MEDICINE LAKE VOLCANO
B.1.b. (strat 36-28).2
GLOG707_23

Hole No. 36-28
Coordinates T44N R 3E S28
Type Drill Core HQ
Bit Size HQ

Sheet No. 1
Date Started
Date Completed

PHILLIPS PETROLEUM CO.

Collar Elevation
Total Footage
Overall Core Recovery
Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	~~BOX~~	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
353	358		1	Basalt; med. gray, v. fn, xtl IN; parting surfaces var. from 3 MM to 25 cm., massive		
358	366		2	Basalt, AA		
366	375.5		3	Basalt, AA.		
375.5	385		4	Basalt AA; med-dk gray		
385	393		5	Basalt AA		
393	402		6	Basalt AA		
402	408.5		7	Basalt AA		
408.5	415.5		8	Basalt; AA; much fracturing 408-413		
415.5	424.5		9	Basalt AA		
424.5	433		10	Basalt AA		
433	441.5		11	Basalt AA		
441.5	451		12	Basalt AA, has red mottled appearance from ~443.5.		

Hole No. 36-28

Coordinates

Type Drill

Bit Size

Sheet No. 2

Date Started

Date Completed

PHILLIPS PETROLEUM CO.

Collar Elevation

Total Footage

Overall Core Recovery

Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	~~PIPE~~ BOX	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
4451	4595		13	Basalt AA; ~~Red mottling, lenses @~~		
4595	4628		14	Basalt AA Red mottling, lenses at ≈463' med. gray		
4628	475		15	Basalt AA lgr. phenos of Plag?		
475	484		16	Basalt AA		
484	492		17	Basalt AA		
492	501		18	Basalt AA light "patches" become larger and more numerous and appear to be xenoliths	X Sect	

Hole No. 36-28
Coordinates
Type Drill Core HQ
Bit Size

Sheet No. 3
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PHILLIPS PETROLEUM CO.

Collar Elevation
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Overall Core Recovery
Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
501	5105		HQ	Basalt; med - dk. gray; sl. porphyritic w/5% phenos of plag.; v. fn.gr.; massive; red oxid. on parting surfaces		
5105	519		HQ	A.A Note some red parting surfaces have med - fn gr ash.		
519	5285			A.A. Note inclusions of lt. gray xenoliths cone are as lg. as 1" in diameter.		
528.5	531.5			AA Basalt		
531.5	537			Cinder; red; massive at top more friable at 533 inclusions of dk gray basalt		
537	548			Cinder; AA; has zones of massive more intensely welded zones w/in		
548	~~563~~	553		Cinder; AA		
553	561			Cinder; reddish gray; zones of massive reddish gray basalt to 6' in thickness		
561	564			Cinder AA		
564	569			Basalt, reddish gray w/streaks of red; resembles welded ash or small flow w/in cinder cone, more massive than cinders		
569	578			Basalt; AA getting grayer		
578	588			Basalt; AA v. massive, sm. vesicles.		

Hole No. 36-28
Coordinates
Sheet No. 4
PHILLIPS PETROLEUM CO.
Collar Elevation
Date Started
Total Footage
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Overall Core Recovery
Bit Size
Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
588	597.3			Basalt; med gray; sl. vesicular w/ small vesicles; v. fngr. v. massive		
597.3	606.5			Basalt; AA.		
606.5	615.4			Basalt, AA; becomes vesicular at 615'		
615.4	629			Cinder; red to orange red; very sharp break in color 615.4-620 has some gray and is vesicular.	CINDER	
629	634			Cinder; Red, AA, occ. blocks of basalt.		
634	640.5			Basalt; med. gray; vesicular		
640.5	651.5			Basalt; AA; small rubble zone @ 646-648	BASALT	
651.5	661			Basalt, AA; rubble @ 654-655		
661	666			Basalt AA; v. broken up & rubbly		
666	673			Ash; reddish brown; fn to v. coarse; occ. cinder; much clay altn.		
673	678			Ash; AA; larger cinder xals/lithics	ASH	
678	688			Cinder and ash; dk reddish gray; (no red) fn to pebble size		

Hole No.
Coordinates
Type Drill
Bit Size Box

Sheet No. 5
Date Started
Date Completed

PHILLIPS PETROLEUM CO.

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
688	701			Basalt; med gray; v. fn. xtln; vesicular with elongate vesicles; cinders at bottom are welded;		
701	710			Basalt; AA; vesicles are less elongated	BASALT	
710	718			Basalt; AA; few vesicles		
718	727			Basalt; AA; becomes more jointed or broken at bottom of box		
727	736			Basalt, AA		
736	746			Basalt AA		
746	747			Cinder/Rubble; Red to dk gray; Flow breccia?		
747	763		43	Cinder/Rubble; AA	CINDER	
763	768		44	Cinder/Rubble AA		
768	773		44	Basalt; Med-dk gray; Massive w/vesicles in upper portion.	XBASALT A	
773	778		45	Basalt; AA		
778	783		45	Rubble, Basalt & some cinder	RUBBLE	

Hole No. _____
Coordinates _____
_____
Type Drill _____
Bit Size _____

Sheet No. 6

PHILLIPS PETROLEUM CO.

Date Started _____
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Collar Elevation _____
Total Footage _____
Overall Core Recovery _____
Logged By _____

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE Box	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
783	792.5		46	Rubble / Cinder / Welded Ash (790 - 792)		
			/	broken up zone of basalt w/minor ash all red to dk gray		
792.5	804		47	Rubble / Cinder / Ash AA		
804	808		48	Rubble		
808	813		48	Basalt; m. gray; vesicular; 5% sm. plag phenos.	X BASALT B	
813	817		49	Basalt; AA		
817	823.5		49	Rubble; AA	RUBBLE	
823.5	824		50	Rubble		
824	833		50	Basalt; m-dk gray, vesicular, jointed & fractured.	X BASALT C	
833	834		51	Basalt AA		
834	835		51	Rubble	RUBBLE	
835	842		51	Basalt; m-dk gray, vesicular	X BASALT D	
842	843		51	Rubble	RUBBLE	

Hole No.
Coordinates
Type Drill
Bit Size

Sheet No. 7 — PHILLIPS PETROLEUM CO.
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Collar Elevation
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GEOLOGIC LOG

FROM	TO	FT. OF CORE	Box TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
843	844		52	Rubble AA		
844	846		52	Basalt; AA		
846	860.5		53	Basalt; med. gray; massive to vesicular; v. fn. xtl'ly.	X BASALT E	
860.5	869		54	Basalt; AA.		
869	876		55	Ash; red to brownish gray; some lg. cinder fragments	ASH	
876	877.5		55	Rubble	RUBBLE	
877.5	883.4		55	Basalt; Med. gray; massive w/occ. vesicles.	X BASALT F	
883.4	890		56	Basalt; AA; some yellow staining on parting surfaces		
890	892.5		56	Rubble/Cinder		
892.5	898		57	Cinder; red to dk gray; highly vesicular basalt w/mod oxidation; (reworked cinders?)	RUBBLE	
898	904		57	Rubble		
905	905.6		57	Basalt; med-dk gray; vesic to massive; jointed exhibiting almost rubbly character.	X BASALT G	

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Coordinates
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PHILLIPS PETROLEUM CO.

Collar Elevation
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Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	Box TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
905.5	913.5		58	Basalt; AA; less rubbly		
913.5	918.5		59	Basalt; AA		
918.5	926		59	Cinder/Rubble	CINDER	RUBBLE
926	928		59	Basalt; med-dk gray; vesicular; highly fractured	X BASALT	H
928	934		60	Basalt; AA; massive to rubbly.		
934	939		61	Basalt; AA; occ. cinder/Ash		
939	947		62	Basalt; H		
947	956		63	Basalt; AA more massive and less rubbly		
956	969		64	Rubbly; Small massive section 957.5 to 961.5	RUBBLE	
969	975		65	Rubble		
975	977.5		65	Basalt; m. gray; more massive less rubbly	X BASALT	I
977.5	986		66	Basalt; AA		

Hole No. 36-28
Coordinates
Type Drill
Bit Size

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PHILLIPS PETROLEUM CO.

Collar Elevation
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Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	BOX TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
986	987	1	67	Basalt; AA		
987	995		67	Rubble; small pebble to cobble size fragments of vesicular basalt and cinder	RUBBLE	
995	1001		68	Rubble; AA		
1001	1006		68	Basalt; H-m. gray; vesicular	XBASALT J	
1006	1019		69	Rubble; pebble-cobble size; ash and cinder; cinder 1006-1011 ash 1011-1019		
1019	1021		70	Rubble; AA Ash & Cinder	RUBBLE	
1021	1029		70	Rubble (grey) AA; brownish red clay in abundance as matrix for cobbles.		
1029	1044		71	Rubble/Clay AA		
1044	1048		71	Basalt; m-dk gray; massive w v.fn vesicles,		
1048	1057		72	Basalt; AA	XBASALT K	
1057	1064		73	Basalt; m. gray; highly fractured; fn gr.		
1064	1072		74	Basalt; AA		

Hole No. 36-28
Coordinates
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PHILLIPS PETROLEUM CO.

Collar Elevation
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Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
1072	1079		75	BASALT; AA, still v. fractured		
1079	1088		76	BASALT; AA becoming less fractured		
1088	10955		77	BASALT; AA		
10955	1103		78	Basalt, AA		
1103	1112		79	Basalt; AA		
1112	1114		80	Basat; AA		
1114	1121		80	Ash; red; Cinders present.		
1121	1131		81	Ash, AA Cinders less and more common	ASH	
1131	11325		82	Ash, AA		
11325	11405		82	Basalt; m.-dk gray, vesicular at top less vesicular at bottom		
11405	1150		83	Basat; AA	X BASALT	
1150	1156		84	Basat; AA; less vesicular - plag phenos sl. larger.		

Hole No. 36-28
Coordinates
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Bit Size

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PHILLIPS PETROLEUM CO.

Collar Elevation
Total Footage
Overall Core Recovery
Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	BOX TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
			85	Basalt; AA		
1164	1173		86	Basalt, AA		
1173	1180.[illegible]		87	Basalt; AA		
1180	1182		87	Rubble; highly fractured basalt (AA)	RUBBLE	
1182	1185		87	~~Basalt Rubble~~. Basalt (AA), becoming less Rubbly;	X BASALT	M
1185	1188.5		88	Rubble; basalt and [illegible] clay; highly fractured basalt w/ clay alteration	RUBBLE	
1188.5	1192		88	Basalt; AA		
1193	1199		89	Basalt; AA; v. broken - Rubbly	X BASALT	N
1199	1207		90	Basalt; AA; v. broken		
1207	1215.3		91	Basalt; AA, v. broken		
1215.3	1229		92	Ash; red; occ. black cinders becoming more welded toward base	ASH	
1229	1239		93	Ash; AA, occ. yellow stain; cinders present		

Hole No. 36-28
Coordinates
Type Drill
Bit Size BOX

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PHILLIPS PETROLEUM CO.

GEOLOGIC LOG

Collar Elevation
Total Footage
Overall Core Recovery
Logged By Smith/Beall

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
1239	1248		94	Ash/cinders AA		
1248	1251		95	Ash/Cinders, AA		
1251	1256		95	Basalt; lt-m. gray, massive, highly fractured w/no apparent movement		Sample here
1256	1268		96	Basalt, AA, more highly fractured than ±95		BASALT
1268	1276		97	Basalt; AA		
1276	1281		97	Basaltic? Ash; dk gray, occ. lg cinders in matrix massive to v. vesicular, welded in area		75 ASH
1281	1283		98	Basaltic Ash, AA		
1283	1295		98	Basaltic rubble; lt. m. gray, highly fractured; occ. cinders.		RUBBLE
1295	1299		99	Basaltic rubble; AA		
1299	1303		99	Ash/Cinders, red to dk gray; friable to welded		CINDER
1306	1312		100	Red cinders w/basalt clasts poorly cemented, friable		
1312	1313		100	Vesicular basalt - Aphanitic		

Hole No. 36-38
Coordinates
Type Drill HQ
Bit Size BOX

PHILLIPS PETROLEUM CO.

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Date Started
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Collar Elevation
Total Footage
Overall Core Recovery
Logged By Beall

GEOLOGIC LOG

FROM	TO	FT. OF CORE	BOX	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
1315	1320		101	Bright Red to Orange, friable cinders		
1320	1323		101	Blk-carbonaceous? Paleo soil V. soft	& PALEOSOIL	
1323	1325		102	A. A		
1325	1330		102	Tan-Yellow brn Ash w/fine obsid. frags		
1330	1331		102	Lt grey, pumiceous, sl. sandy	ASH	
1331	1334		103	Red brn → v. lt. tan, cinder matrix → ash w/ lots of clasts obsid + pumice		
1334	40		103	Red-brn clay, soft to hard/brittle	CLAY	
1340	42		104	A. A.		
1342	50		104	Dk blk/Purpl Aph to f. grnd. basalt?	BASALT ?	
1350	51		105	A A		
1351	52		105	Soft red-orange gooey clay	CLAY	
1352	60		105	As per 1342-50		
1360	68		106	V. dk purple, fine grnd w/thin (½-2cm) "lenses" of lt grey, aphanitic rx. w/dips 15-20°		
1368	78		107	A A grading to fine grnd dk red to purple	LAHAR ??	
1378	89		108	A. A. Agglomeratic to bottom, dark clasts in similar matrix / matrix becoming muddy		
1389	97		109	A. A. agglomeratic to brecciated / poss mud-flow		
1397	1405		110	A. A. grading to carbonaceous matrix/blk to dk purple, soft + crumbly		
1406.5	1408		111	Lt grey to purple / fine grnd w Epidote fract lining.		

Hole No. 36-28
Coordinates
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Bit Size HQ   Box

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PHILLIPS PETROLEUM CO.

GEOLOGIC LOG

Collar Elevation
Total Footage
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Logged By Beall

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION	DEPTH
1408	15		111	Basalt - blk, f grnd badly weathered to fairly fresh			
1415	1424.5		112	AA w/more pyroclastics + fragmental text. poorly cohesive / broken up.	RUBBLE Check to see assoc. w/above where		
1429.5	1431		113	AA w/more loose cinders			
1431	1439		114	A.A.			
1439	1445		115	A.A.			
1445	1452		116	Much fresher/hard med dk purple, porphyritic w/small plag phenos - Andesite			
1454	1462		117	Andesite - lt to med grey or purple small plag phenos / lots chlorite on fract surfaces.	ANDESITE		
1462	1471		118	A.A. fresher appear/porph w/lots small plag phenos, few small Hbld. lots chlorite on fracts			
1471	1479		119	A.A. (nice fresh rx)			
1479	1488		120	A.A.			
1488	1497		121	A.A. break smoothly at ~30° ∠ to horizontal. Many ‖ fract surfaces. More broken up toward 1497'			
1497	1505.5		122	A.A. v. solid rx - more Hbld phenos.			
1505.5	1514		123	A.A Fract planes at 30-45° dip both broken + incip.			
1514	1523		124	A.A.			
1523	1532		125	AA			
1532	1540		126	AA			
1540	1548.5		127	AA			
-48.5	1549		128	AA - Major lith break at 1549 (See next)			

Hole No. 36-28
Coordinates
Type Drill
Bit Size HQ

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PHILLIPS PETROLEUM CO.

GEOLOGIC LOG

Collar Elevation
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Overall Core Recovery
Logged By Beall

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
1549	1556	128		Andes desc, above grades over a few inches into much more porous rx w/ pyroclastic matrix of ash & cinders, dk red to purple. Phenos of plag still evident. Becomes purely dk purple cinders & ash by 1552. Large clasts of Andes (A2 desc & below) & other rx in cindery matrix. Agglom texture.		
1556	1564	129		A.A. / High % of clasts / scoria clasts more com.		
1564	1572.5	130		A.A. / Matrix blk, carbonaceous(?) mud flow?		
1572.5	1582	131		A.A Poss Mud flow		
1582	1591.5	132		A.A. dk-red to blk matrix, lots of angular clasts		
1591.5	1602.5	133		A.A	LAHAR	
1602.5	1612	134		A.A. two 6" zones of cinders & ash - unconsol.		
1612	1622	135		A.A. Dk red matrix grades to med grey in places		
1622	1631	136		A.A. Couple of thin, unconsol cinder zones		
1631	1641	137		A.A. Matrix is v. clay rich - just compacted & hard enough to make good cores.		
1641	1651	138		AA		
1651	1659.5	139		AA		
1659.5	1669	140		AA		
1669	1678.5	141		AA		
1678.5	1687	142		AA but ~ ½ core is totally unconsol cinders / Mtx		
1687	1696	143		AA thin v soft grey clay - lower 2 ft v. hard, well consolidated w/ high % of small clasts		
1696	1703	144		Grading back into softer matrix, some unconsol		

Hole No. _____
Coordinates _____
_____
Type Drill _____
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GEOLOGIC LOG

FROM	TO	FT. OF CORE	~~BOX~~	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
1703.5	1712		145	A.A. 2 ½ unconsol sections		
1712	1721		146	A.A.		
1721	1723		147	A.A. but grading into dk blk soil/mud		
* 1723	1728		147	Lith Break – Very fine grnd/Aphanitic, vesicular, dk grey to black, v. hard, brittle basalt.	BASALT	
1728	1738.5		148	A.A.		
1738.5	1739		149	A.A.		
* 1739	1746		149	Abruptly changes back to softer blk with mudrock matrix – in part carbonaceous holding lithic clasts, mostly small, angular. Matrix is mainly dk blk. Flow Breccia	Lithic Tuff or Lahar	
1746	1756		150	Flow Breccia? A.A		
1756	1765		151	" " " "		
1765	1775.5		152	Breccia ?? / Lithic Tuff ? / LAHAR? Many assorted lithic frag & Scoria, Basalt, Punice?, Altered		
1775.5	1785		153	Breccia-Tuff-Lahar?, AA; At 1780 lithic frag decrease in size; green altn to propylitic minerals present		
1785	1798		154	Altered Tuff-Breccia-lahar AA; grain size decreases more to a more fine gr. Basalt w/signif. propylitic altn		
1798	1802		155	Altered Basalt; dk greenish gray; fine gr; highly altered with calcite xtls in matrix at 1805	ALTERED BASALT	
1802	1811		156	Altered Basalt; AA; Calcite is more prominent; parting faces have a schistose sheen to them		

Hole No. 36-28
Coordinates
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PHILLIPS PETROLEUM CO.

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Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
1811	1817		157	Altered Basalt; AA; Prominent botrioidal calcite in vesicles; still highly propylitic altn.		
1817	1820		157	Altered Basaltic Cinders; reddish gray; vesicular with vesical filling of calcite; alteration as above		ALTERED CINDER
1820	1821		158	Altered Cinders; AA		
1821	1829		158	Altered lithic tuff; dk greenish gray at top grading to greenish lt gray; matrix becomes highly altered towards bottom almost to talc?? Noats thin section	greenish lt gray; v. soft & friable	
1829	1839		159	Altered lithic tuff AA becomes v. soft & friable — lighter at 1837 hardens up slightly; greenish lt. gray		
1839	1847		160	Altered lithic tuff/lahar AA becomes more massive — less alt.		
1847	1855		161	Altered lithic tuff/lahar; AA fragments increase in size to 3-4 cm across; mud matrix is altered to greenish color still		ALTERED LITHIC TUFF or Lahar
1855	1864		162	Altered lithic tuff/or lahar; AA; lithic frag decrease in size at 1857		
1864	1872		163	Altered lithic tuff/or lahar; AA; liths increase slightly; fragment/matrix ratio varies		
1872	1882		164	Altered lithic tuff/or lahar; AA		
1882	1884		165	Altered lithic tuff/or lahar; AA		

Hole No. 36-28
Coordinates
Type Drill
Bit Size

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Collar Elevation
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Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	~~TYPE~~ Box	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
1884	1887.5		165	Basalt, dk gray; fn. vesicals; could be large block w/in lahar; no noticable flowtop or bottom		
1887.5	1891.5		165	Altered lahar; AA; fragments vary in size; matrix varys in softness. Pyrite present throughout matrix		
1891.5	1900		166	Altered lahar; AA		
1900	1908		167	Altered lahar? / Tuff?; matrix becomes 100% at (1901.5); resembles tuff; some post depositional movement is noticable; still soft		
1908	1919		168	Altered tuff; m. gray; altered; same as matrix in lahar.		
1919	1927		169	Altered tuff? AA	ALTERED tuff	
1927	1936		170	Altered Tuff; AA		
1936	1946		171	Altered Tuff? / Basalt; becomes m. - dk gray; highly altered - to green clay (Bentonite?)		
1946	1955		172	Altered Tuff / Basalt; Prob basalt; highly altered to serpentine; vugs filled with non CO_3 fillings. At 1950 small, spherulitic material began to appear, too rounded to be lith fragments. Need T.S. becomes V. vuggy at 1954		
1955	1964		173	Altered Basalt (Lahar?); AA; begins to look more like a lahar towards bottom; rounded spherulites are present and still V. vuggy		

Hole No. 36-28

Coordinates

Type Drill

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PHILLIPS PETROLEUM CO.

Collar Elevation

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Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	~~TYPE~~	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
1964	1974		174	Altered lahar/basalt?; AA		
1974	1983		175	Altered lahar, less vuggy 1974-1978; V.V. vuggy 1978 to 1983; vugs appear to be vesicles? or vugs formed by mobilization of matrix		
1983	1992		176	Altered lahar or basalt; AA		ALTERED LAHAR or BASALT
1992	1999		177	Altered lahar or basalt; becomes more reddish at 1995		
1999	2007		178	Altered lahar or basalt; AA; ~~Hematite zone~~		
2007	2008		178	Altered ash or basalt; dk gray; fn gr; typical propylitic alteration as above. Needs TS no vugs, fn gr		ALTERED ASH
2008	2010		179	Altered ash or basalt; AA, fn gr, no vugs		
2010	2016		179	Altered lahar or basalt. tuff lt. greenish gray vug fillings with m. gray matrix; vugs created by mobilization of silica(?) spherulites? Need TS		ALTERED TUFF
2016	2026		180	Altered ~~lahar or basalt~~ AA Tuff-Lahar		
2026	2034		181	Altered Tuff; lt.-m. gray; spherulitic with v. vuggy character. Get TS at 2028 where it's denser. Pyrite disseminated throughout		
2034	2042		182	Altered Tuff; AA; varys in color from lt gray through m. reddish gray depending on alteration amount		

Hole No. 36-28
Coordinates
Type Drill
Bit Size

Sheet No. 20
Date Started
Date Completed

PHILLIPS PETROLEUM CO.

Collar Elevation
Total Footage
Overall Core Recovery
Logged By

GEOLOGIC LOG

FROM	TO	FT. OF CORE	~~Box~~ TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
2042	2057		183	Altered Tuff, AA		
2057	2061		184	Altered Tuff, AA		
2061	2071		185	Altered Tuff; AA becoming lkr gray		
2071	2080		186	Altered Tuff, AA, m. reddish gray		
2080	2089.5		187	Altered tuff; AA m reddish gray		
2089.5	2098		188	Altered Tuff; AA		
2098	2107		189	Altered tuff; AA. fewer spherulite "holes"		
2107	2116		190	Altered, tuff; AA, occ. vugs		
2116	2126		191	Altered tuff; occ. vugs		
2126	2133		192	Altered tuff; denser, darker gray		
2133	2144		193	Altered tuff; AA		
2144	2146		194	Altered tuff; AA		