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Drill core data for the Red Mountain porphyry copper-molybdenum system, Harshaw mining district, Patagonia Mountains, Santa Cruz County, Arizona

Arizona Geological Survey Open-File Report 25-4

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Description:
Red Mountain in Patagonia, AZ hosts a porphyry copper-molybdenum deposit with a history of substantial exploration drilling. Drill data including logs, assay results, and geologic maps, as well as skeletonized drill core, were donated to the Arizona Geological Survey in 2004. This repository includes all available original drilling data, scanned and made available as PDFs, as well as tabulated data in spreadsheets.

Tabulated digital data and other products related to this document are available at:
http://hdl.handle.net/10150/676938

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T-635

KERR-McGEE OIL INDUSTRIES, INC.

Drill Hole Report

District Red Mt. - Harshaw
Hole Number DDH 107
Spudded 5-23-63
Completed 6-11-63
Total Depth 1116.5'
Driller Joy Mfg.
Logged By R.C.B.

County Santa Cruz State Arizona
Claim ______ Sec. 20 T. 22S R. 16E
Elevation 5549.2
Hole Size ______
Core Size NX
Hole Angle Vertical
Collar Coordinates:
~~9481.40 N.~~ 187,038
~~7640.15 E.~~ 868,010.

Depth	Rock Type	Core Interval	Percent Recovery	Comments
10	PLUGGED			
20			100%	15-100 Altered trachyte tuff, mottled red, gray and purple; red and purple hematite coats fractures and relict sulfide holes; fractures are from a fraction to 3 inches apart; well silicified; 2-3% hematite - less than usual for good capping.
30				
40				
50				
60				
70				
80				
90				
100				

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Driller Joy Mfg.
Logged By R.C.B.

County Santa Cruz State Arizona
Claim Sec. T. R.
Elevation 5549.2
Hole Size
Core Size NX
Hole Angle Vertical

Depth	Rock Type	Core Interval	Percent Recovery	Comments
110			100%	
120				100-157.5 Altered trachyte tuff, mottled purple red and white; red and purple hematite coats fractures and vugs; quartz-sericite-clay alteration fractures are from a fraction to two inches apart.
130				
140				157.5-200 Altered trachyte tuff or flow, yellow and gray; jarosite coats fractures and vugs; phenocrysts are altered to clay and sericite; scattered remnants of sulfide grains.
150				
160				
170				
180				
190				
200				

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County Santa Cruz State Arizona
Claim Sec. T. R.
Elevation 5549.2
Hole Size
Core Size NX
Hole Angle Vertical

Depth	Rock Type	Core Interval	Percent Recovery	Comments
	OXI-DIZED		100%	200-203 Altered porphyry
210	UNOXIDIZED			203-213.5 Altered porphyry, gray sparse chalcocite coats pyrite grains.
220	UNOXIDIZED			213.5-255 Altered porphyry, mottled red, purple and gray; fractures and vugs are coated with red and purple hematite; 4% hematite capping appears to be good.
230				
240				
250				
260				255-300 Altered trachyte tuff or flow, light gray; enargite pyrite veinlets dips about 30^{o} at 258.5; horizontal veinlet (pyrite) at 266.5; near vertical pyrite-enargite? veinlets from 260-262; near horizontal veinlet one inch thick contains both enargite and molybdenite at 303.5; near horizontal pyrite-enargite veinlet at 305.5; scattered pyrite hairline veinlets with a sparse amount of enargite; possibly some disseminated enargite.
270				
280				
290				
300				

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Total Depth
Driller Joy Mfg.
Logged By RC.B.

County Santa Cruz State Arizona
Claim Sec. T. R.
Elevation 5549.2
Hole Size
Core Size (NX to 311.5) BX from 311.5 to 400
Hole Angle Vertical

Depth	Rock Type	Core Interval	Percent Recovery	Comments
	UNOXIDIZED		100 %	300-350 Altered trachyte tuff or flow, light gray; sparse chalcocite coating pyrite grains; scattered pyrite hair-line veinlets; spotty yellow staining may represent a small amount of oxidation; some leaching of the pyrite.
310				
320				
330				
340				
350				350-400 Altered trachyte tuff or flow, light gray; an increased amount of chalcocite coating and partially replacing pyrite grains; scattered pyrite-quartz veinlets; tuff if more intensely silicified; some spotty yellow staining; near vertical quartz-pyrite-chalcocite veinlet from 359-360; near vertical pyrite-chalcocite veinlet from 384-384.5; pyrite-chalcocite veinlet dipping 60° from 392.5 to 393.
360				
370				
380				
390				
400				

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Drill Hole Report

District Red Mtn. - Harshaw
Hole Number DDH 107
Spudded 5-23-63
Completed
Total Depth
Driller Joy Mfg.
Logged By R.C.B.

County Santa Cruz State Ariz[illegible]na
Claim Sec. T. R.
Elevation 5549.2
Hole Size
Core Size BX
Hole Angle Vertical

Depth	Rock Type	Core Interval	Percent Recovery	Comments
410	UNOXIDIZED		100 %	400-500 Altered trachyte tuff or flow, light and dark gray; chalcocite coats and partially replaces pyrite; possibly some replacing of enargite by chalcocite; numerous quartz-pyrite veinlets coated with chalcocite from 400 to 419; well developed quartz-pyrite veinlets coated with chalcocite from 445 to 454; well developed quartz-pyrite veinlets coated with chalcocite from 464 to 475.
420				
430				
450				
460				
470				
480				
490				
500				

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Drill Hole Report

District: Red Mtn. - Harshaw	County: Santa Cruz State: Arizona
Hole Number: DDH 107	Claim: Sec. T. R.
Spudded: 5-23-63	Elevation: 5549.2
Completed:	Hole Size:
Total Depth:	Core Size: BX
Driller: Joy Mfg.	Hole Angle: Vertical
Logged By: R.C.B.	

Depth	Rock Type	Core Interval	Percent Recovery	Comments
510	UNOXIDIZED		100%	500-568 Altered trachyte flow or tuff, light gray; more numerous pyrite-quartz veinlets from 500-530 feet; some chalcocite coating of the pyrite grains from 500-530; from 530 to 568 there are fewer quartz-pyrite veinlets with no chalcocite coating.
520				
530				
540				
550				
560				568-600 Altered porphyry, light gray with increased amount of clay-sericite alteration; very little if any chalcocite coating the pyrite; molybdenite is associated with a quartz-pyrite veinlet at 544; a sparse amount of disseminated enargite from 568 to 600 feet.
570				
580				
590				
600				

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Drill Hole Report

District	Red Mt. - Harshaw	County	Santa Cruz State Arizona
Hole Number	107	Claim	Sec. T. R.
Spudded	5-23-63	Elevation	5549.2
Completed		Hole Size	
Total Depth		Core Size	BX
Driller	Joy Mfg.	Hole Angle	Vertical
Logged By	R.C.B.		

Depth	Rock Type	Core Interval	Percent Recovery	Comments
600–700	UNOXIDIZED		100%	
610				600-650 Altered porphyry, light gray; clay-sericite alteration; a sparse amount of disseminated enargite; a decreased amount of pyrite; molybdenite 1/8 inch in thickness is present along a quartz-pyrite veinlet from 627 to 628 feet - the molybdenite appears to be partially replacing the pyrite.
620				
630				
640				
650				650-700 Altered porphyry, light gray; clay-sericite alteration an increased amount of pyrite from 668 to 700 feet; a sphalerite veinlet dipping 70^{o} at 668 feet; a horizontal 1/2 inch quartz-pyrite veinlet at 666.5 feet; spotty yellow staining from 668 to 700 feet suggests a minor amount of oxidation; an increased amount of disseminated enargite is present from 660 to 700 feet; a yellow brassy coating of pyrite occurs from 680 to 700 feet.
660				
670				
680				
690				
700				

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County Santa Cruz State Arizona
Claim Sec. T. R.
Elevation 5549.2
Hole Size
Core Size BX
Hole Angle Vertical

Depth	Rock Type	Core Interval	Percent Recovery	Comments
710	UNOXIDIZED		100%	700-750 Altered porphyry, light gray; clay-sericite alteration; some covellite and chalcocite coats pyrite from 727 to 750; some disseminated enargite could possibly be replaced by chalcocite; a rosette of tourmaline is present at 723; spotty yellow staining is persistent to 750 feet.
720				
730				
740				
750				750-800 Altered porphyry, light gray; clay-sericite alteration; disseminated sooty chalcocite and covellite is present from 751 to 764 feet; scattered stellar tourmaline is present from 750 to 800 feet; spotty yellow staining is persistent to 800 feet; some of the pyrite is tarnished to yellow; increased amount of quartz-pyrite veinlets from 797 to 800 feet; sparse covellite and chalcocite coating pyrite from 764 to 800 feet.
760				
770				
780				
790				
800				

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County Santa Cruz State Arizona
Claim Sec. T. R.
Elevation 5549.2
Hole Size
Core Size BX
Hole Angle Vertical

Depth	Rock Type	Core Interval	Percent Recovery	Comments
800–900	UNOXIDIZED		100 %	800-900 Altered porphyry, light gray; clay-sericite alteration; numerous quartz veinlets from 800 to 815 feet; numerous quartz-pyrite veinlets from 858 to 885 feet; spotty yellow staining is present from 800 to 900 feet; an increased amount of vugs and secondary quartz growths from 858 to 900 feet; porphyry appears to be well-leached from 800 to 900 feet; scattered stellar tourmaline is present from 800 to 900 feet.

Depth scale: 810, 820, 830, 840, 850, 860, 870, 880, 890, 900

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Elevation 5549.2
Hole Size
Core Size BX
Hole Angle Vertical

Depth	Rock Type	Core Interval	Percent Recovery	Comments
910	UNOXIDIZED			
920				900-980 Altered porphyry, light gray; clay-sericite alteration; spotty yellow oxidation is present around pyrite grains increasing in amount from 950 to 980; porphyry is extremely leached containing vugs lined with secondary quartz; an orange mineral possibly realgar is present from 913.5 to 914 feet; chalcocite and covellite is sparse coating pyrite grains from 900 to 950 feet; an increased amount of chalcocite and covellite coats and partially replaces pyrite from 950 to 980 feet; a soft metallic mineral that is quite friable with red-browh streaks that could be tetrahedrite or hematite or ruby silver is present from 917 to 919; near vertical pyrite veinlets are present from 890 to 891; 904 to 906; 932.5 to 934.5; 949 to 950; 965 to 967.5; a yellow brassy tarnish is probably chalcopyrite coating pyrite in some of the veinlets from 900 to 980 feet.
930				
940				
950				
960				
970				
980	80% OXIDIZED			980-1000 Altered porphyry, light red and gray, about 90% oxidized; relief hematite after chalcocite; some chalcocite-covellite coating pyrite.
990				
1000				

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County Santa Cruz State Arizona
Claim Sec. T. R.
Elevation 5549.2
Hole Size
Core Size BX
Hole Angle Vertical

Depth	Rock Type	Core Interval	Percent Recovery	Comments
	UNOXIDIZED		100 %	1000-1036 Altered porphyry, light gray; mostly clay-sericite alteration; some spotty yellow jarosite (?) oxidation around the pyrite grains; a fair amount of chalcocite-covellite coating and partially replacing pyrite veinlets.
1010				
1020				
1030				
	85 % UNOXIDIZED			1036-1052 Altered porphyry, light gray and red; mostly clay-sericite alteration; spotty hematite oxidation; a fair amount of chalcocite covellite coating and replacing pyrite; clay may represent fault gouge from 1041 to 1043.
1040				
1050				1052-1084 Altered andesite (?); light green and gray; mostly clay alteration; some scattered pyrite veinlets coated with covellite from 1052-1063; spotty oxidation from 1064 to 1084; recognizable biotite is present from 1052 to 1116.5.
1060				
1070				
1080				1084-1100 Altered andesite; darker green; mostly clay alteration; spotty limonite oxidation along fractures; very few pyrite veinlets - decreased amount of pyrite; no covellite could be detected coating pyrite.
1090				
1100				

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Hole Size
Core Size BX
Hole Angle Vertical

Depth	Rock Type	Core Interval	Percent Recovery	Comments
1110	90% UNOXIDIZED		100%	1100-1116.5 Altered andesite, light and dark green; spotty oxidation along pyrite veinlets; mostly clay alteration with an increased number of quartz veinlets from 1111 to 1116.5; a small amount of molybdenite associated with quartz veinlet at 1112; some covellite coating on the pyrite.
1120	T.D.			