

(C) 4-16-53

NEIL HARPER NO. 1 WELL

By Seneca Oil and Gas Company.

Located 1.55 miles West of 79° 20' and 1.56 miles South of 38° 50'.

Onago Quadrangle, - 30

Union District, Pendleton County, West Virginia.

Elevation 2248.3' L.

Pendleton 1

0	75	75	Limestone, (argillaceous) to a highly calcareous shale; grayish-black to brownish-black; dolomitic, lithographic texture; small amount of vein calcite; small amount of brownish-gray to dark-gray; fossiliferous Limestone from 80' to 25'; small amount of light gray metabentonite from 35' to 75'
75	100	25	Limestone, olive-black to brownish black; very shaly; lithographic texture; large amount at top to very large amount at bottom of limestone, grayish-black; very shaly to a calcareous shale; much dark colloidal material; dolomitic (bentonite from this interval taken from Gamma log
<u>Lower Trenton Limestone, 255 feet.</u>			
100	145	45	Limestone, olive gray to brownish-black; lithographic; very highly argillaceous, with some calcareous shale; a very large amount of light colloidal material; somewhat dolomitic in part; somewhat fossiliferous (bryozoan fragments); some olive black, pyritic limestone
145	185	40	Limestone, olive-gray to brownish-black; lithographic; highly argillaceous; very shaly in part; fossiliferous (some bryozoan) in upper part
185	205	20	Limestone, brownish-black to olive-black; highly argillaceous; lithographic; some grayish-black, calcareous shale; dolomitic in part
205	236	31	Limestone, brownish-black to grayish-black, highly argillaceous; dolomitic in part; fossiliferous with some highly calcareous shale
236	245	9	Limestone, olive-gray to brownish-black; very highly argillaceous; dolomitic; some olive-black, very highly calcareous shale; trace of light to medium-gray metabentonite in the upper part
245	255	10	Limestone, olive-gray to brownish-black; argillaceous; very sandy (very fine to medium-grained); somewhat dolomitic; slightly fossiliferous
255	272	17	Limestone, olive-gray to brownish-black; argillaceous; very sandy (very fine to medium-grained, rounded); somewhat dolomitic; slightly fossiliferous
272	355	73	Limestone-olive-gray to brownish-black; very highly argillaceous; dolomitic in part; slightly fossiliferous fragments; very finely crystalline; some brownish-black to grayish-black, very shaly limestone to a highly calcareous shale in the lower part; highly dolomitic in part at the bottom (Bentonite from this interval taken from Gamma log)
<u>Top of Black River Group</u>			
355	390	35	Limestone, light olive-gray; silty (mostly euhedral quartz); a large amount of calcite
390	425	35	Limestone, mostly brownish-black; very finely crystalline; somewhat argillaceous; silty, suboolitic texture (oolites or fossils?); small amount is dolomitic; a little calcite

425	432	7	Limestone, olive-gray to dusky yellowish brown; somewhat silty; slightly dolomitic; somewhat argillaceous
432	439	7	Limestone, dusky yellowish brown to brownish-black; silty; very finely crystalline; somewhat argillaceous
439	470	31	Limestone, dark-gray to brownish-black; silty and sandy (very fine to medium-grained); very silty and sandy in the lower part; some dark shaly streaks
470	474	4	Limestone, medium- to medium dark gray; silty; somewhat sandy (fine to coarse); somewhat shaly; slightly dolomitic
474	520	46	Limestone, dark-gray to brownish-black; very finely crystalline; argillaceous with some highly calcareous shale; somewhat silty; small amount of fine to coarse sandstone; somewhat dolomitic
520	560	40	Limestone, olive-gray to brownish-black (with medium gray spots); some brownish-black to black; finely crystalline; somewhat argillaceous; shaly in part; silty (euhedral quartz and pyrite), some sand grains
560	578	18	Limestone (very shaly) to shale (highly calcareous); grayish-black to black; somewhat dolomitic; silty (large amount in euhedral pyrite)
578	605	27	Limestone, dark-gray to grayish-black (very shaly) at the top to medium- and dark-gray (shale) at the bottom; abundant light-gray spots; sandy at the top to very sandy at the bottom (fine to medium-grained); somewhat pyritic, dolomitic; somewhat fossiliferous
605	645	40	Limestone (very shaly) to shale (very highly calcareous); grayish-black to black; some brownish-black; Pyritic, dolomitic; somewhat fossiliferous
645	665	20	Limestone, dark-gray to grayish-black with medium gray spots; very sandy (fine to coarse grained, rounded) very shaly in part
665	670	5	Limestone, grayish-black, with some white to light-gray (calcite); finely crystalline; highly argillaceous
670	678	6	Limestone, brownish-black; some medium gray to brownish-gray; silty; somewhat shaly; dolomitic in part; very fine to finely crystalline
678	701	25	Limestone, medium-gray to brownish-black; fine to medium crystalline; sandy (very fine to fine grained); silty; somewhat shaly; slightly pyritic; dolomitic; some white to light gray calcite
701	715	14	Limestone, white to medium light gray; very fine to medium crystalline; dolomitic; somewhat sandy (very fine to medium grained); somewhat silty; a moderate amount of vein calcite
715	785	70	Limestone, <i>Mosheim Limestone</i> light olive gray to brownish-gray; slightly silty (euhedral quartz), vaughanite ( <i>Mosheim limestone</i> )
785	865	80	<del>BEEKMANTOWN FORMATION</del> Limestone, olive gray to brownish-black to black (very shaly), mostly very finely crystalline; moderately argillaceous; somewhat silty, dolomitic; some medium-gray to brownish-gray; calcareous; dolomitic toward lower part
865	920	55	<del>BEEKMANTOWN FORMATION</del> Limestone-olive-gray to brownish-black; highly argillaceous; moderate to highly dolomitic; very finely crystalline; somewhat sandy (fine to medium-grained) from 890 to 920

- 20 945 25 Limestone, brownish-gray to brownish-black; very finely crystalline; highly dolomitic; sandy (very fine to fine grained); silty; moderately argillaceous
- 945 1000 55 Limestone, brownish-black; some olive-black to grayish-black; moderately to highly argillaceous; extremely fine to very finely crystalline; highly dolomitic in part; somewhat silty (very fine)
- 1000 1038 38 Limestone, medium dark gray to brownish-black; a large amount of grayish-black to brownish-black; mostly grayish-black to brownish-black; at 1015 to 1025, very shaly, somewhat dolomitic
- 1038 1050 18 Limestone, brownish-black to grayish-black and black; highly argillaceous; very fine to crystalline; dolomitic in part
- 1050 1175 125 Limestone, olive-black to brownish-black; very finely crystalline; very shaly; moderately dolomitic; somewhat sandy (very fine to fine grained, rounded); in the lower part less dolomitic, less shaly
- 1175 1233 58 Limestone, brownish-black to grayish-black; very fine to finely crystalline; very sandy, (fine to coarse grained; subrounded to rounded); moderately argillaceous; dolomitic in part
- 1233 1280 47 Limestone, brownish-black to grayish-black; very fine to medium crystalline; moderately dolomitic; mostly very shaly limestone at the bottom
- 1280 1310 30 Limestone, brownish-black to black; very shaly, <sup>very</sup> fine to finely crystalline; ~~slightly~~ dolomitic; a large amount of grayish-black to black, very highly calcareous shale
- 1310 1330 20 Limestone, brownish-black (shaly), some brownish-black to black (very shaly), fine to medium crystalline; somewhat shaly
- 1330 1345 15 Limestone, brownish- and grayish-black to black; highly argillaceous; very finely crystalline; somewhat sandy and silty at the bottom
- 1345 1365 20 Limestone, brownish-black to olive-black; very fine to finely crystalline; moderately argillaceous; dolomitic; some grayish-black, highly calcareous shale  
Top of Beckmantown?
- 1365 1415 50 Limestone to dolomite, dark-gray to grayish-black; highly argillaceous; somewhat silty; slightly pyritic; a little sandstone in the upper part
- 1415 1437 22 Limestone, olivegray to brownish-black; very finely crystalline; argillaceous, dolomitic; a moderate amount of grayish-black to black, highly calcareous, somewhat pyritic carbonaceous shale; small amount of medium dark gray metabentonite from 1415' to 1417'
- 1437 1450 15 Limestone, grayish-black to olive-black; argillaceous; dolomitic; somewhat silty, somewhat fossiliferous (ostracods ?)
- 1450 1550 100 Limestone, olive-black to brownish-black; highly argillaceous; dolomite, highly dolomitic in part; silty in part; finely crystalline
- 1550 1610 60 Limestone, as above except less argillaceous; somewhat fossiliferous; very fine to finely crystalline; some grayish-black, calcareous shale

1610	1638	28	Limestone, olive-black to grayish-black; argillaceous; highly dolomitic; very fine to finely crystalline; shaly, silty; small amount of grayish-black, calcareous shale
1638	1685	47	Limestone, brownish-black, very finely crystalline to sub-crystalline; slightly dolomitic; somewhat silty and argillaceous; a little carbonaceous shale
1685	1710	25	Limestone, grayish-black to brownish-black; somewhat sandy (fine grained to medium at the top); moderately argillaceous; <sup>slightly</sup> silty; <sup>slightly</sup> dolomitic; very finely crystalline; trace of red shale
1710	1745	35	Limestone, grayish-black to brownish-black; moderately argillaceous; somewhat silty; somewhat dolomitic; very finely crystalline
1745	1788	41	Limestone, grayish-black to brownish-black; (moderately argillaceous (scarce shale), silty, highly dolomitic in part; very fine to finely crystalline)
1788	1855	69	Dolomite (highly calcareous) to limestone (dolomitic); dark-gray to grayish-black and brownish-black; very silty; somewhat to moderately argillaceous; finely crystalline
1855	1966	111	Limestone, brownish-black; highly dolomitic; moderately to highly argillaceous; very fine to finely crystalline; a moderate amount of grayish-black, carbonaceous, calcareous shale
1966	2001	38	Limestone, dark-gray to grayish-black and brownish-black; very highly dolomitic, highly argillaceous; finely crystalline; trace of shale
2001	2009	8	No sample
2009	2045	36	Limestone (highly dolomitic) to dolomite (highly calcareous), grayish-black to brownish-black; some grayish-black to black; very shaly to a dolomitic, calcareous shale; finely crystalline
2045	2072	27	Limestone, grayish-black to brownish-black; very highly dolomitic; moderate to highly argillaceous; <sup>slightly</sup> silty; a moderate amount of grayish-black to black, highly calcareous shale (finely crystalline)
2072	2138	64	No sample
2138	2150	14	Limestone, brownish-black to grayish-black; highly dolomitic; moderately <del>with</del> argillaceous, <sup>slightly</sup> silty, very fine to finely crystalline; some grayish-black to black, carbonaceous; highly calcareous shale
2150	2170	20	Limestone, grayish-black to brownish-black; very highly dolomitic; somewhat argillaceous; silty, chert at the bottom; very finely crystalline to finely crystalline
2170	2200	30	
2170	2222	32	Limestone, olive-black to brownish-black (lighter than above) silty, somewhat argillaceous; very fine to finely crystalline; dolomitic in part; highly argillaceous and somewhat cherty at the bottom
2200	2205	5	Limestone, olive-black to brownish-black; somewhat argillaceous (with some grayish-black, high calcareous shale), silty, extremely fine to finely crystalline; dolomitic
2205	2275	70	Limestone (highly dolomitic) to dolomite (highly calcareous); brownish-black to dark gray and grayish-black; moderately to highly argillaceous; very highly argillaceous at top and bottom; finely crystalline

- 2275 2310 25 Limestone, (highly dolomitic) to Dolomite (highly calcareous); brownish-black to dark-gray and grayish-black; moderately to highly argillaceous; very highly argillaceous at top and bottom; finely crystalline
- 2310 2323 13 Limestone, dark-gray to grayish-black; very highly dolomitic; highly argillaceous; cherty at the top; very fine to finely crystalline
- 2323 2355 32 Limestone, grayish-black to brownish-black to grayish-black; highly dolomitic in part; highly argillaceous; silty, extremely fine to very finely crystalline

2355	2398	43	Limestone, grayish-black; some brownish-black to grayish black; highly dolomitic in part; highly argillaceous; silty, extremely fine to very finely crystalline
2398	2415	17	Limestone, brownish-black; argillaceous; silty; rare sand grains; very fine to crystalline (with some medium crystals)
2415	2505	90	Limestone, brownish-black, highly argillaceous to very highly calcareous; grayish-black to black; shale in the lower part; extra fine to very finely crystalline; dolomitic in part <i>to grayish-black, very</i>
2505	2512	7	No sample
2512	2550	38	Limestone, brownish-black to grayish-black; very highly argillaceous to very highly calcareous; grayish-black to black; shale in lower part; extra fine to very finely crystalline; dolomitic in lower part <i>grayish-black</i> <i>very highly calcareous shale</i> <i>very</i> <i>shale, extra fine, dolomitic in the top</i>
2550	2575	25	Limestone to dolomite (very shaly) to shale (highly calcareous and highly dolomitic), dark gray, finely crystalline
2575	2612	37	Limestone (dolomitic in the upper part) to dolomite (calcareous in the lower part), olive-black in the upper part; grayish-black with some olive-black in the lower part; very highly argillaceous
2612	2630	18	Limestone, olive gray to brownish-black to grayish-black (dolomitic); highly argillaceous; somewhat silty; extremely fine to very finely crystalline
2630	2667	37	Limestone, olive-black; argillaceous; dolomitic in part; somewhat silty; very fine to finely crystalline
2667	2695	33	Limestone, grayish-black, some olive black; very highly argillaceous; very finely crystalline
2695	2712	17	No sample
2712	2720	8	Limestone, mottled white to light gray and olive-black; argillaceous; somewhat cherty; very fine to coarsely crystalline <i>grayish-black</i>
2720	2740	20	No sample
2740	2812	72	Limestone, olive-black; some grayish-black to black (very shaly), very fine to finely crystalline
2812	2818	6	No sample
2818	2871	53	Limestone, brownish-black with some light gray spots; slightly cherty and slightly silty; argillaceous; very fine and somewhat finely to medium crystalline <i>to black</i>
2871	2880	9	Limestone, mottled with white to light gray and brownish black to black; argillaceous; cherty; silty; very fine to coarsely crystalline
2880	2954	74	Limestone, brownish-black; some grayish-black to black; (dolomitic; very shaly); somewhat silty; very fine to finely crystalline
2954	3002	48	Limestone, brownish-black; slightly silty with trace of chert at top; extremely fine to finely crystalline; dolomitic in part; a moderate amount of brownish-black to black, highly argillaceous dolomitic limestone <i>slightly</i>
3002			TOTAL DEPTH