

Location: Sec. 9, T. 23 S., R. 31 E. Burns area, Harney County, Oregon

LOG AND CORE RECORD

<u>From</u>	<u>To</u>	<u>Description</u>
0	400	Gravel.
400	550	Altered volcanic ash with some lime.
550	610	Red clayey shale.
610	760	Gray-tan colored lava with green intervals.
760	800	Vari-colored altered ash.
800	820	Shell.
820	930	Vari-colored altered ash deposits, green at the bottom.
930	975	Gray conglomerate with rounded pebbles.
975	1000	Gray and white clay.
1000	1100	Hard, gray-black lava.
1100	1120	Gray tuffaceous sandy shale.
1120	1150	Hard, gray-black lava.
1150	1174	Soft gray-green tuffaceous shale.
1174	1360	Vari-colored tuffaceous shale.
1360	1385	Sandy tuffaceous conglomerate.
1385	1410	Gray and vari-colored lava.
1410	1475	Sandy volcanic tuff.
1475	1485	Light green glassy lava.
1485	1510	Vari-colored sand.
1510	1520	Vari-colored sand. <u>Showed fair fluorescence. Slight show of oil under the microscope.</u>
1520	1585	No recovery of cuttings due to lost circulation.

- 2 -

<u>From</u>	<u>To</u>	<u>Description</u>
1585	1730	Hard gray-white thermally altered sediment. Possibly volcanic ash.
1730	1775	No recovery due to lost circulation.
1775	1780	Gray-white volcanic agglomerate.
1780	1820	No recovery due to lost circulation.
1820	1895	Fine-grained angular gray-white volcanic agglomerate, sandy.
1895	2025	No recovery due to lost circulation.
2025	2050	Vari-colored volcanic agglomerate with small black speckled inclusion resembling coke.
2050	2085	No recovery due to lost circulation.
2085	2225	Vari-colored volcanic agglomerate.
2225	2344	No recovery due to lost circulation.
2344	2930	Light green and tan shale with vari-colored agglomerate. Gray and black speckled inclusion, possibly carbon?
2930	2945	Tan tuffaceous shale and vari-colored altered sediments. Found fish bone. <u>Pieces of hydrocarbon.</u>
2945	2965	<u>Dark brown oil shale.</u>
2965	3215	Tan tuffaceous shale and grayish-black altered sediments.
3215	3300	Tan and green shale with streaks of hydrocarbon. A little lime present.
3300	3730	Tan and green tuffaceous shale interbedded with black altered material.
3730	3895	Gray-black, hard lava.
3895	3945	Grayish black altered sediments.
3945	4015	Grayish-tan and grayish-black lava.
4015	4075	Gray to grayish-green altered sediments.
4075	4140	Gray to grayish-black lava.

- 3 -

<u>From</u>	<u>To</u>	<u>Description</u>
4140	4310	Vari-colored altered volcanic sediments, shales.
4310	4410	Grayish-black dense lava.
4410	4560	Soft gray, green and tan shale with grayish-black altered sediments.
4560	4600	Gray, tan and green bentonitic shale with streaks of hydrocarbon.
4600	4850	Gray, green and tan shales.
4850	4910	Same as above but less altered. <u>Interbedded brown shale with streaks of hydrocarbon.</u>
4960	5140	Gray, green and tan shale.
5140	5150	Grayish-tan lava. Top of Miocene lavas?
5150	5200	Tuffaceous shale.
5200	5210	Lava
5210	5225	Tan and green clay-shale. Some altered material.
5225	5480	Gray to grayish black lava with few thin interbeds of clay. <u>Pieces of carbon in altered material at 5400 feet.</u>
5480	5525	Brick-colored altered material and tan and green bentonitic clays.
5525	5545	Grayish-tan lava.
5545	5585	Tan and brick-colored altered material.
5585	5595	Lava.
5595	5640	Vari-colored altered material.
5640	5670	Grayish-tan lava.
5670	5790	Tan, green and brick-red altered clayey material.
5790	5815	Grayish tan lava.
5815	5900	Altered sediments with thin interbedded lava flows.
5900	5935	Grayish-tan lava.
5935	5965	Vari-colored altered sediments.

- 4 -

<u>From</u>	<u>To</u>	<u>Description</u>
5965	5985	Lava.
5985	6050	Gray, tan and green altered clayey sediments.
6050	6085	Gray-tan to grayish-black lava.
6085	6095	Altered sediments.
6095	6100	Lava.
6100	6285	Soft gray, tan and green clay.
6285	6325	Grayish-tan lava.
6325	6340	Altered sediments.
6340	6380	Grayish-black and grayish-green lava.
6380	6420	Tan, green and gray bentonitic clays.
6420	6455	Grayish-black and grayish-green lava.
6455	6465	Altered material.
6465	6480	Grayish-black and grayish-tan lava with green mineral crystals.