

Hole No. 27-27

Coordinates \_\_\_\_\_

Sheet No. 1

PHILLIPS PETROLEUM CO.

Collar Elevation \_\_\_\_\_

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			SECTION DEPTH	
466	476		1	Vol. Ash - reddish gray; soft to hard; occ. thin frags of scoria and basalt.					
476	486		2	Vol. Ash / Agglomerate - dk gray; soft to hard; pebble to lg. cobble sized, angular frags of basalt? in fine matrix					
486	495		3	Agglomerate - AH					
495	504		4	Welded lithic tuff or Agglomerate - dk gray; hard; cobble to pebble sized frags in hard, fine gr. matrix					
504	523		5-6	Welded lithic tuff or Agglomerate - AH some portions about less welded / compaction					
523	542		7-8	Welded lithic Ash / Agglomerate - AH					
542	544		9	Welded lithic Ash / Agglomerate					
544	552.5		9-10	V. Ash - black; soft; occ. more cemented areas					
552.5	553		10	V. Ash - AH					
553	562		10	V. Ash - red; occ. lithic, soft to hard becoming reddish gray w/ depth					
562	572		11	V. Ash - AH					
572	576		12	V. Ash					
576	581.5		12	Lithic tuff - lt. gray; v. lithic w/ frags of pernae, basalt; Andesite; soft					
581.5	590.5		13	Lithic tuff - AH					
590.5	594.5		14	Lithic tuff - AH					
594.5	599		14	BASALT - dk gray; vesicular; could be lg. block in above tuff					
599	600		14	V. Ash / Tuff? - brown; lithic; soft					

Hole No. 2

Coordinates \_\_\_\_\_

Sheet No. \_\_\_\_\_

PHILLIPS PETROLEUM CO.

Collar Elevation \_\_\_\_\_

Date Started \_\_\_\_\_

Total Footage \_\_\_\_\_

Date Completed \_\_\_\_\_

Overall Core Recovery \_\_\_\_\_

Type Drill \_\_\_\_\_

Bit Size \_\_\_\_\_

Logged By \_\_\_\_\_

**GEOLOGIC LOG**

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION				SECTION DEPTH	
600	610		15	V. Ash/Rubble - v. broken, pebbles to block size frags of basalt						
610	613		16	RUBBLE - AA						
613	619.5		16	BASALT - dk gray; <sup>st</sup> phosphatic;						
619.5	621		17	BASALT - AA						
621	631		17	BASALT RUBBLE - v. broken, occ. 1 foot zones of hard						
631	641		18	basalt (lap. blocks); black - dk gray						
631	641		18	BASALT RUBBLE - AA						
641	663		19-20	BASALT RUBBLE - AA						
663	672		21	BASALT RUBBLE - AA						
672	684		22	BASALT RUBBLE - AA						
684	705.5		23-24	BASALT RUBBLE - occ ash zones						
705.5	714		25	BASALT RUBBLE - occ. ash zones						
714	716		25	BASALT - dk gray, v. fin x thin, (block or flow?)						
716	717		26	BASALT - AA						
717	721.5		26	V. Ash - reddish gray; friable, soft; occ. basalt						
721.5	723.5		26	→ flow. BASALT - see above block or flow?						
723.5	725		26	V. Ash - see above						
725	726		26	BASALT - block or flow?						
726	727.5		26	V. Ash						
727.5	736		27	BASALT RUBBLE - black; hard & broken almost like cinder.						
736	738		27	BASALT - dk gray; vesicolar;						

Hole No. 27-27

Coordinates \_\_\_\_\_

Sheet No. 3

PHILLIPS PETROLEUM CO.

Date Started \_\_\_\_\_

Collar Elevation \_\_\_\_\_

Date Completed \_\_\_\_\_

Total Footage \_\_\_\_\_

Type Drill \_\_\_\_\_

Overall Core Recovery \_\_\_\_\_

Bit Size \_\_\_\_\_

Logged By \_\_\_\_\_

**GEOLOGIC LOG**

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION			SECTION DEPTH	
738	743.5		28	BASALT - AA					
743.5	747		28	BASALT - RUBBLE -					
747	748.6		28	BASALT - AA					
748.5	750		29	BASALT - AA					
750	754		29	BASALT RUBBLE - AA					
754	756.5		29	BASALT - <del>AA</del> AA					
756.5	760		29	B. RUBBLE - AA					
760	769		30	B. RUBBLE - AA Cinders too					
769	771		31	B. RUBBLE/CINDER					
771	774		31	BASALT - (welded Ash?) - dk gray; sl. porph, faint banding					
774	779		31	V. Ash/Cinders/Rubble - some rubble mostly cinder and ash.					
779	785		32	Cinder/Rubble/Ash - AA more rubble					
785	790		32	BASALT - dk gray to black; vesicular; massive					
790	794		33	BASALT rubble - black slick!					
794	799		33	BASALT - dk gray, vesicular,					
799	801		34	BASALT - AA					
801	806		34	BASALT RUBBLE/CINDER					
806	808		34	BASALT - AA v. vesicular					
808	809.5		35	BASALT - AA v. ves & broken					
809.5	816		35	V. Ash/B. rubble -					
816	818		35	BASALT - See above					
818	822		36	BASALT - AA					

Hole No. 27-27

Coordinates \_\_\_\_\_

Sheet No. 4

PHILLIPS PETROLEUM CO.

Date Started \_\_\_\_\_

Collar Elevation \_\_\_\_\_

Date Completed \_\_\_\_\_

Total Footage \_\_\_\_\_

Type Drill \_\_\_\_\_

Overall Core Recovery \_\_\_\_\_

Bit Size \_\_\_\_\_

Logged By \_\_\_\_\_

## GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION				SECTION DEPTH	
822	827		36	BASALT RUBBLE / CINDER						
827	835		37	B. Rubble / CINDER						
835	837.5		37	BASALT - dk gray; vesicular, A.H.						
837.5	839.5		38	B. Rubble / CINDER						
839.5	852.5		38	B. rubble / CINDER						
852.5	859.5		39	B. rubble / CINDER						
859.5	864.5		39	BASALT - dk gray, vesicular, massive, sl. porph						
864.5	866.5		40	BASALT-AA						
866.5	873		40	B. Rubble / CINDER						
873	884		41	B. Rubble / CINDER - occ. 1' block of basalt						
884	888		42	B. Rubble / CINDER						
888	890		42	Basalt - AA could be lg. block						
890	894		42	B. Rubble / Ash - occ. basalt blocks						
894	895		43	B. Rubble / Ash						
895	904		43	BASALT - dk gray; vesicular						
904	905		44	BASALT - AA						
905	910		44	BASALT Rubble / CINDER						
910	913		44	BASALT - AA						
913	915		45	BASALT - AA						
915	922.5		45	BASALT Rubble / CINDER						
922.5	931		46	BASALT Rubble / CINDER occ. basalt cobbles / blocks						
931	941		47	BASALT RUBBLE - occ. B. cobbles and andes						
941	943.5		48	B. Rubble						
943.5	952		48	BASALT - M- dk. gray; sl. ves.						

Hole No. 27-27

Coordinates \_\_\_\_\_

Sheet No. 5

PHILLIPS PETROLEUM CO.

Date Started \_\_\_\_\_

Date Completed \_\_\_\_\_

Collar Elevation \_\_\_\_\_

Total Footage \_\_\_\_\_

Type Drill \_\_\_\_\_

Overall Core Recovery \_\_\_\_\_

Bit Size \_\_\_\_\_

Logged By \_\_\_\_\_

## GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION				SECTION DEPTH	
952	955		49	B. Rubble / Cinder						
955	960.5		49	BASALT - m. dk gray; vesicular						
960.5	961		50	BASALT - AA						
961	970.5		50	B. Rubble / Cinder						
970.5	972		50	BASALT - dk gray; st porph; st. vesicular						
972	979		51	BASALT - AA						
979	982		51	B. Rubble / Cinder						
982	990		52	B. Rubble / Cinder / Ash						
990	991		53	B. Rubble / Cinder						
991	998		53	BASALT - m. - dk gray, vesicular						
998	1000		53	CINDER / Ash						
1000	1003.5		54	CINDER / Rubble / Ash						
1003.5	1009.5		54	BASALT - m. gray; ves. to massive						
1009.5	1020		55	B. Rubble / Cinder / Ash						
1020	1027		56	B. Rubble / Cinder						
1027	1028		56	Basalt - m. gray; broken; vesicular						
1028	1037		57	BASALT - AA						
1037	1041		58	BASALT - Lt. - m. gray - AA						
1041	1045.5		58	Rubble / Ash						
1045.5	1047		58	BASALT - m gray						
1047	1048		59	BASALT - AA						
1048	1054.5		59	Rubble / Cinder						
1054.5	1056		59	BASALT AA						
1056	1058		60	BASALT AA						

Hole No. 27-27

Coordinates \_\_\_\_\_

Sheet No. 6

PHILLIPS PETROLEUM CO.

Date Started \_\_\_\_\_

Collar Elevation \_\_\_\_\_

Date Completed \_\_\_\_\_

Total Footage \_\_\_\_\_

Type Drill \_\_\_\_\_

Overall Core Recovery \_\_\_\_\_

Bit Size \_\_\_\_\_

Logged By \_\_\_\_\_

## GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION				SECTION DEPTH	
1058	1092.5		60-8	Rubble/Cinder/Ash - AA						
1092.5	1095.5		63	BASALT - AA						
1095.5	1097.5		64	BASALT - AA						
1097.5	1103.5		64	B. Rubble - AA						
1103.5	1106		64	BASALT - AA						
1106	1108		65	BASALT - AA						
1108	1115		65	B. Rubble -						
1115	1122.5		66	B. Rubble - AA						
1122.5	1127		66	BASALT - dk gray; vesicular; massive.						
1127	1134		67	BASALT - AA						
1134	1137		67	B. Rubble						
1137	1147		68	B. Rubble/Cinder - AA						
1147	1148.5		69	B. Rubble/Ash -						
1148.5	1157		69	BASALT - m-dk gray; vesicular; massive						
1157	1166		70	BASALT - AA						
1166	1172		71	BASALT - AA						
1172	1175		71	CINDER/Rubble/Ash -						
1175	1177.5		72	CINDER/Rubble						
1177.5	1185		72	BASALT - m-dk gray; vesicular; massive						
1185	1186		73	BASALT - AA						
1186	1193		73	B. Rubble - lg bldcks						
1193	1204.5		74	B. Rubble - smier bldcks						
1204.5	1214.5		75	B. Rubble/Cinder						
1214.5	1223.5		76	BASALT - dk gray; massive; occ. vess.						

Hole No. 27-27

Coordinates \_\_\_\_\_

Sheet No. 7

PHILLIPS PETROLEUM CO.

Date Started \_\_\_\_\_

Collar Elevation \_\_\_\_\_

Date Completed \_\_\_\_\_

Total Footage \_\_\_\_\_

Type Drill \_\_\_\_\_

Overall Core Recovery \_\_\_\_\_

Bit Size \_\_\_\_\_

Logged By \_\_\_\_\_

**GEOLOGIC LOG**

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION				SECTION DEPTH	
1232.5	1232		77	BASALT - AA						
1232	1236		78	BASALT - AA						
1236	1243		78	B. Rubble -						
1243	1244		78	BASALT - m. dk gray, ves.						
1244	1247.5		79	BASALT - AA						
1247.5	1251		79	B. Rubble -						
1251	1255		79	BASALT - AA						
1255	1259		79	Rubble						
1259	1263.5		80	BASALT - AA						
1263.5	1265		80	B. Rubble -						
1265	1268		80	BASALT - AA						
1268	1270		81	BASALT - AA						
1270	1280		81	B. Rubble -						
1280	1282.5		81	BASALT - dk gray, v. broken almost rubble						
1282.5	1284.5		82	BASALT Rubble -						
1284.5	1291		82	BASALT - AA						
1291	1297		83	BASALT						
1297	1299.5		83	B. Rubble						
1299.5	1300		84	B. Rubble						
1300	1309		84	BASALT, dk gray; vesicular; massive occ. broken						
1309	1318		85	BASALT - AA						
1318	1345		86-88	BASALT - AA						
1345	1346		88	B. Rubble -						

Hole No. 27-27

Coordinates \_\_\_\_\_

Sheet No. 8

PHILLIPS PETROLEUM CO.

Date Started \_\_\_\_\_

Collar Elevation \_\_\_\_\_

Date Completed \_\_\_\_\_

Total Footage \_\_\_\_\_

Type Drill \_\_\_\_\_

Overall Core Recovery \_\_\_\_\_

Bit Size \_\_\_\_\_

Logged By \_\_\_\_\_

## GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION				SECTION DEPTH	
1346	1349		88	BASALT - dk gray, vesicular; massive						
1349	1371.5		89-91	BASALT - dk gray (red 1363-1371); v. oxidized 1363-1371						
1371.5	1405		92-94	BASALT - AA broken and oxidized bed.						
<del>1405</del>	<del>1414</del>			1387 and 1392						
1405	1414		95	B. Rubble						
1414	1425		96	BASALT - AA; broken to massive						
1425	1435		97	BASALT - AA						
1435	1444		98	BASALT - AA						
1444	1452		99	BASALT						
1452	1456		99	B. Rubble -						
1456	1461		100	B. Rubble -						
1461	1465		100	BASALT - dk gray; vesicular;						
1465	1474		101	BASALT - AA occ. broken						
1474	1482		102	B. Rubble -						
1482	1485		102	- BASALT - AA						
1485	1495		103	BASALT - AA						
1495	1497		104	BASALT - AA						
1497	1504.5		104	B. Rubble -						
1504.5	1506		104	BASALT - AA						
1506	1509		105	B. Rubble -						
1509	1522		105+6	BASALT - AA with relatively few large vesicles, Hard						
1522	1534		106+7	Vesicular dk gray alt. alternately solid and broken one: 1' intervals - all pieces are hard						



Hole No. 27-27

Coordinates \_\_\_\_\_

Sheet No. 9

PHILLIPS PETROLEUM CO.

Collar Elevation \_\_\_\_\_

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			SECTION DEPTH	
1534	1545		108	Hard, dk grey basalt with few vesicles - Nice core					
1545	1555		109	Generally rubbly, hard frags of vesicular basalt. (more broken than rubbly)					
1555	1559		110	Similar to above but not broken					
1559	1563		110	Rubbly, broken generally reddish brown basalt					
1563	1588		110-3	Generally solid basalt, vesicular to 1567 massive, dense, hard to 1588					
1588	1605		113-5	Highly vesicular basalt, mostly firm good core					
1605	1615		115	Dk brown to black scoriaceous rubble - poor core					
1615	1617		116	Firm vesicular basalt					
1617	1662		116-9	Generally rubbly basalt with occ ± 1' thick intervals of hard good core					
1662	1665		120	Finner, grey basalt					
1665	1675.5		120, 1	Reddish scoriaceous basaltic rubble					
1675.5	1681		121	Dk grey, firm vesicular basalt					
1681	1685		122	Black rubbly basalt					
1685	1688		122	Generally firm scoriaceous basalt					
1688	1700		122.5	Dk rubbly basalt					
1700	1704		123	Firm basaltic scoria					
1704	1721		123-5	Generally red + black scoriaceous rubble occ. 6" to 1' will look like core					
1721	1725		125	Firm, dk vesicular basalt core					
1725	1732		126	Red + black rubble					
1732	1734		126	Firm scoriaceous core					

Hole No. 277

Coordinates \_\_\_\_\_

Sheet No. 10

PHILLIPS PETROLEUM CO.

Collar Elevation \_\_\_\_\_

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			SECTION DEPTH	
734	737		126+7	Red + black cinders and scoria					
737	1742		127	Solid basalt, relatively few vesicles					
742	1746		127+8	Scoria rubble					
746	1754		128	Solid basalt, variable vesicles					
1754	1755		129	Rubble					
1755	1759		129	Solid basalt - variable vesicles					
1759	1761		129	Rubble					
1761	1773		130	Firm core - variable, some consolidation of scoria, some massive ± vesicles					
1773	1788		130+1	Generally rubble, with several 6" to 1' sections of solid core					
1788	1796		132+3	Generally solid basalt with a little rubble					
1796	1801		133	Red and black scoriaceous rubble					
1801	1822		133-5	Firm basalt - some fractured pieces but little or no scoria or rubble					
1822	1826		136	Mostly rubble, black and red basalt					
1826	1857		136-9	Firm solid basalt vesicular, above 1837 - solid below 1837					
1857	1866		139	Broken basalt - pro-cylindrical core but not especially rubble					
1866	1875		140	Solid, slightly vesicular basalt					
1875	1883		141	Mostly firm, but broken basalt - vesicular					
1883	1892		142	Solid, highly vesicular basalt					
1892	1897		143	Firm, fragments of broken basalt					
1897	1910		143+4	Firm, dk grey vesicular basalt					

Hole No. 27-27

Coordinates \_\_\_\_\_

Type Drill \_\_\_\_\_

Bit Size \_\_\_\_\_

Sheet No. 11

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	
1910	1913		144	Rubby, scoriaceous, andesite basalt						
1913	1919		144	Solid basalt						
1919	1923		145	Broken, partly rubby basalt						
1923	1942		145-7	Generally solid dk gray vesicular basalt						
1942	1946		147	Red + black rubby scoria						
1946	1949		147	Red vesicular basalt						
1949	1951		148	Mod. firm basalt						
1951	1953		148	Rubble						
1953	1956		148	Firm vesicular basalt						
1956	1958		148	Broken, fairly firm rubble						
1958	1969		149	Firm, dk gray vesicular basalt						
1969	1978		150	Broken basalt with a little rubble						
1978	1990			Mismatch no core						
1990	1997		151	Firm core - a few vesicles						
1997	2004		151	Rubble and broken basalt - some scoriaceous material						
2004	2013		152	Generally firm, mod vesicular core						
2013	2015		153	Broken basalt with some rubble						
2015	2024			Solid dk gray basalt - some vesicles etc.						
				2022' Below 2022' it is massive						
2024	2034		154	BASALT - dk gray; massive						BASALT
2034	2040		155	BASALT - AA						
2040	2044		155	Rubble - basalt frags up to cobble size, occ oxidized; vesicular						Rubble
2044	2054.5		156	Rubble - A2						

Hole No. 2727

Coordinates \_\_\_\_\_

Sheet No. 12

PHILLIPS PETROLEUM CO.

Collar Elevation \_\_\_\_\_

Date Started \_\_\_\_\_

Total Footage \_\_\_\_\_

Date Completed \_\_\_\_\_

Overall Core Recovery \_\_\_\_\_

Type Drill \_\_\_\_\_

Logged By \_\_\_\_\_

Bit Size \_\_\_\_\_

**GEOLOGIC LOG**

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION			SECTION DEPTH
2054.5	2056		156	BASALT - dk. reddish gray to dk gray; vesicular; porphyritic w/ feeb. plumes observable				BASALT
2056	2066		157	BASALT - dk gray; becoming less vesicular, mass.				
2066	2074		158	BASALT - AA				
2074	2075		158	Rubble - dk reddish gray to dk gray; occ. soft alt. zones; v. broken				Rubble
2075	2084.5		159	Rubble - AH				
<del>2084.5</del>	2093		160	Rubble - AA				
2093	2094		160	BASALT - dk reddish gray to dk gray; vesicular; v. broken almost rubble				BASALT
2094	2114		161	BASALT - AA almost rubble				BASALT
2114	2122		162	BASALT - becoming more massive @ 2115				
2122	2130.5		163	BASALT - AA				
2130.5	2139		164	Rubble -				Rubble
2139	2141.5		164	BASALT - dk gray; vesicular; broken at top grading into massive				BASALT
2141.5	2151		165	BASALT - AA				
2151	2153		166	BASALT - AA				
2153	2158		166	Rubble -				Rubble
2158	2162.5		166	BASALT - dk gray; vesicular; broken				BASALT
2162.5	2172		167	BASALT - AA v. broken in places				
2172	2182		168	BASALT - AA massive				
2182	2190.5		169	BASALT - AA massive broken				
2190.5	2198		170	BASALT - AA				

Hole No. 27-27

Coordinates \_\_\_\_\_

Sheet No. 13

PHILLIPS PETROLEUM CO.

Date Started \_\_\_\_\_

Date Completed \_\_\_\_\_

Type Drill \_\_\_\_\_

Bit Size \_\_\_\_\_

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	
2198	2200		170	Cinder/Rubble - dk red to gray					
2200	2203.5		171	Cinder/Rubble - HA					
2204	2206.5		171	BASALT - AA					
2206.5	2209.5		171	V. Ash - dk gray; hard to fracture, rubbly					
2209.5	2219		172	V. Ash - HA					
2219	2230		173	Rubble -					
2230	2231		173	BASALT - dk gray, vesicobul, v. broken					
2231	2242		174	BASALT - HA					
2242	2243		174	B Rubble -					
2243	2260		175	B Rubble - AA					
2260	2261		176	B Rubble - HA					
2261	2263.5		176	BASALT - dk gray (v. red?)					
2263.5	2271		176	V. Ash - dk gray; hard to soft; v. broken					
2271	2281		177	V. Ash - becoming reddish gray at 2276 occ. cinders					
2281	2285		178	V. Ash -					
2285	2302		179	W. Ash - dk reddish gray grading into m. gray; v. granular character in gray; hard massive rx' that looks like basalt, v. reddish? change in 2290.5"					
2302	2309		180	W. V. Ash? (basalt?) (Andrich?) - m. gray; massive, granular?					
2309	2315		181	W. V. Ash? HA					
2315	2316.5		181	V. Ash - Red; soft to hard; occ cinder					

Hole No. 27-27

Coordinates \_\_\_\_\_

Sheet No. 14

PHILLIPS PETROLEUM CO.

Date Started \_\_\_\_\_

Collar Elevation \_\_\_\_\_

Date Completed \_\_\_\_\_

Total Footage \_\_\_\_\_

Type Drill \_\_\_\_\_

Overall Core Recovery \_\_\_\_\_

Bit Size \_\_\_\_\_

Logged By \_\_\_\_\_

**GEOLOGIC LOG**

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION				SECTION DEPTH	
	2318		181	Welded V. Ash? - AA; occ. ash						
2318	2321		182	Welded V. Ash? - AA become softer at bottom						
2321	2327		182	BASALT - dk gray (sl. red at top); vesicular						
2327	2331		183	BASALT - AA						
2331	2334		183	B. Rubble -						
2334	2336		183	BASALT - dk gray; vesicular						
2336	2341.5		184	BASALT - AA						
2341.5	2346		184	B. Rubble -						
2346	2346.5		184	Basalt - reddish gray grading into dk gray; vesicular, broken						
2346.5	2355		185	BASALT - AA						
2355	2365		186	BASALT - AA V. broken to rubble 2356.5 to 2358.5						
2365	2371.5		187	BASALT - V. broken in places, becoming reddish gray at 2371.5						
2371.5	2380		187	V. Ash. - reddish gray soft to hard,						
2380	2385		188	V. Ash. - AA						
2385	2393.5		189	BASALT - dk gray; vesicular; broken						
2393.5	2396		190	BASALT - AA						
2396	2403		190	V. Ash. - soft to hard						
2403	2411		191	BASALT - dk gray; occ. vesicular (could be welded ash)						
2411	2420.5		192	BASALT - AA						
2420.5	2429.5		193	BASALT - AA broken to rubble in places						

Hole No. 27-27

Coordinates \_\_\_\_\_

Sheet No. 15

PHILLIPS PETROLEUM CO.

Collar Elevation \_\_\_\_\_

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				SECTION DEPTH	
2429.5	2430		194	BASALT-AA						
2430	2438		194	V. Ash - dk gray; soft to hard; rubbly at top grading <del>the</del> into more welded, vesicular rx.						
2438	2443.5		195	V. Ash-AA						
2443.5	2448		195	BASALT - m dk gray; vesicular to non-massive to acc. beds.						
2448	2457.5		196	BASALT-AA						
2457.5	2470		197	BASALT-AA						
2470	2481		198	BASALT-AA						
2481	2491		199	BASALT-AA - v. broken						
2491	2502		200	BASALT-AA St. less broken here						
2502	2509		201	BASALT-AA <del>st.</del> broken						
2509	2518.5		202	BASALT-AA v. broken/rubbly 2415-2417.5						
2518.5	2528		203	BASALT-AA rubbly bet 2522-2523						
2528	2537		204	BASALT-AA rubbly bet 2531-2533						
2537	2546		205	BASALT-AA						
2546	2548		206	V. Ash - dk gray, soft may be rubbly or fine						
2548			<del>206</del>	laminated basalt.						
2548	2555		206	BASALT-AA						
2555	2559		207	BASALT-AA						
2559	2565		207	V. Ash - reddish gray; soft to hard; acc. cinder						
2565	2565.5		207	BASALT - dk gray, vesic.						
2565.5	2572		208	BASALT-AA v. broken						
2572	2573		208	V. Ash - reddish gray; acc. cinder, soft to hard						
2573	2583		209	V. Ash-AA						

X - flows here

Hole No. 2727

Coordinates \_\_\_\_\_

Sheet No. 16

PHILLIPS PETROLEUM CO.

Date Started \_\_\_\_\_

Collar Elevation \_\_\_\_\_

Date Completed \_\_\_\_\_

Total Footage \_\_\_\_\_

Type Drill \_\_\_\_\_

Overall Core Recovery \_\_\_\_\_

Bit Size \_\_\_\_\_

Logged By \_\_\_\_\_

**GEOLOGIC LOG**

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION			SECTION DEPTH	
2523	2526.5		210	V. Ash - AA					
2526.5	2591		210	Rubble -					
2591	2592		210	<del>BASALT</del> - dk gray; vesicular					
2592	2601		211	BASALT - AA					
2601	2610		212	<del>BASALT</del> - AA broken to rubble in places (could be a welded ash) occ. "ashy"					Welded Ash
2610	2620		213	BASALT - V. broken to rubble in places. Needs TS					
2620	2629.5		214	Basalt/Welded Ash - AA					
2629.5	2641.5		215	Welded Ash - dk gray; soft and friable to hard.					
2641.5	2652		216	Welded Ash - AA					
2652	2661		217	Welded Ash - AA; occ. vesicular; broken where hard					
2661	2666.5		218	Welded Ash - AA					
2666.5	2669		218	BASALT - dk gray; v. friable; welded ash grades into thin (no obvious contact) occ. vesicular massive - broken					
2669	2679		219	BASALT - AA					
2679	2688		220	BASALT - AA					
2688	2697		221	BASALT - AA					
2697	2706		222	BASALT - AA					
2706	2715		223	BASALT - AA					
2715	2722		224	BASALT - AA					
2722	2725		224	CINDER - Red to Reddish Gray; occ soft and ash zones					



Hole No. 27-27

Coordinates \_\_\_\_\_

Sheet No. 17

PHILLIPS PETROLEUM CO.

Collar Elevation \_\_\_\_\_

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				SECTION DEPTH	
2725	2733		225	Cinder - AA						
2733	2737		226	Cinder AA J. broken - lar						
2737	2742		226	ANDESITE - M gray; massive to broken; porphyritic w/ observable feldspar phenos.						
2742	2752.5		227	ANDESITE - AA						
2752.5	2754		228	Andesite AA						
2754	2760		"	Basaltic <sup>Andesite</sup> Gas vesicles at contact. Darker grey than the andesite. Massive to broken.						
2760	2769		229	Basaltic <sup>Andesite</sup> A.A.						
2770	2779		230	" Andesite A.A.						
2779	2781		231	" "						
2781	2788.5		231	Basalt - Massive dark grey.						
2788.5	2792.5		232	" " " "						
2792.5	2795'		232	Cinders, Red, occ. Red ash zones						
2795	2798		232	Basalt - Vesicular w/ vesicles up to 1 cm.						
2798	2808		233	" - Becomes more massive & less vesicular						
2808	2816.5		234	" - Massive w/ vesicles - coarser xtals than at flow top						
2816.5	2825		235	" - A.A.						
2825	2830.5		236	" - A.A.						
2830.5	2832.5		236	Basalt - Vesicular Flow bottom.						
2832.5	2833.5		236	Oxidized flow top - basalt.						
2833.5	2842.5		237	Basalt - Vesicular top (3) Grading into massive basalt						
2842.5	2843		237	Vesicular basalt.						
2852.5			238	" " A.A.						

Hole No. 27-27

Coordinates \_\_\_\_\_

Sheet No. 18

PHILLIPS PETROLEUM CO.

Date Started \_\_\_\_\_

Date Completed \_\_\_\_\_

Type Drill \_\_\_\_\_

Bit Size \_\_\_\_\_

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	
2852.5	2859		239	Basalt Vesicular, A.A.						
2859	2861		239	Basalt - Reddish color w/ fewer & smaller vesicles						
2861	2870		240	Basalt - Grades into vesicleless massive coarse grained basalt.						
2870	2876		241	Basalt - A.A.						
2876	2879.5		241	Basalt - Coarsely vesicular.						
2879.5	2888		242	" " "						
2888	2896		243	" A.A. grades into massive coarse crystalline basalt and back to vesicular basalt at 2895						
2896	2906.5		244	Basalt, contact at 2895 - vesicular reddish flow top grades into coarse crystalline flow center. Sl. propylitic alteration.						
2906.5	2916		245	Basalt - coarse crystalline - sl. propylitic alteration.						
2916	2919		246	" A.A.						
2919	2922		246	Ash - Red						
2922	2924.5		246	Basalt - Vesicular						
2924.5	2934.5		247	Basalt - vesicular becoming massive						
2934.5	2942		248	Basalt - massive						
2942	2944		248	Ash & Cinders.						
2944	2945.5		249	Ash & Cinders A.A.						
2945.5	2951.5		249	Basalt - fine massive						
2951.5	2953		249	Ash & Cinders						
2953	2955.5		250	Ash & Cinders						
2955.5	2961.5		250	Basalt Breccia						
2961.5	2962		251	Basalt " A.A.						
2962	2964		251	Ash & Cinders						

