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Squaw Creek Copper, Yavapai Co.

Exploration data from Phillips Petroleum during 1968 - 1972

Drill logs for exploration drill holes #1, 3-20

\# 14

Hole No. 1 Sheet No. 1 Phillips Petroleum Company Collar Elevation 4,338.5 4537

Coordinates 7,899.4N 6,184.7E Date Started 3/28/68 Squaw Peak Mine Total Footage 1000 feet

Type Drill D.D. Date Completed 5/4/68 Yavapai County, Arizona Overall Core Recovery

Bit Size NQ Logged By RTF, MRS, & IM

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
0	5	Rock Bit		Quartz Diorite. Granitoid texture. Moderately fractured. Rock generally oxidized to 15. Oxidation along fractures 15 to 27. Biotite black and shiny. Feldspars weathered to 15 ft. Feldspars clouded and some are saussuritized. Some calcite formed as an alteration product. Chalcopyrite as disseminations. Small amounts of scattered malachite. Molybdenite as disseminations 15 to 27. Quartz veinlets at 22.				
5	27	20.5	Quartz Diorite					
27	46	19.0	Quartz Diorite	Quartz Diorite. Granitoid texture. Medium gray color. Moderately fractured. Biotite ranges from black and shiny to partially chloritized. Feldspars clouded with many altered to saussurite. Some calcite. Chalcopyrite and molydenite as disseminations and along fractures. A few quartz veinlets.				
46	58	10.0	Quartz Diorite	Quartz Diorite. Granitoid texture. Medium gray color. Moderately fractured. Biotite mostly chloritized. Feldspars clouded with some altered to kaolin and many altered to saussurite. Some calcite. Chalcopyrite and molybdenite as disseminations and along fractures. Traces of scattered pyrite. A few quartz veinlets.				
58		84.0	Quartz Diorite	Quartz Diorite. Granitoid texture. Dark gray color with green cast. Moderately fractured. Biotite all chloritized. Feldspars clouded with many altered to saussurite. Some calcite. Chalcopyrite and molybdenite as disseminations and along fractures. Traces of scattered pyrite. Many quartz veinlets. Some irregular masses of quartz. Pink orthoclase makes up about 6 to 8% of the rock from 97 to 114 feet. Rock is also more siliceous and contains more quartz veinlets from 97 to 114 feet. In the interval from 112 to 117 feet the feldspars have been altered to creamy-white color. Most of the horizontal, or near horizontal, fractures are filled with calcite.				

Hole No. 1 | Sheet No. 2 | Phillips Petroleum Company | Collar Elevation

Coordinates | Date Started | Squaw Peak Mine | Total Footage

Type Drill | Date Completed | Yavapai County, Arizona | Overall Core Recovery

Bit Size | Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	142								
42					Quartz Diorite. Granitoid texture. Medium gray color. Moderately fractured. Biotite ranges from black and shiny to completely chloritized. Feldspars clouded with many altered to saussurite. Some alteration to calcite, chalcopyrite and molybdenite as disseminations. Traces of scattered pyrite. Quartz veinlets.				
			Quartz Diorite						
		26							
	168								
58					Quartz Diorite. Granitoid texture. Medium gray color. Moderately fractured. Biotite nearly all chloritized. Much saussurite gives the rock a definite greenish coloration. Some alteration to calcite. Chalcopyrite and molybdenite as disseminations. No pyrite noted. Quartz veinlets. 2 feet of core lost 189-191. Much pink orthoclase in rock from 182 to 185 (Dike?).				
			Quartz Diorite						
		34							
	204								
04					Quartz Diorite. Granitoid texture. Medium gray color. Moderately fractured. Biotite ranges from black and shiny to completely chloritized. Plagioclase has been partially altered to saussurite. Some calcite present. Chalcopyrite and molybdenite as disseminations and along some minute fractures. No pyrite noted. Quartz veinlets all biotite chloritized and the plagioclase saussuritzed enough to give rock greenish color in interval 213-223. Dacite porphyry dike from 223 to 227.				
		33							
			Quartz Diorite						
	237								
37									

Hole No. 1 | Sheet No. 3 | Phillips Petroleum Company | Collar Elevation

Coordinates | Date Started | Squaw Peak Mine | Total Footage

Type Drill | Date Completed | Yavapai County, Arizona | Overall Core Recovery

Bit Size | GEOLOGIC LOG | Logged By

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
			Quartz Diorite	Quartz Diorite. Porphyritic with granitoid groundmass, large 1/8" - ¼" feldspar (primarily plag) and hornblende phenocrysts. Med. gray color. Slightly fractured. Biotite is black and shiny to brown. Hornblende is fresh except for slight greenish tinge. Feldspars are mostly clouded with a few fresh with some saussuritized. Dense pink orthoclase from 264 to 275. Copper and Moly mineralization as				
		85		disseminations and along hairlike fractures. No pyrite noted. Numerous quartz veinlets. Numerous pink orthoclase veinlets 248 to 252. Complete saussuritization of plag. 280-283.				
				pink orthoclase veinlets 287, 297 and 304 almost all plagioclase is saussuritized from 306 to 322 giving rock unit greenish color.				
	322							
322			Quartz Diorite	Quartz Diorite. Porphyritic with granitoid groundmass. Large (1/8" - ¼") plag and quartz phenocrysts. Light greenish gray color. Moderate to intense fracturing. Biotite ranges from few black and shiny to				
		34		majority chloritized with a few, in highly fractured zones, to muscovite. Feldspars are clouded to partially clay altered with most saussuritized. Copper and Moly mineralization as disseminations and				
	356			in hairlike veinlets. Some scattered FeS_2 numerous quartz veinlets. Relatively high percentage pink orthoclase at 324-325, 330-342.				
356								

Hole No. 1 | Sheet No. 4 | Phillips Petroleum Company | Collar Elevation

Coordinates | Date Started | Squaw Peak Mine | Total Footage

Type Drill | Date Completed | Yavapai County, Arizona | Overall Core Recovery

Bit Size | GEOLOGIC LOG | Logged By

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
			Quartz Monzonite	No quartz veinlets noted 340-356. Less apparent mineralization. Granodiorite, granitoid texture. Pinkish, gray color. Moderate fracturing. Biotite ranges black and shiny to completely chloritzed, majority partially chloritized. Hornblende partially chloritized. Feldspars are fresh to clouded with few saussuritized. Pink K-feldspars are 20% of total feldspars. Cu and MoS_2 mineral in veinlets and dissem.				
	395	39		Sparse dissem. FeS_2. No quartz veinlets noted.				
395			Quartz Diorite	Quartz Diorite. Granitoid texture. Moderate to intense fracturing. Greenish gray color. Biotite partially chloritized to completely chloritized. Majority is completely chloritized. Feldspars clouded to clay altered. Majority partially clay altered. Cu and MoS_2 mineralization in dissemination and veinlets. No FeS_2 noted. Scattered quartz veinlets. Majority of plag. has some degree of saussuritization.				
	435	40						
435				Quartz Diorite. Granitoid texture, medium gray, slight to moderate fracturing. Biotite is black and shiny to partly chloritized. Feldspars are partially clouded to clouded with some saussuritized. Cu and MoS_2 in dissemination and hairlike veinlets. Some dissem. FeS_2. No quartz veinlets. Pink orthoclase is 5-10% of total feldspar 454-463 & 470-475. Steep K-spar veinlet at 446. Dense concentration of pink K-spar and and FeS_2 at 468. Little epidote 471. More alteration 473-477.				

Hole No. 1 | Sheet No. 5 | Phillips Petroleum Company | Collar Elevation

Coordinates | Date Started | Squaw Peak Mine | Total Footage

Type Drill | Date Completed | Yavapai County, Arizona | Overall Core Recovery

Bit Size | GEOLOGIC LOG | Logged By

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				480-500 Biotite is completely chloritized. Feldspars partially clay altered,				
		65		intense fracturing.				
	500							
00		-.5'	Quartz Monzonite	Qtz. Monz., granitoid, slightly porphyrytic, pinkish gray, slight				
				fracturing, biotite is partially chloritized, hornblende (25% of mafic				
				minerals) is slightly chloritized. Feldspars are clouded. Pink				
		34.5		orthoclase makes up 20-40% of total feldspars and appears to fill				
				in around larger plagioclase laths. Cpy and MoS_2 mineralization in				
				disseminations and hairlike fractures. Sparse scattered dissem.				
	535			FeS_2. Few quartz veinlets noted. Epidote in local concentrations				
535				Some feldspars slightly saussuritized. $CaCo_3$ in some fractures.				
		20		Interval from 500-504 has more intense degree of alteration with				
				feldspars partially clay altered and biotite chloritized. Interval				
	555			from 435-455. K-Feldspar is 10-15% of total feldspar.				
555			Quartz Monzonite	Qtz. Monz. to. Granitoid, slightly porphyrytic. Greenish gray. Slight				
				fracturing. Biotite ranges from few partially chloritized to majority				
		33		chloritized. Hornblende is partially chloritized. Feldspars are				
				clouded with pink K-feldspar making up 5-10% of total feldspar. Most				
				plag feldspar are saussuritized. K-feldspar appears to be secondary.				
				MoS_2 and Cpy. mineralization in disseminations and hairlike veinlets.				
	588			Sparse scattered FeS_2. Sparse qtz. veinlets, high percentage K-spar 563-565 & 575.				
588		-.5	Granite	Granite, granitoid, pinkish, slight to moderate fracturing. Biotite is				
				chloritized. Felds are clouded. K-spar is 60-80% of total feldspar.				

Hole No. 1 | Sheet No. 6 | Phillips Petroleum Company | Collar Elevation

Coordinates | Date Started | Squaw Peak Mine | Total Footage

Type Drill | Date Completed | Yavapai County, Arizona | Overall Core Recovery

Bit Size | Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Cpy & MoS_2 mineralization primarily in disseminations. Sparse scattered				
		31.5		FeS_2. No quartz veinlets noted. $CaCo_3$ in fractures.				
				Highly altered interval 611-613½.				
	620							
20		11.5	Quartz Diorite	Quartz Diorite, granitoid texture. Lt. grayish green. Moderately fractured. Biotite is completely chloritized to some altered to muscovite. Plagioclase is clouded to partially clay altered, with most saussuritized. Cpy and				
	632			MoS_2 mineral dissem. and along fractures. Few qtz. veinlets. No FeS_2 noted.				
32		30	Quartz-Monzonite	Qtz. Monz., granitoid texture. Med. gray with pinkish cast. Slight to moderate fracturing. Biotite ranges from black and shiny to partially chloritized. Feldspars are few, fresh to partially clouded with K-Felds making up 5-15% to total feldspar. Few are saussuritized. Cpy and MoS_2 as disseminations and in hairlike veinlets. Sparse dissem. FeS_2. Few quartz veinlets. $CaCo_3$ in fractures.				
	662							
62		8'	Granite	Granite, granitoid, rust colored, slight fracturing. Biotite black and shiny to partially chloritized. Hornblende is chloritized. Feldspars clouded. K-spar 50-70% of total feldspar. Mineralization primarily dissem.				
	670							
70		--.5	Quartz-Monzonite	Few quartz veinlets. Qtz. Monz. . Granitoid, slightly porphyrytic. Slightly fractured. Medium gray biotite is black and shiny to slightly chloritized. Hornblende is slightly chloritized. Feldspar are fresh to slightly clouded with few saussuritized. K-feldspar is 10-20% of total felds. Cpy and MoS_2 as disseminations in hairlike veinlets. Sparse dissem. FeS_2. Few quartz veinlets. Interval 726-730 is highly altered with biotite chloritized and feldspars clouded.				

ole No. 1 | Sheet No. 7 | Phillips Petroleum Company | Collar Elevation

oordinates | Date Started | Squaw Peak Mine | Total Footage

ype Drill | Date Completed | Yavapai County, Arizona | Overall Core Recovery

t Size | GEOLOGIC LOG | Logged By

ROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				High percentage orthoclase 718				
		96.5						
				744-750 alternating 10" bands of green, well altered diorite with quartz monzonite.				
				Interval 759-764. Approx. 50-60% pink K-felds of total feldspar.				
	767							
67			Quartz Diorite	Quartz diorite, granitoid, lt. grayish green, moderate to intense fracturing. Biotite is completely chloritized. Feldspars are clouded with some partially clay altered with most saussuritized. Dissem. mineralization. No quartz or FeS_2 noted.				
	779	12						
79			Granite	Granite, granitoid, rust colored. Moderate fracturing, biotite is completely chloritized. Feldspars are clouded with pink K-felds making up about 60-80% of total feldspars. Phgs are saussuritized. Cpy and MoS_2 in disseminations and veinlets. Sparse dissem. pyrite. Few quartz veinlets.				
		52						
				From 831 to 836 the rock approaches a quartz diorite; plagioclase feldspars pre. Biotite is partially chloritized thru this interval				
	831							
831	836	5	Quartz Diorite					
36								

Hole No. 1 | Sheet No. 8 | Phillips Petroleum Company | Collar Elevation

Coordinates | Date Started | Squaw Peak Mine | Total Footage

Type Drill | Date Completed | Yavapai County, Arizona | Overall Core Recovery

Bit Size | Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
		14	Granite					
350				From 850 to 854.5 the rock approaches a quartz diorite.granite.				
850	854	4	Quartz Diorite	Pink felds consist of 60% of rock. Biotite is chloritized. Cpy is				
354				disseminated, in veinlets, or has partially replaced chloritized				
				biotite. Few fractures. Some pyrite along veinlets.				
			Granite					
		48		Cpy and MoS_2 disseminated or in veinlets. A few of the feld				
				minerals have been smeared, indicating rock flowage.				
				Calcite has replaced a portion of the rock material from 895-903.				
	902			Calcite phenocrysts.				
902	907	5	Quartz flooding	Zone from 902 to 907 has been partially silicified granite, pinkish-				
907				red color, rock consists of 60-70% pink feldspar. Biotites have				
		17	Granite	been altered to chlorite. Cu and MoS_2 is disseminated within				
				quartz veins, and partially replacing biotite.				
	924							
924				From 924-949.5 the character of the rock changes drastically. Rock				
		25.5	Altered Granite	is a light yellowish, greenish color. The feldspar have been				
				altered to a yellow, greenish med. hard clay mineral. Zone has				
				been highly fractured and faulted and recem. with quartz. Large blebs				
	949.5			of MoS_2. Abn Qtz. veins. Qtz. flooding. Majority of biotite (chlorite)				
949.5			Granite	has been totally replaced by quartz or altered to sericite.				

ole No. 1 | Sheet No. 9 | Phillips Petroleum Company | Collar Elevation

oordinates | Date Started | Squaw Peak Mine | Total Footage 100

ype Drill | Date Completed | Yavapai County, Arizona | Overall Core Recovery

t Size | GEOLOGIC LOG | Logged By

OM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
		19.5			Granite, medium red to pink, moderate fracturing, biotite has been				
	969				altered to chlorite, pink feld. constituent @ 60-70% of rock.				
969	972	3	Altered		Cpy is dissem., replacing chlorite (biotite) or along quartz				
972					veinlets.				
					From 969 to 973, the rock takes on a light greenish yellow color. Feld have been altered to a hard green clay mineral. Micas have been sericitized Cu and MoS_2 content appears to decrease.				
					Fault breccia at 995'.				
	1000								
					Total Depth				

#16 (36)

Hole No. DDH #3 ESSEX

Coordinates 7791.3 N (7896)

5618.5 E (5600 E)

Type Drill

Bit Size

Sheet No. 1

Date Started 5-31-68

Date Completed 8-2-68

Angle 62±0

PHILLIPS PETROLEUM CO.

Squaw Peak Area

GEOLOGIC LOG

Hole Bearing N 670 E

Collar Elevation 4564.6 (ESSEX 4563)

Total Footage

Overall Core Recovery

Logged By I. Million

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION	DEPTH
0	32		Fill		Fill			
32	101	69	Quartz Diorite		Quartz Diorite, majority of dark minerals have been altered to chlorite; abundant copper oxides (malachite) along fracture planes mainly within upper 30 - 100' of hole; some chalcopyrite and molybdenite upper portion of hole, with greater concentration of sulphides lower portion of hole mainly within thin quartz stringers and disseminated throughout host rock; 10% secondary pink feldspars; a few clusters of fresh unaltered biotite, slight alteration of feldspars; granitoid texture.			
					Specks of native copper at 104'.			
					Excellent sulphide mineralization occurs along minute fissures and/or recemented microscopic fault planes, less than 1/4" in width.			
101								

Hole No. 2004 /3

Coordinates

Sheet No. 2

Date Started

Date Completed

Type Drill

Bit Size

PHILLIPS PETROLEUM CO.

BARQUIN PERU AREA

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
		31	Quartz Diorite	Bornite at 1287'		
	132					
132	13[illegible]			Core broken and shattered. Limonite and malachite abundant.		
13[illegible]		[illegible]		Quartz Diorite: granitoid texture: from 142-15[illegible] many minute calcite filled faults have offset the sulphide rich quartz veins, feldspars partially altered to a hard creamy white clay mineral.		
	15[illegible]					
152			Quartz Diorite	Lost circulation at 150. Quartz Diorite. Slight granitoid texture. Less than 5% secondary pink feldspar. White feldspar have been altered to a light greenish clay mineral. Few quartz veins noted: excellent sulphide mineralization. Cu and Mo disseminated: rock is slightly fractured.		
		24				
	[illegible]					
[illegible]				Quartz Diorite, medium greenish grey color, majority of feldspars have been altered to a green clay mineral, moderate fracturing, increasing number of quartz veins, 5 - 10% secondary pink feldspars: black minerals mostly chloritized, and 1 - 3% fresh unaltered biotite: thin barren aplite dike cuts off highly mineralized quartz veins. Aplite dikes comprise 25% of core: excellent chalcopyrite mineralization within quartz veins or disseminated throughout: some molybdenite: quartz flooding at 202'.		
		32	Altered Quartz Diorite			
	208					
208				Quartz Diorite, highly altered feldspars give a greenish-grey cast to the rock: core is highly fractured with most of return in bits and pieces: abundant limonite along fracture planes: some malachite: loss of circulation throughout zone.		
		16				
	224					
224				Quartz diorite, greenish-grey in color: feldspars have been highly altered to a greenish clay mineral, moderate fracturing, quartz flooding, increasing % of quartz veins, chalcopyrite disseminated throughout rock along fracture planes and within quartz veins, some MoS_2		
		33				

Hole No. DDH #3

Coordinates

Type Drill

Bit Size NQ to 288

Sheet No. 3

Date Started 5-31-68

Date Completed

PHILLIPS PETROLEUM CO.

Squaw Peak Mine

Yavapai County, Arizona

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEF.
	257			Quartz Diorite: greenish-grey cast: feldspar highly altered to a greenish clay: core from 247 - 257 is intensely fractured; core recovered as bits and pieces: excellent chalcopyrite mineralization: massive concentration of MoS2 at 243 - 244.5.		
257			Quartz Diorite	Quartz Diorite: granitoid texture. Orthoclase feldspars have been partially altered, biotite altered to chlorite.		
		31		From 20 - 40% of rock is pink feldspars, sulphide mineralization within quartz veins or disseminated throughout rock: From 266-267 a half the core has been replaced by red pegmatite: large blebs up to 1/2" in diameter of chalcopyrite occur within this zone: numerous calcite veinlets throughout zone, in places rock approaches a granodiorite.		
	288					
288		9		Quartz Diorite, highly altered, greenish-grey color feldspars altered		
	297		Quartz Diorite	to an apple green color, excellent sulphide mineralization.		
297		7		Granodiorite, granitoid, pinkish, pink feldspars consist 70% of		
	305			total feldspars, slightly fractured, few quartz veinlets.		
305		21		Quartz Diorite, apple green color, feldspars have been altered to a		
	326		Quartz Diorite	greenish clay mineral, biotite altered to chlorite, excellent sulphide mineralization, some fresh unaltered biotite, core is moderate fractured.		
325				Granite: pink to flesh color, moderate fracturing, pink feldspars		
		40	Granite	comprise about 60% of rock, dark minerals partially altered to chlorite, chalcopyrite within thin quartz veins, or disseminated throughout rock, a portion of the rock from 326 to 366 approaches a granodiorite.		

Hole No. DDH #3

Coordinates

Type Drill

Bit Size

Sheet No. 4

Date Started

Date Completed

PHILLIPS PETROLEUM CO.

Squaw Peak Mine

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By I. Million

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
	344					
355				Granodiorite, yellowish-green, feldspars have been altered to a greenish clay mineral, dark minerals entirely altered to chlorite; large blebs of MoS_2 at 368; large blebs of chalcopyrite and MoS_2 from 391 to 395: increasing percentage of quartz either through quartz veins or quartz flooding, some of the rock through this		
		52	Granodiorite	zone approaches a Diorite; sulphide mineralization occurs within		
				quartz veins, along fracture planes or disseminated throughout rock.		
	429			From 414 to 417 the rock approaches a granite.		
429			Granite	Granite, dark red to blackish red, moderate fracturing, porphyritic,		
				a few thin zones approach a diorite.		
443			Granodiorite	Granodiorite, light pinkish green to yellow green, feldspars have		
		18		been partially altered to a green clay mineral.		
	461					
461				Clay, light to dark grey (Granitic rock through this zone has been		
			Fault Core	entirely altered to clay) poor mineralization, a few pieces of		
		50		quartz throughout fault zones, is only evidence of granitic rock		

Hole No. DDH #3

Coordinates

Type Drill

Bit Size

Sheet No. 5

Date Started

Date Completed

PHILLIPS PETROLEUM CO.

Squaw Peak Mine

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By I. Million

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPT
			fault gouge			
				Granite, light green to greenish pink, highly altered, biotite has been completely altered to chlorite, feldspars altered to a green-clay mineral, abundant quartz flooding, decreasing quartz veins calcite filled veinlets; chalcopyrite and some molybdenite dis-		
		20	altered granite	seminated in rock, within quartz veins or along fracture plane, rock may approach a granodiorite at places, 2% fresh biotite, calcite veinlets, aplite dike at 597.3'.		

#17 (37)

le No. DDH #4 8249.7N
ordinates 5421.5E
pe Drill L38 Core Drill
Size 4½" R.B.; NQWL

Sheet No. 1 — Phillips Petroleum Company
Date Started 12/31/68 — Squaw Peak
Date Completed 2/7/69

Collar Elevation 4573.1
Total Footage 763
Overall Core Recovery .974
Logged By MRS

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Rock Bitted. Cuttings sampled 0-10'.				
	20							
)		12.0		Quartz Monzonite. Granitoid texture. Moderate to intense fracturing. Moderately oxidized; extreme along fractures. Biotite is intensely chloritized. Hornblende is mod. intensely chloritized. Feldspars clouded with K-felds up to 50% of felds locally. K-felds appears to replace plag. felds locally. No mineralization observed. Tiny quartz and epidote stringer at 33.5. Breccia zone 36-37.				
	38							
				Old granite. Granitoid texture. Reddish brown color. Mod. intense fracturing. Extremely oxidized. Hornblende and biotite extremely chloritized. Feldspar is clay altered.	No mineralization			
	47	4.5						
/		7.0		Quartz Monzonite. Granitoid texture. Similar to unit 20-38. Gouge zone 45-47.5. Plagioclase is saussuritized 51-52 Manganese "prints" observed. High content of hydrothermal quartz 49.5-51. Pegmatitic zone. Transitional contact. Gouge zone 53-57.	No mineralization			
	58							
	62	2.0		Old granite. Overall intense alteration.	No mineralization			
	65	3.0		Quartz Monzonite 62-65				
	68	2.0		Old granite.				
		11.0		Quartz Monzonite. Local small zones of quartz diorite. Granitoid moderate fracturing. Oxidized along fract. Mafic minerals moderate-intense chloritization. Feldspars are clouded w/plag saussuritized. Varying orthoclase content.				
	79							
	81	2.0		Quartz diorite composite 79-81. High mafic mineral content.				
	82.5	1.5		Increase orthoclase.				
2.5		8.5		Old granite. Reddish brown. Overall intense alteration. Biotite altered to chlorite. Feldspar to clay. Gouge zone 85.	No mineralization			
	92.5							
2.5	96	3.5		Quartz diorite. Biotite completely to chlorite. Felds is clouded to clay altered.				
6		9.0		Old granite. Gouge zone 96-99. Completely altered granodiorite-granite. Granitoid texture. Oxidized. Biotite is chloritized. Felds is 50-70% pink and clouded. Clay altered. Very broken up and				
	105							
05		7.0		oxidized. Possible sparse sulfides 101.5. Scattered tiny oxidized veinlets.				
	112							
12		13.5		Old granite. Extremely altered. Biotite - chlorite. Felds is clouded to clay altered quartz monzonite facies 116-118.				

ole No. DDH #4 | Sheet No. 2 | Phillips Petroleum Company | Collar Elevation
oordinates | Date Started | Squaw Peak | Total Footage
ype Drill | Date Completed | Overall Core Recovery
t Size | Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	125.5			Less and less alteration. Gradational contact.				
5.5		87.5		Granite or granodiorite? Pinkish. Granite. Moderate oxidization.				
				Biotite and hornblende is chloritized. Hi pink felds (60-70%).				
				Felds is clouded. Some (30-40%) plagioclase. Sparse sulfides 134.				
				First definite chalcopyrite plus little malachite staining at 127 & 123.				
				Old granitic like composition 128-135. Biotite to chlorite.				
				High orthoclase which is clouded.				
				Some fair malachite showing 136-142. Some sparse dissem. chalcopyrite.				
				Moderately high content of primary & hydrothermal quartz. No mineralization				
				below 142 except possible sulfides at 155.				
				Possible "new" granitic facies. Sparsely disseminated chalcopyrite				
				163-177.				
				Old granite facies 170-174. High $CaCO_3$ content. 173-176.				
				Malachite at 176.5. High content of chloritized mafic minerals 175-176.5.				
				Old granite facies 181-185.				
				Malachite along fracture at 179-187.				
				Higher alteration 186-189.				
				Sparse sulfides at 190.				
				Good MoS_2 associated with hydrothermal quartz 208-208.5.				
	213			Gradational content.				
3		10.		Old granitic facies 213-223				
	223			215-217 Quartz diorite (bio. partially chloritized, plag is saussuritized)				
3		6.		Granodiorite				
	229							
9		12		Old? granitic facies extremely altered. Biotite altered to chlorite				
				MoS_2 in quartz veinlet at 230				
	241			Increasing plagioclase content.				

ole No. DDH #4 | Sheet No. 3 | Phillips Petroleum Company | Collar Elevation

ordinates | Date Started | Squaw Peak | Total Footage

pe Drill | Date Completed | Overall Core Recovery

r Size | Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
41		20.		Quartz monzonite. Reddish tan. Granitoid. Moderately fractured. Oxidized in fractures. Bio. and hornblende is partially chloritized. Feldspar is partially clouded. Copper mineralization is good in both veinlets & disseminations Majority is disseminations Moly is in quartz veinlets	$CuFeS_2$ at 244 Very good $CuFeS_2$ 254½-255½ Good MoS_2 in qtz. veinlet 257½			
	261			Some calcitic alteration.				
61		6.		Old? granite. Reddish brown. High alteration esp. mafic minerals to chlorite.				
	267							
67	271	4.		267-271 "new" granitic facies. 20% of felds is plag of total. Feldspar high alteration.				
71		19.5		Old granite				
				Some malachite at 275	Good MoS_2 & $CuFeS_2$ at 279½			
	291							
91		5.		Quartz diorite. Granitoid. Greenish gray. Bio. completely to chlorite. Plag. clouded to clay altered. Slight oxid. Overall ext. alter. Little moly along shears.				
96	303	7.		Old? granite. Malachite at 300-301.				
03		29.		Quartz Monzonite. Granitoid. Reddish tan. No oxidization. Hornblende is partially chloritized. Biotite is partially to fully chloritized. Plag makes up to 60-70% of feldspar and is clouded and sometimes saussuritized. $CuFeS_2$ mineralization is in disseminations and tiny veinlets. Few quartz veinlets. Slight fracturing. Some calcitic alteration.				
	332							
32		11.		Granitic facies.	Good molybdenite seam 334			
	343							
43		58.		Quartz monzonite	Good Cpy veinlets 349			

le No. DDH #4 | Sheet No. 4 | Phillips Petroleum Company | Collar Elevation
ordinates | Date Started | Squaw Peak | Total Footage
pe Drill | Date Completed | | Overall Core Recovery
Size | | GEOLOGIC LOG | Logged By

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Quartz Monzonite cont. slightly fractured.				
	401							
1		21.		Quartz diorite. Greenish gray. Granitoid. Slightly fractured. Biotite partially chloritized to completely chloritized. Hornblende is partially chloritized. 10% of feldspar is orthoclase, rest is plag. Plag is clouded and mostly saussuritized. Mineralization is in disseminations and veinlets.				
	422							
2		22.		More granitic. Granodiorite. 50% K-felds. Mafics chloritized. Feldspars clouded. Mineralization confined mostly to tiny quartz veinlets.				
	444							
4		10.		Quartz monzonite. 20-30% K-felds. 8" white qtz & epidote seam.				
	452							
2	455	3.		Quartz diorite granitoid grayish white. Bio.chloritized. Hornblende partially chloritzed.				
5		53.5		Quartz monzonite. Good MoS_2 & $CuFeS_2$ in qtz. veinlet. 459-469 Pegmatitic nature. High content of white qtz. and epidote veins. Cpy in epidote 469.				

ole No. DDH #4 | Sheet No. 5 | Phillips Petroleum Company | Collar Elevation

ordinates | Date Started | Squaw Peak | Total Footage

pe Drill | Date Completed | Overall Core Recovery

t Size | Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Quartz monzonite cont. Little higher content of K-Feldspar.				
	509							
09		12.0		Granite facies. Reddish brown. Biotite is partially chloritized.				
	521			K-Felds is clouded.				
21		11.5		Quartz diorite, greenish gray. Granitoid. Biotite is chloritized. Plag is clouded and saussuritized. Sparse dissem. mineralization. Good MoS_2 at 524				
	533.5							
33.5		6.5		Granite. Reddish-brown. Biotite completely chloritized.				
	540							
40		60.0		Quartz monzonite. Reddish gray. Granitoid. Biotite is partially to almost completely chloritized in local zones. Hornblende is slightly to moderately chloritized. Feldspars are clouded. Mineralization is predominately confined to qtz. veinlets.				
				Moderately good mineralization starts at 586. Dominately chalcopyrite replacement of mafic minerals.				
	600			Very good mineralization in mafic mineral rich unit 591-595.				

ole No. DDH #4 | Sheet No. 6 | Phillips Petroleum Company | Collar Elevation

oordinates | Date Started | Squaw Peak | Total Footage

ype Drill | Date Completed | Overall Core Recovery

t Size | Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
00	606	6.0		Granitic facies 600-606				
06		30.		Quartz monzonite cont.				
	636							
36	640	4.0		Granitic facies.	Well mineralized.			
40	651	11.0						
51	655	4.0		Quartz diorite facies. Extremely altered.	Well mineralized.			
55	666	11.0		Granodiorite facies. 50% plag. 50% K-Felds. Slight to moderate alteration. Bio, slight to mod. chloritized. Slight to moderate mineralization.				
66		61.0		Quartz monzonite. Granitoid. Slight to moderately altered. Bio is slight to moderately chloritized. Feldspars are clouded w/plag saussuritized. Unit is poorly mineralized. Slightly fractured. Unit with high mafic mineral content 675-678½. 2" basic dike at 693.				
				704-705 K-Feldspar flooding. Hornblende is fresher and more abundant. Makes up 30% of rock.				

ole No. DDH #4 | Sheet No. 7 | Phillips Petroleum Company | Collar Elevation
ordinates | Date Started | Squaw Peak | Total Footage
pe Drill | Date Completed | Overall Core Recovery
t Size | Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	727			Becoming more granitic in composition. Increasing K-Feldspar				
27		10.		Granitic facies. 50% K-Felds of total Felds. Very high percentage				
	737			of mafic minerals (up to 35%). Slight overall alteration				
37		26.0		Quartz monzonite. Slight to moderate alteration.				
				Hornblende is black and shiny to partially chloritized.				
				Very poorly mineralized.				
				Calcite inclusions.				
				Highly altered unit 751-753.				
				761-763. Granite composition.				
	763			Total Depth				

#18 (38)

ole No. DDH #5 | Sheet No. 1 | Phillips Petroleum Company | Collar Elevation 4597.7

oordinates 8824.93N; 4841.80E | Date Started 2/8/69 | Squaw Peak | Total Footage 690

ype Drill L38 Core Drill | Date Completed 2/26/69 | Overall Core Recovery .970

t Size 4½" R.B.; NQWL | Logged By MRS

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
0				Rock bitted. Sampled cuttings.				
	22							
2		10.0		Quartz diorite. Granitoid. Whitish gray. Extremely altered. Hornblende completely altered. Plagioclase is clay altered. Highly oxidized. Highly fractured.				
	37							
7		25.0		Quartz diorite. Greenish gray. Granitoid. Highly altered.				
		(-3)		Hornblende and mafics predominately altered to chlorite. Plag is clay altered. Sparse sulfides. Highly oxidized. Highly fractured.				
		(-1)		Fair malachite 51-65.				
	67	(-1)						
7		39.0		Fault cuts off widespread oxidization at 67.				
		(-1)		Quartz monzonite. Reddish gray. Granitoid. Moderate to high alteration. Hornblende and other mafic minerals almost completely altered to chlorite. Felds are clouded, few clay altered. Mineralization in disseminations and veinlets. Oxidized along fractures. Moderate fractured. Good mineralization starting at 95. Last oxidization in fractures at 107.				
	107							
07		8.0		Granitic facies. Almost all K-felds. appears to be replacing plagioclase.				
	115							
15		10.0						

e No. DDH #5 | Sheet No. 2 | Phillips Petroleum Company | Collar Elevation
ordinates | Date Started | Squaw Peak | Total Footage
e Drill | Date Completed | Overall Core Recovery
Size | Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	125							
5		19.0		Quartz monzonite. Granitoid. Reddish gray. Slight fracturing. Slight to moderate alteration. Mafic minerals are partially chloritized. Feldspars are clouded. Sparse dissemination mineralization. Mostly cpy. Possibly some pyrite.				
	144							
4		28.5		Quartz monzonite. Granitoid. Light reddish gray. Moderate to intense fracturing. Moderate to intense alteration. Mafics are almost completely chloritized. Feldspars are clouded with possible slight clay alteration. Some plag. saussuritized mineralization in sparse disseminations and veinlets.				
		(-3)						
		(-1.5)						
		(-1)						
	178							
8		59.0		Quartz monzonite. Granitoid. Slight to moderate fracturing. Reddish color. Higher (up to 50%) than usual K-feldspar. Moderate alteration. Mafics mostly chloritized. Feldspars clouded. Sparse mineralization. Possible FeS_2.				
				Numerous calcite veinlets orientated at 45°.				
	237							
237		8.0						

ole No. DDH #5 | Sheet No. 3 | Phillips Petroleum Company | Collar Elevation

oordinates | Date Started | Squaw Peak | Total Footage

ype Drill | Date Completed | Overall Core Recovery

t Size | Logged By

GEOLOGIC LOG

ROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	245				Granitic composition 237-245				
45		29.0			Quartz monzonite.				
					K-feldspar flooding 269-272				
	274								
74		28.0			Granodiorite. Reddish. Granitoid. Hornblende and other mafics are partially chloritized. K-feldspar makes up greater than 50% of total feldspars. Feldspars are clouded. Interval from 280-290 is highly altered in local zones with complete chloritization and some clay alteration. Overall sparse mineralization.				
	302								
02		22.0			Quartz monzonite. Granitoid. Moderate alteration. Hornblende is partially chloritized to chloritized. Feldspars are clouded. Sparse mineralization mainly in quartz veinlets. Numerous calcite veinlets.				
	324								
24		26.0			Granodiorite. Granitoid. Reddish color. Moderate to intense alteration. Hornblende and other mafics almost completely chloritized. Local zones altered completely to muscovite. Feldspars which is mostly K-felds are clouded. Sparse mineralization mainly in veinlets. Intensely oxidized zone 357-361.				
	350								
50		53.0			Quartz monzonite. Granitoid. Moderate alteration.				
		(-1)			Mafics are partially chloritized. Feldspars are clouded.				

le No. DDH #5 | Sheet No. 4 | Phillips Petroleum Company | Collar Elevation

ordinates | Date Started | Squaw Peak | Total Footage

pe Drill | Date Completed | Overall Core Recovery

Size | Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
		(-1)			Mineralization is sparse in both disseminations and tiny veinlets. Possible FeS_2.				
	405								
5		23.5			Granite or granodiorite. Reddish color. Moderate alteration. Mafics partially chloritized. K-felds is dominant. Feldspars are clouded. Sparse mineralization.				
	428.5				424.5-427.5 intensely oxidized zone.				
3.5		11.5			Quartz diorite. Light greenish gray. Intensely altered. Mafics completely to chlorite or muscovite. Feldspars all clouded or slightly clay altered. Sparse mineralization.				
	440								
)		21.0			Granodiorite or granite. K-felds is dominant. Mafics are chloritized. Feldspars are clouded. Sparse mineralization.				
	461								
L		8.5			Quartz diorite. Light greenish gray. Intensely altered. Mafics completely altered to chlorite or muscovite.				
L		13.0			Granodiorite. Reddish brown. Dominant K-feldspar.				

ole No. DDH #5 | Sheet No. 5 | Phillips Petroleum Company | Collar Elevation

oordinates | Date Started | Squaw Peak | Total Footage

/pe Drill | Date Completed | Overall Core Recovery

t Size | Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	484								
34		61.0			Quartz monzonite. Grayish color. Granitoid. Slight to moderate alteration. Mafics are partially chloritized. Feldspars are clouded. Plagioclase is slightly saussuritized. Mineralization is sparse and is found in both disseminations and quartz veinlets. Some sparse disseminated pyrite. Quartz diorite composition is found in intervals, 488-490 and 499-508.				
	545								
45	552	7.0			Granite composition 545-552.				
52		15.			Quartz diorite. Greenish gray. Granitoid. Intensely altered. Mafics completely to chlorite. Feldspars clouded to slight clay altered. All feldspar is plagioclase.	Mineralization in disseminations and veinlets.			
	567								
67	572	5.0			Granitic composition. Reddish color.				
72		33.0			Granodiorite. Reddish. Granitoid. Moderately altered. Mafic minerals mostly altered to chlorite. Feldspars are clouded. Local high concentrations of orthoclase. Some dark green inclusions of an unidentified mafic mineral. Sparse mineralization. K-feldspar is dominant of feldspars.				

le No. DDH #5 | Sheet No. 6 | Phillips Petroleum Company | Collar Elevation

ordinates | Date Started | Squaw Peak | Total Footage

pe Drill | Date Completed | Overall Core Recovery

t Size | Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	605								
05	609	4.0			Intensely altered 605-609. Quartz monzonite composition.				
09		37.0			Granodiorite? K-feldspar is dominant. Reddish color. Granitoid. Moderate to intense alteration. Mafics completely chloritized. Feldspar clouded to clay altered. Mineralization is sparse. Some quartz monzonite zones locally 618-620; 625-629.				
	646								
46		8.0			Quartz diorite. Granitoid. Greenish gray. Intensely altered. Mafics completely chloritized. Felds clouded to slightly clay altered.				
	654								
54		36.0			Granodiorite. K-feldspar is dominant. Granitoid texture. Reddish color. Moderate alteration. Mafics mostly chloritized. Feldspars clouded. Pegmatitic nature. White unmineralized quartz veinlets with epidote present locally. Some oxidization in fractures. Well mineralized area 663-665.				
	690				Total Depth.				

#19 (39)

Hole No. DDH #6 | Sheet No. 1 | Phillips Petroleum Company | Collar Elevation 4472.11

Coordinates 8366.93N; 6065.53E | Date Started 2/26/69 | Squaw Peak Mine | Total Footage 862

Type Drill L38 Core Drill | Date Completed 3/18/69 | Yavapai County, Arizona | Overall Core Recovery .988

Bit Size 4½" R.B.; NQWL | Logged By MRS

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
0				Rock bitted. Sampled cutting.				
	10							
10		34.0						
				Quartz Diorite. Granitoid texture. Grayish color. Slight to moderate alteration. Mafic minerals range from fresh to completely chloritized with most partially chloritized. Feldspars are clouded with some saussuritization. Oxidized. Mineralization is in both disseminations and veinlets. Scattered malachite.				
		(-1)						
	47	(-2)						
47		5.5		More intensely altered zone. 47-54. Mafics to chlorite.				
	54	(-1.5)		Originally more basic unit.				
54		12.0						
	66							
66		6.0		Completely oxidized. Quartz Diorite.				
	72			Bottom of oxidization except in fractures.				
72		19.5		Quartz Diorite. Gray color. Granitoid texture. Slight alteration. Mafics are brown and shiny to slightly chloritized. Feldspars are slightly clouded. Some saussuritized. Good mineralization in disseminations and veinlets. Some good MoS.				
	91.5							
91.5		23.0		Quartz Diorite. Grayish color. Granitoid. Slight to moderate alteration. Mafics moderately chloritized. Felds clouded and some saussuritized. Good mineralization in disseminations and veinlets.				
	114.5			Most plagioclase is saussuritized.				
114.5	119	4.5		Quartz Monzonite. Reddish color. Moderately altered. Well mineralized.				

ole No. DDH #6 | Sheet No. 2 | Phillips Petroleum Company | Collar Elevation

oordinates | Date Started | Squaw Peak Mine | Total Footage

/pe Drill | Date Completed | Overall Core Recovery

t Size | GEOLOGIC LOG | Logged By

ROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
9		31.0		Quartz Diorite. Grayish green color. Granitoid texture. Moderately altered. Most mafic minerals are moderate to intensely chloritized. Few brown and shiny. Feldspars clouded with some slight clay alteration. Most plag. has some degree of saussuritization. Less than 5% orthoclase. Well mineralized in both disseminations and veinlets. Numerous well mineralized quartz veinlets.				
	150							
50		49.0		Quartz Diorite. Approaching Quartz Monzonite up to 20-25% orthoclase of total feldspars. Slight to moderate alteration. Mafics are mostly partially chloritized. Few black and shiny and a few completely chloritized. Feldspars clouded. Less mineralization than last unit, but still present in disseminations and veinlets.				
	189							
39		18.0		Quartz Diorite. Greenish gray. Granitoid texture. Moderate to intense alteration. Mafics mostly completely chloritized. Feldspars clouded with some slight clay alteration. Not too well mineralized.				
	207							
07		13.0		Quartz Diorite with up to 15% K-feldspar. Greenish gray color. Moderate alteration. Mafics mostly chloritized. Felds clouded. Fair mineralization.				
	220							
20		21.0		Quartz Diorite with up to 15% orthoclase in spots. Slight alteration. Mafics slightly chloritized or black and shiny. Felds are clouded. Mineralized mostly by veinlets.				
	241							

e No. DDH #6 | Sheet No. 3 | Phillips Petroleum Company | Collar Elevation

rdinates | Date Started | Squaw Peak Mine | Total Footage

e Drill | Date Completed | Overall Core Recovery

Size | Logged By

GEOLOGIC LOG

M	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
L		9.0			Quartz Diorite. Grayish color. Granitoid texture. Slight-moderate				
	250				alteration. Mafics mostly slightly chloritized. Feldspars clouded and				
)		13.0			slightly clay altered with some saussuritized. Sparse mineralization.				
					Moderately altered unit (250-263) Mafics mostly all chloritized.				
	263								
3		69.0			Quartz Diorite. Slight-moderate alteration.				
	332								
2		4.5			Highly altered quartz diorite 332-338. Mafics completely to chlorite				
8	338	(=1.5)			Felds have some clay alteration.				
		32.0			Quartz Diorite continued. Slight-moderate alteration.				
					Almost all plagioclase is saussuritized.				

le No. DDH #6 | Sheet No. 4 | Phillips Petroleum Company | Collar Elevation
ordinates | Date Started | Squaw Peak Mine | Total Footage
pe Drill | Date Completed | Overall Core Recovery
t Size | Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Quartz Diorite cont.				
	370			From 367-370. Up to 15% K-feldspar.				
70		15.0		Quartz Diorite. Light greenish color. Granitoid. Extremely altered. Mafics completely chloritized. Some to muscovite.				
	385			Feldspars clouded with some clay alteration.				
35		57.0		Quartz Diorite. Granitoid. Grayish color. Slight alteration. Mafics are slightly chloritized. Feldspars are clouded with some saussuritized.				
				K-feldspar flooding 385-393; 405-413.				
				K-feldspar flooding 316-327.				
	442							
42		20.0		Quartz Diorite. Extremely altered. Intensely fractured. Mafics partially chloritized to completely chloritized. Feldspars are clouded to clay altered. Fair mineralization. Unit appears to be in large shear zone.				
2	462 466	4.0		Quartz Diorite - Slight to moderate alteration.				
6		18.0		Quartz Monzonite. Granitoid texture. Slight alteration. Mafics partially chloritized. Feldspars are clouded. Some zones of heavy K-feldspar flooding.				

ole No. DDH #6 | Sheet No. 5 | Phillips Petroleum Company | Collar Elevation

ordinates | Date Started | Squaw Peak Mine | Total Footage

pe Drill | Date Completed | Overall Core Recovery

t Size | Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	484								
4		13.0			Quartz diorite. Granitoid texture. Grayish color. Slight-moderate alteration. Mafics mostly partially chloritized.				
	497				Some completely chloritized. Feldspars clouded w/some slight clay alteration.				
7		13.0			Quartz Monzonite. Granitoid texture. Slight to moderate alteration.				
					Mafics range from black and shiny to completely chloritized.				
	510				Feldspars clouded with some slight clay alteration.				
0		14.5			Quartz Diorite. Greenish color. Extremely altered. Mafics mostly				
		(-1)			completely chloritized. Feldspars clay altered.				
	526.5	(-1)			Intensely fractured.				
.5		59.5			Quartz Monzonite. Granitoid texture. Slight to moderate alteration.				
					Mafics partially chloritized. Feldspars clouded. Percentage of				
					K-Feldspar ranges in local zones from 10% - 60%. Poor mineralization.				
					Highly altered zone 555-558.				
					Quartz Diorite composition 547-549.				
	588								
38		9.0			Quartz Diorite. Extremely altered. Greenish color.				
	597				Mafics completely gone to chlorite or muscovite. Feldspar is slight to moderately clay altered. Little mineralization as replacement of mafics.				
97		22.0							

ole No. DDH #6 | Sheet No. 6 | Phillips Petroleum Company | Collar Elevation

oordinates | Date Started | Squaw Peak Mine | Total Footage

ype Drill | Date Completed | Overall Core Recovery

t Size | GEOLOGIC LOG | Logged By

OM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
					Granite. Reddish color. Porphyrytic granitoid texture with (up to ¼ inch) large feldspar phenocrysts. Mafics chloritized and feldspars clouded. Poor mineralization.				
	619				Less K-feldspar. Increasing alteration.				
19	627	8.0			Quartz Diorite. Greenish color. Highly altered. Mafics completely chloritized. Feldspars moderately clay altered. Local zones of K-feldspar flooding.				
27		32.0			Quartz Monzonite grayish color. Slightly altered. Mafics range from black and shiny to partially chloritized. Feldspars are clouded. Fair mineralization. Mostly disseminated cpy. replacing mafic minerals.				
	659								
59	666½	7.5			659-666½ Highly altered quartz monzonite. Mafics completely chloritized, some altered to muscovite.				
56½		14.5			Feldspars partially clay altered.				
	681								
31		18.0			Granite. Reddish color. Moderately altered. Mafics mostly chloritized. Feldspars slightly clay altered. Some disseminated chalcopyrite mineralization.				
	699								
99		18.0			Quartz Diorite. Greenish color. Highly altered. Mafics completely chloritized, some altered to muscovite. Feldspars partially clay altered. Some disseminated cpy. mineralization.				
	717								
17		5.5			Granite. Reddish color. Moderately altered.				

e No. DDH #6 | Sheet No. 7 | Phillips Petroleum Company | Collar Elevation
rdinates | Date Started | Squaw Peak Mine | Total Footage
e Drill | Date Completed | Overall Core Recovery
Size | Logged By

GEOLOGIC LOG

M	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	722.5			Mafics chloritized. Felds clouded with some clay alteration.				
.5		17.5		Quartz Monzonite. Granitoid.texture. Slight to moderate alteration. Mafics mostly chloritized.				
				Feldspar clouded with some slight Kaolinization.				
	740			Dissem. mineralization.				
	743.5	3.5		Quartz Diorite. Greenish color. Moderate alteration. Mafics all				
.5		45.5		chloritized. Feldspars clouded with slight clay alteration. Dissem. cpy mineralization.				
				Granodiorite. K-feldspar dominant. Porphyrytic. Granitoid texture.				
				Slight to moderate alteration. Mafics mostly chloritized. Feldspars clouded. Intensely altered zone 749-750. Good mineralization in quartz veinlets.				
				Quartz Diorite composition 770-772.				
				Heavy K-feldspar flood at 781.				
	789							
9		30.0		Quartz Monzonite. Granitoid texture. Slight to moder alteration.				
				Mafics are mostly chloritized. Feldspars clouded. Plagioclase				
				is dominant feldspar. Fair disseminated mineralization.				
				More intensely altered zone 813.5-815.5.				
	819							
9		30.0		Quartz Diorite. Granitoid texture. Grayish color. Slight alteration.				
				Mafics are mostly slightly chloritized, few chloritized.				
				Feldspars are clouded. Poor mineralization. K-Feldspar flooding				
				831-838; 844-846; 850-853.				

le No. DDH #6 | Sheet No. 8 | Phillips Petroleum Company | Collar Elevation

ordinates | Date Started | Squaw Peak Mine | Total Footage

pe Drill | Date Completed | Overall Core Recovery

Size | Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	849							
49		13.0		Quartz Monzonite. Slight to moderate alteration. Sparse mineralization.				
	862			Mafics well chloritized. Feldspars clouded. K-Feldspar content about 40-50%				
				~~TOTAL DEPTH~~				

#20 (40)

ole No. DDH #7 | Sheet No. 1 | Phillips Petroleum Company | Collar Elevation 4403.32

oordinates 8744.85N 5892.50E | Date Started 3/18/69 | Squaw Peak Mine | Total Footage 500

ype Drill L38 Core Drill | Date Completed 3/27/69 | Overall Core Recovery .962

t Size 4½" R.B. NQWL | Logged By MRS

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
)				Rock bitted to 10 feet.				
	10							
0		41.5		Quartz monzonite to granodiorite. Reddish color. Granitoid texture.				
		(-5.0)		Moderate alteration. Intensely fractured. Oxidized.				
		(-0.5)		Mafics are all chloritized. Feldspars are clouded with slight				
				clay alteration. Poor mineralization.				
		(-0.5)		Little malachite and azurite from 15' - 20'.				
				Oxidization gets less intense and stops at 37.				
		(-0.5)						
	58							
8		27.5						
		(-2.0)		Quartz monzonite. Dull reddish gray color. Granitoid. Intensely				
		(-1.5)		altered. Mafics chloritized. Feldspars clay altered. Major				
		(-2.0)		fault zone from 62' to 86'.evidenced by gouge, breccia				
		(-3.5)		fragments, etc. Fault zone is probably responsible for				
		(-0.5)		the intense alteration. Poor mineralization except for				
		(-1.0)		some good MoS_2 present in fault. Black sooty material present				
	96			65 - 70; 85 - 93.				
5		60.5		Granite to granodiorite. Reddish color granitoid texture				
		(-0.5)		K-feldspar is dominant feldspar. Moderate alteration. Most				
				mafics well chloritized, few brownish black and shiny. Feldspars are				
				slightly clay altered. Mineralization in disseminations primarily				
				and is poor.				

e No. DDH #7 | Sheet No. 2 | Phillips Petroleum Company | Collar Elevation
rdinates | Date Started | Squaw Peak Mine | Total Footage
e Drill | Date Completed | Overall Core Recovery
Size | Logged By

GEOLOGIC LOG

M	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
					Higher K-feldspar content 137-154. Almost granite.				
	157								
1		9.0			Quartz Diorite. Light greenish gray. Moderate-intensely altered.				
	166				Mafics completely gone to chlorite or muscovite. Felds slightly clay altered.				
5		39.0			Quartz Diorite, Greenish gray, Slight-moderate alteration. Mafics				
					moderately chloritized. Feldspars clouded with some clay				
					alteration. Some disseminated mineralization.				
		(-1.0)			K-feldspar flooding 193-198.				
	206								
6		13.0			Quartz monzonite. Granitoid texture. Moderate alteration.				
					Mafics mostly well chloritized. Feldspars clouded with possible				
	219				slight clay alteration. Some well mineralized quartz veins.				
9					Quartz monzonite. Slight alteration. Mafics partially chloritzed.				
	227.5	8.5			Feldspars clouded.				
7.5		29.5			Granodiorite reddish color. Granitoid texture. K-feldspar is				
					50-60% of total feldspar. Slight to moderate alteration. Mafics				
					mostly well chloritzed; few fresher. Feldspars clouded.				

ole No. DDH #7 | Sheet No. 3 | Phillips Petroleum Company | Collar Elevation

oordinates | Date Started | Squaw Peak Mine | Total Footage

ype Drill | Date Completed | Overall Core Recovery

it Size | Logged By

GEOLOGIC LOG

ROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Sparse mineralization.				
	257							
57		10.0		More intensely altered zone of granodiorite. Mafics are all well chloritized. Feldspars have some clay alteration.				
	267							
57		33.0						
				Slight to moderately altered granodiorite cont.				
	300							
00	306.5	6.5		Quartz monzonite. Greenish color. Moderate to intense alteration. Mafics well chloritized. Feldspars; some clay alteration.				
06.5		22.5		Granodiorite. Reddish color. Granitoid. K-feldspar is 50-70% of total feldspars. Moderate alteration. Mafics well chloritized. Feldspars clouded with possible slight clay alteration. 327-329 is intensely altered.				
	329							
29		40.0		Quartz monzonite. Reddish gray color. Granitoid. Slight to moderate alteration. Mafics moderately to intensely chloritized. Feldspars clouded. K-feldspar content varies locally in content from 20-50% of total feldspar.				
				Sparse mineralization. More intensely altered zone 347-348.				

ole No. DDH #7 | Sheet No. 4 | Phillips Petroleum Company | Collar Elevation

oordinates | Date Started | Squaw Peak Mine | Total Footage

ype Drill | Date Completed | Overall Core Recovery

t Size | Logged By

GEOLOGIC LOG

ROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Basic unit 353-354. Almost 100% mafic minerals.				
	369							
69		38.0		Quartz monzonite. Porphyrytic granitoid texture. Reddish gray color. Slight alteration. Mafics are partially chloritized, few fresh, few mostly chloritized. Feldspars are partially clouded. Sparsely mineralized. K-feldspar content varies locally from 5%-40% of total feldspars. Zones of well altered quartz diorite at 392½-393½ and 405-406.				
	407			More intense alteration 400-407. Mafics well chloritized.				
07		10.0		Granodiorite composition. Reddish color. Slight to moderate alteration. Mafics partially chloritized. Feldspars clouded.				
	417							
17		7.5		Quartz diorite. Greenish color. Well altered. Mafics well chloritized.				
	424.5			Feldspars have some clay alteration.				
24.5		13.5		Granodiorite. Reddish color. 50% K-feldspar of total feldspar. Slight to moderate alteration. Most mafics moderate chlorite. Felds clouded.				
	438							
38				Quartz monzonite. Porphyrytic granitoid texture.				
		14.5		Slight alteration. Mafics partially chloritized. Feldspars are clouded.				
	452.5							
52.5	456	3.5		Quartz monzonite with higher percentage of K-feldspar, up to 60%.				
56		44.0						
				Slightly altered, porphyrytic quartz monzonite. Poor mineralization. Some small local zones of higher alteration 459-460 474-475.				

Hole No. DDH #7 | Sheet No. 5 | Phillips Petroleum Company | Collar Elevation

Coordinates | Date Started | Squaw Peak Mine | Total Footage

Type Drill | Date Completed | Overall Core Recovery

Bit Size | Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION					ANGLE TO CORE	SECTION	DEPTH
					Slightly altered quartz monzonite cont.								
					Higher K-feldspar content 491½ - 498½.								
	500				Total Depth								

#21 (41)

Hole No. DDH No. 8 | Sheet No. 1 | PHILLIPS PETROLEUM COMPANY | Collar Elevation 4325.45

Coordinates 8216.72N; 6452.37E | Date Started 3/27/69 | Squaw Peak Mine | Total Footage 486

Type Drill L38 Core Drill | Date Completed 4/7/69 | Overall Core Recovery .974

Bit Size 4½" R.B.; NQWL | Logged By MRS

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
0	2			Rock bitted. Sampled.				
2		7.5		Quartz Diorite. Grayish color. Granitoid texture. Slight to				
		(-1.5)		moderately altered. Mafics partially chloritized. Feldspars				
	13	(-2.0)		clouded with slight clay alteration. Oxidized.				
3	17	(-2.0)						
7		28.5		Quartz Diorite. Grayish green color. Moderately altered. Mafics mostly well chloritized. Some kaolinization of feldspars. Oxidized mainly along fractures. Minor fault at 14'.				
	47			Quartz Monzonite. Granitoid. Moderately altered. Mafics partially chloritized to a few well chloritized. Some clay alteration of feldspars. Overall poor mineralization. Little peacock copper at 33. Intensely fractured. Oxidized in fractures.				
		60.0		Quartz Diorite. Granitoid. Gray. Slight alteration. Mafics slightly chloritized. Feldspars are hazy to clouded. Alteration is more intense near highly fractured zones. Oxidized along fractures. Some saussuritization of plagioclase in local zones. Little malachite at 67½ and 73. Some local small zones of slightly more intense alteration.				
		(-1.0)		Some good mineralization confined to tiny veinlets and quartz veinlets.				
	108			104-108 has small percentage of K-feldspar.				
8				Quartz Monzonite. Granitoid texture. Slight to moderate alteration.				
		49.0		Mafics slightly chloritized to well chloritized. Feldspars have some clay alteration. Sparse mineralization 114 is bottom of oxid. in fractures.				

Hole No. 8 | Sheet No. 2 | PHILLIPS PETROLEUM COMPANY | Collar Elevation

Coordinates | Date Started | Squaw Peak Mine | Total Footage

Type Drill | Date Completed | | Overall Core Recovery

Bit Size | | GEOLOGIC LOG | Logged By

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Local high concentrations of K-feldspar flooding 114-115.				
				134-138 approaching quartz diorite in composition.				
		(-1.0)		138-140 slightly altered quartz diorite.				
				142-146 approaching quartz diorite in composition. Less than 8% K-feldspar.				
	158							
158				Quartz Diorite. Granitoid. Gray. Slightly altered.				
		43.0		Mafics partially chloritized. Feldspars clouded with some saussuritized. Sparse mineralization mianly in veinlets or along fractures.				
				Slight-moderately altered quartz monzonite 175.5-177.5				
				Some small local zones have up to 10% K-feldspar of total feldspars.				
	201							
201		17.5		Quartz Diorite. Moderately altered. Mafics mostly well chloritized.				
		(-0.5)		Feldspars have some clay alteration. Some small local zones have up to 10% K-feldspar of total feldspars.				
	219							
219		26.0		Quartz Monzonite. Slight to moderate alteration. Most mafics pretty well chloritized. Few are black and shiny locally.				
				Feldspars are clouded, with local areas having some clay alteration.				
				233½-236 moderately to intensely altered quartz diorite.				

ole No. 8 | Sheet No. 3 | PHILLIPS PETROLEUM COMPANY | Collar Elevation
oordinates | Date Started | Squaw Peak Mine | Total Footage
ype Drill | Date Completed | | Overall Core Recovery
t Size | | GEOLOGIC LOG | Logged By

OM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION					ANGLE TO CORE	SECTION	DEPTH
	245												
.5		10.5			Quartz Diorite. Gray color. Slight alteration. Mafics are partially								
	255.5				chloritized. Feldspars are clouded.								
5.5		44.0			Quartz Diorite. Greenish gray color. Moderate to intensely								
					altered. Mafics mostly well chloritized. Feldspars partially								
		(-1.0)			clay altered. Intensely fractured.								
		(-1.0)			Major fault zone from 266 to 275. Maybe responsible for the								
					alteration.								
					From 286-290 intensely altered quartz diorite. Mafics completely								
					to chlorite or muscovite. Feldspar is clay altered.								
	301.5												
1.5		23.5			Quartz Diorite. Light greenish gray. Intensely altered. Mafics								
					completely gone to chlorite or muscovite. Feldspars are clay								
					altered. Numerous quartz veinlets with mostly poor								
					mineralization.								
	326	(-1.0)											
6		33.0			Quartz Monzonite. Granitoid texture. Slight-moderate alteration.								
					Most mafics well chloritized, few partially chloritized.								
					Feldspars are clouded with some slight clay alteration.								
					Some disseminated mineralization.								
	359												

ole No. 8 | Sheet No. 4 | PHILLIPS PETROLEUM COMPANY | Collar Elevation

oordinates | Date Started | Squaw Peak Mine | Total Footage

ype Drill | Date Completed | Overall Core Recovery

t Size | GEOLOGIC LOG | Logged By

ROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION					ANGLE TO CORE	SECTION	DEPTH
59		7.0			Quartz Diorite. Intensely altered. Most mafics completely chloritized.								
	366				Feldspars are moderately clay altered.								
66		20.0			Quartz Diorite to quartz monzonite. Granitoid. Moderately altered.								
					Most mafics well altered, some in local areas partially altered.								
					Feldspars with up to 10-20% K-felds are becoming clay altered.								
	386												
86	390	4.0			Quartz Diorite. Mafics partially chloritized. Feldspars clouded.								
90		34.0			Quartz Diorite to quartz monzonite. K-feldspar varies from 5-30% of								
					total feldspars. Slightly altered. Mafics partially chloritized.								
					Feldspars clouded. Some small local zones have slightly more								
					alteration. Interval 390-398.5 has moderate alteration with								
					mafics mostly well chloritized and some clay alteration.								
					Sparse mineralization.								
	424												
24		11.0			Quartz Diorite. Granitoid. Grayish color. Very slightly altered.								
	435				Mafics slightly chloritized. Feldspars partially clouded.								
35		51.0			Quartz monzonite. Granitoid texture. Slight alteration. Mafics								
					slightly chloritized to partially chloritized. Feldspars range								
					from almost fresh to clouded. K-feldspar content varies from								
					10-50% with average at 15-20% of total feldspars.								
					Interval from 443½-447 is slight to moderately altered quartz								
					diorite. Fair mineralization from 443-463 almost all confined to								
					numerous quartz veinlets at 45° to core.								
					458-469 is slightly altered qtz. diorite with up to 10% K-feldspar.								

ole No. 8 Sheet No. 5 PHILLIPS PETROLEUM COMPANY Collar Elevation

oordinates Date Started Squaw Peak Mine Total Footage

ype Drill Date Completed Overall Core Recovery

t Size Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION					ANGLE TO CORE	SECTION	DEPTH
	486				Total Depth. Sparsely mineralized from 463. Total depth.								

PHILLIPS PETROLEUM COMPANY
~~SHASTA-PHELPS DODGE JOINT VENTURE~~
~~SHASTA COPPER DEVELOPMENT CORPORATION~~

GEOLOGIC LOG

SQUAW PEAK MINE

#22 (42)

Hole No. DDH No. 9 Sheet No. 1
Coordinates. 7612.62N 6154.14E
Type Drill L38 Core Drill Bit Size 4½" R.B.; NQWL
Date Started 4/8/69

Collar Elevation 4385.48
Total Footage 822.5
Logged By MRS
Date Completed 4/19/69
Overall Core Recovery .991

From	To	Core Recovery	Type	Rock Description	Alteration	Metallization	
0	4			Quartz Diorite. Rock bitted. Sampled cuttings.			
4	8	4.0		Quartz Diorite. Slight alteration. Slight overall oxid.			
8	32	23.0 (-1.0)		Quartz Diorite. Slight alteration. Gray color. Granitoid. Mafics partially chloritized. Feldspars mostly clouded, few almost fresh. Sparse mineralization in disseminations, along frac. planes, and in quartz veinlets. Some FeS_2 present. Oxidization confined to fractures. Slight moderate fracturing.			
32	40	7.5 (-0.5)		Quartz Diorite. Grayish color. Mafics partially chloritized to mostly chloritized. Feldspars clouded w/some kaolinization. Moderate fault 32-35.			
40	67	25.5 (-0.5)		Quartz Diorite. Grayish green. Mafics mostly completely chloritized. Feldspars are clouded with some clay alteration. Saussuritized. Better mineralization. Major fault 41.5-46. Some pyrite present confined to fracture planes. Clay mineral fracturing filling material present.			
67	78	11.0		Quartz Diorite. Mafics partially chloritized. Feldspar clouded with slight clay alteration.			
78	83	5.0		Quartz Diorite. Gray color. Porphyrytic granitoid texture. Slight alteration. Mafics slight chlorite feldspars almost fresh.			
83		53.0 (-0.5)		Quartz Diorite. Grayish-green. Mafics mostly well chloritized. Few partially. Feldspars have some clay alteration. Small fault at 88. Most plagioclase have some degree of saussuritization. Some well mineralized quartz veins in this unit. More intense alteration 102-104, 110-112. Pyrite also present.			

PHILLIPS PETROLEUM COMPANY

~~SHASTA PHELPS DODGE JOINT VENTURE~~

~~SHASTA COPPER BELT EXPLORATION~~

Hole No. 9 Sheet No. 2

Coordinates. _____ _____

Type Drill _____ Bit Size _____

Date Started _____

GEOLOGIC LOG

SQUAW PEAK MINE

Collar Elevation _____

Total Footage _____

Logged By _____

Date Completed _____

From	To	Core Recovery	Type	Rock Description	Alteration	Metallization	
	136.5						
136.5	160	23.5		Quartz Diorite. Granitoid. Grayish green. Moderate alteration. Mafics are well chloritized except for a few, small local zones. Feldspars are moderately clay altered. Oxidized in fractures. Highly silicified unit 151-153.5.			
160	194	34.0		Quartz Diorite to qtz. monzonite. Has 10-20% K-feldspar of total feldspars. Intensely altered. Mafics are well chloritized. Feldspars are strongly clay altered. Fair mineralization in quartz veinlets with some disseminations. Some oxidization present in fractures to 185. Altered rock has consistency of gouge. Extremely fractured. Possible fine grained MoS_2 along fractures.			
194	198	4.0		Slight to moderately altered quartz diorite.			
198	213	15.0		Intensely altered quartz diorite cont. Minor steep fault 199. Fault 203½-206½, unsure of orientation.			
213	218	5.0		Slight to moderately altered qtz. diorite. Mafics mostly moderately chloritized. Feldspars have some clay alteration.			
218	227	9.0		Intensely altered quartz diorite.			
227		55.5		Quartz Diorite. Gray color. Granitoid. Moderately altered. Mafics from partially chloritized to well chloritized. Feldspars have a moderate degree of clay alteration.			

PHILLIPS PETROLEUM COMPANY

~~SHASTA-PHELPS DODGE JOINT VENTURE~~

~~SHASTA COPPER BELT EXPLORATION~~

GEOLOGIC LOG

SQUAW PEAK MINE

Hole No. 9 Sheet No. 3

Coordinates. _____

Type Drill _____ Bit Size _____

Date Started _____

Collar Elevation _____

Total Footage _____

Logged By _____

Date Completed _____

From	To	Core Recovery	Type	Rock Description	Alteration	Metallization	
				Fair mineralization present. Some FeS_2 present along fracture planes. Moderate fault zone 229 - 232.			
		-0.55		Highly altered quartz diorite 263.5-264.5 and 265.5-268.			
	283			Slightly altered quartz diorite 276-278. Moderately-intensely altered qtz.diorite 279½-282½.			
283		46.0		Quartz diorite. Grayish green. Granitoid. Slight to moderately altered. Mafics are partially chloritized to well chloritized. Feldspars are clouded with some clay alteration. Most feldspars have some degree of saussuritization. Good disseminated mineralization along with a number of well mineralized quartz veinlets. Slightly altered quartz diorite 315-317.			
	329						
329		21.0		Quartz diorite. Granitoid, slightly porphyrytic. Very slightly altered. Mafics slightly chloritized. Feldspars almost fresh to clouded. Sparse mineralization is confined almost all to scattered tiny veinlets.			
	350						
350		7.0		Small local zones of slightly more intense alteration within the unit are at 336-340; 343-345; 350-357.			
	357						
357		19.0					

PHILLIPS PETROLEUM COMPANY

~~SHASTA PHELPS DODGE JOINT VENTURE~~

~~SHASTA COPPER BELT EXPLORATION~~

Hole No. 9 Sheet No. 4

Coordinates. _____

Type Drill _____ Bit Size _____

Date Started _____

Collar Elevation _____

Total Footage _____

Logged By _____

Date Completed _____

GEOLOGIC LOG

SQUAW PEAK MINE

From	To	Core Recovery	Type	Rock Description	Alteration	Metallization	
				Slightly altered qtz. diorite cont. Fair mineralization.			
	376						
376	381	5.0		Quartz diorite. Lt. greenish color. Mafics almost gone. Felds are clay altered.			
381		68.0		Quartz diorite. Granitoid. Moderate alteration. Mafics range from almost fresh to completely chloritized, most are well chloritized. Feldspars have some clay alteration. Intensely altered qtz. diorite unit 388-390; 405-406. Gouge zone 402-404. Slight altered qtz. diorite 406-411. Fault zone 422½ - 423½. Very well mineralized from 425. Confined mainly to quartz veins.			
	449						
449		79.0		Quartz diorite. Gray color. Granitoid, slightly porphyrytic with mafics as phenocrysts. Very slightly altered. Mafics are fresh to partially chloritized. Feldspars are almost fresh with some saussuritized. Poor to fair mineralization primarily confined to quartz veinlets, sparse disseminated mineralization. Local zones of slightly more intense alteration at 453-455; 473-476; 482-485.			

PHILLIPS PETROLEUM COMPANY

~~SHASTA-PHELPS DODGE JOINT VENTURE~~

~~SHASTA COPPER BELT EXPLORATION~~

Hole No. 9 Sheet No. 5

Coordinates.

Type Drill Bit Size

Date Started

GEOLOGIC LOG

SQUAW PEAK MINE

Collar Elevation

Total Footage

Logged By

Date Completed

From	To	Core Recovery	Type	Rock Description	Alteration	Metallization	
				Slightly altered quartz diorite cont. Fair mineralization. Slightly fractured.			
				511-515 Slightly more altered quartz diorite.			
				518-522 Hard siliceous unaltered brown-black facies of quartz diorite.			
	528						
528		71.5		Quartz diorite. Grayish color. Granitoid. Mod-intensely altered. Mafics mostly well chloritized, few are slightly chloritized in local areas. Feldspars are partially clay altered with most slightly saussuritized. Mineralization is confined to hairlike veinlets or along fracture planes.			
				From 556-563. Zone of only moderate mafic mineral alteration with moderately high clay alteration of feldspars. Minor K-feldspar flooding 566 and 567½.			
		(-1.5)		Minor K-feldspar flooding at 587			
	601						

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~~SHASTA COPPER BELT EXPLORATION~~

GEOLOGIC LOG

SQUAW PEAK MINE

Hole No. 9 Sheet No. 6
Coordinates. _____
Type Drill _____ Bit Size _____
Date Started _____

Collar Elevation _____
Total Footage _____
Logged By _____
Date Completed _____

From	To	Core Recovery	Type	Rock Description	Alteration	Metallization	
601	623	21.0 (-1.0)		Quartz diorite. Grayish color. Granitoid. Slightly altered. Mafics slightly to moderately altered. Feldspars are mostly clouded with possible slight clay alteration. Mineralization confined mostly to veinlets with minor disseminations.			
623	633	10.0		Quartz diorite, with up to 10-15% K-feldspar locally. Mafics are mostly slightly chloritized. Feldspars clouded with slight clay alteration.			
633	664	31.0		Quartz diorite, with up to 10-15% K-feldspar. Mafics moderately to well chloritized. Feldspars have moderate clay alteration.			
664	668	4.0		664-668, quartz diorite. Mafics are slight to moderately			
668	690.5	22.5		altered. Feldspars have slight clay alteration. 676-682½, highly altered qtz. diorite. Slightly oxidized along fractures 679-682.5. Highly altered quartz diorite 688-690½.			
690.5	712	21.5		Moderately altered quartz diorite continued.			
712		7.0		Quartz diorite. Lt. greenish. Mafics mostly well chloritized.			
	719			Few fresh. Feldspars are moderately well clay altered.			

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GEOLOGIC LOG

SQUAW PEAK MINE

Hole No. 9 Sheet No. 7
Coordinates. _____ _____
Type Drill _____ Bit Size _____
Date Started _____

Collar Elevation _____
Total Footage _____
Logged By _____
Date Completed _____

From	To	Core Recovery	Type	Rock Description	Alteration	Metallization	
719	726	7.0		Qtz. diorite to qtz. monzonite. Up to 10-20% K-felds. Mafics slightly-moderately chloritized. Feldspars have slight-moderate kaolinization.			
726	773	46.5 (-0.5)		Quartz diorite. Grayish color. Mafics slight-moderately chloritized. Feldspars slight-mod. clay altered. Sparse mineralization. Major fault 728½-737. Highly altered quartz diorite. 752-758, assoc. with intense shearing and fracturing. Varying degrees of K-feldspars flooding from slight to moderate in the interval from 757-767. Slight oxidization in shear zone at 753.			
773	783	10.0		Quartz diorite. Gray mafics slightly chloritized. Feldspars (plagioclase) are clouded, with possible slight clay alteration. Some disseminated mineralization.			
783	~~787~~	~~4.0~~					
787	~~787~~ 800	~~4.0~~ 13.0		Quartz monzonite. Mafics mostly mod. well chloritized. Few slightly chlor. Felds clouded with possible slight kaolinization. Quartz diorite, slightly altered. Mafics slightly chlor.			
800	810	10.		Felds clouded. Quartz monzonite. Mafics range from slight to well chloritized. Feldspars have moderate clay alteration.			
810	816	5.5 (-0.5)		Granodiorite. Mafics well chloritized. Feldspars have slight to moderate clay alteration. 50% K-feldspar of total feldspars. High concentration of mafic minerals.			
816	822.5	6.5		Qtz.mon. Mafics sli-mod.chlor. Felds slight-mod clay altered.			
				Total Depth.			

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~~SHASTA COPPER BELL EXPLORATION~~

#23

GEOLOGIC LOG

Hole No. DDH #10 Sheet No. 1
Coordinates. 7371.48N 6164.22E
Type Drill L38 Core Drill Bit Size 4½" R.B.; NQWL
Date Started 4/19/69

Collar Elevation 4495.06
Total Footage 650
Logged By MRS
Date Completed 5/8/69
Overall Core Recovery .974

From	To	Core Recovery	Type	Rock Description	Alteration	Metallization	
0	6			Rock Bitted.			
6	37.5	22.0 (-3.0) (-3.0) (-2.0) (-0.5) (-1.0)		Granite. Reddish. Granitoid. Mafics range from slightly chloritized to moderately well chlor. Feldspars of which 70-80% is K-feldspars have slight clay alteration. Minor fault 14-17. Oxidization confined mostly to fracture planes and shear zones. Very sparse mineralization. Moderate fault zone 25-29. Little malachite present at 20'. Minor gouge zone 32-33.			
37.5	47.5	8.5 (-1.5)		Quartz monzonite. Granitoid. Mafics mostly well chlor. Feldspars of which 20% is K-feldspar are moderately well clay altered.			
47.5	51.5	4.0		Granite. Reddish granitoid. Mafics mostly well chlor. Felds ~~have some kaolinization.~~			
51.5	55	3.5		Qtz. monzonite. Mafics mostly well chlor. Felds well clay altered.			
55	60.5	5.5		Granite to granodiorite. Mafics well chlor. Feldspars have some kaolinization.			
60.5	107	46.5		Granodiorite to quartz monzonite. 30-50% K-felds of total felds. Mafics mostly well chloritized. Few slightly chloritized. Feldspars are slight to moderately clay altered. Oxidized along fracture planes. Little malachite present at 72, 78, 87 Mineralization is increasing starting at about 94'. Good MoS_2 and malachite at 99'.			
107	110	3.0		Qtz. diorite. Greenish. Granitoid. Intensely altered.			
110	114	4.0		Granodiorite to granite. Reddish. Slight-mod. altered.			
114	118	4.0		Qtz. monzonite to qtz. diorite. Grayish. Slight-moderately altered.			
118		6.0		Qtz. diorite to qtz. monzonite. 5-20% K-feldspar, varying			

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~~SHASTA PHELPS DODGE JOINT VENTURE~~

~~SHASTA COPPER BELT EXPLORATION~~

GEOLOGIC LOG

SQUAW PEAK MINE

Hole No. DDH #10 Sheet No. 2

Coordinates. _____

Type Drill _____ Bit Size _____

Date Started _____

Collar Elevation _____

Total Footage _____

Logged By _____

Date Completed _____

From	To	Core Recovery	Type	Rock Description	Alteration	Metallization
	124			Mafics almost fresh to mod. chlor. Felds mostly clouded.		
124	138	14.0		Quartz monzonite. Granitoid. Mafics well chloritized. Feldspars have slight clay alteration. Oxidization along major fractures. Unit from 133.5 has increasing K-feldspar.		
138	145	7.0		Granodiorite. Reddish color. Granitoid. Mafics mostly well chlor. Felds, 50% K-felds, are clouded w/slight kaolinization.		
145	152	7.0		Quartz monzonite. Mafics well chloritized. Feldspars clouded. Bright red mineral present at 147.		
152	160			Granodiorite. Mafics well chloritized. Felds, of which 50% are K-felds, are clouded. Little malachite at 160.		
160	182	22.0		Quartz monzonite. Granitoid. Mafics well chloritized. Feldspars have slight clay alteration. Oxid. is still present in fractures but is decreasing. From about 164, mafics are slight to moderately chlor, feldspars are fresher. 171-174 higher percentage of K-feldspar, granodiorite composition. 180-181 granodiorite composition.		
182	192	10.0		Quartz diorite. Dark greenish gray. Granitoid texture. Mafics range from slight to well chloritized, most well chloritized. Rock appears to have metamorphosed to some degree, with serpentine and/or chlorite in noticeable amounts. Feldspars are less than usual and are partially chloritized. Some degree of silicification present at the expense of the feldspars. Sparse to fair mineralization.		
192	205	13.0				
205	224	17.5 (-1.5)		Quartz monzonite. Granitoid. Mafics mostly moderately chloritized. Feldspars clouded. Oxidization stops at 191.		
224	228	4.0		Granodiorite. Granitoid. Reddish color. Mafics mostly well chloritized. Felds, of which 50-60% is K-felds, is clouded w/possible slight clay alteration.		
228		19.5		Quartz diorite. Granitoid. Grayish color. Intensely altered.		

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~~SHASTA PHELPS DODGE JOINT VENTURE~~
~~SHASTA CORRER BELTCO EXPLORATION~~

GEOLOGIC LOG

SQUAW PEAK MINE

Hole No. DDH #10 Sheet No. 3
Coordinates. _____
Type Drill _____ Bit Size _____
Date Started _____

Collar Elevation _____
Total Footage _____
Logged By _____
Date Completed _____

From	To	Core Recovery	Type	Rock Description	Alteration	Metallization	
	247.5			Quartz monzonite to granodiorite. Reddish color. Mafics moderately well chloritized. Feldspars, of which K-felds varies locally from 15-50%, are clouded with slight clay alteration.			
247.5	260	11.0 (-1.5)		Quartz monzonite. Granitoid texture. Mafics moderately well chloritized. Feldspars have slight clay alteration.			
260	275	15.0		Quartz monzonite. Granitoid. Mafics partially chloritized. Feldspars, of which 10-20% is K-felds, are clouded.			
275	296	21.0		Quartz monzonite. Granitoid. Mafics well chloritized. Feldspars have some clay alteration. Fault zone 282-288. Rock alteration is intense within fault zone. Good $CuFeS_2$ and MoS_2 in quartz veinlet. Some K-feldspar flooding 290-293½.			
296	302	6.0		Quartz monzonite. Mafics partially chlor. Felds clouded w/possible slight clay alter. 299-302 some K-felds flooding.			
302	312	10.0		Quartz monzonite. Granitoid. Mafics mostly well chloritized, Feldspars, of which 5-20% is K-feldspar, have some clay alteration.			
312	349.5	37.5		Quartz monzonite. Granitoid. Slightly altered. Mafics slightly to moderately chloritized, few completely chloritized in local areas. Feldspars are clouded. K-feldspar content varies from 10-30% of total feldspars. Few plagioclase laths are saussuritized in local areas. Sparse mineralization. 6" of moderately altered quartz diorite at 340.			
349.5		33.0 (-1.5)		Quartz monzonite to granodiorite. Granitoid. Reddish color. Mafics mostly well chloritized. Feldspars have slight clay alteration.			

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~~SHASTA-PHELPS-DODGE-JOINT-VENTURE~~

~~SHASTA-COPPER-BELT-EXPLORATION~~

Hole No. DDH #10 Sheet No. 4

Coordinates. _____ _____

Type Drill _____ Bit Size _____

Date Started _____

GEOLOGIC LOG

SQUAW PEAK MINE

Collar Elevation _____

Total Footage _____

Logged By _____

Date Completed _____

From	To	Core Recovery	Type	Rock Description	Alteration	Metallization
	384			K-feldspars ranges from about 20-50% of total feldspars. Fresh quartz monzonite to granodiorite unit 362-367 and 370-373.		
384	404	18.5 (-1.5)		Quartz diorite to quartz monzonite. Mafics mostly moderately to well chloritized, few fresher. Feldspars, of which there is an average of 5-10% K-felds, have slight-moderate clay alteration. Sparse mineralization. Oxidized in highly altered sheared unit 391½-393. K-felds flooding 400-401.	Granitoid.	
404	416	12.0		Quartz diorite to quartz monzonite. slightly to moderately chloritized. Feldspars, of which 5-10% is K-feldspar, have a light degree of clay alteration. Fair number of mineralized hairlike veinlets. 411-416, slightly higher alteration.	Granitoid. Mafics	
416	445	29.0		Quartz monzonite. Granitoid. Mafics range from moderately to well chloritized. Feldspars are clouded w/possible slight clay alteration. K-feldspar content ranges from 10-20%. Sparse mineralization. From 438 is fresher. Slight K-feldspar flooding 429-434 and 438½.		
445	477	32.0		Quartz diorite. Granitoid. Grayish color. Slightly fractured. Very slightly altered. Mafics slightly chloritized. Feldspars (almost 100% plagioclase) are almost fresh w/some partially clouded. Sparse mineralization primarily in tiny veinlets with a few disseminations. Some FeS_2 present. Little oxidization along fractures 474-484½.		
477		5.0		Interval 477-482, moderately to intensely altered quartz diorite. 5-10% K-felds present in this interval.		

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Hole No. DDH #10 Sheet No. 5

Coordinates.

Type Drill Bit Size

Date Started

GEOLOGIC LOG

Squaw Peak Mine

Collar Elevation

Total Footage

Logged By

Date Completed

From	To	Core Recovery	Type	Rock Description	Alteration	Metallization	
	482						
482		29.0		Slightly altered quartz diorite cont. Minor K-feldspar flooding present at 486, 490, 494, 505 Some FeS_2 present.			
	511						
511		26.0		Quartz monzonite. Granitoid. Mafics range from slight to well chloritized. Feldspars, of which 10-20% is K-felds, are slight to moderately clay altered. Slight oxidization in fault at 520-529.			
	537						
537	540	3.0		Slightly altered quartz diorite 537-540.			
540		18.0		Quartz monzonite. Granitoid. Mafics slightly to moderately chloritized. Feldspars are clouded, with a few almost fresh. Some small (2") local zones of fresh quartz diorite within unit. Slightly more altered zone 548-553.			
	558						
558		22.0		Quartz diorite. Granitoid. Grayish color. Mafics slightly to moderately chloritized. Feldspars almost fresh to partially clouded. Very sparse mineralization. K-felds flooding at 566, 572-572.5 and 576½-577.			
	580						
580		27.5		Quartz monzonite. Granitoid. Mafics range from slight to well chloritized, most are moderately well chloritized. Feldspars are clouded w/possible slight clay alteration. Sparse mineralization.			

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~~SHASTA PHELPS DODGE JOINT VENTURE~~

~~SHASTA COPPER BELT EXPLORATION~~

GEOLOGIC LOG

Squaw Peak Mine

Hole No. DDH #10 Sheet No. 6

Coordinates. _____ _____

Type Drill _____ Bit Size _____

Date Started _____

Collar Elevation _____

Total Footage _____

Logged By _____

Date Completed _____

From	To	Core Recovery	Type	Rock Description	Alteration	Metallization	
	607.5						
607.5	612	4.5		Quartz diorite. Granitoid. Grayish color. Mafics slightly chloritized. Feldspars almost fresh. Some well mineralized			
612	622.5	10.5		hairlike veinlets. Quartz monzonite. Granitoid. Mafics slightly-moderately chloritized. Quartz dioritic comp. 621½-622.			
622.5	628	5.5		Quartz diorite. Grayish color. Granitoid. Slightly altered.			
628	640.5	12.5		Quartz monzonite to quartz diorite. K-feldspar ranges locally from 5-20% of total felds are clouded w/some kaolinization locally.			
640.5	646	5.5		Quartz diorite. Slight to moderately altered.			
646	650	4.0		Quartz monzonite to quartz diorite. K-felds about 10-20% moderately altered.			
				Total Depth.			

#24 (44)

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Hole No. DDH 11 Sheet No. 1

Coordinates 7346.1N - 6695.9E SQUAW PEAK

Type Drill L44 Core Drill Date Started 11/14/69

Bit Size 4½" R.B.; NQWL Date Completed 1/15/70

Collar Elevation 4296.0

Total Footage 913

Overall Core Recovery .971

Logged By MRS

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
0				Rock bitted. Dirt fill to 6'. Weathered, oxidized quartz monzonite. From 6'.				
	15							
15		1.5		Core recovered. Quartz monzonite. Mafics mostly completely				
	25			chloritized. Feldspars are clay altered. No recovery 17-25.				
25				Rock bitted. Sampled cuttings.				
	35							
35		13.5		Beginning of core. Quartz monzonite. Mafics range from partially chloritized to completely chlor. Felds, of which 50% is plag, range from clouded to clay altered, most partially clay altered.				
	53.5			Oxidized and weathered. Set casing at 52 after reaming down.				
53.5		12.0		Old granite? Reddish color. Mafics completely chloritized.				
	66.5			Feldspars clay altered. Some local zones have up to 40% plag. Extremely oxidized.				
66.5		13.5		Extremely weathered and altered quartz monzonite. Mafics completely chloritized w/some gone to muscovite.				
	80			Feldspars are mostly clay altered. Oxidized. Abrupt bottom of oxidization at 80.				
80		7.5		Quartz monzonite. About 80% K-felds. Mafics well chloritized.				
	87.5			Feldspars have slight clay alteration. Sparse FeS_2. Very sparse $CuFeS_2$.				
87.5		17.5		Granodiorite. About 20-30% of total felds is orthoclase. Mafics are partially chloritized. Feldspars are clouded. W/some partially				
	105			clouded. Some finely divided sparse FeS_2. Very sparse cpy.				
105		23.0		Quartz monzonite. Mafics moderately well chloritized. Feldspars 50%-80% K-felds clouded w/possible slight clay alteration. Very sparse dissem. sulfides which are usually found in the mafics.				

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Hole No. DDH 11 Sheet No. 2

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION					ANGLE TO CORE	SECTION	DEPTH
	128				From 124-128 unit is fresher (clouded feldspars). Also has 30-50% K-felds of total feldspars.								
128		19.0			Quartz diorite. Has up to 10% K-feldspars locally. Mafics slightly chloritized. Feldspars almost fresh to slightly clouded. Very sparse dissem. sulfides.								
	147				Some minor feldspar flooding 129-30.								
147		23.0			Granodiorite. K-felds ranges from 10-50% of total feldspars. Mafics mostly partially chloritized. Feldspars clouded. Very sparse dissem. sulfides which appears to be FeS_2.								
	170				From 157-161, quartz diorite composition.								
170		133.0			Quartz diorite. Very fresh. Mafics are mostly slightly chloritized. Feldspars are partially clouded with some saussuritized. Sparse dissem. sulfides appear to be all FeS_2. Small gouge zone 196.5-197. Little K-feldspar flooding 183-184, 197-198, 205.5, 216, 223 - 225.5.								
					Very sparse sulfides. More FeS_2 than $CuFeS_2$.								
					6" Rhyolite dike 227.5 - 228. ½" Rhyolite dike at 231.5. No alteration along dikes. Interval 237.5-245.5 has varying content of K-felds between 1 and 25% of total feldspars. Interval averages 2-5%. Alteration is slightly more intense.								

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Hole No. DDH 11 Sheet No. 3

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Grayish, very fresh quartz diorite cont. Sparse mineralization.				
				Slightly more sulfides around 260. 266-268.5 quartz monzonite composition. Slightly more altered.				
				At 277. Very basic 3" zone of a gabbro. Mafics make up 50% of unit.				
				Very fresh. Has cpy in disseminations and veinlets. Relatively high to surrounding rock. 284-286 slightly altered granodiorite w/k-felds about 20-30% of total feldspars. Very sparse mineralization.				
	303							
303	306	3.0		From 303-306. Granodiorite. Mafics mod.chlor.felds slouded w/possible slight clay alteration. Intensely altered granodiorite. Mafics gone to chlorite or muscovite. Felds clay altered. Possible moly. Sparse mineral.				
306	312	6.0						
312	314	2.0		Qtz.monzonite-granite approx.70% K-felds. Mafics well chlor. Felds clouded w/possible slight clay alteration.				
314		20.0		Quartz diorite to granodiorite. K-felds makes up 5-20% of total felds. Mafics partially chloritized. Feldspars range from almost fresh to clouded. Sparse, scattered, dissem. sulfides of which appears to be pyrite. Some K-feldspar flooding 332.5-333.				
	334							
334		60.0		From 334 unit becomes typical quartz diorite with only small percentage (1%-5%) of K-feldspar present locally. Still very fresh.				
				From 355-361 unit has higher mafic content (50-60% of rock) in erratic blotches up 2" across alternating w/conventional qtz. diorite.				

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Hole No. DDH 11 Sheet No. 4

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION					ANGLE TO CORE	SECTION	DEPTH
					Very fresh qtz. diorite which contains small percentage of K-feldspar. (1-5% of total feldspars locally). Slight increase of FeS_2 content in both disseminations and steep veinlets.								
	394												
394		10.5			Granodiorite to qtz. monzonite (10-50% K-felds of total felds.)								
	404.5				Mafics partially chlor. Feldspars clouded. Sparse mineralization.								
404.5		25.5			Reddish granite. Some local zones of more monzonitic composition. Mafics mostly completely chloritized. Feldspars have some clay alteration. Sparse mineral. gradational contacts. Interval 415-420: intensely altered greenish gray qtz. diorite. Sparse mineralization.								
	430				Interval 427-430: intensely alt. granite. K-felds bleached. High clay alteration.								
430		22.0			Quartz monzonite (20-60% K-felds varying locally, avg.40-50%). Mafics range from almost fresh to well chloritized. Feldspars clouded to slight clay altered. Increasing cpy mineralization. 447-449.5 mod. Intensely altered facies. Mafics completely gone. Felds clay altered.								
	452												
452	455	3.0			Fresh qtz. diorite w/5-20% K-felds. Slight increase in mineral.								
455	459	4.0			Mod.-Intensely altered qtz. monzonite. Sheared zone.								
459	463	4.0			Slightly altered granodiorite.								
463		17.0			Slightly altered qtz. diorite. Mafics slightly altered. Feldspars almost fresh to clouded. Some dissem. and veinlet mineralization, primarily FeS_2.								
	480												

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Hole No. DDH 11 Sheet No. 5

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
480		15.5 (-1.5) (+1.0)			Quartz diorite. Mafics mostly well chloritized. Feldspars have some slight clay alteration. Some local zones have small (up to 10%)				
		(-0.5)			K-feldspar. Sparse mineralization .				
	498.5				Highly fractured 483.5-495 randomly.				
498.5		18.5			Slightly altered quartz diorite. Mafics slightly chloritized. Feldspars almost fresh to clouded with some saussuritized. Some				
	517				local zones have small (1-10%) K-felds. Sparse mineralizarion.				
517		5.0			Moderately-intensely altered qtz. monzonite. Mafics mostly well chloritized. Feldspars have slight to mod. clay alteration.				
	522								
	524	2.0			Intensely altered qtz. diorite. Mafics bleached.				
524		30.0			Quartz monzonite. Mafics range from partially chloritized to moderately well chloritized. Feldspars are mostly clouded. Higher percentage of K-felds results in higher degree of chloritization. Sparse mineralization. Almost complete absence of visible sulfides.				
	554				Highly altered granodiorite. 544-547.				
554		11.0			Reddish well altered granitic facies 547-551.				
	565				¼" Quartz veinlet carrying $CuFeS_2$ and MoS_2 at 549.				
565		14.0			Fresh quartz diorite. Sparse scattered disseminated sulfides. Qtz. monzonite to granite. Well altered. Mafics mostly well chlor.				
	579				Felds have some clay alter. Scattered Cu, Mo in qtz. veinlets. ¼" vert. qtz. veinlet w/good cpy of 576.				
579	587				Qtz monzonite Mafics partially chlor. Felds clouded. Sparse mineralization.				
587		21.0			Quartz diorite. Very fresh. Mafics black and shiny to slightly chloritized. Feldspars almost fresh to partly clouded. Very sparse mineralization.				

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Hole No. DDH 11 Sheet No. 6 Collar Elevation

Coordinates SQUAW PEAK Total Footage

Type Drill Date Started Overall Core Recovery

Bit Size Date Completed Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	608								
608		58.0			Quartz monzonite mafics range from slightly chloritized to completely chloritized. Most mafics well chloritized. Felds range from clouded to partially clay altered, most have possible slight clay alteration. K-feldspar content ranges from 20-70% of total feldspar.				
		(-1.0)			Sparse mineralization. Slight increase in mineralization with alteration, which is more intense with increase of K-feldspar of the unit.				
	667				661-663 fresh quartz diorite to granodiorite.				
667		17.0			Fresh quartz diorite. Mafics slightly chloritized. Feldspars almost fresh to clouded. Sparse mineralization. Some local K-feldspar flooding.				
	684				½" quartz veinlet with good MoS_2.				
684	687	3.0			Qtz. monzonite. Moderate-intensely altered.				
687		57.5			Qtz. monzonite. Mafics partially-moderately well chlorized. Feldspars clouded. Very sparse mineralization. Few small (less than 6") local highly altered zones within unit.				
		(-1.) (-4.)							
					Granitic facies 713-717.				
					Fresh qtz. diorite facies with 1-25% K-felds locally 719.5-723.				

PHILLIPS PETROLEUM CO.

ole No. DDH 11 Sheet No. 7

oordinates SQUAW PEAK

ype Drill Date Started

it Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

ROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION					ANGLE TO CORE	SECTION	DEPTH
					Quartz monzonite cont.								
					Fresh qtz. diorite facies with 1-10% K-feldspar locally. 729-732.								
	749.5												
9.5		30.5			Quartz monzonite. Moderately to intensely altered. Mafics mostly well chloritized. Most feldspars of which 50% is K-feldspar have slight to moderate clay alteration. Some sparse disseminated mineralization.								
					Intensely fractured. 753-5-763.								
	780												
80		24.0			Quartz diorite. Slightly altered. Mafics are partially chloritzed. Feldspars are clouded. Sparse mineralization appears to be all pyrite. 1' gouge zone 782.5.								
	804												
304		19.0			Moderately to intensely altered granodiorite. Mafics are mostly partially chloritized. Felds range from clouded to clay altered with most partially clay altered. Sprase mineralization. Extremely fractured 806-809.5 and 817-823 and 832-839.								
	823												
323		35.0			Quartz diorite. Very fresh. Mafics slightly chloritized. Feldspars								
		(-1)			almost fresh to clouded.								
		(-1)			Finely dissem. pyrite								

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Hole No. DDH 11 Sheet No. 8

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Fresh quartz diorite cont.				
				Possible fine grained moly in steep fractures 854-855.5				
	860			Some good cpy blebs associated with quartz inclusions 856-857.5				
860	865	5.0		Moderately altered granodiorite. 5-20% K-felds of total felds.				
865	870.5	5.5		Intensely altered quartz diorite. Good MoS_2 along fractures				
870.5	876	5.5		Intensely fractured, moderately altered, qtz. monzonite. MoS_2 in 6" qtz. vein at 879.5.				
876		10.0		Reddish granite-qtz. monzonite. 50-100% K-feldspar varying locally				
	886			Intensely altered. Mafics completely bleached. 879-881. Intensely altered qtz. diorite.				
886		12.5		Granodiorite. Mafics partially chloritized. Feldspars of which about 20% is K-felds are clouded. Some finely scattered cpy.				
	898.5			mineralization primarily in tiny veinlets.				
898.5	904	5.5		Intensely altered qtz. diorite. Mafics completely gone. Felds have slight clay alteration.				
904	909	5.0		904-909 moderately altered qtz. monzonite, 909-913 slightly altered				
909	913	4.0		quartz diorite. Some good steep quartz veinlets with cpy. ~~Total Depth.~~				
				Note: Hole was lost at 913' because of stuck core barrel. Cement placed in the hole the previous day apparently set when core barrel was lowered into the hole. 65 feet of NQ rods plus an NQ core barrel with inner barrel, reaming shell, and diamond bit were lost in the hole.				

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#25

Hole No. DDH 12 Sheet No. 1

Coordinates 7690.22N; 6582.05E SQUAW PEAK

Type Drill I44 Core Drill Date Started 1/17/70

Bit Size 4½" R.B.; NQWL Date Completed 3/19/70

GEOLOGIC LOG

Collar Elevation 4264.23

Total Footage 1144

Overall Core Recovery .996

Logged By MRS

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
0				Rock bitted to 15' through overburden and weathered quartz diorite. Sampled cuttings.				
	15			Set casing to 15'.				
15		68.5		Quartz diorite. Slightly altered. Granitoid texture. Grayish color. Mafics range from slight to partially chloritized with most slightly chloritized. Feldspars are partially clouded to clouded. Feldspars are almost all plagioclase with small (less than 5%) content of K-felds locally. Mineralization is confined primarily to steep quartz veinlets with small amounts disseminated through unit replacing biotite. Slight oxidization along fractures to 31.5. Slightly fractured.				
		(-1.5)						
	75							
75		23.0		Quartz diorite. Slight to moderate alteration. Granitoid texture. Greenish gray color. Mafics range from moderately well chloritized to well chloritized. Feldspars have some slight clay alteration with some saussuritized. Sparse mineralization confined mostly to quartz veinlets with some sparsely dissem. Little K-felds. Flooding	82.5-83.			
	98							
98		77.5		Quartz diorite. Alternating zones of fresh quartz diorite with zones of slightly mod. altered quartz diorite. Zones are 2'-10' thick. Mafics range from fresh to well chloritized. Feldspars almost fresh				

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Hole No. DDH 12 Sheet No. 2

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
					to slightly clay altered with some saussuritized. Moderately well fractured. Mineralization confined primarily to veinlets with some disseminations. Moderately fractured. 143-148. Moderate-intensely altered quartz diorite. Disorientated fracture patterns.				
	175.5				From 171-175.5. Unit has about 25% K-feldspar.				
175.5		18.5			Quartz diorite. Intensely altered. Mafics are completely chloritized except for few local zones. Feldspars are clay altered. Unit "crumbles" in your hand from alteration and fracturing. Sparse				
	194				Mineralization. Unit has possible small (10-20%) of K-feldspar.				
194		43.0			Quartz diorite. Moderately altered. Mafics mostly moderately well chloritized to well chloritized. Feldspars have some clay alteration. Few local zones have small (10-20%) percentage of K-felds. Mineralization is sparse and is found in both disseminations and in tiny veinlets. 222-225. Slightly altered quartz diorite. 229-230.5. Intensely altered quartz diorite.				
	237				230.5-234. Intensely altered quartz monzonite.				
237		16.5			Next page for description.				

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Hole No. DDH 12 Sheet No. 3 Collar Elevation

Coordinates SQUAW PEAK Total Footage

Type Drill Date Started Overall Core Recovery

Bit Size Date Completed Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION					ANGLE TO CORE	SECTION	DEPTH
					Slightly altered quartz diorite. Mafics slightly chloritized. Feldspars almost fresh to clouded. Sparse mineralization.								
	253.5												
253.5	261	7.5			Moderately altered quartz monzonite. Good disseminated cpy. replacing partially chloritized mafics.								
261	268	7.0			Moderately altered quartz diorite. Some cpy and sparse moly in quartz veinlet.								
268		11.0			Intensely altered quartz diorite. Mafics gone. Felds are clay altered. Sparse mineralization.								
	279												
279		13.0			Slightly altered quartz diorite. Mafics partially chloritized. Feldspar are clouded. Sparse mineralization mainly FeS_2.								
	292				~~286-292. Alternating intensely and slightly altered quartz diorite.~~								
292		18.5			Moderately to intensely altered quartz diorite. Mafics partially to completely chloritized. Felds have slight to moderate clay alteration.								
					Sparse mineralization except interval 207.5-310.5 has moderately								
	310.5				dissem. sulfides. Some MoS_2 in gouge along with black sooty material.								
310.5		119.5			Slightly to moderately altered quartz diorite. Mafics slightly chloritized to moderately well chloritized. Feldspars clouded								
					to moderately well chloritized. Feldspars clouded to having slight clay alteration. Sparse mineralization. Small K-felds								
					(10-20%) content 337-341.								
					Intensely altered quartz diorite 344.5-346. Unit has possible								
					high MoS_2 content.								

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Hole No. DDH 12 Sheet No. 4

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Slight to moderately altered quartz diorite continued. Sparse mineralization. Some very local K-felds.. Flooding at 375.				
				379-393. Approaching a moderately altered quartz monzonite in composition. Has some dissem. cpy along with cpy in veinlets. Some very local K-felds. Flooding at 393.				
				Intensely altered zone 405-408 and 409.5-413.5.				
				Slightly altered quartz diorite 422-427.				
	430							
430		22.0		Slightly altered quartz diorite. Mafics partially chloritized. Feldspars clouded. About 5% K-feldspar present of total feldspars. Some sparse mineralization ($CuFeS_2$ and MoS_2) present mainly in steep veinlets. Becoming more highly altered from about 449.5				
	452							
452		25.0		Intensely altered quartz diorite. Mafics completely bleached white or very light green. Felds have been saussuritized and then partly clay altered. Good mineralization (MoS_2 and $CuFeS_2$) primarily in numerous quartz veinlets but some sparse disseminations. Sphalerite identified in quartz veinlet 460-463. Mineralized veinlets are both flat and steep, all orientations.				
	477							
477		22.0						

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Hole No. DDH 12 Sheet No. 5 Collar Elevation

Coordinates SQUAW PEAK Total Footage

Type Drill Date Started Overall Core Recovery

Bit Size Date Completed Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPT
	499				Moderately altered quartz diorite. Most mafics pretty well chloritized. Feldspars of which (5-20%) is K-feldspar have some slight clay alteration. Some disseminated cpy mineralization visible. Slightly altered quartz diorite 484.5-485.5 & 487-488.				
499	508.5	9.5			Slightly altered quartz diorite. Mafics very slightly chloritized. Felds almost fresh to clouded. Some sparse cpy mineral.in dissem. & steep veinlets..				
508.5	518	9.5			Moderately altered quartz diorite with small (5-20%) K-felds content. $CaCO_3$ veinlet 510.5. Some sparse mineralization.				
518	523	5.0			Slightly altered quartz-diorite. Sparse mineralization.				
523	540	17.0			Mod.-Intensely altered quartz diorite to granodiorite. Most mafics almost completely chloritized. Feldspars slight to moderate clay altered. 533-540. Moderately altered. Scattered mineralization.				
540	562	22.0			Slightly altered quartz diorite. Mafics mostly fresh, few partially chloritized. Feldspars almost fresh to clouded. Minor (1-5%) amounts of K-felds locally. 547-549. Moderately altered quartz diorite. Some cpy and MoS_2 mineralization confined to steep veinlets.				
562	569	7.0			Intensely altered granodiorite. Mafics mostly completely bleached. Felds of which about 20% is K-felds are clay altered. Some scattered mineralization.				
569	576.5	7.5			Moderately altered granodiorite.				
576.5		17.0			Intensely altered quartz diorite. Most mafics are bleached out. Feldspars have some degree of clay alteration. Sparse mineralization. From 580-580.5. Vuggy quartz ¼" x 2" vugs.				
	595	(-1.5)			Momentarily lost circulation.				
595		10.0			Slight to mod. altered qtz. diorite. Mafics mod-well chloritized.				

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Hole No. 12 Sheet No. 6 Collar Elevation

Coordinates SQUAW PEAK Total Footage

Type Drill Date Started Overall Core Recovery

Bit Size Date Completed Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	605				Felds have possible slight clay alter. Local concentrations of fair mineralization. Slightly altered qtz. diorite. Mafics slightly chloritized. Feldspars almost fresh to clouded. Some minor local concentrations of K-feldspar. Mineralization is sparse but some $CuFeS_2$ and MoS_2 is visible in steep veinlets. Some local areas are slightly more altered.				
605		178.5							
					½" wide vertical qtz. veinlet with good cpy and some moly in it. 643-646.5. Mineralization both cpy and moly is increasing and is mostly confined to steep qtz. veinlets with moly sometimes along fracture planes. Some minor disseminations. Moderately altered zone 662-664.				
					Inclusions of high mafic mineral content 3" across at 668.5 and at 692.				
					704-709. Intensely altered quartz diorite. 709-711. Moderately altered quartz diorite.				

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Hole No. DDH 12 | Sheet No. 7 | SQUAW PEAK | Collar Elevation

Coordinates | | Total Footage

Type Drill | Date Started | Overall Core Recovery

Bit Size | Date Completed | GEOLOGIC LOG | Logged By

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Slightly altered quartz diorite cont. Well mineralized quartz veinlets with some disseminations.				
				Very minor K-feldspar flooding 752 and 754.				
				From 772-782, K-feldspar content is about 5-20% of total feldspars.				
	783.5			782-783.5. Moderately-intensely altered quartz diorite.				
3.5	792	8.5		Moderately altered granodiorite. 789.5-790. 6" breccia zone which is well mineralized.				
2	796.5	4.5		Slightly altered qtz. monzonite. Fair mineralization.				
6.5	804	7.5		Slight to moderately altered quartz diorite-granodiorite. Has 5-20% K-felds of total felds. Fair mineralization.				
04		21.5		Moderately altered quartz diorite with small percentage of K-felds. Fair mineralization primarily in steeper veinlets.				
	825.5			822-825.5. Slight to moderately altered granodiorite.				
5.5	836	10.5		Slightly altered quartz diorite. Mafics slightly chloritized. Felds clouded. Fair mineralization primarily in veinlets. Hairlike fracture pattern 828-829.				
6		8.0		Moderately altered qtz. diorite				

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Hole No. DDH 12 Sheet No. 8

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION					ANGLE TO CORE	SECTION	DEPTH
	844												
844		9.0			Intensely altered qtz. diorite. Lost all circulation at 845 through ½"-1" vugs lined with calcite. Barren qtz. vein 849.								
	853												
853		31.0			Moderately altered qtz. monzonite. Most mafics are well chloritized, few slightly chloritized. Felds of which 50% are K-felds are mostly slightly clay altered, few clouded. Some well mineralized qtz. veins and veinlets. Calcite filled minor fault displaces well mineralized steep qtz. veinlet at 856.								
		(-1.0)			873-879. Intensely altered qtz. diorite. Some good mineralization in vertical qtz. veins esp. MoS_2. Some K-felds flooding 871 and 885.								
	885												
885		11.0			Slightly altered granodiorite. Mafics almost fresh to slightly chloritized. Felds fresh to clouded. Sparse mineralization.								
	896												
896	902	6.0			Slight to moderately altered qtz. diorite. Fair mineralization.								
902		11.0			Slightly altered qtz. diorite to granodiorite. Has 5-10% K-feldspar. Gouge zone 906-910.5.								
	913												
913	917	4.0			Slightly altered qtz. diorite.								
917		17.0			Slight to moderately altered qtz. diorite, varying locally. Some fair local mineralization. Good MoS_2 at 925. 925-930.5. Moderately-intensely altered granodiorite.								
	934				Fair mineralization.								
934		25.0			Slightly altered qtz. diorite. Mafics slightly chloritized. Felds are almost fresh to clouded. Poor to fair mineralization in disseminations and tiny veinlets. Unit has about 5-10% K-felds content of total feldspars. Slightly more altered 956-957.								
	959												

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Hole No. DDH 12 | Sheet No. 9 | Collar Elevation

Coordinates | SQUAW PEAK | Total Footage

Type Drill | Date Started | Overall Core Recovery

Bit Size | Date Completed | Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
		21.5		Slight to moderately altered qtz. diorite to granodiorite. Most mafics are well chloritized. Feldspars are clouded with few				
	980.5			having slight clay alteration. Approx. 10-20% K-felds of total felds. Some well mineralized veinlets along with some disseminations, esp. good where more highly altered. Some local zones of slight alteration.				
80.5	989	8.5		Slight-moderate altered granodiorite to qtz. monzonite. Poor mineralization.				
89	992	3.0		Intensely altered qtz. diorite. Scattered mineralization.				
92	998.5	6.5		Intensely altered granodiorite. Mafics completely bleached. Felds are clay altered. Fair mineral in veinlets and along fractures.				
98.5		22.0		Intensely altered qtz. diorite. Mafics completely bleached. Felds clay altered. Some good mineralization in steep veinlets and along fractures. Possible inclusion of "old granite" at 1011.5.				
	1020.5			Calcite lined and filled vugs from about 991.				
20.5	1025	4.5		Moderately altered qtz. monzonite. Poor mineralization.				
25	1030.5	5.5		Moderately altered granodiorite. Some mineral. present in qtz. veinlets.				
30.5		51.5		Slight-moderately altered granodiorite. Has about 5-30% K-felds. of total felds. Unit separated by minor fault from unit above.				
				Fair mineralization. 6" "old granite" inclusion at 1040.				
				Moderate amount of calcite veinlets.				
				Very good mineralization 1052-1060 in veinlets and disseminations.				
				Calcite filled minor fault cuts off cpy and moly filled qtz. veinlet at 1076½.				

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Hole No. DDH 12 Sheet No. 10

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
1082		16.0			Moderately altered granodiorite to qtz. monzonite. Varying percentages of K-felds from about 15-60%. Most mafics well chloritized. Some slight clay alteration of felds. Sparse scattered mineralization.				
	1098								
1098		13.0			Intensely altered qtz. monzonite. Most mafics completely chloritized. Feldspar are clay altered. Some good mineralization esp. MoS_2 in veinlets.				
	1111								
1111		25.0			Old granite. Reddish granitoid. Mafics well chloritized. Feldspars have slight clay alteration. Some scattered disseminated cpy mineralization. Number of calcite filled veinlets cut the unit. Old granite appears to have higher percentage of mafic minerals.				
	1136								
1136		8.0			Quartz monzonite. Slight-moderately altered.				
	1144				Has 50-60% K-Feldspar of total felds. Sparse mineralization.				
					Total Depth.				

(46)

PHILLIPS PETROLEUM CO. #26

SQUAW PEAK

GEOLOGIC LOG

Hole No. 13 Sheet No. 1

Coordinates 9936.44N: 5209.30E

Type Drill I44 Core Drill Date Started 3/23/70

Size 4½" R.B.: NQWL Date Completed 4/28/70

Collar Elevation 4416.71

Total Footage 1123

Overall Core Recovery .967

Logged By MRS

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Rock bitted and set casing to 23'				
				Overburden and decomposed qtz. monzonite				
	23							
3		21.0						
		(-.5)		Quartz monzonite. Mottled pinkish; white and black				
		(-1)		color. Pronounced definite porphyritic granitoid texture.				
		(-1)		Mafics slightly to partially chloritized. Feldspars are clouded,				
				which are evenly divided between plag. and orthoclase.				
		(-3.5)		Sparse disseminated sulfides. Few vertical mineralized qtz. veins.				
	55	(-3.)		Oxidization is confined to fractures, where sparse scattered malachite is visible.				
5		1.0 (-4.)		Oxidized, decomposed qtz. monzonite. Mafics partially chloritized.				
	64	(-4.)		Feldspars clouded. No visible mineralization.				
4		3.0 (-3.)		Quartz monzonite. Slightly altered. Porph. granitoid.				
		(-3.0)		Mafics slight to partially chloritized. Felds. clouded. Very				
		(-3.0)		sparse mineral., which appears to be pyrite.				
	84	(-3.0)						
4	90	4.5		Pegmatite unit. High K-Felds and qtz. Very low in mafics.				
0		5.5		Quartz monzonite. Moderately decomposed and				
	99.5	(-4.0)		oxidized throughout. Few oxidized sulfides				
9.5		35.5		Qtz. monzonite. Slightly altered. Similar to the above slightly				
				altered units. Some very sparse dissem. cpy and py.				
				Pegmatite unit 110-112. Some Dissem. MoS_2 and Cu FeS_2 in pegmatite. ¼" vertical $CaCO_3$ veinlet at 107.				

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Hole No. 13 Sheet No. 2

Coordinates Squaw Peak

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Slightly altered porphyritic granitoid monzonite cont. sparse mineralization. Some dissem. cpy and moly at 129				
	135							
135		10.5		Slight-moderately altered qtz. monzonite. Porph. granitoid texture.				
	145.5			Oxidized along fractures. Sparse mineralization.				
145.5		7.0		Slight-moderately altered qtz. monzonite to granite				
	152.5			K-Feldspar dominate.				
152.5		9.0		Intensely altered, coarse-grained porph. qtz. diorite.				
	161.5			Small skarn zone 152.5 - 154.				
161.5		7.5		Moderately altered qtz. monzonite ? coarse grained porph. Has hi-percentage (about 40%) of mafic minerals				
	169							
169		163.0		Has appearance of old granite somewhat. Some sparse disseminated sulfides 167.5-169, pegmatitic nature quartz monzonite. Slightly altered. Mafics partially chloritized. Feldspars clouded. Very sparse mineralization.				
				172 - 173 & 182 - 183.5 - granitic composition. ½" & 1" aplitic dikes at 183.5 & 190 oxidized along some fractures to 182.5				
				197.5 - 200 excessive K-Feldspar flooding. 2" barren qtz vein 208.5. 6" pink qtz. inclusion at 215.				
				Unit from 197-230 has local concentrations of K-Feldspar flooding. From 209, has local concentrations of mafic minerals 1" - 3" across. Oxidized along fracture at 225.				

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Hole No. 13 Sheet No. 3

Coordinates

Type Drill Date Started

Size Date Completed

Squaw Peak

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Slightly altered qtz. monzonite cont.				
				252.5 - 254 ½" well mineralized vertical qtz. veinlet				
				255 - 275 - high content of K-feldspar in veins. Has				
				permatitic nature.				
				From 272.5 - 301, unit is slightly more altered.				
				Most mafics moderately well chloritized				
				½" well mineralized vein				
				282 - 294 high content of K-felds as veins and				
				inclusions along with some barren qtz. inclusions				
				299-300, high content of mafic minerals.				
				310 - 313 high K-feldspar content				
				Oxidized along fracture 315.5				
32	332	21.0		Quartz monzonite mafics partially to well chloritized Feldspars clouded to clay altered. Sparse mineralization				
				Fault zone 337.5 - 347. 3" well mineralized vein at 337.				
353	353	10.0		Quartz monzonite. Slightly altered. Mafics partially chloritized. Feldspars clouded. Sparse mineralization.				

PHILLIPS PETROLEUM CO.

Squaw Peak

GEOLOGIC LOG

ole No. 13 Sheet No. 4

oordinates

ype Drill Date Started

t Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

ROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION DEPTH
	363						
363		30.5		Quartz monzonite. Mafics moderately well chloritized.			
				Feldspars clouded with possible slight clay alteration. Sparse mineralization.			
				Pegmatite zone 364.5 - 369.5.			
				Some barren steep qtz. veinlets 379 - 381			
				389 - 393.5 High K-feldspar content.			
	393.5						
393.5		9.5		Moderately to intensely altered quartz monzonite-granite.			
	403						
403		122.0					
				Quartz monzonite. Slight to moderately altered. Sparse mineralization. 413 - 417, Heavy K-felds flooding.			
				Qtz. diorite composition 408 - 411 and 417 - 420.			
				420 - 421 small shear zone			
				432 - 440 heavy K-feldspar flooding.			
				Unit from 462 - 477 is mostly slightly altered.			
				466.5 - 470.5 slightly altered qtz. diorite			
				Approaching qtz. diorite composition 475 - 479.5.			

PHILLIPS PETROLEUM CO.

Squaw Peak

le No. 13 Sheet No. 5

ordinates

pe Drill Date Started

Size Date Completed

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Slightly altered qtz. monzonite cont.				
				Minor fault zone 481.5-483				
				Slight increase of mineralized veins from 495				
				Well mineralized ¼" vein				
				From 507 - 518. Slight increase of K-felds content				
				Well mineralized ⅜" vein				
				Becoming slightly more altered at 514 - 522				
	525							
25		11.0		Granite. Moderately to intensely altered. Some				
	536			fair mineralization.				
6		9.5		Quartz diorite. Slightly altered. Has about 10% K-feldspar.				
	545.5			Has a number of well mineralized veinlets.				
5.5		17.0		Quartz monzonite. Mafics slightly-moderately altered.				
				Feldspars clouded. Sparse mineralization.				
	562.5							
2.5		26.5		Granite. Slight-intensely altered, varying locally.				
				Most is moderately altered. Mafics moderately well				
				chloritized. Feldspars have possible slight clay alteration				
				Some fair mineralization locally.				
				4" slightly mineralized qtz. vein at 573.				
	589			2" barren calcite veinlet at 587.5				
9		21.0		Quartz monzonite. Slight to moderately altered. Mafics slight-moderately				
				chloritized. Feldspars clouded. ⅜" well mineralized vein.				

PHILLIPS PETROLEUM CO.

le No. 13 Sheet No. 6

ordinates

pe Drill Date Started

Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	610			600-610 Qtz. monzonite with slightly higher K-feldspar content (about 50%).				
0	620	10.0		610 - 620 Pegmatite-like zone. High K-feldspar flooding Quartz and calcite veins are present. 616 - 618 - Moderately	½" vein			
20		30.0		to intensely altered. From 620, slightly altered qtz. monzonite				
				2½" well mineralized vein at 633.5				
	640							
0		49.0		Quartz monzonite. Very fresh. Mafics barely chloritized if at all. Felds fresh to clouded. K-felds content down to 25%				
				of total felds. 660 - 675, number of well mineralized steep veinlets. Some very sparse disseminated sulfides.				
				Well mineralized veins				
				700 - 712 Plagioclase felds mostly saussuritized.				
	719			Becoming increasingly more altered at about 715				

PHILLIPS PETROLEUM CO.

Hole No. 13 Sheet No. 7

Coordinates Squaw Peak

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
719		15.0		Intensely altered qtz. diorite. Mafics bleached out.				
	734			Feldspars clay altered. Some good moly mineralization in veinlets and along fractures. Some possible Znl. Transitional Contact				
734		99.0		Slightly altered qtz. monzonite. Mafics are almost				
				fresh to slightly chloritized. Feldspars are clouded. Mineralization				
				confined to qtz. veinlets or immediately adjacent to them. Some feldspars				
				saussuritized. Heavy K-felds flooding 719.5-720 and 734-734.5.				
				751.5-754, 2.5' pink feldspar vein.				
				2" pink felds vein 764 and 765. Well mineralized veinlets.				
				Irregular K-felds flooding 774.5-777.5				
				Small moderately altered zone 779-780. 1" well mineralized vein 779.				
				Irregular 3" K-felds vein at 788.				
				812 - 817 minor K-felds flooding.				
833	833							
		9.0		Quartz monzonite to quartz diorite. Moderately to intensely altered. 12" calcite vein at 839. Some mineralization.				
				837 - 839, high percentage dark green mafic minerals.				

PHILLIPS PETROLEUM CO.

Hole No. 13 Sheet No. 8

Coordinates Squaw Peak

Type Drill Date Started

Core Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	842							
42		28.0		Quartz monzonite moderately altered. Mafics mostly well chloritized. Feldspars clouded with some slight				
		(-1.0)		clay alteration. K-felds is about 50 - 70% of				
		(+1.0)		total felds through most of the facies mineralization in				
				veinlets.				
				Good moly in vertical fractures 868				
	872							
72		115.0		Quartz monzonite. Slightly altered. Mafics slightly				
				chloritized. Feldspars are clouded. Mineralization				
				confined to steep veinlets.				
				From 883 - 890, relatively high content of K-feldspar.				
				From 906 - 921 approaching a diorite in composition				
				with about 30% K-felds of total felds. Feldspars				
				in this unit are almost fresh.				
				913 -914. Some K-felds flooding.				
				Some K-felds flooding 951.5 - 952.				

PHILLIPS PETROLEUM CO.

Hole No. 13 Sheet No. 9

Squaw Peak

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	987			Gradational contact, becoming more altered. Calcite vein 988				
987		24.5		Intensely altered qtz. diorite. Mafics all bleached out. Feldspar clay altered. All minerals except quartz have greenish tinge. Some MoS_2 along fracture planes. Numerous barren qtz. veins 1004-05				
	1011.5			Gradational contact				
1011.5		36.0		Quartz monzonite. Mafics moderately chloritized. Feldspars clouded with some possible slight clay alteration. Mineralization in veinlets. Some scattered calcite veinlets.				
	1047.5							
1047.5		38.5		Quartz monzonite. Mafics slight to partially chloritized Feldspars almost fresh locally to clouded, with most clouded. Mineralization in veinlets				
				Well mineralized 5/8" veinlet at 1062				
				Slightly more alteration 1079 - 1083.5				

PHILLIPS PETROLEUM CO.

Squaw Peak

Hole No. 13 Sheet No. 10

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	1086								
1086	1091.5	5.5			Slight to moderately altered quartz monzonite.				
1091.5		10.5			Granite. Mafics well chloritized. Feldspars clouded with slight clay alteration. Some plag. present locally.				
	1102								
1102		21.0			Quartz monzonite. Mafics partially chloritized. Feldspars clouded. Some local zones of slightly more alteration.				
	1123				Total Depth				

47

PHILLIPS PETROLEUM CO.

#27

ole No. 14 Sheet No. 1

ordinates 9954.60 N 4723.85E. Squaw Peak

pe Drill L 44 Core Drill Date Started 5-29-70

t Size 4½" R.B.I NQWL Date Completed

Collar Elevation 4321.77

Total Footage 956

Overall Core Recovery 994

Logged By MRS

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
0				Overburden and weathered quartz diorite				
				Rock bitted to 20'				
	20			Set casing at 20'.				
20		69.0		Quartz diorite. Very fresh. Mafics just slightly				
		(-3.)		chloritized. Feldspars, of which all is plagioclase				
		(-1.)		except for local areas with some orthoclase,				
				are almost fresh to partially clouded. Oxidized	1" vein at 39			
				along some fractures. Mineralization confined				
				to steep quartz veinlets. Some scattered malachite along some fractures.				
				Some small orthoclase veinlets from 43½ - 51½				
				Oxidization along fractures stops at 60'.				
				From 63, slight increase in amount of K-felds.				
				Some oxidization along fractures 79-91				
	73			Transitional contact.				
73		61.5		Quartz monzonite. Mafics partially chloritized.				
				Feldspars are clouded. Some local zones of slightly				
		(-1.)		more alteration. Mineralization confined to veinlets.				
				1' K-felds vein at 78-79. 4" K-felds vein at 83.				
				Quartz diorite composition 93-97.				
				3" K-felds vein at 99				
				Potassic alteration present around plagioclase				

PHILLIPS PETROLEUM CO.

Hole No. 14 Sheet No. 2 Collar Elevation

Coordinates Total Footage

Type Drill Date Started Overall Core Recovery

Bit Size Date Completed Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Slightly altered qtz. monzonite cont. 3/8" mafic dike 124				
				124-130, moderately well altered qtz. diorite - qtz. monzonite				
	135.5							
35.5		31.0		Quartz monzonite. Mafics moderately well chloritized. 5/8" vein 141				
				Feldspars clouded with some slight clay alteration.				
				Mineralization in veinlets. Slightly altered 151 - 156 5/8" vein at 150				
				Some good mineralization 150 and 160.				
	166.5							
6.5		80.5		Quartz monzonite. Mafics moderately well chloritized.				
				Feldspars clouded. This unit is slightly less altered than above unit.				
				Overall slightly altered. From 174.5 - 181.5, has possible alignment				
				of minerals at 25° - 40° to core.				
				Unit is slightly more altered 184-191				
				and 197-198.5. Some local small segregations of mafic minerals.				
				1/4" calcite vein cuts off mineralized qtz. veins at 189.5				
				Some K-felds flooding 201.5 - 203.				
				Some lineation of individual minerals faintly visible				
				at around 200 and 209 at about 50° to core				
				2 1/2" barren qtz. vein at 219				
				Slightly more altered 217 - 224.				
				Slight lineation 225 - 229 at about 35° to core.				

PHILLIPS PETROLEUM CO.

Hole No. 14 Sheet No. 3

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	247							
247		20.5		Slightly altered qtz. diorite to qtz. monzonite.				
				About 10% K-felds of total felds. Mafics partially chloritized.				
				Feldspars clouded. Potassic alteration.				
	267.5							
57.5		17.5		Quartz monzonite. Mafics moderately well chloritized.				
				Feldspar clouded with some clay alteration.				
				Alteration of unit varies from moderate to intense.				
	285			Some good mineralization in veinlets.				
285		183.0		Quartz diorite. Has 5% - 10% K-felds locally. Slightly				
				altered. Mafics slightly chloritized. Felds almost				
				fresh to partially chloritized. Mineralization				
				in veinlets.				
				2" aplitic dike at 291				
				Some K-felds flooding 312 - 315				
				Slightly more altered 317.5-323.				
				Some scattered K-felds flooding in form of little veins.				
				Some local segregations of mafic minerals				

PHILLIPS PETROLEUM CO.

Hole No. 14 Sheet No. 4 Collar Elevation

Coordinates Total Footage

Type Drill Date Started Overall Core Recovery

Bit Size Date Completed Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION					ANGLE TO CORE	SECTION	DEPTH
					Slightly altered quartz diorite cont.								
					1½" fine grained granitic dike at 364.5								
					Slightly more alteration along fracture 397.5 - 398.5.								
					Very small percentage of K-feldspar left locally. None after 414								
					Very siliceous 450 - 452, in form of secondary qtz. veinlets. Calcite vein offsets mineralized vein								
					Slightly more alteration 463 - 468. Well mineralized veins 46.3								
[illegible]	468	31.0			Quartz monzonite. Mafics range from moderately well chloritized to partially chloritized with most partially chloritized. Feldspars clouded with some								

PHILLIPS PETROLEUM CO.

Hole No. 14 Sheet No. 5

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				slight clay alteration. Mineralization confined to veinlets except for disseminated pyrite. 1' aplite dike 489.5 - 490.5				
				492-494 highly altered qtz. diorite.				
	499							
499		122.0		Quartz diorite. Mafics slightly chloritized.				
				Feldspars clouded. Has locally 1 - 5% K-feldspar				
				Mineralization confined to veinlets				
				Slightly more alteration 514-515				
				Numerous hairlike qtz. veinlets mineralized with				
				mostly pyrite with some chalcopyrite.				
				No more visible K-felds from 517				
				Some scattered segregations of mafic minerals.				
				Slightly more alteration 567 568.5				

PHILLIPS PETROLEUM CO.

le No. 14 Sheet No. 6

ordinates

pe Drill Date Started

Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Very slightly altered quartz diorite cont.				
	621			Increasing alteration from 614. Moderately well altered 618-621.				
21		13.5		Quartz monzonite. Mafics slight to moderately chloritized Feldspars clouded. About 15 - 35% K-feldspar				
	634.5							
34.5		31.5		Quartz monzonite mafics well chloritized. Feldspars have some clay alteration. Mineralization confined to steep qtz. veinlets.				
				6555-65' fine grained reddish rhyolite dike at 20° to core. 6" mafic mineral segregation at 663.5 cut by mineralized veinlet.			rhyolite dike	
	666							
65		22.5		662.5-663.5, slightly altered quartz diorite facies.				
				Quartz monzonite. Mafics partially chloritized to moderately chloritized. Feldspars mostly clouded with some possible slight local clay alteration. Mineralization in fractures and veinlets.				
88	688	7.5						
	695.5			Quartz monzonite. Mafics well chlor. Felds slightly clay altered.				
95.5		17.5		Quartz diorite to quartz monzonite. Mafics partially chloritized. Feldspars clouded. Varying amount of K-felds from 10% - 30% of total felds. Slight increase in mineralized veinlets.				
	713			Clay filled vein cuts off mineralized veinlet.				
713	720	7.5		Moderately altered qtz. monzonite. Increasing alteration.				

PHILLIPS PETROLEUM CO.

Hole No. 14 Sheet No. 7 Collar Elevation

Coordinates Total Footage

Type Drill Date Started Overall Core Recovery

Bit Size Date Completed Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
20		30.5 (-.5)		Intensely altered quartz monzonite. Mafics completely bleached out. Feldspars completely bleached and clay altered. Some of feldspars appear to have been K-felds because of slight pinkish color left. Some good mineralization in veinlets.				
	751							
751		12.0		Quartz monzonite. Mafics moderately chloritized. Feldspars have possible slight clay alteration. Numerous small mineralized veinlets with some sparse disseminated cpy closely associated with the veinlets.				
	763							
763		22.0		Granite. Reddish color. Mafics appears to be mostly well chloritized. Feldspars of which about 80% K-felds is clouded with possible slight clay alteration. Some dissem cpy. Intense alter. 779-782				
	785							
785		2.0		Quartz monzonite. Mafics slightly to partially chloritized. Feldspars clouded. Mineralization in veinlets and not too good.				
	805			Porous texture 780.5 - 782				
805	811	6.0		Quartz monzonite approaching granite. Moderately altered.				
811	816	5.0		Quartz monzonite slight to moderately altered like unit 785-805				
816	822	6.0		Granite. Mafics mod. chlorit. Felds sli clay alter. Some finely dissem. cpy in malic minerals				
822		9.0		Intensely altered qtz. monzonite. Completely bleached out. Transitional contacts on either side. Minor fault let in hydrothermal solutions				
	831							
831		37.0		Quartz monzinite. Mafics ranged from slight to well chloritized with most partially chloritized. Felds clouded				

PHILLIPS PETROLEUM CO.

le No. 14 Sheet No. 8 Collar Elevation

ordinates Total Footage

pe Drill Date Started Overall Core Recovery

Size Date Completed Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				to having possible slight clay alteration. Mineralization in veinlets.				
				863 - 865 - slightly more alteration, along shear cemented by calcite.				
				From 860 becomes more granitic and slightly more altered				
	858							
58		19.0						
				Quartz monzonite to granite. Has about 60 - 90%				
				K-felds of total felds. Mafics moderately well chloritized.				
				Feldspars have possible sli. clay alteration.				
	887			Calcite vein w/little fluorite divides units				
87		36.0		Quartz monzonite. Mafics range from partially to				
				moderately well chloritized. Feldspars are				
				clouded with some local slight clay alteration.				
				Mineralization in veinlets.				
				919 - 921 - Higher content K-feldspar in form of				
	923			potassic alteration				
23		11.0		gradational contact.				
				Granite? Possible almost complete replacement of plag. by K-felds.				
	934			Moderately altered. Some disseminated sulfides. Gradational contact.				
34	939.5	5.5		Heavily altered greenish qtz. monzonite. Heavy chloritization.				
39.5		16.6		Quartz monzonite. Mafics partially chloritized. Feldspars				
				clouded with possible local sli. clay alter. Mineralization poor.				
	756			Total Depth				

(48)

PHILLIPS PETROLEUM CO. #28

Hole No. 15 Sheet No. 1

Coordinates 5748.2N: 10,494.6E

Type Drill 144 Core Drill Date Started 7-11-70

Bit Size 4½" R.B. Date Completed 8-3-70

Collar Elevation 3607.6

Total Footage 972

Overall Core Recovery 0

Logged By M.R.S.

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
0				Rock bitted from the surface to a total depth of 972 feet through poorly consolidated sediments of the Tertiary Hickey Formation. This consists of pebbles, cobbles, and boulders of lower Paleozoic origin (Tapeats, Martin), along with basalts of slightly pre-Hickey. Absence of granitic rocks is noted. The matrix of the formation is limy arkosic. Interbedded with this conglomerate are limestone or shale units.				
				Note: This hole was drilled about 10' NW of RDH No. 3				
	972			Total Depth				

(49)

PHILLIPS PETROLEUM CO. #29

Hole No. 16 Sheet No. 1
Coordinates 8369.65N; 5758.33E
Type Drill L-44 Date Started
Bit Size NQ WL 4½" Date Completed

Collar Elevation 4559.06
Total Footage 950
Overall Core Recovery 96.4
Logged By M.S. and I.M.

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPT
0				Rock bitted through decomposed and oxidized				
	10			qtz. monzonite. Sampled cuttings.				
10		(-2.0)		Quartz monzonite. Well broken up. Oxidized				
		-2.		mafics well chloritized. Feldspars moderately				
		(-3.5)		clay altered. FeOx mineralization.				
		(-4.0)		Malachite visible along fractures 72 - 111'				
		(-2.5)						
		(-2.5)						
		(-2.0)						
		(-4.0)						
		(-2.0)						
		(-2.0)						
		(-2.5)						
		(-3.5)						
		(-2.5)						
		(-2.0)						
		(-1.0)						
				Oxidation to 111'				
	111'							
111'				Quartz monzonite, sulfides, feldspars				

Hole No. 16 | Sheet No. 2 | PHILLIPS PETROLEUM COMPANY | Collar Elevation

Coordinates | Date Started | Total Footage

Type Drill | Date Completed | Overall Core Recovery

Bit Size | Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPT
				chloritized, a few fresh biotite clusters,				
		(-1.0)		some fresh K-feldspars				
	140							
140				Quartz diorite, sparse sulphides, mafic minerals				
				are slightly chloritized, feldspars moderately				
				altered, oxidized along fractures (iron stained)				
				fine grained quartz diorite from 156 - 157'				
				Pyrite along fracture at 176'. Secondary				
				K-feldspar 177 - 179 ±.				
	184							
184				Quartz monzonite, mottled with pink feldspars,				
				Mafics moderately altered. Feldspars are cloudy, ~~very little oxidation products, sparse sulfides,~~ few quartz veins, excellent core recovery				
				(100%)				
	217							
217				Quartz diorite, a few sulfides, dark minerals				
				are slightly altered to chlorite, a few quartz				
	228			veins				
228				Quartz monzonite, mottled, with fresh pink				
				feldspars, sparse sulfides.				

Hole No. 16 Sheet No. 3 Collar Elevation

Coordinates Date Started Total Footage

Type Drill Date Completed Overall Core Recovery

Bit Size Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Mafic minerals are only very slightly				
				altered, sparse mineralization.				
		(-1.0)						
	261							
261				Quartz diorite, mafics are slightly altered				
				to chlorite, feldspars are cloudy. Rock from				
	276			263 to 269 is very soft, clayey, probably a fault zone.				
276				Quartz monzonite granitoid texture,				
				feldspars are highly altered, mafics				
				slightly chloritized, 100% core				
				recovery.				
	299							
299				Quartz diorite, as above, good to sparse				
				mineralization				
	312							
312				Quartz monzonite mottled, sparse				
				to abundant sulfides, mafics slightly				
				altered to chlorite, some fresh				
				biotite. Feldspars are cloudy, and				
				are fairly divided between plagioclase				
				and orthoclase				
				Pyrite and chalcopyrite veinlet at 344'				

Hole No. 16 | Sheet No. 4 | Collar Elevation

Coordinates | Date Started | Total Footage

Type Drill | Date Completed | Overall Core Recovery

Bit Size | Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Fresh biotite blebs throughout section.				
				Large pink feldspar concentration at 385'.				
				Feldspars have been altered to a greenish clay mineral. Quartz diorite facies from				
				382± - 384±. 100% core recovery.				
				Sparse mineralization.				
	417							
417				Quartz diorite, mafics are fresh to moderately chloritized,				
423	423			Feldspars cloudy, sparse mineralization				
				Granodiorite, 15 - 25% K-feldspar,				
				sparse mineralization, mafics and feldspars slightly				
	442			altered, some fresh biotite				
442				Quartz monzonite, 40 - 50% K-feldspars, fair mineralization, moderately altered				
				mafics and feldspars, fault at 459-461,				
				ore disseminated and in veinlets,				
				granitic texture				

le No. 16 Sheet No. 5 Collar Elevation

ordinates Date Started Total Footage

e Drill Date Completed Overall Core Recovery

Size Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	506								
5					Granodiorite, very highly altered, bleached,				
	515				sparse mineralization, vuggy at 508'.				
5		(-1.0)			Quartz monzonite, moderately altered, sparse				
					sulphides,				
					From 548' to 560' rock approaches granite				
					in composition, potassic alteration,				
					excellent core recovery.				
	560								
0		(-1.0)			Quartz monzonite, slightly to moderately altered,				
					feldspars cloudy, a few fresh mafics, good				
					mineralization in veinlets.				

PHILLIPS PETROLEUM CO.

Hole No. 16 Sheet No. 6

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				From 602, a marked increase of K-feldspar,				
	617							
617				Granite, 80% K-feldspars of total feldspars,				
				moderately altered (both mafics and feldspars) sparse				
				mineralization (mostly along veinlets) feldspar				
				appears to be secondary				
				From 635 to 653 @ 100% K-feldspar				
	653			100% core recovery				
653	660			As above, but intensely altered.				
660				Granodiorite, fault zone 30 - 66° angle to core				
				very highly altered, excellent MoS_2, some chalcopyrite				
				Rock has been highly broken. Abundant clay				
		(-1.0)		throughout fault zone. Soft.				
	690							
690				Quartz monzonite and granodiorite, alternating layers, apple green				
				color, sparse mineralization except for				
				abundant MoS_2 along fracture zones.				
				Fault zone from 716 - 722.				

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Hole No. 16 Sheet No. 7 Collar Elevation

Coordinates Total Footage

Type Drill Date Started Overall Core Recovery

Bit Size Date Completed Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	736								
736	742				Chlorite with disseminated mafic minerals, ~~excellent mineralization~~				
742					Granodiorite, highly altered and bleached, light grey green color, mafics bleached white, feldspars altered to clay. Good MoS_2 and some disseminated chalcopyrite. Fault zone from 750 - 755. Excellent core recovery				
	796								
796	801				Granite, @ 60% - 70% K-feldspars, mafics and feldspars slightly altered				
801	811				Quartz monzonite, mafics highly altered to chlorite, feldspars altered, good sulfide mineralization.				
811	829				Granite, 50 - 70% K-feldspars, moderately altered mafics and feldspars, sparse mineralization, some secondary K-feldspars,				
829	832				Quartz diorite, highly altered, fresh biotite, well mineralized				
832					Granite, moderately altered, @ 75% K-feldspars,				

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Hole No. 16 Sheet No. 8

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPT
				spare to good mineralization, mafics mainly				
				altered to chlorites.				
				Zone from 857 to 870 is aphanitic granite, with				
				feldspars altered to an apple green clay mineral.				
				Sparse mineralization. 100% core recovery				
	877							
877	881			Qtz. monzonite, slightly altered, quartz diorite 779 - 780'.				
881	886			Granite, 70 - 80% K-feldspar, slightly altered				
886				Qtz. monzonite, highly altered, greenish white in color				
892	892			~~sparse mineralization, sulfides mainly along qtz. veins~~				
				Granite, as above				
	900							
900	903			Qtz. monzonite, chloritic, good mineralization,				
903				granite, @ 70% K-feldspars, slightly altered,				
				sparse mineralization,				
				well altered from 912-918 (apple green color)				
				Aphanitic from 938' - 945'				
	950			Total Depth 950'				
				100' of casing left in hole.				

(50)

PHILLIPS PETROLEUM CO. #30

Hole No. 17 Sheet No. 1

Coordinates 7553.99 N, 5805.76 E Squaw Peak

Type Drill 144 Core Drill Date Started 8-22-70

Bit Size 4½" R.B.: NQWL Date Completed 9-19-70

Collar Elevation 4551.74

Total Footage 975'

Overall Core Recovery 98%

Logged By I.M. and M.R.S.

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
0		(-1.0)		Qtz. diorite, mafics are quite fresh, feldspars clouded,				
		(-1.0)		slight potassic alteration, oxidized along fractures, some malachite, some disseminated minerals, pyrite				
		(-1.0)						
		-0.5						
		-1.0						
	27							
27				Alternating zones of Quartz Monzonite and				
				Quartz Diorite, as above				
	47							
47				Quartz Monzonite, Mafics moderately altered,				
		(-0.5)		malachite along fractures, feldspars have very				
				slight clay alteration, sparse disseminated				
				sulphides, highly fractured from 65 - 92',				
				from 72' - 83' possible fault zone,				
				still oxidized along fractures,				
		(-5.0)						
		(-3.0)						
		(-2.0)						
	92							
92		(-1.0)		Granite, mafics well altered, feldspars slightly				
		(-0.5)		clouded, abundant quartz flooding, good				
				mineralization within quartz zones,				
				heavy Fe_2O_3 oxide along fractures, a few thin				
				zones of monzonitic texture				
		(-1.0)						

PHILLIPS PETROLEUM CO.

Hole No. 17 Sheet No. 2

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Highly broken core 127 - 135. Fault from 127 - 130'				
	132							
132		(-1.0)		Quartz monzonite, greenish-grey in color, highly				
		(-1.0)		altered, feldspars well altered to an apple-green color				
		(-1.5)		Mafics well altered to chlorites,				
		(-1.0)		Qtz. diorite phase 170 - 171.5 and from 188 - 189.5'				
				Sparse mineralization.				
		(-0.5)		Fault zone 159 - 161				
				Fault zone 166 - 167				
				Dioritic in places				
		(-0.5)		Core highly broken				
	220							
220	224			Qtz, Diorite, feldspars clouded, mafics reduced to chlorite				
224-				Quartz Monzonite, apple-green in color,				
				feldspars highly altered to clay mineral,				
				sparse mineralization, rock highly broken.				

PHILLIPS PETROLEUM CO.

ole No. 17 Sheet No. 3 Collar Elevation

oordinates Total Footage

ype Drill Date Started Overall Core Recovery

t Size Date Completed Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Excellent Chalcopyrite and pyrite in quartz vein at 243'				
				Dioritic texture. Sparse to fair mineralization Excellent core recovery				
	258			Fault zone 265' - 266'. Pyrite along fracture at 261.5				
58				Granite 60 - 70% K-feldspar, feldspars slightly clouded, mafics partially to chlorite, a few fresh biotites. Altered feldspar has apple green cast.				
				Poor mineralization within rock, but good mineralization along fractures.				
				Within some zones % of K-feldspar may drop to 50-%, producing a quartz monzonite texture.				
				Very clayey, 301-303, and broken up. Extensive potassic alteration.				
	320							
20	322			Qtz. monzonite, feldspars and mafics moderately altered. Good mineralization.				
22				Granite, 60 - 70% feldspars, feldspars highly altered, mafics well altered, a few fresh biotites, potassic alteration				
	333							
33				Quartz monzonite, feldspars and mafics moderately altered, chalcopyrite replacing altered mafics.				
	343							
43	346			Diorite, feldspars slightly altered, good sulphide mineralization.				
46				Quartz monzonite, feldspars and mafics slightly altered.				
51	352			Granite, feldspars and mafics well altered, 65% K-feldspar				

PHILLIPS PETROLEUM CO.

Hole No. 17 Sheet No. 4

Coordinates

Type Drill Date Started

Bit Size Date Completed

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
360				Qtz. monzonite, mafics and feldspars moderately altered.				
				Zone from 365 to 367' is highly altered to an apple green color. Clayey and highly broken rock zone from 362 - 365 (fault zone) some potassic alteration.				
	380							
380	385			Granite, @ 60-65% feldspars, mafics and feldspars partially altered.				
385				Alternating zones of granites and quartz monzonite				
				Mafics and feldspars moderately altered,				
				Mafics mainly altered to chlorite. Feldspars				
				altered to clay. Zones of potassic alteration.				
				Mineralization is fair. Rock well fractured.				
	422							
422				Quartz monzonite, intensely altered, mafics completely altered, feldspars totally altered to				
				greenish clay mineral, fair mineralization,				
				some sericite, a few zones (0.3 to 1.0' thick) of				
				potassic alteration produces a granitic texture				
				fault gouge 463 to 465', high grade ore within				
				thin quartz seams and/or minute fractures.				
		(-1.0)						
				Fault zone (gouge) 498 - 499'				

PHILLIPS PETROLEUM CO.

Hole No. 17 Sheet No. 5 Collar Elevation

Coordinates Total Footage

Type Drill Date Started Overall Core Recovery

Bit Size Date Completed Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	509							
509	519			Alternating granite and quartz monzonite, mottled red in color, feldspars and mafics moderately altered, ~ 60% K-feldspar				
519	525			Quartz monzonite, feldspars fairly well altered to clay, mafics partially altered, a few fresh biotite blebs, MoS_2 blebs at 513 and 522': rock is extremely hard, few fractures,				
	542							
542	545			Quartz diorite, mafics well altered to chlorite, good mineralization, fresh biotites				
545				Quartz monzonite and diorite, apple green in color, feldspars well altered to a green clay mineral, mafics well altered to chlorites, sparse mineralization, thin zones of diorite. Fault zone 555-557.5', (dips 75 - 80°) Pyrite at 555 along fracture. Vertical fault zone, 572 - 575' ~ 5% of total feldspar is orthoclase (potassic alteration ?) Excellent sulphide mineralization along quartz veins.				

PHILLIPS PETROLEUM CO.

ole No._____ Sheet No. 6

oordinates_____

ype Drill_____ Date Started_____

t Size_____ Date Completed_____

Collar Elevation_____

Total Footage_____

Overall Core Recovery_____

Logged By_____

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Rock broken and faulted 611 - 616': fault plane appears near vertical				
				Fault zone 620-621				
				Fault zone appears to extend from 611 to 621 as rock is highly chloritized.				
				A few flakes of sericite ?				
				Rock highly broken 646.5 to 647.5'				
				Increasing potassic alteration 648-654, @ 30% orthoclase				
	665			of entire feldspars				
665				Quartz monzonite, greenish grey, highly altered, @5 - 10 orthoclase				
	673			Vuggy zone at 571.8 - 572.0				
573				Quartz diorite, with a few alternating lenses of quartz.				
				Monzonite, feldspars highly altered to green clay, mafics well altered to chlorite, abundant fresh biotite throughout.				
	695			Core rock highly fractured and faulted 681.5 to 687.0', abundant pyrite.				
695				Alternating diorite and quartz monzonite, feldspars and mafics				
	703			are well altered, fresh biotite, abundant pyrite.				
703				Quartz monzonite, granitic texture, feldspars and mafics				
	719			well altered, @ 30% fresh orthoclase, (potassic alteration)				
719				some sericite.				

PHILLIPS PETROLEUM CO.

ole No. 17 Sheet No. 7 Collar Elevation

oordinates Total Footage

ype Drill Date Started Overall Core Recovery

t Size Date Completed **GEOLOGIC LOG** Logged By

ROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Quartz diorite, feldspars well altered to clay, mafics				
				partially altered, abundant fresh biotites,				
				sparse mineralization, some pyrite, mainly along				
				fractures, a few thin lenses of quartz-monzonite,				
	746			only a few quartz veins, excellent core recovery				
746				Quartz monzonite, with a few alternating zones				
				of diorite, feldspars well altered, mafics				
				partially altered to chlorite, nearly vertical				
				fault from 755 - 759.5', excellent core recovery,				
	774							
774	778			Granite and quartz monzonite, alternating lenses,				
778				Quartz monzonite, with a few alternating lenses				
				of diorite, fresh biotites, feldspars and mafics partially				
				altered, sparse mineralization				
	797							
797				Quartz diorite abundant fresh biotites other mafics				
	804			and feldspars are partially altered.				
804				Quartz monzonite, mafics and feldspars				
				partially altered, a few thin alternating zones				
				of diorite, increasing potassic alteration,				
				sparse mineralization, chalcopyrite				
				replacing altered biotite.				
	838							

PHILLIPS PETROLEUM CO.

ole No. 17 Sheet No. 8

oordinates

ype Drill Date Started

it Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

ROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
					Quartz diorite, mafice and feldspars partially altered, fair mineralization, a few fresh biotites				
	848								
848					Quartz monzonite, mafics and feldspars well				
					altered, feldspars to greenish clay, mafics to				
					chlorite, @ 30% K-feldspars of entire feldspars,				
					increasing potassic alteration,				
	877				Fault zone 873.0 - 873.3'. Rock soft, excellent drilling.				
877					Quartz diorite, mafics and feldspars only partially				
					altered, sparse mineralization, chalcopyrite				
					strong along minute veinlets,				
	897				Excellent core recovery. 50' of core per shift				
897					Quartz monzonite, as above, but has an				
					aphanitic texture, fault gouge 911.0 - 911.5'				
	911				Rock becoming very hard. 30' of core per shift.				
911					Granite, @ 70% K-feldspar of all feldspars,				
					mafics well altered, feldspars (plagioclase)				
					mainly highly altered to white clay mineral.				
					Very competent rock, few fractures				
					low grade mineralization				
	940								
940	943				Quartz monzonite, granitic texture, 3- 40% K-feldspars				
943	947				Quartz diorite, feldspars and mafics moderately altered				
947					Quartz monzonite, granitic texture				
	957				@ 10 - 20 of total feldspars is K-feldspar				

PHILLIPS PETROLEUM CO.

ole No. 17 Sheet No. 9

oordinates

ype Drill Date Started

t Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Feldspars weakly altered.				
	967							
57				Quartz monzonite and granite, alternating lenses, @ 30%				
	975			of total feldspar is K-feldspar.				
				TOTAL DEPTH OF HOLE IS 975'				
				2' of casing left in hole.				

(51)

PHILLIPS PETROLEUM CO. #31

Squaw Peak

Hole No. 18 Sheet No. 1

Coordinates 8130.66 N 5478.34 E

Type Drill L 44 Core Drill Date Started 9-14-70

Bit Size 4½" R.B., NQWL Date Completed 10-9-70

Collar Elevation 4680.56

Total Footage 719'

Overall Core Recovery 96%

Logged By I.M.

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
0					Non-core; well broken weathered granite				
	10								
10					Granite, mafics and feldspars only slightly altered,				
	20	(-1.0)			biotites are weathered, rock highly broken,				
20					Alternating lenses of quartz monzonite and				
					quartz diorite, within this zone: the mafics				
		(-1.0)			and feldspars are only weakly altered - although				
					there are a few thin lenses of diorite where				
					the mafics are more strongly altered to				
					chlorite, a few sulphide minerals mainly 71 + to 76 ±				
		(-3.0)			copper oxides along fractures only at 58.8 ± to 59.0' ±				
		(-2.0)			intense limonite throughout, poor mineralization				
		(-1.0)			highly oxidized, core is very broken and				
					weathered.				
		(-2.0)							
		(-2.0)							
		(-3.0)							
		(-1.5)							
		(-1.0)							
	120	(-1.0)							

PHILLIPS PETROLEUM CO.

le No. 18 Sheet No. 2

ordinates

pe Drill Date Started

Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
20				Diorite, mafics and feldspars weakly altered, malachite along				
	130	(-0.5)		fracture planes, high % of fresh biotites,				
30				Granodiorite and diorite, alternating lenses,				
				very little alteration of mafics or feldspars				
		(-0.5)		mafics highly oxidized, malachite, etc. along fracture				
				planes, iron oxide abundant, quartz vein at				
	154			137.5' is weakly mineralized, rock highly broken.				
54		(-0.5)		Chlorite, highly broken, copper pitch, copper oxides,				
	164	(-2.5)		extreme water loss throughout unit.				
64		(-1.0)		Quartz diorite, mafics and feldspars moderately				
		(-0.5)		altered, some oxide copper along fractures, high %				
	180	(-1.0)		of limonite.				
80		(-0.5)		Quartz monzonite, mafics slightly altered, feldspars				
				moderately altered, abundant malachite along fractures,				
				sparse mineralization				
	200							
200				Quartz diorite mafics weakly altered, feldspars				
				moderately altered, sulphide mineralization which				
				includes abundant pyrite.				
				Bottom of oxide copper can be placed				
				at 217 ±, with a few thin zones below this depth.				
				Abundant fresh biotite throughout.				
				High % of hornblende				

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Hole No. 18 Sheet No. 3 Collar Elevation

Coordinates Total Footage

Type Drill Date Started Overall Core Recovery

Bit Size Date Completed Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Bottom of limonite along fractures - with some malachite - may be placed at 263.0'				
	264							
264				Quartz monzonite, mafics and feldspars moderately altered, sulfide mineralization throughout, a few thin lenses of quartz diorite, chlorite zone 2920 - 2925', @ 20% of total feldspar is orthoclase, heavy moly mineralization in quartz vein at 269.5 to 270.5 High % of hornblende of total mafics. Vuggy zone 318.0 - 318.4'. Pyrite along fracture at 333.5 - 334.5'.				
	335							
335				Quartz diorite, feldspars slightly altered, mafics only partially altered, mainly to chlorite, high % of hornblendes, sparse mineralization mainly along very thin quartz stringers, abundant fresh biotites and/or hornblende!				

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le No. 18 Sheet No. 4 Collar Elevation

ordinates Total Footage

pe Drill Date Started Overall Core Recovery

Size Date Completed Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				Excellent core recovery. Still drilling blind.				
	367							
67				Alternating layers of quartz diorite and quartz monzonite, k-feldspars comprises @ 15-20% of total feldspars, feldspars altered to an apple-green clay, marcasite on fracture plane 383.0 - 383.4'				
	384							
84				Quartz diorite, feldspars and mafics are only slightly altered, abundant fresh biotites and hornblendes, diss. sulfides.				
	403							
03				Quartz monzonite, feldspars and mafics weakly altered @ 15% of all feldspars is k-feldspars				
	410							
10				Quartz diorite, from 410' to 438± the feldspars and mafics are weakly altered; but from 438± to 451' the feldspars are well altered (to a greenish-grey clay) and the mafics are partially altered to chlorite.				
				Core highly broken 439-441'; 446' to 451; 454 to 461'. Excellent core recovery.				
	451							
51	454			Quartz monzonite, granitoid texture feldspars and mafics partially altered				
54				Quartz diorite, feldspars well altered to a greenish gray clay mineral, mafics moderately altered to chlorite,				
	470							
70				Quartz monzinite and granite, alternating lenses; mafics and feldspars are slightly altered				

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e No. 18 Sheet No. 5 Collar Elevation

ordinates Total Footage

e Drill Date Started Overall Core Recovery

Size Date Completed Logged By

GEOLOGIC LOG

OM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
	490								
90					Granite, feldspars are very weakly altered, mafics				
					are moderately altered, sparse mineralization				
					except within quartz veins.				
					Excellent core recovery.				
					Nearly vertical thin fault zone at 508.2 - 509.5'				
					Core is highly broken from 523.7 to 532.3'				
					Quartz monzonite layers toward base of unit,				
					with increasing alteration of feldspars				
	532								
32					Quartz diorite, with a few alternating lenses of				
					quartz monzonite, feldspars are well altered to an				
					apple green clay, mafics highly altered to chlorite				
					sparse sulphide mineralization, Black clay fault				
					gouge 549.6 - 549.9'.				
	557								
7									
					Granite, with a few alternating lenses of				
					quartz monzonite, feldspars are only				
					slightly altered, mafics are very well				
					altered to chlorite, sparse mineralization,				
					core is generally broken into 2 - 3" pieces				
					throughout unit, no fresh biotites,				

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Hole No. 18 Sheet No. 6

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
					High grade Moly and Cu, mainly along fracture planes and				
		(-1.0)			in abundant quartz veins, 593 ± to 610±, mafics well				
		(-2.0)			altered.				
		(-3.0)			Major fault zone 622.5± to 629±, fault gouge				
					and brecciated quartz veins within fault zone.				
					Excellent sulfide mineralization within this fault zone,				
					Ore is disseminated and occurring within quartz cementing				
					agent, large blebs of Moly.				
					Vertical recemented fault 648 to 652', fault zone contains excellent				
					mineralization, moly blebs, high concentration of chalcopyrite.				
					Core from 675 - 680 is highly broken				
					Vuggy zone 696.2 - 696.7				
		(-1.0)							
					70' of casing left in hole.				
					Hole bottomed at 719'				
	719								

PHILLIPS PETROLEUM CO. #32

Hole No. 19 Sheet No. 1

Coordinates 10973.92 N 6928.70 E Squaw Peak

Type Drill LM Core Drill Date Started 10-10-70

Bit Size 4¼" R.B. NQWL Date Completed 10-21-70

GEOLOGIC LOG

Collar Elevation 3878.11

Total Footage 601

Overall Core Recovery 98%

Logged By I.M.

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
0				None-core. Soil and weathered Metavolcanics				
	XX							
12		(-2.0)		Metavolcanics, light greenish gray to a dark apple green in color, soft (knife blade can scratch core) numerous calcite veinlets, limonitic along fractures and with calcite veinlets to 30' +				
				Zone from 270 - 278 is weakly mineralized with very fine chalcopyrite, this zone is pinkish in color and appears to be a fault zone recemented with abundant quartz and some (K-feldspar?)				
				Mineralization is very sparse except along small veinlets. Chalcopyrite 44 - 44.2'				
				Copper oxide along fracture at 37'				
				Rock is very competent and massive.				
				Zone is from 64.3 to 64.8 contains hunks of faulted chalcopyrite with quartz veins. (See drawing)				
				Core appears to contain high % of magnetite.				
				Zones within core become hard due to				
		(-5.0)		increase of quartz flooding.				
				Rock appears to be a well altered to a chlorite?				
				Flesh colored blebs in rock from 125 - 130' ± may be K-feldspar. Blebs contain some Cu.				

PHILLIPS PETROLEUM CO.

Hole No. 19 Sheet No. 2

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
				The sparse mineralization which does occur within this rock appears to be directly related to minute, intermittent quartz veins.				
				Numerous calcite veins throughout core.				
				Fairly competent rock. Poor mineralization less than 0.20 Cu.				
				Nearly vertical fault zone 178 - 179.5				
				High % of $CaCO_3$ in core.				
				Core from 214± through 233' ± is highly chloritized.				

PHILLIPS PETROLEUM CO.

Hole No. 19 Sheet No. 3

Squaw Peak

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPT
				Blebs of Cu and Moly in Qtz. zone 270.8 - 271.4'				
				Massive, competent rocks.				
				Blebs of chalcopyrite and moly in quartz zone which has entirely replaced meta-sediments, 278.3 to 288.4'				
				Core from 294' through 310' is @ 70% quartz,				
		(-3.0)		Which has been faulted and recemented with quartz and calcite.				
				Large blebs, 3/8" x 3/8" of faulted chalcopyrite 305.0 305.2':				
				this high quartz zone contains blebs of Cu and Moly,				
				High % of barren red faulted quartz 321' ± to 330' +				
				may also be offshoot of granitic mass.				

PHILLIPS PETROLEUM CO.

Hole No. 19 Sheet No. 4

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEP
				High % of calcite veins and veinlets				
				330'± through 365'±.				
				Intense quartz flooding 331' through 443'±,				
				sulphide mineralization appears to be				
				associated with zones of high % of quartz.				

PHILLIPS PETROLEUM CO.

Hole No. 19 Sheet No. 5 Collar Elevation

Coordinates Total Footage

Type Drill Date Started Overall Core Recovery

Bit Size Date Completed 10-21-70 Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	MINERALIZATION	ANGLE TO CORE	SECTION	DEPTH
		(-2.0)		Fault gouge 487 - 489'. Rock is highly broken from 480' to 500'.				
				Increasing % of epidote toward base of hole - mainly occurring as veins.				
				Core highly broken through several zones.				
				Fault gouge 587 - 590'.				
				10' of casing left in hole				
	601			Hole bottomed at 601'.				

(53)

PHILLIPS PETROLEUM CO. #33

Hole No. DDH #20 Sheet No. 1

Coordinates 7677N; 5281E SQUAW PEAK

Type Drill L44 Core Drill Date Started 4/4/72

Bit Size NQWL Date Completed 5/15/72

GEOLOGIC LOG

Collar Elevation 4760

Total Footage 1500'

Overall Core Recovery .958

Logged By MRS - RTF

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEPTH
0	10			Rock bitted through overburden.				
10				Quartz monzonite. Reddish color. About one-half of feldspar is K-felds. High percent of K-felds appears to be secondary. Overall				
		-1.5		moderately altered. Mafics fresh to moderately chloritized. Felds clouded to slightly clay altered, Some scattered epidote. Oxidized				
	38			along fractures. Some scattered malachite along fractures. Sparse sulfides noted.				
38				Quartz diorite. About 10-20% K-felds of total felds appears to be secondary halos around plagioclase, Slight overall alteration,				
	60.5			Mafics which are about one-half hornblende are fresh or slightly chloritized. Feldspars are nearly fresh. Some saussuritization of				
60.5				plagioclase. Oxidization present, but reducing along fractures. Noted sparse chalcopyrite along few tiny veinlets. Not much				
		-2.5		hydrothermal quartz. Noted little malachite along one tiny veinlet.				
		-2.0						
	82							
82		-3.5		Moderately to intensely altered quartz monzonite similar unit 10 to 38.				
		-4.5						
		-0.5						
		-1.0						
	105.6	-1.0		Major fault zone cutting quartz monzonite. Oxidized. Intensely altered.				
105.6		-1.5		Quartz monzonite to quartz diorite. Varies locally. Varies alteration				
				from moderately altered to fresh locally. Very sparse chalcopyrite				
		-0.5		noted. Some malachite on fractures noted. 108-109.5 red inclusion of				

PHILLIPS PETROLEUM CO.

Hole No. DDH #20 Sheet No. 2

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEP
	125			Quartz monzonite to quartz diorite continued.				
125				Fresh hornblende diorite. Mafics which are primarily hornblende are				
		-0.5		mostly black. Felds are mostly clear. Very small percent of K-felds.				
		-0.5		Little oxidization along fractures. No visible sulfides.				
		-0.5						
		-0.5						
	159							
159				Moderately altered quartz monzonite. Mafics moderately chloritized.				
		-0.5		Feldspars clouded with some clay alteration.				
				More K-felds than previous unit. Some chalcopyrite in little veinlet				
				around 165. 3" inclusion of "old granite?" at 162.				
				Little oxidization on fractures. Slight increase of silicification				
		-1.5		and mineralization 174-175.				
	194	-0.5		Little malachite along fracture 192-193				
194		-0.5		194. Reddish granite. Local small monzonite units.				
		-2.0		Moderately altered. Mafics well chloritized. Felds have slight				
	209	-1.0		clay alteration. Intensely fractured. Very little oxidization along				
209				fractures. No apparent mineralization.				
				Quartz monzonite. Moderately altered. Mafics mostly well				
				chloritized. Feldspars have small degree of clay alteration.				
		-1.0		Some mineralization (chalcopyrite) present in few tiny quartz				
		-0.5		veinlets. Malachite 210-212. Oxidized along some fractures. K-felds				
		-0.5		could be secondary. From 220 increased fracturing and oxidization				
				along fractures.				

PHILLIPS PETROLEUM CO.

Hole No. DDH #20 Sheet No. 3

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEP
		-0.5			Moderately altered quartz monzonite cont. Local small fresher units. Little malachite along fracture at 240.				
		-2.0			Slight increase of mineralized (chalcopyrite) veinlets 243-248.				
		-2.0			From 259, moderately fractured. Also an increase of mineralization with both disseminations associated with veinlets and in veinlets.				
267	267								
					Slightly altered quartz monzonite. Mafics almost fresh to partially chloritized. Feldspars clouded. Increase of mineralization in veinlets and associated disseminations.				
		-1.0			Some oxidization along few fractures.				
		-1.0			Highly fractured 287-291½. Increased oxidization in this zone. Little MoS_2 at 295. Very little oxidization below 292.				
					Some small local zones of dioritic rock. Overall increase of mineralized (chalcopyrite and pyrite) quartz veinlets and fractures. Pyrite content seems to be especially increasing, still overall sulfides less than 1%.				
		-1.0							
					Becoming highly fractured at 348.				
		-0.5							
		-2.0							

PHILLIPS PETROLEUM CO.

Hole No. DDH #20 Sheet No. 4

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEP
		-1.0			Moderately altered quartz monzonite in shear zone.. Shear zone is number of faults documented below				
		-0.5			Fault zone 362-364				
		-1.5			Fault zone 373-382 Most gouge has some $CaCO_3$				
		-0.5			Fault zone 384.5-386				
					Fault zone 388-391.5 High iron and $CaCO_3$ in gouge				
					Good quartz veinlets (mineralized) 392-393.5				
					Reddish granite unit 382-390				
	404								
404	409	-0.5			Fresh quartz diorite 404-409.				
409		-1.5			Alternating units of fresh quartz diorite and fresh quartz monzonite 409-418.				
418	418	-0.5							
					Slightly altered quartz monzonite. Mineralization confined primarily to veinlets. Sparse disseminated sulfides.				
	441				Moderately altered 429-435.5. Appears to be slight increase in mineralization in moderate altered unit.				
441					Quartz diorite. Fresh. Mafics fresh to very slightly chloritized.				
					Feldspars fresh to clouded.				
	460				Small content of K-felds ($<10\%$). Definite increase in mineralization.				
460					in veinlets and especially disseminations. Some molybdenum noted associated with quartz veinlets. Slightly fractured. Oxidized along few fractures.				
					Slightly altered quartz monzonite. Less apparent mineralization.				

PHILLIPS PETROLEUM CO.

Hole No. DDH #20 Sheet No. 5

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEI
	483								
483					Fresh quartz diorite. Mafics fresh. Feldspars fresh to clouded. Small local zones of K-feldspar flooding. K-felds in these				
		-0.5			zones is only 5-10% of total felds. Mineralization in veinlets and sparse disseminations. Oxidized along few fractures to 521. Intensely altered a few inches on either side of faults.				
		-0.5							
	561				Steep fault separates units.				
561		-0.5			Slightly altered quartz monzonite. Some local zones of more intensely altered rock, Mafics fresh to well chloritized.				
					Feldspars mostly clouded. K-felds appears to be secondary fillings interstices between other mineral grains or as				
					replacement halos around plag laths. Mineralization is overall sparse. Appears to be completely confined to veinlets or				
					fractures with no apparent disseminations. Some oxidization in few fractures.				

PHILLIPS PETROLEUM CO.

Hole No. DDH #20 Sheet No. 6

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DE
					Slightly altered quartz monzonite continued.				
					Gradually becoming more quartz dioritic with the loss of K-feldspar.				
	634				Transitional contact				
634					Quartz diorite. Fresh. Mafics fresh to partially chloritized.				
					Feldspars, of which about 10-15% is K-feldspar, are fresh to clouded. Some saussuritization of plag laths. Mineralization confined to veinlets and fractures. Some oxidization along few fractures. Pyrite content may be ½-1% by weight.				
		-0.5			Increase of K-feldspar content up 25-30% of total felds				
		-0.5			656-670. Slight-moderately altered in this interval also (656-670).				
		-1.0			Oxidized fault zone 683-686.				
		-0.5			Increase of mineralized veinlets 690 to end of unit (726).				
		-0.5			Monzonitic composition 697.5-700.5.				
					719-726 K-feldspar flooding in subtle vein form.				

PHILLIPS PETROLEUM CO.

Hole No. DDH #20 Sheet No. 7

SQUAW PEAK

Collar Elevation

Coordinates Total Footage

Type Drill Date Started Overall Core Recovery

Bit Size Date Completed Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DE
	726			Transition contact with respect to alteration and mineral makeup.				
726		-0.5		Intensely altered quartz diorite with some secondary? K-feldspar. Alteration possibly due to fault zone. Vuggy 732.5-736. Sharp contact.				
	737							
737				Reddish granite. Possible granite inclusion.				
		-0.5		Appear to be drilling close to contact between granite and diorite. Granite is moderately to intensely altered. Mafics well chloritized. Feldspars have some degree of clay alteration.				
	762			Oxidized along few fractures to 740. Some tiny mineralized veinlets.				
762				Fault zone 747.5-750.6.				
	769			755-758 unit is sort of bleached out, possible due to intense fracturing. Some good mineralization 751-753. Transitional contact.				
769		-0.5		Fresh quartz diorite blotches within moderately altered quartz monzonite.				
	790			Moderately altered quartz monzonite. Diorite blotches within 774-775.				
790		-0.5		Good mineralization in this diorite-monzonite mixture.				
	798			Monzonite turning granitic with K-felds being dominant.				
798				Feldspar in 777-784. 784-787, well altered quartz diorite. 787-798, fault gouge zone 789-790, reddish granite.				
				Well altered bleached granite or moderately altered quartz monzonite, mixed with granite. Sparse mineralization.				
				Quartz monzonite. Hornblende and biotite chloritized. Sparse pyrite and chalcopyrite, mostly along fractures and in quartz veinlets.				
				Some molybdenite in quartz veinlets. Irregular quartz vein about ½" wide at 812 with chalcopyrite and molybdenite. Some calcite stringers.				

PHILLIPS PETROLEUM CO.

Hole No. DDH #20 Sheet No. 8

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION
				Calcite is younger than the quartz, copper, and molybdenum mineralization.			
	860						
860				"Old Granite". Brick red feldspars. "Noggins" of black mineral up to 2" across. Traces of pyrite and chalcopyrite along fractures.			
	874						
874	876			Fault gouge			
876				Quartz monzonite. Higher than normal biotite content.			
		-2.0		Biotite mostly altered to chlorite. Sparse mineralization. Pyrite and chalcopyrite well disseminated, but disseminations are usually			
		-3.0		small. Chalcopyrite and molybdenite in scattered irregular quartz veinlets. Small calcite stringers.			
		-2.0					
		-1.0					
	925						
925				Quartz monzonite. Highly altered. Feldspars mostly altered to clay with some sericite. Biotite has been altered to chlorite and in some areas has been removed. Sparse chalcopyrite and molybdenite mostly in quartz veinlets.			
	948						
948				Quartz monzonite. Moderately altered with some narrow zones of strong alteration with some sericite. Biotite has varying degrees of chloritization from slight to intense. Sparse chalcopyrite and			

PHILLIPS PETROLEUM CO.

Hole No. DDH #20 Sheet No. 9

SQUAW PEAK

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION
					molybdenite mineralization. Strong fault zone from 982 to 984. Vein of quartz and calcite about 2" wide at 1025. Some calcite veinlets.			
					Strong fault from 1056 to 1060.			

PHILLIPS PETROLEUM CO.

Hole No. DDH #20 Sheet No. 10

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DI
	1127								
1127					Quartz monzonite. Zone of strong alteration with kaolinization of the feldspars and intense chloritization of the biotite. This is a zone with numerous fractures and small faults. Most of fractures have been filled with calcite; some also contain limonite or jarosite. Copper-molybdenum mineralization is sparse.				
		-1.0							
	1183								
1183					"Old Granite". Occasional quartz veinlets with traces of pyrite, chalcopyrite, and molybdenite. Calcite stringers.				

PHILLIPS PETROLEUM CO.

Hole No. DDH #20 Sheet No. 11

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEP
	1204								
1204	1206				Quartz monzonite. No mineralization observed.				
1206					"Old Granite". Typical brick red orthoclase. Traces of				
		-0.6			chalcopyrite and molybdenite in occasional quartz veinlets.				
		-0.4			Calcite stringers.				
	1254								
1254					Quartz monzonite. Feldspars are cloudy. Biotite has been altered				
					to chlorite. Hornblende may have been present in small amounts,				
					but has also been altered to chlorite. Calcite stringers. Small				
					amounts of scattered patches of sericite. Traces of				
					chalcopyrite and molybdenite along a few widely-spaced				
					fractures and quartz veinlets.				
	1294								
1294					Quartz diorite. Rock has fresh appearance. Hornblende is present. Not mineralized.				
	1304								
1304					Quartz monzonite. Chloritized. Calcite stringers. Some hornblende.				
					Traces finely disseminated chalcopyrite.				

PHILLIPS PETROLEUM CO.

Hole No. DDH #20 Sheet No. 12

SQUAW PEAK

Coordinates

Type Drill Date Started

Bit Size Date Completed

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DE
	1322							
1322	1325			Quartz diorite. Biotite altered to chlorite. Feldspars altered to kaolin. No mineralization.				
1325				Quartz monzonite. Strongly altered. Biotite altered to chlorite and over much of the section the biotite has been almost completely removed. Feldspars have been kaolinized to varying degrees and sericite has formed locally. Traces of finely disseminated chalcopyrite. Traces of pyrite, chalcopyrite, and molybdenum along a few widely-spaced fractures. Several water courses between 1335 and 1345. Numerous quartz veinlets between 1345 and 1360, but they are almost barren of sulfides.				
	1365							
1365				Quartz monzonite. High biotite content gives the rock a dark appearance. Biotite has been altered to chlorite. Traces of finely-disseminated pyrite and chalcopyrite. Nearly horizontal quartz vein about 2" wide at 1398. No mineralization in vein. Quartz veinlet about ½" wide at 1413, dipping at about 60°, with a small amount of chalcopyrite and molybdenite.				
				Little disseminated chalcopyrite and molybdenum in ½" siliceous vein at 1435.				

PHILLIPS PETROLEUM CO.

Hole No. DDH #20 Sheet No. 13

Coordinates SQUAW PEAK

Type Drill Date Started

Bit Size Date Completed

GEOLOGIC LOG

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	ANGLE TO CORE	SECTION	DEP
				Slight to moderately altered quartz monzonite continued. Local zones of more intense alteration.				
	1463			1452-1454 fresh quartz diorite. 1½" aplite dike at 1462.8.				
1463	1470			Slightly altered, sparsely mineralized quartz diorite.				
1470				Slight to moderately altered quartz monzonite continued. Very sparsely mineralized.				
	1488			1486.25-1487.50 reddish granitic or aplitic inclusion.				
1488	1500			Intensely altered quartz monzonite or granite. Very sparsely mineralized. Total Depth.				

Drill hole DDH-11 which was expected to be completed the last part of December was abandoned on January 22, 1970, at a depth of 913 feet. The core barrel became stuck in the hole following an effort to regain circulation by cementing the bottom of the hole. An NQ core barrel and 65 feet of rods were left in the bottom of the hole.

The interval from 865 to 913 was more altered than the upper part of the hole and contained more chalcopyrite and molybdenite than the upper part of the hole. No zones of ore grade were encountered.

DDH-12 will be drilled at 7670N and 6530E. This will be an offset to DDH-9 and will be about 500 feet east of DDH-9.

Work continues on relocating, marking, and surveying old claim corners of those claims owned by Squaw Peak Copper Mining Company.

One of the old mine buildings is being fixed up to serve as a core shed.