

049-72328

MARION COUNTY WELL RECORDS.

Marion County Permit and Map Numbers.

Mar-No. Farm Name and Well No. Company. District.
 A Lake, I. H., No. 4304-----Hope Natural Gas-----Winfield

I. H. Lake No. 4304 Well.

Winfield District, Marion County, W. Va.

By Hope Natural Gas Company.

Mar-A on map.

Elevation, 1201' L.

Dry hole.

Located 5.27 mi. S. of 39° 30' and 2.57 mi. W. of 80° 00'—NE—Fairmont
 Quadrangle.

On east side of Prickett Creek.

1.8 mi. S. E. of Samaria; 3.4 mi. N. E. of Valley Falls.

	Top.	Bottom.	Thickness.	Elevation (top)
Big Lime -----	620	679	59	+ 581
Big Injun Sand-----	679	843	164	+ 522
Berea Sand -----	1000?	1025	25	+ 201?
Corniferous Lime-----	6963	7018	55+	-5762
Oriskany Sand -----	7018	7058	40	-5817

Thickness, Devonian Shales, 5938 feet.

Total depth, 7579'.

Remarks: Completed, (final report), June 18, 1919.

Tools stuck in hole at 7579' and cable broke, leaving tools and
 4500' of cable in hole.

Big Injun gas show, 820' Puff of gas at 6570'; no test.

I. H. Lake No. 4304 Well.

Fairmont East

72328

Winfield District, Marion County, W. Va.

By Hope Natural Gas Company.

Map-A on map.

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Winfield District, Marion County, W. Va.
By Hope Natural Gas Co.

*Deep Well
Marion A
78328*

"Data concerning the deepest well in the world".

Located on the I. H. Lake farm of 117 acres, in Winfield District, Marion County, West Virginia, on the waters of Prickett Creek, 6 1/2 miles southeast of Fairmont and 2 miles south of Samaria.

Location for the well was made June 22, 1916, at an elevation of 1201 feet above sea level, and approximately 850 feet below the level of the Pittsburgh Coal.

Drilling was commenced August 5, 1916, and on June 18, 1919, the well had reached a depth of 7579 feet, exceeding, by 193 feet, the depth of well No. 4190, M. C. Goff, which, until the present time, has been known as "the world's deepest well".

Approximately 325 days have been spent in actual drilling, the well having been shut down for about 1 year and 10 months, the longest period being 1 year and 1 month, while waiting for a cable, which was difficult to secure due to conditions arising from the war.

The last known sand found was the Gordon at a depth of 1474' to 1495'.

No oil or gas has been found.

After drilling to a depth of 6720 feet, the heavy machinery and tools from the Goff well were moved in and drilling continued.

For temperature measurements, see special file "Deep Well Measurements".

	Top.	Bottom.
First Salt Sand	175	- 190
Second Salt Sand	265	- 290
Little Lime	585	- 605
Pencil Cave	605	- 620
Big Lime	620	- 679
Big Injun Sand (gas at 820')	679	- 843
Squaw Sand	843	- 872
Berea Sand	1000	- 1025
Gantz Sand	1115	- 1135
Fifty-foot Sand	1225	- 1270
Thirty-foot Sand	1273	- 1340
Gordon Stray Sand	1448	- 1470
Gordon Sand	1474	- 1495
Sand (Fourth)	1670	- 1680
Sand (Fifth)	1695	- 1705
Sand (Bayard)	1715	- 1752
Sand (Bayard)	1755	- 1810
Gritty Lime	1890	- 1950
Sand (Burnside)	2045	- 2050
Lime	2115	- 2125
Sand	2625	- 2645

I. H. LAKE NO. 4304 WELL (Continued.)

	Top.	Bottom.
Lime	2700	- 2800
Slate	2800	- 2840
Sand (Speechley)	2840	- 2865
Lime	2890	- 2900
Sand	2940	- 2975
Sand (Benson, Bradford)	3420	- 3428
Slate and shells (Dec. 23, 1916)	3428	- 3750
Gray lime	3750	- 3755
Dark slate	3755	- 3770
Gray lime	3770	- 3775
Dark slate	3775	- 3780
Gray lime	3780	- 3800
Gray slate	3800	- 3810
Gray lime	3810	- 3825
Slate	3825	- 4105
Lime shells	4230	- 4300
Sand (Kane?)	4300	- 4305
Lime	4305	- 4360
Slate	4360	- 4400
Lime	4400	- 4420
Slate	4420	- 4460
Dark sand	4475	- 4480
Lime slate (Jan. 5, 1917)	4480	- 4600
Slate shells	4600	- 5520
White slate (July 20, 1917)	5520	- 5545
Blue lime	5545	- 5553
Gray slate	5553	- 5564
White lime	5564	- 5588
White slate	5588	- 5595
White lime	5595	- 5624
White slate	5624	- 5632
Gray slate	5632	- 5640
White lime	5640	- 5644
Gray slate	5644	- 5660
Lime shells	5660	- 5665
Gray slate	5665	- 5674
Blue lime	5674	- 5710
White slate	5710	- 5722
Lime shells	5722	- 5733
Gray slate	5733	- 5738
White slate (July 27, 1917)	5738	- 5749
White lime	5749	- 5782
White slate	5782	- 5786
White lime	5786	- 5833
Gritty lime	5833	- 5836
Gray slate	5836	- 5839
Blue lime	5839	- 5841
White slate	5841	- 5843
Gritty lime	5843	- 5870
Gray slate	5870	- 5874
Gray lime	5874	- 5908
Gray lime	5908	- 5915
White lime	5915	- 5937
White slate	5937	- 5940
White lime	5940	- 5950
Gray slate	5950	- 5957
Blue sand	5957	- 5960

(CONTINUED ON NEXT PAGE)

	Top.	Bottom.
Light slate	5960	- 5962
Gray slate	6002	- 6007
Lime	6007	- 6009
Gray slate	6009	- 6015
Blue lime	6015	- 6024
White slate	6024	- 6035
Black slate	6035	- 6044
Lime shells	6044	- 6060
Blue lime	6060	- 6080
White slate	6080	- 6085
White slate (Aug. 24, 1917)	6120	- 6125
White lime	6125	- 6157
White slate	6157	- 6168
White lime	6168	- 6183
White slate	6183	- 6224
White lime	6224	- 6252
Gritty lime	6252	- 6261
Dark slate	6261	- 6263
Lime shells	6263	- 6307
Black slate	6307	- 6317
White lime	6317	- 6350
Black slate	6350	- 6357
Lime shells	6357	- 6360
Black slate	6360	- 6363
Black slate (Aug. 31, 1917)	6363	- 6395
White lime	6395	- 6408
Black slate	6408	- 6414
White lime	6414	- 6437
Black slate	6437	- 6460
Lime shells	6460	- 6462
Black slate	6462	- 6475
Lime shells	6475	- 6495
Black slate	6495	- 6500
Black lime	6500	- 6505
Black slate	6505	- 6512
Lime shells	6512	- 6521
Black slate	6521	- 6528
Lime shells	6528	- 6531
Black slate	6531	- 6538
Gritty lime	6538	- 6542
Black slate	6542	- 6569
Lime shells	6569	- 6571
Black slate	6571	- 6575
Black lime (Sept. 7, 1917)	6575	- 6637
Gray slate	6637	- 6643
White lime	6643	- 6676
Gray slate	6676	- 6695
White lime	6695	- 6700
Gray slate (Sept. 14, 1917)	6700	- 6720
(Shut down 1 year 1 month for cable. Drilling resumed Oct. 31, 1918)		
Black slate	6720	- 6738
Black lime	6738	- 6750
Black slate and gritty lime	6750	- 6780
Black slate	6780	- 6800
Black slate (Nov. 7, 1918)	6800	- 6820

(OVER)

	Top.	Bottom.
Black slate	6820	- 6833
Black shells	6833	- 6836
Black slate	6836	- 6884
Black lime	6884	- 6892
Black slate	6892	- 6897
Black lime	6897	- 6902
Black slate	6902	- 6908
Black lime	6908	- 6910
Slate	6910	- 6922
Lime	6922	- 6925
Slate	6925	- 6944
Lime	6944	- 6959
Black slate	6949	- 6955
Dark lime	6955	- 6965
Hard sand (Corniferous Limestone)	6965	- 6975
Slate	6975	- 6976
Gritty lime (Corniferous Limestone)	6976	- 7018
(December 26, 1918)		
Hard sand (Oriskany)	7018	- 7037
Slate and sand shells (Oriskany)	7037	- 7058
Slate (Feb. 7, 1919)	7058	- 7080
Hard lime	7080	- 7090
Slate	7090	- 7094
Gritty lime	7094	- 7110
Lime	7110	- 7120
Slate	7120	- 7122
Very hard lime	7122	- 7158
Hard gritty lime	7158	- 7160
Hard gritty lime (March 27, 1919)	7160	- 7185
Gritty lime	7185	- 7210
White lime	7210	- 7216
Black lime	7230	- 7234
Hard black lime	7234	- 7244
Soft black lime (April 11, 1919)	7244	- 7278
Hard light sand	7278	- 7308
Gritty lime	7308	- 7312
Hard sand (Coeymans, Stormville)	7312	- 7328
Black lime	7328	- 7340
Gray lime	7340	- 7350
Drilling on April 29, 1919, at		7404
Black slate	7350	- 7390
Lime and slate	7390	- 7404
Slate and lime shells	7404	- 7409
Black lime (May 5, 1919)	7409	- 7420
Black slate	7420	- 7442
Slate and shell	7442	- 7460
Hard lime	7460	- 7466
Slate	7466	- 7470
Lime	7470	- 7472
Slate and shell	7472	- 7502
Gritty lime	7502	- 7522
Slate	7522	- 7555
Gritty lime	7555	- 7561
Slate	7561	- 7566
Unrecorded	7566	- 7579
Total depth (June 18, 1919)		7579

At depth of 7579 feet tools stuck in hole and cable broke, leaving tools and 4000 feet of cable in hole. Work discontinued.

Size of Hole.

15 inches in diameter ~~and~~ depth of 310 feet.
 10 inches in diameter from 310 feet to 630 feet.
 8 1/2 inches in diameter from 630 feet to 2118 feet.
 6-5/8 inches in diameter from 2118 feet to bottom.

Casing.

310 feet of 10-inch casing.
 630 feet of 8 1/2-inch casing, set in Big Lime.
 2118 feet of 6-5/8-inch casing, set in limestone.

Rig.

Standard (wood), 80 feet in height with 20-foot base. After drilling to a depth of 5145 feet, rig was reinforced. A heavier sand reel, with 4 1/2-inch shaft was installed when a depth of 5505 feet was reached.

Rig was again repaired, installing a new Bull Wheel with 24-inch shaft and a triple tug; with one 10-inch and one 12-inch brake wheel. Three sets of Bull Wheels have been used.

Band Wheel, 12 feet in diameter with 18-inch face and triple tug.

Crown Pulley, 7-inch steel shaft; Weight, 1200 pounds.

4 1/2-inch standard rig irons were used to a depth of 5145 feet and were then replaced by a special heavy rig iron shaft 7 1/2 inches.

Weight of Band Wheel irons, 8600 pounds. These irons have been in use since the well was commenced.

At 6720 feet, sand reel was replaced with a heavier reel with 6-inch steel shaft and 16-inch friction brake wheel.

All work of erecting and repairing rig has been under the direction of Mr. Geo. H. Stanfield of Clarkesburg, West Virginia, Superintendent of Rig Building for the Hope Natural Gas Company.

Boilers.

One 25-H.P. Acme, used from top of hole to 5105 feet.
 One 25-H.P. Acme coupled with the first at 5105 feet, the two being used to depth of 7100 feet.
 One 25-H.P. Brennan installed at 7100 feet and the three boilers used to the present depth.

Engines.

One 12 x 12, 30-H.P. B. & S. used from top of hole to 5145 feet.
 One 14 x 14, 50-H.P. Ajax replaced the B. & S. engine at 5145 feet and used to depth of 6720 feet.
 One 16 x 16, 70-H.P. Oil Well Supply Co. replaced the Ajax at 6720 feet and has been used to the present depth.

Cables.

One second-hand Manila 2 $\frac{1}{2}$ " x 700', drilled to 150 feet.
 One second-hand Manila 2 $\frac{1}{2}$ " x 1500', drilled to 1500 feet.
 One new Manila 2 $\frac{1}{2}$ " x 2500', drilled to 3100 feet.
 One new Wire 7/8" x 4000', drilled to 3900 feet.
 One new Wire 7/8" x 4000', spliced to first wire line, drilled to 5145 feet.
 One new Wire 1" x 7000', drilled to 6700 feet.
 One new Wire 1" x 4000' and four 7/8" x 4000' spliced together and later spliced to 1" x 4000', drilled to 7158 feet.
 One new Wire 1" x 7000' to which was spliced 7/8" wire line, drilled to present depth and still in use.

Tools.

Drilled to 2118 feet with string of tools containing stem 35 feet in length and 5 $\frac{1}{2}$ inches in diameter.
 Drilled from 2118 feet to 5145 feet with string of tools containing stem 45 feet in length and 4 $\frac{1}{2}$ inches in diameter.
 Drilled from 5145 feet to present depth with string of tools containing stem 38 feet in length and 4 $\frac{1}{2}$ inches in diameter.

Drillers.

A. L. Rawlins, drilled, from 6720 to present depth.
 J. C. McCreight, driller, from 6720 to 7068 feet.
 T. J. O'Connor, driller, from 5145 to 6720 feet.
 Harley Hall, driller, from 5145 feet to 6720 feet.

On June 13, 1919, the well had reached a total depth of 7579 feet, at which depth the tools stuck in the hole and cable parted, leaving tools and 4000 feet of cable in the hole. Work has been discontinued.