale
249.0	257.9	8.9		.37		Arg-Cgl	Run	wk-mod py w/ Tr cpy	Run	50°	Slips w/ smeared suls.	Alternating Arg-Cgl
							257.2	vlt moly				Highly fractured w/
												parallel slips w/ st Tale.
257.9	268.3	10.4		.28		Arg-Cgl	Run	wk py-cpy Tr moly	Run		As before	Same + local silif.
								near Qtz				
268.3	278.2	9.9		.13		Arg-Cgl	273.6	50° vlt moly near qtz	Run		As before	Ltgr to tan Arg & cgl
							Run	As before	273.8	—	Qtz xls in vugs	w/ local st qtz & st
												Talc & serp throughout.
278.2	285.2	7.0		.32		Arg-cgl	Run	As before	Run	varied	Fracs & slips w/ st	As before
							280.7	85° frac w/ moly			Tale, serp, Tr moly	
285.2	294.3	9.1		.17		Arg-cgl	Run	very weak diss & vlt py	Run	25°-75°	As above - ser, pred.	Gr silic Arg w/ cgl. & bx
								tr. cpy, tr moly in slips			slip 25°	lenses. fault bx?
294.3	305.8	11.5		.18		Arg-Cgl	Run	As above		25°-85°	As above	As above
305.8	316.6	10.8		.18		Arg-Cgl	Run	wk diss & vlts suls. wk	Run	30°-90°	Predom. slips w/ st	Ltgr to buff mixed
								to mod moly in slips			serp-Tale & smeared	Arg & cgl w/ local st
											suls.	zones of clays - Talc -
												ser. Local wk CO_3
316.6	328.8	12.2		.16		Arg-cgl	Run	As before w/ st moly	322.8	30°	2.0' zone parallel	As before w/ mod
								in occasional slips			slips in Arg.	Talc & ser.
									320.3	—	Vuggy zone in cgl.	
											w/ cal xls.	

MIS-807-A 75

HOLE NO. M-23

Coordinates: N 363,664.27 E 763,710.41

Dip Vert Bearing —

Date started 5/8/62 Completed 5/18/62

Collar Elevation 3224.3 Total Depth 621.1

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
328.8	337.5	8.7		.17		Arg-cgl	Run	Smeared Suls wi occasional st. moly on all slips	Run.	30°, 80°	2 sets slips wi st serp-Talc wK gyp.	Lt. gr to buff mixed Arg & cgl wi local st alt. to ser. Some sil apparent
337.5	344.7	7.2		.15		cgl	Run	As before	Run	30°	predom slips As before	Same
344.7	353.4	8.7		.29		Cgl	Run	WK vlts & diss pats cpy-py. Tr moly	Run	30°, 70°	predom 30° slips occasional 70° slips	As before but not as highly broken as much as 0.7' between Fracs.
353.4	364.5	11.1		.23		Arg-Cgl	Run	As before + weak pats hem. stain.	Run	25°-75°	Frac patterns as before	Gray Buff to Tan & brn Arg & cgl wi st sil.
364.5	374.9	10.4		.12		Cgl	Run	WK vlts & pats py Tr. cpy. Mod moly on fracs.	Run	25°-60°	Fracs wi st smeared suls & gyp, & moly	As before
374.9	384.6	9.7		.41	.41	Cgl		As before			As before	As before
384.6	391.2	6.6		.31		Cgl	390.0 Run	10° vlt py Tr. cpy, Moly on fracs. occasional hem. stain	Run		Fracs same as before	brn tan cgl wi st sil & occas. Feld.
391.2	400.0	8.8		.17		Cgl	Run	WK diss & vlts py wi minor cpy. Tr. moly on fracs. Local hem.	Run	30° & 70°	Fracs wi st serp, clay, gyp.	As before
400.0	414.7	14.7		.20		Arg-Cgl	Run	As before	Run		Same Frac patterns	Lt gr, tan, pk Arg & cgl wi local st, silt, some frags Feld
414.7	424.7	10.0		.21		Arg-Cgl	Run	WK diss & vlts py wi cpy Tr moly in some fracs			As before	Alternating ints Arg cgl.
424.7	439.5	14.8		.13		Arg-Cgl	Run	WK to mod py wi Tr cpy.	Run		Varied angle fracs from 20-80° wi st, serp & occas moly.	Same
439.5	443.7	4.2		.14		Cgl	Run	As before			As before	Lt gr to tan cgl
443.7	453.8	10.1		.29		Cgl	445.1 ~~448.4-449~~ Run	40° vlt cpy, py Hi L vlt cpy, py WK py wi Tr cpy-moly	Run	20-70°	fracs wi smeared suls, serp, gyp, clays.	As before wi short ints of Arg @ 25 to 30°

MIS-807-A 75

HOLE NO. M-23

Coordinates N 363,664.27 E 763,710.41

Dip Vert Bearing ——

Date started 5/8/62 Completed 5/18/62

Collar Elevation 3224.3 Total Depth 621.1

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
453.8	463.8	10.0		.14		Arg-cgl	Run	wk vlts py w/ Tr cpy Tr moly on some fracs	Run	20-60°	fracs w/ serp, clay smeared sulfs.	Alternating ints of Arg & cgl.
463.8	473.7	9.9		.21		cgl	373.0 Run	25° vlt cpy-py wk diss cpy-py			Same	Ltgr cgl w/ short ints Tan Arg.
473.7	482.7	9.0		.33		Cgl	Run	St vlts py w/ wk cpy. minor mn			Same	As before
482.7	496.9	14.2		.44	33.6' @ .41	Cgl	Run	wk-mod vlts, pats, & diss cpy, py, mn. st smeared sulfs on fracs, w/ occas. wk moly	Run		Highly frac & broken in all directions Most common fracs & slips 30° & 70°	As before + local st qtz & feld.
496.9	507.0	10.1		.38		Cgl	Run	As before			Same	Same
507.0	516.3	9.3		.41		Cgl		Same			As before	As before
516.3	520.4	4.1		.12		Bx.	Run	wk diss & vlts py w/ cpy st. hem	519.2	70°	open frac w/ st CO_3.	Maroon to pk bx w/ Tt, Mb, Hf frags.
									519.8	80°	Same	
									516.3	25°	Cgl-bx ct w/ wk sulfs.	Alternating ints of
520.4	526.1	5.7		.12		Tt-Hf	Run	Mod to st py w/ mod cpy. St hem. wk mn.	Run	30°	numerous post-min slips filled w/ st CO_3.	wh to pk Hf and maroon to grn Tt w/ st CO_3
									520.4	55°	Bx-Tt-Hf ct. st CO_3.	Throughout run.
526.1	532.6	6.5		.30		Hf	Run	wk diss py-cpy. local st hem stain.	532.6	25°	Hf-Tt ct.	Wh to pk Soft clayey
									531.6	60°	Intercept of 0.5 ft	Hf w/ local gar-qtz
							531.6	60° vlt cpy-py.			Gar, qtz, ste_3.	
532.6	537.0	4.4		.76		Tt	Run	wk-mod diss cpy-py st Fe stain, Tr moly	Run	30°	fracs & slips w/ st smeared hem.	Rd-brn Fe Tt w/ local st Co_3 wk serp.
							535.4	70° vlt cpy w/ wk py			w/ tr moly.	
537.0	547.0	10.0		2.00	37.5' @ 2.49	Tt	Run	mod-st pats, strs cpy w/ py. st hem & spec near fracs. Tr bn.	Run	30°	slips w/ st hem. occas frac w/ cal.	Ltgrn to pk & maroon Tt w/ st CO_3.
547.0	558.0	11.0		3.70		Tt	Run	St cpy-hem. Tr Bn moly.	Run		As before	Same
									550.2	10°	frac filled w/ 0.2' Bx	
558.0	567.0	9.0		2.35		Tt	Run	Same	Run	20-70°	fracs & slips w/ st hem.	As before
567.0	570.1	3.1		2.61		Tt	Run	As before			As before	As before
									570.1	Low L	Tt-Mb ct.	
570.1	582.0	11.9		Nil		Mb	Run	Tr. sulfs	Run	Hi L	Vuggy Fracs.	Lt. gr Mb w/ local wk serp. & pats gar.

MIS-807-A 75

HOLE NO. M-22

Coordinates: N 363,458.14 E 743,960.71

Dip Vert Bearing —

Date started 5/2/62 Completed 5/12/62

Collar Elevation 3224.2 Total Depth 465.0

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	172.0					overburden						(RB)
172.0	195.6					CCg						B.R. Approx. 190' (RB)
195.6	205.5	9.9	.01	.11		Cgl	Run	Mn, Fe Ox Tr sulfs	Run	varied	Highly broken & fractured	Fe stained Arg. cgl wi st clay.
205.5	208.7	3.2	.02	.16		Cgl	Run	As before + Tr $CuCO_3$	205.5	Lost	Flt(?) st gg. bx.	Broken lt gr to Fe stained Arg cgl wi st ser clays.
208.7	217.8	9.1	.09	.31		Cgl	Run	Mn Ox, Fe Ox, Mod $CuCO_3$ wk Cu Si. yel Fe Stain.	211.0	70°	Frac, Filled wi $CuCO_3$.	Lt gr to Fe stained Arg cgl Locally brecciated.
									Run	30°-70°	Fracs wi Fe Ox Stain.	
									214-215.8	50°	Flt(?) wi st bx, gg, ser.	217.8 Base Oxides
217.8	227.6	9.8	Nil	.22		Cgl	225.3	60° vlt py, cpy, cc.	Run	30°-60°	Fracs & slips wi Serp, clays, wk CO_3. Smeared sulfs.	Lt gr Arg cgl wi local st. clay. Local pats sil.
							Run	wk diss vlts, pats cpy, cc, py				
227.6	237.8	10.2		.31		Cgl.	Run	wk to mod diss pats & vlts py, cpy, Tr cc moly	Run	30°, 60°	Fracs & slips wi serp, smeared sulfs.	Lt gr Arg cgl wi local st sil wk serp.
237.8	244.7	6.9		.41		Cgl	Run	wk to Mod vlts, pats py wi cpy, Tr Bn	239.5	45°	Flt wi gg, bx, smeared sulfs	Shows wk banding @ 20°-30° Lt gr to tan cgl wi local dense Arg.
									Run	45°	Slips wi Talc, " "	
244.7	254.0	9.3		.53		Cgl	Run	wk diss vlts, pats py, cpy.	Run	30°	Slips wi smeared sulfs Talc, clays.	As before
254.0	259.2	5.2		.25	46.9' @ 0.62	Cgl	Run	As before	Run	30°	Fracs & slips	Tan Arg. cgl.
259.2	266.5	7.3		.52		Cgl	264.0	Mor, .03' vlt cpy	266.5	30°	Cgl - Tt ct.	As before
							Run	wk diss py, cpy, Mn				
266.5	274.7	8.2		1.21		Tt	Run	wk - mod diss cpy, py	Run	70°	Fracs filled wi py	Lt grn to tan Tt wi local zones st serp, Mod ep. Local st CO_3
							271.9	0.1' vlt py wi cpy				
							273.1	30° vlt st cpy, py.				
274.7	284.7	10.0		.61		Tt	—	274.7-281.2 parallel vlts cpy, py @ intervals of .05 to .1 ft.	Run	Hi ∠	Fracs filled wi gyp, CO_3.	As befor
284.7	294.7	10.0		.12		Tt	Run	wk - mod diss cpy, py, mn, Local st. Hem.	287.4	40°	Frac (slip?) wi st hem stain, serp. (2')	Tt varies from tan to lt grn to maroon wi local st CO_3, serp.
294.7	301.0	6.3		.31		Tt	Run	wk - mod diss pats cpy py, Tr Mn, Sph.	299.4	50°	Frac wi gyp - CO_3 - hem.	Grn Tt wi local pats sil. Mod. CO_3.
301.0	309.6	8.6		.19		Tt	Run	As before	309.6	30°	Tt - Hf ct	As before
							309.5	30° 0.05 vlt cpy				

MIS-807-A 75

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-22

Coördinates: N 363,958.14 E 763,960.71

Dip Vert Bearing ____

Date started 5/2/62 Completed 5/12/62

Collar Elevation 3224.4 Total Depth 465.0

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
309.6	315.2	5.6		.06		Hf	313.4	wk 45° vlt cpy, bn, py,	315.2	45°	Hf-Tt grad. ct.	Wh Hf wi st wol, mod serp & wk pats gar.
315.2	325.0	9.8		.38		Tt	Run	wk-mod diss cpy, bn, cp, Tr. mn. wk hem stain	316.8	30°	vuggy frac wi st CO_3.	Tt grades lt grn, grn maroon wi pats sil, wk ep, serp.
									Run	70°	fracs filled wi st hem, CO_3.	
325.0	335.2	10.2		.21		Tt	Run	wk diss sulfs	331.3	75°	Frac wi wk gyp, hem.	Lt grn Tt wi wk ep grades to lt gr Hf last 1.5 ft of run st. gar, wi, in Hf.
									333.7-end	~30°	Grad. ct Tt to Hf.	
335.2	340.1	4.9		.65	.65	Hf	Run	wk to Mod cpy, py, sph Tr moly, wk mn,	340.1	~20°	Grad ct Hf-Tt	Cream colored Hf grades to Lt grn & Tt at end. Local mod gar.
							338.0	wk vlts cpy, Bn.				
340.1	347.4	7.3		.29		Tt	344.5	20° Frac wi pat Moly, wk diss moly 1.0' on either side	Run	60-75°	Fracs wi Hem, sulfs.	Grn Tt wi occasional pats qtz, local wk CO_3
							Run	wk to mod cpy, py, mn, Tr. moly-bn-sph				
347.4	354.5	7.1		.14		Tt	Run	wk diss cpy, py,	352.8-end	hi ∠	Thin fracs & vlts wk hem.	As before.
							448.0	Pat cpy, sph, Tr. moly.				
354.5	363.7	9.2		.91		Tt	Run	Mod-st cpy-py Local st hem, MnO_2.	362.7	85°	Frac filled wi gyp	Grn to maroon Fe Tt.
									Run	Hi ∠	Fracs wi hem, CO_3 gyp.	
363.7	369.5	5.8		.88		Tt	Run	Mod cpy, py	366.1	80°	Large open frac wi st hem stain, CO_3	As before
									367.6	60°	Frac filled wi CO_3 carrying st cpy-sph.	
369.5	379.7	10.2		.69	38.8' - @ .98	Tt	Run	wk to mod diss pats cpy, py. wk sph.	377.3	50°	Qtz vn wi st hem.	Lt. grn Tt wi local st CO_3
379.7	387.7	8.0		1.37		Tt	Run	Mod-st cpy-py. wk mn Tr sph.	381.6	30°	Frac filled wi CO_3, $MnCO_3$, gyp	grn Tt wi local hem stain. Thin vlts CO_3
									387.3	30°	Tt-Hf ct wi st CO_3, wol. Hf to end run.	throughout rune
387.7	393.3	5.6		1.20		Hf	387.7-390.0	st. sph-cpy in pats	393.3	20°	Hf-Mb ct.	Wh wol Hf wi st zones gar near end of run
							390.0-end	wk-mod cpy-py Tr bn				
393.3	400.0	6.7		Nil		Mb	393.3 Run	sph-cpy at ctact. Barren	Run	Hi ∠	Fracs.	Wh to Lt gr Mb not altered

MIS-807-A 75

HOLE NO. M-21

Coordinates: N 363,666.61 E 764,205.68

Dip vert Bearing —

Date started 5/1/62 Completed 5/8/62

Collar Elevation 3217.5 Total Depth 474.3

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	190.0					Overburden						CCg Approx 180.0'
190.0	213.7	23.7				CCg.						
213.7	217.9	4.2	Nil	Nil		Hf. (Arg?)	Run	St FeOx, Mod MnOx.	213.7	Low ∠	BR ct.	Lt brn to yel. soft clayey
									Run	—	upper side of flt zone(?)	Hf. very badly weathered
									217.9	30°	Base of oxides	Appears to be on hanging
												wall of flt zone that
												extends to 231.1'
217.9	223.9	6.0		.14		Arg.	Run	Tr. sulfs	Run	30°	Parallel slips	Lt tan to dk gr Arg
									Run	—	Flt zone w/ gg & bx	highly broken w/ St dk gr gg.
223.9	231.1	7.2		.29		Arg	Run	wk to Mod Py w/ Tr	Run	30°	Parallel slips.	As before.
								Mn, Cpy.	Run.	—	continuation of flt.	
231.1	235.0	3.9		.41		Arg	Run	wk, finely diss. py w/ lesser	Run	25°-80°	minor slips w/ clay coating	highly broken, lt gr,
								cpy.				Qtz grains vis., some sericite &
					25.9'							clay alt; small cavities w/ Cal
235.0	244.8	9.8		.40	@ .59	Arg	Run	same as above w/ FeOx	Run	L-H	as above w/ FeOx	As above but more broken &
										40°	Slips - gg	more clay & sericite alt.
244.8	257.0	12.2		.80		Arg-Bx	Run	Frags w/ cpy in post	Run	60°-80°	Faults & shears.	App. alt - min Arg &
								min? hem gg.				Poss Cal w/ St post
								sulfs in hem gg. also				min faulting - St hem
												Round frags w/ ep - chl - cpy
												up to 2" in hem gg.
257.0	264.6	7.6		.26		Tt	Run	wk - Mod diss cpy - py	260-61.3	60°	Py - cpy vlts	Patches DHf - Ep
									264.6	Flat	Thin bx w/ hem	
264.6	275.0	10.4		.16		Tt	Run	Thin hem vlts	268.4	60°	Bx w/ hem	
							274.0	Part St cpy - py - sph				
275.0	278.6	3.6		.83		Tt	277.6	70° vlt Cg - sph - cpy				Num thin irreg hem vlts
278.6	284.0	5.4		.38	27.6'	Tt	Run	Wk cpy - py				
284.0	297.7	13.7		.60	@ .70	Tt	288.0	2" - 55° cpy vlt				Few hem vlts - seams
							292.5	1" - 40° cpy - py vlt	293.4	70°	Gyp vlt	
							297.2	"				
297.7	302.6	4.9		.66		Tt - Hf	299.4	1" 55° Cg - sph - cpy	297.7	20°	Grad cnt w/ DHf	
							291.7	To diss Bn				
							Run	Wk disc cpy				
302.6	313.4	10.8		.08		Tt	310-End	To diss cpy - py	308.4	60°	1" Gyp vlt	Num thin hem vlts
												310 - 13.4 - More dense hard

MIS-807-A 75

HOLE NO. M-31

Coordinates: N 363,666.61 E 764,205.68

Dip Vert Bearing ——

Date started 5/1/62 Completed 5/8/62

Collar Elevation 3217.5 Total Depth 474.3

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
313.4	317.3	3.9		.04		Tt	316.6	Tr cpy in qtz				Dense-Hard, pat Qtz
317.3	322.8	5.5		.10		Tt	320	Mod cpy.	Run	Var	hem-co3-vlts	Dense dk grn - St hem vlts
322.8	331.0	8.2		1.04		Flt Bx w/st hem	Run	Mod diss cpy	Run	70°-90°	Gyp vlt, & flt qz zones	St to massive hem replace
											Gyp late - crosscuts	along bx zone in Tt?
331.0	341.8	10.8		1.20		Tt	Run	St diss cpy tr Bn	331.0	75°	Qtz-hem vlt-poss flt	Pat Hf 341.8
									333.0	80°	Gyp vlt.	
341.8	350.0	8.2		5.77	42.6' @ 2.41	Tt	Run	St vlts, pats cpy, Bn, Py, wk hem, Mnox, MnCO3	Run	60°, 70°	Fracs filled w/ hem, CO3	Lt grn dense Tt w/ local st CO3 pats Hf, sil.
350.0	353.4	3.4		5.88		Tt-Hf	Run	Med to St. cpy, Bn, sph. Mod MnCO3, Mn.	Run	70°, 80°	Fracs w/ clay, Hem.	Generally lt grn Tt Mixed w/ pk Hf. Local St CO3
353.4	360.0	6.6		1.23		Hf	Run	Wk to Mod cpy, sph, Bn. Mod MnCO3	Run		As before	Lt pk Hf w/ local St pats gar
360.0	365.4	5.4		1.07		Hf	Run	wk to Mod sph, cpy	364.0	70°	Frac w/ cal.	Lt tan Hf w/ local cal
									365.4	30°	Hf-Mb ct.	St. CO3.
365.4	371.6	6.2		Nil		Mb	Run	Tr Mn, cpy, Py, MnCO3 hem. sph.	Run	30°-80°	Fracs & slips w/ CO3, serp, serp, Hem.	wk Mb w/ stra serp
371.6	378.9	7.3		Nil		Mb	Run	Tr. sulfs	372.1	75°-85°	Open Frac w/ cal, hem.	Lt gr. Mb w/ local wk serp, clays.
378.9	389.1	10.2		.05		Mb	Run	Tr cpy, Py	384.2	45°	1.0' intercept Hf.	gr to lt gr Mb w/ local intercepts Lt grn Hf.
389.1	396.1	7.0		.04		Mb	Run	wk sulfs	396.1	30°	Mb-Hf ct.	Lt gr Mb w/ local st serp wk wal.
396.1	399.3	3.2		.16		Hf	Run	wk cc, cpy, sph, py	398.2	30°	Hf-Mb ct.	Lt grn dense Hf w/ st serp. Last 0.5' Mb.
399.3	405.2	5.9		Nil		Mb	Run	Tr cc, cpy, sph, py.	405.2	30°	Mb-Hf ct.	Lt gr Mb w/ local st serp.
405.2	409.6	4.4		.44		Hf	Run	wk-Mod cpy, sph, py, Tr bn, Mn.	409.6	70°	Frac filled w/ hem.	Lt grn to gr grn Hf w/ st serp.
409.6	419.8	10.2		.04		Mb	Run	Tr. sulfs, Hem on fracs	409.8	30°	Hf-Mb ct.	wk Mb w/ local st serp
									410.0	75°	Frac, filled w/ hem, serp.	clay
419.8	428.2	8.4		.06		Mb-Hf	Run	wk cpy, py, sph	Run	30°	fracs & slips.	Mixed wk Mb & Hf w/ St serp, clays.
428.2	431.7	3.5		.48		GG	Run	diss wk cpy, py, sph	Run	30°	Fault w/ st clays, gg, & Hf bx	St. gg, clay, bx zone.
431.7	436.6	4.9		Nil		Mb	433.4	50°, 0.02' vlt cpy, sph	Run	30°-40°	Slips w/ clay, serp	Lt gr-gr Mb w/ St serp.
							Run	Tr sulfs.				

MIS-807-A 75

HOLE NO. M-21

Coordinates: N 363,666.61 E 764,205.68

Dip Vert Bearing —

Date started 5/1/62 Completed 5/8/62

Collar Elevation 3217.5 Total Depth 474.3

GEOLOGIC LOG

MISSION UNIT

(3)

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
436.6	440.2	3.6		Nil		Mb	Run	Tr Sulfs	440.2	30°	Mb-Hf ct.	Lt gr Mb w/ local st, serp.
440.2	444.5	4.3		.16		Hf-Mb	Hf	wk diss cpy, cc, sph, py	442.8	25°	Hf-Mb ct. w/ bx, qg	Soft cream Hf w/ st
							Mb	Tr Sulfs	Mb	Low L	Slips w/ smeared sulfs.	Talc & clay. wh Mb w/
												Mod serp. (Lt H)
444.5	454.3	9.8		Nil		Mb	448.5	Low L slip w/ smeared Sulfs	Run	40°	Frac & slips w/ serp.	wh to Hgr Mb w/ local
							448.0	Tr. py & cc				st pats serp.
454.3	464.5	10.2		TR		Mb	Run	Tr. sulfs	Run	50°	Frac & filled w/ serp	wh Mb w/ local st
											& clays.	pats w/ l, serp.
464.5	474.3	9.8		Nil		Mb	Run	Tr Sulfs	473.9	75°	St slip w/ serp.	As before
	474.3	Total Depth										

MIS-807-A

HOLE NO. M-20

Coordinates: N 363,461.74 E 764,210.31

Dip Vert Bearing —

Date started 4/21/62 Completed 4/30/62

Collar Elevation 3223.0 Total Depth 512.0

GEOLOGIC LOG

MISSION UNIT

①

DEPTH			% COPPER			ROCK	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average	TYPE	Depth	Description	Depth	Dip	Description	
0	180.0					overburden						
180.0	186.2					Cg						
186.2	192.8	6.6	.04	.22	12.7' @ .59 Total .29 N.S.	Tt	Run	Fe Ox, Mn Ox, Tr. Cu CO_3	Run	varied	Fracs filled w/ Caliche.	Grn Tt. w/ st CO_3 & Caliche
192.8	195.6	2.8	.51	1.00		Tt - Hf	Run	Fe Ox, Mn Ox, Cu CO_3	Run	50°	Shatter zone w/ gg, bx	Tt & Hf bx in st shatter zone.
195.6	205.5	9.9	.23	.48		Hf	Run	As before.	Run	30°-50°	Fracs & slips w/ st Fe Ox, Mn Ox, Cu CO_3.	Lt tan to yel Hf w/ local st. Sil, minor grn gar.
									205.5	Hor.	Base Oxides	st. CO_3, minor Serp.
205.5	215.6	10.1	.09	.38		Hf-Tt	Run	Nat. Cu, Fe Ox, Mn Ox. Tr. Cpy, Py.	Run	30°, 40°	Fracs & slips w/ st chl containing Nat. Cu.	Lt tan Hf grading to Tt. w/ st chl, serp w/ nat. Cu.
215.6	225.0	9.4		.11		Tt	Run	wk diss & vlts of cc, Cpy Py, Mn. Minor Hem.	Run	30°	Fracs & slips w/ Hem, Serp.	Lt grn Tt w/ minor Serp, & clays, CO_3., wol
225.0	235.0	10.0		Nil		Tt	Run	Tr Cpy, Py, cc. wk Hem	Run	40°, 50°	Fracs & slips w/ Hem, gyp.	Lt grn Tt w/ local Sil, Felds minor Serp, clay, Gyp, CO_3.
235.0	245.0	10.0		.04		Tt	Run	wk diss py, cpy, cc & vlts cpy w/ cc.	Run	30-40	Fracs & slips w/ gyp, serp. & chl.	Lt grn Tt vuggy w/ clays & CO_3., wol
245.0	254.0	9.0		.04		Tt	Run	wk diss cpy, py, Mn, Moly, Mn CO_3. Minor Hem	245.8 Run	50°, 1.6' 50° low L	Flt w/ bx, gg, wol, Tr Suls. Fracs & slips w/ gyp, serp.	Lt grn Tt w/ local zones of St. Sil., wol, Serp, CO_3.
254.0	261.2	7.2		Tr		Tt	Run	wk vlts & diss Moly, wk Py, Cpy (?), Mn, Mn CO_3.	Run	30°	Fracs w/ wh gyp, serp.	Lt grn to tan Tt w/ st Sil.
261.2	270.2	9.0		.04		Tt	Run	wk vlts & diss cc, Py, Sph. wk hem.	Run	30°, 70°	Fracs & slips w/ St. CO_3, Gyp, Serp, wk Hem.	Lt. grn Tt w/ local st Serp.
270.2	280.7	10.5		.03		Hf - Tt.	Run	Diss Sph w/ tr Cpy, Py, cc. w/ hem in fracs.	270.2 271.7	Low L 11	Hf - Tt ct. 3.8 ft flt w/ st wol & bx	Lt tan to wh Hf grading through flt zone to grn Tt.
280.7	290.6	9.9		.02		Tt - Hf	Run	Tr Suls, Mn CO_3, Mn Ox, Hem.	Run	50°	Fracs w/ st CO_3, Serp. minor Hem, Gyp.	Lt grn Tt w/ local st zones of Sil, wol. Grades to Hf
290.6	300.3	9.7		.36		Hf	290.9 Run	st 0.1' Cpy vlt, Tr Moly wk vlts & diss Cpy, Py, cc.	Run	60°	Fracs & slips w/ st Hem, wk Mn Ox.	Lt tan to maroon to tan Hf w/ st Sil, wol, & local st. Hem. Gar.
300.3	310.3	10.0		.10		Hf - Tt	Run	wk diss Cpy, Py, Mn.	Run	Low L	Fracs w/ clay	Hf as before grades to Lt grn Tt, w/ local clays
310.3	315.7	5.4		.09		Hf	Run	Tr Suls, Hem, Mn Ox.	Run	30°	Fracs w/ gyp, clay, Serp, chl.	Lt gr to grn Hf w/ st gar, chl throughout run Grades to Tt near end of run Local st. clay, CO_3.

MIS-807-A 75

HOLE NO. M-20

Coordinates N 363,461.74 E 764,210.31

Dip Vert Bearing —

Date started 4/21/62 Completed 4/30/62

Collar Elevation 3223.0 Total Depth 512.0

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
315.7	326.2	10.5		.34		Tt	Run	Mod to wk diss Cpy, Py, St Hem, Mnex.	Run	30°	Fracs & slips wi st Hem, gyp.	grn to maroon Tt wi st. silicification.
326.2	334.0	7.8		1.60	20.8' @ 1.18	Tt-Hf	Run	Mod-St diss pods Cpy, Py, St Hem, Mnex in Tt,	Run	Hi L	Fracs wi st Hem, gyp clays.	Maroon to grn Tt grading to Lt tan Hf wi st wol, clay
334.0	339.4	5.4		1.38		Hf	Run	St sph wi fine. diss pods of Cp, Py, Tr. Mn.	Run 339.4	Hi L 60°	Fracs wi CO_3, serp. Slip wi gy & Hf-Tt ct.	wh Hf wi st serp, sph. wk hem stain, Local gyr.
339.4	347.0	7.6		.62		Tt	Run	Mod to wk vlts & pods Cpy, Py. St. Hem stain.	341.6 Run	30° 30°, 70°	Tt-Hf ct. Fracs wi CO_3, gyp.	Maroon to grn Tt wi local st. CO_3. St, Sil.
347.0	353.3	6.3		.19		Tt-Hf		wk. diss Cpy, Py, gr. sulf, hem.	353.3 Run	50 Low L	Slip wi wk serp. Tt-Mb ct. Fracs	Qtz vlts, grad fr wh to lt gr. bf to Maroon Fe Tt.
353.3	362.0	8.7		Nil		Mb	Run	Tr. Sulf.	Run	Hi L	Fracs wi cal	wh to gr. Mb wi Minor Wol.
362.0	372.2	10.2		Nil		Mb	Run	FeO_3, otherwise barren	Run	Low L	Fracs wi wk FeO_2 stain.	Gr Mb wi vugs wi st Cal.
372.2	382.2	10.0		Nil		Mb	Run	Tr. Sulf, Moly (?)	Run	Hi L	open Fracs.	Lt gr to wh vuggy Mb
382.2	392.3	10.1		Nil		Mb	Run	wk FeO_2 stain on fracs.	Run	70°	Fracs & slips wi serp, Gyp. Minor clay.	Lt gr to gr Mb wi local st, serp. local sil.
392.3	402.5	10.2		Nil		Mb	393.7	wk vlts of sph, py, cpy.	Run	30° Lo°	Slips showing minor diss-placement of older Fracs, Highly shattered	wh Mb changing suddenly to dk gr. Mb, wi wk serp. along open Fracs.
									393.7	60°	wh Mb-gr Mb ct, wi wk Sulf	
402.5	412.5	10.0		TR		Mb-Hf	Mb.	Tr. Sulf	405.8	15°	Mb-Hf ct, st. serp.	Gr Vuggy & Fractured Mb
							Hf.	wk vlts, diss. Cpy, Bn, Py, Sph Tr. Moly.	410.3	60°	Hf-Mb ct.	wi 4.5 ft intercept of Lt
									Run	45°, 70°	Fracs & slips wi serp, clays.	Tan Hf wi st clay, serp.
412.5	422.6			Nil		Mb	Run	wk vlts py wi Tr cpy.	Run	30°, 70°	Fracs & slips wi st serp, Talc, clays.	Gr to lt gr Mb wi local st serp & Talc.
422.6	428.4	5.8		.88	.88	Hf	Run	Mod diss Cpy, Py, sph. Tr. moly, ct.	Run 422.6	30° 60°	Slips wi st clays. Mb-Hf ct.	Lt tan Hf wi st serp, clays Minor Wol.
428.4	432.6	4.2		Nil		Mb	Run	Tr. Sulf	Run	30°	Fracs wi clay, serp	Lt gr Mb wi st clay, serp.
432.6	442.8	10.2		Nil		Serp Mb	Run	wk vlts, diss Cpy, Py, Mn Mod on Flt zone	433.2	70°	0.8' Flt zone wi gy, Att to Hf(?) Mod cpy, py etc.	Lt gr Mb wi local st serp, clay.
442.8	452.9	10.1		Nil		Serp Mb	Run	wk diss sulf.	Run.	30°	Fracs & slips wi st clay & serp.	wh to lt gr. Mb wi st serp throughout run.
452.9	462.8	9.9		.33		Mb	455.0	0.3' St sph wi Mod Cpy Py. Remainder of run Tr. Sulf.	Run	Low L	Fracs.	Grades from st serp Mb to lt gr Mb

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HOLE NO. M-20

GEOLOGIC LOG

MISSION UNIT

Coordinates: N 363,460.74 E 764,210.31
Dip Vert Bearing —
Date started 4/21/62 Completed 4/30/62
Collar Elevation 3223.0 Total Depth 512.0

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
462.8	472.7	9.9		Nil		Mb	Run	V.WK. vlts, diss suls.	Run	30°	Fracs.	Lt gr Mb w/ local clays.
472.7	482.0	9.3		Nil		Mb	Run	v.wk vlts suls, wk MnCO3.	Run	30°, 60°	Fracs w/ minor clays	Lt gr. Mb w/ local St, wal, v.wk serp, minor clays
482.0	492.0	10.0		Nil		Hf	Run	Tr. suls	482.0	—	Mb-Hf ct. (gradational)	w/b. Hf w/ very St wal,
									Run	30°	Fracs w/ Talc.	wk local serp. Grades to
												lt gr Mb in last 2 ft of run.
492.0	502.0	10.0		Nil		Mb	Run	As before	Run	30°, 60°	Fracs w/ wk clays.	Lt gr Mb w/ approx 10% wb Hf w/ St wal & minor serp locally.
502.0	512.0	10.0		Nil		Mb	Run	Tr diss suls.	Run	70°	Fracs w/ wk serp.	Lt gr. Mb grading in color to gr. w/ wk serp on fracs & in pats but no other alt.
	512.0	Total Depth.										

MIS-807-A 75

HOLE NO. M-19

Coordinates N 363,464.21 E 769,459.80

Dip Vert Bearing —

Date started 4/21/62 Completed 5/2/62

Collar Elevation 3221.3 Total Depth 413.0

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	175.0					Alluvium						
175.0	185.0	10.0				CCg.					B.R. ct. (approx.)	
185.0	191.2	6.2	Nil	.05		Hf	Run	FeOx, MnOx, Tr Suls	Run	Low L	fracs w/ Cal, serp.	DK brn to pK Hf w/ st. Wal.
191.2	200.2	9.0	.07	.18		Hf	Run	FeOx, MnOx, u CCg	196.4	80°	open frac w/ St. CuCO3	Lt tan Hf w/ local st grn gar,
												& st, wal, Minor Serp.
200.2	208.6	8.4	Tr	.11		Hf	Run	Tr Suls.	Run	Low L	fracs w/ Cal.	DK brn to pK Hf w/ St. Wal
												Local st. CO3, wk gar.
208.6	214.2	5.6	Nil	.06	Total N.S.	Hf	Run	Tr. Suls, Local MnCO3.	Run		As before w/ MnCO3	Brn to wh Hf As before.
214.2	222.6	8.4	1.60	2.60	2.60 1.60	Tt	Run	Mod diss Nat. Cu, Tr suls.	219.2	30°	Hf - Tt ct.	Lt grn Tt w/ FeOx through
								Local wk MnCO3, MnOx,	217.0	70°	5.6' flt zone w/ st, chl,	flt zone w/ Local CO3, Serp,
								FeOx.			Diss Nat. Cu in gg & Tt bx.	chl, Base Oxides 222.6
									Run	30°	Fracs & slips w/ Serp, gyp.	
222.6	229.0	6.4		.10		Mb - Hf	Run	Local st MnCO3, Tr. suls.	222.6	70°	Tt - Mb ct.	Wh Mb altered Locally to
								Minor Hem, MnOx.				Hf w/ st wal, Mod. clays &
												Serp. Local wk gar.
229.0	238.3	9.3		.28		Hf	Run	wk vlts & Pods Cpy, Py, sph,	234.6	80°	Frac w/ Tt & st. suls, Gyp	wh Hf w/ local st serp &
							234.6	0.5' Tt w/ st vlts & Pods Cpy, Py.	Run	Low L	Fracs w/ CO3, serp, clay	short intercept of grn Tt.
238.3	248.3	10.0	Nil	2.38		Hf - Tt	Hf	Tr. Suls	240.3	Low L	Hf - Tt ct.	wh. Hf w/ st serp @ ct.
							Tt	St. diss, Cpy, Py in pods, vlts.	Run	30°, 55°	Fracs w/ wk FeOx stain	Grn Tt w/ vlts gyp, minor
											& st gyp.	CO3, Local lt hem stain.
248.3	258.3	10.0	Nil	.90		Tt	Run	Mod diss Cpy, Py, Tr Mn,	Run	50°, 70°	Fracs & slips w/ smeared	DK grn Tt w/ minor Serp
								Sph. Very wk Hem on fracs.			Suls in Serp. (wk)	gyp on fracs.
258.3	268.2	9.9	.01	.55	45.7 @	Tt	Run	wk diss Py w/ Tr Cpy,	Run.	50°	Fracs & slips w/ smeared	DK to Lt grn Tt w/ wk to
					1.09			Mn. wk to Mod. Hem.			& powdered Suls, Gyp.	mod Hem stain, mod CO3.
268.2	278.2	10.0	.07	.69	Total	Tt - Hf	Tt	wk finely diss Cpy, Py, St	271.2	40°	Tt - Hf ct.	DK grn to maroon Fe Tt
					N.S.			Hem w/ MnOx on fracs.	276.0	30°	Flt w/ clay, serp gg & bx &	w/ wk serp. wh Hf w/
					.005		Hf	Tr Suls, Hem on fracs			Nat. Cu, wk Hem stain	Hem, serp, gyp on fracs.
							Flt.	Nat. Cu, Cup, Tr Suls.	Run	30°, 60°	Fracs & slips w/ Serp, clays.	St. gg, bx flt zone.
278.2	284.0	5.8	.25	.83		Hf - Mb	Flt	Nat Cu, Cup, Minor Hem.	278.2	—	cont. flt zone for 1.6 ft.	Lt gr to wh Hf & Mb w/
							Run	Tr. Nat Cu, Suls, Fe Ox.	Run	Hi L	Fracs filled w/ gyp.	Local grn gar, serp, clays.
												vuggy Mb. Gradational Hf
												to Mb. Flt as before e
284.0	294.0	10.0		Nil		Mb.	Run	wk FeOx, MnOx. Tr Suls.	Run	30°, 75°	Fracs w/ wk FeOx, st Cal,	Lt gr to wh Mb w/ wk serp.
											minor gyp.	minor Wal, Mod clays.

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GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-19

Coordinates N 363,469.21 E 769,459.80

Dip Vert Bearing —

Date started 4/21/62 Completed 5/2/62

Collar Elevation 3221.3 Total Depth 413.0

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
294.0	304.0	10.0		Nil		Mb	Run	Tr. Suls, wk MnCO3, FeOx,	Run	30°,70°	Fracs w/ Cal, FeOx.	Ltgr to wh Mb w/ local med wd, clays, wk serp.
304.0	313.8	9.8		Nil		Mb.	Run	WK FeOx on fracs	Run	70°	Fracs as before + gyp.	wh. to gr Mb w/ wk serp. color change sudden
								Y wk vlts sph, cpy, py	312.6	60°	sudden change wh to gr Mb	Gr Mb w/ gyp in fracs.
313.8	324.0	10.2		Nil		Mb	Run	Tr Suls, wk FeOx.	Run	70°	Fracs w/ Gyp, Cal, FeOx	Gr to dk gr Mb w/ local
324.0	331.8	7.8		Nil		Mb	Run	FeOx on Fracs	Run	30°-60°	Fracs w/ Gyp, FeOx	med FeOx stain near and around Fracs.
331.8	342.5	10.7		Nil		Mb	Run	FeOx, Mn(?)	Run	—	Highly broken & ground	Gr Mb w/ st local clay
342.5	350.7	8.2		Nil		Mb	Run	As before	349.3	55°	0.2' Frac filled w/ gyp.	wh Mb w/ pats of gr Mb
									Run	40°	open Fracs w/ FeOx gyp.	wk local pats of wd,
350.7	355.3	4.6		Nil		Mb	Run	st FeOx stain on Fracs.	Run	30°, Hi L	open Fracs as before	Ltgr Mb highly broken.
355.3	364.9	9.6		Nil		Mb	Run	As before	Run	Hi L	open Fracs w/ FeOx	Ltgr to wh Mb w/ xls Cal on fracs, strongly fractured
364.9	369.6	4.7		1.26	1.26	Mb	Run	Fe Ox on Fracs.	Run.		Highly broken & ground	wh & gr Mb (~50% recov.)
369.6	373.4	3.8		Nil		Mb-Hf	Mb	barren	370.3	30°	Mb-Hf ct.	0.7' wh Mb. Lt. grn soft
							Hf	Diss cpy, py, Mn w/ Gar.	373.4	30°	Hf-Mb ct	Hf w/ st serp. & clays.
373.4	379.7	6.3		Nil		Mb	Run	Tr. Suls near ct.	Run	30°, 60°	Fracs & slips w/ Talc	Ltgr to dk gr Mb w/ small pats wh/m lt Mb.
379.7	387.0	7.3		Nil		Mb.	Run	Tr. Suls, Mn Ox, wk FeOx	Run		As before	Ltgr Mb w/ pats dk gr Mb w/ minor clays.
387.0	392.5	5.5		Nil		Mb	Run	wk diss suls.	Run	30°	Slips showing here to near her sidehanging (could be Flt.)	Ltgr Mb w/ st pats serp & Abun. gyp sealing Fracs.
392.5	398.0	5.5		.54	.54	Mb	Run	wk suls in Flt zone & Tr suls in Mb.	Run		As before	Lt. gr Mb w/ st talc & clays.
									397.3	30°-50°	Flt w/ st. gg talc.	Ltgrn Hf w/ st gar grading
398.0	403.0	5.0		.04		Hf	Run	Med. Py w/ wk cpy & other suls. Mod Cpy, in last 2.0'	403.0	30°	Hf-Mb ct.	to lt tan Hf w/ st clays.
403.0	413.0	10.0		.21		Mb	Run	Tr. Suls.	Run	30°	Fracs & slips w/ Talc.	Ltgr Mb. w/ wh banding @ 30° w/ 2.0'
							405.3	2.0' Hf intercept w/ wk vlts, pods suls.	405.0	45°	Mb-Hf ct.	intercept soft clayey wh Hf.
									407.0	45°	Hf-Mb ct.	
	413.0	Total Depth										

MIS-807-A 75

HOLE NO. M-18

Coordinates N 363,264.77 E 764,462.33

Dip Vert. Bearing —

Date started 4/17/62 Completed 4/21/62

Collar Elevation 3224.7 Total Depth 357.1

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	205.0					overburden						
205.0	211.3	6.3				CCg						
211.3	215.8	4.5	.05	.11		Tt	Run	St. FeOx, MnOx. Minor $MnCO_3$ (?) Tr. Sulfs.	Run	Hi L	fracs filled wi Cal, Mud, pink CO_3.	Lt tan to grn Tt wi st clays.
215.8	225.2	9.4	.03	.16		Tt.	Run	As before + Cu CO_3	Run	30°, 60°	fracs wi CO_3, Serp, $CuCO_3$, Hem, Gyp.	Lt brown to grn Tt wi st clay, Local st. CO_3.
225.2	229.1	3.9	Nil	.55	.55	Tt	Run	FeOx, Mn Ox, WK. Sulfs.	Run	30, Hi L	fracs wi Hem, MnOx, FeOx., CO_3, gyp.	LT grn Tt wi st. clay Local CO_3.
229.1	238.7	9.6		.33		Tt	Run	Hem, MnOx, Minor Cpy, Py, Mn in pods & v/lts.	Run 238.7	 30°	As before Ct of Tt wi Mb.	Grn Tt wi St. Serp, Local st. CO_3.
238.7	243.8	5.1		.04		Mb.	Run	Local St. sph wi minor diss & v/lts of Py, Cpy. Hem, MnOx.	Run	30°	fracs & banding. fracs wi FeOx, MnOx,	Wh. Mb. wi gr banding Local Serp.
243.8	251.0	7.2		.24		Mb	Run.	St sph wi Mod Cpy, Py Minor FeOx, $MnCO_3$	Run	30°, 60° Hi L	Fracs filled wi sph, Cpy. Vuggy fracs wi FeOx, Cal. & gyp.	Wh. Mb wi gr banding Minor Serp, clays.
251.0	260.0	9.0		.33		Mb	Run.	St. Sph wi Mod Cpy, Py Minor FeOx, MnOx, $MnCO_3$.	Run.	Hi L	Fracs filled wi Sph, Cpy, Py, Gyp, FeOx, Serp	As before + Talc
260.0	271.5	11.5		.28		Mb	Run.	Mod Sph w/ Cpy, Py, $MnCO_3$.	Run		As before	As before with zones Si
271.5	280.4	8.9		.05		Mb.	Run.	Minor Sph, Cpy, Py.	Run.	30°, 60°	fracs & slips wi St. Serp Talc, clays, Gyp.	Wh. Mb wi local st Ser zones.
280.4	290.5	10.1		.01		Mb.	Run	WK Sph, cpy, py, $MnCO_3$	Run		As before, Minor Gyp	Wh Mb wi St, Talc, Ser
290.5	293.0	2.5		Nil		Mb	Run	Tr. Sulfs.	Run	30°, 50	Fracs & slips	As before + Mod. Wal
293.0	303.0	10.0		.38		Mb	Run.	Local st. Sph wi Mod Cpy, Py, Mn, Hem, $MnCO_3$	Run		As before.	Same
303.0	313.0	10.0		Nil		Mb	Run	Minor sph v/ts wi Tr Cpy. FeOx on fracs.	Run	60°	Vuggy fracs wi FeOx, Gyp.	Wh Mb wi local Serp, wa
313.0	323.0	10.0		Nil		Mb.	Run	Tr. Sulfs	Run	Hi L	Vuggy fracs wi FeOx.	Wh. Mb wi local st se
323.0	335.0	12.0		Nil		Mb	Run	Tr. finely diss sulfs.	323.3	60°	frac wi hx, gg	Wh. Mb wi minor Ser
335.0	343.0	8.0		Nil		Mb	Run	Same + Fe Ox	Run	Hi L	Vuggy fracs wi FeOx	As before
343.0	352.8	9.8		Nil		Mb	Run	Minor v/ts Cpy, Py. Minor $MnCO_3$. FeOx on Fracs	Run	60°	fracs wi FeOx, Cal	As before
352.8	357.1	4.3		Nil		Mb	Run	Tr. Sulfs. FeOx $MnCO_3$	Run	70°	fracs wi Tr. Sulfs.	As before
	357.1 Total Depth											

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HOLE NO. M-17

Coordinates N 363,590.64 E 764,754.77

D p Vert. Bearing —

Date started 4/10/62 Completed 4/17/62

Collar Elevation 3215.6 Total Depth 531.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	178.0±	178.0				Alluv.						Overburden (Rockbit)
178.0	195.0	17.0				Cal Cgl.						B.R. approx 193'
195.0	202.8	7.8	.55	.63		Hf.	195.0	Cu, Fe ox, Mn dendrites	Run	60°	fracs. w. CO_3 & MnOx	Lt grn to tan Hf.
								Cu, Si, Sph, St, CO_3 v/lts	199.6	30°	CO_3 in 0.1' fract.	202.8 base oxides.
							202.8	0.1' Mn Ox v/lt.	202.8	0°	Hf. Mb contact	
202.8	213.7	10.9	.02	2.15		Mb	Run	Fe, Mn Ox. St. diss Cpy	Run	0, L	fracs.	Brn Mb w/ zones of Hf.
								Py.	208.5	30°	frac w/ gyp.	containing serp & Gyp.
									210.5	50°	gg zone	Containing garnet at end of run
213.7	222.9	9.2	.01	1.95		C. Arg.	Run	Diss Cpy Py, Mn.	Run	50-60°	fracs. w/ gyp, calcite,	Lt grn calcareous Arg. grading to Hf & Tt w/ Sulf &
							220.0	1.0' Massive Suls in gar.			CO_3	back to Arg. Serp present.
								(Py, Cpy, Sph)	222.9	30°	Arg-Mb contact.	
222.9	233.7	10.8		.63	46.6 @ 1.46	Mb	Run	Minor diss Cpy-Py	Run	20°, 50°	fracts w/ gyp, calcite.	Grades wht to grey
							231.2	1.2' Suls & gg zone.				Mb w/ Serp, talc & Gyp.
233.7	240.3	6.6		1.23		Hf.	Run	Mn, Cpy, Py, Sph diss	Run	30°	fracs w/ clay & serp.	Int 1.0' Lt. grn Mb grading
								throughout.				to Hf tan & gr Hf w/ Sericite
												clays & serp. Local zones
												of CO_3 in Hf.
240.3	244.9	4.6		1.48		C. Arg.	Run	Mn, Cpy, Py, Sph in v/lts & pods	Run	30°, 60°	fracs w/ CO_3	Lt. tan C Arg. containing
												Grn Tt. zone w/ some
												clays & gg. w/ gar.
244.9	249.4	4.5		1.08		C. Arg.	Run	As before	Run	Low L	fracs.	Lt tan & grn C Arg. w/
												minor gar grading
												to Mb. Ser & Serp abun.
249.4	255.0	5.6		.07		Mb	Run	Minor diss & str. Cpy, Py	Run	30°, Hi L	fracs w/ clay	Lt. gr Mb w/ wh bands
												grading to Hf w/ clay, serp.
255.0	265.1	10.1		.67		Mb.	Run	Mod Cpy, Py, w/ Mn	Run	30°, 60°	fracs.	Wh Mb w/ gr banding,
									256.4	Low L	gg zone (2.0')	contains much clay, Serp
265.1	269.7	4.6		.25	33.6 @ 0.70	Mb-Hf.	265-267	Sp suls. Tr Cpy	267.2	30°	ct Mb-Hf.	Wh. Mb & Lt grn Hf. w/
							267-269.	Minor diss Cpy, Py, Mn	Run	20°	fracs. w/ clay & Serp.	Serp. & gar.
269.7	278.0	8.3		.80		Tt	Run	St. Cpy in v/lts & pods	269.7	Low L	ct Hf-Tt.	Lt grn to dk grn Tt w/
								Mod Fe Ox, Mn Ox.	Run	20°, 70°	fracs with hem.	Local Brn to maroon Tt.
												St. gar.
278.0	288.6	10.6		.84		Tt.	Run	As before	Run	70°	fracs w/ hem, gyp, CO_3	As before
288.6	294.0	5.4		Nil		Hf.	Run	Minor Fe Ox, Mn Ox, Py, Cp.	288.6	Low L	ct. Tt-Hf.	Wh Hf w/ St. Wbl. minor
												CO_3, gyp in fracs.

MIS-807-A 75

HOLE NO. M-17

Coordinates N 363,590.64 E 764,704.97

Dip Vert Bearing —

Date started 4/10/62 Completed 4/17/62

Collar Elevation 3215.6 Total Depth 531.0

GEOLOGIC LOG

MISSION UNIT

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DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
294.0	301.0	7.0		.11		Hf.	Run	Minor Fe Ox in fracs.	297.5	60°	Hf ct. wi 1.0' c Arg.	Wh Hf wi st Wol & 1.0'
									Run	Hi L	fracs wi Gyp & CO_3.	intercept of Ltgr c Arg.
												Med. Serp. Local gar.
301.0	311.0	10.0		.42	.42	Tt.	Run	Pods, vlts, diss Cpy, Py	301.7	35°	ct Hf-Tt.	Grn Tt wi local si, serp
								FeOx, Mn Ox, in fracs	Run	Hi L	fracs wi Hem, MnO_2, CO_3	ep. St. gar.
311.0	315.3	4.3		.10		Tt-Mb	Run	R. diss cpy, py. Minor Mn.	Run	60°	fracs wi Hem, MnOx,	Grn Tt grades to maroon
								FeOx, Mn Ox			chl., Gyp.	Tt. Last 2.0' of run Ltgr Mb.
									313.3	30°	Tt-Mb ct.	wi chl seams in fracs.
315.3	323.9	8.6		Nil		Mb	Run	Fe Ox on fracs, Minor	315.3	25°	0.3' chl seam.	Lt gr. to wh Mb wi chl,
								Py, Mn.	Run	Hi L	fracs wi FeOx, Cal,	serp.
323.9	333.9	10.0		.08		Mb	Run	Small vlts, pods Cpy, Py.	Run	Hi L	fracs wi Cal.	Lt gr to wh Mb, wi
								$MnCO_3$, Minor Fe Ox.	325.7	60°	Minor gg seam (0.3')	Local st. serp.
333.9	343.0	9.1		Nil		Mb	Run	WK diss Py. WK FeOx	Run	Hi L	fracs wi FeOx. Broken.	Lt gr Mb wi dk gr. banding
343.0	350.3	7.3		TR		Mb	Run	As before	Run	Hi L	As before	As before + Serp, chl.
350.3	360.2	9.9		Nil		Mb	Run	WK FeOx on fracs	Run	60°, Hi L	fracs wi Cal, FeOx.	dk Mb wi minor wh bands
360.2	370.3	10.1		Nil		Mb	Run	" " " "	Run	Hi L	" " " "	As before
370.3	374.3	4.0		Nil		Mb	Run	As before	Run		As before	As before + minor serp.
374.3	382.3	8.0		Nil		Mb	Run	R. FeOx, Py.	Run	30°, 60°	fracs & slips wi clay.	Grades Ltgr to gr. Mb wi st.
												serp from 374.3 to 376.0
382.3	391.7	9.4		Nil		Mb	Run	Minor Fe Ox.	Run		As before	Gr Mb wi 4" h banding, serp
391.7	399.7	8.0		Nil		Mb	Run	As before	Run	30°, Hi L	fracs wi cal, clay,	Gr Mb grades to wh Mb
											Serp.	wi local Wol & serp & clay
399.7	409.4	9.7		Nil		Mb		As before + minor Mn			As before + Talc.	Same
								& Py.				
409.4	419.7	10.3		Nil		Mb	Run	Minor Mn.	Run	30°	fracs wi serp, calc clays	Lt wh to gr Mb wi st.
												serp in pods throughout
												run.
419.7	429.4	9.7		Nil		Mb	Run	v wk diss Mn, Py, Tr. Cpy	Run.	30°	As before	As before.
429.4	436.5	7.1		2.33		Mb-Hf.	Top 3.3 ft.	Minor Cpy, Py in pods	432.7	Low L	Mb-Hf ct.	first 3.3 ft. As before
							432.7 ↓	St Cpy in pods & vlts.	Run	30°, 60°	fracs wi Serp, Cpy, CO_3	Remainder wh Hf wi Serp
								Tr Mn.			Grn. gar.	& talc, local gar.
436.5	444.8	8.3		1.49		Hf	Run	vlts, pods wi st Cpy, Py.	Run.	30°, 60	fracs & slips wi Serp.	wh. Hf wi 2.5' intercept
					26.7 @ 1.58						& Talc.	of Serp. Mb, Hf contain
												Gar in last 0.3' of run.

MIS-807-A 75

HOLE NO. M-17

Coordinates N 363,590.64 E 764,704.97

Dip Vert Bearing —

Date started 4/10/62 Completed 4/13/62

Collar Elevation 3215.6 Total Depth 531.0

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
444.8	449.9	5.1		.93		Hf-Mb	Hf.	diss cpy, py in vlts, & pods	446.0	Hor.	qz w/ st. cpy. (0.4')	First 1.2 ft wh Hf w/
							Mb	Barren w/ minor Serp.	446.4	Hor.	Hf - Mb ct.	Gar, Serp, clays. Rest
									Run	Low L	fracs	of run barren Gr. Mb.
✓ 449.9	456.1	6.2		1.37		Hf	Run	vlts cpy, Py, Tr Moly	450.0	30°	Mb-Hf ct.	wh Hf w/ local st. Gar.
									Run	30°, 60°	fracs & slips	minor Serp.
456.1	468.4	12.3		Nil		Mb	Run	v. wk Mn.	Run	30°, 60°	fracs w/ clays, Serp.	Lt. Gr. Mb. Hf-Mb ct @ 456.3
468.4	480.4	12.0		Nil		Mb	Run	Minor Py on fracs, Tr. Mn.	Run		As before	wh Mb Grades to gr Mb.
480.4	486.7	6.3		Nil		Mb	Run	Minor Py w/ Tr cpy(?), Mn.	Run	50°-60°	fracs w/ minor qz, Serp.	Gr Mb w/ local Hf near fracs
486.7	495.0	8.3		Nil		Mb	Run	As before	Run	Hi L	fracs & slips w/ qz, st Serp.	Gr Mb grades to wh Mb w/ st.
												Serp, clay.
495.0	504.4	9.4		Nil		Mb	Run	Tr Suls.	Run	40°, 60°	fracs & slips w/ serp.	Wh Mb w/ Gr banding grades
												to gr Mb. w/ pods serp.
504.4	509.5	5.1		Nil		Mb	Run	As before	Run	30°	fracs & slips w/ st clays	wh Mb w/ st serp.
											& Serp.	Locally shattered
509.5	518.9	9.4		Nil		Mb	Run	Tr Suls.	512.0	Low L	qz zone + Bx	wh Mb grading to gr near
									Run	45°, 70°	fracs & slips w/ st clay	end of run w/ st. clay.
518.9	529.2	10.3		Nil		Mb	Run	Tr Suls.	Run	40°, 60°	fracs w/ serp, clay	Lt gr Mb w/ st serp zone
												from 522.5 ft. to end.
529.2	531.0	1.8		Nil		Mb	Run	Barren			As before	Lt gr to wh Mb w/ st
												clay.
	531.0	Bottom										

MIS-807-A 75

GEOLOGIC LOG

MISSION UNIT

HOLE NO. M-16

Coordinates N 362,969.64 E 764,710.31

Dip Vert. Bearing —

Date started 4/9/62 Completed 4/21/62

Collar Elevation 3227.3 Total Depth 492.1

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0	200.0					overburden						Cal cgl approx. 192.0'
200.0	224.7					Cal Cgl			224.7	20°	Cal. Cgl - Bed Rock cont.	222' - 224.7 abundant Cu, Fe, & Mn oxides, Cu Sil.
224.7	229.3	4.6	2.08	2.48		S Arg	Run	Cu, Fe, Mn oxides, Cu Sil.	Run	50°, 70°	Fracs w/ Fe ox, Cu Sil.	Lt tan to grn Arg. w/ chl. & epidote minor CO_3
229.3	233.2	3.9	1.10	1.71	1.73 Total } 1.37 NS	S. Arg	Run 233.1	Cu Fe Mn oxides, Cu Sil, 10.0' Nat. Cu.	Run	50°, 70°	Fracs w/ Fe, Mn, Cu ox, Cu Sil. minor chl	Lt tan to lt grn Arg w/ minor chl, epi. Base ox @ 233.2. Vuggy
233.2	238.2	5.0	.12	1.05		S. Arg	Run	St. Nat. Cu. in fracs. Minor diss Mn & py. Tr.	Run	30° 60°	Fracs w/ chl, serp, Nat Cu.	Grades Lt tan to gray Arg.
238.2	247.9	9.7		.03		S Arg	Run	Minor diss cpy, Vlts Py	Run	60 this	Fracs & slips w/ CO_3	Lt tan Arg. w/ minor Serp, Epidote & chl in first 1.0
247.9	258.6	10.7		.02		S. Arg.	Run	vlts py, Minor diss cp & py	Run	30°, 60°	Fracs w/ St. CO_3, Serp.	Lt tan to gray Arg.
258.6	269.0	10.4		.01		S. Arg	Run	vlts py Minor cp.	Run	Hi L	Fracs & slips w/ serp. & CO_3	As before
269.0	276.7	7.7		.07		Arg.	Run	Py in vlts, pods & minor diss. Tr cp., Mn	Run	25°, 70°	Fracs w/ hem, chl, serp. CO_3	Lt gray Arg. w/ zones of Feld. St. Si.
276.7	285.2	8.5		.10		Arg	Run	vlts Py.	Run		As before	Lt gr to grn & pK Arg. containing st feld & serp, St. Si.
285.2	296.7	11.5		.06		S Arg	Run	w/ cp, Mn, Py in vlts & minor diss.	Run Run	30°, 60°	Fracs w/ serp & py, CO_3 Highly broken	Lt. gr to pK Arg w/ Serp, CO_3, feld.
296.7	305.5	8.8		.10		S Arg.	Run	Minor vlts & diss py, cpy	Run	30°	fracs w/ st. gyp.	Lt gr. Arg. w/ gyp, Serp. & zones of st. CO_3
305.5	312.8	7.3		.10		S Arg	Run	As before	Run 310.5		As before St. broken zone ma'	Lt Gr to tan Arg w/ St. clays & CO_3.
312.8	322.9	10.1		.17		Arg.	Run	Minor vlts & diss cpy, Py. Minor Mn	Run	30°, Hi L	fracs w/ Py, St. serp., Rare cpy.	As before.
322.9	328.3	5.4		.20		Arg	Run	As before	Run	30°	Fracs & slips w/ Talc.	Same.
328.3	334.2	5.9		.20		Arg.		" "			As before	"
334.2	338.3	4.1		.13		Tf.	Run	vlts, pods cpy, Py, Hem.	Run	30° Hi L	fracs w/ hem, Mn ox. large vugs w/ serp.	Grn gar Tf w/ st CO_3. St Si in last ft. of run. St, Serp & chl.
338.3	348.3	10.0		.98	16.6 @ -0.88	Tf.	Run	vlts, pods cpy, Py, Mn. St. Hem. zones	Run	30°, 60°	fracs & slips w/ hem, cpy, Py, Serp, gyp.	As before.

MIS-807-A 75

HOLE NO. M-16

Coordinates N 362,969.64 E 764,710.31

Dip Vert Bearing —

Date started 4/9/62 Completed 4/21/62

Collar Elevation 3227.3 Total Depth 492.1

GEOLOGIC LOG

MISSION UNIT

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DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
348.3	354.9	6.6		.74		Tt-Hf.	Run	Vlts, pods of Cpy, Py Sph, Mn.	350.6	15°	ct Tt-Hf	Grn Gar Tt wi st. Cpy, Sph, Py. Lt gr to Wh Hf wi serp, Gyp. Wol.
									Run	25°, 70°	fracs, slips wi Hem, MnOx Gyp.	
354.9	364.8	9.9		.34		Hf	Run	Sph, Cpy, Py in minor vlts.	Run	30°, 60°	fracs wi st gyp, CO_3, Serp. & clays.	Hf Grades Lt gr to grn and pk wi st local serp & CO_3. St. Sil. Minor Wol.
364.8	373.6	8.8		.02		Hf(?)-Tt	Run	v weak Cpy, Py, sph. Minor $MnCO_3$ Hemon fracts.	371.0	Trans	Hf-Tt ct.	Lt PK Hf grading to Lt grn Tt wi CO_3, clays & Serp (St. Silicated Mb & Tt)
									Run.	60°, Hi L	fracs & slips wi Hem, Gyp, CO_3.	
373.6	377.1	3.5		.07		Tt.	Run	R. small pods Cpy, py. (3 seen on core) minor MnOx Hem.	Run	60°	fracs wi Hem, MnOx CO_3, Gyp.	Grn. Tt. wi st local serp CO_3, Gyp on fracts. Maroon Last 1.0' run.
377.1	385.7	8.6		Nil		Hf-Tt	Run	Hf barren, Minor diss Cpy, py in Tt. St. Hem	Run	Hi L	fracs wi st Hem, MnOx.	Lt Gr-Grn Hf grading to Maroon FeTt wi gar, serp, st CO_3, Local St. Sil.
385.7	395.4	9.7		.15		Tt-Hf	Run	Minor diss. Cpy, Py, Mn. Local st. Hem, MnOx	Run 392.9	Hi L Hor.	fracs wi Hem, Gyp, clay gg of clay in fract.	Grn Tt grading back & forth to Lt gr Hf, St CO_3, minor serp, st clay.
395.4	404.2	8.8		3.45	16.0 ②	Tt.	Run	St. Cpy in vlts, pods, diss wi Py, Hem.	Run	60°	fracs wi Cal, Hem, Diss Cpy, vlts Cpy.	Grn Tt wi st CO_3, Minor zones Hem, Cal, Serp.
404.2	407.8	3.6		4.90	3.25	Tt	Run	As before + St sph.	Run		As before	Same less Hem.
407.8	411.4	3.6		1.10		Hf	Run	Wk diss Cpy, Py, Sph, Mn	Run	Hi L	welded fracs.	Wh to Lt tan Hf wi local st silq CO_3.
							410.6	vlt Cpy.	Run	70°	Minor Hem in fracs.	
411.4	421.3	9.9		.20		Hf	Run	first 0.7' st sph. Remainder erratic pods & diss of Cpy, Py, Mn. Strs Hem.	Run	Hi L	fracs wi CO_3, Hem, MnOx.	Lt gr to wh Hf wi local st grn gar & minor CO_3. Occasional blebs of Serp.
421.3	426.1	4.8		.28		Hf-Mb	Hf	Mod sph wi wk Cpy, Py	423.8	75°	Hf-Mb ct.	Wh. Hf wi st Wol, Serp.
							Mb	Minor Hem in silt zones. Sp diss Cpy near ct.	425.0	70°	Vuggy frac zone wi ox, & st clays to end.	Lt gr. Mb wi st wh to gr clays in last 1.4' of run.
426.1	428.5	2.4		.06		Serp.-Mb	Run,	As for Mb before	426.1	Hor.	0.7' serp, soft clay.	Grn massive clay & Serp.
									Remainder	70°	Continued vuggy frac zone	As before in frac. zone.
428.5	438.5	10.0		.03		Mb	Run	Minor Sph, Mn, Cpy, Py	Run	Hor.	fracs.	Wh. Mb wi gr. banding.
438.5	443.0	4.5		1.04	1.04	Mb-Hf.	439.0	0.3 ft. massive Cpy, Py.	Run	Hi L	fracs wi Cpy, Py, Sph, Serp, Cal, Hem.	Lt gr Mb grading to a Hf wi gar. Al wi clay & Serp.
							Run.	St sph wi minor Cpy, Py, Mn in diss form				

MIS-807-A 75

HOLE NO. M-16

Coordinates N 362,969.64 E 764,710.31

Dip Vert. Bearing —

Date started 4/9/62 Completed 4/21/62

Collar Elevation 3227.3 Total Depth 492.1

GEOLOGIC LOG

MISSION UNIT

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DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
443.0	450.2	7.2		.04		Mb	Run.	Minor Sph, Cpy, Py, MnOx, Local St. Hem.	443.0 446.2	Hi L 45°	Hf-Mb at wi. st Hem Flt. wi bx, gg. st Hem Minor diss cpy, Py, MnOx.	Wh Mb grades to gr. wi minor Serp.
450.2	457.2	7.0		.10		Mb	Run	Wk diss Suls in Serp.	Run	30°, 45°	fracs & slips wi st clays & serp. minor smeared Sulfs	Gr Mb wi Local St. zones of Serp. & clay, Vuggy.
457.2	465.7	8.5		.10		Mb-Hf	Run	Tr. suls, in Minor Sph	Run.	30-50°	fracs & slips wi st. Serp.	Gr. Mb grades to wh & then to Lt. Hf wi St. Serp, Wal.
465.7	475.4	9.7		.27		Hf-Mb.	Run	Local St. zones Sph wi Minor diss Cpy, Py.	Run		As before	Lt Tan to grn Hf. wi intercepts of gr Mb. St. Serp.
475.4	482.1	6.7		1.50	1.50	Hf-Mb	476.2 Remainder	3.1' Cpy, Py in pods in Hf. Minor Suls in Mb.	Run.	Hi L	fracs wi cal, & Serp.	As before wi run ending in Lt. Mb, Hf contain grn gar
482.1	492.1	10.0		.02		Mb	Run.	Tr Suls in Serp, Minor Hem.	Run 483.1	Hi L 20°	As before + Hem. Flt wi st Serp, gg, bx & minor Hem.	Lt gr to wh Mb wi Serp
	492.1	Total Depth										

MIS-807-A 75

HOLE NO. M-15

Coordinates: N 363,578.70 E 764,959.91

Dip Vert Bearing —

Date started 9/2/62 Completed 4/10/62

Collar Elevation 3176.3 Total Depth 534.0

GEOLOGIC LOG

MISSION UNIT

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
0.0	165.0	165.0				Gravel						Rock bit
165.0	171.3	6.3				Calcgl						
171.3	181.9	10.6		.28		S. Arg	Run	Fe, mn ox, tr cu ox	Run	45°	Fracs, color changes	Black-banded buff S. arg, st frac w/ calcal uns, ints.
181.9	190.3	8.4		.11		S. Arg	Run	" " " "	Run	45°	qtz vlts, fracs	Buff S. arg w/ black ints
190.3	200.6	10.3		.12		S. Arg	Run 193.8-943 Run 1943-end	Fe, mn ox wk cup, nat cu local pk feld, ep vlt py, tr sph, cpy	Run	45-60°	qtz-feld, ep vlts	As before, w/ feld bands, local calc ints. Base ox 194.3'
200.6	207.4	6.8		.13		S. Arg	Run	vlt py	Run	45°	Fracs, slips	Black-buff S. arg w/ local qtz-feld rep
207.4	216.0	8.6		.16		S. Arg	Run	Vlt py, tr cpy, moly	Run	High v	qtz-sulf vlts	As before
216.0	224.8	8.8		.15		S. Arg	Run	" " " "	Run	60°	Shears, vugs w/ fe ox, calc.	Buff & black banded S. arg. w/ local qtz-feld, sil.
224.8	234.1	9.3		.14		S. Arg	Run	Vlt py, tr cpy	Run	35°	Sulf-feld-cp strs	Black-grn-pink banded. Local feld, ep, chl.
234.1	243.1	9.0		.17		Tt & Arg	Run	" " "	Run	35-40°	vts Tt & Arg	Alt ints. arg & Tt w/ chl, pk feld
243.1	251.0	7.9		.03		Tt	Run	vlt, diss py, tr cpy, moly	Run	50°	Hem, CO_2 vlts, slips	Tan Tt w/ qtz strs, soft zones w/ talc
251.0	261.1	10.1		Nil		Hf	Run	Minor vlt sulf	Run	70-90°	Slips w/ sulf gg	Grades to lt tan-grn hf w/ st talc & gar pats.
261.1	268.7	7.6		Nil		Hf	Run	Minor Sul's vlts	Run	55-70°	fracs & slips w/ Hem. & CO_2	Lt. tan to grn hf. with pats of gar., st. talc
268.7	274.5	5.8		.05		Hf	Run	Minor diss sulf	Run	50°	fracs w/ hem	Lt. tan to grn hf. w/ gar, talc & serp.
274.5	283.5	9.0		Nil		Hf.	Run	Barren except for sph at run end	Run	50°	fracs	Grades to white hf w/ st. wollastonite & talc. Local st. CO_2. Some gar.

MIS-807-A 75

HOLE NO. M-15

Coordinates: N 363,578.70 E 764,959.91

Dip Vert. Bearing —

Date started 4/2/62 Completed 4/10/62

Collar Elevation 3178.3 Total Depth 534.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
283.5	289.2	5.7		.80		Tt.	284.5	0.3' v/lt of sph & cp	Run	50°-70°	fracs & slips w/ Hem	grn Tt. w/ local SiO_2.
					27.7 @		Run	Minor Diss Sulf.			& Talc	St. CO_3 Hf - Tt. contact
												@ 283.5
289.2	293.0	3.8		1.05	1.08	Tt.	Run	Minor Diss Py, Cp, Mn.	Run	60°	fracs & slips w/ hem.	Grn Tt w/ CO_3
293.0	303.0	10.0		.64		Tt.	Run	Minor Diss & Pods of Cp, Py, Mn.	Run	60°	slips w/ hem, Mn	As Before + SiO_2.
											Gouge last 3' of run	
303.0	307.8	4.8		.86		Tt.	Run	Diss Cp & Py in small pods	Run	Low ∠	fracts w/ hem, Mn	grn Tt. w/ CO_3; Gouge in spots
307.8	311.2	3.4		3.20		Tt. - Mb	Run	St Cp & Py in v/lts, pods.	Run	Low ∠	fracts.	grn Tt. grades to Mb at
								St. Sph last 0.4' of run.		50°	Tt. Mb contact.	run end.
311.2	314.8	3.6		Nil		Mb	Run	Barren	Run	30°	Banding & Calcite seams.	wht Mb with grey to blk
												banding.
314.8	323.9	9.1		Nil		Mb	Run	As before	Run	30°	As before	As before but looking
												Banding in last 0.8' of run.
323.9	334.9	11.0		Nil		Mb	Run	Very Minor diss. Py	Run	30-60°	fracs w/ hem.	Grey white Mb w/ SiO_2 &
								blebs of Mn				Serp in seams & bands.
												Breaks across seams.
334.9	344.7	9.8		Nil		Mb	Run	Tr diss, v/lt sulf	Run	40-50°	slips, bx ints w/	DK grey mb w/ wh pats
											Fe ox	& strks.
344.7	354.7	10.0		Nil		Mb	Run	" " "	Run	30°	Color bands	Grey & wh mb w/
									Run	40-50	Slips w/ gg,	tan Fe-stained ints
354.7	364.7	10.0		Nil		Mb	Run	wk fe, mn ox	Run	30-40	Color bands, fe ox	Lt tan Fe-stained
											v/lts	mb w/ tr wal.
364.7	368.1	3.4		.03		Mb	Run	St. Fe ox	Run	30-40	Fe ox v/lts	Fe ox - banded wh
												mb.
368.1	375.2	7.1		3.45	3.45	Tt	Run	Pat, strs cpy, local	368.1	25°	ct. w/ Tt	Maroon & brn fe Tt.
								mass ints.	375.2	25°	ct w/ Mb	
									Run	Hgh ∠	Cal, fe ox vugs	
375.2	384.7	9.5		.10		Mb	Run	St. Fe ox				Fe ox - stained wh mb
												w/ hem vugs, cav.
384.7	394.7	10.0		Nil		Mb	Run	St fe ox, local mnox	Run	60°	qtz, cal v/lts.	As before
394.7	404.6	9.9		Nil		Mb	Run	Fe, mn ox	Run	30-40	Fracs, fe ox v/lts	As before
404.6	409.8	5.2		Nil		Mb	Run	" " "	Run	40°	Fracs, vugs	Tan mb w/ pot.
												strs qtz.
409.8	419.8	10.0		Nil		Mb	Run	" " "	Run	40°	" "	Tan mb w/ qtz, grades
												to grey mb ± 417.0

MIS-807-A 75

HOLE NO. M-15

Coordinates: N 363,578.70 E 764,959.91

Dip Vert. Bearing —

Date started 4/2/62 Completed 4/10/62

Collar Elevation 3178.3 Total Depth 534.0

GEOLOGIC LOG

MISSION UNIT

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
419.8	423.2	3.4		Nil		Mb	Run	Fe ox, tr mn ox	Run	40°	Fe ox vlts	Grey mb w/ Fe ox stain
423.2	433.4	10.2		Nil		Mb	Run	Few fe ox vlts	Run	low ∠	Fracs, wb cal vlts	wh-banded dk grey mb.
433.4	443.4	10.0		Nil		Mb	Run	Fe-mn ox, local $MnCO_3$				Grey-wh mb. w/ vuggy zones
443.4	454.7	11.3		Nil		Mb	Run	" " " "	Run	30°	Color bands	wh-banded grey mb w/ few vugs
454.7	464.8	10.1		Nil		Mb	Run	Fe-mn ox on fracs	Run	30-40°	Color bands, slips	Alt wh & grey mb, w/ pets, strs serp
464.8	472.4	7.6		Nil		Mb	Run	Minor vlt sulf	Run	35-40°	Serp-gg-sulf ints	lt. grey mb w/ st blue-grn serp
472.4	482.6	10.2		Nil		Mb	Run	" " "	Run	60-70°	Slips w/ talc, serp	Grey mb w/ local serp
482.6	489.9	7.3		Nil		Mb	Run	Minor vlt, diss sulf	Run	45°	Slips, fracs	wh mb w/ contort. ints serp, talc
489.9	499.2	9.3		Nil		Arg	Run	Sulf gg on slips	489.9-90.3 Run	40° 20-40°	Flt ct. w/ arg Slips, fracs	1.0' bx, gg, serp, sulf marks ct. w/ arg
499.2	504.0	4.8		Nil		Arg	Run	Few sulf vlts	Run	40°	Serp-sulf vlts	Grey-brn arg w/ strs serp, qtz
504.0	514.0	10.0		Nil		Arg	Run	" " "	Run	40-50°	Serp-talc-sulf vlts	Brn to grey-grn arg w/ st serp-talc
514.0	524.0	10.0		Nil		Arg	Run	" " "	Run	35°	Streaks, serp vlts	As before
524.0	534.0	10.0		Nil		Arg	Run	Diss, vlt py	Run	High ∠	Bx, frac, & serp strs	As before, w/ zones recmt bx, gg, & serp.
	Bottom											

MIS-807-A 75

HOLE NO. M-14

Coordinates N 363,266.38 E 764,976.55

Dip Vert Bearing —

Date started 3/30/62 Completed 4/9/62

Collar Elevation 3134.08 Total Depth 500.9

GEOLOGIC LOG

MISSION UNIT

DEPTH			% COPPER			ROCK	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average	TYPE	Depth	Description	Depth	Dip	Description	
0.0	120.0					Gravel & cgl						Rock pit
120.0	132.8	12.8				Col cgl						
132.8	142.2	9.4		.07		S. Arg	Run	Fe, mn ox	Run	High V	Fracs	EB at 136.7 in Coarse, grey S. Arg
142.2	150.9	8.7		.02		S. Arg	Run	Fe ox & diss py				Grey-brn S. arg
150.9	160.4	9.5		.03		S. Arg	Run	Fe ox, so4, diss py	Run	70°	Fracs w/ clay, ser	Brn S. arg
160.4	169.8	9.4		Tr		S. Arg	Run	" " " "	Run	75-90°	" " " "	Brn S. arg w/ ser on fracs
169.8	177.1	7.3		Nil		S. Arg	to 173.0 Run	Fe ox, so4 Diss, vlt py	Run	40-50	Sulf gg, chy, co3 on slips	Brn S. arg w/ st alt ints. Base ox 173.0'
177.1	186.0	8.9		.04		S. Arg	Run Run	Tr vlt cpy, sph High v py vlts	Run	30-35°	Fracs	Brn S. arg w/ zones st ser, clay, alt.
186.0	190.6	4.6		Nil		S. Arg	Run	Py vlts	Run	60-70°	Slips w/ ser co3	As before
190.6	200.7	10.1		Nil		S. Arg	Run	Tr sulf	Run	45°	Parallel qtz vlts	Brn S. arg w/ ser on fracs
200.7	210.0	9.3		Nil		S. Arg	Run	Qtz-sulf vlts				Brn, grey S. arg
210.0	220.6	10.6		Nil		S. Arg	Run	Diss, vlt py				Grey to reddish-brn S. arg
220.6	229.2	8.6		Nil		S. Arg	Run	" " "	Run	High V	Slips w/ sulf gg clay, co3	Grey-brn S. arg
229.2	237.8	8.6		Nil		S. Arg	Run	40-50° py vlts				Grey brn S. arg w/ local feld-clay alt.
237.8	247.7	9.9		Nil		S. Arg	Run	Vlt py, tr sph, cpy	Run	30-40°	Fracs, slips, qtz-sulf vlts	As before
247.7	257.2	9.5		Nil		S. Arg						Grey S. arg w/ ints. st st co3, clay, feld
257.2	265.6	8.4		.04		S. Arg	Run	Diss, vlt py, tr cp.	Run	60-80°	Fracs, slips	Grey S. arg
265.6	275.8	10.2		.07		S. Arg	Run	Py vlts, tr cpy, sph	275.8	65°	Shear, w/ sulf gg	Grey-brn S. arg
275.8	283.6	7.8		.02		S. Arg	Run	" " " "	Run	50°	Fracs, slips	As before
283.6	292.1	8.5		.03		S. Arg	Run	Diss, vlt py, tr cpy	Run	60°	Fracs, qtz-sulf vlts	Brn S. arg
292.1	299.6	7.5		.05		S Arg	Run	" " "	Run	35°	Lam, color bands	Grey-brn S arg w/ local feld dev.

MIS-807-A 75

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-14

Coordinates: N 363,266.38 E 764,976.55

Dip Vert Bearing —

Date started 3/30/62 Completed 4/9/62

Collar Elevation 3134.08 Total Depth 500.9

DEPTH			% COPPER			ROCK	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average	TYPE	Depth	Description	Depth	Dip	Description	
299.6	309.6	10.0		.02		S. Arg	Run	Diss, v/f py	Run	50-60°	Fracs, slips	Brn S. arg w/ feld, ser alt.
309.6	318.8	9.2		.04		S. Arg	Run	" " "	Run	High v	CO_3 v/ts	Brn S. arg w/ qtz-ep at run end
318.8	323.9	5.1		.06		S. Arg	Run	" " "	Run	High v	Shears, gg	Brn S. arg, w/ st qtz-feld-clay alt last half run.
323.9	334.5	10.6		.12		C. Arg & Tt	Run	Diss, v/f py w/ Tr cpx, moly	324.1	35°	Ct. w/ c. arg, Tt	Alt. Tt & C arg int's to 326.0. Tt w/ local pk-feld, ep to 334.3
									334.3	45°	Change to arg thru 2" int calc arg.	
334.5	341.0	6.5		.02		S. Arg	Run	Diss, v/f py, tr cpx & moly	Run	50	Fracs, shears	Brn S. arg w/ wkly calc. int's.
341.0	349.2	8.2		.02		S. Arg	Run	" " " "	347.0-end	High v	Shears, gg & clay	As before, w/ zones st. feld-clay alt.
349.2	356.5	7.3		.11		S. Arg	Run	High v qtz-py-v/ts w/ tr cpx, moly	Run	35-48	Gyp v/ts	Brn S. arg w/ pk & grn st feld int's. (assoc. w/ st py)
356.5	364.8	8.3		.01		S. Arg	Run	Diss & v/f py, w/ minor cpx, sph	Run	High v	Sulf gg, gyp on fracs, shears	Br. S. arg
364.8	373.5	8.7		TR		S. Arg & Cgl	Run	" " " "	Run	50-88	Fracs, slips w/ sulf gg, gyp	Brn S. arg w/ cgl int's.
373.5	380.2	6.7		.05		S. Arg	Run	Diss, v/f py, tr cpx	377.7-382	30°	Sulf, feld, cp, chl	Tan S. arg w/ int's wkly calc, local grn sil, feld.
380.2	391.3	11.1		.10		S. Arg	Run	40° sulf v/ts	Run	High v	Fracs w/ CO_3	As before
391.3	400.0	8.7		.06		S. Arg	Run	Diss, v/f py	Run	"	Fracs w/ CO_3, ser	Grey-tan S. arg w/ zones st. feld, local grn sil.
400.0	411.2	11.2		.01		S. Arg	Run	" " "	Run	90°	Slips w/ sulf gg, CO_3, ser	As before
411.2	421.2	10.0		.01		S. Arg	Run	V/f py	Run	60-78	Gyp v/ts	Brn S. arg w/ minor pk feld, ser
421.2	428.6	7.4		.24		C. Arg	Run	St diss py w/ gal or moly	Run end	30° ±	ct. w/ Tt	Alt brn S. arg & C. arg w/ st sulf, pk feld

MIS-807-A 75

HOLE NO. M-14

Coordinates: N 363,266.38 E 764,976.55

Dip Vert Bearing —

Date started 3/30/62 Completed 4/9/62

Collar Elevation 3134.08 Total Depth 500.9

GEOLOGIC LOG

MISSION UNIT

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
428.6	438.8	10.2		.03		Tt-Hf	Run	Diss py, cpy	Run	30°	Color bands, fracs	Tan tt, grades to cream Hf ± 435.0,
438.8	442.8	4.0		.17		Hf	Run	" " "				As before
442.8	453.3	10.5		.15		Mb	Run	Minor vlt sulf	442.8-430		Int st. sulf, qtz, gg.	Dk grey & wh-banded mb w/serp
									Run	40°	Color bands, slips	
453.3	463.3	10.0		Nil		Mb	Run	" " "	"	"	" " "	Alt wh & dk grey mb
463.3	472.0	8.7		.01		Mb	Run	wk. diss & wlt sulf	Run	35-40	Color bands, serp vlts.	As before, w/ num serp vlts
472.0	478.2	6.2		Nil		Mb	Run	Minor vlt sulf	Run	30-40°	Serp-talc-sulf vlts	wh to grey mb w/ serp bands
478.2	488.4	10.2		Nil		Mb	Run	Tr vlt cpy, gal, py	Run	20-40°	serp-sulf gg on slips	Black-flecked grey mb w/ pats, strs serp.
488.4	492.0	3.6		Nil		Mb	Run	Tr. diss sulf				Grey-wh mottled mb w/ local st. serp
492.0	500.9	8.9		Nil		Arg	Run	Diss, vlt py	To 492.4	40-50°	zone of bx, clay, sulf gg.	Ct. at start of run w/ st. fltd, alt arg, st. qtz-feld-sec alt
	Bottom											

MIS-807-A 75

HOLE NO. M-13

Coordinates: N 362,811.33 E 764,979.66

Dip Vert Bearing _____

Date started 3/27/62 Completed 3/31/62

Collar Elevation 3136.1 Total Depth 322.3

GEOLOGIC LOG

MISSION UNIT

DEPTH			% COPPER			ROCK	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average	TYPE	Depth	Description	Depth	Dip	Description	
0.0	116.8	116.8				Gravel						Rock bit
116.8	123.4	6.6				Cal cgl						
123.4	132.0	8.6		.25		Arg	Run	Mn, fe ox, tr Cu ox, Mn CO_3	Run	45° High	Fracs, cal cgl ints qtz vlts	Grey-tan arg w/ mn ox, fe ox stain
132.0	140.2	8.0		.07		Arg	Run	Mn ox, CO_3 Fe ox, tr cu ox	Run	50°	Clay, gg ints	Grey arg w/ num soft, st. alt zones
140.2	146.8	6.6		.10		Arg	Run	40° qtz vlts w/ py, moly, cpy	Run	40°	Fracs, qtz vlts	Base ox ± 140.2 Dense grey-brn arg w/ local qtz-feld-ser.
146.8	155.0	8.2		.17		Arg	Run	40° qtz-py-moly vlts	149.8	70°	2" qtz-feld-ep-sulf	Grey to red-brn arg w/ oval qtz-sulf pots local st pt feld, ep.
155.0	165.0	10.0		.26		Arg	Run	vlt py, moly, tr cpy	Run	45-60 60-70	qtz-py-moly vlts Fracs, shears	Grey to red-brn arg w/ local st qtz-feld-ep, ser alt on fracs.
165.0	175.0	10.0		.23		S. Arg & Cgl	Run	Diss, vlt py, cpy Tr fluor	Run	40-50	Slips, qtz-sulf vlts	Grey s arg w/ zones st alt to clay-ser local cgl ints.
175.0	180.1	5.1		.03		S. Arg	Run	Diss, vlt py, tr cpy & fluor	Run	45°	Fracs, qtz-sulf vlts	Grey-brn s arg w/ local qtz-feld rextl.
180.1	187.5	7.4		.02		S. Arg	Run	Diss, vlt py, tr cpy & moly	Run	45-60	Fracs, slips, qtz-sulf vlts.	As before
187.5	195.0	7.5		.07		S. Arg	Run	" " "	Run	40-50	" " "	Grey-brn to 190.5, bleached, st alt & qtz-feld rextl to end
195.0	202.9	7.9		.07		S. Arg	Run	Diss, vlt py	Run	45	Sulf gg on slips, num clay, bx ints	Bleached, st feld-ser-clay alt
202.9	206.5	3.6		.01		S. Arg	Run	" " "				As before, w/ st clay & sulf gg
206.5	215.0	8.5		.01		S. Arg (cgl)?	Run	St. diss, vlt py tr cpy	Run	low ∠	Gg, bx or cgl zones	Mottled tan arg w/ v. st feld-ser-clay alt, sulf gg strs.
215.0	225.0	10.0		.12		S. Arg & Cgl	Run	vlt py, cpy	Run	40-50	qtz sulf vlts	Mottled tan-brn s. arg w/ cgl ints.

MIS-807-A 75

HOLE NO. M-13

Coordinates N 362,811.33 E 764,977.66

Dip Vert Bearing —

Date started _____ Completed _____

Collar Elevation 3136.1 Total Depth 322.3

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
225.0	235.0	10.0		.20		S. Arg	Run	Vlt py, cpy	Run	40°	Fracs, qtz-sulf vlts	Grey-brn s. arg local st fold-clay
235.0	245.0	10.0		.39		S. Arg	Run	Diss, vlt py, cpy Tr tet	Run	40-60°	Fracs, qtz-sulf vlts	Grey-tan s. arg
245.0	251.9	6.9		1.06		Tt	Run	Pat, strs py, cpy local st moly	Run	50-70	Slips w/ chl, hem CO_3	Grades at 246.0' to grn-tan tt w/ st. chl
251.9	262.5	10.6		.20		Tt	Run	Diss, vlt py, cpy, moly (wk)	Run	60-80°	Slips, fracs, CO_3 vlts	Change at start to dense, silic, hem str tt. Maroon-gray col.
262.5	268.0	5.5		1.93	1.86	Tt	Run	wk-med pat, strs cpy	Run	70°	qtz-CO_3 vlts	As before
268.0	276.1	8.1		2.04		Tt	Run	Pat, strs cpy	Run	60-70°	Fracs, qtz vlts	Fe Tt as before, w/ num st. cpy ints.
276.1	284.9	8.8		3.04		Tt	Run	Pat, 60-70° cpy vns	Run	"	qtz-CO_3 vlts	As before
284.9	294.5	9.6		1.10		Tt	Run	Decrease in cpy, increase in sph	To 286.7	40-50°	Banding in qtz-hem-jar	Fe Tt w/ local st qtz-CO_3
294.5	301.3	6.8		4.55		Tt	Run	Dear-mass qtz-cpy-sph	299.3-end	90°	Fracs, CO_3 vlts qtz-hem-sulf cmt bx.	Fe tt w/ zones mass qtz-hem-sulf
301.3	304.5	3.2		.16		Mb	To 302.8	Sph-py-moly	To 302.0		Bx, as before	Silf Mb, wh to grey w/ ints st hem-qtz. White Mb w/ minor serp hem
304.5	314.5	10.0		.08		Mb	Run	High v qtz-cpy-sph vlts				
314.5	322.3 Bottom	7.8		Nil		Mb	Run	Tr sulf	Run	30-35°	Cotton bands	Grades to grey s wh banded mb at 317.5

MIS-807-A 75

HOLE NO. M-12

GEOLOGIC LOG
MISSION UNIT

Coordinates: N 363,133.24 E 765,224.08
Dip 70° Bearing —
Date started 3/17/62 Completed 3/27/62
Collar Elevation 3096.9 Total Depth 457.3

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	85.0	85.0				Gravel						Rock bit
85.0	96.8	11.8				Qtzite						
96.8	105.0	8.2		.12		S. Arg	Run	5% Fe ox. dissem 70°	Run	Low	Fracs, shears	Fe-stained grey-bro arg.
								1" salt vn.				
							Run	Fe, Po ox.				
105.0	113.5	8.5		.07		S. Arg	Run	" "				Badly broken
113.5	120.8	7.3		.03		S. Arg	Run	Fe ox. - salt wks	Run	60-90°	Fracs, shears	Grey-buff S. arg
120.8	128.2	7.4		.03		S. Arg	Run	" " "	Run	"	" " salt wks	Grey-buff S. arg w/ clay-ser alt
128.2	134.9	6.7		.02		S. Arg	Run	Diss. salt py	Run	Med	Shears, salt wks	Base ox ± 128.2. Grey-bro S. arg w/ local Fe-ox - sericite
134.9	142.2	7.3		.03		S. Arg	Run	" " "	Run	Vert	Shears, salt wks	As before
142.2	150.0	7.8		.03		S. Arg	"	" " "	Run	50-60 Low	Fracs, qtz-ser salt wks	Bro S. arg w/ qtz-fold bands, ser
150.0	158.0	8.0		.04		S. Arg	Run	" "	Run	40-50 30°	Fracs qtz-fold bands	Bro S. arg, as above
158.0	167.2	9.2		.03		S. Arg	Run	Diss. salt py	Run	High	Slips w/ qtz-veins	Grey to dk bro S. arg w/ ser, talc
167.2	174.0	6.8		.02		S. Arg	Run	Diss. salt py	Run	40-60°	Fracs	Grey-bro S. arg, ser on shear, fracs
174.0	177.2	3.2		.02		S. Arg	Run	" "				As before
177.2	185.0	7.8		.02		S. Arg	Run	" " salt wks	Run	30-60	Fracs, shears	Grey-bro to dk bro S. arg
185.0	194.0	9.0		.02		S. Arg	Run	" " "	Run	Med	Fracs	As before
194.0	201.2	7.2		.01		S. Arg	Run	Diss. salt py	Run	Med	Salt wks, shears	Bro S. arg w/ qtz-fold bands, qtz
201.2	211.1	9.9		TR		S. Arg	Run	" " "	Run	60°	Salt wks, qtz-fold bands	Grey-bro S. arg w/ qtz-fold bands, qtz-fold, local ser
211.1	221.3	10.2		TR		S. Arg	Run	" " "	Run	Med	Fracs, qtz-fold wks	Bro S. arg w/ qtz-fold, ser
221.3	226.9	5.6		TR		S. Arg	Run		Run	60-90°	Fracs, qtz-salt wks	Bro S. arg, local ser
226.9	234.7	7.8		TR		S. Arg	Run	" " "	Run	"	" "	Bro S. arg w/ qtz-fold, qtz veins

MIS-B07-A 75

GEOLOGIC LOG
MISSION UNIT

HOLE NO 19-12
Coordinates N 363,123.24 E 765,221.08
Dip 90° Bearing —
Date started 5/12/62 Completed 3/27/62
Collar Elevation 3098.0 Total Depth 447.3

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
234.7	245.8	11.1		TR		S. Arg	Run	vlt & diss. py, trcp	Run	30-70°	Fracs, qtz-sulf vlts	Purple-brn s. arg w/ white qtz-feld bands
245.9	251.9	6.1		TR		S. Arg	"	" " "	249.7-end	40-60°	Ser, gg on shears	As above to 249.7, mottled qtz-feld-ser arg rock to end
251.9	261.1	9.2		Nil		S. Arg	"	vlt py, trcpy	Run	60-70°	Fracs, qtz-sulf vlts	Grey-brn s. arg
261.1	268.2	7.1		.04		S. Arg	Run	vlt py	Run	"	" " "	As before, w/ qtz-feld, ser alt
268.2	274.0	5.8		TR		S. Arg	Run	vlt, diss py	Run	60-90	Slips, sulf vlts	Brn s. arg w/ qtz-feld bands, st ser
274.0	284.0	10.0		.01		S. Arg	Run	vlt & diss py	Run	60-90	Shears, qtz-feld-ser vlts	Lt. to dk. brn s. arg w/ qtz-feld bands, ser
284.0	294.0	10.0		TR		S. Arg	Run	Diss & vlt py, trcpy	Run	50-60	Fracs, qtz-feld bands w/ sulf	As before
294.0	304.0	10.0		TR		S. Arg	Run	" " " "	300.8-304.0	45°	St shears, sulf veg, alt.	Blk-grey s. arg, st. feld, ser, clay 300 end
304.0	311.2	7.2		TR		S. Arg	Run	Diss, vlt py	Run	50-60°	Fracs, shears	Lt grey-brn s. arg w/ feld & poss act.
311.2	313.0	1.8		TR		S. Arg			Run	50-60°	Fracs, sulf gg	Comp. broken, frac. st. ser, clay, sulf gg
313.0	314.3	1.3		TR		S. Arg						As before
314.3	324.8	10.5		.02		S. Arg	Run	Diss, vlt py	Run	60-90°	Qtz-$CaCO_3$ vlts	Lt. grey-buff s. arg. w/ qtz, $CaCO_3$ vlts
324.8	335.3	10.5		.03		S. Arg	Run	" " "	326.3-326.0	40°	Bx of qtz-feld rock	Brn s. arg, local ser & $CaCO_3$
335.3	343.0	7.7		TR		S. Arg	Run	Diss, vlt py	Run	50-70°	$CaCO_3$, py vlts, slips	Lt-dk brn s. arg w/ ser, feld xtals, $CaCO_3$ vlts
343.0	349.3	6.3		.03		S. Arg	Run	Diss-vlt py, trcpy	Run	30°	Feld bands	Buff s. arg, w/ local st. pk-feld, poss act
										60-90°	Fracs, $CaCO_3$ vlts	
349.3	359.3	10.0		.04		S. Arg	Run	Minor vlt py				Buff-brn s. arg w/ zones st. pk feld
									Run	60-70°	Fracs, slips	
359.3	364.9	5.6		.44		S. Arg	363.9	Py, cpy, sphl vn	364.9	25°	Sulf vn, ot w/ Pb	Buff brn s. arg, w/ st. feld, cbl, last 2' run

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HOLE NO. M-12

Coordinates: N 363,133.24 E 765,221.08

Dip 90° Bearing —

Date started 3/17/62 Completed 3/27/62

Collar Elevation 3096.0 Total Depth 457.3

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
364.9	375.4	10.5		.19		Tz	Run	Diss, wk py, cpy, Tr moly	Run	30-40	Ea, gg-ints	Grn-tan Tz w/ local brecciated zones
375.4	379.6	4.2		.04		Tz	Run	Sulf gg ints	Run	25-30°	Gg, bx, alt bands	St alt, bx zone w/ qtz, serp, pk-fold, chl, sing, hem
379.6	383.3	3.7		.02		Mb	Run	Sulf nil				Cr. w/ serp banded white chalky Mb
383.3	393.1	9.8		TR		Mb	"	" "	Run	35°	Qtz wts	Grey mb w/ mosaic grn serp pats (¼")
										50-70	Fracs, col vugs	
393.1	398.6	5.5		TR		Mb	Run	Tr wk sulf	Run	30-40	Qtz, col vits	Grey mb w/ serp bands & chalk silic pats.
398.6	408.6	10.0		TR		Mb	Run	" " "	Run	50-60	Qtz-col (bx?) ints	Wh-grey mb, w/ local st serp, talc chips, slightly vuggy
									Run	25-30	Fracs, bands	
408.6	415.5	6.9		TR		Mb	Run	Tr py, cpy, sph	407.5-end to 408.9	30°	Gg, clay, bx	Wh, mb w/ minor silic, serp
										"	" "	
									Run	45°	Qtz, sulf wts	
415.5	424.2	8.7		Nil		Mb	Run	Tr wk py, cpy	Run	30-40	Qtz, sulf wts	Wh mb w/ silic, vuggy ints.
424.2	435.0	10.8		Nil		Arg & cgl	Run	wk diss sulf & sulf	424.2	45°	0.2' sulf gg, bx	Cr. w/ pale gray-grn to brn arg & cgl zones.
									Run	± 30°	Poss. bedding	
									Run	50-70°	Slips w/ sulf gg	
435.0	439.9	4.9		Nil		Arg, cgl	Run	" " " "	Run	"	" "	As before
439.9	450.0	10.1		Nil		cgl, arg	Run	wk vit sulf	Run	35°	Bedding (?)	" "
										40-70	Fracs, slips	
450.0	457.3	7.3		Nil		Cgl, arg	Run	" " "	Run	30°	Bedding (?)	Dirty cgl w/ 1" sub-rounded frags
	Bottom											

HOLE NO. M-11

Coordinates: N 363,132.33 E 765,471.26

Dip 90° Bearing —

Date started 3/17/62 Completed 3/29/62

Collar Elevation 3092.1 Total Depth 991.6

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	80.0	80.0				Gravel						Rock bit
80.0	89.1	9.1				Cal cgl						
89.1	96.4	7.3				Cal cgl						
96.4	103.7	7.3		0.13		Arg	Run	Fe, Mn ox	Run 100.5	60°	st frac, cal cgl wits Tale vn (1/4")	Ban. weath grey arg
103.7	107.4	3.7		0.31		Arg	Run	Fe, Mn ox, tr Cu ox	103.9	40°	± 1" int tale	Stained grey-blk arg w/ local feld
107.4	116.1	8.7		0.16		S. Arg	Run	Diss, wit py	Run	30° 60-70°	Fracs Py wits	Base ox 107.4. Grey s. arg, minor feld, sp
116.1	123.0	6.9		0.09		S. Arg	Run	Diss, wit py, tr cpy, sph.	Run Run	65-70 60-30°	shears, Sulf wits	Grey s. arg w/ local pk. feld alt
123.0	133.5	10.5		0.08		S. Arg	Run	Diss, wit py, tr cpy	Run	60-90	Shears, sulf wits	Grey s. arg w/ mod qtz-feld rep, ser alt
133.5	143.5	10.0		0.16		S. Arg	Run	" " "	137.5 Run	70° 60-70°	1" qtz-sulf cmt bx shears, sulf wits	Grey-buff s. arg w/ qtz-feld-ser
143.5	153.2	9.7		0.08		S. Arg	Run	" " "	"	"	" "	Grey to buff pink, alt as above
153.2	164.5	11.3		0.09		S. Arg	153.2-574	st diss, wit py, tr moly in qtz-feld zone	Run 153.2-574	60-90 50-60°	Shears, sulf wits lim ts on feld, sulf zone	Grey s. arg
164.5	170.3	5.8		0.05		S. Arg	Run To 166.0	60° py vns qtz-feld-py-moly str	Run	50-60	Fracs, shears	Grey s. arg
170.3	175.3	5.0		0.10		S. Arg	Run	Diss, wit py, tr fluor	173.3	80°	qtz-feld-py-gg	Grey s. arg, st qtz rexl, ser alt
175.3	181.4	6.1		0.25		S. Arg	175.5-end	strs, ints py, gg.	177.5-end	55°	Gg ints, shears	last half run badly frac, st qtz-feld w/ fluor, mass sulf gg
181.4	190.6	9.2		0.16		S. Arg	Run	High v qtz-feld, py-cpy vns.	Run	40-60	Fracs	Grey s. arg w/ st qtz-feld rexl.
190.6	199.0	8.4		0.05		S. Arg	Run	" " " " Tr cpy				Grey-brn s. arg, w/ st frac, qtz-feld.
199.0	208.0	9.0		0.09		S. Arg	Run	50-70° qtz-py wits Tr fluor	Run	60-90	Fracs, slips	Grey-buff s. arg w/ st qtz-feld, st frac
208.0	215.2	7.2		0.01		S. Arg	Run	st wit py	Run	50-60	Sulf-qtz-feld bands	Grey to purple-brn w/ recent frac or bx ints.

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HOLE NO. M-11

Coordinates N 363,122.33 E 700,471.26

Dip 90° Bearing ——

Date started 3/17/62 Completed 4/2/62

Collar Elevation 3092.1 Total Depth 491.6

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
215.2	228.8	13.6		0.07		S. Arg	Run	trace gtz-py wlts	Run	High	Suff wlts, slips	[illegible]
228.8	237.2	8.6		0.11		S. Arg	Run	" " "	Run	"	" " "	[illegible]
237.2	241.0	7.2		0.42		S. Arg	Run	1% py wlts				Aft [illegible]
241.0	249.0	8.0		0.03		S. Arg	Run	[illegible]	Run	45,90	Fracs, slips	Green tan [illegible]
249.0	256.9	7.9		0.07		S. Arg	Run	wlt py	Run	50-70	Fracs, slips, gtz-fold-suff wlts	Grey-tan arg w/ pat stks gtz-fill
256.9	261.0	4.1		0.04		Ep, bar	Run	[illegible] w/ tr cpy, moly		60°	Qtz, start [illegible] of run	Ep-qtz rock w/ qtz bands
261.0	270.6	9.6		0.26		S. Arg	Run	45-60 py wlts, minor cpy	Run	50-70	Slips, suff wlts	[illegible]
							269.0-end	70% qtz-fold-py & cpy wlts				
270.6	273.9	3.3		0.32		Tt	Run	Wlt disc py	Run	High	Qtz cpy wlts	Ten ft w/ pat cpy, pr fold
273.9	279.6	5.7		0.14		S. Arg	Run	Wlt py to moly	Run	35-50	Qtz-fold bands	Grades to grey-pk S. arg. St [illegible] fold aft.
									Run	High	Suff wlts	
279.6	286.2	6.6		0.26		S. Arg	Run	" " " cpy	Run	40°	Fracs, slips, qtz-suff wlts	Grey S. arg w/ local pk fold
286.2	286.3	10.1		1.35		HF	Run	St to mass qtz-py	295.0-end	30°	Slip, suff wlts	Lt. grn [illegible] w/ minor arg, pk fold, chl
296.3	305.9	9.6		1.55		HF	Run	Mod mass py w/ sub mag & cpy	304.4-end	25-35°	chl bx, hem, qg zone	Blue-green [illegible] blue fibrous sil & suff in coat [illegible] & stks. St. chl, hem, qg at end
305.9	319.6	8.7		3.50		HF	305.9-end	St to mass py & cpy ints.	Run	25-40	Qg, chl, bx zones	Hole was [illegible] at 305.9 [illegible] suff qg, minor gyr to end

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-11
Coordinates N 363,132.33 E 765,471.26
Dip 90° Bearing —
Date started 3/7/62 Completed 3/29/62
Collar Elevation 3092.1 Total Depth 491.6

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
317.6	320.4	5.3		.14		Tt	317.2 Run	1" moly va 30°-40° py, cpy w/ mod sph	Run	30-45°	Gg zones, sulf uns	Grad. change to soft, rotten tt w/ mod qtz, fe-bk, carb
320.4	331.5	11.1		.26	1.20	Tt	Run	wk py, cpy, hem	Run	40-50	qtz-sulf-gg v/ts	Very soft, rotten tt w/ st clay alt
331.5	340.5	9.0		1.20		Tt	Run	Py, cpy, mag pot & sfes	Run	40-50°	Slips, sulf uns	Blue-gry-black, w/ blue sil & sulf after 332.0
340.5	345.3	4.8		.11		Tt, Hf	Run	Sulf & gyp, v/ts	Run	18-20°	Fracs, sulf gg slips	Flat ct at start of run w/ mixed tt & mod bf - local talc
345.3	353.7	8.4		.44		Hf	Run	Diss & v/t cpy, sph	Run	40-60	Fracs, sulf gg slips	Mod bf w/ talc-serp, cpy, qtz rock 346.8-347.5
353.7	363.7	10.0		.03		Hf	Run	" " " "	Run	30-40	Slips, sulf v/ts	White mod bf w/ silic zones
363.7	369.2	5.5		.02		Hf, Mb	Run	wk v/t & diss " "	Run	15-20	Fracs, slips	Mixed zones mod bf & mb
369.2	379.2	10.0		Nil		Mb	Run	Tr diss sulf	Run	20-25	Color, serp bands	Grades at start to grey-white coarse xtal mb w/ reg fine serp bands
379.2	389.3	10.1		Nil		Mb	Run	" " "	Run	"	" " "	Grey-white mb w/ serp & silic zones
389.3	398.9	9.6		Nil		Mb	Run	Tr v/t diss sulf	Run	30-40°	Slips w/ talc	White mb w/ pale blue serp.
398.9	404.9	6.0		.08		Mb-Aq	Run	" " " "	401.0		Good ct w/ aq	Serp, gg, qtz zone to 401.0. Brk aq w/ serp to end
404.9	414.3	9.4		.05		Aq-Hf	Run	Pot, v/ts py, cpy	411.5	60°	Flt zone (2") w/ fe ox, gg, cal	Bro aq w/ pot bf to 411.5. Hf to end
414.3	423.9	9.6		.01		Hf, Mb	Run	Tr diss, v/t sulf	Run	25-30°	Faint color bands	Grey mb w/ pot, sfes pale gen bf & bro aq(?)
							Run		Run	Highly	Vugs w/ Fe ox, cal	

HOLE NO. M-11

Coordinates: N 363,132.33 E 765,471.26

Dip 90° Bearing —

Date started 3/27/62 Completed 3/29/62

Collar Elevation 3092.1 Total Depth 491.6

GEOLOGIC LOG
MISSION UNIT

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
423.9	432.0	8.1		Nil		Tt	Run	wk diss sulf	423.9	30°	Grad ct across color banding	Grades at start of run to wh stkd grn-brn Tt.
									Run	Highly	qtz-feox wlts, vugs	
432.0	442.2	10.2		TR.		C.Arg.Hf	Run	Tr sulf	433.5-35.0	50-60°	zone of feox-col vugs, bx, clay	Grades at start to grey-grn Arg-hf w/ sulf zones & serp strs.
									Run	45-50°	Fracs, slips, qtz wlts	
442.2	452.4	10.2		TR		C.Arg.Hf	Run	Local cal-cpy strs	Run	60°	Fracs, qtz wlts	Serp-mottled grey-grn c.arg & Hf. w/ qtz strs, gar pats
									449.0-50.2	60°	Fe ox, cal vugs	
452.4	462.6	10.2		.09		C.Arg.Hf	Run	wk diss cpy	Run	50-60	qtz wlts, fracs	Pale grn-tan c.arg & hf, w/ local st serp & qtz-feld
462.6	465.1	2.5		.10		C.Arg.Tt	Run	wk diss cpy	463.7-?	70°	Vug w/ col, feox	Mixed c.arg & grn chl-gar Tt
465.1	473.7	8.6		.33		Tt-Qtzt	To 468.0	wk diss. py, c.py	Run	60-90°	qtz-cal wlts, vugs	Grn chl tt to ± 469.0 Grades to tan qtzt w/ lots hf.
473.7	480.0	6.3		.21		Qtzt.Hf	Run	wk diss cpy	473.7-74.7		Clay, cal cnt frags	Tan to wh qtzt w/ mottled hf zones
									Run	60-90°	Fracs, vugs	
480.0	485.9	5.9		.04		Qtzt-Arg	Run	Sulf nil	Run	45°	Fracs	Grey-wh qtzt-arg w/ ser-tale content
485.9	491.6	5.7		Nil		Arg-Cgl			Run	45-50	Fracs, slips w ser, clay alt.	Grey-grn qtzt-arg w/ purple-grey cgl zones.

MIS-807-A 75

HOLE NO. M-10

Coordinates N 362,970.89 E 766,404.18

Dip 90° Bearing ——

Date started 3/13/62 Completed 3/17/62

Collar Elevation 2894.4 Total Depth 200.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	13.0	13.0										Rock b.f
13.0	16.9	3.9	Nil	0.38		Tt, And	Tr 115.7	wk diss cpy				Grn-tan tt, and 115.7 - ranged
16.9	19.3	2.4		TR		Tt	Run	" " "	Run	45°	Fracs	Tt w/ local hem
19.3	28.6	9.3		0.18		Tt	Run	Pat, strs cpy, py	Run	55-70°	Hem, clay on slips	Tt w/ hem, local vugs
28.6	35.2	6.6		0.25		Tt	Run	" " " "	Run	65-70°	" " "	As above
								Tr poly near run end				
35.2	43.0	7.8		0.58	0.58	Tt	Run	Diss cpy, py	Run	60°	Qtz-hem vlts, slips	As above
							37.6	60° Qtz-cpy-sph vng				
43.0	48.6	5.6		0.14		Tt	Run	wk diss cpy, tr sph	Run	50-60	" " " "	Grn-tan tt w/ vugs, pat qtz, cas
48.6	58.3	9.7		0.16		Tt	Run	Diss cpy, py	Run	60°	Qtz-hem vlts	As before
									50.0-52.0	70°	Sol-lined vug	
58.3	67.4	9.1		0.78		Tt	65.6'	60° cpy vn	56.5-61.5		st alt & fer ex int	Grn-tan tt w/ vuggy, recent qz zones
							Run	wk-mod diss cpy	Run	50-70	Fracs, qtz hem vlts	
67.4	76.4	9.0		0.80		Tt	Run	Pat, strs py, cpy	Run	60°	Hem, clay slips	St alt fracs & bx, qz & vuggy vlts, local cp & pk fold
								Tr sph				
					0.83							
76.4	83.5	7.1		0.55		Tt	Run	Diss cpy, py	Run	50-60°	Fracs, hem slips	More comp, weaker alt & bx, st hem
83.5	91.1	7.6		0.80		Tt	Run	Diss cpy, py	Run	45°	Fracs	Tt w/ st hem, mod cp & pk fold
										60-70°	Hem slips	
91.1	99.4	8.3		1.18		Tt	Run	Pat, strs cpy, v st at run end	Run	45-60	Fracs, hem slips	Vuggy & alt to ±75 Dense, maroon-tan tt to end.
99.4	109.7	10.3		3.73		Tt	Run	Pat, strs cpy, py near mass ints.	Run	60°	Hem, qtz vlts	Maroon-tan tt, w/ local cp
109.7	116.0	6.3		1.75		Tt	Run	Pat, strs py, cpy	Run	40-50	Fracs, qtz vlts	Tan tt w/ minor hem, vugs, qtz
116.0	123.5	7.5		7.55		Tt	Run	Pat, strs, local mass cpy	Run	50-60°	Fracs, hem slips	As before
					6.54							
123.5	130.9	7.4		8.92		Tt	Run	V. st to mass cpy	Run	"	" " "	Tan tt w/ ints st qtz-fold rock
130.9	134.2	3.3		6.40		Tt	Run	Pat, strs cpy				Tan tt w/ qtz pat

MIS-807-A 75

HOLE NO. M-10

Coordinates N 362,970.89 E 766,404.18

Dip 90° Bearing ____

Date started 3/13/62 Completed ____

Collar Elevation 2894.4 Total Depth 200.0

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
134.2	144.2	10.0		10.00		G-E, Tt	Run 139.5-141.6	St. pat, strs cpy, Py Mass cpy	Run	45°	Fracs	Grn gtz-feld w/ sub sig Fe, Juggy cal zone cpy
144.2	154.2	10.0		1.80		Tt	Run	Pat, strs cpy, wkc thru run.	Run	45-60°	Fracs, hem slips	Tan tt w/ pat qtz
154.2	161.0	6.8		1.03		Tt	Run	Pat, diss cpy (mod)	Run	50-70°	qtz-co3 vlts, hem slips	Grn-tan tt w/ minor qtz, feld, co3 pat.
					2.13							
161.0	164.6	3.6		1.30		Tt-C Arg	Run	Diss py, cpy				Grn-tan tt grades thru run to c. arg w/ pk feld at end.
164.6	170.3	5.7		4.55		C Arg-Feld	Run	Pat, strs cpy w/ sph	Run	40-50°	Fracs, sulf bands	Dense, mottled color rock w/ st pk feld & cp.
170.3	175.2	4.9		TR		cgl	Run	Tr diss sulf	Run	50	color cgl bands	Grades at start of run to pk-grey mottled feld-qtz-cp alt. cgl.
175.2	185.3	10.1		TR		cgl, Arg	Run	Tr. diss. sulf	Run	45-60°	Fracs, slips w/ hole	Grey-buff cgl & arg w/ dark ints & local feld cp bands
185.3	195.2	9.9		0.13		cgl, Arg	Run	wk diss, vlt sulf	Run	40-50	Cgl bands, alt	Grey-buff cgl & arg w/ ints st feld-cp-seep-talc alt.
195.2	200.0 Bottom	4.8		TR		cgl, Arg	Run	Tr diss sulf	Run	50°	cgl bands	As before

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HOLE NO. M-9

Coordinates N 363,131.92 E 765,688.43

Dip 90° Bearing —

Date started 3/10/62 Completed 3/17/62

Collar Elevation 3068.6 Total Depth 393.5

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	62.6	62.6				Gravel						Rock bit
62.6	69.1	6.5				Cal cal		Tr cu ox				
69.1	73.0	3.9	.03	.11		Hf	Run	Mn ox dendrites				Oxidized Hf, cream to tan, w/ cal gl vns
73.0	83.2	10.2	.31	.53		Hf	Run	Fe, cu, mn ox in vlts & fracs 60°	Run	30-60	Fracs, qtz vlts	Cream-col hf w/ local fe, cu stain
83.2	91.5	8.3	.48	.61		Hf	Run	Mn ox dendrites, fe & cu ox after diss sulf & 60° vns	Run	30° 50-60°	Fracs Qtz vlts, slips	As above
					0.51 (0.38-NS)							
91.5	101.5	10.0	.36	.41		Hf	Run	Mn, fe, cu ox 60° oxid sulf vlts	Run	45-60	Qtz-cb, vlts	Cream-col hf, w/ wk gra cu ox stain, & mn ox dendrites
101.5	111.4	7.9	.01	.18		Hf	To 102.2 To end	Fe, mn, cu ox Diss, vlt sulf (wk)	Run 101.5-101.1	40-60 60°	Fracs, qtz vns Flt zone, w. sr alt, wgs, bx	Base ox 102.2' Changes to dense grey hf w/ talc, chlor alt
111.4	121.0	9.6		.22		Hf	Run	Wk diss sulf High v qtz, cpy, sph vlts	Run	60°	Fracs, qtz vlts	Mottled lt grey, gra w/ clay, minor sel
121.0	127.6	8.6		3.00	3.00	Hf	123.0-127.9	200c of vns, clay, gg & high v qtz cpy sph vns				Grey, tan to tan bf, w/ lots sl clay, alt fels
127.6	134.2	4.6		.41		Hf	Run	Diss, wk sulf	Run	40, 60	Fracs, slips	Lt grey bf w/ sr alt
134.2	141.9	7.7		.22		Hf	Run	60° qtz-sulf vlts	Run	40-60	" "	As above
141.9	148.0	6.1		.99		Hf	Run	Pot, cpy, cpy	Run	60°	Clay, gg, sulf zones	Tan bf, w/ sr alt, clay, gg (Talc-fels?)
148.0	154.2	6.2		.35		Hf	Run	Diss, sulf cpy	Run	40-60	Clay, qtz vlts	Grey-tan mottled bf w/ minor fels, gar
154.2	161.0	6.8		.16		Hf & Tt	Run	Diss sulf, 40° qtz-cpy vns	Run	30°	Fracs	Grey bf w/ some gar, some
					0.50							
161.0	168.6	7.6		.43		Hf & Tt	Run	" 45° " "	Run	35°	Fracs, slips	Grey, hf w/ some gar, clay, alt fels
168.6	176.5	7.9		.58		Tt	Run	Pot qtz-cpy	170.0-170	45°	Zone of brecc, mon	Change to tan tf, w/ fels & hem
176.5	183.4	6.9		.81		Tt	Run	High v qtz-sulf vlts				Tan tf, w. some & pulverized, clay matrix(?)
183.4	188.5	5.1		.63		Tt	184.9-188.4	Qtz-fels-sulf vn (70°)	Run	High v	Num mon, sulf gg slips	Seed tan tf w/ clay & sul fels

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HOLE NO. M-9

Coordinates N 363,131.92 E 765,688.43

Dip 90° Bearing —

Date started 3/10/62 Completed 3/17/62

Collar Elevation 3068.6 Total Depth 393.5

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
188.5	196.2	7.7		.18		Tt	Run	45°-60° qtz-cpy-sph-wb	Run	60-80°	Shear w/ hem, sulf gg	Change to more comp. gra-tan tt.
196.2	203.0	6.7		.24		Tt	Run	wk diss & wlt cpy, sph	"	"	" " "	Gray-tan tt, w/ local st hem, clay
203.0	213.1	10.1		.14		Tt	Run	" " " "	Run	55-60°	qtz vlts	As above, local
									Run	High v	Hem, clay slips	st zones andradite
213.1	219.0	5.9		1.50		Tt	217.5-end	Pat, stks cpy w/ sph	Run	Low v	Bx, clay, gg ints	Vuggy gra tt w/ gg,
									Run	60°	Cal vugs, hem slips	bx ints. Local st hem
219.0	223.8	4.8		1.98		Mb & Tt	220.8-223	Mass sph, cpy	Run	50-60°	qtz, cp, sulf vlts	horiz. ct at start of
					2.15		Run	Diss, wlt cpy, sph				run w/ grey-white mb.
												Tt 220.8 to end
223.8	233.2	9.4		2.65		HF & Tt	Run	Pat, stks cpy, (bn)	Run	50-60	qtz cp, hem vlts	White wol hf & gra
												tt, w/ local qtz-fold
233.2	243.3	10.1		2.38		HF-Mb	To 241.5	" " " "	Run	50-60°	Pre-min slips, bx	Wh-pk wol hf w/ minor
												gar & feld grades
												to grey mb @ 241.5
243.3	253.5	10.2		Nil		Mb, HF	Run	Nil	251.0	45°	Qtz-fold vn	Grey Mb w/ pat wol.
253.5	263.2	9.7		TR		Mb, HF	Run	Nil	Run	30-50	Fracs, slips	White Mb & wol, tr serp
263.2	270.4	7.2		.07		Mb, HF	Run	Tr	Run	60°	Vugs w/ cal, rock	Grey Mb & wol, minor
												serp & FeOx
270.4	280.4	10.0		.06		Mb, HF	Run	Nil	Run	0°	Fracs, wol seams	Lt grey Mb w/ ints
												serp & wol
280.4	290.4	10.0		TR		Mb, HF	Run	Nil	Run	20-30°	Fracs, color bands	Grey-wh Mb & wol,
												w/ local st silif
290.4	300.4	10.0		TR		Mb, HF	Run	Nil	Run	50-70°	Qtz, cal vlts	As above
300.4	305.4	5.0		.03		Mb, HF	Run	40-60° sulf vlts (wk)	Run	60°	Fracs, slips w/ gg	Grey-wh Mb & wol,
											& minor serp.	w/ dk grey pat silif ls.
305.4	310.2	4.8		TR		Mb, HF	Run	wk diss cpy, sph, py	Run	40-60	Slips, alt bands	Grey Mb & wol, w/
												minor sil.
310.2	321.3	11.1		Nil		HF, Mb	Run	wk diss & wlt cpy,	Run	40-60	Qtz vlts	Grey HF & Mb, w/ ints
								sph.		15°	color bands	Mod sil. Local mass wol
321.3	330.0	8.7		Nil		Mb	Run	Tr diss sulf	Run	15-30°	Color bands (bn?)	Blue-grey & wh banded
												Mb w/ local serp
330.0	339.5	9.5		Nil		Mb	Run	Tr diss sulf	Run	40-60°	Slips, fracs	Grey Mb w/ serp, talc
												st alt, gg at end.

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GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-9
Coordinates N 363,131.92 E 765,688.43
Dip 90° Bearing —
Date started 3/10/62 Completed 3/17/62
Collar Elevation 3086.6 Total Depth 393.5

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
339.5	349.0	9.5		Nil		Mb	Run	Tr diss sulf	348.8	30°	0.3' zone serp, gg pass bx.	Grey-wh mb w/ dk grey silt pot, minor serp & gnr.
									Run	30°	Frac, banding (bg)	
349.0	359.0	10.0		Nil		C. Arg	Run	Tr diss sulf	Run	?	Confused low-angle lamination, color banding	Change of start of run to hard, dense grey-buff arg or silt f ls. wkly calc. Minor serp & sil.
359.0	368.4	9.4		0.06		Hf, C. Arg	Run	Wk diss sulf, local bron	Run	30°	Clay, qtz-Co3 vits	change at 360.1 to lt grn hf w/ serp, calc sil. St. pk fold 366.3 to end
368.4	373.9	5.5		TR		Hf, Tt	Run	Tr diss sulf	368.4	60°	Flt zone, w/ Fe ox, bx, gg	Tan arg to 369.6. Zone of st chl, bron, co3
									369.6-373.2	60°, 30°	Hem, Co3, chl slips	Mag, gnr to 373.2
373.9	383.0	9.1		0.03		Tt, C. Arg	Run	Tr diss sulf	Run	30°	Color banding	Alt zones tt & grn C. Arg w/ pk fold
										Hole	Co3, bron vits	
383.0	393.5	10.5		Nil		C. Arg-Arg	To 386.4	Wk diss sulf	383.7-386.4	60°	Slips w/ gg, Co3 vns	C. Arg & Fold rock up to 386.4. Grades to lt grey-bro arg. Talc, Serp alt in arg
							386.4-end	Nil				

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HOLE NO. M-8

Coordinates N 363,434.10 E 765,705.59

Dip 90° Bearing —

Date started 3/5/62 Completed 3/10/62

Collar Elevation 3066.6 Total Depth 248.6

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	60.0					Gravel						Rock bit
60.0	68.4	8.4				Cal. Cyl			68.4	55°	Cyl-bedrock ct	
68.4	73.7	5.3	Nil	Nil		Mb	Run	Fe ox	Run	45-50°	Fracs, caliche filled ints.	Var. grey-tan-pink w/ caliche-filled fracs & cavities
73.7	82.0	8.3		Nil		Mb	Run	Fe, mn ox, poss $MnCO_3$	Run Run	40° 60-70	lam, ox vng slips, cal vugs	Tan-pink mb, clay at run end.
82.0	91.8	9.8		Nil		Mb	Run	" " " "	Run Run	45° 60-90	Lam, cal-clay ints. Vugs, bx-gg zones	Tan-wh-grey mb w/ pk-staining.
91.8	95.5	3.7		No core		clay gg?						No core rec. Prob clay, gg int.
95.5	103.2	7.7		Nil		Mb	102.0-end Run	30° py vlts Pink vng, stain-Mn CO_3	98.5 Run	40° 40-50	2" gg, bx int Fracs w/ Fe, mn ox	Pink-stained wh mb Base ox ± 102.0
103.2	110.5	7.3		Nil		Mb	103.2-end Run	50° py vlts Fe, mn ox, $MnCO_3$	Run 109.4-110.2	35° 35°	Fracs, fe ox bands Bx, gg zone	Pink-tan mb, par silif
110.5	119.8	9.3		0.06		Mb, Hf	Run	Rounded pat, curved strs py w/ minor cpy	Run		Intense contortion, local bx, mass py	Grades at start thru bl-banded wh mb to grn serp hf.
									Run	40-50	Banding, fracs	
119.8	129.8	10.0		0.12		Mb	Run	St. fe, mn ox to 128.0 ox. sulf vng @ 40-50°	Run Run	35° 60-65	Banding in grey mb Fracs, slips	Red-pink stained to 128.0. Grey mb to end
129.8	139.8	10.0		Tr		Mb	Run	St. fe, mn ox vlts, stain minor serp	Run	30-40°	Bands, fracs	wh-pink-tan mb w/ silif, contortion
139.8	149.8	10.0		Nil		Mb	To 143.5 149.0-end	Mn CO_3 vlts Py vlts	Run	45°	cal, serp bands & fracs	Pink & wh banded grey mb to 143.5'. Serp mb to end.
149.8	160.0	10.2		Nil		Mb	159.0-end	Pat py, serp	Run	60-70	Slips w/ talc local horiz. banding	wh-tan mb, local serp silif pat
160.0	165.5	5.5		2.23		Mb, Hf	160.6-end	40-50° st sph, cpy	160.6	50°	ct w/ hf, sulf zone	wh mb to 160.6, serp hf, gar, gg to end.
165.5	174.9	9.4		Nil		Serp Mb	Run	Diss, vlt sulf	Run 173.0-73.5	40-60° 60°	Slips, sulf vlts serp, talc, gg zone	ct at start of run w/ wh serp mb
174.9	181.8	6.9		3.39	1.77	Mb, Hf	Run Run	40° cpy, sph vns Pat cpy, sph (st)	174.9 Run Run	50° 50-60° 40°	ct w/ sulf zone Slips w/ gg Fracs, serp bands	ct at start of run. w/ grey st min mb. Serp, local feld, sil
181.8	189.0	7.2		2.83		Hf	Run	40° cpy, sph vns	Run	55°	Slips, fracs	Grey-grn hf w/ gar

HOLE NO. M-8

Coordinates: N 363,434.10 E 765,705.59

Dip 90° Bearing —

Date started 3/5/62 Completed 3/10/62

Collar Elevation 3066.6 Total Depth 248.6

GEOLOGIC LOG

MISSION UNIT

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
189.0	192.8	3.8		0.53		Hf & Tc	Run	Vn & diss sph, cpy	192.0	50	2" cal. lined cavity	Grn-tan Hf & Tc st. chl, cog 191.8 - end.
192.8	198.0	5.2		0.04		C. Arg, cgl	Run	Vlt, diss sulf	Run	35°	Color, alt banding	ct. ± start at run w/ grn calc cgl. St. pk fold 104.0 - 105.0. Grey tan cgl to end.
199.0	205.2	7.2		Nil		Arg & cgl	Run	Vlt, diss sulf st. cog, ser	Run Run	10° 40-50	Bed or alt bands Fracs, slips	Alt grey & brn arg w/ local cgl bands
205.2	216.1	10.9		Nil		Arg	Run	50-70° sulf, ser vlts	Run	10°	Bed or alt bands	Grey-brn arg, local st ser, sulf gg on slips
216.1	227.0	10.9		Nil		Arg	Run	Vlt, diss sulf	216.1-16.9 Run Run	40-50° 30° 45-60	Zone w/ st alt, gg, bx Alt, color bands Fracs	Grey brn arg w/ cgl or rexl ints.
227.0	234.7	7.7		Nil		Arg	Run	50-60° sulf vlts	Run	30-40°	Fracs, slips	Grey arg
234.7	241.2	6.5		Nil		Arg	Run	60° Qtz-sulf vlts				Dense grey arg, badly fractured, st ser
241.2	248.6 Bottom	7.4		Nil		Arg	Run	Vlt & diss sulf	241.2-16.0	40°	st. ser, gg, bx	Grey arg w/ st ser.

MIS-807-A 75

HOLE NO. M-7

Coordinates N 362,694.61 E 766,537.14

Dip 90° Bearing —

Date started 3/3/62 Completed

Collar Elevation 2890.5 Total Depth 304.2

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	7.0											Rock & Sil
7.0	15.0	8.0		0.10		Arg	Run	60-70 qtz-sulf vlts Tr gra fluor				Grey arg w/ st qtz-fold rex, ser & clay
15.0	24.0	9.0		0.08		Arg & cgl	Run	Diss, vlt sulf, tr fluor	Run	50-70	Slips w/ ser, clay	Red-streaked bro arg to 120'. Mottled cgl to end
24.0	33.4	9.4		0.25		Arg & Fp	26.6	50° cpy, py, tet vn	Run	30° High v	qtz vlts, close spaced slips w/ clay & gg	Lib to grey arg, w/ st fold, clay, ser to ±220 "Fp" to run end.
33.4	41.9	8.5		1.10	1.10	Fp	38.3-41.1	60° int cpy w/ fold, gra sil	Run	30°	Fracs	Fp rock w/ lots st fold, ser, clay
41.9	43.1	1.2		0.02		Fp	42.4-43.1	Diss, vlt py, tet	42.6-end		Badly fractured	As before
43.1	58.3	9.2		0.54	0.54	Arg(?)	Run	Diss, vlt cp, cpy, tet w/ st fold, sec tak alt	Run	70°	Fracs, slips, sulf vlts	Grades at ± 58.0' to a s. arg w/ st. alt lots
58.3	68.2	9.9		0.14		Arg(?)	Run	Vlt & diss sulf Tr fluor	Run 62.0-63.0	50-60 60°	Fracs, slips scar at 62 ser, clay, sulf, fold alt	Pale grey-bro arg or qtzt w/ pat rex fold
68.2	78.2	10.0		0.03		Arg(?)	Run	Tr sulf	Run 78.0	60-70 70°	Qtz-fold vlts Fold-sulf gg	Grey-tan arg or qtzt w/ st alt, rex
78.2	86.9	8.7		0.03		Arg(?)	Run	Moor diss sulf	Run 85.0-end	30-45 vert	Fracs, slips Frac, vugs	St alt grey-tan arg to t. Sil. Dk grn-bro arg w/ st serp-tale-ser to run end
86.9	93.7	6.8		0.41		Qtz-fold	Run	wk-mod diss py, cpy	Run	60-70	Fracs, cp vlts	Grades at start to a qtz-fold-cp-serp rock w/ pat gar, sil
93.7	99.2	5.5		0.48		Tt	Run	wk-mod diss py, cpy Tr moly	99.2	50°	ct w/ st t-arg(?)	Grades at start to grn-tan tt w/ sub qtz, fold, cp.
99.2	109.0	9.8		2.33		Arg(?)	100.4-101.5 To 106.6 106.6-end	Sil, hem int Diss sulf St to mass cpy, mod moly	109.0 Run	60° 60°	ct w/ tt Fracs, slips	Grey-tan qtzt(?) w/ st ser-fold alt to 106.6. St sulf, ser, gg to end.
109.0	114.9	5.0		1.25	1.37	Tt	Run	wk-mod diss cpy	Run	60°	qtz-cal vlts	Dense grn-tan tt, w/ qtz-calc hem vlts.

MIS-807-A 75

HOLE NO. M-7

Coordinates: N 362,694.61 E 766,537.14

Dip 90° Bearing —

Date started 3/3/62 Completed

Collar Elevation 2890.5 Total Depth 304.2

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
114.9	124.9	10.0		1.18		Tt	Run Run	Pat & strs cpy Local st. mly on fracs	Run 122.2-122.7	60° 60°	Hem, cal wts chl, hem, bx zone	Grn-tan tt w/ local st hem, chl, cal
124.9	131.8	6.9		0.80		Tt	Run Run	wk-mod diss cpy Local st mly	Run	60, 35°	Hem, chl, cal wts, slips	As before
131.8	141.8	10.0		1.95		Tt	Run	As before	Run	60, 90°	" " "	As before
141.8	149.9	7.1		0.86		Tt	Run	Diss cpy, py mly	Run Run	50-60 Highly	Fracs, hem-chl slips Qtz-cal vugs	Grn-tan tt w/ pat, strs qtz, cal.
149.9	154.4	5.5		2.83		Tt	Run	" " "	Run	60°	Hem, chl, cal slips	Grn-tan tt w/ num vugs, cavities
154.4	163.3	8.9		0.63		Tt	Run	Diss cpy, py - tr sph, mly	Run	60°	" " "	As before
163.3	166.0	2.7		3.75		?	Run	St-mass cpy, pass at 45°	Run	60-90°	qtz-cal vugs, hem alt on slips	Int. of qtz, cal, chl, bx, mass cpy. Obscure cts ± 45°
166.0	174.9	8.9		0.14		c.Arg-cgl	Run	Minor diss sulf	169.0-end	40°-50°	st alt cgl or bx	Frak & grn c.arg w/ st fold & ep. Ints dk grey-brn arg-cgl to end
174.9	185.0	10.1		Tr		cgl-bx	Run	Tr wk, diss sulf	Run	40-50°	Slips, alt bands	Alt lt & dk ints cgl or bx, w/ st fold-ser alt, cez wts
185.0	194.9	9.9		0.13		Arg	Run 194.8	Diss py, cpy 50° cpy vug	Run	50°	Fracs, slips	Change at 185.2 to grey-pink-maroon arg. Dense rock w/ fold text
194.9	201.9	7.0		0.03		Cgl-bx	Run	Tr diss sulf	Run Run Run	18-20° 40-50° Highly	Fracs Slips qtz, CO_3 wts	Dk grey-brn cgl or bx, increase frac & alt, ser, clay, CO_3
201.9	207.2	5.3		0.02		Cgl-bx	Run	Tr diss sulf	Run	35-40	Fracs, (gyp-tale) vns	Intensely frac & alt rock w/ fold, ser, tale, gyp, serp.
207.2	211.8	4.6		Tr		Arg	207.2	45° sulf vug, gg	Run	35-45°	Fracs, slips	Brn-buff arg. grades to dk-grey-brn 211.4'
211.8	217.3	5.5		Nil		Cgl-bx	Run	Tr diss sulf	Run	Highly	CO_3 wts, slips	Dk grey-brn, w/ st ser, CO_3. Intense frac
217.3	226.6	9.3		0.88		Tt	217.6-18.4 Run	70° cpy-py, CO_3 vn Diss py, cpy	217.3-17.6 Run	90° 40, 70°	chl hem zone Hem, CO_3 slips	Ct. at 217.3 w/ grn-tan tt, local st hem, CO_3

MIS-807-A 75

HOLE NO. M-7

Coordinates: N 362,694.61 E 766,537.14

Dip 90° Bearing —

Date started 3/3/62 Completed _____

Collar Elevation 2890.5 Total Depth 304.2

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
226.6	232.3	5.7		5.03		Tt	Run 227.4-228	Diss py, cpy v st cpy	• Run	55° 50-60°	cts. chl-sulf zone Fracs, slips	Grn-tan tt w/ qtz-chl-sulf int. 227.4-229.8, Pre-min. Alt.
232.3	237.3	5.0		0.71		Tt	Run	Diss, wk py, cpy	235.0-236.3	75°	chl bx, qtz-CO_2 wlts	Tt w/ hem, chl, qtz, CO_2
237.3	245.0	7.7		0.95	1.87	Tt	Run	Diss py, cpy	Run	High	qtz wlts, hem-chl slips	Grn-tan tt w/ many vugs, hem & chl
245.0	254.5	9.5		1.18		Tt	Run	Diss cpy, local st ints.	Run Run	70-90° 0-90°	qtz-CO_2-hem vugs Fracs, slips	Grades to maroon-tan to tt last half
254.5	264.7	10.2		1.85		Tt	Run	Pat py, cpy, qtz-CO_2 wlts	Run	60-90	qtz-CO_2 wlts	Fe tt to ± 257.0, st chl 261.0 to end
264.7	272.7	8.0		3.20		Qtz-feld	To 270.0	St. diss py, cpy	Run	70°	Vugs, fracs	Grades at ± 266.0 to qtz-feld w/ st sulf
272.7	282.2	9.5		0.03		Arg	Run	Decreasing diss sulf	Run	75-90°	Fracs, vugs	Grades at start to grey-buff dense arg w/ talc & pk feld zones
282.2	291.5	9.3		0.12		Arg	Run	wk wlt, diss sulf	Run	70-90°	Vugs, fracs, slips	Grey-buff arg w/ st ser, bodly frac.
291.5	298.5	7.0		0.08		Cgl	Run	Tr diss sulf	Run	50-90°	Gyp wlts	Lt grey-buff mottled cgl. w/ st ser, local feld text.
298.5	304.2 Bottom	5.7		Tr		Cgl	Run	wk diss sulf	Run	30-40°	Fracs	As above

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HOLE NO. 17-6

Coordinates N 362,918.67 E 766,475.01

Dip 90° Bearing ——

Date started 2/23/62 Completed 3/5/62

Collar Elevation 2892.3 Total Depth 243.6

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	10.0	10.0										Rock bit
10.0	18.6	8.6		0.05		And	Run	No sulf	142-150		Proj. of qtz-fold in and. dike	Dark grn and w/ wh col seg.
					-0.05							
18.6	28.5	9.9		0.05		And		"	28.5	70°	Ct w/ tt	As before
28.5	35.9	7.4		0.42		Tt	Run	Diss py, cpy mcly on slips	Run	40-55	Slips w/ hem, sulf gg	Grn-tan tt, w/ hem on slips
35.9	44.7	8.8		0.24		Tt	Run	Pat, stks qtz-fold-cpy, local mcly	Run	60-80°	Slips w/ hem, sulf gg	Grn-tan tt w st hem & chl
					-0.42							
44.7	53.0	8.3		0.55		Tt	Run	Diss & vlt cpy	Run	70°	Slips w/ hem, chl	As before
53.0	61.0	8.0		0.33		Tt	Run	Grs-py-cpy pat & vlts	Run	20-40	Slips w/ hem, chl, gg	Grn-tan tt, w/ st hem, chl & crushed ints
61.0	65.5	4.5		0.66		Tt	Run	Mod-st diss cpy, py	Run	60-70°	Slips w/ hem, chl	Red-streaked grn tt, w/ st hem, chl. Grandiar
65.5	73.8	8.3		1.10		Tt	Run	Pat, vns qtz, cpy, px	Run	50-60°	Hem slips	Grn-tan tt w/ hem, chl
73.8	83.8	10.0		0.52		Tt	Run	Diss cpy	Run	Hole	Hem slips	Grn-tan tt w/ bx. ints
83.8	92.4	8.6		1.24		Tt	Run	Qtz-fold-cpy pat, vns	88.8-end	85°	Pre-min flt	Grn-tan tt, denser at run end
92.4	98.8	6.4		1.04		Tt	94.6-96.6	st qtz-cpy	94.6-96.6	60°	Flt zone w/ bx, gg, sulf	Grn-tan tt w/ pat qtz-fold, st chl & hem
98.8	105.1	6.3		1.72		Tt	Run	local st py, cpy w/ pk fold & col	Run	50-60°	Qtz, col, hem, gg ints. somewhat vuggy	Grn-tan tt w/ pat fold, col, qtz, Hem, chl on slips
					-1.28							
105.1	115.5	10.4		0.70		Tt	Run	Diss py, cpy	Run	60°	Fracs, hem slips	Dense grn-tan tt w/ stks qtz-pk fold
							106.2-8.2	Qtz-fold cpy vn, 2"				
115.5	120.2	4.7		0.14		Tt bx	Run	Diss py, cpy, sulf gg				Bx w/ chl, sulf gg matrix. Cts appear 70°
120.2	128.5	8.3		1.56		Tt	124.4	60° cpy, sph, feld, qtz vn	128.3	40°	Sulf vn, ct w/ arg	Dense tt w/ pat pk fold. st chl
							Run	Diss, vlt sulf	Run	45°	Fracs, slips, sulf vlts	
128.5	137.2	8.7		3.28		Cgl-Fold & Tt	132.1-134.2	Diss, vlt cpy				Pk brn cgl to 132.1
							136.2-136.9	35°-90° mass cpy	136.9	40°	ct w/ Cgl	Alt w/ fold, ends 133.9 Act chl gor rock to 136.9
137.2	144.7	7.5		Tr		Cg (?)		Diss sulf last half run	Run	35, 65°	Fracs	Mottled maroon-buff-brn alt cgl. or bx
144.7	150.1	5.4		Nil		Cgl (?)	Run	Diss, vlt sulf	148.2	70°	Bx, gg zone	Gl. alt cgl or bx
									Run	55-60°	Fracs, slips	St ser & local fold

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HOLE NO. M-6

Coordinates N 362,928.62 E 766,475.03

Dip 90° Bearing _____

Date started 3/28/62 Completed 3/5/62

Collar Elevation 2842.3 Total Depth 243.6

GEOLOGIC LOG

MISSION UNIT

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
150.1	157.4	7.3		0.09		Cgl	Run	wk cpy, sulf gg	Run	50	Slips w/ ser, clay & sulf gg	Grey-pk-brn mottled cgl. Very st ser, clay w/ft. Shattered into.
157.4	162.2	4.8		Nil		Cgl	Run	Tr sulf	Run	45-60	Fracs, slips	As before
162.2	170.2	8.0		Nil		Cgl		" "	Run	60°	Fracs, slips	Local st ser, rexl
170.2	175.2	5.0		Nil		Cgl		" "	Run	35°	Pass bed	Becomes dense, flinty st qtz-fold rexl
175.2	184.6	9.4		Nil		Cgl		Tr sulf	Run	40-60	Fracs, slips	Brn-pink mottled. St ser, fold dev.
184.6	194.1	9.5		Nil		Cgl, arg	Run	wk diss sulf, sulf gg	Run	35°	Banding, arg-cgl lots	St pk fold to 187.0 Alt dk grey arg & cgl to run end
194.1	202.5	8.4		Tr		Arg & cgl	Run	wk diss py, cp	Run	45-60	Fracs	Arg w/ st pk in fold zones Strs cgl
202.5	212.0	9.5		Nil		Arg & cgl	Run	Tr diss sulf				Grey-brn arg w/ lots cgl. Local fold dev.
212.0	218.9	6.9		0.02		Arg & cgl	212.0-214.0 216.0-end	Diss & alt cpy, py Vert py ka	212.0-214.0 Run	40° 60°	Banding, alt Fracs, slips	St. pk fold, cp to 214.0 Brn arg & cgl to end
218.9	225.5	6.6		Nil		Arg & cgl	Run	Vert & 55° px w/ts, tr cp	Run	45°	Fracs, slips	Grey-brn arg. Ser stain on slips, pk fold in cgl
225.5	233.5	8.0		Nil		Cgl	Run	Tr diss, alt sulf	Run	40°	Bedding(?)	Brn-grey-pink cgl
233.5	238.1	4.6		Nil		Arg	Run	Diss sulf, sulf gg	Run	60°	Fracs, slips	Grey-tan mottled arg w/ st ser alt
238.1	243.6	5.5		Nil		Cgl	Run	Sulf gg on slips	Run	45°	Fracs, slips	Dk grey-brn cgl w/ ser, clay on slips
	Bottom											

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HOLE NO. M-5

Coordinates: N 362,621.62 E 766,583.96

Dip 90° Bearing —

Date started 2/23/62 Completed 3/3/62

Collar Elevation 2890.2 Total Depth 361.1

GEOLOGIC LOG

MISSION UNIT

M-5

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	5.5	5.5				Arg						Rockbit
5.5	9.2	3.7		.40		Arg	6.5	40° cpy vlt	Run	45°	Fracs	QF @ 6.5', Grey Arg
9.2	10.0	0.8										No Core rec.
10.0	14.6	4.6		Nil		Arg	Run	wk py	Run	30-45°	Fracs	
14.6	18.3	3.7		.14		Arg	16.1-18.3	Tr cpy				wk clay alt
18.3	25.8	7.5		.03		Arg	21.6-23.0	Tr cpy	Run	45-70°	Fracs	Minor clay alt
							18.3-20.0	Pat hem	24.6-25.2		Bx	Some sil in bx
25.8	30.8	5.0		.02		Arg	Run	Diss Sulf	Run	30°	Fracs, sulf gg	V. st. ser alt, w/ feld & sil in bx
30.8	38.0	7.2		.12		Arg	34.5-35.6	High v. int. py, cpy, tet	Run	25°	Fracs	Grey, s. arg w/ st. ser local feld, sil
38.0	42.4	4.4		.11		Arg	Run	50°-70° qtz-sulf vlts	38.0-38.6	70°	1" vug, sal gem frags	Becomes pur-grey arg w/ bleached int.
42.4	48.3	5.9		.01		Arg	Run	65° qtz-sulf vlts	Run	30°	Fracs	Pur-grey arg w/ local feld, sil dev.
48.3	53.7	5.4		.10		Arg	Run	Diss, vlt sulf	Run	45°	Fracs	Pur-grey arg
53.7	59.0	5.3		.41		Arg	Run	Mod py, & cpy, tet	Run	65°	Vugs, bx zones	Grey arg w/ local sil, st. ser alt
59.0	66.1	7.1		Tr.		Arg	Run	High ∠ qtz-sulf vlts	Run	35-45°	Fracs	Pur-grey arg, vuggy local st. crushing
66.1	77.2	11.1		0.07		Arg	Run	Qtz-sulf vlts	Run	50-60°	Fracs, slips	Pur-grey arg, local feld
77.2	84.4	7.2		0.09		Arg	Run	Qtz-sulf vlts	Run	45, 60°	Fracs, qtz vlts	Arg w/ st. qtz-pt feld alt, chl, bx at run end
84.4	93.5	9.1		3.50		Tt	84.4-86.0	V. st. cpy, py	84.4-84.7	40°	chl, bx, gg	Change at start of run to grn-tan tt.
							Run	Mod diss cpy, py	Run	50°	Hem, chl slips	
93.5	103.0	9.5		1.55		Tt	Run	Diss cpy, py local st. int.	Run	55-65°	Slips w/ hem	Grn-tan tt w/ hem, pat ep.
103.0	112.7	9.7		1.53		Tt	Run	45° 1/4"-1/2" py, cpy vns	Run	30-55°	Slips w/ hem	Grn-tan tt w/ hem, ep
112.7	121.2	8.5		5.43		Tt	114.1-114.5	45° int. mass cpy	Run	15-30°	Fracs, slips w/ hem, gg.	Tt w/ local st. qtz-pt feld-ep alt
							116.5-117.2			High ∠		
							Run	Diss, vlt cpy, minor sph, moly				
121.2	131.3	10.1		2.40		Tt	Run	Diss, vlt cpy, py w/ 45° int. mass sulf	Run	55-60°	Slips w/ hem	Grn-tan tt w/ hem, ep
131.3	141.3	10.0		3.55		Tt	Run	St. diss sulf, pat mass cpy, py. Minor sph	138.9	60	4" bx, gg int	Grn-tan tt w/ hem, ep.

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GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-5
Coordinates: N 362,621.62 E 766,583.96
Dip 90° Bearing —
Date started 2/23/62 Completed 3/3/62
Collar Elevation 2890.2 Total Depth 361.1

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
141.3	150.0	8.7		0.78		Tt	Run	wk-mod diss py, cpy	Run 149.3-end	40°	Fracs, poss bx int Bx, w/ chl, hem, sulf	Grn-tan tt, alt bx zones mottled
150.0	159.9	9.9		1.38		Tt	Run	wk-mod diss py, cpy w/ minor qtz, cp	Run	70°	Fracs	Pre-min bx to 153.7 Grn-tan tt to run end
159.9	168.9	9.0		1.48	-2.14	Tt(bx)	Run	Diss py, cpy	68.0	55°	Lower limit of bx	Essentially bx to 68.0 Groundmass sulf gg & rock flour. Frags to 1"
168.9	178.7	9.8		1.25		Qtz-feld	Run	45-60° qtz-cpy vlts st. cpy toward run end	Run	50-60°	Fracs	Grades at start of run to pink-grey qtz-feld rock w/ pat cp, sil
178.7	184.8	6.1		2.85		Tt	Run 178.7-182.0	45° cpy vlts Pat cpy, moly	Run	45°	Fracs, vug	Grades at run begin. to grn-tan tt.
184.8	194.2	9.4		1.20		Tt	Run	Num qtz-cpy vns (45°) Moly at 193.5'	184.8-186.2	45°	Pit zone w/ sulf gg, bx, st qtz-feld-cpy	Grn-tan tt w/ bent & bx feld-qtz ints.
194.2	204.0	9.8		2.53		Tt	Run	Pat & str cpy, py w/ local st moly	203.8 Run	35° 40-50	Ct w/ grey calc arg Fracs, qtz-feld-cp ints	Tt w/ pat, ints of grey calc arg, local pk feld & cp
204.0	210.8	6.8		0.46		C. Arg	Run	Diss py, cpy, moly	Run	40°	Fracs	Grey calc arg w/ zones pk feld & cp
210.8	215.5	4.7		Nil		Arg	Run	Sulf nil	Run 215.5	40° 60°	Fracs, bands (bed?) Ct w/ and	Grey-brn mottled arg w/ calc pat & vlts
215.5	219.9	4.4		Nil		Arg			219.9	50°	ct w/ arg	Dark grn and
219.9	230.6	10.7		Nil		Arg & Cgl	Run	Vlt & diss sulf Local talc & ser	225.0-end	40-50°	Cgl ints, color bands.	Pk-grey arg to ± 225.0 alt arg & brn cgl to end Poss qtz-feld rect.
230.6	238.0	7.4		Nil		Cgl	Run	Minor vlt sulf	Run Run	40-60 50°	Fracs, slips w/ ser, gg Banding in cgl	Grey-brn pebble cgl, poor rect
238.0	247.3	9.3		Nil		Arg-cgl	Run	Tr sulf	Run	40-50	Fracs, bands	Dense, pk-buff c. arg to 241.0. Pur-grey cgl to end of run
247.3	258.3	11.0		Nil		Cgl-arg	Run	Minor vlt sulf Pat sulf w/ alt in arg	Run	50-70	Fracs, slips	Pur-grey cgl to 254.5. Dense brn arg to end
258.3	264.0	5.7		0.03			Run	Tr diss sulf	259.9	65°	½" ser, gg	Grey-brn arg w/ ser alt & local rect.

MIS-807-A 75

HOLE NO. M-5

Coordinates: N 362,621.62 E 766,583.96

Dip 90° Bearing —

Date started 2/23/62 Completed 3/3/62

Collar Elevation 2890.2 Total Depth 361.1

GEOLOGIC LOG

MISSION UNIT

DEPTH			% COPPER			ROCK TYPE	MINERALIZATION		STRUCTURES			REMARKS
From	To	Interval	N.S.	Total	Weighted Average		Depth	Description	Depth	Dip	Description	
264.0	274.8	10.8		0.09		Arg	Run	Tr diss & vlt sulf	Run	30°	Fracs	Grey-brn arg
									Run	High ∠	Slips w/ ser, talc	
274.8	285.8	11.0		0.02		Arg	Run	Sulf nil	Run	40-50°	Fracs, slips	Grey-brn arg w/
												poss cgl ints.
												Local st ser & clay
285.8	293.6	7.8		0.03		Arg&cgl	Run	Pat py	Run	30-45°	Fracs	Brn s. arg w/ poor-
									Run	60-70°	Slips w/ ser, clay	sorted cgl zones
293.6	300.0	6.4		0.03		Arg	Run	Tr diss py, moly	Run	40°, 90°	Fracs, slips w/ ser	Dense grey-brn arg
300.0	307.6	7.6		Tr		Arg	Run	Tr fl, sulf	Run	40-60°	Fracs, " " "	Grey-brn arg, s. arg
307.6	313.3	5.7		Nil		Arg			Run	"	" " " "	" " "
313.3	324.1	10.8		Nil		Arg	Run	Pr vlt, diss sulf	314.3-(?)	40°(?)	Bx zone, w/ ser, clay, co3	Grey arg, st ser alt
324.1	335.7	11.6		Nil		Arg&cgl	Run	" " "	to 326.4	Vlt ∠	Slips, ser, gg zone	Grey arg w/ cgl from
									Run	45°	Fracs, slips	326.4 to end. st. sec
335.7	344.2	8.5		Nil		Cgl	Run	Sulf gg on slips	337.2-37.8	40°	Bx w/ grey gg	Mottled grey-grn-brn
									Run	40-60°	Fracs, slips	ser, poss serp
344.2	351.0	6.8		Nil		Cgl	Run	Tr sulf, pstbly serp	Run	60°	Fracs, slips	Grey-brn cgl
351.0	361.1	10.1		Nil		Cgl-arg	Run	Tr sulf, Gyp, gg veins	Run	50-60°	Fracs, slips	Grey-brn cgl &
												arg, st. frac & alt

MIS-807-A 75

HOLE NO. M-4

GEOLOGIC LOG
MISSION UNIT

M-4

Coordinates: N 363,434.91 E 765,456.73
Dip 70° Bearing ——
Date started 2/16/62 Completed 2/28/62
Collar Elevation 3050.9 Total Depth 345.1

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	71.0	71.0				Cal cgl						Rockbit
71.0	77.8	6.8				Cal cgl						
77.8	87.6	9.8				Cal cgl						Bedrock 87.6'
87.6	94.5	6.9	0.61	0.69		Hf-Tt	To 90.8	Fe, cu ox after 70° qtz-sulf vng	90.0-end	30-50°	Fracs, qtz vlts	St oxid., tan to grn
94.5	104.5	10.0	0.62	0.08		Tt	Run	weak cu, fe, mn ox	Run	45°	Fracs	Gar tt w/ local hem
104.5	111.6	7.1	0.32	0.50		Tt	110.3-end	45° vns, nat cu, Cu CO_3, resid. cpy	Run 111.6	40-50° 45°	Fracs ct	Oxid. Tt, tan-grn
111.6	115.8	4.2	0.03	0.06		Hf	Run	Tr bl met. ox	Run	50°	Serp vlts	Ox brn serp-talc Hf, grades to pink towards end, w/ irreg. gar pat. Depth oxid. ± 116.0
115.8	121.5	5.7		0.22		Hf	119.0-end	Diss cpy	Run	50°	Cal vugs	Var. wh-pk-buff serp-talc hf. Gen very soft, w/ minor gar
121.5	130.0	8.5		1.93		Tt	Run	Diss cpy, local mass int.	Run	45°	Slips w/serp, sulf gg.	Grades at start of run to grn gar rock w/ minor serp
130.0	138.0	8.0		1.32	1.90	Tt & Hf	Run	Diss cpy, local mass int.	Run	60°	Slips w/ hem, gg	Alt gar & diop hf w/ minor trem
138.0	146.5	8.5		3.53		Tt & Hf	Run	Diss cpy, w/ v. st zones Faint ∥ cpy vng	Run Run	55-65° 30°	Fracs Banding, sulf vng	Alt grn gar & grey-tan hf
146.5	154.3	7.8		0.69		Mb	151.0-152.2	Cpy w/ grn sil	Run	30°	Slips, fracs	Grey to grn serp mb w/ silic & silif. Ls
154.3	164.2	9.9		N.I		Mb-Ls	Run	Pk col. st at 90° (Poss. $MnCO_3$) Tr mn ox	157.5	40°	2" gg.	wh to grey mb & silif ls. w/ pk col network
164.2	174.2	10.0		N.I		Mb-Ls	Run	Py, serp vlts	Run	40-60°	Color bands, blue-grn serp int. Local cont.	wh to grey mb & silif ls, w/ blue-grn serp & minor pink coloration
174.2	184.2	10.0		N.I		Mb-Ls	Run	Tr diss sulf	180.5-184.5 179.0-180.5	50° 40°	Bx, gg, sulf, serp Stylolites ∥ at 40°	wh to grey mb & silif ls, w/ serp & pk col.
184.2	194.4	10.2		N.I		Mb-Ls	Run	Tr diss sulf (Fe-Mn) ox vlts (red)	190.0-190.7 Run	30° 30-35°	Crushed zone, stylolites Frac, wh banding	Blue-grey, w/ pat & int wh mb. Local red (Fe-Mn) ox.

MIS-807-A 75

GEOLOGIC LOG
MISSION UNIT

HOLE NO. M-4
Coordinates N 363,434.91 E 765,456.73
Dip 90° Bearing —
Date started 2/16/62 Completed 2/28/62
Collar Elevation 3090.9 Total Depth 345.1

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
194.4	202.5	8.1		0.03		Mb-Hf	Run	Tr diss sulf w/ sil	197.6-99.8	25-35°	Bx, chl, hem, sulf	wh, grey, red mb w/
[illegible]	[illegible]	[illegible]				[illegible]			202.5	65°	ct	increasing calc sil
[illegible]	[illegible]	[illegible]				[illegible]						last half run.
202.5	207.9	5.4		0.04		Tt	Run	Tr diss sulf	207.9	55°	ct	Wh. grn gar-trem
									Run	75°	Alt. banding	rock w/ hem stks.
207.9	213.7	5.8		0.36		Hf	Run	Diss, v/f cpy	Run	45°	Slips, w hem, gg	Tan-grn diop hf w/
									213.3	40°	4" gg, serp	soft int.
213.7	219.3	5.6		0.14		Mb	Run	Diss sulf w/ serp	216.4-17.5	30-35°	Serp, bx, gg	Serp-streaked wh mb
									Run	45°	Fracs	
219.3	226.0	6.7		Nil		Mb	223.3-23.7	35° Serp-sulf un	Run	30-40°	Fracs	Sil wh mb w/ local serp
226.0	237.4	11.4		Nil		Mb			231.2	35°	4" serp, sulf gg	wh mb w/ local serp
												& lim on fracs.
237.4	246.3	8.9		Nil		Hf	Run	wk fe, mn ox	239.0-40.0	50-55	Fe ox, st alt, gg	wk to st sil dev
									Run	50°	Qtz v/ts, fracs	on mb. Minor gar, hem
246.3	250.4	4.1		Nil		Hf-Mb			249.2-249.6	50°	St alt, fe, mn ox	wk sil alt w/ mb in part
250.4	256.6	6.2		1.73		Tc	252.4-54.6	Pat, str cpy	250.4	45°	Grad ct w/ tt	Red-str grn ft.
									Run	30-35	Fracs, qtz uns	
256.6	265.9	9.3		Nil		Hf	Run	Minor diss sulf	256.8-57.5	50°	Hem, chl zone	Grades at start
								Local fe-mn ox	Run	40°	Fracs, slips	of run to grey-grn
												serp hf
265.9	273.3	7.4		Nil		Mb & Hf	Run	No apparent sulf	265.9	40°	Hem, chl, gg (ct).	Ct. at start of run
									Run	40°	Alt, cal banding	w/ wh mb & wol.
										60-65	Cal, fe ox vugs	Local pat grey silt/ls
273.3	283.3	10.0		Nil		Hf-Mb	Run	Sulf nil, fe ox vugs	Run	40°	Strs, pat silt/ls	wh mb-wol to 277.8
								@ 50-70°	277.8-78.2	40°	Serp zone, wol limit	Fe-stained wh mb to end
283.3	293.6	10.3		Nil		Mb		Sulf nil	291	20°	Frac - vuggy	Tr calc-sil alt
293.6	303.6	10.0		Nil		Mb	302.5	Tr cpy	302.5	20°	Grad cnt w/ alt to Tt	
									303.2	Flat	Grad cnt Tt - Arg	
303.6	309.1	5.5		Nil		Arg			Run		Dense grey Arg w/ mottled texture	
309.1	317.6	8.5		Nil		Arg	313-17.6	Tr py	Run	45°	Fracs	Some mottling
317.6	326.0	8.4		Nil		Arg		Sulf nil	326.0	45°	Slip zone	
326.0	333.8	7.8		Nil		Hf.		Sulf nil	Run	70° vert	Shears - slips.	Trem-chl wk - pos f/t
									333.8	Flat	Banding or shears	
333.8	338.2	4.6		Nil		Arg		Sulf nil	338.2	"	Cnt w/ chl silt zone	Dense grey
338.2	342.4	3.8		Nil		Arg		Sulf nil	342.4	"	Gg zone	wk chl alt
342.4	345.1	2.7		Nil		Arg		Sulf nil				Dark grey - weak

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HOLE NO. M-3

GEOLOGIC LOG
MISSION UNIT

M-3

Coordinates: N 363,950.88 E 765,954.56
Dip 90° Bearing ——
Date started 2/8/62 Completed 2/15/62
Collar Elevation 2910.2 Total Depth 192.2

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	5.0											Rock bit
5.0	6.2	1.2		Tr.		Mb-hf	Run	Fe ox, bl cu-mn ox				Dk brn weath. Mb-hf
6.2	10.6	4.4		.05		"	6.2-6.8	Tr nat cu, dk brn ox	Run	25, 70°	Fracs, cal v/ts	Base ox 7.4
							7.4-7.8	Blebs cpy				Mb & serp hf
10.6	19.1	8.5		Nil		"	Run	Tr v/t py, cpy, py	12.3	25°	Vug, w/ fe ox, cal	
									14.4	75°	Qtz Vn	Gray-grn mb & serp
									Run	60°	Vugs, fracs	hf - local cat sil
19.1	22.2	3.1		.05		Mb-hf	Run	Tr v/t sulf				Mb-serp hf, w/
												gar increase at end
22.2	26.5	4.3		Nil		Hf	Run	Tr v/t sulf	24.0-26.0	High v	chlorite vn	Friable tan hf w/ gar
26.5	31.8	5.3		Nil		Hf & Tt	Run	Hem on slips	Run	60-70°	Fracs	
31.8	39.0	7.2		1.33		Hf & Tt	33.4-33.7	Near mass cpy	Run	35°	Fracs	Int. grey arg
									37.0-end	High v	Hem, chl, gg	37.2-37.9 Grad at
												at run end.
39.0	46.9	7.9		.44	1.23	G. Arg	41.7-42.4	St cpy w/ gar	Run	35°	Fracs, color bands	Pink & grn rock, w/ feld
									42.0-44.0	80°	Hem on slips	cp, local grn sil. Gale.
												45° at end of run
46.9	53.6	6.7		2.05		Hf & Tt	46.9-49.2	St to mass cpy & sph	Run	vert	Hem on slips	Grey-grn hf w/ hem,
							49.2-51.6	Diss cpy, sph, tr moly	Run	25-40°	Fracs	cp, gar, chl
53.6	63.0	9.4		.06		Tt	Run	60° Qtz-cal v/ts w/	Run	25-45°	Fracs w/ hem, chl	Increasing gar
								minor cpy, sph, moly				
63.0	71.7	8.7		.05		Tt	Run	Diss py, r.cpy (weat)	Run	25°	Fracs	Grn-tan Tt w/ hem, chl,
												qtz v/ts
71.7	77.4	5.7		.07		Tt	Run	Qtz-py-cpy str sbleb	Run	40, 60°	Fracs	
77.4	83.5	6.1		.07					78.0-82.0	vert	Slips w/ hem, sulf gg	
83.5	88.9	5.4		.09		Tt	Run	" " " "	Run	30-40°	Fracs	Rock grades at run
									88.9	70°	Gg, hem	end to tan-white hf
												w/ gar pat.
88.9	98.8	9.9		.07		Hf & Tt	Run	wk. diss sulf	93.2	80°	1/4" bx, sulf gg, hem	Alt soft & hard int. to
									Run	45°	Fracs	grad. at 92.0 ± to
									98.6	45°	ct.	grn-tan Tt
98.8	107.6	8.8		.09		Arg & Tt	Run	wk. diss sulf	Run	45, 70°	Fracs	Purple-grey Arg & grn
							107.2-107.6	Diss cpy, st feld, sil	107.6	40°	Grad ct w/ rel.	Tt. Feld, chl, hem, gar
											fresh Arg	alt.

MIS-807-A 75

HOLE NO. M-2

Coordinates: N 363,557.76 E 765,807.75

Dip 90° Bearing ——

Date started 2/8/62 Completed 2/22/62

Collar Elevation 3062.8 Total Depth 243.5

GEOLOGIC LOG
MISSION UNIT

M-2

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
0.0	47.0	47.0				Gravel						Rock bit
47.0	53.2	6.2		.04		Mb-bf	Run	Tr fe ox	Run	10,65	Fracs, cal vugs	Pinkish grey Mb, moderate sil (wall?)
53.2	61.0	7.8		.04		Mb-bf	53.9	55° bif w/ sil, cal, fe ox	Run	45-55	Vugs w/ cal, fe ox	Grey Mb w/ local st. mod.
61.0	70.1	10.1		Nil		Mb-bf	Run	Tr mn ox on fracs	63.0-63.6	85°	1/4" vugs, w/ cal	Mb st. mod w/ local silif
									68.3-69.0	25°	Vugs, bands calc sil	
70.1	80.2	10.1		Nil		Mb-bf	Run	Tr mn, fe ox	Run	30°	Vugs, qtz, sil bands	Mottled pk-grey Mb w/ lt grey int
80.2	88.3	8.1		Nil		Mb		Minor fe, mn ox	81.2-81.7	55°	2" int pk (wal-frac?)	white Mb
									Run	25,70	Fracs, some cal	
88.3	95.0	6.7		Nil		Mb	88.3-88.9	Pat mol	Run	45,85	Fracs, vugs	white Mb
							91.6-92.4	Cu ox				
							Run	Minor fe, mn ox				
95.0	102.0	7.0		Nil		Mb	Run	Tr fe, mn ox	Run	30,80	Vugs	white Mb w/ silif & mod pat
102.0	112.0	10.0		.34		Hf	112.2-end	Near-mass sph w/ sub. cpy	103.8-104.5	70°	Qtz, sil vn	50° ct at cvs end w/ white mb
									Run	20°	Fracs, qtz vns	
112.0	113.9	1.9		.10		Mb		Sulfides nil				40° ct @ 113.9
113.9	120.3	6.4		.46		Hf	Run	Near-mass sph w/ cpy				mod bf w/ pat qtz, qtz sil
120.3	124.5	4.2		1.63	1.16	Hf						Buff-pk mod w/ str pat cp. Mod talc
124.5	130.3	5.8		1.59		Hf-Tc	125.3-125.8	Cpy-silica vugs	Run	30°	Fracs, streaks	Grades at start to tan broken zone to mod bf w/ gas, seep
							Run	Diss cpy				
130.3	136.0	5.7		.03		Hf	Run	Wk suff	Run	40°	Fracs	Last hole run st pk field & seep
136.0	146.3	10.3		Nil		cgl-bx	Run	Diss suff	Run	20-25°	Faint planar structure	Dense, grey-brn. mottled. Frags up to 1½", angular. Rare, sec develop.
									Run	35-40	Fracs	
146.3	154.5	8.2		Nil		cgl-Arg		Diss suff	146.0-end	5-15	Num. slips	Grades at 150 to grey arg w/ local st sec, soft int.

HOLE NO. M-1

GEOLOGIC LOG

MISSION UNIT

M-1

Coordinates N 363 379.99 E 766,069.55

Dip 90° Bearing ____

Date started 2/1/62 Completed 2/8/62

Collar Elevation 2928.6 Total Depth 181.8

DEPTH From	DEPTH To	DEPTH Interval	% COPPER N.S.	% COPPER Total	% COPPER Weighted Average	ROCK TYPE	MINERALIZATION Depth	MINERALIZATION Description	STRUCTURES Depth	STRUCTURES Dip	STRUCTURES Description	REMARKS
72.6	102.6	10.0		Tr.		Tr & Hf	Run	Tr moly, py	Run	10,45°	Fracs, vlts	soft zone of alt.
							100.7-102.0	st. qtz, moly, talc				w/ gar zones.
102.6	109.1	6.5		Tr.		Tr & Hf	102.6-102	Moly, py	Run	60	Hem, talc slips	a. above to
							Run	Tr diss. soft	109.1	70°	Hem, chl, qtz vn	t. at 109.1 w/
												dense gray hem chl ht
109.1	112.5	3.4		.01		Hf		Soft alt	109.1-112.3	Vary	St shearing, hem & chl.	Var. gray chl. cook w/ st hem, qtz pot.
									112.2-112.5	60-70	Cal, qtz, fl in vugs	
112.5	116.8	4.3		.03		Arg.	112.7-113.4	Diss py, tr fl	112.7-113.4	45°	Grad ct. w/ Arg.	Qtz-pk fold zone
								St pk feld, qtz				marks change to grey Arg
							113.4-116.8	Diss, wlt py. Ser	113.4-116.8	65°	Fracs	Alt grey & brn Arg
116.8	124.7	7.9		.02		Arg	Run	70° Qtz-py vlts	Run	40	Frac banding (bed?)	Local ser alt, st
									123.9	68°	Elt w/ sulfides, ser-talc	shattering
124.7	130.6	5.9		.01		Arg	Run	Py vlts, ser alt	Run	40-70	Fracs	Ser-talc on fracs
130.6	134.0	3.6		.01		Arg	Run	Diss, wlt py	Run	50°	Frac	Grey Arg, ser alt
134.0	142.5	8.5		.03		Arg	135.0-137.5	50-60° Py, moly, tct vlts	Run	35-40	Fracs, qtz bands	
							Run	Diss, wlt py				" "
142.5	148.0	5.5		.01		Arg	Run	Diss, wlt py	147.8	40°	2" int. taper	
									Run	35-45	Slips, color bands	Var color pass alt
148.0	153.6	5.6		.03		Arg	149.4	50° Py, moly vlts	Run	30-40	Slips, (alt-color) bands	Local st ser-talc
							153.1	40° " "				Grey-Pink c. Arg
153.6	160.8	7.2		.01		Arg	154.2	40° " "	Run	30-40	Fracs, alt bands	Grey Arg, ser-talc
							Run	Diss, wlt py	156.7-158.8	25°	Bx, qtz, st alt	
160.8	167.2	6.4		.01		Arg	164.4	Py, moly vlts	Run	60°	Fracs	Less ser-talc
									Run	30°	1/4" parallel qtz-fold	Qtz bands offset
											bands (bed?)	by 60° slip
167.2	172.0	4.8		.02		Arg	Run	Diss, wlt py	Run	40	Parallel qtz-fold	Grey Arg
											bands (as above)	
172.0	177.4	5.4		.02		Arg	Run	Diss, wlt py	Run	25°	" "	Grey Arg
									Run	70	Fracs	
177.4	181.8	4.4		Tr.		Arg	178.0-178.5	Irreg pat py st	Run	30-40	Parallel qtz-fold	Grey Arg
								ser			bands (as above)	
	Bottom											