CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
3550 N. Central Ave, 2nd floor
Phoenix, AZ, 85012
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

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0-1380 = 0.1
below 1380 = 0.03

T-6

.03

T-2

A-2

T-4

RA-2

11,000

RA-5

RV-10
2206

RV-2

RV-6

10,000

RV-4

RV-1

RA-6

RA-4

RA-3

RV-8

9,500

1,000

RV-5

RA-1

12,000

13,000

RV-3

A-1

ES-4

RV-7

0.2% Cu

T-8

0-1000 = 0.1
1000-1425 = 0.05

RV-9

T-3

T-7

0-1180 = 0.2
1280-1475 = 0.02

T-9

0-1000 = 0.1
1000-1420 = 0.05

T-5

T-1

NOTE:
The locations of RV-6 and RA-4 seem to fit the PMC grid map but the locations of RA-3, RA-1, and RV-2 do not agree w/ the PMC grid. Quite possibly the locations of all the RA & RV holes are suspect.

BHH. Oct 29, 1973

RARE METALS

DIAMOND DRILL LOG

HOLE No. A-1 SHEET 1 OF

SCALE STARTED STOPPED NOTES BY BHH

DEPTH BEARING INCLINATION

PROPERTY COUNTY STATE

COLLAR COORD. N. E.

COLLAR ELEV.

ASSAYS % MO	ASSAYS % CU	% RECOV.	DEPTH	Graph	COL.	DETAIL	MINERALIZATION	ALTERATION	ROCK TYRE
		Box 2	54			NX CORE SPLIT	weak to locally strong Cu oxide	biotite	Kan andesite porphyry
			88			QUARTERED No CORE			
			101						101 Tqmp
							weak fn dissem hematite mod-strong Cu oxide 126 – 142 mod-strong hematite stain	weak-mod chlor after biotite qtz veining	
			143			SPLIT	strong Cu oxide 181 – 200 chrysocolla ± brochantite (?) below 200 mod mineralization, scattered chrysocolla, mod hematite films & stain	biotite-silicification qtz veins	143 Kan andesite porphyry
			306			No CORE			
			330			Bx CORE			
			340				weak mnlzn 348 – 381 mod mnlzn, chrysocolla ± hematite in qtz veins and fx coatings but very little dissem in plagioclase below 381 weak mnlzn	mod chlor after biotite; qtz veins	340 Tqmp
							450 start sulfides mostly bornite in & close to qtz veins wk mnlzn change ¶ depth from bornite to very weak dissem cpy		
			781			EOH Box 76			

DIAMOND DRILL LOG

HOLE No. V-1 SHEET 1 OF 2

SCALE _____ STARTED _____ STOPPED _____ NOTES BY _____

DEPTH _____ BEARING _____ INCLINATION _____

PROPERTY _____ COUNTY _____ STATE _____

COLLAR COORD. N. _____ E. _____

COLLAR ELEV. _____

ASSAYS % MO	ASSAYS % CU	ASSAYS	% RECOV.	DEPTH	Graph	COL.	DETAIL	MINERALIZATION	ALTERATION	ROCK TYPE
								10-25 oxidized mod. purple hematite stain, weak goethite-jarosite, traces Cu oxide	biotite → chlorite incomplete	Tqmp(?) very light gray very similar to V-3 colorless to cloudy feldspar phenocryst up to 1/4" w/ qtz grains in fine-grained groundmass.
			10					25-210 incomplete oxidation 1/in 50G 50J weak scattered Cu oxide		colorless groundmass coarser grained than V-3 w/ more quartz
			20					very weak dissem sulfides, hematite		10% biotite finely dissem; 3% hbld
			55					scattered qtz veins w/ weak sulfides		weak dissem hematite
							156-183 zone of strong purple red FeO stain and mod to locally strong clay-sericite	210- sulfides mostly pyrite in veins, traces cpy in veins + dissem total sulfides < 0.5%		
							183-191 box missing			
							below 191 intermittent reddish color due finely dissem FeO specks			
								below 300 only traces sulfides		
										wide variation in phenocryst size. 1mm up to 1/4"
									≈ 400 alteration decreases w/ depth — matics only weakly altered to chlorite	
			495							
										733-749 zone containing porphyry dikes probably qmp - qdp both w/ strong chlorite alter. + weak dissem Fe + Cu sulfides

BX SPLIT

NC SPLIT

PX SPLIT

QUARTERED

DIAMOND DRILL LOG

HOLE No. V-1 SHEET 2 OF 2

SCALE _____ STARTED _____ STOPPED _____ NOTES BY BHH

DEPTH _____ BEARING _____ INCLINATION _____

PROPERTY _____ COUNTY _____ STATE _____ COLLAR COORD. N. _____ E. _____ COLLAR ELEV. _____

ASSAYS % MO	ASSAYS % CU	ASSAYS	% RECOV.	DEPTH	Graph	COL.	DETAIL	MINERALIZATION	ALTERATION	ROCK TYBE
				914				914 start wk-mod diss pyr + tr cpy	start wk-mod sericitization of feldspars, mod chlor in groundmass	925 ≈ 950 scattered intervals of brecciation, bx pipe? angular intrusive fragments in green matrix of chlorite sericite plus 3-4% sulfides principally pyrite-bornite w/ some chalcopyrite
								weak mineralization + alteration continues below breccia intervals to about 980		
								below 980 same rock as above 914		
EOH				1000						
Box 104										

DIAMOND DRILL LOG

HOLE No. V-2 SHEET 1 OF 1

SCALE _____ STARTED _____ STOPPED _____ NOTES BY EHR

DEPTH _____ BEARING _____ INCLINATION _____

PROPERTY _____ COUNTY _____ STATE _____ COLLAR COORD. N. _____ E. _____ COLLAR ELEV. _____

ASSAYS % MO	ASSAYS % CU	% RECOV.	DEPTH	Graph	COL.	DETAIL	MINERALIZATION	ALTERATION	ROCK TYPE
									Tqmp
									plagioclase phenocryst subhedral to euhedral 1/16" to 1/4" w/ qtz grains "floating" in pink mosaic textured groundmass
		NC CORE					oxidized - light golden brown lim on fxs and sparse veinlets very little dissem		≈ 5% hbld strongly altered to chlorite, minor biotite partially or completely altered to chlorite
			10						
							scattered surfaces w/ dark red lim and traces calcocite	chlorite from matics with weak epidote	plagioclase hard and shiny
			20						
		NX SPLIT SOME QUARTERED							
							at 40' weak dissem chalcopyrite w/ oxidized rims becomes apparent <.5% sulfides, weak bornite		weak dissem. magnetite
							moderate brn lim continues to 52' and is spotty + weak below	dissem metallic gray mineral which streaks dark red - hematite	
							traces chalcocite + cuprite		
							good hematite on many fxs and some veins		
							short intervals ≈ 1% sulfides		
						weak chrysocolla 302'	spotty qtz veins w/ sulfides		
			500			dissem sulfides very weak 440 - 520			
		BX SPLIT, SOME QUARTERED							
							entire hole fairly consistent mineralization avg 0.5 - 1% sulfides		
		EOH	715						
		Box 75							

DIAMOND DRILL LOG

HOLE No. V-3 SHEET 1 OF 2

SCALE ____ STARTED ____ STOPPED ____ NOTES BY BHA

DEPTH ____ BEARING ____ INCLINATION ____

PROPERTY ____ COUNTY ____ STATE ____ COLLAR COORD. N. ____ E. ____ COLLAR ELEV. ____

ASSAYS % MO	ASSAYS % CU	% RECOV.	DEPTH	Graph	COL.	DETAIL	MINERALIZATION	ALTERATION	ROCK TYPE
						NX CORE QUARTERED			
			Box 3 — 55				weak sulfides in qtz veins and on fxs oxidized	strong biotite qtz veining weak to mod % no halo alteration	Kan andesite porphyry
						very weak mineralization	pyrite @ 99'		
							veins usually thin but may be 1/4"	fine dissem magnetite	
							weak fn dissem orange-red to purple hematite may be after hematite	silicified	
						109 pitch limonite in vein			
						— — —	≈114 strong dissem orange-red limonite but variable also strong purple f.g. hematite assoc. w/ plagioclase		
						weak mineralization	mod rusty brn to dark red limonite on fxs & veins scattered traces chrysocolla		
							w/ depth to 197 dark red hematite dissem and on fx		
			197						
			No CORE						
			207						
			NX - halved				mod qtz veining generally very thin w/ weak indication of sulfides	strong biotite	
						very weak mineralization	orange-red to dark red, mod hematite dissem, in veins and on fxs		
							rare Cu oxide		
			Box 30 — 296			first sulfides in Box 30	pyrite - chalcopyrite		
			No CORE						
			Box 40 — 361			— — —	pyrite - chalcopyrite traces bornite both in veins & dissem amount varies widely over short distances of a few feet or even several inches range of sulfides is <0.5 - 2% average <1%	strong biotite many feldspars peppered w/ tiny flecks magnetite(?) dissem grains of magnetite	Kan andesite porphyry

DIAMOND DRILL LOG

HOLE No. V-3 SHEET 2 OF 2

SCALE ____ STARTED ____ STOPPED ____ NOTES BY ____

DEPTH ____ BEARING ____ INCLINATION ____

PROPERTY ____ COUNTY ____ COLLAR COORD. N. ____ E. ____ STATE ____ COLLAR ELEV. ____

ASSAYS % Mo	ASSAYS % CU		% RECOV.	DEPTH	Graph	COL.	DETAIL	MINERALIZATION	ALTERATION	ROCK TYPE
							Boxes 47 + 49 MISSING Box 48 (417-425) strong finely dissem. chalcopyrite 3-4% w/ minor bornite	below 425 weak mineralization related to veins <.5% sulfides best mineralization in qtz-chl-sulfide veins w/ several periods of mineralization		Same
		Nx								
		≈ 600						general weakening of mineralization w/ depth at ≈ 705 more pyrite becomes apparent total sulfides <.5%	gradual diminution of biotite alteration w/ depth	
		Bx								
	EOH(?)		789							
		Box 89								

DIAMOND DRILL LOG

HOLE No. V-4 SHEET 1 OF

SCALE STARTED STOPPED NOTES BY

DEPTH BEARING INCLINATION

PROPERTY COUNTY STATE COLLAR COORD. N. E. COLLAR ELEV.

ASSAYS % MO	ASSAYS % CU	% RECOV.	DEPTH	Graph	COL.	DETAIL	MINERALIZATION	ALTERATION	ROCK TYPE
			10					strong biotite	Kan andesite porphyry
	Nc CORE SPLIT						moderate qt veining 1 l/in, mod brn to red limonite on frs & locally dissem;		
			30					1-3% dissem magnetite	
	NX - SPLIT						0 - 72 mpd Cu oxide as spots of chrysocolla in feldspars, veins and disseminations	finely speckled & dark purple red hematite	
								occasional calcite in veins	
							below 72 very weak except locally		
						First sulfides 128'			
									322 – quartz monz. porphyry books primary black biotite, speckled & flakes black biotite, very wk mineralization 345 –
									Kan andesite porphyry
							same	same	
			600						
	BX SPLIT								
							640-650 zone weak dissem bornite		
						very weak mineralization	moderate dark red hematite coatings and disseminations increasing w/ depth to 730'		
	EOH (?) Box 79		730						
one strong bor sample #96, V-4 895-905						biotite alteration <.5% dissem bornite			

DIAMOND DRILL LOG

HOLE No. V-5 SHEET 1 OF 1

SCALE _____ STARTED _____ STOPPED _____ NOTES BY BHH

DEPTH _____ BEARING _____ INCLINATION _____

PROPERTY _____ COUNTY _____ STATE _____ COLLAR COORD. N. _____ E. _____ COLLAR ELEV. _____

ASSAYS % MO	ASSAYS % CU		% RECOV.	DEPTH	Graph	COL.	DETAIL	MINERALIZATION	ALTERATION	ROCK TYPE
				40						Kan andesite porphyry
	Nx	SPLIT						weak brn FeO v.f. dissem dark red hematite mostly in plagioclase	strong biotite moderate qtz veins	
								76 moderate Cu oxide mineral. chrysocolla	3-5% dissem magnetite	
								100 weak Cu oxide		
								370 first sulfides, partial oxidation below; very weak mineralization pyrite, cpy, bornite veins + dissem		
				405						
	Bx	SPLIT								
				500				500 moderate dissem sulfides, cpy w/ weak bornite varies .5% to very locally 2%, may average ≤ 1%		
		QUARTERED								
								770 below 770 mineralization is weak, locally .5-1% dissem cpy, bornite, avg ≤ .5%		
	EOH			904						
	Box	91								

DIAMOND DRILL LOG

HOLE No. V-6 (RV-6) SHEET 1 OF 2

SCALE 1" = 100' STARTED _____ STOPPED _____ NOTES BY BAH

DEPTH _____ BEARING _____ INCLINATION _____

PROPERTY _____ COUNTY _____ STATE _____

COLLAR COORD. N. _____ E. _____ COLLAR ELEV. _____

ASSAYS % MO	ASSAYS % CU		% RECOV.	DEPTH	Graph	COL.	DETAIL	MINERALIZATION	ALTERATION	ROCK TYPE
		NX CORE		107			core has been quartered	mod. brn lim on vns and fxs, weak dissem traces chrysocolla 142'-144'	intense biotite qtz veins - no halo alteration wk diss magnetite	Kam-andesite porphyry
								215-235' weak oxide Cu, orange brn lim after pyrite in qtz veins; finely dissem limonite		
								235-308 very weak Cu mineralization		
								308-445' mod. mineralization more dk red hematite starting @ 379' w/ decreasing lim-hem w/ depth, oxidation limit ≈ 445	traces chlorite in veins, some biotite selvages on veins	
							506 chalcocite w/ chalcopyrite in 1/4" qtz vein	446-563 1-2% dissem chalcopyrite w/ weak bornite, a lot of variance over short distances like a few inches average <1% cpy at ≈ 500' more in veins and fx coatings than disseminated		
								563-567 better grade - diss + veins ≤1.5% cpy ≤ .4% Cu		
				567						
		NO BOXES								
				661				661-671 weak mineralization,	some-intense biotite, dissem magnetite and veins	
								671-748 zone of mod-strong dissem copper mineralization, mostly cpy but locally up to 30% bornite 1-3% dissem sulfides, average +1%		
		BX CORE		740						
				748						

DIAMOND DRILL LOG

HOLE No. V-6 (RV-6) SHEET 2 OF 2

SCALE _____ STARTED _____ STOPPED _____ NOTES BY _____

DEPTH _____ BEARING _____ INCLINATION _____

PROPERTY _____ COUNTY _____ STATE _____ COLLAR COORD. N. _____ E. _____ COLLAR ELEV. _____

ASSAYS % MO	ASSAYS % CU	% RECOV.	DEPTH	Graph	COL.	DETAIL	MINERALIZATION	ALTERATION	ROCK TYBE
	No CORE								
			898						
	Bx quartered						weak quartz-chalcopyrite veins 1/16-1/8", very minor oxidation; minor FeS_2 much greater amount dissem cpy and lesser bornite varies <0.5% to 1.5% dissem sulfides 0.6-0.8% dissem sulfides average total sulfides average 0.6-0.9%	intense biotite	Kar andesite porphyry
			EOH(2) 970						
			Box 89						

DIAMOND DRILL LOG

HOLE No. V-7 SHEET 1 OF 1

SCALE ____ STARTED ____ STOPPED ____ NOTES BY BHH

DEPTH ____ BEARING ____ INCLINATION ____

PROPERTY ____ COUNTY ____ STATE ____ COLLAR COORD. N. ____ E. ____ COLLAR ELEV. ____

ASSAYS % MO	ASSAYS % CU		% RECOV.	DEPTH	Graph	COL.	DETAIL	MINERALIZATION	ALTERATION	ROCK TYPE
				0						Kan andesite porphyry
	Nc	SPLIT						mineralization weak first sulfides @ 30' dissem + veins < 5% total partial oxidation scattered weak Cu oxide very erratic mnlzn. orange-red to dark red Fe stain	biotite - strong veins contain quartz - minor calcite - hematite - wk chlorite some of the bigger veins w/ bleached halos show best dissem. sulfides	
				20						
							256 - 275 moderate Cu oxide stain			
				500						
MANY BOXES MISSING	Bx	SPLIT							below 550 mod-strong chlorite in some veins	
								increasing dissem sulfides over last 20' to 2% but much is pyrite		
	EOH(?)			815						
	Bot	90								

DIAMOND DRILL LOG

HOLE No. V-8 SHEET 1 OF 1

SCALE _____ STARTED _____ STOPPED _____ NOTES BY BHH

DEPTH _____ BEARING _____ INCLINATION _____

PROPERTY _____ COUNTY _____ STATE _____ COLLAR COORD. N. _____ E. _____ COLLAR ELEV. _____

ASSAYS % MO	ASSAYS % CU	% RECOV.	DEPTH	Graph	COL.	DETAIL	MINERALIZATION	ALTERATION	ROCK TYBE
	NX SPLIT		60				weak – rare Cu oxide; brn FeO	strong biotite	Kan andesite porphyry
			97						
	NO BOXES								
			110				qtz-limonite veins totally oxidized. 1/4 dark brown limonite that powders to gold 50G 50J strong limonite mod disseminated limonite	Sericite chlorite – wk-mod	110 Tqmp(?) feldspar phenocrysts wk to mod sericitized, 2-4% biotite weakly chloritized; good qtz eyes
							very weak mineralization scattered traces Cu oxide	strong biotite	240 Kan
	EOH(?) Bop 70		610						

MANY MISSING BOXES

DIAMOND DRILL LOG

HOLE No. V-9A SHEET 1 OF 1

SCALE ____ STARTED ____ STOPPED ____ NOTES BY BHH

DEPTH ____ BEARING ____ INCLINATION ____

PROPERTY ____ COUNTY ____ STATE ____ COLLAR COORD. N. ____ E. ____ COLLAR ELEV. ____

ASSAYS % MO	ASSAYS % CU		% RECOV.	DEPTH	Graph	COL.	DETAIL	MINERALIZATION	ALTERATION	ROCK TYPE
				76						
		Boxes Missing								
				96				chalcopyrite-pyrite-bornite in scattered qtz veins; weak dissem sulfides very locally	mod-strong biotite	Kan andesite porphyry
							weak-mod mineral		chlorite increasing gradually w/ depth	
								230 below this point fairly consistent dissem pyrite 2-3% w/ traces cpy-bnt most copper in veinlets w/ chl-qtz		
								below 350 slight decrease in dissem sulfides 1-2%;	predominant biotite mod-strong	
								450 dissem sulfides pick up again to 2-4%; cpy + bornite in veins + dissem still weak mineralization 1-0.2% Cu		
	EOH(?)		548							
	Box 53									

33 OUT OF 53 BOXES PRESENT

DIAMOND DRILL LOG

HOLE No. V-10 SHEET 1 OF 2

SCALE ____ STARTED ____ STOPPED ____ NOTES BY BHH

DEPTH ____ BEARING ____ INCLINATION ____

PROPERTY ____ COUNTY ____ STATE ____ COLLAR COORD. N. ____ E. ____ COLLAR ELEV. ____

ASSAYS % MO	ASSAYS % CU		% RECOV.	DEPTH	Graph	COL.	DETAIL	MINERALIZATION	ALTERATION	ROCK TYBE
				10						
	NX	CORE - SPLIT						mod Cu oxide above 100 feet, very wk Cu oxide below 100 ft strong brick red hematite stain on fys and as disseminations	strong biotite mod qtz veining	Kan andesite porphyry
				215				215-235 moderate Cu oxide - veins		
				250						
	BX	SPLIT						335 hematite stain & disseminations drop off sharply to weak some vein hematite obviously cubic after pyrite		
				468				468 first sulfides trace dissem bornite; cpy-bor in vein 478 very weak mnlzn; sulfides rare to nil		
				538				538 weak dissem cpy nil below except for traces oxide+sulfide		
				625						
	Box 59									
	Box NUMBERS START OVER, FIRST BOX IS #4 FROM 658-698									
								690-780 zone of erratic sulfides in veins + disseminations very locally 2-3% cpy & minor bornite, avg 0.5<1% sulfides very little pyrite		
								815-885 another low sulfide zone cpy + bornite avg ≤0.5%	from ≈1000 ft, weak clay alteration	
							1100' weak shearing			
								weak sulfides ≈1% dissem cpy	strong biotite	1122 porphyritic andesite(?) dike feldspars to 4 mm, matic phenocrysts altered to shredded biotite; pre-ore
										1159

DIAMOND DRILL LOG HOLE No. V-10 SHEET 2 OF 2

SCALE
STARTED
STOPPED
NOTES BY
DEPTH
BEARING
INCLINATION
PROPERTY
COUNTY STATE
COLLAR COORD. N. E.
COLLAR ELEV.

ASSAYS % MO	% CU		% RECOV.	DEPTH	Graph	COL.	DETAIL	MINERALIZATION	ALTERATION	ROCK TYPE
				1159						
	No boxes									
				1195						Kan andesite porphyry
	quartered							very weak	strong biotite w/ weak clay	
							weak shearing 1238		weak clay ends ≈ 1260	
										1295
								traces cpy	weak clay; primary biotite weakly altered to chlorite but groundmass strongly flecked with biotite + chlorite	Tqmp(?) feldspar phenocrysts up to 3/8", groundmass occasionally pinkish abundant qtz eyes
										1376
								scattered traces cpy w/ minor bornite	strong biotite	Kan pretty badly broken clear to bottom
							weak shearing w/ chlorite alteration 1500 ≈ 1514			
							1540 – 1640 very little core quartered, badly broken			
										≈1820 – 1838 pre-ore porphyritic andesite dike(?) or flow
Box 132				1894						
ONLY BOX FOR THIS INTERVAL IS #141 FROM ABOUT 1974 - 1984										
Box 155				≈ 2107						
LAST BOX										