Hole No. 16-34
Coordinates
Sheet No. 1
Date Started
Date Completed
Type Drill
Bit Size Rox

PHILLIPS PETROLEUM CO.

Collar Elevation
Total Footage
Overall Core Recovery
Logged By Beall

GEOLOGIC LOG

FROM	TO	FT. OF CORE	~~TYPE~~	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
519	529		1	Andesite, fine grnd, med grey, prominent sub-horizontal parting or rock cleavage surfaces. Platy Andesite?		
529	537.5		2	A A		
537.5	542		3	A A		
542	545		3	A A but dk grey to black		
545	549		4	A A		
549	555		4	Cinders / Scoriaceous basalt		
555	572		5	A A		
572	582		6	Scoria + cinders grading to v. vesicular andesite		
582	589		7	Andesite, med grey, dense, solid numerous small white plag phenos		
589	592		7	Scoria, dk red to black		
592	609		8	Cinders, scoria, scoriaceous basalt, poorly consolidated		
609	623.5		9	Scoria + highly vesicular basalt - blk, fine grnd		
623.5	624		10	A A		
624	627		10	Clay, lt. tan to yellow		
627	639		10	Scoriaceous to v. vesicular basalt		
639	640.5		10	basalt, dk grey to black fine grnd, dense		
640.5	735.5	10-19		basalt - varies from dense, fine grnd to vesicular, highly vesicular and scoriaceous. DK grey to black. Few thin zones of cinders		
735.5	747		20	Scoria, cinders, scoriaceous basalt		
747	764		21	Porous, v. fragmental glass, crumbly		
764	768		21	Fine grnd to glassy, black vitrophyre		
768	774.5		22	A A		
774.5	784.5		23	A A		

Hole No. 18-34
Coordinates
Sheet No. 2
Date Started
Date Completed
Type Drill
Bit Size

PHILLIPS PETROLEUM CO.

GEOLOGIC LOG

Collar Elevation
Total Footage
Overall Core Recovery
Logged By Beall

FROM	TO	FT. OF CORE	~~FILE~~ Box	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
784.5	786		23	Basalt, dense, blk, fine grnd		
786	798		24	Basalt, vesic to scoriaceous, some cinders		
798	809		25	AA, w/more cinders, brt red, unconsol		
809	818.5		26	AA		
818.5	834		27	AA		
835	835		28	AA		
835	846		28	basalt/andes dk grey, fine grnd, v. hard, fine flow banding		
846	855		29	AA		
855	857		30	AA		
857	871		30	DK red cinders & scoriaceous basalt		
871	881.5		31	Vesicular basalt, blk and minor scoria		
881.5	896		32	basalt, blk, finegrnd, highly vesicular		
896	911		33	AA		
911	918.5		34	Basalt/Andesite? dk grey, fine grnd, prominant sub horiz parting or rock cleavage		
918.5	926		35	AA		
926	934		36	AA (Platy Andesite seen in 44-33)		
934	942.5		37	AA		
942.5	951.5		38	AA cinder-red colored coatings in v. fine laminations/flow foliation		
951.5	962		39	AA		
962	971		40	AA		
971	980.5		41	AA		
980.5	986		42	AA		
986	990.5		42	Red-Orange cinders w/6" of glossy rx-obsid		

Platy Andesite?

Hole No. 18-34
Coordinates
Sheet No. 3
Date Started
Date Completed
Type Drill
Bit Size

PHILLIPS PETROLEUM CO.

GEOLOGIC LOG

Collar Elevation
Total Footage
Overall Core Recovery
Logged By Beall

FROM	TO	FT. OF CORE	~~TYPE~~ BOX	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
990.5	1007.5		43	Obsidian, blk, glassy mostly fragmental		
1007.5	1018		44	AA		
1018	1049		45	AA but more lt. grey in color -		
1049	1059		46	AA		
1059	1069		47	AA		
1069	1079		48	AA w/thin grey pumice zone, obsidian frags mixed w/pumiciduas ash		
1079	1099		49	Ashy, v. poorly consolidated, grading to finely vesicular scoria		
1099	1118.5		50	Obsidian - glassy to v. slightly devitrified - badly broken up, dk grey		
1118.5	1146		51	AA but becoming mixed w/red scoria and brecciated, v. broken up		
1140	1146		52	Andes/Basalt? v. fine grnd, dk grey, fresh		
1146	1154		53	AA but lighter grey + more broken up		
1154	1162		54	AA		
1162	1170		55	AA, but w/a subhorizontal platy parting or rock cleavage		
1170	1180		56	AA w/flow banding - broken up toward bottom		
1180	1190		57	AA becoming mixed with then grading to brick red scoria then unconsol cinders		
1190	1200		58	Brick-red scoria		
1200	1207		58	Obsidian, fresh, black, mod broken up		
1207	1224		59	AA		
1224	1247		60	AA		
1247	1257		61	AA but becoming more scoriaceous to bottom		
1257	1267		62	Scoria w/minor black obsidian		
1267	1283		63	AA but grading back into obsidian		
1283	1292		64	Obsidian - broken up		

Obsid/Pumice/Ash
Obsid/Andes/Basalt
Scoria/Cinders
Obsidian

Hole No. 16-34

Coordinates

Sheet No. 4

PHILLIPS PETROLEUM CO.

Collar Elevation

Date Started

Total Footage

Type Drill

Date Completed

Overall Core Recovery

Bit Size

GEOLOGIC LOG

Logged By Beall

FROM	TO	FT. OF CORE	~~TYPE~~ BOX	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
1292	1315		65	Obsidian - becoming v. fragmental		
1315	1357		65	Pumice - mostly ground into "mush", v. poor recovery		
1357	1366		66	Scoria ± pumice with bands of fragmental Obsidian		
1366	1374		67	A. A. but relatively less obsid.		
1374	1382.5		68	AA - grading into flow banded rhyolite, (fairly rotten stuff)		
1382.5	1391		69	Rhyolite? flow banded, dk grey to lt. pink/red		
1391	1399		70	AA but w/some scoriaceous +/or cindery zones		
1399	1408.5		71	AA		
1408.5	1416		72	AA but grading to dk grey or black w/lt grey pumiceous zones in banding		
1416	1424		73	AA		
1424	1432.5		74	AA (beautiful flow banding)		
1432.5	1440.5		75	AA - grading to more scoriaceous + cindery rubble		
1440.5	1449.5		76	AA - grading back to more solid + flow banded - darker grey		
1449.5	1456		77	AA, but ~~more~~ badly broken up		
1456	1464		78	AA		
1464	1471.5		79	AA (less broken up)		
1471.5	1480		80	AA - fairly solid w/good flow banding		
1480	1488		81	AA, but w/ glassy bands toward bottom		
1488	1496.5		82	AA - flow banded w/glassy bands, brecciated zones		
1496.5	1506		83	AA grading into finely vesicular, glassy, lt. grey, non banded flow quite solid core		
1506	1514.5		84	AA		
1514.5	1524		85	AA		
1524	1527		86	AA		

Obsidian

Rhyolite

Hole No. 18-34

Coordinates

Type Drill

Bit Size

Sheet No. 5

Date Started

Date Completed

PHILLIPS PETROLEUM CO.

Collar Elevation

Total Footage

Overall Core Recovery

Logged By Beall

GEOLOGIC LOG

FROM	TO	FT. OF CORE	~~TYPE~~ BOX	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
1527	1532		86	Rhyolite? Med-grey, fine grained, solid, dense		
1532	1540.5		87	AA - mod ∠ parting along poss flow banding		
1540.5	1549		88	AA		
1549	1558		89A	AA		
1558	1564		89B	AA		
1564	1572		90	AA		
1572	1579.5		91	AA		
1579.5	1588		92	AA - well devel parting along flow banding		
1588	1596		93	AA		
1596	1605		94	AA		
1605	1611.5		95	AA		
1611.5	1619.5		96	AA grading back into finely vesicular grey-glass		
1619.5	1626.5		97	AA - v. porous but still very cohesive core		
1626.5	1633		98	Obsidian, badly broken up, becoming mixed w/ light grey ash		
1633	1644		99	Obsidian / Ash		
1644	1654		100	AA w/ rel more pumice		
1654	1663		101	Pumice w/ abundant fragments obsidian		
1663	1674.5		102	AA		
1674.5	1682.5		103	AA		
1682.5	1692		104	AA		
1692	1703		105	AA		
1703	1713.5		106	AA		
1713.5	1726		107	AA		
1726	1734		108	AA		

Rhyolite ∠ glass ± Obsidian Pumice

Hole No. 16-34
Coordinates
Type Drill
Bit Size

Sheet No. 6
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PHILLIPS PETROLEUM CO.

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
1734	1743		109	AA		
1743	1752		110	AA		
1752	1754		111	Obsidian fragments in matrix of pumice + ash		
1754	1761		111	Obsidian fragments w/spherical to rounded pumice blebs		
[illegible]				some weak segregation of pumice/ash into flow bands		
1761	1768		112	AA		
1768	1777		113	AA		
1777	1786		114	AA (intermittant flow banding - high L)		
1786	1794		115	AA		
1794	1802		116	AA (vertical flow banding)		
1802	1809		117	AA (Obsidian becoming less fragmental)		
1809	1817.5		118	AA - grading into flow banded rhyolite w/pumice spherulites		
1817.5	1824		119	Flow banded rhyolite/obsid w/pumice/ash bands and spherulites		
1824	1832.5		120	AA		
1832.5	1842		121	AA		
1842	1850		122	AA		
1850	1859		123	AA		
1859	1868		124	AA		
1868	1877		125	AA		
1877	1886.5		126	AA		
1886.5	1895		127	AA		
1895	1903		128	AA (badly broken up)		
1903	1909		129	AA (pumice spherulites becoming flattened		
1909	1918		130	AA		

Hole No. 18-34

Coordinates

Type Drill

Bit Size

Sheet No. 7

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Date Completed

PHILLIPS PETROLEUM CO.

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
1918	1926		131	Flow banded pumiceous ash & rhyolite (dom high ∠)		
1926	1934		132	AA		
1934	1942		133	AA		
1942	1950.5		134	AA		
1950.5	1960		135	AA		
1960	1969.5		136	AA		
1969.5	1980		137	AA		
1980	1988		138	AA		
1988	1998		139	AA		
1998	2007		140	AA		
2007	2015		141	AA		
2015	2023		142	AA		
2023	2032		143	AA		
2032	2040		144	AA		
2040	2049		145	AA		
2049	2059		146	AA		
2059	2069.5		147	AA		
2069.5	2076.5		148	AA		
2076.5	2085		149	AA		
2085	2094		150	AA		
2094	2103		151	AA		
2103	2113		152	AA		
2113	2122		153	AA		
2122	2130		154	AA but flow banding becoming very fine + even – like varves		

Hole No. 18-34
Coordinates
Type Drill
Bit Size

Sheet No. 8
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PHILLIPS PETROLEUM CO.

Collar Elevation
Total Footage
Overall Core Recovery
Logged By Beall

GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE BOX	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
2130	2139.5		155	AA		
2139.5	2148.5		156	AA		
2148.5	2157		157	AA		
2157	2166		158	AA		
2166	2175		159	AA		
2175	2184		160	AA		
2184	2187		161	AA w/ very high ∠ contact with black vesicular glassy dike		
2187	2192		161	→		
2192	2196		162	Banded rhyolite + black, dense glassy dike in nearly vertical contact.		
2196	2200.5		162	Dense, black glassy dike		
2200.5	2208		163	Glass – dk grey to black, finely vesicular in places.		
2208	2215		164	AA glassy to marginally microcrystalline, lacks glassy luster of true obsidian		
2215	2222.5		165	AA		
2222.5	2231.5		166	AA		
2231.5	2238		167	AA		
2238	2246		168	AA		
2246	2255		169	AA		
2255	2264		170	AA		
2264	2271		171	AA		
2271	2282		172	AA		
2282	2291		173	AA		
2291	2300		174	AA		
2300	2308		175	AA		
2308	2317		176	AA		

Hole No. 18-34

Coordinates

Type Drill

Bit Size

Sheet No. 9

Date Started

Date Completed

PHILLIPS PETROLEUM CO.

Collar Elevation

Total Footage

Overall Core Recovery

Logged By Saall

GEOLOGIC LOG

FROM	TO	FT. OF CORE	~~BOX~~	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
2317	2325		177	AA		
2325	2333		178	AA		
2333	2342		179	AA		
2342	2349.5		180	AA		
2349.5	2358.5		181	AA ("Felsite", light grey, v. fine grnd to pass. glassy, v. fine flow banding at high L's ±80°)		
2358.5	2367		182	AA		
2367	2375		183	AA (finely crysalline)		
2375	2383.5		184	AA w/lower angle flow banding, finely vesicular in thin zones		
2383.5	2391		185	AA but badly broken up, somewhat altered, chloritic on fracture surfaces		
2391	2400		186	AA but grading to v. finely flow banded w/cinnamon-red coating on fine flow laminations giving rock a pinkish to red cast,		
2400	2409		187	AA		
2409	2417		188	AA		
2417	2424.5		189	AA (dk red-grey to light cinnamon red)		
2424.5	2434		190	AA		
2434	2442.5		191	AA v. finely banded at ~ 30°		
2442.5	2451		192	AA		
2451	2486		193-97	AA v. broken in places		
2486	2488.5		197	ANDESITE - M Gray, sl vesicular; v. fn xtlln, broken		
2488.5	2496.5		198	ANDESITE - AA		
2496.5	2497.5		199	ANDESITE - AA		
2497.5	2505.5		199	BASALT - M - dk gray; vesicular; v. fn xtlln;		
2505.5	2534.5		200-203	BASALT - AA becoming v. fn xtlln at bottom		
2534.5	2536.5		203	V. Ash - Lt. Red; Hard; v. fn; occ lithic frag of basalt		

Hole No. IR-34

Coordinates

Type Drill

Bit Size

Sheet No. 10

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
2536.5	2563		204-206	V. Ash - AA Loops of basalt/Scoria getting larger		
2563	2570		207	V. Ash - AA		
2570	2572		207	BASALT - M dk grey; v. fn xtlln; occ. vesicular;		
2572	2580.5		208	BASALT		
2580.5	2596		209-10	BASALT - AA		
2596	2604.5		211	~~BASALT - AA pyrite on parting surfaces~~		
2604.5	2613.5		212	BASALT - AA pyrite? on parting surfaces? 2611		
2613.5	2630.5		213-14	BASALT (?) - AA; faint banding in rx.; reddish stain on parting surf. Needs TS		
2630.5	2641.5		15-16	BASALT? or Welded V. Ash - m gray to reddish gray; v. fn xtlln faint banding; becoming reddish @ 2642		
2641.5	2654		17	Welded V. Ash - red; - soft to hard; occ. scoria and		
2654	2665		18	V. Ash - red to black, becoming welded 2663; soft to m hard; occ. lithic		
2665	2670		19	V. Ash - dk brown.		
2670	2679		20	V. Ash - black; AA becoming v. red @ 2670		
2679	2698		21-22	V Ash - v. welded AA		
2698	2717		23-24	V. Ash - v. welded AA		
2717	2726		25	Welded V. Ash - AA		
2726	2771.5		226-30	Welded V. Ash - AA Oxidized 2731 - 2735.5		
2771	2783	2	231	Welded V Ash - AA		
2783	2791.5	2	32	W. V. Ash - AA		
2791.5	2808		233	W. V. Ash - AA becoming v. broken at 2792		
2808	2812		234	W. V. Ash - AA		

Hole No.

Coordinates

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PHILLIPS PETROLEUM CO.

Collar Elevation

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GEOLOGIC LOG

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
2812	2840		234	BASALT - lt-dk gray; V.V. fn. x'tl'n; V. broken;		
				no vesicles or phenos.		
2840	2851		235	BASALT - AA		
2851	2864		236	BASALT - AA; becoming thinly parted at 2875		
2864	2875		237	BASALT - AA parting lessens at 2864.5		
2875	2884		238	BASALT - AA		
2884	2893		239	BASALT - AA		
Box #5		40'	41 ou	Skipped		
2893	2902		242	BASALT - AA becoming less broken more massive faint banding or squashed vesicles?		
2902	2910		243	BASALT - AA		
2910	2920		244	BASALT - AA		
2920	2929		245	BASALT - AA		
2929	2937.5		246	BASALT (TUFF??) AA		
2937.5	2946.5		247	BASALT (QUEEN Head UNIT) - AA		
2946.5	2955		248	BASALT - AA Needs T.S.; v. broken in places		
2955	2964		249	BASALT - AA		
2964	2972		250	BASALT - AA		
2972	2976		251	BASALT - AA		
2976	2985.5	6.5'	251	CINDER/BROBBLE - reddish gray broken fragments		
2985.5	2995.5		252	B-Rubble - greenish gray to reddish gray; V. broken, ccc.		
				fairly [illegible] zone; c/l. calc. present?		
2995.5	3006.5		253	B-Rubble - AA more broken zones		
3006.5	3013		254	B-Rubble - AA		

Hole No. 18-34

Coordinates

Sheet No. 12

PHILLIPS PETROLEUM CO.

Collar Elevation

Date Started

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GEOLOGIC LOG

Logged By

FROM	TO	FT. OF CORE	TYPE	ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION DEPTH
3023	3036		255	U. Rubble -		
3036	3037		255	Cinder - Reddish gray to orange red; soft to hard		
3037	3144.5		256-65	Cinder - NA occ. fine vesicular		
3144.5	3204	2'6-72		Cinder - NA becoming hard & massive at bottom		
3204	3207		272	BASALT - m-dk gray; occ. cinder at top of unit; massive to broken, non vesicular		
3207	3215		273	BASALT -		
3215	3223		273	BASALT slightly greenish altn present		
3223	3286	274-282		BASALT - NA		
3286	3295		282	Reddish Ash - red; soft to hard occ. cinders		
3295	3301		283	A&R Cinder - red-turning to dk gray; massive		
3301	3304.5		283	BASALT - dk gray, fine-grained, massive		
3304.5	3305		281	Reddish gray ash & cinders with		
3305	3315		284+5	[illegible] basalt		
3315	3317		[illegible]	Broken basalt		
3317	3322		285	Massive basalt with some vesicles		
3322	3323			clay filled fracture from 3319 to 3319		
3322	3323		296	[illegible]		
3323	3353	3'6-9		Massive basalt		
3353	3369	2'9-90		Basalt - [illegible]		
				vesicular and cavity		
3369	3405		290-5	Hard dense massive basalt		
				one reddish fossil flow at base		
3405	3418		295-6	Hard basalt, usually [illegible]		

Hole No. 18-34

Coordinates

Type Drill

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Sheet No. 13

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PHILLIPS PETROLEUM CO.

GEOLOGIC LOG

Collar Elevation

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Overall Core Recovery

Logged By

FROM	TO	FT. OF CORE	TYPE		ROCK DESCRIPTION, ALTERATION AND REMARKS	METALLIZATION	SECTION	DEPTH
3418	3424		296+7		Softer cruddy looking basalt - black and red			
					with many small vesicles			
3424	3449		296-300		Dk green - black, massive, hard dense basalt			
3449	3460		300+1		Generally, dk. green, well consolidated basaltic			
					breccia			
3460	3485		301-4		Basalt, dk colored occ. vesicular, quite			
					hard and massive			
3485	3494		304+5		Soft, reddish basalt - Too soft take with			
					slickensides in baked by overlying [illegible]			
3494	[illegible]	TD			Firm, black massive basalt			