



7.91 W
4.11 Q 30K
75C (G-6)

See Vol. XVI, p. 703

COMPANY	Carnegie Natural Gas Co.
ADDRESS	Pittsburgh, Penna.
Farm	W. C. Patterson
TRACT	ACRES 79.44 LEASE NO. 86
Well (Farm) No.	1 Serial No. 1523
Elevation (Spirit Level)	869
Quadrangle	Elizabeth (SE)
County	Wirt District Burning Springs
Engineer	E. G. Johnson
Engineer's Registration No.	288
File No.	Drawing No.
Date	3-31-37 Scale 1" = 40 rods

STATE OF WEST VIRGINIA
Department of Mines
OIL AND GAS DIVISION
Charleston

WELL LOCATION MAP
File No. WIRT-91

- + Denotes location of well on U.S. Topographic Maps, scale 1 to 62,500 latitude and longitude lines being represented by border lines as shown.
- Denotes one inch spaces on border line of original tracing.

Samples 3D (188 & 4895)

Dec 11/11

WEST VIRGINIA DEPARTMENT OF MINES

OIL AND GAS DIVISION

WELL RECORD

oil - gas

Perm. Wirt-91

Gas & Oil Well

Elizabeth quad.

CASING & TUBING

Company	Carnegie Natural Gas Co.	16	Conductor	16	8
Address	Pittsburgh, Penna.	13		None	
Farm	W.C.Patterson Acres 79.44	10		239	239
Location	Dever's Fork	8 1/2		1160	1160
Well No.	1523		7-O.D.	4678	Shot Off
District	Burning Springs				at 4250
Surface	W.Kidwell, Elizabeth, W.Va.				
Mineral	W.C.Patterson, Jamestown, N.Y.				
Drilling	Commenced April 5, 1937				
	Completed Aug. 13, 1937				
Date Shot	Aug. 20, 1937				
Volume	40,000 (Oriskany) 50,000 (above) Cu.Ft.				
Rock Press.	Not taken				
Oil	1 bbl. (Oriskany) 20 bbl. (Above) 1st 24 hrs.				

Casing cemented: 200',
7" O.D.

Formation	Color	Hor 5'	Top	Base	Result	Formation	Color	Hor 5'	Top	Base	Result
Soil	Dark		0	30		Corniferous Lime			4662	4851	Oil &
Rock	Red		30	75		Sand			4851	4852	Gas-
Slate	White		75	95		Sand	Oriskany		4852	4853	2515
Rock	Red		95	100		Sand			4853	4895	Gas
Slate & Shells			100	192		Total Depth			4895	4851	
Rock	Red		192	200		Gas-4851'-					Gas &
Slate & Shells			200	244		40,000 Cu.Ft.					Oil
Slate	Dark		244	281							4852-
Sand-1st Cow Run			281	316	Sh.Gas	1 bbl. per day -					4853
Slate & Shells			316	335	281	Section bailer per hour -					Water
Lime			335	360	Sh.Oil						4882-
Slate	Dark		360	394	309						4886
Sand-2nd Cow Run			394	424							
Slate			424	470							
Lime			470	487							
Slate & Shells			487	560							
Gas Sand			560	617	Sh.Gas	4662	4851	4			
Slate	Dark		617	648	602	869	869				
Sand			648	662							
Slate & Shells			662	842		-3793	-3982				
Sand-Salt			842	878	Sh.Gas						
Big Lime			878	968	659						
Sand-Keener			968	993							
Big Injun Sand			993	1002	Sh.Gas						
Slate -Big Injun (Break)			1002	1027	993						
Big Injun Sand			1027	1050	Sh.Gas						
Slate	Dark		1050	1054	1033						
Sand			1054	1087							
Slate	Dark		1087	1095							
Sand	Gray		1095	1102							
Slate & Shells			1102	1124							
Slate	Dark		1124	1160							
Lime			1160	1188							
Slate & Shells			1188	1196							
Slate	Dark		1196	1406							
Shell			1406	1414							
Slate	Dark		1414	1490							
Slate & Shells			1490	2018							
Shell			2018	2019	Oil &						
Slate & Shells			2019	2161	Gas-						
Shell	Broken		2161	2163	2018						
Slate & Shells			2163	3795	Oil &						
Shale	Brown		3795	3806	Gas-						
Slate & Shells			3806	4308	2165						
Slate	Black		4308	4318	Oil &						
Lime & Shells			4318	4331	Gas-						
Slate	Black		4331	4662	2265	Four oil pays, 25 bbl. per day					
						with 50,000 Cu.ft.gas.					

see samples description

Burning Springs District, Wirt County, W. Va.
 By Carnegie Natural Gas Co., Pittsburgh, Pa.
 Located 2.91 mi. W. of 81° 15' and 4.11 mi. S. of 39° 05' - SE - Elizabeth
 Quadrangle.

Elevation, 869' L.

Permit Wirt-91.

Drilling commenced April 5, 1937; completed, August 13, 1937.

Shot Aug. 20, 1937; depth, 4845-4855'.

Gas volume, 40,000 cu. ft. in Oriskany; 50,000 cu. ft. above.

Oil, 1 bbl. in Oriskany; 20 bbls. above.

10" casing, 239'; 8 $\frac{1}{2}$ ", 1160'; 7", 4678'.

Section based on samples from 188 to 4895' examined by J. H. C. Martens.

Martens' record from samples.

Well starts in Conemaugh Formation about 680 feet below Washington Coal horizon.

Top. Bottom. Thickness.

PENNSYLVANIAN, 878+ FEET

Top.	Bottom.	Thickness.	Description
0	30	30	Soil, dark
30	75	45	Red rock
75	95	20	Slate, white
95	100	5	Red rock
100	188	88	Slate and shells
188	198	10	Shale, red and green, calcareous
198	217	19	Siltstone, grayish-green, micaceous; contains many siderite spherulites
217	232	15	Shale, greenish-gray, silty, micaceous
232	245	13	Siltstone, gray, micaceous
245	250	5	Siltstone, light-gray, 50%; light-gray shale, 30%; dark-gray to black shale, 20%
250	257	7	Coal, 20%; dark carbonaceous shale, 20%; very light gray clay or soft shale, 60%
257	261	4	Shale, light-gray, soft
261	289	28	Sandstone, white and light-green, medium- to fine-grained, micaceous, and slightly calcareous
289	309	20	Sandstone, nearly white, medium-grained
309	328	19	Shale, gray, very silty
328	342	14	Sandstone, gray; also some shale and fine sandstone
342	356	14	Sandstone, very light gray, fine to very fine
356	365	9	Siltstone, gray, micaceous
365	372	7	Coal, 5%; gray to dark-gray shale, 55%; gray siltstone, 40%
372	379	7	Shale, gray, with many siderite spherulites
379	385	6	Shale, light-brown to nearly white, soft; trace of coal
385	394	9	Siltstone, gray, sandy
394	424	30	Sandstone, nearly white, medium- to coarse-grained; calcareous, 406-424'
424	442	18	Siltstone, gray; many siderite spherulites
442	454	12	Shale, dark-gray, silty
454	460	6	Shale, nearly white, soft; contains small siderite rhombs
460	466	6	Shale, light-brown, soft
466	472	6	Shale, very dark gray, silty
472	478	6	Shale, light-gray, 70%; black shale with a little coal, 30%
478	489	11	Siltstone, dark-gray, sandy
489	495	6	Sandstone, gray, fine, shaly
495	502	7	Siltstone, gray
502	508	6	Shale and siltstone, gray
508	520	12	Shale, dark-gray to black, 80%; coal, 20%
520	532	12	Siltstone, dark-gray, micaceous

(OVER)

W. C. PATTERSON NO. 1 (1523) WELL (Continued) (.

Top.	Bottom.	Thickness.	
532	- 538	6	Shale, light-gray, very sandy
538	- 547	9	Sandstone, gray, fine, micaceous
547	- 617	60	Sandstone, very light brown, medium-grained
617	- 623	6	Shale and siltstone, dark-gray, 90%; coal, 10%
623	- 638	15	Shale, black
638	- 648	10	Siltstone, dark-gray
648	- 660	12	Sandstone, very light brown, fine
660	- 678	18	Shale, dark-gray to black
678	- 690	12	Shale, black, very silty
690	- 707	17	Siltstone, black; contains abundant fossil shells, probably marine
707	- 743	36	Shale, dark-gray, very silty, 90%; coal, 10%
743	- 776	33	Siltstone, dark-gray, sandy, and shaly
776	- 782	6	Sandstone, gray, very fine
782	- 821	39	Siltstone, black, micaceous
821	- 844	23	Shale, black, very silty
844	- 878	34	Sandstone, white, medium to coarse MAUCH CHUNK GROUP (?), 15 FEET
878	- 887	9	Limestone, brown
887	- 893	6	Shale, gray and green, calcareous, 50%; light-brown limestone, 50%
			GREENBRIER LIMESTONE, 127 FEET
893	- 904	11	Limestone, light-brown
904	- 915	11	Limestone, very light brown, oolitic
915	- 940	25	Limestone, nearly white
940	- 957	17	Limestone, light-brown
957	- 963	6	Limestone, nearly white
963	- 990	27	Limestone, light-brown to nearly white, sandy
990	- 993	3	Limestone, very light brown, somewhat dolomitic
993	- 1007	14	Limestone, very light brown, very sandy; contains some oolites
1007	- 1016	9	Dolomite, nearly white, sandy
1016	- 1020	4	Sandstone, very light brown, highly dolomitic POCONO FORMATION, 465 FEET
1020	- 1028	8	Sandstone, light-gray with yellow specks, fine
1028	- 1038	10	Sandstone, white, very coarse; a little yellow material in cement
1038	- 1050	12	Sandstone, very light brown, fine; contains a few coarse grains
1050	- 1054	4	Shale, dark-gray, with siderite spherulites
1054	- 1060	6	Sandstone, white, coarse
1060	- 1087	27	Sandstone, very light brown, medium-grained, slightly dolomitic; some coarse to very coarse grains
1087	- 1426	339	Shale and siltstone, gray; variations of individual samples not described in detail
1426	- 1460	34	Shale, dark-gray, silty
1460	- 1483	23	Shale, black (Sunbury Shale)
1483	- 1485	2	Sandstone, nearly white, very fine, some highly pyritic (Berea Sandstone; thickness estimated)
			DEVONIAN SHALES, 3177 FEET
1485	- 1544	59	Siltstone, light-gray to grayish-green, partly shaly, some slightly calcareous; includes some fragments of nearly white very fine sandstone
1544	- 1560	16	Siltstone, dark-gray
1560	- 1577	17	Siltstone, light-gray, shaly

(Continued on page 3)

Top.	Bottom.	Thickness.	
1577	- 1594	17	Sandstone, light-brown, very fine, 70%; gray siltstone and silty shale, 30%
1594	- 1622	28	Siltstone, gray to grayish-green; individual fragments show all gradations from silty shale to very fine nearly white sandstone
1622	- 1689	77	Siltstone and silty shale, gray to grayish-green
1689	- 1756	67	Siltstone, gray; also some gray shale and nearly white very fine sandstone
1756	- 1898	142	Siltstone, light-gray to grayish-green, 60 to 80%; gray shale, 40 to 20%
1898	- 1998	100	Siltstone, gray, shaly, micaceous; samples contain small amounts of true shale; not much different from the interval above
1998	- 2177	179	No sample (oil and gas at 2018, 2165')
2177	- 2187	10	Siltstone and silty shale, gray
2187	- 2466	279	No sample (oil and gas at 2265')
2466	- 2477	11	Siltstone, light-gray, shaly
2477	- 2571	94	Siltstone, light-gray to grayish-green, 50 to 70%; gray shale, 50 to 30%
2571	- 2716	145	Siltstone and shale, gray; proportions of shale and siltstone vary considerably in individual samples, but there is generally a little more shale than in the interval above; the shale contains a few very small spherical pyrite concretions
2716	- 3135	419	Shale and siltstone, gray; also small amounts of very dark gray to black shale; in most of this interval there is considerable more shale than siltstone
3135	- 3156	21	Shale, gray to dark-gray, silty
3156	- 3219	63	Shale, gray; small amounts of dark-gray shale and light-gray siltstone throughout
3219	- 3388	169	Shale, gray, with silty streaks, 70 to 90%; very dark gray shale, 30 to 10%
3388	- 3620	232	Shale, gray to very dark gray; color varies considerably but is mostly darker than in shales above
3620	- 4016	396	Shale, gray, mostly a little lighter and more uniform in color than the shale above; gradually becomes darker toward bottom and is not sharply separated from the interval above
4016	- 4271	255	Shale, dark-gray
4271	- 4501	230	Shale, dark-gray to very dark gray and black
4501	- 4531	30	Shale, dark-gray to grayish-green
4531	- 4662	131	Shale, very dark gray to black (depth of top of Huntersville Chert and base of shale taken from driller's record)
			HUNTERSVILLE CHERT, 190 FEET
4662	- 4667	5	Limestone, brown; does not contain any pure chert but acid treatment leaves a large insoluble residue which is apparently leached, porous chert; samples also contain much shale cavings and brown siltstone with biotite and pyrite
4667	- 4680	13	Limestone, brown to light-brown, very cherty
4680	- 4718	38	Limestone, light-brown, very cherty; much of the chert is very light gray and translucent; the chert content of most of the samples is so high that they could just as well be called calcareous chert
4718	- 4735	17	Limestone, brown, very cherty; slight traces of glauconite, 4720-4723'

W. C. PATTERSON NO. 1 (1523) WELL (Continued) (Pa.)

Top.	Bottom.	Thickness.	
4735	- 4772	37	Limestone, light-brown to very light brown, very cherty
4772	- 4822	50	Limestone, light-brown, very cherty; several samples contain a little silt and very small amount of glauconite; show of oil at 4783', SIM
4822	- 4827	5	Limestone, brown, very cherty, silty, and glauconitic
4827	- 4834	7	Limestone, light-brown, very cherty
4834	- 4836	2	Limestone, brown, very cherty, silty, and glauconitic
4836	- 4838	2	Limestone, light-brown and gray, cherty, and sandy; contains many fossil shell fragments
4838	- 4852	14	Limestone, light-brown to light-gray, very cherty; contains some silt and very fine sand; a little glauconite, 4838-4845' (gas, 4851', 40,000 cu. ft.) ORISKANY SANDSTONE, 43+ FEET
✓4852	- 4859	7	Sandstone, nearly white, fine, somewhat calcareous
4859	- 4895	36	Sandstone, light-gray to white, fine, slightly calcareous (small amount of water, 4882-4886')
	4895		Total depth