

TWO STATE OIL & GAS COMPANY

Vale City No. 1

Sec. 21, T. 18 S., R. 45 E.

Malheur County, Oregon

Descriptions of Well Samples

0 - 202'	Not recorded (Holloway Drilling Co.)
202 - 260	<u>Blue silt</u> : soft (Harden & Co., Drilling contractor)
260 - 280	<u>Sandstone</u> : whitish gray, silty, very fine grained, firm.
280 - 300	<u>Sandstone</u> : whitish gray, silty fine, with scattered coarse fragments of basalt and gray chert, Slightly calcareous.
300 - 340	<u>Sandstone</u> : as above.
340 - 400	<u>Siltstone</u> : light gray, firm.
400 - 420	<u>Sandstone</u> : whitish gray, fine to medium grained, quartzose, firm, containing coarse fragments of rounded basalt, some pyritization.
420 - 440	<u>Sandstone</u> : similar to above but siltier.
440 - 480	<u>Siltstone</u> : light gray, firm, slightly calcareous, with occasional fragments of basalt, some pyrite.
480 - 540	<u>Siltstone</u> : whitish gray, firm, no basalt fragments.
540 - 550	<u>Sandstone</u> : light rust brown, hard, silicified, quartzose, some feldspar and scattered subrounded pieces of basalt.
550 - 560	<u>Sandstone</u> : whitish gray, friable, quartzose, subrounded grains, medium grained, some feldspar, some calcite and scattered pieces of basalt and gray chert. Fairly calcareous.
560 - 600	<u>Sandstone</u> : as above but with fragments of volcanic glass, some pyrite.
600 - 620	<u>Sandstone</u> : light gray to light brown, hard to firm, medium grained to silty, composed of subrounded grains of quartz and feldspar. Scattered pieces of basalt and large quartz grains. Partly silicified.

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620 - 640'	<u>Sandstone</u> : whitish gray, fine grained, silty, firm, with occasional medium sized fragments of basalt.
640 - 660	<u>Sandstone</u> : light brown, hard, medium grained, silicified, composed of quartz and feldspar. Scattered pieces of basalt.
660 - 730	<u>Siltstone</u> : light gray, fine sandy, firm, with scattered fine pieces of basalt.
730 - 740	<u>Sandstone</u> : light brownish gray, hard, silicified, quartzose, with medium sized pieces of basalt.
740 - 760	<u>Siltstone</u> : light gray, firm to very firm.
760 - 880	<u>Basalt</u> : black, hard, microcrystalline, with olivine, some quartz and some calcite.
880 - 920	<u>Basalt</u> : as above but with some quartz veinlets bearing pyrite, also some calcite in the veinlets.
920 - 950	<u>Altered Basalt</u> : dark pinkish gray, with quartz and calcite veinlets, some pyrite, some chloritization.
950 - 970	<u>Basalt</u> : black, hard, microcrystalline with very little quartz or calcite.
970 - 980	<u>Sandstone</u> : grayish black, friable, medium grained, basaltic, containing some quartz and calcite.
980 - 1030	<u>Basalt</u> : black, hard, microcrystalline, with fine veinlets of quartz, some calcite.
1030 - 1070	<u>Siltstone</u> : whitish green, friable, partially altered to clay. Some scattered fragments of basalt ranging from coarse to pebble size.
1070 - 1080	<u>Shale</u> : grayish black, with inclusions of light green siltstone.
1080 - 1090	<u>Siltstone</u> : whitish green, firm, partially altered to clay, with medium to coarse friable sand composed of quartz, feldspar and basalt fragments.
1090 - 1130	<u>Sandstone</u> : medium gray, friable to firm, with some coarse basalt fragments. Partially cemented with lime and silica. Some thin layers of white siltstone interbedded.

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1130 - 1140	<u>Sandstone</u> : as above, some gypsum.
1140 - 1160	<u>Sandstone</u> : as above, with gypsum, some volcanic glass, limier than above.
1160 - 1170	<u>Altered Basalt</u> : dark pinkish gray, firm, quartz veining, partly chloritized.
1170 - 1185 TD	<u>Sandstone</u> : medium gray, friable, medium grained, limy, quartzose, with fragments of the above described basalt.