

Ruykendall et al Unit No. 1 Well

Tucker 2

Dry Fork District, Tucker County, W. Va.

By the Ohio Oil Company, Findlay, Ohio.

Located 1.4 Mi. s. of 39° 05' and 4.09 Mi. W. of 79° 20' - SC- Davis Quad.

Elevation 3341.7' L.

Drilling commenced Sept. 19, 1944; completed March 25, 1945.

Shot March 2, 1945 at 3840' to 3860' with 230 quarts.

Acidized as follows:

- 8305 to 8405' with 5000 gallons by McDowell, Incorporated.
- 8220 to 8285' with 5000 gallons by McDowell, Incorporated.
- 8220 to 8410' with 8000 gallons by McDowell, Incorporated.

Volume after acidizing - 4,150,000 cu. ft. per day.

Rock Pressure 3000 lbs. in 24 hours.

20" casing 151'; 13-5/8", 814'; 7", 8305'; 2-7/8 tubing 8407' 6"; all casing cemented.

Section based on complete set of samples examined by James H. C. Mertens.

Top	Bottom	Thickness	<u>Pocono Formation, ¹²⁰120, plus, feet</u>
10	31	21	Sandstone, light-brown and white, coarse to very coarse
31	36	5	Shale, gray with some brown stain.
36	46	10	Shale, dark-gray
46	60	14	Sandstone, light-gray, medium- to coarse-grained
60	90	30	Siltstone, gray
90	96	6	Shale, bright-green, somewhat dolomitic, not distinctly laminated, 60%; gray siltstone, 40%
96	101	5	Sandstone, light-gray and light-green, fine 50%; dark-gray shale 30%; green shale, 20%
101	104	3	Sandstone, light-green, fine; also some coarse sand and green shale
104	111	7	Sandstone, light-gray, fine with a few coarse grains
111	114	3	Siltstone, gray
114	120	6	Sandstone, gray to light-gray, mostly fine
120	123	3	No sample

123	127	4	Shale, gray, silty
127	133	6	Siltstone, green, sandy, 50%; gray silty shale, 50%
133	146	13	Siltstone and silty shale, gray; contains many fragmentary plant fossils
146	149	3	Sandstone, gray, fine, with carbonized and pyritized plant fossils
149	151	2	Shale, gray, silty
151	174	23	Siltstone and silty shale, gray
174	177	3	Sandstone, light-gray, medium grained
177	190	13	Sandstone, light-green, fine

Catskill Formation, 1832 feet

190	193	3	Sandstone, red, coarse, 50%; light-gray siltstone and very fine sandstone, 50%
196	230	34	Shale, red, mostly silty
230	247	17	Siltstone and shale, red
247	275	28	Siltstone, red and green, micaceous; a little dolomite, 262-265'
275	287	12	Shale, red, silty, slightly dolomitic
287	304	17	Sandstone, red with green specks, very fine
304	311	7	Dolomite, light-gummy brown, sandy, 50%; red and green fine sandstone, 50%
311	325	14	Sandstone, light-green with red specks, dolomitic, fine
325	332	7	Sandstone, red and green
332	344	12	Shale, red
344	353	9	Siltstone, green, sandy; also some red and green shale
353	400	47	Shale, red
400	412	12	Siltstone and shale, green
412	437	25	Siltstone, red and green
437	446	9	Siltstone, grayish-green
446	451	5	Sandstone, light-gray, fine
451	457	6	No sample
457	468	11	Sandstone, light-green, very fine
468	473	5	Siltstone, green, coarse, 70%; red silty shale, 30%
473	486	13	Shale, red
486	491	5	Siltstone, red, fine
491	498	7	Siltstone, green, sandy

498	520	22	Sandstone, light-green to nearly white, very fine
520	527	7	Sandstone, very light green, fine
527	531	4	Sandstone, red and light-green, fine
531	537	6	Shale, red, very silty
537	558	21	Sandstone, red, very fine
558	580	22	Sandstone, very light green to nearly white, fine
580	588	8	Shale, red, silty
588	594	6	Sandstone, light-green, very fine
594	623	29	Siltstone, red
623	630	7	Siltstone, green and red
630	638	8	Sandstone, light-green, very fine
638	648	10	Sandstone, light-green and light-red, very fine
648	653	5	Sandstone, very light green, fine
653	659	6	Sandstone, light-green, very fine
659	666	7	Siltstone, red and green, very sandy
666	685	19	Sandstone, light-green, with some red, very fine
685	695	10	Siltstone, gray to grayish-green, sandy
695	742	47	Sandstone, light-green, with some red, fine to very fine
742	752	10	Shale, red, silty
752	759	7	Siltstone, red
759	762	3	Sandstone, light-green with some red, very fine
762	772	10	Sandstone, light-green, fine to very fine; a few pieces of coal and some pyrite
772	782	10	Siltstone, red
782	788	6	Shale, red, silty
788	793	5	Siltstone, red with a few fragments of red dolomite
793	799	6	Siltstone, red, sandy
799	812	13	Sandstone, light-green, to white, fine
812	826	14	Siltstone, red
826	839	13	Shale, red, silty
839	844	5	Siltstone, red
844	852	8	Sandstone, light-red, fine
852	868	16	Shale and siltstone, red
868	898	30	Siltstone, red, mostly sandy
898	913	15	Shale and siltstone, red
913	921	8	Siltstone, red

921	933	12	Sandstone, red, very fine
933	943	10	Sandstone, red and light-green, very fine
943	949	6	Sandstone, light-green, very fine
949	958	9	Shale and siltstone, red; a few pieces of reddish dolomite
958	968	10	Sandstone, red, very fine; a few fragments of reddish dolomite
968	972	4	Siltstone, red
972	992	20	Shale and siltstone, red
992	1002	10	Sandstone, red, very fine
1002	1006	4	Siltstone, red
1006	1011	5	Sandstone, light-red, fine
1011	1018	7	Siltstone, red
1018	1030	12	Sandstone, light-red, fine- to medium-grained
1030	1037	7	Siltstone, red
1037	1044	7	Sandstone, light-red, very fine
1044	1050	6	Siltstone, red
1050	1054	4	Siltstone, red, 50%; light-red fine sandstone, 50%
1054	1066	12	Siltstone, red, dolomitic
1066	1071	5	Sandstone, light-red, very fine
1071	1087	16	Siltstone, red, sandy
1087	1098	11	Sandstone, red, very fine
1098	1104	6	Shale and siltstone, red
1104	1110	6	Siltstone, red, coarse
1110	1115	5	Shale, red, silty
1115	1118	3	Siltstone, red
1118	1128	10	Sandstone, light-green, very fine
1128	1145	17	Sandstone, light-gray, fine; appears rather loosely cemented
1145	1150	5	Shale and siltstone, red and green; a little reddish dolomite
1150	1152	2	Siltstone, red, dolomitic
1152	1155	3	Sandstone, light-red, fine
1155	1168	13	Siltstone, gray and green, sandy, somewhat dolomitic
1168	1186	18	Sandstone, light-gray, very fine
1186	1196	10	Sandstone, light-gray, fine

1196	1208	12	Siltstone, red; a few fragments of reddish dolomite
1208	1216	8	Sandstone, red, very fine
1216	1220	4	Siltstone, red, sandy
1220	1228	8	Sandstone, gray, very fine
1228	1240	12	Shale, red and green
1240	1245	5	Siltstone, red
1245	1256	11	Siltstone, red and green, sandy
1256	1269	13	Siltstone, red, sandy
1269	1290	21	Shale, red, very silty; a few fragments of red and white dolomite
1290	1298	8	Siltstone, red
1298	1308	10	Shale and sandstone, red
1308	1310	2	Siltstone, light-gray and red, sandy
1310	1345	35	Shale and siltstone, red
1345	1375	30	Siltstone, red, very sandy
1375	1382	7	Shale, green
1382	1392	10	Shale and siltstone, red
1392	1399	7	Siltstone, red
1399	1411	12	Sandstone, red, very fine
1411	1416	5	Shale, red
1416	1425	9	Shale and siltstone, red
1425	1444	19	Siltstone, red
1444	1452	8	Sandstone, red, very fine
1452	1459	7	Shale, red
1459	1464	5	Sandstone, green and red, very fine
1464	1469	5	Siltstone, light-green, sandy, 70%; red shale and siltstone, 30%
1469	1488	19	Siltstone, grayish-green, sandy
1488	1493	5	Sandstone, light-green and light-red, very fine
1493	1500	7	Sandstone, light-green, very fine
1500	1506	6	Shale, gray, 80%; nearly white very fine sandstone, 20%
1506	1535	29	Sandstone, nearly white, very fine
1535	1542	7	Shale, grayish-green, 50%; light-gray very fine sandstone, 50%
1542	1549	7	Shale and siltstone, grayish-green

1549	1561	12	Sandstone, light-green with some red, very fine
1561	1575	14	Siltstone, red, very fine
1575	1582	7	Shale and siltstone, grayish-green and red
1582	1603	21	Sandstone, gray to brownish, very fine, silty
1603	1638	35	Siltstone, gray, very sandy; not much different from the siltstone above
1638	1642	4	Siltstone, greenish-gray
1642	1661	19	Sandstone, gray, fine to very fine
1661	1669	8	Siltstone, gray, shaly
1669	1674	5	Sandstone, gray, very fine
1674	1682	6	Shale, gray, silty, 50%; gray siltstone and very fine sandstone, 50%
1682	1692	10	Sandstone, light-gray to greenish-gray, very fine
1692	1702	10	Sandstone, very light gray, fine
1702	1705	3	Shale, gray, silty, 60%; lighter gray siltstone and very fine sandstone, 40%
1705	1710	5	Sandstone, gray, very fine, 70%; gray shale, 30%
1710	1713	3	Siltstone, red, coarse
1713	1739	26	Sandstone, grayish-red, very fine
1739	1763	24	Sandstone, light-green to nearly white, fine to very fine with a few coarse grains; also some gray shale and siltstone
1763	1804	41	Shale, gray, silty
1804	1810	6	Shale, gray, 50%; gray and very dark gray siltstone, containing a few coarse sand grains, 50%
1810	1834	24	Shale and siltstone, gray to grayish-green; also a little rather coarse sandstone
1834	1841	7	Shale, dark-gray, 70%; grayish-green siltstone, 30%
1841	1892	51	Shale and siltstone, grayish-green
1892	1898	6	Siltstone, gray
1898	1902	4	Shale, gray, silty
1902	1912	10	Shale, red and gray, silty
1912	1918	6	Shale and siltstone, gray
1918	1932	14	Siltstone, gray, sandy
1932	1936	4	Sandstone, gray, very fine

1936	1942	6	Siltstone, gray
1942	1948	6	Shale and siltstone, gray
1948	1950	2	Siltstone, gray, sandy
1950	1952	2	Sandstone, gray, very fine
1952	1956	4	Shale, gray
1956	1968	12	Siltstone, grayish-green, sandy
1968	1973	5	Shale and coarse siltstone, gray
1973	1978	5	Siltstone, gray, sandy
1978	1987	9	Shale, red, silty, 60%; light-green coarse siltstone, 40%
1987	2007	20	Shale, red, silty
2007	2014	7	Siltstone, red
2014	2022	8	Shale and siltstone, red, 70%; light-green coarse siltstone, 30%
2022	2044	22	<u>Chemung, Portage, and Genesee Formations, 5568 feet</u> Shale and siltstone, gray to grayish-green
2044	2074	30	Shale, gray, with a little siltstone
2074	2101	27	Shale and siltstone, gray
2101	7400	5299	Samples not examined (gas at 3848-3861')
7400	7510	110	Shale, very dark gray, slightly calcareous
7510	7590	80	Shale, black; also considerable amounts of shale of various shades of gray
			<u>Tully Limestone, 40 feet</u>
7590	7610	20	Limestone, brownish-gray, very fine textured; the two samples in this interval are mostly shale of various shades of gray, with only a little limestone
7610	7630	20	Limestone, brownish-gray, very fine textured; also some gray shale
			<u>Hamilton and Marcellus Shales, ⁴⁹⁰300 feet.</u>
7630	7700	70	Shale, gray to dark-gray; also some limestone, probably from above
7700	7840	140	Shale, gray to dark-gray
7840	7850	10	Shale, black, slightly calcareous
7850	7900	50	Shale, gray to dark-gray, slightly calcareous
7900	8120	120	Shale, black, partly calcareous
8120	8155	35	Shale, black, calcareous with a little gray to dark gray limestone, <i>trace of metabentonite at top</i>

HUNTERSVILLE CHERT & NEEDMORE SHALE, 130 FEET

Huntersville Chert, 95 feet

- 8155 8195 40 Chert, light-gray and dark-gray
8195 8235 40 Shale, dark-gray to black, and dark-gray chert
8235 8250 15 Chert, gray, silty and calcareous (samples are mostly

^{shale)}
HELDERBERG TYPE, 68 FEET
~~Helderberg Limestone, 100 feet.~~

- 8250 8270 20 Sandstone, light-gray, fine- to medium-grained (very little sandstone in samples)

- 8270 ~~8024~~ ~~54~~ ^{8318 48} Sandstone, gray to dark-gray, fine- to medium-grained,

- ⁸³¹⁸ ~~8324~~ ³⁶ ~~50~~ ^{ORISKANY SANDSTONE, 67 FEET}
8354 Sandstone, white to light-gray, fine- to medium-grained, mostly calcareous
less calcareous than the interval above

- 8354 8379 25 Sandstone, light-gray, fine, mostly highly calcareous (all of the samples from the Huntersville Chert and those from the Oriskany down to this depth ^{so} are/much contaminated with shale that no detailed description is possible)

- 8379 8385 6 Sandstone, gray, very fine, highly calcareous

Helderberg Limestone, 18, plus, feet

- 8385 8399 14 Limestone, gray, very sandy and slightly cherty

- 8399 8403 4 Limestone, dark-gray, very silty; last sample, labelled 8401-8403' contains several fragments of gray to white fine sandstone which is not present in the last few samples above this

Total Depth Corrected to 8410'

Above corrections from cores examined by
R. Flowers