

Logan District, Logan County, W. Va.

By South Fern Oil Co., 111 Seventh Ave., Pittsburgh, Pa.

Drilled under permit log-58; Logan quadrangle.

On 27.227 acres.

Elevation, 1160.70' L.

Surface owned by Ruth Gilpin et al., Lake, W. Va., and minerals by Yancoy & Freeman Coal Co., 1st Natl. Bank Bldg., Huntington, W. Va.

Drilling commenced June 18, 1939; completed, Aug. 11, 1939.

Shot Aug. 12, 1939, at 2757-78'.

Open flow, 11/10ths Merc. (before shot) in 2"; 20/10ths Merc. (after shot) in 2".

Volume, 786,720 cu. ft.

Rock pressure, 187 lbs. in 24 hrs.

Salt water at 1120, 1175, and 1525'.

10" casing, 515'; 8 1/2" casing, 996'; 6 3/4" casing, 2103'; 2" tubing, 2733'.

Strang packer, 3 x 6 3/8 x 16, set at 2111'.

Coal was encountered at 50-52, 74-78, 375-377, 431-433, and 489-492'.

Gas well. Record from Smith Sept. 20, 1939.

	Top.	Bottom.
Surface	0	14
Sand	14	50
Coal	50	52
Slate	52	74
Coal	74	78
Sand	78	140
Slate	140	155
Sand	155	230
Slate	230	360
Gritty line	360	375
Coal	375	377
Slate	377	431
Coal	431	433
Slate and shale	433	440
Line	440	450
Sand	450	489
Coal	489	492
Slate	492	499
Sand	499	580
Slate and shale	580	710
Shale	710	850
Sand	850	910
Shale	910	917
Sand	917	960
Shale	960	980
Sand	980	1125
Slate	1125	1216
Salt Sand (water, 1120', 1/8 bailer per hour; water, 1175', 1 bailer per hour; water, 1525', 3 bailers per hour)		1216 - 1566
Slate	1566	1576
Line	1576	1600
Red rock	1600	1635
Line	1635	1655
Red rock	1655	1670
Line	1670	1710

(OVER)

YAWKEY & FREEMAN NO. 56 WELL (Continued).

	Top.	Bottom.
Red rock	1710	- 1720
Slate and shale	1720	- 1745
Line	1745	- 1750
Slate and shale	1750	- 1780
Red rock	1780	- 1785
Line	1785	- 1818
Red rock	1818	- 1825
Line	1825	- 1845
Red rock	1845	- 1865
Line	1865	- 1885
Slate and shale	1885	- 1933
Maxton Sand	1933	- 1970
Slate	1970	- 1972
Line	1972	- 2008
Slate	2008	- 2010
Line	2010	- 2082
Slate	2082	- 2084
Big line	2084	- 2245
Red rock or line	2245	- 2305
Hard line	2305	- 2325
Slate and shale	2325	- 2730
Coffee Shale	2730	- 2755
Berea Sand (gas, 2757-2778')	2755	- 2784
Total depth		2786

Trinity and Freeman No. 56 Well

Logan District, Logan County, W. Va.

By South Penn Oil Company, Pittsburgh, Pennsylvania.

located, 2.11 mi. W. of 81°50' and 4.3 mi. S. of 38°00' -20- Logan Quadrangle,  
2.8 mi. W. of Dobra and 1 mi. S. of Isaac.

Elevation, 1480.70' L.

Permit, Log-56.

Drilling commenced June 13, 1939; completed, Aug. 11, 1939.

Shot Aug. 12, 1939, at 2757-2773'.

Open flow, 11/10 the mere. (before shot) in 2"; 50/10 the mere. (after shot) in 2".

Volume, 788,720 cu. ft. per day.

Rock pressure, 137 lbs. in 26 hours.

Casing, 10", 315'; 8 1/2", 396'; 6 5/8", 5103'; 2" tubing, 2733'.

Drillers' record to 361'; record based on samples below 361'.

Top Bottom Thickness

Fettsville Formation, 1860+ feet

Top	Bottom	Thickness	
0	14	14	Surface
14	50	36	Sand
50	52	2	Coal
52	74	22	Slate
74	75	1	Coal
75	140	65	Sand
140	155	15	Slate
155	230	75	Sand
230	360	130	Slate
360	375	15	Sandstone, gray, shaly, micaceous, contains some siderite and thin streaks of carbonaceous matter
375	377	2	Coal
377	408	31	Siltstone, gray, micaceous
408	431	23	Siltstone and shale, gray
431	433	2	Coal
433	434	1	Sandstone, light-gray, micaceous
434	439	5	Siltstone, gray
439	450	11	Sandstone, gray, fine, calcareous; contains mica and siderite
450	489	39	Sandstone, light-gray, fine- to medium-grained; contains small amounts of biotite, muscovite, chlorite and kaolin

Top	Bottom	Thickness	
489	492	3	Coal
492	530	38	Sandstone, light-gray, medium to fine-grained; contains mica, chlorite and siderite; there is a little dark-gray siltstone at top and some calcareous sandstone from 529 to 536
530	630	100	Siltstone, dark-gray, shaly, micaceous; calcareous and contains a little limestone from 610 to 630
630	650	20	Sandstone, gray, medium-grained, with siderite, mica and chlorite
650	660	10	Siltstone, gray, shaly
660	670	10	Sandstone, light-gray, fine
670	690	20	Shale and siltstone, gray, 70%; light-gray shaly sandstone, 30%
690	700	10	Sandstone, light-gray, fine, micaceous
700	720	20	Sandstone, gray, fine, shaly, 60%; silty shale, 40%
720	770	50	Shale, dark-gray; with streaks of siltstone and very fine sandstone
770	800	30	Siltstone, dark-gray, shaly, micaceous
800	810	10	Sandstone, light-gray, fine, micaceous
810	820	10	Siltstone, dark-gray, with sandy streaks
820	830	10	Sandstone, gray, very fine, micaceous
830	850	20	Shale, gray
850	910	60	Sandstone, light-gray, fine, slightly calcareous; about 40% shale from 890 to 910
910	960	50	Sandstone, light-gray, medium-grained; contains mica, chlorite and kaolin
960	970	10	Shale, dark-gray, silty
970	990	20	Sandstone, white, fine; with considerable amount of gray shale and siltstone
990	1080	90	Sandstone, white with some yellow stain, fine- to medium-grained; is nearly all quartz and many of grains have crystal faces; except for sample from 1030 to 1040, is mostly broken into individual sand grains
1080	1120	40	Sandstone, light-gray, medium-grained; contains more kaolin, chlorite, etc., than the sandstone immediately above
1120	1130	10	Sandstone, gray, very fine, shaly
1130	1210	80	Shale, dark-gray
1210	1350	140	Sandstone, white, with small amount of yellow stain, mostly medium-grained; nearly all quartz, and many of grains have crystal faces; mostly broken up into individual grains
1350	1360	10	Sandstone, nearly white, very coarse
1360	1400	40	Sandstone, white, medium-grained, nearly all quartz
1400	1450	50	Sandstone, white, coarse, nearly all quartz with crystal faces on many grains (water, 1420', $\frac{1}{2}$ bailer per hour)

Top	Bottom	Thickness	
1430	1460	30	Sandstone, gray, fine, not so pure as the sandstone above and below
1460	1460	10	Sandstone, white, coarse
1460	1530	60	Sandstone, nearly white, very coarse, pebbly; crystal faces on many quartz grains (water, 1475', 1 bailer per hour)
1530	1560	40	Sandstone, nearly white, coarse, (water, 1535', 3 bailers per hour)
<u>Mauch Chunk Group, 470 feet</u>			
1560	1570	10	Shale, gray
1570	1580	10	Limestone, brownish-gray, fine textured; with some grayish-green sandy shale
1580	1600	20	Shale, gray and green, highly calcareous
1600	1620	20	Shale, red, soft, calcareous
1620	1630	10	Shale, grayish-green, silty, calcareous
1630	1640	10	Shale, red, calcareous
1640	1680	10	Siltstone, grayish-green, calcareous, 60% gray and red shale, 40%
1680	1670	30	Shale, red; with a little dolomitic limestone
1670	1690	30	Siltstone, grayish-green, dolomitic
1690	1700	10	Shale, grayish-red, soft
1700	1720	30	Shale, red, soft, calcareous
1720	1740	20	Shale, grayish-red, soft, calcareous and dolomitic
1740	1750	10	Sandstone, light-gray, very fine, dolomitic
1750	1780	30	Shale, medium- to dark-gray, soft, slightly calcareous
1780	1790	10	Shale, grayish-red, calcareous
1790	1800	10	Shale, gray, calcareous
1800	1820	20	Sandstone, white, fine
1820	1860	40	Shale, red, soft; samples from 1820 to 1850 also contain some green dolomitic siltstone
1860	1870	10	Siltstone, grayish-green
1870	1880	10	Limestone, brown, 50%; shale, gray, 50%
1880	1890	10	Shale, gray
1890	1900	10	Shale, red, gray and green, calcareous
1900	1930	30	Shale, gray and green; mostly fine and soft, but partly harder and silty
1930	1970	40	Sandstone, fine, white, nearly all quartz; crystal faces on many grains
1970	2020	50	Limestone, dark brownish gray, with a few white specks; somewhat fossiliferous; there is a little light-gray chert and up to 10% or more of soft, gray, distinctly laminated shale

Top	Bottom	Thickness	
2020	2030	10	Shale, gray and green, highly calcareous; some may be impure limestone rather than shale (Pencil Cove)
<u>Greenbrier Limestone, 210 feet</u>			
2030	2060	30	Limestone, brownish-gray; a little lighter than the limestone from 1970 to 2020
2060	2070	10	Limestone; light-gray, with a little chert
2070	2090	20	Limestone, brownish-gray
2090	2140	50	Limestone, light brownish-gray, fine-textured
2140	2190	40	Limestone, light-gray to somewhat brownish, sandy and colitic
2190	2220	40	Limestone, light grayish red; the red is due to small amounts of finely divided hematite, unevenly distributed; somewhat dolomitic
2220	2240	20	Limestone, light-gray, finely crystalline, somewhat dolomitic
<u>Maerady Formation, 50 feet</u>			
2240	2290	50	Siltstone, red, micaceous
<u>Pocore Formation, 425 feet</u>			
2290	2360	70	Siltstone, gray, 60 to 90% darker gray, silty shale, 40 to 100%; the siltstone contains biotite, muscovite and small specks of carbonaceous matter
2360	2450	90	Siltstone, gray, slightly calcareous; contains many small specks of pyrite
2450	2600	150	Shale, gray; small amounts of siltstone in most samples
2600	2720	120	Siltstone and very fine sandstone, gray to light brownish, pyritic, 60 to 80%; gray shale, 40 to 20%; some scattered fragments of calcareous material
2720	2765	45	Shale, dark-gray to black (Sambury Shale)
2765	2775	10	Sandstone, dark-gray, very fine, pyritic (Berea Sandstone)
2775	2785	10	Sandstone, light-gray, very fine, somewhat dolomitic (Berea Sandstone)
	2795		Total depth reported