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DDH NO. G-41

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 20,715 S N 25,945 E
COLLAR ELEVATION 4412.5
INCLINATION 70° BEARING —

DATE STARTED 6/12/52 DRILLING CO.
DATE COMPLETED 6/20/52 McClintock
FINAL DEPTH 286.5

FOOTAGE				UNALT	CHLOR.	EPIDOTE	MONTMOR.	BIOTITE	KAOL.	HY. MICA.	ORT HO.	SER.	SIL.	STAGE NO.	ROCK TYPE	SECTION	CUSFES4	CUFES2	FES2	CU2S	CUS	MOS2	OXIDE ZONE: LEACHED CAVITIES-COLOR ETC. / SULPHIDE ZONE-CHAR OF MIN. DISS. VEIN, ETC.	V INCL.	FRACTURING	GEOLOGY
0	0	97	0																							GRAVEL
53	0	93	0		3	1-									Andesite											GREY-GREEN FINE GRAINED TO PORPH ANDESITE CORE RECOVERY POOR - STREAK?
93	0	149	0		1-2	1-									"											
																									149-204 alternate massive & sheared andesite 155-157 shear zone 157-174 - 50°-70° 174-192 shear zone 70° 192-198.5 - 50°-70° 198.5-186.5 shear zone 205.0' - 60°-70° fault 205-219' - 60°	Andesite moderately to intensely sheared with much hematite staining. L.C. 2-3 POOR CORE RECOVERY
149	0	154	0		2-3	1-									"											
154	0	158	0												"											GREEN ANDESITE with minor hematite staining FEW to NO L.C.
158	0	174	0		1										"											Shear zone w/ abundant hematite-limonite staining L.C. 1-2.
																									229-231 shear zone	GREEN ANDESITE with some shearing Hematite-limonite staining L.C. 2-3
174	0	192	0												"										237-239 very strong 252-272 fracturing 60°	Sheared andesite with abundant L.C. and hematite-limonite staining. Minor jarosite(?) POOR CORE RECOVERY
192	0	219	0		2-3	1-									"											GREEN Andesite fine grained with hematite-limonite stain. Sheared at 198.5
219	0	231	0		1-										"											POOR CORE RECOVERY. Sheared Andesite with limonite-hematite staining
231	0	286	5		2-																					Green to brownish green fine grained andesite with few to no L.C. Minor shearing. Epidote sparse.

DDH NO. 41

STATE Arizona MINING DISTRICT Lone Star COORDINATES 20,715.3 N 25,745.7 E DATE STARTED 6/12/57 DRI
COUNTY Graham PROJECT Safford COLLAR ELEVATION 4412.5 DATE COMPLETED 6/20/57
INCLINATION 90° BEARING — FINAL DEPTH 286.5

FOOTAGE		L1	L2	% REC. BY FT.	LBS. REC.	% REC. BY WT.	CORE TOT. CU.	CORE OX CU	CORE MO S2	CORE ASSAY Au	CORE ASSAY Ag	CORE ASSAY S2	CORE SIZE	SAMP. NO.	SLUDGE SAMP. NO.	SLUDGE LBS. REC.	SLUDGE % REC. BY WT.	SPLIT	SLUDGE ASSAY TOT. CU.	SLUDGE ASSAY OX CU	SLUDGE ASSAY MO S2	SLUDGE ASSAY AU	SLUDGE ASSAY Ag	SLUDGE ASSAY S	COMBINE PERCENT 0.1 0.5 1.0
58.0 – 63.0		10.0	1.0	10.0			TR							2783	2783				TR						
63.0 – 73.0		10.0	1.9	19.0			TR							2784	2784				0.03						
73.0 – 92.5		19.5	4.4	22.6			TR							2786	2786				0.03						
92.5 – 112.5		20.0	5.0	25.0			0.04							2787	2787				0.05						
112.5 – 129.0		16.5	7.3	44.2			0.07							2789	2789				0.05						
129.0 – 149.0		20.0	6.9	34.5			0.06							2792	2792				0.05						
149.0 – 164.5		15.5	11.0	71.0			0.08							2794	2795				0.12		0.003	TR	NIL	0.22	
164.5 – 184.5		20.0	6.7	33.5			0.05							2797	2797				0.04						
184.5 – 204.0		19.5	10.0	51.3			0.12							2799	2799				0.07						
204.0 – 219.0		15.0	11.0	73.3			0.06							2878	2878				0.06						
219.0 – 234.0		15.0	6.8	45.3			0.10		0.003	TR.	NIL	0.14		2880	2880				0.07		0.004	TR	NIL	0.16	
234.0 – 252.0		18.0	18.0	100.0			0.13							2881	2881				0.14						
252.0 – 272.5		20.5	10.5	51.2			0.07							2884	2884				0.07						
272.5 – 286.5		14.0	11.0	78.6			0.06							2886	2886				0.07						

DDH NO. G-35

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES N. E.
COLLAR ELEVATION 1454
INCLINATION 90° BEARING -

DATE STARTED 4/20/57 DRILLING CO. Boyles Br.
DATE COMPLETED 5/6/57
FINAL DEPTH 522.7

AR 026028

FOOTAGE		L1	L2	CORE: % REC. BY FT.	LBS. REC.	% REC. BY WT.	TOT. CU.	OX CU	MO S2	ASSAY Au	Ag	S	CORE SITE	SAMP. NO.	SLUDGE: SAMP. NO.	LBS. REC.	% REC. BY WT.	SPLIT	ASSAY TOT. CU.	OX CU	MO S2	Au	Ag	S	COMBINED ASSAY: PERCENT 0.1 0.5 1.0	TOT. CU
10.0	24.3	14.3	9.4	65.7	45.14		0.02					0.38	NC	1931												
24.3	33.6	9.3	3.0	32.3	14.6		0.01					0.32	varcline	1934												
33.6	42.1	8.5	2.5	29.4	11.12		0.02		Nil	Nil	TR	0.47		1935												
42.1	51.0	8.9	8.0	89.9	20.8		0.01					0.54	NC	1936					0.08					0.58		
51.0	59.0	8.0	7.6	95.0	25.8		0.02		Nil			0.46	varcline	1940					0.02		Nil			0.14		
59.0	65.0	6.0	4.0	66.7	16.3		0.02					0.42		1941					0.02							
65.0	71.9	6.9	6.8	98.6	18.4		0.02					0.90		1942					0.03							
71.9	80.4	8.5	8.2	96.5	22.6		0.04					0.26		1943					0.04							
80.4	85.6	5.2	5.2	100.0	24.5		0.06					0.24		1944					0.05					0.53		
85.6	93.0	7.4	7.4	100.0	9.11		0.04		Nil	Nil	0.01	0.22		1945					0.04		Nil	Nil	TR	0.33		
93.0	101.0	8.0	7.4	92.5	21.5		0.06					0.42		1946					0.05							
101.0	113.0	12.0	6.4	53.3	19.6		0.06					0.37		1949					0.09							
113.0	119.0	6.0	5.2	86.7	11.6		0.33					2.80		1951					0.20							
119.0	125.0	6.0	6.0	100.0	19.2		0.16					2.12		1954					0.44							
125.0	135.0	10.0	8.0	80.0	31.5		0.04					1.09		1957					0.06							
135.0	143.7	8.7	9.0	103.4	25.11		0.08					2.20		1958					0.20							
143.7	151.7	8.0	8.0	100.0	24.8		0.04					2.66		1959					0.25							
151.7	163.7	12.0	12.0	100.0	35.12		0.15		Nil	Nil	Nil	3.42		1960					0.17		0.002	Nil	TR	1.80		
163.7	173.7	10.0	10.0	100.0	31.14		0.13					3.80		1961					0.16							
173.7	178.7	5.0	4.6	92.0	15.4		0.08					3.59		1966					0.06							
178.7	189.3	10.6	10.6	100.0	32.4		0.09					4.06		1967					0.14							
189.3	198.8	9.5	7.4	77.9	23.8		0.19					3.77		1971					0.29							
198.8	209.7	10.9	8.9	81.7	23.0		0.17		0.002	Nil	TR	3.27		1975					0.33		Nil	0.001	0.007	3.51		
209.7	218.2	8.5	7.9	92.9	21.1		0.48	0.07				3.07		2077					0.55	0.29						
218.2	228.3	10.1	10.1	100.0	28.3		0.97	0.08				2.68		2081					0.61	0.36						
228.3	235.8	7.5	7.2	96.0	23.2		0.21					4.12		2083					0.37							
235.8	244.7	8.9	8.8	98.9	28.5		0.30					3.07		2086					0.38							
244.7	258.4	13.7	13.7	100.0	43.9		0.13		0.001	Nil	TR	4.17		2090					0.37		Nil	Nil	TR	2.69		
258.4	268.2	9.8	9.8	100.0	31.15		0.22					3.23		2092					0.20							
268.2	279.0	10.8	10.8	100.0	31.8		0.11					3.07		2094					0.33							
279.0	291.2	12.2	12.2	100.0	40.3		0.08					4.64		2099					0.25							
291.2	300.4	9.2	8.9	96.7	25.12		0.06					3.99		2131					0.22							
300.4	311.4	11.0	11.0	100.0	38.4		0.02					4.02		2152					0.16							
311.4	319.0	7.6	7.4	97.4	26.14		0.11		Nil	Nil	Nil	2.11		2155					0.60	0.24	Nil	Nil	Nil	4.15		
319.0	325.0	6.0	5.7	95.0	15.10		0.21					5.85		2156					0.38							
325.0	333.5	8.5	8.0	94.1	15.7		0.15					4.99		2157					0.36							
333.5	345.5	12.0	12.0	100.0	38.2		0.07					3.81		2159					0.31							
345.5	355.5	10.0	5.4	54.0	16.3		0.11					3.45		2161					0.21							
355.5	365.9	10.4	10.4	100.0	31.12		0.13					5.44		2163					0.36							
365.9	374.1	8.2	7.2	87.8	21.8		0.36					7.70		2164					0.35							
374.1	385.0	10.9	10.9	100.0	33.6		0.11		Nil	Nil	TR	5.24		2165					0.26		Nil	Nil	TR	4.41		
385.0	393.6	8.6	8.6	100.0	25.11		0.07					4.51		2169	2167				0.29							
393.6	405.5	11.9	12.6	105.9	38.7		0.07					3.96		2171					0.11							
405.5	415.5	10.0	9.5	95.0	31.5		0.06					3.62		2172					0.22							
415.6	426.3	10.8	10.8	100.0	30.5		0.10					3.70		2173					0.13							
426.3	436.2	9.9	9.9	100.0	34.0		0.09		Nil	Nil	Nil	4.06		2175	2175				0.18		Nil	Nil	TR	3.82		
436.2	449.0	12.8	12.8	100.0	47.12		0.05	0.01				4.89		2104	2104				0.10							
449.0	461.6	12.6	12.6	100.0	39.15		0.07					4.39		2106					0.21							
461.6	472.8	11.2	11.2	100.0	33.12		0.05	0.01				4.53		2107					0.16							

DDH NO. G-35

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT SAFFORD

COORDINATES 24,981.3 N 24,148 E
COLLAR ELEVATION 4454.5
INCLINATION -90° BEARING -

DATE STARTED
DATE COMPLETED
FINAL DEPTH 5

CORE

FOOTAGE		L1	L2	% REC. BY FT.	LBS. REC.	% REC. BY WT.	TOT. CU.	OX CU	MO S2	ASSAY Au	Ag	S		CORE USING	SAMP. NO.
472.8	483.9	11.1	11.1	100.0	36.15		0.06	0.01				4.32			2109
483.9	491.8	7.9	7.6	96.2	25.1		0.12	0.02	Nil	Nil	Tr	4.50			2111
491.8	503.0	11.2	11.2	100.0	33.6		0.05	0.01	Nil			3.94			2114
503.0	515.5	12.5	12.5	100.0	31.1		0.07					3.48			2116
515.5	522.7	7.2	7.2	100.0	24.0		0.09					3.77			2118

SLUDGE

SAMP. NO.	LBS. REC.	% REC. BY WT.	SPLIT	ASSAY TOT. CU.	OX CU	MO S2	Au	Ag
				0.14				
				0.19				
				0.09				
				0.10				
				0.07				

CO

S 0.1 R O

DDH NO. G-35

STATE Arizona
COUNTY Graham
MINING DISTRICT Lone Star
PROJECT SAFFORD
COORDINATES 21,981 S N 24,141 E
COLLAR ELEVATION 4454
INCLINATION 90° BEARING
FINAL DEPTH 522.7
DATE STARTED 4/20/57
DATE COMPLETED 5/6/57
DRILLING CO. Dep

FOOTAGE				UNALT	CHLOR.	EPIDOTE	MONTMOR.	BIOTITE	KAOL.	HY. MICA.	ORTHO.	SER.	SIL.	STAGE NO.	ROCK TYPE	SECTION	CuSFeS4	CuFeS2	FeS2	CuzS	CuS	MoS2	OXIDE ZONE: LEACHED CAVITIES-COLOR ETC. / SULPHIDE ZONE-CHAR OF MIN. DISS. VEIN, ETC.	< INCL.	FRACTURING	GEOLOGY
0	0	10.	0																						0-24' core massive fract. irreg. weak	Collar
10.	0	60	0						1-2			3	3		Fragmental of Vol & Sed origin								L.C. 1; limonite staining minor; diss hematite minor.			Fragmental Rock of both volcanic & sedimentary origin. Quartz in abundance from 0-40' and rock fragments minor in amount. Most crystal frags and many of rock frags less than 1/8". Groundmass white to slight greenish tinge & altered both hydrothermally (qtz-sericite) and surface (clays). Original ash, lapili, pumice not recognizable megascopically probably due to alteration. Rock frags not identifiable - most felsitic. Minor limonite staining; diss hematite blebs.
60	0	75.	7						2			2	2		same								Abundant hematite staining, minor L.C.			Probably same rock tho' more rock frags and less quartz crystals & frags. Rock extremely fractured and highly stained with hematite thus obscuring much of original nature of the Rx.
75.	7	113.	2		1										same										134-163 core massive main pyrite veins 35°-40° 163-178 core massive	Same type of fragmental rock with minor qtz crystals and frags. Groundmass has greenish color and probably much of it was derived from the andesite. Most of rock frags have greyish color, are dense and aphanitic (may be mostly of latitic composition).
113.	2	119.	0		3				1?			2	2		same				2	2			Mainly diss pyrite w/ chalcocite coatings.		fract weak irreg 166 bedding 80° 170.0 - vert 204-205 - vert	Fragmental rock composed of frosted quartz grains < 1/4"; subangular rock frags up to 1½" (latite andesite; and flow?) set in matrix of what probably is disintegrated andesite. Chlorite fairly abundant. Crude bedding visible in places - less than 20° with horizontal. Diss pyrite with chalcocite coatings - quite abundant. Very minor limonite staining
119.	0	129.	0		3				1?			2	2		same				1	1			same but less abundant		211-213.5 limonite seams fault?	Same rock less sulphides
129.	0	166	0												same				1	1-			Diss pyrite; few stringers V. minor chalcocite in places		220-223 strong fract with limonite near vert 251- pyrite vein 45° 255.6 " " 45°	Same type rock. Diss sulphides few stringers. V. minor chalcocite in places. Few bubbles(?) 4" of latite. Qtz-sericite alteration along pyrite veins
166	0	198.	8		2				1?			2	2		same				1				Diss pyrite		265 vert	Same. Few areas of fine rounded grains with bedding (somewhat graded) namely at 167 (?); 173; 176.5
198	8	211	3						1-2			4	4		same				1	1			Diss pyrite & chalcocite few stringers.		265-285 near vert main fract.	Vol-Sed fragmental rock, white in color with fractures coated with limonite. Diss pyrite and chalcocite in places highly altered to Qtz-Sericite.
211	3	212.	0									4	4		Qtz-Sericite?								Heavily stained w/ Fe O.		Bedding 202 40° 288 - pyrite-chalcocite 45° 307-311 mainly vert 319 - pyrite-chalco. vein 15° 340 - 30° 350 - bedding 65°	Rock Type ?? Rock brecciated highly altered to Qtz-sericite and heavily stained with Fe Ox. Probably fault zone.
212	0	220.	5									4	4		Frag. of Vol & Sed Origin				2	2			Diss py & chalco.			Fragmental highly altered qtz-sericite w/ diss py & chalcocite 217 massive chlorite in fracture - fault?
220.	5	224.	0									4	4		same sheared & frosted								Fe Ox staining			Same rock type but brecciated. Fault at 222.7. Heavily stained w/ Fe Ox
224	0	251.	2		2				2			2	2		Frag. of Vol & Sed origin				2	1-2			Diss py/chalco.			Fragmental with frosted quartz grains frag of latite and groundmass which in part is altered tuff. Diss py & chalcocite.
251	2	340	6		2-3							2	2		same				1	1			Few py-chalcocite veins Much diss pyrite.			Same mainly grey color. Chlorite on some fractures. Groundmass looks to be derived from andesite. Frag of latite; frosted qtz grains. Bedding 282 40° to vert; 350' bedding 65° to vert; 288' pyrite chalcocite vein 319' pyrite chalcocite vein

DDH NO. G-35

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT SAFFORD

COORDINATES 24,981.3 N 24,141.8 E
COLLAR ELEVATION 4454.6
INCLINATION 90° BEARING —

DATE STARTED 4/20/57 DRILLING CO.
DATE COMPLETED 5/6/57 Eagle
FINAL DEPTH 522.7

FOOTAGE				UNALT	CHLOR.	EPIDOTE	MONTMOR.	BIOTITE	KAOL.	HY. HIGH	ORTHO.	SER.	SIL.		STAGE NO.	ROCK TYPE	SECTION	CUSFES4	CUFES2	FES2	CUS2	CUS	MOS2			OXIDE ZONE: LEACHED CAVITIES-COLOR ETC. / SULPHIDE ZONE-CHAR OF MIN. DISS. VEIN, ETC.	VEINS	FRACTURING	GEOLOGY
340	6	405	0		2							4	4			Frag of Vol & Sed origin			1-	3	1-					Diss pyrite; very minor chalcopyrite & chalcocite		356 - 40°; 361 - 50°; 369 - vert; 376 vert; 380 vert 431 pyrite vein 25° 433.8 - 45°	Grey-green fragmental Rx. Abundant diss pyrite. V minor chalcopyrite and in few places chalcocite. Chlorite in clusters. Qtz-sericite alteration prominent & obscures original nature of the rock.
405	0	470	0		2							4	4			Same	X		1-	3	1-					Some		438.7 bedding 0°	Same Rock difficult to identify due to qtz-sericite and chlorite. Less frosted quartz grains than above.
470	0	522	7		2							4	4			Same			1	3	1-					Same		445 - pyrite vein 35-50° 452.6 " " 20° 453 " " 25° 472 " " 20-25° 480 - 5 vert pyr fract & piece 30° 505 - 15° 511 - 25° 516.5 - 30°	Rock probably more siliceous than above. T.S. 448 Same.

AR 032665

1a

DDH NO. 119

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 25,344.7 N 26,179.1 E
COLLAR ELEVATION 4930'
INCLINATION -51° BEARING 159° 00' W

DATE STARTED 5-17-62 DRILLING CO.
DATE COMPLETED 11-30-62 Boyles Bros.
FINAL DEPTH 2905'

FOOTAGE		L1	L2	CORE % REC. BY FT.	CORE LBS. REC.	CORE % REC. BY WT	CORE TOT. CU	CORE OX CU	CORE MO S2	CORE ASSAY	CORE SIZE	CORE SAMP. NO.	CHECK ASSAYS SAMP. NO.	CHECK LBS. REC.	CHECK % REC. BY WT.	SPLIT	CHECK ASSAY TOT. CU.	CHECK ASSAY OX CU	CHECK ASSAY MO S2	COMBINED ASSAY PERCENT 0.1 0.5 1.0	COMBINED ASSAY TOT. CU
560.0	570.0	10.0	10.0	100			0.03					K-7137									

DDH NO. 119

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 25,344.7 N 26,179.1 E
COLLAR ELEVATION 4930'
INCLINATION -51° BEARING N59°00'W

DATE STARTED 5-17-62 DRILLING CO
DATE COMPLETED 11-30-62 Boyles Bros.
FINAL DEPTH 2905'

AR- 05

FOOTAGE	L1	L2	% Core Recov.	Max. Length	FRACTURES / FOOT 0-30	30-60	60-90			No. of Pieces / FOOT	Ft. of "Gravel" / FOOT	BIT SIZE	NO. OF PULL	Int. Angle	CAVING POSSIBILITIES	GEOLOGY	
0 0 – 23 5	23 5	10 0	42.4	9"				3		8		CWL	1-3 (3)	10'- 20'-55°	Mod. Weak (3)	Basalt.	LA
23 5 – 52 0	28 5	28 5	100	12"				1.5		4		"	4-10 (7)	30'-42° 40'-27° 50'-36°	"	Basalt.	"
52 0 – 86 0	34 0	30 0	88.2	5"				8		+10		"	11-20 (10)	60'-22° 70'-18° 80'-15° 90'-31°	Weak (4)	Basalt.	"
86 0 – 125 0	39 0	20 0	51	8"				3		+10		"	21-29 (9)	100'- 110'- 120'-26°	"	Scoriaceous basalt.	"
125 0 – 196 5	71 5	47 0	65.7	13"				5		8		"	30-42 (13)	130'-45° 140'-33° 150'- 160'- 170'-27° 180'-54° 190'-46° & 61°	Mod. Weak (3)	Basalt.	"
196 5 – 265 5	69 0	41 0	59.4	10"				4		7		"	43-60 (18)	200'- 210'- 220'-48° 230'-52° 240'-18° & 50° 250'- 260'-	"	Scoriaceous basalt.	"
265 5 – 301 5	36 0	28 0	77.7	8"				7		+10		"	61-68 (8)	270'- 280'-56° 290'-62° 300'-47°	"	Basalt.	"
301 5 – 373 0	71 5	70 0	98	20"				5		8		"	69-88 (20)	310'-48° 320'-50° 330'-55° 340'-62° 350'-41° 360'-40°	"	Basalt.	"
373 0 – 470 0	97 0	89 0	91.7	11"				8		+10		"	89-100 (12)	370'-50° 380'-33° 390'-27° 400'-40° 410'- 420'- 430'- 440'- 450'- 460'-	Weak (4)	Basalt to 398', scoria to 407'. Intermediate Volcanics @ 407'. Pale blue to pink in color, interbedded with flow breccia.	"
470 0 – 529 0	59 0	59 0	100	22"				1.5		4		"	101-107 (7)	470'- 480'-47° 490'- 500'- 510'- 520'-50° 530'-	Mod. Weak (3)	Intermediate Volcanics.	"
529 0 – 575 5	46 5	40 0	86	18"				-		5		"	108-114 (7)	540'- 550'- 560'- 570'-46°	"	Intermediate Volcanics to 556', Andesite.	"

119

EXHIBIT H

2a

DDH NO. 119

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 25,344.7 N 26,179.1 E
COLLAR ELEVATION 4930'
INCLINATION -51° BEARING N59° 30'W

DATE STARTED 5-17-62 DRILLING CO.
DATE COMPLETED 11-30-62 Boyles Bros.
FINAL DEPTH 2905'

FOOTAGE		L1	L2	CORE % REC. BY FT.	LBS. REC.	% REC. BY WT.	TOT. CU	OX CU	MO S2	ASSAY Au	S. Gr	CORE SIZE	SAMP. NO.	CHECK ASSAYS SAMP. NO.	LBS. REC.	% REC. BY WT.	SPLIT	ASSAY TOT. CU	OX CU	MO S2	COMBINED ASSAY PERCENT 0.1 0.5 1.0	TOT. CU
720 0	730 0	10 0	10 0	100			0.39	0.37			2.65	K-	7138									
730 0	740 0	10 0	9 0	90			0.49	0.39		Trace	2.59		7139									
740 0	750 0	10 0	9 0	90			0.60	0.50			2.62		7140	K-5689				0.548	0.474			
750 0	760 0	10 0	10 0	100			0.51	0.40			2.35		7141									
760 0	770 0	10 0	10 0	100			0.35	0.23			2.62		7142									
770 0	780 0	10 0	10 0	100			0.31	0.21			2.59		7143									
780 0	790 0	10 0	10 0	100			0.26	0.15			2.65		7144									
790 0	800 0	10 0	10 0	100			0.56	0.46			2.70		7145									
800 0	810 0	10 0	10 0	100			0.23	0.13			2.64		7146									
810 0	820 0	10 0	10 0	100			0.25	0.15			2.53		7147									
820 0	830 0	10 0	10 0	100			0.25	0.19			2.56		7148									
830 0	840 0	10 0	10 0	100			0.29	0.19			2.56		7149									
840 0	850 0	10 0	10 0	100			0.24	0.13			2.57		7150	K-5712				0.176	0.121			
850 0	860 0	10 0	8 0	80			0.19	0.12			2.53		7151									
860 0	870 0	10 0	10 0	100			0.13	0.11			2.65		7152									
870 0	880 0	10 0	10 0	100			0.12	0.06			3.28		7153									
880 0	890 0	10 0	10 0	100			0.15	0.08			2.68		7154									
890 0	900 0	10 0	10 0	100			0.11	0.04			2.73		7155									
900 0	910 0	10 0	10 0	100			0.14	0.06			2.97		7156									
910 0	920 0	10 0	10 0	100			0.18	0.07					7157									
920 0	930 0	10 0	10 0	100			0.18	0.08			2.71		7158									
930 0	940 0	10 0	10 0	100			0.18				3.03		7159									
940 0	950 0	10 0	10 0	100			0.27	0.17			2.63		7160									
950 0	960 0	10 0	10 0	100			0.24				3.04		7161									
960 0	970 0	10 0	10 0	100			0.40				2.89		7162									
970 0	980 0	10 0	10 0	100			0.33	0.18			2.66		7163									
980 0	990 0	10 0	10 0	100			0.25				2.73		7164									
990 0	1000 0	10 0	10 0	100			0.29				2.71		7165									
1000 0	1010 0	10 0	10 0	100			0.27				2.61		7166									
1010 0	1020 0	10 0	10 0	100			0.25				2.69		7167									
1020 0	1030 0	10 0	10 0	100			0.21				2.62		7168									
1030 0	1040 0	10 0	10 0	100			0.17				2.64		7169									
1040 0	1050 0	10 0	10 0	100			0.13				2.59		7170									
1050 0	1060 0	10 0	10 0	100			0.24				2.62		7171									
1060 0	1070 0	10 0	10 0	100			0.24				2.61		7172									
1070 0	1080 0	10 0	10 0	100			0.12				2.56		7173									
1080 0	1090 0	10 0	10 0	100			0.17				2.60		7174									
1090 0	1100 0	10 0	10 0	100			0.15				2.57		7175									
1100 0	1110 0	10 0	10 0	100			0.10				2.86		7176									
1110 0	1120 0	10 0	10 0	100			0.15				2.63		7177									
1120 0	1130 0	10 0	10 0	100			0.09				2.65		7178									
1130 0	1140 0	10 0	10 0	100			0.08				2.65		7179									
1140 0	1150 0	10 0	10 0	100			0.25				2.72		7180									
1150 0	1160 0	10 0	10 0	100			0.25				2.65		7181									
1160 0	1170 0	10 0	10 0	100			0.19				2.61		7182									
1170 0	1180 0	10 0	10 0	100			0.18				2.63		7183									
1180 0	1190 0	10 0	10 0	100			0.26	0.15			2.58		7184									
1190 0	1200 0	10 0	10 0	100			0.39	0.24			2.64		7185									
1200 0	1210 0	10 0	10 0	100			0.34	0.21			2.70		7186									
1210 0	1220 0	10 0	10 0	100			0.18	0.06			2.62		7187									
1220 0	1230 0	10 0	10 0	100			0.34	0.21			2.66		7188									
1230 0	1240 0	10 0	10 0	100			0.24	0.07			2.63		7189									
1240 0	1250 0	10 0	10 0	100			0.27	0.09			2.61		7190									
1250 0	1260 0	10 0	10 0	100			0.13	0.04					7191									
1260 0	1270 0	10 0	10 0	100			0.20						7192									
1270 0	1280 0	10 0	10 0	100			0.22						7193									

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DDH NO. 119

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 25,344.7 N 26,179.1 E
COLLAR ELEVATION 4930'
INCLINATION -51° BEARING N59°00'W

DATE STARTED 5-17-62 DRILLING CO Boyles Bros.
DATE COMPLETED 11-30-62
FINAL DEPTH 2905'

FOOTAGE		L1		L2		% Core Recov.	Max. Length	FRACTURES / FOOT 0-30	30-60	60-90		No. of Pieces / FOOT	Ft. of 'Gravel' / FOOT	BIT SIZE	NO. OF PULL	Int. Angle	CAVING POSSIBILITIES	GEOLOGY	
575.5	631.0	55.5		55.5		100	16"				3	5		NXWL	115-119 (5)	580'- 590'- 600'-38° 610'-23° 620'-46° 630'-	Mod. Weak (3)	Andesite - biotitized, silicified, well fractured, minor limonite staining, some disseminated limonite and pyrite. No copper mineralization evident.	LA
631.0	717.0	86.0		80.0		93	15"					+10		"	120-131 (12)	650'- 670'- 690'- 710'-	Weak (4)	Agglomerate @ 640' - large angular fragments of andesite and rhyolite.	"
717.0	750.0	33.0		31.0		93.9	12"				6	9		"	132-139 (8)	720'-40° 730'-50° 740'-24°&43° 750'-35°	"	Rhyolite @ 720'- silicified, well fractured and limonite stained, minor disseminated hematite. Mineralization poor, occasional streaks of chrysocolla. Andesite @ 748'.	"
750.0	800.0	50.0		50.0		100	7"				7	+10	0.01	"	140-151 (12)	760'-41° 770'-43° 780'-37° 790'-45° 800'-40°	"	Andesite - biotitized, silicified, highly fractured and sheared, limonite stained, slightly porphyritic. Mineralization moderate to poor, chrysocolla.	"
800.0	830.0	30.0		30.0		100	10"				7	+10		"	152-155 (4)	810'-37° 820'-44° 830'-35°	"	Andesite - biotitized, silicified, porphyritic, sericitized, highly fractured, limonite stained. Mineralization poor, chrysocolla.	"
830.0	870.0	40.0		31.0		77.5	5"				7	+10	0.02	"	156-161 (6)	840'-40° 850'-55° 860'-48° 870'-56°	"	Andesite - biotitized, silicified, porphyritic, as above. Rhyolite stringer @ 859'-861'. Mineralization poor, minor chrysocolla.	"
870.0	910.0	40.0		40.0		100	10"				6	8		"	162-165 (4)	880'-54° 890'-44° 900'-57° 910'-40°&56°	"	Andesite - biotitized, silicified, porphyritic, well fractured and limonite stained. Mineralization poor.	"
910.0	940.0	30.0		30.0		100	12"				5	7	0.07	"	166-168 (3)	920'-42° 930'-36° 940'-50°	Mod. Weak (3)	Andesite - as above. Mineralization poor.	"
940.0	970.0	30.0		30.0		100	8"				6	8		"	169-171 (3)	950'-52° 960'-37° 970'-44°	"	Andesite - biotitized, silicified, well fractured and limonite stained, minor gypsum along fractures. Mineralization poor, traces of chrysocolla.	"
970.0	1000.0	30.0		30.0		100	13"				3	6		"	172-174 (3)	980'-54° 990'-48° 1000'-57°	"	Andesite - as above. Mineralization poor.	"
1000.0	1100.0	100.0		97.0		97	8"				4	7		BXWL	175-187 (13)	1010'-48° 1020'-30° 1030'-53° 1040'-44° 1050'-45° 1060'-51° 1070'-52° 1080'-37°&54° 1090'-40°	"	Andesite - biotitized, silicified, well fractured and limonite stained, relatively fresh and unaltered. Mineralization poor. No evidence of copper mineralization.	"
1100.0	1180.0	80.0		80.0		100	9"				5	7		"	188-195 (8)	1100'-36° 1110'-50° 1120'-33°&57° 1130'-55° 1140'-58° 1150'-61° 1160'-50°	"	Andesite - biotitized, silicified, highly fractured and limonite stained, some gypsum along fractures. Shear zone @ 1112'-1128'. Mineralization poor.	"

EXHIBIT H

3a

DDH NO. 119

STATE Arizona MINING DISTRICT Lone Star COORDINATES 25,344.7 N 26,179.1 E DATE STARTED 5-17-62 DRILLING CO.
COUNTY Graham PROJECT Safford COLLAR ELEVATION 4930' DATE COMPLETED 11-30-62 Boyles Bros.
INCLINATION -51° BEARING N59° 00' W FINAL DEPTH 2905'

FOOTAGE				L1		L2		CORE % REC BY FT	CORE LBS. REC.	CORE % REC. BY WT	CORE TOT CU	CORE OX CU	CORE MO S2	CORE ASSAY	CORE CORE SIZE	SAMP. NO.	CHECK ASSAYS SAMP NO.	CHECK LBS. REC.	CHECK % REC. BY WT.	CHECK SPLIT	CHECK ASSAY TOT. CU.	CHECK ASSAY OX CU	CHECK ASSAY MO S2	COMBINED ASSAY PERCENT 0.1 0.5 1.0	COMBINED ASSAY TOT. CU
1280	0	1290	0	10	0	10	0	100			0.32				K	7194									
1290	0	1300	0	10	0	10	0	100			0.20					7195									
1300	0	1310	0	10	0	10	0	100			0.22					7196									
1310	0	1320	0	10	0	10	0	100			0.25					7197									
1320	0	1330	0	10	0	10	0	100			0.35					7198									
1330	0	1340	0	10	0	10	0	100			0.28					7199									
1340	0	1350	0	10	0	10	0	100			0.23					7200									
1350	0	1360	0	10	0	10	0	100			0.19					7201									
1360	0	1370	0	10	0	10	0	100			0.21					7202									
1370	0	1380	0	10	0	10	0	100			0.29					7203									
1380	0	1390	0	10	0	10	0	100			0.26					7204									
1390	0	1400	0	10	0	10	0	100			0.24					7205									
1400	0	1410	0	10	0	9	5	95			0.27	0.11				7206									
1410	0	1420	0	10	0	10	0	100			0.18	0.05				7207									
1420	0	1430	0	10	0	10	0	100			0.25	0.10				7208									
1430	0	1440	0	10	0	10	0	100			0.21	0.07				7209									
1440	0	1450	0	10	0	10	0	100			0.37	0.21				7210									
1450	0	1460	0	10	0	10	0	100			0.35	0.22				7211									
1460	0	1470	0	10	0	10	0	100			0.21	0.06				7212									
1470	0	1480	0	10	0	10	0	100			0.23	0.11				7213									
1480	0	1490	0	10	0	10	0	100			0.29	0.14				7214									
1490	0	1500	0	10	0	10	0	100			0.31	0.17				7215									
1500	0	1510	0	10	0	10	0	100			0.26	0.09				7216									
1510	0	1520	0	10	0	10	0	100			0.17	0.05				7217									
1520	0	1530	0	10	0	10	0	100			0.26	0.10				7218									
1530	0	1540	0	10	0	10	0	100			0.14					7219									
1540	0	1550	0	10	0	10	0	100			0.14	0.05				7220									
1550	0	1560	0	10	0	10	0	100			0.13	0.06				7221									
1560	0	1570	0	10	0	10	0	100			0.20	0.09				7222									
1570	0	1580	0	10	0	10	0	100			0.27	0.12				7223									
1580	0	1590	0	10	0	10	0	100			0.32	0.19				7224									
1590	0	1600	0	10	0	10	0	100			0.37					7225									
1600	0	1610	0	10	0	10	0	100			0.47					7226	K-5767				0.396	0.218			
1610	0	1620	0	10	0	10	0	100			0.45					7227									
1620	0	1630	0	10	0	10	0	100			0.60					7228	K-5766				0.529	0.399			
1630	0	1640	0	10	0	10	0	100			0.31					7229									
1640	0	1650	0	10	0	10	0	100			0.28					7230									
1650	0	1660	0	10	0	10	0	100			0.35					7231									
1660	0	1670	0	10	0	10	0	100			0.31					7232									
1670	0	1680	0	10	0	10	0	100			0.28					7233									
1680	0	1690	0	10	0	10	0	100			0.32					7234									
1690	0	1700	0	10	0	10	0	100			0.28					7235									
1700	0	1710	0	10	0	10	0	100			0.24					7236									
1710	0	1720	0	10	0	10	0	100			0.17					7237									
1720	0	1730	0	10	0	10	0	100			0.16					7238									
1730	0	1740	0	10	0	10	0	100			0.17					7239									
1740	0	1750	0	10	0	10	0	100			0.26					7240	K-5763				0.245	0.134			
1750	0	1760	0	10	0	10	0	100			0.23					7241									
1760	0	1770	0	10	0	10	0	100			0.28					7242									
1770	0	1780	0	10	0	10	0	100			0.17					7243									
1780	0	1790	0	10	0	5	5	55			0.24					7244									
1790	0	1800	0	10	0	10	0	100			0.19					7245									
1800	0	1810	0	10	0	8	0	80			0.12					7246									
1810	0	1820	0	10	0	10	0	100			0.13					7247									
1820	0	1830	0	10	0	10	0	100			0.15					7248									
1830	0	1840	0	10	0	10	0	100			0.19				V	7249									

DDH NO. 119

STATE Arizona MINING DISTRICT Lone Star COORDINATES 25,344.7 N 26,179.1 E DATE STARTED 5-17-62 DRILLING CO
COUNTY Graham PROJECT Safford COLLAR ELEVATION 4930' DATE COMPLETED 11-30-62 Boyles Bros.
INCLINATION -51° BEARING N59° 00'W FINAL DEPTH 2905'

FOOTAGE		L1	L2	% Core Recov.	Max. Length	FRACTURES / FOOT 0-30	30-60	60-90			No. of Pieces / FOOT	Ft. of 'Gravel' / FOOT	BIT SIZE	NO. OF PULL	Int. Angle	CAVING POSSIBILITIES	GEOLOGY	
1180 0	1220 0	40 0	40 0	100	5"				5		7		BXWL	196-199 (4)	1190'-53° 1200'-44° 1210'-53° 1220'-55°	Mod. Weak (3)	Andesite - biotitized, silicified, well fractured, high limonite content. Altered along fractures, occasional streaks of chrysocolla. Mineralization poor.	LA
1220 0	1250 0	30 0	30 0	100	7"				4		6		"	200-202 (3)	1230'-35° 1240'-41° 1250'-52°	"	Andesite - as above, high limonite-hematite content, traces of gypsum and chrysocolla along fractures. Mineralization poor.	"
1250 0	1330 0	80 0	80 0	100	10"				4.5		7	0.01	"	203-212 (10)	1260'-48° 1270'-45° 1280'-53° 1290'-37°&50° 1300'-46° 1310'-58° 1320'-61° 1330'-62°	"	Andesite - biotitized, silicified, well fractured, high limonite-hematite content, altered along fractures, high calcite content along fractures. Mineralization poor.	"
1330 0	1400 0	70 0	70 0	100	16"				2.5		4		"	213-219 (7)	1340'-43° 1350'-46° 1360'-39° 1370'-42°&55° 1380'-50° 1390'-54° 1400'-51°	Mod. Strong (2)	Andesite - as above. Mineralization poor.	"
1400 0	1460 0	60 0	60 0	100	11"				3		5		"	220-225 (6)	1410'-57° 1420'-44° 1430'-39°&51° 1440'-49° 1450'-58° 1460'-57°	"	Andesite - biotitized, silicified, highly fractured and limonite stained, calcite along fractures. Mineralization poor, occasional trace of chrysocolla.	"
1460 0	1530 0	70 0	70 0	100	9"				3.5		6		"	226-232 (7)	1470'-34° 1480'-42° 1490'-60° 1500'-47° 1510'-44°&64° 1520'-35° 1530'-50°	Mod. Weak (3)	Andesite - biotitized, silicified, highly fractured and limonite stained, calcite along fractures. Mineralization poor.	"
1530 0	1580 0	50 0	50 0	100	7.5"				3		6		"	233-237 (5)	1540'-51° 1550'-42° 1560'-46° 1570'-49° 1580'-38°	"	Andesite - biotitized, silicified, well fractured, limonite-hematite stained, altered along fractures, minor calcite along fractures. Mineralization poor. Stringer of chrysocolla along shear @ 1577'-1579'.	"
1580 0	1630 0	50 0	50 0	100	8"				5		7		"	238-242 (5)	1590'-40° 1600'-41° 1610'-62° 1620'-38°&60° 1630'-51°	"	Andesite - as above. Mineralization poor, traces of chrysocolla.	"
1630 0	1680 0	50 0	50 0	100	9"				6		8		"	243-249 (7)	1640'-48° 1650'-45° 1660'-55° 1670'-50° 1680'-49°	"	Andesite - biotitized, silicified, well fractured, high hematite content. Mineralization poor.	"
1680 0	1730 0	50 0	50 0	100	4.5"				6		9		"	250-255 (6)	1690'-60° 1700'-55° 1710'-66° 1720'-60° 1730'-60°	"	Andesite - as above, high hematite content.	"

EXHIBIT H

4a

DDH NO. 119

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 25,344.7 N 26,179.1 E
COLLAR ELEVATION 4930'
INCLINATION -51° BEARING N59° 00'W

DATE STARTED 5-17-62 DRILLING CO.
DATE COMPLETED 11-30-62 Boyles Bros.
FINAL DEPTH 2905'

CORE

FOOTAGE		L1	L2	% REC BY FT.	LBS. REC.	% REC. BY WT	TOT CU	OX CU	MO S2
1840 0	1850 0	10 0	10 0	100			0.18		
1850 0	1860 0	10 0	10 0	100			0.16		
1860 0	1870 0	10 0	10 0	100			0.13		
1870 0	1880 0	10 0	10 0	100			0.11		
1880 0	1890 0	10 0	10 0	100			0.11		
1890 0	1900 0	10 0	10 0	100			0.34		
1900 0	1910 0	10 0	10 0	100			0.11		
1910 0	1920 0	10 0	10 0	100			0.11		
1920 0	1930 0	10 0	10 0	100			0.13		
1930 0	1940 0	10 0	10 0	100			0.11		
1940 0	1950 0	10 0	9 0	90			0.05		
1950 0	1960 0	10 0	7 5	75			0.08		
1960 0	1970 0	10 0	10 0	100			0.08		
1970 0	1980 0	10 0	9 0	90			0.06		
1980 0	1990 0	10 0	6 0	60			0.08		
1990 0	2000 0	10 0	9 8	98			0.08		
2000 0	2010 0	10 0	8 2	82			0.13		
2010 0	2020 0	10 0	7 0	70			0.08		
2020 0	2030 0	10 0	6 0	60			0.18		
2030 0	2040 0	10 0	4 0	40			2.06		
2040 0	2050 0	10 0	5 0	50			0.08		
2050 0	2060 0	10 0	10 0	100			0.04		
2060 0	2070 0	10 0	10 0	100			0.04		
2070 0	2080 0	10 0	10 0	100			0.13		
2080 0	2090 0	10 0	10 0	100			0.09		
2090 0	2100 0	10 0	10 0	100			0.16		
2100 0	2110 0	10 0	10 0	100			0.08	0.03	
2110 0	2116 0	6 0	6 0	100			0.04	0.02	
2116 0	2120 0	4 0	4 0	100			0.06		
2120 0	2130 0	10 0	10 0	100			0.11		
2130 0	2140 0	10 0	7 0	70			0.17		
2140 0	2150 0	10 0	9 5	95			0.28		
2150 0	2160 0	10 0	10 0	100			0.29		
2160 0	2170 0	10 0	10 0	100			0.15		
2170 0	2180 0	10 0	10 0	100			0.25		
2180 0	2190 0	10 0	9 5	95			0.25		
2190 0	2200 0	10 0	10 0	100			0.31		
2200 0	2210 0	10 0	10 0	100			0.30		
2210 0	2220 0	10 0	10 0	100			0.45		
2220 0	2230 0	10 0	10 0	100			0.35		
2230 0	2240 0	10 0	10 0	100			0.24		
2240 0	2250 0	10 0	10 0	100			0.17		
2250 0	2260 0	10 0	10 0	100			0.30		
2260 0	2270 0	10 0	10 0	100			0.17		
2270 0	2280 0	10 0	10 0	100			0.26		
2280 0	2290 0	10 0	10 0	100			0.21		0.007
2290 0	2300 0	10 0	10 0	100			0.16		
2300 0	2310 0	10 0	10 0	100			0.19		
2310 0	2320 0	10 0	10 0	100			0.29		
2320 0	2330 0	10 0	10 0	100			0.19		
2330 0	2340 0	10 0	10 0	100			0.32		
2340 0	2350 0	10 0	10 0	100			0.60		
2350 0	2360 0	10 0	10 0	100			0.30		0.010
2360 0	2370 0	10 0	10 0	100			0.34		
2370 0	2380 0	10 0	10 0	100			0.30		
2380 0	2390 0	10 0	7 0	70			0.33		

CHECK ~~XXXXXXXXXXX~~ ASSAYS

CORE SIZE	SAMP. NO.	SAMP. NO	LBS. REC.	% REC. BY WT.	SPLIT	ASSAY TOT. CU.	ASSAY OX CU	ASSAY MO S2			
K	7250										
	7251										
	7252										
	7253					ASSAY	SUMMARY				MOS2
	7254										
	7255		720 0			800 0	80 0		0.43	0.34	
	7256		800 0			2840 0	1540 0		0.23	N.A.	0.007 (1 Assay)
	7257		2840 0			2560 0	220 0		0.35	N.A.	0.007 (Arith)
	7258		2560 0			2710 0	150 0		0.67	0.17	0.015
	7259		2710 0			2905 0	195 0		0.21	N.A.	0.002
	7260										
	7261		720 0			2710 0	990 0		0.28	N.A.	
	7262		800 0			2905 0	2105 0		0.27		
	7263		720 0			2905 0	2185 0		0.28	N.A.	
	7264		2280 0			2590 0	3100				0.006 (Arith)
	7265		2590 0			2710 0	120 0				0.018
	7266		2710 0			2905 0	195 0				0.002 (Arith)
	7267										
	7268										
	7269										
	7270										
	7271										
	7272										
	7273										
	7274										
	7275										
	7276										
	7277										
	7284	START OF REDRILL									
	7285										
	7286										
	7287										
	7288										
	7289										
	7290										
	7291										
	7292										
	7293										
	7294	K-11152				0.378	0.294	0.004			
	7295										
	7296										
	7297										
	7298										
	7299										
	7300										
	7301										
	7302										
	7303										
	7304										
	7305										
	7306										
	7307	K-11153				0.604	0.264	0.026			
	7308										
	7509										
	7310										
	7311										

COMBINED ASSAY

PERCENT 0.1	0.5	1.0	TOT. CU

DDH NO. 119

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 25,344.7 N 26,179.1 E
COLLAR ELEVATION 4930'
INCLINATION -51° BEARING N59° 00'W

DATE STARTED 5-17-62 DRILLING CO Boyles Bros.
DATE COMPLETED 11-30-62
FINAL DEPTH 2905'

AR-03206

FOOTAGE		L1	L2	% Core Recov.	Max. Length	FRACTURES / FOOT 0-30	30-60	60-90		No. of Pieces FOOT	Ft. of 'Gravel' FOOT	BIT SIZE	NO. OF PULL	Int. Angle	CAVING POSSIBILITIES	GEOLOGY	
1730 0	1770 0	40 0	40 0	100	6"				6	10		BXWL	256-259 (4)	1740'-60° 1750'-45° 1760'-51° 1770'-65°	Mod. Weak (3)	Andesite - biotitized, silicified, well fractured, high hematite content, slightly porphyritic, streaks of altered and leached andesite. Occasional traces of chrysocolla.	LA
1770 0	1810 0	40 0	36 0	90	5"				7	+10		"	260-264 (5)	1780'-48° 1790'-37° 1800'-34° 1810'-50°	Weak (4)	Andesite - as above. High hematite-limonite content. Leached appearance.	"
1810 0	1850 0	40 0	40 0	100	5.5"				6	8		"	265-268 (4)	1820'-43° 1830'-38° 1840'-39° 1850'-48°	Mod. Weak (3)	Andesite - leached appearance, high hematite-limonite content.	"
1850 0	1890 0	40 0	40 0	100	6"				6	8		"	269-272 (4)	1860'-45° 1870'-41° 1880'-46° 1890'-42°	"	Andesite - leached and altered, as above.	"
1890 0	1930 0	40 0	40 0	100	7"				5	7		"	273-276 (4)	1900'-50° 1910'-35° 1920'-32°&51° 1930'-38°	"	Andesite - as above, streak of chrysocolla @ 1898'.	"
1930 0	1980 0	50 0	48 0	96	5"				8	+10	0.01	"	277-281 (5)	1940'-59° 1950'-54° 1960'- 1970'-40° 1980'-37°	Weak (4)	Andesite - altered and leached, high hematite-limonite content.	"
1980 0	2050 0	70 0	46 0	65.7	4"				8	+10	0.02	"	281-288 (8)	1990'-44° 2000'-48° 2010'-46° 2020'-51° 2030'-49° 2040'-63° 2050'-55°	"	Andesite - as above, highly fractured, streak of chrysocolla @ 2034'.	"
2050 0	2100 0	50 0	50 0	100	12"				6	8		"	289-298 (10)	2060'-47° 2070'- 2080'-52° 2090'-55° 2100'-50°	Mod. Weak (3)	Andesite - biotitized, highly fractured and sheared to 2087'. Very high hematite content. Mineralization poor.	"
2100 0	2116 0	16 0	16 0	100	8"				4	6		"	299-300 (2)	2110'-47° 2120'-51°	"	Andesite - biotitized, high hematite content, well fractured. Mineralization poor.	"
									START OF REDRILL								
2116 0	2210 0	94 0	94 0	100	9"				7	8.5	0.10	"	301-320 (20)	2130'-38° 2140'-53° 2150'-48° 2160'-64° 2170'-62° 2180'-25°&50° 2190'-54° 2200'-32°&60° 2210'-36°	Weak (4)	Andesite - biotitized, minor silicification, oxidized, highly fractured and broken, high hematite content. Mineralization poor, traces of chrysocolla and disseminated pyrite.	"
2210 0	2280 0	70 0	70 0	100	13"				4	6.5	0.04	"	321-334 (14)	2220'-41° 2230'-44° 2240'-37° 2250'-48° 2260'-54° 2270'-40° 2280'-45°	Mod. Weak (3)	Andesite - biotitized, some silicification, high hematite content very well fractured, altered along fractures, possible shear zone @ 2264'-2270'. Mineralization poor, traces of chrysocolla and disseminated pyrite.	"

EXHIBIT H

5a

DDH NO. 119

STATE Arizona MINING DISTRICT Lone Star COORDINATES 25,344.7 N 26,179.1 E DATE STARTED 5-17-62 DRILLING CO.
COUNTY Graham PROJECT Safford COLLAR ELEVATION 4930' DATE COMPLETED 11-30-62 Boyles Bros.
INCLINATION -51° BEARING 159° 00' W FINAL DEPTH 2905'

FOOTAGE		L1	L2	% REC BY FT	~~LBS REC.~~	% REC. BY WT	CORE — MOS2 (Use this one, Not this one) TOT. CU.	OX CU	MO S2	ASSAY	CORE SIZE	SAMP. NO.	CHECK ASSAYS SAMP. NO.	LBS. REC.	% REC. BY WT.	SPLIT	ASSAY TOT. CU.	OX CU	MO S2	COMBINED ASSAY (PERCENT 0.1 0.5 1.0)	TOT. CU
2390 0 2400 0		10 0	10 0	100			0.40				K-	7312									
2400 0 2410 0		10 0	10 0	100	0007		0.48					7313									
2410 0 2420 0		10 0	10 0	100			0.49					7314	K-11	54			0.459	0.210	0.013		
2420 0 2430 0		10 0	10 0	100			0.17					7315									
2430 0 2440 0		10 0	10 0	100			0.33					7316									
2440 0 2450 0		10 0	10 0	100			0.55					7317									
2450 0 2460 0		10 0	10 0	100	0006		0.35					7318									
2460 0 2470 0		10 0	10 0	100			0.31					7319									
2470 0 2480 0		10 0	10 0	100			0.43					7320	K-11	55			0.491	0.260	0.013		
2480 0 2490 0		10 0	10 0	100			0.30					7321									
2490 0 2500 0		10 0	10 0	100			0.23					7322									
2500 0 2510 0		10 0	10 0	100	0007		0.34					7323									
2510 0 2520 0		10 0	10 0	100			0.23					7324									
2520 0 2530 0		10 0	9 5	95			0.29					7325									
2530 0 2540 0		10 0	10 0	100			0.30					7326									
2540 0 2550 0		10 0	10 0	100			0.32					7327									
2550 0 2560 0		10 0	10 0	100			0.36					7328									
2560 0 2570 0		10 0	10 0	100			0.59	0.11				7329									
2570 0 2580 0		10 0	10 0	100	0004		0.37	0.13	0.002			7330	K-11	56			0.396	0.193	None		
2580 0 2590 0		10 0	10 0	100	0002		0.39	0.33	0.001			7331									
2590 0 2600 0		10 0	8 0	80	0013		0.68	0.28	0.008			7332									
2600 0 2610 0		10 0	8 5	85	0008		0.63	0.26				7333									
2610 0 2620 0		10 0	10 0	100	0013		0.28	0.10	0.006			7334									
2620 0 2630 0		10 0	10 0	100	0006		0.36	0.15				7335									
2630 0 2640 0		10 0	10 0	100	0020		0.62	0.10	0.012			7336									
2640 0 2650 0		10 0	10 0	100	0007		0.51	0.20				7337									
2650 0 2660 0		10 0	10 0	100	0033		1.36	0.29	0.020			7338									
2660 0 2670 0		10 0	9 5	95	0065		2.10	0.16	0.039			7339									
2670 0 2680 0		10 0	10 0	100	0012		0.34	0.09	0.007			7340	K-11	59			0.365		0.004		
2680 0 2690 0		10 0	10 0	100	0009		0.17	0.06	0.006			7341									
2690 0 2700 0		10 0	10 0	100	0013		0.27	0.07	0.008			7342									
2700 0 2710 0		10 0	10 0	100	0016		1.45	0.17	0.010			7343									
2710 0 2720 0		10 0	10 0	100	0004		0.24					7344									
2720 0 2730 0		10 0	10 0	100	0002		0.13		0.001			7345									
2730 0 2740 0		10 0	10 0	100	0002		0.23					7346									
2740 0 2750 0		10 0	10 0	100	0002		0.16		0.001			7347									
2750 0 2760 0		10 0	10 0	100	0003		0.26					7348									
2760 0 2770 0		10 0	10 0	100	0001		0.30					7349									
2770 0 2780 0		10 0	10 0	100	0003		0.27					7350	K-11	63			0.204				
2780 0 2790 0		10 0	10 0	100	0002		0.22					7351									
2790 0 2800 0		10 0	7 5	75			0.19					7352									
2800 0 2810 0		10 0	10 0	100			0.25					7353									
2810 0 2820 0		10 0	10 0	100			0.23					7354									
2820 0 2830 0		10 0	10 0	100	0 003		0.24					7355									
2830 0 2840 0		10 0	10 0	100			0.42					7356									
2840 0 2850 0		10 0	10 0	100			0.20					7357									
2850 0 2860 0		10 0	10 0	100			0.16					7358									
2860 0 2870 0		10 0	10 0	100			0.20					7359									
2870 0 2880 0		10 0	10 0	100			0.14					7360	K-11	69			0.163				
2880 0 2890 0		10 0	10 0	100			0.10					7361									
2890 0 2905 0		15 0	15 0	100	0 002		0.12		0.001			7362									

DDH NO. 119

STATE Arizona MINING DISTRICT Lone Star COORDINATES 25,344.7 N 26,179.1 E DATE STARTED 5-17-62 DRILLING CO

COUNTY Graham PROJECT Safford COLLAR ELEVATION 4930' DATE COMPLETED 11-30-62 Boyles Bros.

INCLINATION -51° BEARING N59° 00'W FINAL DEPTH 2905'

FOOTAGE		L1		L2		% Core Recov.	Max. Length	FRACTURES / FOOT 0-30	30-60	60-90			No. of Pieces / FOOT	Ft. of 'Gravel' / FOOT	BIT SIZE	NO. OF PULL	Int. Angle	CAVING POSSIBILITIES	GEOLOGY	
2280 0	2360 0	80 0		80 0		100	15.5"				3.5		6	0.01	BXWL	335-345 (11)	2290'-33° 2300'-39° 2310'-36° 2320'-44° 2330'-45° 2340'-37°&54° 2350'-46° 2360'-39°	Mod. Weak (3)	Andesite - biotitized, silicified, highly fractured and sheared high hematite content. Shear zone @ 2289'-2303'. Mineralization - poor, minor amounts of disseminated pyrite and traces of chalcopyrite and native copper.	LA
2360 0	2420 0	60 0		60 0		100	16"				4		6		"	346-352 (7)	2370'-32° 2380'-44° 2390'-37° 2400'-35° 2410'-49° 2420'-33°&50°	"	Andesite - biotitized, silicified, highly fractured, hematite stained, slightly altered along fractures. Mineralization poor minor disseminated pyrite.	"
2420 0	2480 0	60 0		60 0		100	11"				4.5		7	0.03	"	353-365 (13)	2430'-48° 2440'-44° 2450'-55° 2460'-40° 2470'-45° 2480'-47°	"	Andesite - biotitized, silicified, highly fractured and sheared. Rhyolite @ 2452', highly silicified, hematite stained. Shear zone @ 2467'-2473'. Mineralization poor, disseminated pyrite and traces of chalcopyrite and native copper.	"
2480 0	2520 0	40 0		40 0		100	8"				5		7.5		"	366-371 (6)	2490'-10° 2500'-18°&48° 2510'-32° 2520'-36°	"	Rhyolite - possibly a highly silicified andesite-glassy-aphanitic groundmass, well fractured, limonite and hematite stained. Possible shear zone @ 2509'-2514'. Mineralization poor, pyrite traces of chalcopyrite and chalcocite.	"
2520 0	2570 0	50 0		50 0		100	8"				5		7.5		"	372-379 (8)	2530'-47° 2540'-43° 2550'-45° 2560'-37° 2570'-48°	"	Rhyolite as above - well fractured, high limonite-hematite content. Mineralization poor, pyrite and minor chalcopyrite.	"
2570 0	2650 0	80 0		80 0		100	21"				2		3.5		"	380-390 (11)	2580'-67° 2590'-23°&45° 2600'-48° 2610'-50° 2620'-57° 2630'-39° 2640'-33° 2650'-64°	Mod. Strong (2)	Rhyolite- as above to 2580'. Andesite - biotitized, silicified, well fractured and hematite stained, possible shear zone @ 2573'-2580'. Mineralization moderate to poor, disseminated pyrite and traces of chalcopyrite.	"
2650 0	2700 0	50 0		50 0		100	12"				3.5		6		"	391-398 (8)	2660'-55° 2670'- 2680'- 2690'-44° 2700'-38°	Mod. Weak (3)	Andesite as above to 2658'. Rhyolite porphyry - silicified, well fractured, very high hematite and magnetite content. High grade streak of chalcopyrite and magnetite @ 2660'-2665'. Mineralization moderate, chalcopyrite and disseminated pyrite. Shear zone @ 2697'-2700'. (Possibly a silicified andesite)	"
2700 0	2750 0	50 0		50 0		100	13"				3		5		"	399-406 (8)	2710'-62° 2720'-27° 2730'- 2740'-16°&76° 2750'-34°	"	Andesite - biotitized, silicified, highly fractured, high hematite content. Mineralization moderate to poor, disseminated pyrite and traces of chalcopyrite, streak of chalcopyrite @ 2707'-2709'	"
2750 0	2790 0	40 0		40 0		100	12"				2.5		4.5		"	407-411 (5)	2760'-42° 2770'-48° 2780'-51° 2790'-45°	Mod. Strong (2)	Andesite - biotitized, silicified, well fractured, hematite stained, phenocrysts fresh and unaltered. Mineralization poor, disseminated pyrite.	"

EXHIBIT H

DDH NO. 119

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 25,344.7 N 26,179.1 E
COLLAR ELEVATION 4930'
INCLINATION -51° BEARING N59° 00'W

DATE STARTED 5-17-62 DRILLING CO Boyles Bros.
DATE COMPLETED 11-30-62
FINAL DEPTH 2905'

FOOTAGE				L1		L2		% Core Recov.	Max. Length	FRACTURES / FOOT 0-30°	30-60	60-90			No. of Pieces / FOOT	Ft. of 'Gravel' / FOOT	BIT SIZE	NO. OF PULL	Int. Angle	CAVING POSSIBILITIES	GEOLOGY
2790	0	2860	0	70	0	68	0	97	20"				2		3.5		BXWL	412-419 (8)	2800'-56°	Mod. Strong (2)	Andesite - biotitized, silicified, well fractured, high hematite content along fractures, a few scattered epidote phenocrysts in a fine biotitized groundmass. Mineralization poor, minor disseminated pyrite. Almost all fracture faces have slickensides. LA
																			2810'-57°		
																			2820'-44°		
																			2830'-33°		
																			2840'-48°		
																			2850'-		
																			2860'-55°		
2860	0	2905	0	45	0	45	0	100	18"				2.5		4.5		"	420-426 (7)	2870'-	"	Andesite - as above. Mineralization poor, minor disseminated pyrite. "
																			2880'-43°		
																			2890'-60°		
																			2900'-68°		

Porta-Drill 0.0 - 1042.7 Boyles 10/15/57 - 11/1/57

DDH NO. G-57

STATE: Arizona — MINING DISTRICT: Lone Star — COORDINATES: 26,924.3 N 25,879.4 E — DATE STARTED: 2/1/58 — DRILLING CO.: Boyles

COUNTY: Graham — PROJECT: Safford — COLLAR ELEVATION: 4872.1 — DATE COMPLETED: 2/12/58

INCLINATION: Vert — BEARING: — FINAL DEPTH: 1467.0

CORE

FOOTAGE (from)	FOOTAGE (to)	L1	L2	% REC. BY FT.	LBS. REC.	% REC. BY WT.	TOT. CU.	OX CU	MO S2	Au	Ag	S	S.G.	CORE SIZE	SAMP. NO.
1042.7	1046.3	3.6	3.1	86.1	7.3		0.07						2.73		4471
1046.3	1059.5	13.2	13.2	100.0	51.10		0.05						2.62		4473
1059.5	1069.3	9.8	9.2	93.8	34.10		0.06						2.65		4474
1069.3	1079.2	9.9	9.9	100.0	36.3		0.06		0.001	NIL	NIL	0.24	2.74		4475
1079.2	1089.0	9.8	9.8	100.0	35.8		0.06						2.61		4501
1089.0	1098.9	9.9	9.5	95.9	36.14		0.10						2.75		4502
1098.9	1108.6	9.7	9.4	96.9	37.11		0.13						2.76		4503
1108.6	1118.1	9.5	8.9	93.6	35.6		0.33						2.28		4504
1118.1	1130.3	12.2	11.8	96.7	46.10		0.17						2.87		4506
1130.3	1138.4	8.1	7.9	97.5	29.11		0.13						2.93		4508
1138.4	1146.8	8.4	8.0	95.2	28.13		0.14						2.65		4509
1146.8	1155.7	8.9	8.3	93.2	32.10		0.18						2.76		4511
1155.7	1161.2	5.5	5.4	99.0	22.13		0.16						2.68		4513
1161.2	1171.6	10.4	9.5	91.3	19.14		0.15						2.81		4514
1171.6	1181.8	10.2	9.8	96.0	20.2		0.20		0.001	NIL	Tr	3.38	2.7[illegible]		4515
1181.8	1192.0	10.2	10.2	100.0	21.2		0.19						2.79		4516
1192.0	1202.2	10.2	9.9	97.0	20.4		0.17						2.78		4517
1202.2	1212.4	10.2	10.2	100.0	18.10		0.18						2.76		4518
1212.4	1222.6	10.2	10.2	100.0	18.4		0.19						2.74		4519
1222.6	1232.8	10.2	10.2	100.0	18.8		0.11		NIL	NIL	TR	4.15	2.67		4520
1232.8	1244.6	11.8	11.8	100.0	22.2		0.18						2.79		4522
1244.6	1254.9	10.3	10.3	100.0	19.5		0.19						2.75		4523
1254.9	1265.0	10.1	10.1	100.0	18.10		0.18		0.001	NIL	NIL	2.42			4525
1265.0	1272.5	7.5	7.5	100.0	13.3		0.12						2.83		3651
1272.5	1282.5	10.0	10.0	100.0	19.11		0.14						2.75		3652

SLUDGE

SAMP. NO.	LBS. REC.	% REC. BY WT.	SPLIT	TOT. CU.	OX CU	MO S2

COMBINED ASSAY

PERCENT 0.1 / 0.5 / 1.0	TOT. CU

Turnbull 00-1042.7 Bayles 10/15/57-11/11/57

DDH NO. G-57

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 26,924.3 N 25,879.4 E
COLLAR ELEVATION 4872.1
INCLINATION Vert BEARING

DATE STARTED 2/4/58 DRILLING CO. [redacted] Bayles
DATE COMPLETED 3/12/58
FINAL DEPTH 1467.0

AK-0326

FOOTAGE		UNALT	CHLOR.	EPIDOTE	MONTMOR.	BIOTITE	KAOL.	HY. MICA.	ORTHO.	SER.	SIL.	STAGE NO.	ROCK TYPE	SECTION	CuS/FeS2	CuFeS2	FeS2	CuS2	CuS	MoS2		Oxide Zone: Leached Cavities-Color Etc. / Sulphide Zone-Char of Min. Diss. Vein, Etc.	< INCL.	FRACTURING	GEOLOGY	LOG BY
0.0	687.0												Intermediate Series												0-42 Grey and pink very fine grained "andesite", some perlitic 42-172 White tuff and light brown mottled "andesite" 172-322 Mainly grey-brown to pinkish "andesite" with minor white tuff. 322-502 White tuff with varying amounts white "andesite", a little grey "andesite" 502-542 White, yellow, greenish, & buff "andesite", some tuff, some bedding. 542-582 Reddish-brown basaltic tuff or flow top. 582-667 Gray to reddish basalt. 667-687 Tuffaceous sandstone, some andesite fragments.	JLK RWP
687.0	1042.7		1-2	1-2		1							Andesite												687-842 Propylitized andesite with minor iron staining, possibly a little talc at 752. 842-907 Moderate to strong iron-staining in propylitized and chloritized andesite. Few fragments of semi-massive limonite. 907-1042 Propylitized to slightly biotized andesite with local iron staining, scattered hematite and limonite grains and leached cavities suggesting the former presence of sulfides.	
1042.7	1084.4			1+		2-3				1	1		Andesite		X							Red hematite-limonite on grd. Minor disseminated hem.		1042-1084 Moderate 40-60° mainly, some near 20°. Fr's 12 veins 10-40°. 1084-1118 Sparse to moderate mainly 40-50, some 0-20, 80-90. 1118-42 Moderate mainly 70-90, 30-50, few near vert.	Black andesite with small (1-2mm) feldspars but which are clear and with larger 2-3mm feldspars that are usually epidote green in color, tho' sometimes red or purplish. Groundmass extremely fine grained and appears to contain abundant biotite - sometimes biotite in clusters. This section needs to check occurrence of epidote (?) in feldspars and biotite present in groundmass. This zone with cubanite and equally fractures contain red limonite-hematite mixed with clay (?) and chlorite (?). Few to no leached cavities disseminated or little to no disseminated hematite. Occasional fragment with subangular outline which usually slightly coarser (and less porphyritic) than matrix andesite. J.S. 1051
1084.4	1102.0		1+	1+		2-3				2	1-2		Andesite		X		2+	1?				Pyrite in stringers & diss. Few thin chlorite coatings.		1084-1102 Moderate mainly 70-90, 30-50, few near vert. 1102-1102 Moderate mainly 70-90° some 10-30°	Same type rock but with the presence of pyrite, mainly in stringers but some disseminated near the stringers. Occasional thin chlorite coatings. Pyrite 1.5-0.5%. Small fine veins plus zones more highly silicified. Epidote present in feldspars; biotite and chlorite in grd mass; some chlorite resent to pyrite veins. Chlorite more abundant than above. J.S. 1095.
1102.0	1185.4		1+	1+		2-3				2-3	1		Andesite		X		1?	3	1?			Pyrite diss & in stringers. Occasional chlorite coatings. Pyrite?		1102-1185 Fairly [illegible]	Andesite with biotite & chlorite in groundmass; epidote in feldspars. Contains zones more silicified and contain less of the above mentioned minerals. Some sections & seams have green, waxy mineral - clay (?). Abundant pyrite diss & in stringers. — Few specks cpy, bornite (?) and chlorite. J.S. 1212

EXHIBIT H

DDH NO. G-57

STATE Arizona MINING DISTRICT Lone Star COORDINATES [illegible] N [illegible] E DATE STARTED [illegible] DRILLING CO.
COUNTY Graham PROJECT Safford COLLAR ELEVATION 4824.1 DATE COMPLETED 2/2/58 Boyles
INCLINATION Vert BEARING FINAL DEPTH 1467.0

FOOTAGE				L1		L2		CORE % REC BY FT	CORE LBS. REC.	CORE % REC. BY WT	CORE TOT. CU	CORE OX CU	CORE MO S2	CORE ASSAY Au	CORE Ag	CORE S	CORE S.G.	CORE CORE SIZE	CORE SAMP. NO	SLUDGE SAMP. NO.	SLUDGE LBS. REC.	SLUDGE % REC. BY WT.	SLUDGE SPLIT	SLUDGE ASSAY TOT. CU	SLUDGE ASSAY OX CU	SLUDGE ASSAY MO S2	COMBINED ASSAY PERCENT 0.1 0.5 1.0	COMBINED ASSAY TOT. CU
1292	5	1295	0	12	5	12	5	100	0	28	6								2.77		3654							
1295	0	1310	0	15	0	15	0	100	0	27	4			0.06					2.74		3656							
1310	0	1318	3	8	3	8	3	100	0	14	7			0.08					2.71		3657							
1318	3	1332	0	13	7	13	7	100	0	24	7			0.11					2.73		3659							
1332	0	1342	8	10	8	10	8	100	0	18	4			0.14					2.75		3661							
1342	8	1350	5	7	7	7	7	100	0	14	1			0.14					2.75		3662							
1350	5	1360	7	10	2	10	2	100	0	18	13			0.14					2.69		3663							
1360	7	1368	3	7	6	7	6	100	0	14	4			0.12					2.66		3664							
1368	3	1375	1	6	8	6	8	100	0	12	8			0.07		NIL	NIL	NIL	2.72		3665							
1375	1	1384	7	9	6	9	1	94	7	17	5			0.10					2.44		3667							
1384	7	1396	0	11	3	9	8	86	7	21	8			0.09					2.73		3668							
1396	0	1406	3	10	3	10	0	97	0	19	2			0.15 0.05					2.70		3669 3671							
1406	3	1416	0	9	7	8	9	91	7	18	0			0.08					2.70		3672							
1416	0	1431	0	15	0	13	9	92	6	29	8			0.16					2.75		3673							
1431	0	1441	4	10	4	9	9	95	1	18	0			0.18		0.003	NIL	0.015	2.51		3675							
1441	4	1451	0	9	6	9	2	95	0	16	13			0.07					2.72		4779							
1451	0	1456	9	5	9	5	9	100	0	10	15			0.18		0.001	NIL	0.010	2.15		4780							
1456	9	1467	0	10	1	9	6	95	0	18	4			0.10					2.67		4781							
Assay Summary																												
1042	0	1465	0	[illegible]												0.001 (Fe 3%)												

EXHIBIT H

DDH NO. G-57

STATE Arizona MINING DISTRICT Lone Star COORDINATES 2624 S N 25,879 E DATE STARTED 3/1/58 DRILLING CO.
COUNTY Graham PROJECT Safford COLLAR ELEVATION 4672.1 DATE COMPLETED 3/12/58 Boyles
INCLINATION Vert BEARING FINAL DEPTH 1467.0

AR-038603

FOOTAGE	UNALT	CHLOR.	EPIDOTE	MONTMOR.	BIOTITE	KAOL.	HY. MICA.	ORTHO.	SER.	SIL.	STAGE NO.	ROCK TYPE	SECTION	CuSFeS4	CuFeS2	FeS2	CuS2	CuS	MoS2	OXIDE ZONE: LEACHED CAVITIES-COLOR ETC. / SULPHIDE ZONE-CHAR OF MIN. DISS. VEIN, ETC.	< INCL.	FRACTURING	GEOLOGY	LOG BY
185.9 – 1332.0		1-2	1-2		1	1?		1	2-3			Andesite			1?	2-3	1?			Pyrite diss & stringers trace cpy, cuts. Limonite limits along fractures & pyrite veins.		1202-1318 moderate 30°-50°; some non vertical; few 65° & 70°	Andesite dark green, fine grained in color with epidote in feldspars & and chlorite and lesser biotite. Trace albite in groundmass. Rock more silicified than above. Abundant pyrite in stringers and disseminated. Most pyrite stringers < 1/8". Some oxidation along pyrite stringers. Occasional trace of cpy & cuts. Some fractures along which has been slight movement (gouge, greenish, soft, mixed (probably mixture of clay and ?) Alteration band (cut bleached) for 1/4-1/2" along some of pyrite veins – mainly silicification. Suggestion of banding and alignment of feldspars in some areas – plus lines (?) original bedding (?) Most dips would be 60°-70° to axis of core. 1240.5 - quartz & pyrite vein; 1249.7 small stringer with cpy. Some of feldspars are clear with good cleavage and have no epidote. Estimate overall % of pyrite 1-2 % in places 5%	
																						1332-1385 Moderate mainly 30-60°, few 0-15°. Gouge zone 1349-85		
																						1388-1441 moderate great & py veins mostly 20°; some 45°-60° few vertical-10°		
																						1441-1467 some vert; 30°-45° Broken up 1452.		
1332.0 – 1467.0		2	2		1	1?		1-2	3			Andesite			1?	2-3	1?			Pyrite in stringers and disseminated. Limonite limits along fractures. Trace cuts; cpy			Same type andesite with some zones light colored with chlorite and epidote set in ground mass of quartz, feld(?), sericite. (T.S. of this material. 1397). Rock generally moderately silicified. 1378-1849 fe-lt-vein gouge. Light altered zones persist in andesite to 1412. From 1412-1467 mainly dark andesite, silicified, fine grained. T.S. 1463	
													X											
													X											

EXHIBIT H

AR-032664

DDH NO. 123

STATE Arizona MINING DISTRICT Lone Star COORDINATES 26,491.2 N 26,467.4 E DATE STARTED 9-28-62 DRILLING CO
COUNTY Graham PROJECT Safford COLLAR ELEVATION 4889.3' DATE COMPLETED 11-20-62 Boyles Bros.
INCLINATION -90° BEARING Vert. FINAL DEPTH 2533'

FOOTAGE		L1	L2	% Core Recov.	Max. Length	FRACTURES / FOOT 0-30	30-60	60-90			No. of Pieces / FOOT	Ft. of 'Gravel' / FOOT	BIT SIZE	NO. OF PULL	Int. Angle	CAVING POSSIBILITIES	GEOLOGY	
0 0	79 0	79 0	56 5	71.5	9"				1		+10	0.10	NCWL	1-20 (20)	10'- 20'- 30'-46° 40'- 50'- 60'- 70'-38° 80'-	Weak (4)	Basalt to 17' - Intermediate Volcanics, rhyolitic or trachytic, minor beds of glassy basalt.	LA
79 0	121 0	42 0	39 0	92.9	15"				-		+10	0.02	"	21-28 (8)	90'- 100'- 110'- 120'- 130'-58° 140'-48°	"	Intermediate Volcanics - trachyte or rhyolite - perlitic appearance.	"
121 0	184 5	63 5	63 5	100	11"				5		+10	0.09	"	29-47 (19)	150'-28° 160'-50° 170'-37° 180'-45°	"	Intermediate Volcanics - as above, highly broken.	"
184 5	241 0	56 5	56 5	100	10"				6		+10	0.10	"	48-55 (8)	190'- 200'-38° 210'-35° 220'- 230'- 240'-47°	"	Intermediate Volcanics.	"
241 0	308 0	67 0	67 0	100	12"				7		+10	-	259' NX Casing NXWL	56-63 (14)	250'-63° 260'-58° 270'-48° 280'-44° 290'-45° 300'-37° 310'-51°	"	Intermediate Volcanics.	"
308 0	374 0	66 0	66 0	100	12"				3		9	-	"	70-76 (7)	320'- 330'-50° 340'-82° 350'-73° 360'-59° 370'-45°	Mod. Weak (3)	Intermediate Volcanics - Agglomerate @ 335'.	"
374 0	422 0	48 0	48 0	100	9"				-		+10	0.03	"	77-85 (9)	380'- 390'- 400'- 410'- 420'-	"	Intermediate Volcanics - Agglomerate.	"
422 0	516 0	94 0	90 0	95.7	21"				-		5	-	"	86-99 (14)	430'- 450'- 470'- 490'- 500'- 520'-	"	Intermediate Volcanics - Agglomerate.	"
516 0	585 0	69 0	64 0	92.8	13"				-		5	0.01	"	100-108 (9)	540'- 560'- 580'-	"	Intermediate Volcanics - Agglomerate to 558' - Tuff to 585'.	"
585 0	629 0	44 0	44 0	100	13"				1.5		3.5	-	"	109-116 (8)	590'- 600'-78° 610'-36° 620'-45° 630'-62°	Mod. Strong (2)	Intermediate Volcanics - Andesitic, poorly fractured, disseminated hematite.	"

123

EXHIBIT H

DDH NO. 123

STATE Arizona MINING DISTRICT Lone Star COORDINATES 26,491.2 N 26,467.4 E DATE STARTED 9-28-62 DRILLING CO.
COUNTY Graham PROJECT Safford COLLAR ELEVATION 4889.3' DATE COMPLETED 11-23-62 Boyles Bros.
INCLINATION -90° BEARING Vert. FINAL DEPTH 2533'

FOOTAGE		Li	Ls	CORE % REC. BY FT	LBS. REC.	% REC. BY WT.	TOT CU	OX CU	MO S2	ASSAY Au	Ag	CORE SIZE	SAMP. NO.	CHECK ASSAYS SAMP. NO.	LBS. REC.	% REC. BY WT.	SPLIT	ASSAY TOT. CU	OX CU	MO S2	Au	Ag	COMBINED ASSAY PERCENT 0.1 0.5 1.0	TOT. CU
830	840	10	10	100			0.23					K-	11476											
850	860	10	10	100			0.35						11477											
860	870	10	10	100			0.17						11478											
870	880	10	6	60			0.11						11479											
880	890	10	10	100			0.19						11480											
890	900	10	10	100			0.21						11481											
910	920	10	10	100			0.20						11482											
930	940	10	10	100			0.20						11483											
950	960	10	10	100			0.22						11484											
970	980	10	10	100			0.24						11485											
990	1000	10	10	100		*	0.19						11486											
1000	1010	10	9	90			0.18						11487											
1010	1020	10	10	100			0.21						11488											
1020	1030	10	10	100			0.25						11489											
1030	1055	25	14	56			0.24						11490											
1055	1074	19	19	100			0.25						11491											
1074	1086	12	11	92			0.45						11492											
1086	1100	14	14	100			0.36						11493											
1100	1120	20	20	100			0.20						11494											
1120	1140	20	20	100			0.13						11495											
1140	1160	20	20	100			0.36						11496											
1160	1180	20	20	100			0.28						11497											
1180	1200	20	17	85			0.29						11498											
1200	1220	20	20	100			0.28						11499											
1220	1230	10	10	100			0.26						11500											
1230	1240	10	10	100			0.47						11501											
1240	1250	10	10	100			0.25						11502											
1250	1260	10	10	100			0.21						11503											
1260	1270	10	10	100			0.15						11504											
1270	1280	10	10	100			0.11						11505											
1280	1290	10	10	100			0.15	0.03					11506											
1290	1300	10	7	70			0.10						11507											
1300	1310	10	7.5	75			0.16						11508											
1310	1320	10	10	100			0.10						11509											
1320	1330	10	10	100			0.27	0.02					11510	K-11079				0.264	0.054					
1330	1340	10	10	100			0.30						11511											
1340	1350	10	10	100			0.43						11512											
1350	1360	10	10	100			0.39						11513											
1360	1370	10	7	70			0.27	0.05					11514											
1370	1380	10	10	100			0.15	0.02					11515											
1380	1390	10	10	100			0.15	0.03					11516											
1390	1400	10	10	100			0.24	0.03					11517											
1400	1410	10	7	70			0.41	0.07					11518											
1410	1420	10	10	100		*	0.34	0.09	0.002				11519											
1420	1430	10	10	100			0.49	0.06	Nil				11520	K-11092				0.485			0.005	0.08		
1430	1440	10	10	100			0.46	0.06	0.001				11521											
1440	1450	10	10	100			0.34	0.04	Nil				11522											
1450	1460	10	10	100			0.76	0.08	0.004				11523											
1460	1470	10	10	100			0.50	0.05	Nil				11524											
1470	1480	10	10	100			0.22	0.04	0.001				11525											
1480	1490	10	10	100			0.32	0.03	0.001				11526											
1490	1500	10	10	100			0.32	0.02	0.006				11527											
1500	1510	10	10	100			0.38	0.02	0.001				11528											
1510	1520	10	10	100			0.43	0.02	0.007				11529											
1520	1530	10	10	100		*	0.34	0.01	0.032				11530	K-11095				0.434			Tr	0.02		
1530	1540	10	10	100			0.51	0.01	0.010				11531											

EXHIBIT H

DDH NO. 123

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 26,491.2 N 26,467.4 E
COLLAR ELEVATION 4889.3'
INCLINATION -90° BEARING Vert.

DATE STARTED 9-28-62 DRILLING CO. Boyles Bros.
DATE COMPLETED 11-20-62
FINAL DEPTH 2533'

FOOTAGE		L1	L2	% Core Recov.	Max. Length	FRACTURES / FOOT 0-30	30-60	60-90			No. of Pieces FOOT	Ft. of 'Gravel' FOOT	BIT SIZE	NO. OF PULL	Int. Angle	CAVING POSSIBILITIES	GEOLOGY	
629 0	686 0	57 0	57 0	100	13"				-		+15	0.10	BXWL	117-122 (5)	640'-45° 650'- 660'- 670'- 680'- 690'-	Weak (4)	Intermediate Volcanics - andesitic to 644'. Tuff and agglomerate to 686'.	LA
686 0	727 0	41 0	40 0	97.6	3"				-		+20	0.85	"	123-128 (6)	700'- 710'- 720'- 730'-	"	Tuff and agglomerate.	"
727 0	860 0	133 0	117 0	88	14"				-		+20	0.40	"	129-144 (16)	750'- 770'- 790'- 810'- 830'- 840'-64° 850'-49° 860'-55°	Weak to 830' Mod. Weak(3)	Tuff and agglomerate containing fragments of andesite, intermediate Volcanics and rhyolite. Older Volcanics @ 830'. Andesite - biotitized, silicified, well fractured, minor calcite along fractures. Mineralization poor.	"
860 0	900 0	40 0	37 0	92.5	12"				2.5		4.5	-	"	145-150 (6)	870'-52° 880'-53° 890'-57° 900'-65°	Mod. Strong (2)	Andesite - biotitized, silicified, well fractured, limonite stained, shear zone @ 865'-879'. Mineralization poor, traces of chrysocolla.	"
900 0	964 0	64 0	64 0	100	22"				2		4	-	"	151-156 (6)	910'-57° 920'-55° 930'-62° 940'-45° 950'-49° 960'-53°	"	Andesite - biotitized, silicified, moderately fractured, limonite stained. Mineralization poor, traces of chrysocolla.	"
964 0	1000 0	36 0	36 0	100	14"				2		4	-	"	157-160 (4)	970'-57° 980'-66° 990'-74° 1000'-60°	"	Andesite - as above, traces of calcite and chrysocolla along fractures.	"
1000 0	1043 0	43 0	35 0	81.4	7.5"				5		8	-	" 1043' BX Casing	161-167 (7)	1010'-55° 1020'-77° 1030'- 1040'-63°	Mod. Weak (3)	Andesite - minor biotitization, well fractured, limonite stained, minor calcite along fractures, traces of chrysocolla.	"
1043 0	1088 0	45 0	44 0	97.8	11"				6		8	-	BXWL	168-173 (6)	1050'-49° 1060'-53° 1070'-45° 1080'-58° 1090'-60°	"	Andesite - as above. Shear zone @ 1059'-1088'. Mineralization poor.	"
1088 0	1130 0	42 0	42 0	100	9"				5		7	-	"	174-181 (8)	1100'-64° 1110'-57° 1120'-47° 1130'-53°	"	Andesite - biotitized, silicified, fresh feldspar phenocrysts, altered along fractures, limonite stained, shear zone extends to 1125'. Mineralization poor, traces of chrysocolla.	"
1130 0	1180 0	50 0	50 0	100	8"				4.5		7	-	"	182-188 (7)	1140'-62° 1150'-70° 1160'-65° 1170'-59° 1180'-55°	"	Andesite - biotitized and minor epidote, well fractured, limonite hematite stained. Mineralization poor, minor chrysocolla, first show of pyrite @ 1170'.	"
1180 0	1220 0	40 0	37 0	92.5	10"				4		6.5	-	"	189-193 (5)	1190'-58° 1200'-47° 1210'-63° 1220'-49°	"	Andesite - biotitized, silicified, well fractured, limonite stained, minor alteration along fractures, mineralized with pyrite and minor chrysocolla.	"

EXHIBIT H

3a

DDH NO. 123

STATE Arizona MINING DISTRICT Lone Star COORDINATES 26,491.2 N 26,467.4 E DATE STARTED 9-28-62 DRILLING CO.
COUNTY Graham PROJECT Safford COLLAR ELEVATION 4889.3' DATE COMPLETED 11-20-62 Boyles Bros.
INCLINATION -90° BEARING Vert. FINAL DEPTH 2533'

FOOTAGE		L1	L2	% REC. BY FT.	LBS. REC.	% REC. BY WT	CORE SIZE	TOT. CU	OX CU	MO S2	ASSAY Au	Ag	Pb	Zn	SAMP. NO.	CHECK ASSAYS SAMP. NO.	LBS. REC.	% REC. BY WT.	SPLIT	TOT. CU.	OX CU	MO S2	Au	Ag	COMBINED ASSAY PERCENT 0.1 0.5 1.0	TOT. CU
1540 0 1550 0		10 0	10 0	100			K	1.15	0.05	0.004					11532											
1550 0 1560 0		10 0	10 0	100				1.55	0.07	0.006					11533											
1560 0 1570 0		10 0	10 0	100				1.16	0.06	0.010					11534											
1570 0 1580 0		10 0	10 0	100				0.42	0.03	0.00					11535	K-11100				0.415						
1580 0 1590 0		10 0	10 0	100				0.40	0.02	0.002					11536											
1590 0 1600 0		10 0	10 0	100				0.37	0.02	0.001					11537											
1600 0 1610 0		10 0	10 0	100				0.20	0.11	Nil					11538											
1610 0 1620 0		10 0	10 0	100				0.60	0.03	0.005	None	0.04			11539											
1620 0 1630 0		10 0	10 0	100		X		0.86	0.03	0.006					11540	K-11099				0.844			0.005	0.06		
1630 0 1640 0		10 0	10 0	100				0.49	0.04	0.001					11541											
1640 0 1650 0		10 0	10 0	100				0.44	0.04	0.015	None	None			11542											
1650 0 1660 0		10 0	9 5	95				0.26	0.03	0.007					11543											
1660 0 1670 0		10 0	10 0	100				0.24	0.02	0.004					11544											
1670 0 1680 0		10 0	10 0	100				0.22	0.03	0.001					11545											
1680 0 1690 0		10 0	10 0	100				0.12	0.01	0.001					11546											
1690 0 1700 0		10 0	10 0	100				0.11	0.01	0.002	None	None			11547											
1700 0 1710 0		10 0	10 0	100				0.31	0.03	0.001					11548											
1710 0 1720 0		10 0	10 0	100				0.42	0.04	0.002					11549											
1720 0 1730 0		10 0	10 0	100				0.53	0.05	0.002	None	None			11550	K-11102				0.497		None	Trace	0.10		
1730 0 1740 0		10 0	10 0	100				0.42	0.05	0.001					11551											
1740 0 1750 0		10 0	9 0	90				0.29	0.02	0.001					11552											
1750 0 1760 0		10 0	10 0	100				0.41	0.05	0.016					11553											
1760 0 1770 0		10 0	10 0	100				0.14	0.02	None					11554											
1770 0 1780 0		10 0	10 0	100				0.17	0.02	0.001					11555											
1780 0 1790 0		10 0	10 0	100				0.21	0.02	Nil					11556											
1790 0 1800 0		10 0	10 0	100				0.31	0.03	0.002					11557											
1800 0 1810 0		10 0	10 0	100				0.51	0.03	0.002					11558											
1810 0 1820 0		10 0	7 5	75		X		0.27	0.03	0.001					11559											
1820 0 1830 0		10 0	10 0	100				0.66	0.05	0.006					11560	K-11106				0.648	0.058		Trace	0.06		
1830 0 1840 0		10 0	10 0	100				0.42	0.05	0.012					11561											
1840 0 1850 0		10 0	10 0	100				0.44	0.04	0.014	None	None			11562											
1850 0 1860 0		10 0	10 0	100				0.26	0.05	0.002					11563											
1860 0 1870 0		10 0	10 0	100				0.51	0.07	0.001					11564											
1870 0 1880 0		10 0	10 0	100				0.56	0.04	0.006					11565											
1880 0 1890 0		10 0	10 0	100				0.54	0.03	0.001					11566											
1890 0 1900 0		10 0	10 0	100				0.38	0.02	0.001					11567											
1900 0 1910 0		10 0	10 0	100		X		0.62	0.06	0.006	None	None			11568											
1910 0 1920 0		10 0	10 0	100				0.32	0.03	Nil					11569											
1920 0 1930 0		10 0	10 0	100				0.27	0.01	0.001					11570	K-11107				0.277			Trace	0.02		
1930 0 1940 0		10 0	10 0	100				0.42	0.02	0.001					11571											
1940 0 1950 0		10 0	10 0	100				0.32	0.02	Nil					11572											
1950 0 1960 0		10 0	9 0	90				0.31	0.02	Nil					11573											
1960 0 1970 0		10 0	10 0	100				0.28	0.01	0.001					11574											
1970 0 1980 0		10 0	4 0	40				0.11	0.01	None					11575											
1980 0 1990 0		10 0	10 0	100		X		0.38	0.03	0.002					11576											
1990 0 2000 0		10 0	10 0	100				0.48	0.04	0.001					11577		Footage	L1	L2	% Rec.	Tot. Cu	Ox Cu	MoS2			
2000 0 2010 0		10 0	10 0	100				0.46	0.05	Nil					11578	K-11579	2010-2020	10 0	10 0	100	0.52	0.04	0.002			
2020 0 2030 0		10 0	10 0	100				0.48	0.02	0.008					11580	K-11109				0.441			Trace	0.02		
2030 0 2040 0		10 0	10 0	100				0.41	0.02	0.039					11581											
2040 0 2050 0		10 0	10 0	100				0.55	0.03	0.013	None	None			11582											
2050 0 2060 0		10 0	10 0	100		↓		0.32	0.02	0.014					11583											
2060 0 2070 0		10 0	10 0	100				0.56	0.02	0.008	None	None	0.10	None	11584											
2070 0 2080 0		10 0	10 0	100				0.93	0.04	0.021					11585											
2080 0 2090 0		10 0	10 0	100				0.70	0.04	0.043	None	None	0.12	None	11586											
2090 0 2100 0		10 0	9 0	90				0.69	0.04	0.210					11587											
2100 0 2110 0		10 0	10 0	100				0.73	0.03	0.029	Trace	None	0.12	None	11588											

EXHIBIT H

AR-03[illegible]

DDH NO. 123

STATE Arizona
COUNTY Graham
MINING DISTRICT Lone Star
PROJECT Safford
COORDINATES 26,491.2 N 26,467.4 E
COLLAR ELEVATION 4889.3'
INCLINATION -90°
BEARING Vert.
DATE STARTED 9-28-62
DATE COMPLETED 11-20-62
FINAL DEPTH 2533'
DRILLING CO Boyles Bros.

FOOTAGE		L1	L2	% Core Recov.	Max. Length	FRACTURES / FOOT 0-30	30-60	60-90	No. of Pieces / FOOT	Ft. of 'Gravel' / FOOT	BIT SIZE	NO. OF PULL	Int. Angle	CAVING POSSIBILITIES	GEOLOGY	
1220 0	1280 0	60 0	60 0	100	9"			4	6		BXWL	194-200 (7)	1230'-52° 1240'-53° 1250'-60° 1260'-55° 1270'-50° 1280'-62°	Mod. Weak (3)	Andesite - biotitized, silicified, well fractured and limonite stained. Mineralization poor, traces of chrysocolla & pyrite, disseminated and along fractures. Pyrite content increases @ 1256'.	LA
1280 0	1310 0	30 0	26 5	88.3	6"			4.5	7		"	201-206 (6)	1290'-58° 1300'-57° 1310'-40°	"	Andesite - as above, high pyrite content. Shear zone @ 1308'-1310'. Mineralization poor, possibly traces of chalcopyrite.	"
1310 0	1360 0	50 0	50 0	100	7"			4	6		"	207-213 (6)	1320'-56° 1330'-48 1340'-51° 1350'-54° 1360'-44°	"	Andesite - biotitized, silicified, altered and sericitized along fractures. Minor iron staining. Mineralization moderate. Pyrite and chalcopyrite, disseminated and along fractures.	"
1360 0	1400 0	40 0	38 0	95	8"			5	8		"	214-220 (7)	1370'- 1380'- 1390'-60° 1400'-64°	"	Andesite - biotitized, silicified, well fractured, altered along fractures, minor limonite staining. Mineralization moderate, pyrite and chalcopyrite, disseminated and along fractures.	"
1400 0	1480 0	80 0	80 0	100	12"			3	6		"	221-228 (8)	1410'-51° 1420'-50° 1430'-32° 1440'-48° 1450'-58° 1460'-50° 1470'-40° 1480'-38°	"	Andesite - biotitized, silicified, well fractured and altered along fractures, limonite staining - nil. Mineralization moderate to well mineralized with chalcopyrite and pyrite, disseminated and along fractures.	"
1480 0	1530 0	50 0	50 0	100	7.5"			4	6.5		"	229-234 (6)	1490'-33°&56° 1500'-44° 1510'-36° 1520'-40° 1530'-24°	"	Andesite - as above, well fractured, iron staining negligible. Mineralization moderate to well mineralized with pyrite, chalcopyrite and traces of chalcocite. Some epidote alteration.	"
1530 0	1580 0	50 0	50 0	100	7"			7	+10	0.02	"	235-243 (9)	1540'-42° 1550'-44° 1560'-37° 1570'-29° 1580'-40°	"	Andesite - biotitized, silicified, well fractured and altered along fractures. Mineralization moderate, chalcopyrite and pyrite.	"
1580 0	1610 0	30 0	30 0	100	7"			2.5	4.5		"	244-246 (3)	1590'-37° 1600'-35° 1610'-42°	"	Andesite - as above, slightly porphyritic, alteration restricted to fractures. Mineralization moderate to well mineralized with chalcopyrite and pyrite.	"
1610 0	1670 0	60 0	60 0	100	7"			3	4.5		"	247-252 (6)	1620'-47° 1630'-52° 1640'-23°&44° 1650'-17°&67° 1660'-55° 1670'-40°	"	Andesite - biotitized, silicified, well fractured and altered along fractures, porphyritic, phenocrysts unaltered. Mineralization moderate to well mineralized with chalcopyrite and and pyrite.	"
1670 0	1700 0	30 0	30 0	100	10"			3	5		"	253-255 (3)	1680'-20° 1690'-45° 1700'-31°&50°	"	Andesite - biotitized, silicified, moderately fractured, porphyritic, phenocrysts unaltered, alteration restricted to fractures. Mineralization poor, pyrite and minor chalcopyrite.	"
1700 0	1730 0	30 0	30 0	100	9"			3	4.5		"	256-258 (3)	1710'-53° 1720'-45° 1730'-44°	"	Andesite - as above. Mineralization moderate to poor, pyrite and chalcopyrite along fractures.	"
1730 0	1760 0	30 0	30 0	100	12.5"			2.5	5		"	259-261 (3)	1740'-40° 1750'-37° 1760'-34°	"	Andesite - biotitized, silicified, moderately fractured, altered along fractures. Mineralization moderate, chalcopyrite & pyrite, traces of chalcocite.	"

EXHIBIT H

4a

DDH NO. 123

STATE Arizona MINING DISTRICT Long Star COORDINATES 26,491.2 N 26,467.4 E DATE STARTED 9-28-62 DRILLING CO.
COUNTY Graham PROJECT Safford COLLAR ELEVATION 4889.3' DATE COMPLETED 11-20-62 Boyles Bros.
INCLINATION -90° BEARING Vert. FINAL DEPTH 2533'

FOOTAGE		L1	L2	% REC BY FT	LBS. REC.	% REC. BY WT.	TOT. CU	OX CU	MO S2	ASSAY Au	Ag	Pb	Zn	CORE SIZE	SAMP. NO.
2110 0	2120 0	10 0	10 0	100			0.61	0.03	0.058					K-	11589
2120 0	2130 0	10 0	10 0	100			0.44	0.03	0.040	Trace	None	0.20	None		11590
2130 0	2140 0	10 0	10 0	100			0.52	0.04	0.023						11591
2140 0	2150 0	10 0	10 0	100			0.58	0.02	0.021						11592
2150 0	2160 0	10 0	10 0	100			0.52	0.03	0.024	Trace	None				11593
2160 0	2170 0	10 0	10 0	100			0.48	0.03	0.022						11594
2170 0	2180 0	10 0	10 0	100			0.48	0.04	0.022						11595
2180 0	2190 0	10 0	6 5	65			0.59	0.02	0.029						11596
2190 0	2200 0	10 0	6 0	60			0.47	0.01	0.028						11597
2200 0	2210 0	10 0	10 0	100			0.40	0.02	0.043						11598
2210 0	2220 0	10 0	10 0	100			0.48	0.02	0.023						11599
2220 0	2230 0	10 0	10 0	100			0.32	0.01	0.016						11600
2230 0	2240 0	10 0	10 0	100			0.40	0.04	0.010						11601
2240 0	2250 0	10 0	10 0	100			0.26	0.02	0.006						11602
2250 0	2260 0	10 0	10 0	100			0.28	0.02	0.004						11603
2260 0	2270 0	10 0	10 0	100			0.35	0.02	0.026						11604
2270 0	2280 0	10 0	10 0	100			0.40	0.02	0.038						11605
2280 0	2290 0	10 0	10 0	100			0.49	0.03	0.020						11606
2290 0	2300 0	10 0	10 0	100			0.33	0.03	0.020						11607
2300 0	2310 0	10 0	10 0	100			0.37	0.02	0.022	Trace	Trace				11608
2310 0	2320 0	10 0	10 0	100			0.39	0.03	0.014						11609
2320 0	2330 0	10 0	10 0	100			0.27	0.04	0.014						11610
2330 0	2340 0	10 0	10 0	100			0.34	0.04	0.038						11611
2340 0	2350 0	10 0	10 0	100			0.29	0.01	0.028	Trace	Trace				11612
2350 0	2360 0	10 0	10 0	100			0.44	0.02	0.014						11613
2360 0	2370 0	10 0	10 0	100			0.43	0.03	0.020						11614
2370 0	2380 0	10 0	10 0	100			0.44	0.03	0.018						11615
2380 0	2390 0	10 0	10 0	100			0.51	0.02	0.036						11616
2390 0	2400 0	10 0	10 0	100			0.45	0.01	0.044						11617
2400 0	2410 0	10 0	10 0	100			0.51	0.01	0.029						11618
2410 0	2420 0	10 0	10 0	100			0.45	0.01	0.038						11619
2420 0	2430 0	10 0	10 0	100			0.36	0.01	0.062						11620
2430 0	2440 0	10 0	10 0	100			0.26	0.01	0.046						11621
2440 0	2450 0	10 0	10 0	100			0.41	0.10	0.066	0.064		Nil	Trace		11622
2450 0	2460 0	10 0	9 5	95			0.30	0.06	0.048	0.054					11623
2460 0	2470 0	10 0	10 0	100			0.28	0.07	0.052	0.068		Nil	Trace		11624
2470 0	2480 0	10 0	10 0	100			0.25	0.07	0.035	0.031					11625
2480 0	2490 0	10 0	10 0	100			0.21	0.05	0.038	0.043		Nil	Trace		11626
2490 0	2500 0	10 0	10 0	100			0.28	0.07	0.017	0.022					11627
2500 0	2510 0	10 0	10 0	100			0.31	0.06	0.022	0.024		Nil	Trace		11628
2510 0	2520 0	10 0	10 0	100			0.28	0.06	0.044	0.052					11629
2520 0	2530 0	10 0	10 0	100			0.22	0.06	0.024	0.041		Nil	Trace		11630
2530 0	2533 0	3 0	3 0	100			0.16	0.01	0.018					V	11631

Kennecott Umpire
MoS2 assays

CHECK ASSAYS

SAMP. NO.	LBS. REC.	% REC. BY WT.	SPLIT	TOT. CU.	OX CU	MO S2	Au	Ag
K-11117				0.422		0.026	0.005	NIL
K-11117				0.302			Trace	0 04
K-11122				0.327			Trace	0 08
K-11126				0.428		0.052	Trace	0 06
K-11138				0.214	0.067	0.030	Trace	0 04

ASSAY SUMMARY

1000 0	1420 0	420 0		0.26			
1420 0	1530 0	110 0		0.41	0.04	0.008	
1530 0	1630 0	100 0		0.72	0.04	0.008	
1630 0	1820 0	190 0		0.31	0.03	0.005	
1820 0	1910 0	90 0		0.49	0.05	0.009	
1910 0	1990 0	80 0		0.30	0.02	0.002	
1990 0	2240 0	250 0		0.52	0.03	0.051	
2240 0	2533 0	293 0		0.35	0.04	0.042	
1420 0	2240 0	820 0		0.46	0.03	0.020	
1420 0	2533 0	1113 0		0.43	0.03	0.016	
830 0	1420 0	590 0					
1420 0	1990 0	570 0				0.006	

COMBINED ASSAY

PERCENT 0.1 0.5 1.0 TOT. CU

ASSAY SUMMARY

From	TO	Feet	MoS2
1000.0	2533.0	543.	0046

EXHIBIT H

DDH NO. 123

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 26,491.2 N 26,467.4 E
COLLAR ELEVATION 4889.3'
INCLINATION -90° BEARING Vert.

DATE STARTED 9-28-62 DRILLING CO
DATE COMPLETED 11-20-62 Boyles Bros.
FINAL DEPTH 2533'

FOOTAGE		L1	L2	% Core Recov.	Max. Length	FRACTURES / FOOT 0-30	30-60	60-90		No. of Pieces FOOT	Ft. of 'Gravel' FOOT	BIT SIZE	NO. OF PULL	Int. Angle	CAVING POSSIBILITIES	GEOLOGY	
1760 0	1810 0	50 0	50 0	100	9"				3	5		BXWL	262-271 (10)	1770'-27° 1780'-39° 1790'-43° 1800'-40° 1810'-43°	Mod. Weak (3)	Andesite - biotitized, silicified, well fractured, altered along fractures. Mineralization moderate, chalcopyrite, pyrite and magnetite along fractures.	LA
1810 0	1860 0	50 0	47 5	95	16"				3	4.5		"	272-277 (6)	1820'-43° 1830'-51° 1840'-40° 1850'-45° 1860'-41°	Mod. Strong (2)	Andesite - as above. Mineralization moderate, chalcopyrite, pyrite and magnetite along fractures.	"
1860 0	1960 0	100 0	100 0	100	11"				3.5	5.5		"	278-291 (14)	1870'-62° 1880'-51° 1890'-39° 1900'-48° 1910'-43° 1920'-53° 1930'-35° 1940'-42° 1950'-57° 1960'-63°	Mod. Weak (3)	Andesite - biotitized, silicified, phenocrysts fresh and unaltered; alteration restricted to fractures. Mineralization moderate to poor, pyrite & chalcopyrite, disseminated and along fractures.	"
1960 0	2000 0	40 0	35 0	87.5	10"				3	6		"	292-296 (5)	1970'-48° 1980'-42° 1990'-47° 2000'-45°	"	Andesite - biotitized, silicified, well fractured, altered along fractures. Mineralization moderate, chalcopyrite & pyrite, disseminated and along fractures. Possible shear @ 1999'.	"
2000 0	2040 0	40 0	40 0	100	9"				3.5	6		"	297-302 (6)	2010'-50° 2020'-48° 2030'-52° 2040'-44°	"	Andesite - as above, shear zone @ 1999'-2006'. Mineralization moderate to poor, chalcopyrite and pyrite. Calcite along fractures.	"
2040 0	2110 0	70 0	70 0	100	6"				4	6		"	303-310 (8)	2050'-64° 2060'-48° 2070'-43° 2080'-50° 2090'-53° 2100'-44° 2110'-41°	"	Andesite - biotitized, silicified, well fractured, calcite along fractures. Mineralization moderate, chalcopyrite & pyrite, minor molybdenite, disseminated and in stringers. Driller reports possible water course @ 2050'.	"
2110 0	2140 0	30 0	30 0	100	7"				3.5	6		"	311-314 (4)	2120'-42° 2130'-50° 2140'-47°	"	Andesite - as above, calcite filling fractures. Mineralization moderate to poor, chalcopyrite and pyrite, traces of molybdenite.	"
2140 0	2180 0	40 0	40 0	100	6.5"				4	6.5		"	315-318 (4)	2150'-26°&46° 2160'-47° 2170'-56° 2180'-43°	"	Andesite - biotitized, silicified, calcite along fractures, minor stringers of magnetite. Mineralization moderate, chalcopyrite & pyrite.	"
2180 0	2230 0	50 0	45 5	91	5.5"				5	7		"	319-325 (7)	2190'-45° 2200'-40° 2210'-37° 2220'-51° 2230'-63°	"	Andesite & Andesite Flow Breccia - biotitized, silicified, porphyritic, phenocrysts slightly altered, moderately fractured, calcite along fractures. Mineralization moderate to poor, pyrite & chalcopyrite, minor molybdenite.	"
2230 0	2260 0	30 0	30 0	100	6.5"				4.5	7		"	326-330 (5)	2240'-62° 2250'-40° 2260'-53°	"	Andesite - as above. Mineralization moderate to poor, pyrite & chalcopyrite.	"
2260 0	2300 0	40 0	40 0	100	7"				4	6		"	331-339 (9)	2270'-57° 2280'-54° 2290'-63° 2300'-52°	"	Andesite - biotitized, silicified, porphyritic, feldspar phenocrysts slightly altered, well fractured, calcite along fractures. Mineralization moderate, disseminated pyrite & chalcopyrite, also in stringers and along fractures.	"

EXHIBIT H

AR- U.

DDH NO. 123

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 26,491.2 N 26,467.4 E
COLLAR ELEVATION 4889.3'
INCLINATION -90° BEARING Vert.

DATE STARTED 9-28-62 DRILLING CO Boyles Bros.
DATE COMPLETED 11-20-62
FINAL DEPTH 2533'

FOOTAGE				L1		L2		% Core Recov.	Max. Length	FRACTURES / FOOT 0-30	30-60	60-90			No. of Pieces / FOOT	Ft. of 'Gravel' / FOOT	BIT SIZE	NO. OF PULL	Int. Angle	CAVING POSSIBILITIES	GEOLOGY	
2300	0	2350	0	50	0	50	0	100	6"				5		7.5		BXWL	340-345 (6)	2310'-57° 2320'-55° 2330'-48° 2340'-46° 2350'-52°	Mod. Weak (3)	Andesite - biotitized, silicified, well fractured, slightly chloritized along fractures, calcite along fractures. Mineralization moderate to poor, chalcopyrite and pyrite.	LA
2350	0	2390	0	40	0	40	0	100	13"				2.5		4		"	346-349 (4)	2360'-47° 2370'-49° 2380'-54° 2390'-44°	Mod. Strong (2)	Andesite - biotitized, silicified, well fractured, porphyritic, calcite along fractures. Mineralization moderate to well mineralized with chalcopyrite, pyrite and traces of galena.	"
2390	0	2440	0	50	0	50	0	100	14"				3		4.5		"	350-355 (6)	2400'-55° 2410'-59° 2420'-64° 2430'-43° 2440'-67°	"	Andesite - as above. Mineralization moderate, chalcopyrite and pyrite, disseminated and in stringers.	"
2440	0	2480	0	40	0	40	0	100	6.5"				4		6		"	356-360 (5)	2450'-49° 2460'-62° 2470'-58° 2480'-55°	Mod. Weak (3)	Andesite - biotitized, silicified, slightly porphyritic, moderately fractured, quartz and calcite filling fractures. Mineralization moderate, chalcopyrite, pyrite, traces of bornite and molybdenite along fractures.	"
2480	0	2530	0	50	0	50	0	100	10"				4		6.5		"	361-366 (6)	2490'-48° 2500'-62° 2510'-51° 2520'-44° 2530'-49°	"	Andesite - as above, well fractured, high calcite content along fractures. Mineralization moderate, chalcopyrite, traces of bornite and molybdenite.	"
2530	0	2533	0	3	0	3	0	100	4"				3		5		"	367 (1)		"	Andesite - as above.	"
																					Stuck rods 5' of core left in barrel.	

EXHIBIT H

GENERAL GEOLOGY AND MINERAL CHARACTER OF THE SOUTHWEST PORTION OF THE GILA MOUNTAIN RANGE

The Bear Creek Mining Company, a subsidiary of the Applicant, the Kennecott Copper Corporation, initiated the Safford Project which was the Geological Exploration of the Gila Mountains in Graham County, Arizona. The general area is located in the Lone Star Mining District, which is situated 8-1/2 to 10 miles northeast of the town of Safford on the Gila River, along the southwest flank of the Gila Range. The most intense geological exploration was centered on the lands of Mineral Surveys Nos. 4453, 4454, 4455, 4456, 4457 and 4475, and the lands surrounding and contiguous thereto. The geological data submitted in this patent application is the result of exploration during the period 1956-1957. Exploration has continued from 1957 to the present to determine the full extent of the copper ore body which will be described herein.

The Gila Mountains trend northwesterly and represent an uplifted and easterly tilted block of volcanic flows and tuffs. The topography is rugged with an abrupt rising face to the west and southwest and a deeply dissected slope to the east. Local relief is 1800-2000 feet.

Drainage to the southeast of the main exploration area is by a series of shallow incised washes that flow to the Gila River, 5 miles from the foot of the range. Bonita Creek, a perennially flowing stream, drains the east flank of the Gila Mountains.

Rainfall is less than 10 inches per year, principally in July and August, due to summer storms. Mild rains and light snows occur during December and January. The area may be classified as semi-arid and is favorable to year round operations.

Grass and small shrubs cover the Gila Mountains; however, the area is not suitable for farming or agricultural purposes.

The geology in brief as stated in the summary and progress report of the Safford Project and compiled by Mr. Raymond F. Robinson, Senior Geologist, is:

"A series of andesitic volcanic rocks of unknown thickness have been strongly sheared by northeast fault zones. Plutonic rocks in the form of small stocks (plug like masses ranging through quartz diorite, quartz monzonite, granodiorite) have intruded the area apparently guided by the inherent weakness of the sheared zone. Still later, intrusive rocks, including latites, quartz latites and rhyolites, intruded the same area in the form of dikes, sills and as a plug-shaped mass, the occurrence of which suggests it filled a volcanic vent. Shearing and fracturing along the northeast shear zones continued after the later intrusions. Following this, the area was hydrothermally altered and then mineralized principally by iron and copper bearing sulfides. Erosion and time formed a porphyry type mineralized body which was then covered by a later volcanic sequence: The Intermediate and Younger series. Northwest block faulting and uplift then took place and the old "orebody" along with the Gila Mountains was tilted to the east. Renewed erosion stripped the west flank of the Gila Mountains to the primary core of the old mineralization, and the copper from that area probably migrated northeasterly into the still covered and less eroded portion of the original mineralized zone.

"It is suggested, tentatively, that some migrating copper precipitated as chrysocolla, in the cap rock in the clay filled fractures of the oxidized veinlets and openings. Some irregularly displaced the older chalcocite blanket and some continued to penetrate the primary zone even to below the present levels of drilling. Also, oxidation of the whole body was renewed and due to uplift and lowering of the water table, oxidation passed through the old chalcocite blanket and into the primary zone to an undisclosed extent below the present level of drilling. A chalcocite blanket, deeper than our present depth of drilling, theoretically could exist."

The following methods were used to obtain and correlate this geological data:

1. Geological Mapping.
2. Diamond Drilling.
3. Geophysical Prospecting.
4. Geochemistry
5. Sampling
6. Metallurgical Testing.

The geological map is entered in the application for Mineral Survey No. 4453 as "Exhibit G - Plate 1" for the benefit of all the lands of Mineral Surveys Nos. 4453, 4454, 4455, 4456, 4457 and 4475 for which patent applications are simultaneously filed, with the exception of the claims in

5

Mineral Survey No. 4456 for which patent application is not being filed at this time. Plotted on the Geological Map is the grid system used for control in diamond drilling, the location of the drill holes, the outline of the claims in Mineral Surveys Nos. 4453, 4454, 4455, 4456, 4457 and 4475, and the geophysical anomaly boundary.

Geological Cross Sections which outline the presently known limits of the copper ore body were made by referring the diamond drill hole data to the vertical plane through the grid line, nearest the drill hole. These cross sections are entered in the application for Mineral Survey No. 4453 as "Exhibit G - Plates 2, 3, 4," for the benefit of the lands of Mineral Surveys Nos. 4453, 4454, 4455, 4456, 4457 and 4475. Geological Exploration has continued since 1957 to determine the extent of the ore body beyond the limits shown in this application.

A macroscopic examination of each diamond drill core was made and the data noted in a special drill log. Cuts were made from the core and sludge and used for assay and microscopic purposes. This data is also noted on the drill log. A drill log is attached as an exhibit in each of the patent applications for Mineral Surveys Nos. 4453, 4454, 4455, 4457 and 4475. Each log is of one hole drilled within the limits of the particular survey for which patent application is being made. The drill holes corresponding to the Mineral Surveys are G-35, Mineral Survey No. 4453; G-41, Mineral Survey No. 4454; G-25, Mineral Survey No. 4455; G-21, Mineral Survey No. 4457; G-38, Mineral Survey No. 4475.

During the interval from June, 1956, through November, 1958, a considerable amount of geophysical work was done in connection with the Safford Project. In a memorandum, written December 17, 1959, to Mr. Annan Cook, Resident Geologist of Kennecott Copper Corporation, Mr. George R. Rogers, Senior Geophysicist of Bear Creek Mining Company, states:

> "The most diagnostic technique employed was an electrical prospecting method known as "Induced Polarization." This method attempts to reveal the presence

of metallic minerals at depth by virtue of the blocking or polarization action of these particles when a direct electrical current is passed through the earth. This polarization effect does not occur when an alternating current is passed through the earth. Therefore, information relating to the presence of metallic minerals can be derived from electrical resistivity measurements of the earth made first using direct current and then with alternating current.

"The sulfide ores of copper are among the metallic minerals that can be detected. The non-metallic ores of copper are usually derived from and associated with the sulfide minerals. An electrical indication of metallic minerals, in an area where a relationship has been established between sulfide and oxide minerals and copper ore, would lead a prudent man to suspect significant copper mineralization may be present in the vicinity of the electrical indication. Such a sulfide-oxide-copper ore relationship has been established by the many drill holes in the Safford Project Area.

"An outline of the anomalous area wherein metallic mineral indications were obtained with the Induced Polarization method is shown on the attached map. Numerous drill holes have demonstrated that sulfide and oxide ores of copper do occur within this area. It is reasonable to conclude that significant mineralization most likely occurs beneath almost all of this anomalous area."

The outline of the anomalous area referred to in Mr. Roger's memorandum is shown on the Geological Map, "Exhibit G - Plate 1," submitted in the patent application for Mineral Survey No. 4453.

THIS PAGE INSERTED IN LIEU OF "EXHIBIT G - PLATES 1, 2, 3, and 4" FOR MINERAL SURVEY NO. 4475 WHICH WILL BE SUBMITTED WITH THE APPLICATION FOR PATENT FOR MINERAL SURVEY NO. 4453.

DDH NO. G-38

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 21,122 N 25,378 E
COLLAR ELEVATION 4,420
INCLINATION 90° BEARING —

DATE STARTED 5/30/57 DRILLING CO. McClintock
DATE COMPLETED 6/10/57
FINAL DEPTH 317.0

FOOTAGE		UNALT.	CHLOR.	EPIDOTE	MONTMOR.	BIOTITE	KAOL.	HY. MICA.	ORTHO.	SER.	SIL.	STAGE NO.	ROCK TYPE	SECTION	CuSFeS4	CuFeS2	FeS2	CU2S	CuS	MoS2	OXIDE ZONE: LEACHED CAVITIES-COLOR ETC. / SULPHIDE ZONE-CHAR OF MIN. DISS. VEIN, ETC.	< INCL.	FRACTURING	GEOLOGY
0	0	31	5																					Collar - gravel
31	5	36	0										Latite?										64'-20°-25°. 68'-vert	Latite? - T.S. 330 check for rock type. Greenish to pinkish rock with large 1/2" qtz eyes and large feldspar (1/4 +).
36	0	154	0		3	1-2				1?	1?		Andesite								Minor limonite staining on fract.		202-235.5. med, irreg many 25°-30° 235.5-294.0 irreg pyrite veins.	Dense green andesite with hornblende → chlorite and feldspar weathered. More mafics than usually present in andesite. 126 on epidote or clinozoisite present. Minor limonite staining. Shearing at 74 which bleaches andesite to white color. Shearing at 145 and at 153.
																							294-274 few fract irreg & 25°-30°	This andesite much fresher than that of G-30, 31, 32.
154	0	235	3		3	1-2				1?	1?		Andesite				1-	1-			Pyrite in small amts, stringers & diss. Limonite on fractures.		274-288 few fract 287 pyrite vein 20°	Same Rock plus sulphides, mainly pyrite. Rock not appreciably altered. Little more chlorite with the sulphides. Most of pyrite in narrow stringers, very little disseminated. Limonite also present. Very thin chalcocite coating at 154. ?? 179.0: 202-276.3 Andesite dense, black, gens to be feldspar phenocrysts.
235	3	243	0		1					3	4		Andesite (shear zone)				2-3	1-			Pyrite, massive, in stringers & disseminated. Very minor chalcocite			Shear zone with pyrite & quartz filings. Very minor chalcopyrite & chalcocite. Andesite bleached white and highly silicified.
243	0	317	0		2	2				1	1		Andesite								Pyrite diss & in stringers. Minor in amount.			Dense, fgd, green andesite partially altered to chlorite and epidote. Pyrite in stringers and disseminated but not numerous. Minor chlorite and/or clay alteration along some of pyrite veins. Minor limonite on some fractures, minor calcite.

DDH NO. G-38

STATE Arizona MINING DISTRICT Lone Star COORDINATES 21,122.4 N 25,378.3 E DATE STARTED 5/30/57 DRILLING CO.
COUNTY Graham PROJECT Saffors COLLAR ELEVATION 4,420.2 DATE COMPLETED 6/10/57 McClark
INCLINATION 90° BEARING – FINAL DEPTH 317.0'

FOOTAGE		L1	L2	CORE % REC. BY FT.	CORE LBS. REC.	CORE % REC. BY WT.	CORE TOT. CU.	CORE OX CU	CORE MO S2	CORE ASSAY AU	CORE ASSAY AG	CORE ASSAY S	CORE ASSAY S.G.	CORE SIZE	SAMP. NO.	SLUDGE SAMP. NO.	SLUDGE LBS. REC.	SLUDGE % REC. BY WT.	SLUDGE SPLIT	SLUDGE ASSAY TOT. CU.	SLUDGE ASSAY OX CU	SLUDGE ASSAY MO S2	SLUDGE ASSAY AU	SLUDGE ASSAY AG	SLUDGE ASSAY S	COMBINED ASSAY PERCENT 0.1 0.5 1.0	COMBINED ASSAY TOT. CU
31.5	56.5	25.0	9.6	38.4			0.08								2576	2571				0.08							
56.5	74.5	18.0	7.7	42.8			0.09								2582	2582				0.07							
74.5	102.0	27.5	7.8	28.4			0.07								2587	2587				0.07							
102.0	126.5	24.5	10.3	42.0			0.04								2589	2589				0.04							
126.5	141.0	14.5	5.5	37.9			0.04								2593	2593				0.07							
141.0	153.0	12.0	9.6	80.0			0.03		0.004	NIL	NIL	0.07			2595	2595				0.05		0.004	NIL	NIL	0.08		
153.0	160.0	7.0	6.5	92.8			0.07								2596	2596				0.08							
160.0	165.0	5.0	6.0	120.0			0.03								2597	2597				0.05							
165.0	175.5	10.5	8.1	77.1			0.19								2599	2599				0.08							
175.5	180.5	5.0	5.0	100.0			0.08		0.004	NIL	NIL	0.92			2600	2600				0.07		0.002	TR	NIL	0.12		
180.5	187.0	6.5	4.8	73.8			0.03								2451	2451				0.05							
187.0	195.0	8.0	7.8	97.5			0.03								2453	2453				0.03							
195.0	202.0	7.0	7.0	100.0			0.05								2454	2454				0.05							
202.0	210.0	8.0	8.0	100.0			0.06		0.003	TR	NIL	0.03			2455	2455				0.08		0.003	TR	TR	0.69		
210.0	222.0	12.0	10.8	90.0			0.16								2458	2458				0.17							
222.0	235.3	13.3	5.2	39.1			0.53	0.02	0.[illegible]						2461	2461				0.48	0.06	0.002	TR	TR	2.37		
235.3	246.3	11.0	4.8	43.6			0.24								2462	2462				0.35							
246.3	258.0	11.7	6.5	55.6			0.08								2464	2464				0.22							
258.0	274.0	16.0	11.9	74.4			0.07		0.002	TR	NIL	1.13			2470	2470				0.07		0.003	TR	NIL	1.10		
274.0	288.0	14.0	14.0	100.0			0.05								2473	2473				0.09							
288.0	299.5	11.5	9.0	78.3			0.18								2776	2776				0.24							
299.5	317.0	17.5	5.0	28.6			0.13								2779	2779				0.60	0.08						

DIAMOND DRILL HOLE

Claim	Drill Hole #	Depth of Hole	Core Size	Expenditure
Iron Cap Number Three (3)	G-25	2211.0	NX, BX	$30,189.96

ACCESS ROADS

An access road was constructed to the drillsite G-25 the total expenditures thereon being $867.95. The construction of a main access road on all six claims cost $3500, which is an estimated 1/12 price of a road built across the Gila Mountains.

The total expenditures for drill hole G-25, the access road to G-25, and the main access road being Thirty-Four Thousand, Five Hundred, Fifty-Seven Dollars, Ninety-One Cents ($34,557.91.)

The diamond core drilling and access road construction has been accomplished in such a manner as tends to the development and improvement of the Lone Wolf No. 1, Lone Wolf No. 2, Lone Wolf No. 3, Iron Cap Number One (1), Iron Cap Number Two (2), and Iron Cap Number Three (3) lode mining claims of Mineral Survey 4455; the 47 lode mining claims of Mineral Surveys Nos. 4453, 4454, 4457 and 4475 ; the 607 lode mining claims shown in "Exhibit I," all claims being contiguous and all improvements on the said lode mining claims were made subsequent to their location. Therefore, a sum of $7,058.28 is to be credited to the six lode mining claims of Mineral Survey No. 4455, which reduces the sum of $34,557.91 to $27,499.63. The remainder, $27,499.63, from expenditures is to be prorated at $45.30 per claim for each of the 607 contiguous lode mining claims listed in "Exhibit I" at such time that these claims proceed to patent in the future. Expenditures made for improvements upon the claims of Mineral Surveys Nos. 4453, 4454, 4457 and 4475, will also be prorated to the 607 claims of "Exhibit I" to supplement the $45.30 per claim to be prorated from Mineral Survey No. 4455. The basis upon which these figures are calculated is shown in "Exhibit E," Expenditures for Improvements." Additional exploratory work is being done upon the claims of Mineral Surveys Nos. 4453, 4454, 4455, 4457 and 4475, and contiguous claims for which the expenditures have not been included in this application but may be prorated to any contiguous claims that may proceed to patent in the future.

6. Exhibit "F" of this application states the general geology and mineral character of the lands of Mineral Surveys Nos. 4453, 4454, 4455, 4457 and 4475, Arizona, and the surrounding contiguous claims thereto.

The geology and mineral character of the Lone Wolf No. 1, Lone Wolf No. 2, Lone Wolf No. 3, Iron Cap Number One (1), Iron Cap Number Two (2) and Iron Cap Number Three (3) lode mining claims, Mineral Survey No. 4455, situate in approximately unsurveyed sections 5 and 8, T. 6 S., R. 27 E., G. and S. R. M., Graham County, State of Arizona, is as follows:

SURFACE GEOLOGY

An exposure of andesite extends from the east central portion of the general area covered by Mineral Survey No. 4455 to the southwest portion of the same survey. The exposure continues to the west, crosses Copper Hill No. 13 lode mining claim of Mineral Survey 4457, and extends into the lower tip of the Consolidated Metals No. 24 lode mining claim, Mineral Survey 4454. Basalt with intermingling bands of tuff to the north of the andesite outcrops in the north central and northeastern parts, of the survey and to the south of the andesite in the southeastern corner of the survey. The outcropping is part of a large basalt exposure which trends northwest-southeast and is the major geologic formation overlying the 42 lode claims of Mineral Survey 4457. The area of Mineral Survey No. 4457 is mainly to the north and northeast of Mineral Survey 4455.

Alluvium and talus, which is bordered by basalt to the east and andesite to the south, covers the major part of the northwestern area. An exposure of latite, to the north of the survey, fingers into the northern section of the area covered by the alluvium and talus. A small northeast-southwest trending strip of intermingled andesite and latite is centered in the alluvium and talus. The surface geology by claim follows:

Lone Wolf No. 1.	Andesite in the northwestern half, and basalt and tuff in the southeastern half.
Lone Wolf No. 2	Mostly andesite, with basalt in the northwestern and southeastern corners and a small basalt section in the extreme north central part of the claim.
Lone Wolf No. 3	Mostly basalt with some andesite in the southeast corner.

Iron Cap Number One (1)	All Andesite.
Iron Cap Number Two (2)	Andesite in the southern and southeastern portions of the claim. Alluvium and talus to the north covers the rest of the claim except for a small northeast-southwest trending exposure of andesite and latite, located approximately along the northern border of the claim. The northeastern tip is basalt.
Iron Cap Number Three (3)	Basalt in the northeast and east. Latite fingers into the north from Mineral Survey 4455. Alluvium and talus partially overlays the latite and is bordered by the basalt on the east.

The Surface Geology as briefed above is shown on the Geological map with the geological sequence of the igneous rocks shown in the legend. The claims are not outlined within the limits of Mineral Survey No. 4455 but the geologic description by claim will facilitate the land investigation made by the Valuation Engineer.

The geological map is not attached hereto but is a part of this application, submitted as "Exhibit G, Plate 1" in the patent application for Mineral Survey No. 4453. The patent applications for Mineral Surveys Nos. 4453, 4454, 4455, 4457 and 4475, all being filed simultaneously.

A geophysical anomaly boundry is outlined on the geological map. Diamond drill hole data, from Drill Hole G-25, within the anomalous area indicates that sulfide and oxide ores of copper do occur within this area. Assay data of the cores and surface samples follows:

Claim	Sample # or D.D.H. #	Desc.	AU oz.	AG oz.	Pb%	Zn%	Cu%
Iron Cap Number One (1)	833	Seam Outcrop	Tr.	Tr.	0.13	0.12	0.02
Iron Cap Number Two (2)	836	Fault Zone	Tr.	0.2	--	--	0.22
Iron Cap Number Three (3)	G-25	19 ft. of Core	--	---	--	--	1.14

Claim	Sample # or D.D.H. #	Description	AU oz.	AG oz.	Pb%	Zn%	Cu%
Lone Wolf No. 1	8181	2' Shear Zone East Side Shaft No. 1	0.06	Tr.	0.15	0.50	0.38
"	8182	Same-west side	0.01	Tr.	0.17	0.15	0.30
"	8183	Grab from No. 2 shaft	0.01	Tr	0.14	0.30	0.41
Lone Wolf No. 2	958	Shear Zone at disc. shaft	Tr.	0.2	--	--	0.17
Lone Wolf No. 3	8176	Surface Shear Zone Cut No. 3	0.02	Tr.	0.17	Tr.	0.19
"	8177	"	0.05	Tr.	0.15	Tr.	0.51
"	8178	Dump Mtl. Cut No. 3 Grab.	0.21	0.5	0.19	Nil	1.86
"	8179	Surface Cut No. 3 10' Shear Zone 0-5'.	Tr.	Tr.	0.15	Nil	0.11

A diamond drill log for drill hole G-25 is attached as "Exhibit H" and is a sample of one core log compiled in the exploratory program. Assay data of the cores and sludge and the geological data are related to the footages drilled. It is apparent from the logs and the above assay data that sufficient mineralization is present to warrant a valid discovery.

Grid cross section H, part of "Plate 3 Exhibit G," included in the application for patent, for Mineral Survey No. 4453, graphically shows the assay data for drill hole G-25.

To facilitate the examination of these claims and to verify the mineral discovery of diamond drilling and surface exposures, the split cores, sludge samples, assay records, and composite sample records may be examined at the Kennecott Copper Corporation offices at Safford, Arizona. These materials will be made available to the Valuation Engineer during the course of his field investigation.

7. That prior to the filing of this application, the Applicant herein the Kennecott Copper Corporation caused the written notice entitled

GENERAL GEOLOGY AND MINERAL CHARACTER OF THE SOUTHWEST PORTION OF THE GILA MOUNTAIN RANGE

The Bear Creek Mining Company, a subsidiary of the Applicant (Kennecott Copper Corporation), initiated the Safford Project which was the geological exploration of the Gila Mountains in Graham County, Arizona. The general area is located in the Lone Star Mining District, which is situated 8 1/2 to 10 miles northeast of the Town of Safford on the Gila River, along the southwest flank of the Gila Range. The most intense geological exploration was centered on the lands of Mineral Surveys Nos. 4453, 4454, 4455, 4456, 4457, and 4475, and the lands surrounding and contiguous thereto. The geological data submitted in this patent application is the result of exploration during the period 1956 to 1957. Exploration has continued from 1957 to the present to determine the full extent of the copper ore body which will be described herein.

The Gila Mountains trend northwesterly and represent an uplifted and easterly tilted block of volcanic flows and tuffs. The topography is rugged with an abrupt rising face to the west and southwest and a deeply dissected slope to the east. Local relief is 1800 to 2000 feet.

Drainage to the southeast of the main exploration area is by a series of shallow incised washes that flow to the Gila River, 5 miles from the foot of the range. Bonita Creek, a perennially flowing stream, drains the east flank of the Gila Mountains.

Rainfall is less than 10 inches per year, principally in July and August, due to summer storms. Mild rains and light snows occur during December and January. The area may be classified as semi-arid and is favorable to year-round operations.

Grass and small shrubs cover the Gila Mountains; however, the area is not suitable for farming or agricultural purposes.

The geology in brief as stated in the summary and progress report of the Safford Project and compiled by Mr. Raymond F. Robinson, Senior Geologist, is:

> "A series of andesitic volcanic rocks of unknown thickness have been strongly sheared by northeast fault zones. Plutonic rocks in the form of small stocks (plug-like masses ranging through quartz diorite, quartz monzonite, granodiorite) have intruded the area apparently guided by the inherent weakness of the sheared zone. Still later, intrusive rocks, including latites, quartz latites and rhyolites, intruded the same area in the form of dikes, sills and as a plug-shaped mass, the occurrence of which suggests it filled a volcanic vent. Shearing and fracturing along the northeast shear zones continued after the later intrusions. Following this, the area was hydrothermally altered and then mineralized princiaplly by iron and copper bearing sulfides. Erosion and time formed a porphyry type mineralized body which was then covered by a later volcanic sequence: The Intermediate and Younger series. Northwest block faulting and uplift then took place and the old "orebody" along with the Gila Mountains was tilted to the east. Renewed erosion stripped the west flank of the Gila Mountains to the primary core of the old mineralization, and the copper from that area probably migrated northeasterly into the still covered and less eroded portion of the original mineralized zone.
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The following methods were used to obtain and correlate this geological data:

1. Geological Mapping.
2. Diamond Drilling.
3. Geophysical Prospecting.
4. Geochemistry.
5. Sampling.
6. Metallurgical Testing.

The geological map is entered in the application for Mineral Survey No. 4453 as "Exhibit G - Plate I" for the benefit of all the lands of Mineral Surveys No. 4453, 4454, 4455, 4456, 4457, and 4475 for which patent applications are simultaneously filed, with the exception of the claims in Mineral Survey No. 4456 for which patent application is not being filed at this time. Plotted on the Geological Map is the grid system used for control in diamond drilling, the location of the drill holes, the outline of the claims in Mineral Surveys No. 4453, 4454, 4455, 4456, 4457, and 4475, and the geophysical anomaly boundary.

Geological Cross Sections which outline the presently known limits of the copper ore body were made by referring the diamond drill hole data to the vertical plane through the grid line, nearest the drill hole. These cross sections are entered in the application for Mineral Survey No. 4453 as "Exhibit G - Plates 2, 3, 4," for the benefit of the lands of Mineral Surveys Nos. 4453, 4454, 4455, 4456, 4457, and 4475. Geological Exploration has continued since 1957 to determine the extent of the ore body beyond the limits shown in this application.

A macroscopic examination of each diamond drill core was made and the data noted in a special drill log. Cuts were made from the core and sludge and used for assay and microscopic purposes. This data is also noted on the drill log. A drill log is attached as an exhibit in each of the patent applications for Mineral Surveys Nos. 4453, 4454, 4455, 4457, and 4475. Each log is of one hole drilled within the limits of the particular survey for which patent application is being made. The drill holes corresponding to the Mineral Surveys are G-35, Mineral Survey No. 4453; G-41, Mineral Survey No. 4454; G-25; Mineral Survey No. 4455; G-21 Mineral Survey No. 4457; G-38, Mineral Survey No. 4475.

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Safford Project. In a memorandum, written December 17, 1959, to Mr. Annan Cook, Resident Geologist of Kennecott Copper Corporation, Mr. George R. Rogers, Senior Geophysicist of Bear Creek Mining Company states:

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> "An outline of the anomalous area wherein metallic mineral indications were obtained with the induced Polarization method is shown on the attached map. Numerous drill holes have demonstrated that sulfide and oxide ores of copper do occur within this area. It is reasonable to conclude that significant mineralization most likely occurs beneath almost all of this anomalous area."

The outline of the anomalous area referred to in Mr. Roger's memorandum is shown on the Geological Map, "Exhibit G - Plate 1," submitted in the patent application for Mineral Survey No. 4453.

THIS PAGE INSERTED IN LIEU OF "EXHIBIT G - PLATES 1, 2, 3, and 4" FOR MINERAL SURVEY NO. 4455 WHICH WILL BE SUBMITTED WITH THE APPLICATION FOR PATENT FOR MINERAL SURVEY NO. 4453.

DDH NO. G-25

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 21,065 S N 27,176 E
COLLAR ELEVATION 4823 est
INCLINATION BEARING

DATE STARTED 9/25/57 DRILLING CO. Boyles
DATE COMPLETED
FINAL DEPTH

FOOTAGE		UNALT	CHLOR.	EPIDOTE	MONTMOR.	BIOTITE	KAOL.	HY. MICA.	ORTHO.	SER.	SIL.	STAGE NO	ROCK TYPE	SECTION	CuSFeS4	CuFeS2	FeS2	Cu2S	CuS	MoS2	OXIDE ZONE: LEACHED CAVITIES-COLOR ETC. / SULPHIDE ZONE-CHAR OF MIN. DISS. VEIN, ETC.	V-HCL	FRACTURING	GEOLOGY
45.0	109.0						1?			3	3		Crystal-Lithic Tuff								Dkr hematite after sulfide(?) limonite mainly dull red, some orange red, with porous appearance. A few small irregular veins with similar hematite		45-60 core massive few horizontal. 60-107 core massive - some areas with very close spaced, near horiz. fractures	Greyish-greenish rock; spotted with 2mm + gray spots that are subangular to angular and probably represent rock inclusions within a crystal-lithic tuff. Many slightly yellowish spots - probably altered feldspars and/or lapilli. Less 1% quartz crystals and quartz fragments. Rock saturated and partially silicified. Fracs, mostly horizontal, seem to be related to bedding?? Disseminated sulfide(?). Some of rock fragments 1" +. T.S. 66' - Fragments mostly slightly to rounded, size up to 1+ cm.
														X									107-167.5 Mod fract near horizontal, sparse - mod irreg. Some core disintegrated in 3-6" zones. Mod hor. shring 136	
104.0	110.0						1?			3	3		XI-Lithic Tuff?								Sparse hematite & limonite, brown to yellow brown mostly			Dike or vein of reddish gray fine-grained material cuts core at near vertical. Zone relatively unfractured
110.0	122.0						1?			3	3		XI-Lithic tuff								Sparse L.C., red to yellow brown		167.5-196 mod fract and near horiz. few 3" "Clay" gouge.	Rock like 45-109, but hematite and limonite less abundant, brownish when present.
122.0	124.5						1?			3	3		XI Lithic Tuff								Moderate red to brown limonite spots.		196-233. Core all disintegrated. 233-293 near horiz fract not numerous.	Rock pale greenish gray, relatively massive appearance. Frags of hard gray latite(?) not present. Horizontal fracturing moderate.
124.5	~~147.0~~ 147.0						1?			3	3		XI Lithic Tuff								Moderate red to brown limonite		Several disintegrated zones 293-303.5 few fract 303.5-305.5 disintegrated 305.5-338 zones of few 80° hairline fract few disintegrated zones 309. ½" Sericite zone 30° few vert. limonite stained fract.	Green-gray to red-brown rock. Similar to 45-109 but limonite brown to red. Strongly jointed & fractured zone 136.5-157.5, appears finer-grained
147.0	167.5						1?			3	3		XI-Lithic Tuff								Mod brown limonite a little red-brown mostly transported			Coarse - fragments thru elsewhere - up to 1 cm common, 154-156 some frags 3 cm
167.5	189.2						1?			3	3		XI Lithic Tuff								Moderate brown limonite		338-368 numerous ½ fract near horiz. grad with limonite.	Rock similar to 45-109 but inconsistently brown limonite specks. Frags up to 1 cm. Moderate horizontal shearing
189.2	195.0		1?		1?		1?			3	2		XI Lithic Tuff								Sparse - Mod. black mineral on hor. fract, contains Cu		368-399. few 30° 399-416 45° with few hor. Cu.	Massive greenish-gray rock. 2-3% qtz "phenocrysts", some other grains up to 1 cm in fine grained groundmass. Hard. Black metallic platy min on hor. fract. Black streak, tests for Cu (tenorite?) for fract. Slight to moderate. Zone appears relatively unoxidized
195.0	250.0						1?			3	3		XI Lithic Tuff								Sparse - moderate red and red brown limonite specks. Many red limonite 235-250.		416-460. few to mod. 55°-75° 460-468 - fract & massive the core broken up by 60-70° fract. 468-474 - few near horiz. 474-486 70° hairline fract and faint shear close spaced 486.7 shear zone	Rock-like 45-109 or else badly crumbled into chunks less than ½". Fragments up to 1.5 cm in some places, but smaller in general
250.0	304.0		1?		1?		1?			Few 2	2		XI Lithic Tuff X								Few veinlets with brown limonite, almost no specks limonite. Red to brown limonite specks more abundant beyond base of unit. Also some brown limonite specks near 45° fract 280-300?			Rock like 45-109, but hematite and limonite and altered and sheared appearance. Color similar to 189-196, but coarser texture. Fragments of green phenocrysts up to 1 cm, occasionally larger. A few short zones of red limonite specks in light gray rock. Color of most of unit yellowish brownish to greenish brown. Sparse ½-mm qtz grain. R

DDH NO. G-25

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 21,065 E N 27,116 E
COLLAR ELEVATION 4823 est
INCLINATION BEARING

DATE STARTED DRILLING CO. Boyles
DATE COMPLETED
FINAL DEPTH

FOOTAGE	UNALT	CHLOR.	EPIDOTE	MONTMOR.	BIOTITE	KAOL.	HY. MICA	ORTHO.	SER.	SIL.	STAGE NO.	ROCK TYPE	SECTION	CuFeS2	CuFeS2	FeS2	CuS3	CuS	MoS2	Composite	OXIDE ZONE: LEACHED CAVITIES-COLOR ETC. / SULPHIDE ZONE-CHAR OF MIN. DISS. VEIN, ETC.	V INCL.	FRACTURING	GEOLOGY
304.0 – 330.0						1?			3	2		XI Lithic Tuff								1-	Molybdenite stained and limonite-rich up 304-307, 308-329. Trace chrysocolla 308-309.		291-514 core varies from exact 60°. 514-534.9 core broken up with by new hairline fract. distinguished from shear zones 518, 526, 529	Light greenish gray rock with some rounded fragments up to 2" of mostly. Rock moderately to highly sheared. Abundant red hematite specks or veinlets. Trace chrysocolla 308-309 on near vertical fract. in less shear zone. Moderate-intense horizontal fract.
330.0 – 338.5																					Sparse red-brown limonite, spotted with black mineral material	?	531-555 - mod. pen. dipping 40-60 v/71 590-592 vert w/Mn 555-567 mod 60°	Massive gray fine grained rock, grains appear altered, some similar to porph. Fragments rare. Very little Fe stn. Slight hor. fract.
338.5 – 371.0						2			3	4		Rhyolite									Kaol. abundant but hard on fractures and with leached cavities with some red hematite. Traces of limonite veins up to 1/4" and of black min. at 184-195		568-78 Slight hor. fract. Slight fract. and veining 0-25° 578-604 Moderate horizontal to 70° fract. Spaces 10-30°	Massive gray rock moderately to highly sheared. Zones hard, intense Fe coating on fractures, some leached cavities. Solid limonite vein at 348 1/2" with specks of blk min. 358-362 Hematite red to maroon. Most transformed but some residual fragments rare. White kaolinized zones near base of unit.
371.0 – 447.5				1?		2			3	2		XI Lithic Tuff								1-	Sparse hornblende? and a few highly sheared zones with clean red hematite coating fractures. Traces chrysocolla 380, 402.			Gray to greenish-gray fragmental rock with common lithic frags up to 1 cm. A few thin zones may be ash tuffs or lithic fragments. A few grains of black hard min on fract at 189-195. Sparse Fe grains. Purplish gray zone 410-427.
447.5 – 455.5									3	3-2		Dtz Latite?									Strong hematite stained on fract and hor. fract. Sparse limonite and sulphide on fract. Moderate and limonite on fract, sparse sulphide veins on fract.			Dense hard gray rock with moderate hor. shears, 2-5% qtz eyes, grains appear to be fine, rounded feldspar. Sericitized & silicified. Abundant hematite on fract.
455.5 – 475.0									3	3		XI Lithic Tuff												Light gray to pinkish fragmental rock, relatively hard due to silicification(?), fragments in mostly units from 1-3 mm, but some up to several inches apparently.
475.0 – 486.0									3	3-4		Lithic XI Tuff									Mod-abundant limonite on fract. Moderate leached cavities.			Light greenish gray dense rock, 2-5% qtz grains, occasional fragments of lithic up to 1 cm, but mostly just qtz in quartz silicified groundmass. Moderate-intense horizontal fracturing.
486.0 – 498.0												XI Lithic Tuff									Slight-Mod hem. stain on fractures, Moderate L.C. in upper part			Abundant rock fragments of whitish and brownish lithic in fine groundmass. Some rock frags up to several inches, most 0.5-2 cm.
498.0 – 514.0				1-2		2	1?		1	1		XI Lithic Tuff									Sparse limonite on fract			Light yellow brown fragmental rock, abundant qtz in parts, some aphanitic rock fragments up to 3/4", but most are 1/4".
514.0 – 566.4				1-2		1-2	1-2?		1	1-2		XI Lithic Tuff									Sparse to moderate limonite (hyp and) on fract. Some yellow limonite			Fragmental rock, alternating sections oxidized & unoxidized. Lower 12' more silicified. Mem. on fractures at 519, 540-50. Spots of kaol. in unoxidized sections. Aphanitic siliceous rock fr. scattered throughout.

DDH NO. G-25

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 24065.4 N 27176.2 E
COLLAR ELEVATION 4823 est
INCLINATION BEARING

DATE STARTED 9/5/52 DRILLING CO.
DATE COMPLETED 11/7/53
FINAL DEPTH

FOOTAGE		UNALT	CHLOR.	EPIDOTE	MONTMOR.	BIOTITE	KAOL.	HY. MICA.	ORTHO.	SER.	SIL.		STAGE NO.	ROCK TYPE	SECTION	CuSFeS4	CuFeS2	FeS2	CuS2S	CuS	MoS2	Chalcocite	OXIDE ZONE: LEACHED CAVITIES-COLOR ETC. / SULPHIDE ZONE-CHAR OF MIN. DISS. VEIN, ETC.	< INCL.	FRACTURING	GEOLOGY
568.4	607.0						1-2			2?	1			XI Lithic Tuff									Abundant red limonite on fractures.		Moderate-strong 70° Few 30°	Fragments of rock and quartz in a fine-grained altered matrix. Fragments less than ¼". 576-78' badly silicified.
607.0	662.8					1	1-2?			2	1			XI Lithic Tuff									Abundant red yellow, brown, and black Fe (and Mn?) oxides on fractures		618-637 most strong chlor spaced 70°-horiz. 627-vert vein fault with Fe pillings 630 vein fault - 10cm 30° with Fe pillings.	Same type rock as above, some dark fragments, possibly biotite
662.8	665.8									1-2?	3			XI Lithic Tuff					1?			1-	See geology		637-662 pink, chlor spaced 60°-60°. 663-vein 50° 662-701.6 pink, mod 60°-80°; strong narrow veins 30-20 676-calcite vein 25°	Rx appearance changes to silicified rock with green color with quartz & small rock fragments (in few places). First foot contains ⅛"-¼" vein of black metallic material which contains abundant copper (minerals) and may be mixture of calcite & iron (goethite?). Minute seams 70°-horiz contain some metallic mineral and/or cuprite. Cuprite also present in fractures and along boundaries of quartz fragments. In this foot and following rock green due to adsorped copper. Rock fizzes slightly in cone. HCl - possible chrysocolla + some CO_2 or possibly malachite in groundmass. At 665.4 fractures with malachite. Minor red fe staining.
665.8	667.0						1?			1-2	1-2			XI Lithic Tuff								1-	Minor chrysocolla diss.		90'-736 Sparse, mainly 60-90° frac. Pyrite veins 0-90° sparse to moderate. 736-766 ⊥ veins 10°-45°	Fragments of quartz & Rx in fine grained altered matrix; few veins, probably formerly like material above. Minor Fe ox. Minor chrysocolla disseminated.
667.0	672.4						1-2			2	1			XI Lithic Tuff									Red limonite on fractures			XI Lithic tuff with new hairy fractures with abundant red limonite. more altered than rock immediately above.
672.4	680.2						1-2			2+	1-2			XI Lithic Tuff					1-			1-	676 Stain of calcite Very minor chrysocolla 678.		Sparse 50°-90° frac. 766-801 Sparse 70-90°, few 50-60	Light colored rock with quartz and rock fragments set in altered ground mass. First foot minor chrysocolla. Next foot veins of hematite. 676.4 ¼"-½" calcite vein - minor diss calc. also on other side of vein. From 676.4 - 680.2 same type rock with sulphides leached out (probably leached calcite and pyrite). Red, red brown, and yellow Fe ox.
680.2	700.0						2			2+	1-2			XI Lithic Tuff					1-			1=	Sparse pyrite with very thin calcite coatings		870-2.5 brecciated zone 825-899 veins well sized sparse.	Same rock with sparse diss pyrite and very thin seams with thin coatings of chalcocite. In places the sulphides are leached. Red Red brown Fe ox on fractures. Total sulphides ≈ 0.5% non abundant last two feet.
700.0	742.5		1?	1?		1?	1			1-2				XI Lithic Tuff					2-1=				Sparse diss py and py in thin stringers. Locally thin calcite coatings.			Same type of rock but less quartz fragments; feldspars more recognizable and rock has greenish color. Probably due to less hydrothermal effects. Chlorite epidote(?) and biotite(?) in ground mass. Rock fragments still present ¼"-1". Pyrite present as disseminations and in thin stringers locally very thin calcite coatings. No copper noted. Yellow to brown iron oxide staining on fractures. ~~Tr 700'~~ Total sulfides at 1 ≈ 2%. Some of the grains reddish with sericite development (in some pebbles?). Chlorite or green clay formed along some of veins. Pebbles of biotite(?) spotted throughout rock. 737.5-740.5' light bleached zone with abundant pyrite few thin calcite coatings.
742.5	749.6		1?			1?	1?			2-3	1			XI Lithic Tuff(?)					2	1-			Moderate pyrite disseminated and in veins, traces of chalcocite coating pyrite. Moderate brown limonite			Lite gray green rock with fairly abundant white sericitized feldspars ¼"-½" and scattered red ⅛"-½" areas of hematite in a light to medium gray matrix. Sparse quartz eyes. Moderate brown limonite on fractures. Pyrite ~1%, disseminated and on fractures.

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DDH NO. G-25

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 21065.4 N 27176.2 E
COLLAR ELEVATION 4823
INCLINATION BEARING

DATE STARTED 9/25/52 DRILLING CO. Ryan
DATE COMPLETED
FINAL DEPTH

FOOTAGE	UNALT	CHLOR.	EPIDOTE	MONTMOR.	BIOTITE	KAOL.	HY. MICA.	ORTHO.	SER.	SIL.	STAGE NO.	ROCK TYPE	SECTION	CuSFeS4	CuFeS2	FeS2	Cu2S	CuS	MoS2		OXIDE ZONE: LEACHED CAVITIES-COLOR ETC. / SULPHIDE ZONE-CHAR OF MIN. DISS. VEIN, ETC.	< INCL.	FRACTURING	GEOLOGY
748.6 816.0		0-2	1		0-2				1-2	1		XI lithic Tuff				1-2	1-				Moderate disc. py. Some pyrite veinlets, traces chalcocite coating and grains.		849-905 45-90° Sparse, also few random. 905-944 Sparse 70-90°	Gray rock of spotted appearance. 1/8" biotite or chlorite aggregates in lighter matrix, sparse 1/8-1/2" light aphanitic latite fragments. Local epidote in rock. Pyrite disseminated throughout, 1/2-1%, few veinlets, mostly with some oxidation to brown limonite. Chlorite developed near some veins and in some zones takes the place of biotite.
816.0 825.0		1			0-2	2-3			2-3	1		XI lithic Tuff				P-	1-				Moderate pyrite, trace chalcocite, leached out in some sections.		944-983 sparse vein 45°-70°	Moderately to strongly bleached rock with strong yellow-brown iron stain in places, pinkish stain of rock discolored. Rock contains moderately veined and broken in places.
825.0 881.5		1	1		2-	0-2			1-3	1		XI lithic Tuff	X			1-2	1-				Pyrite disseminated and in veinlets, traces of chalcocite along fractures.			Mostly dark gray rock with lighter roundish fragments, some stained pinkish to red. Groundmass moderately biotized. Slight to strong bleaching along some veins and fractures. A little epidote and chlorite. Pyrite about 1%. Moderate qtz eyes.
881.5 898.0		1				2-3			3-4	2-		XI lithic Tuff	X			2	1				Pyrite in veins and disseminated, coated by chalcocite. Few veins contain some massive ccite.			Strongly bleached white rock veined by pyrite with a little chalcocite, mainly as coatings. Zone away from veins appears to show clay alteration, closer to veins more sericitic quartz, and in some places chlorite. Pyrite 2%.
898.0 913.5		1			2-3	1?			2			XI lithic Tuff				2					Moderate disseminated pyrite			Dark strongly biotized rock with some red to gray aphanitic fragments, one is latite porphyry. Quartz eyes up to 3" in diameter. 904-907' is lighter color, apparently bleached. Chlorite along some fractures and veins. Pyrite 1-2%
913.5 936.0		1?			1-2	0-2			2	2-3		XI lithic Tuff	X			2-	1				Moderate pyrite disseminated and in veins.			Medium to light gray rock with sparse to moderate fragments of red to gray aphanitic rock and medium grained latite. Moderate to abundant pyrite (2-4%). At 917-918 3/8" vein of pyrite and chalcocite. Chalcocite coatings nearby also. Kaolin, gray clay in fracture 932.5'. Many fragments appear to be altered to Kaolin in this zone.
936.0 964.0					0-1	1			2-3	3-4		XI lithic Tuff.				2-					Moderate disseminated pyrite			Light gray hard rock with fragments of phenite rock up to 1". Occasional clay-filled fractures. Appears well silicified. Moderate 1/8-3/16 quartz eyes.
964.0 1008.5				1?	2	0-2			1-2	2		XI lithic Tuff				2-								Dark fragmental rock with moderate to abundant 1/4-1" fragments. Many are altered to yellow-green clay (some chlorite, montmorillonite?) Kaolin), some gray and red aphanitic, a few latite porphyry. Groundmass biotized. Few pyrite veins. Moderate quartz eyes. 2-3% pyrite.
1008.5 1025.5		1	X		1	1-2			2-3	1		XI lithic Tuff				2	1-				Moderate disseminated pyrite. Chalcocite in veins		983-1047 sparse 60° wet; few hairline pyrite stringers.	Yellowish-green to white bleached rock abundant fragments. Many altered to yellow-green clay. Moderate stockwork and scattered pyrite veins. Less bleached portions have chlorite or biotite in groundmass. 2% pyrite. Strongly silicified adjacent to some pyrite veins. Brown to red-brown limonite on some fracture.
1025.5 1090.2		1?			2?	1?			1	1-2		XI lithic Tuff.		1?	2	1-					Moderate pyrite diss. in veins, sparse cpy + ccite.			Mostly dark rock with moderate argillized and quartzitic siliceous fragments. Moderate Qtz eyes. Moderate pyrite disseminated and in occasional veins. Trace of cpy in veins at 1044, ~~not~~ disseminated in argillized fragment near base. Fragments of 1/4" common, to 1". 2-3% py.

DDH NO. G-25

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 21,065.4 N 27,176.9 E
COLLAR ELEVATION 4816.9
INCLINATION Vert BEARING

DATE STARTED 9/25/57 DRILLING CO. Boyles
DATE COMPLETED 1/8/58
FINAL DEPTH 2211.0

FOOTAGE		UNALT	CHLOR.	EPIDOTE	MONTMOR.	BIOTITE	KAOL.	HY. MICA.	ORTHO.	SER.	SIL.	STAGE NO.	ROCK TYPE	SECTION	CUSFES4	CUFES2	FES2	CU2S	CUS	MOS2	OXIDE ZONE: LEACHED CAVITIES. COLOR ETC. / SULPHIDE ZONE: CHAR OF MIN. DISS. VEIN, ETC.
1094.2	1116.0		1?			1-3				1-3	2-3		xl lithic Tuff				2-4				Abundant pyrite in veins and disseminated. Some Fe stain on fractures.
1116.0	1119.1						1?			2	3-4		Quartz latite?								Sparse pyrite in issues along veins
1119.1	1152.0					0-2	1			1-3	2		xl lithic Tuff.	x		1?	2-3				Moderate to abundant pyrite disseminated and in veins. Trace cpy in veins 1127' and elsewhere. Limonite and goethite along some pyrite veins.
1162.0	1178.0						1-2			3-4	2		xl lithic Tuff.				2-3				Moderate-abundant pyrite. Some limonite on veins fractures
1178.0	1188.0					2				1-2	2		xl lithic Tuff.				2-3				Mod-abun. pyrite disseminated and in veins. A little limonite on fractures.
1188.0	1191.0		1?			2				1	2		xl lithic Tuff.								Same.
1191.0	1355.0		1?			2				1-2	2		xl lithic Tuff	x	1?	1-2	1?				Moderate pyrite, mainly disseminated. Traces cpy in veinlets and replacing frags. Trace bn. Some dk brown limonite in pyrite veins. Pyrite veins more abundant from about 1330 on.
1355.0	1377.0		1							1	3		latite?	x			2				Sparse to moderate pyrite. A little limonite on fractures. Pyrite both in veins + disseminated
1377.0	1410.0		1							2	3		latite Porphyry?	x		1?	2				Same as above. Trace cpy

FRACTURING	GEOLOGY
1047-1077 - pyrite stringers 20°, 60°, rare vert sparse fractures.	Fragmental rock, about 60% dark biotized groundmass and 40% rock bleached to varying extents. 5% quartz eyes. Fragments 1/8 - 1/4" mostly. Fragments include aphanitic latite, coarse latite porphyry bordering on monzonite. Pyrite 2-3%
1077-89 few 20°-30°	
1089-94 few 60-80°, 10-20°	White rock with 1mm feldspars and 1-2mm qtz. Might be bleached xl lithic tuff.
1094.2 - 1119.1 Sparse to moderate fract random, few vert few 60-80°	Rock similar to 1094-1116, but fragments tend to be larger, quite few 3/4-1", few 2", latite porphyry. Some inclusions altered to clay (ph 4/3-36 (Kaolin)). Pyrite 3-5%. Light to medium gray and 1/4 white. These differences in alteration (biotite vs sericite) appear to be hypogene because little sp. of pyrite are anywhere here.
1126.5-1167.3 few 30-45. Few horiz and vert.	
1167-1217 Sparse 20-45° few irreg and vert.	Mainly light colored sericitized fragmental rock, with few fragments over 1/4". Pyrite 3-5%.
1217-1249 sparse 60°, 20°, random	Darker rock, biotized groundmass, but otherwise similar to above.
1249-1259 sparse 20°-45° few random. All with pyrite	Fine grained dark tuff, no fragments over 1 mm noted. Qtz eyes present. Chlorite(?) on fractures.
1259-1329 sparse 50°, 20°-30° & vert. Many with pyrite stringers.	Mainly biotized xl lithic tuff with frags. up to 1/4". Many qtz eyes. Cpy 1202-1209, 1249, 1287, 1314. Pyrite 3%. Broken up zone 1216-18. Bleached 1217-1228. Cpy & bn 1232.5. Ccite cpy & bn 1316. Galena, sphalerite and goethite 1319 in vein with euhedral quartz. Cpy & ccite 1322.5. Cpy 1337. Cpy & ccite 1340
1329-1375 sparse and random 15-20° & vertical.	
	Light colored rock with 1 mm feldspars in aphanitic groundmass. No quartz eyes. Rare small inclusions. Moderately to highly silicified, probably a little sericite, mafics chloritized. Pyrite 2%
	Rock with grained mass similar to above but with 1-5 mm sericitized feldspars or inclusions. Rare quartz eyes now & then. Maybe light colored crystal lithic tuff. Pyrite 2-3%

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DDH NO. G-25

STATE Arizona MINING DISTRICT Lone Star
COUNTY Graham PROJECT Safford

COORDINATES 21,065 ± N 27,176 ± E
COLLAR ELEVATION 4816.9
INCLINATION Vert BEARING

DATE STARTED 9/14/52 DRILLING CO. Ryles
DATE COMPLETED 1/30/53
FINAL DEPTH 2211.0

FOOTAGE		UNALT	CHLOR.	EPIDOTE	MONTMOR.	BIOTITE	KAOL.	HY. MICA.	ORTHO.	SER.	SIL.	STAGE NO.	ROCK TYPE	SECTION	CuFeS4	CuFeS2	FeS2	Cu2S	CuS	MoS2	Oxide Zone: Leached Cavities-Color Etc. / Sulphide Zone-Char of Min. Diss. Vein, Etc.	< INCL.	FRACTURING	GEOLOGY
1410.0	1488.0		1		(1-2)					1	2		XI lithic tuff			1-	2+				Moderate pyrite in veins and disseminated. Traces of cpy usually in veins, a little dissem. Trace limonite on fractures.		1377-1425 Moderate fracturing in random directions, few short sections of core badly broken up but doesn't appear to be major fault or shear.	Rock like 1191-1319. A few frags of several inches in diam. Somewhat more calcite than before, but still very minor. Pyrite 3%
1488.0	1527.5		1			2				1	2		XI lithic tuff	X		1-	2+				Same as above			Similar to above but darker and generally finer-grained appearance. Most rock has ½" fragments on drilled surface. Qtz eyes about 0.5 mm, smaller than before. Pyrite 3%
1527.5	1556.0		1			2				1	2		XI lithic Tuff			1-	2+		1=		Abundant pyrite disseminated and in veins, mostly dissemination. Traces of cpy, mainly in small veinlets. Trace chalcocite coating some cpy veins.		1425-1463 Spaced to moderate, mainly 0-20° and 60-90°. 1463-1521 Moderate 20-30 & some to 90° few vert and random. Pyrite usually in veins vert to 30°	Similar to above. Pyrite 3%
1556.0	1572.0		1			1				1-2	4		Qtz latite	? X		1=	2				Moderate to abundant pyrite disseminated and in veins. Traces cpy.		1527-1574 Spaced to moderate 15°-40°, few 60-90°. Pyrite veins mainly about 20°	Highly silicified light colored rock with feldspar phenocrysts in visible in places, slate at chlorite, and disseminated sulfides. Visible feldspars appear recrystallized. Pyrite 2-3%
1572.0	1596.7		1							1-2	4		Crystal lithic tuff	X ?		1-	2	1-			Moderate to abun. pyrite in veins and dissem. veins more abundant. Traces cpy and calcite. Some oxidation and iron stain along fractures		1574-1617 Spaced to moderate 15°-30°. Few along vertical pyrite veins; most cpy veins 30-70°. 1617-1647 moderate pyrite veins 20-30 few 50-60° vert.	Silicified like previous unit but contains fragments, and in some places prominent white areas which are often altered feldspars or fragments. Some feldspars present in ground mass
1596.7	1665.0		1		0-1					2	2		XI lithic Tuff.	1=	1	2	1-	1=			Moderate pyrite in veins and disseminated. Sparse cpy with traces of bn cpy, & calcite. Slight oxidation along fractures.		1647-1713.8 Moderate 40-50 and spaced 0-20°. 1713.8-1739 0-20° have pyrite, some 40-60° old.	Light gray rock with scattered fragments of latite and granitic subjacent material up to 3/4". Qtz eyes. Some to moderately biotitized. Chlorite present along some veins. Sulfides 3%
1665.0	1703.0		1-		1-2					2	2		XI lithic tuff		1	2	1-	1-2			Same as above.		1739-1735 old spaced 10°-60°; most are wit. old or pyrite.	Same as above but more biotized. Sulfides 3%
1703.0	1710.5		1		1					3	3-4		XI lithic Tuff.		1	2	1-	1=			Moderate pyrite, trace cpy and calcite		1735-1775 pyrite veins mainly vert to 20° spaced to moderate. Few veins vert to 30 few 60°	Light colored sericitized and silicified rock. Sulfides 2%
1710.5	1722.0		1							3	3		Qtz latite?			1=	2-				Moderate pyrite, trace cpy			Light colored rock with feldspar phenocrysts up to 5 mm in aphanitic groundmass. Near bed appears to contain large inclusions of tuff
1722.0	1821.0		1			2				2	2		XI lithic Tuff	1=	1-	2	1=	1=			Moderate pyrite, trace cpy, calcite. In veins and dissem. Trace bn cpy, and a little oxidation on fractures.			Moderately biotized xl lithic tuff, scattered fragments of latite and apparently rx. Qtz monzonite 1748-50. 1803 qtz eyes, about 1 mm size.

DDH NO. G-25

STATE Arizona COUNTY Gila MINING DISTRICT Lone Star PROJECT Safford

COORDINATES 21,065.4 N 27,176.8 E
COLLAR ELEVATION 4816.9
INCLINATION VERT BEARING

DATE STARTED 9/25/57 DRILLING CO. Boyles
DATE COMPLETED 1/30/58
FINAL DEPTH 2211.0

FOOTAGE		UNALT.	CHLOR.	EPIDOTE	MONTMOR.	BIOTITE	KAOL.	HY. MICA	ORTHO.	SUR.	SIL.	STAGE NO.	ROCK TYPE	SECTION	CUSFES4	CUSFES2	FES2	CUS4	CUS	NCS2	Chrysocolla	OXIDE ZONE: LEACHED CAVITIES-COLOR ETC. / SULPHIDE ZONE-CHAR OF MIN. DISS. VEIN, ETC.	VEINLETS	FRACTURING	GEOLOGY
1821.0	1825.0		1-			1-2				2-3	2		Xl lithic tuff			1-	2	1=	9		1-	Moderate pyrite, trace bornite, cpy, trace sphal, Trace chrysocolla on fractures.		1821-1849 Moderate fract mainly 10-20° few 20-45°.	Slightly to moderately biotized crystal lithic tuff with short (6") sections of latite ppy. Traces chrysocolla. Sulfides 2%
1825.0	1888.0		1-			2				2	2-		Xl lithic Tuff			1-	2	1=			1=	Moderate to abundant disseminated pyrite, traces to sparse cpy. Traces chrysocolla on fractures and disseminated in mass. Possible trace bornite 1850.0. Biotite only in upper half of unit.		1849-1895 moderate 5°-25°; lesser more 30°-80°; also with veins some orientation. 1895-1940 Moderate 10-45 and some near horizontal. 1940-85 Sparse mainly 60-90, few near vert, 20-40.	Moderately to slightly biotized Xl lithic tuff. Traces chrysocolla on and in nearby groundmass. Cpy moderate. 1864-67, 188.-88. Sulfides 2-3%
1888.0	1914.0		1-	1=		1-2							Xl lithic tuff-breccia			1-	2					Moderate pyrite, trace cpy.			Slightly to moderately biotized rock with fragments of inches in diameter of latite and latite porphyry.
1914.0	2104.0		1-	1=		2				2	2		Xl lithic tuff.	X		1=	2	1=	9-		1=	Moderate pyrite, sparse cpy. Traces chrysocolla and azurite, bornite.		1985-2005 sparse (to nil in places areas with most with pyrite. Few near; near vert. 2005-2114 sparse (to nil in some areas) 25-40° some with cpy, py some near horiz; some near vertical.	Medium gray moderately to slightly biotized rock with sparse to moderate fragments of latite and some aphanitic rx. Moderate to abundant pyrite and increased amounts of cpy from above holes. Cpy mostly in veins. Alunite along veins. Lower qtz eyes moderate. 2-3% sulfides. Lower half has some cpy veins up to 1/8" wide.
2104.0	2136.5		1-			2				1	3-4		latite ?	X		1+	2					Moderate py and sparse to moderate cpy, mainly in veins.			Medium-grey aphanitic-appearing rock with sparse feldspar and biotite phenocrysts. Moderate pyrite + cpy mainly in veinlets, some fine disseminations. Sulfides 2-4%. Magnetite in vein with cpy and quartz at 2129.
2136.5	2211.0		1-			3					2		Andesite breccia	X		1+	2					Moderate pyrite and sparse cpy mainly in veins.			Black fine-grained rock, with few tabular feldspar phenocrysts. Abundant biotite. Some quartz veins. Calcite on fractures. Scattered fragments of more siliceous rocks.