

Company THE OWENS LIBBEY-OWENS GAS DEPT.
 Address BOX 1375 CHARLESTON W.VA.
 Farm GLENHAYES COMPANY
 Tract _____ Acres 3495 Lease No. 1298
 Well (Farm) No. 1 Serial No. 488
 Quadrangle NAUGATUCK NW
 County WAYNE
 District LINCOLN
 Engineer T.S. J. [Signature]
 Engineer's Registration No. 269
 File No. _____ Drawing No. _____
 Date July 1, 1937 Scale 1" = 1000'

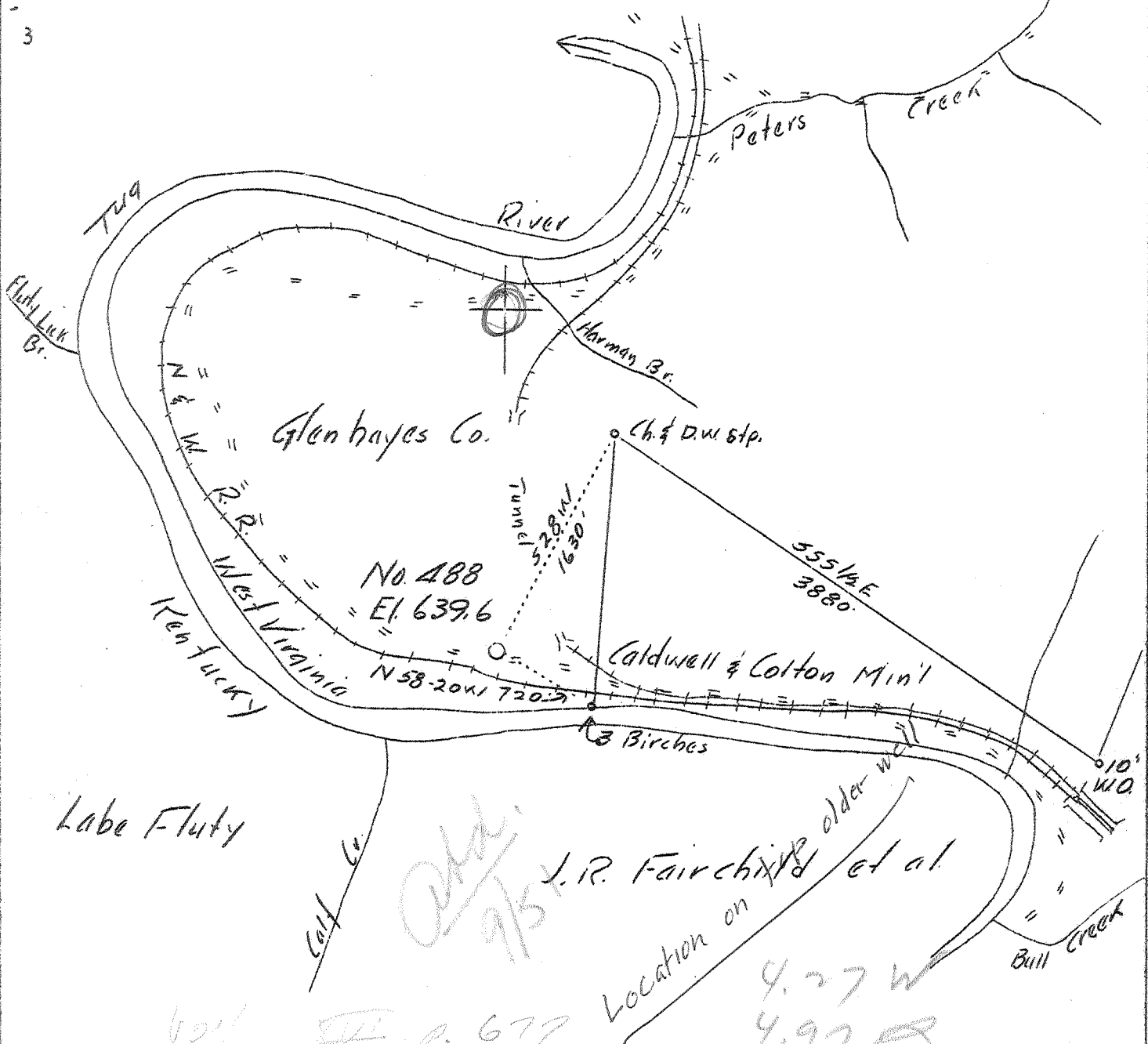
STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON

WELL LOCATION MAP
 FILE NO. WAY-117

+ Denotes location of well on United States 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.

0 1 2 3 LATITUDE 38° 25' LONGITUDE 82°



Company	The Owens Libbey-Owens Gas Dept.
Address	Box 1375, Charleston, W.Va.
Farm	Glen Hayes Co.
Tract	Acres 3495 Lease No. 1298
Well (Farm) No.	1 Serial No. 488
Elevation (Spirit Level)	
Quadrangle	Naugatuck
County	Wayne
District	Lincoln
Engineer	T.S. Flournoy
Engineer's Registration No.	269
Date	July 1, 1937 Scale 1"-1000'

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

WELL LOCATION MAP
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Samples - Chan. B. - 1913-291 10-1-298 Deep Well

GLENHAYES COMPANY NO. 1 (488) WELL.

Lincoln District, Wayne County, W. Va.

By The Owens, Libbey-Owens Gas Department, Charleston, W. Va.

Located 4.27 mi. W. of 82° 25' and 4.97 mi. S. of 38° 00' - NW - Naugatuck
 Quadrangle; on Tug River.

Elevation, 640' L.

Permit, Way-117.

Drilling commenced August 16, 1937; completed, October 4, 1937.

Gas well volume, 744,000 cu.ft. per day; rock pressure, 512 lbs. in 45 hrs.;
 producing from Big Lime.

Coal was encountered at 19-24 and 270-274'.

Salt water at 520'.

8½" casing, 305'; 6⅝", 1112'; 5⅝", 1241'; all left in.

Driller's record from 1775 to 1903'; samples from 1903 to 2903'.

Record by Martens from sample examination July 27, 1940.

Top. Bottom. Thickness.

1775 - 1785	10	Shale, brown, soft (Sunbury Shale)
1785 - 1800	15	Sand, light, hard (Berea)
1800 - 1805	5	Slate, light, medium
1805 - 1815	10	Sandy lime, white, hard
1815 - 1825	10	Sand, white, hard (base of Berea at 1825') DEVONIAN SHALES, 107½ FEET.
1825 - 1903	78	Slate and shells, white, medium
1903 - 1915	12	Shale, black
1915 - 1991	76	Shale, dark-gray to black
1991 - 2039	48	Shale, gray, much lighter than preceding, slightly calcareous
2039 - 2071	32	Shale, dark-gray
2071 - 2145	74	Shale, gray
2145 - 2297	152	Shale, dark-gray, somewhat brownish
2297 - 2338	41	Shale, gray, much lighter than last
2338 - 2464	126	Shale, dark-gray, somewhat brownish, with much smaller amounts of light-gray in some parts
2464 - 2476	12	Siltstone, light-gray to grayish-yellow, slightly calcareous; samples also contain light- and dark-gray shale, perhaps mostly cavings
2476 - 2607	131	Shale, dark-gray to nearly black, in part somewhat brownish; large number of spores in lower part
2607 - 2839	232	Shale, gray to grayish-green, with small amount of dark-gray
2839 - 2899	60	Shale, dark-gray to black; contains abundant pyrite; sample from 2871 to 2879' contains a little gray, impure limestone (gas, 2894'; increase, 6,000 cu. ft.)
		HELDERBERG LIMESTONE, 4+ FEET. (????)
2899 - 2903	4	Limestone, light brownish-gray, very cherty; contains much solid blue-gray chalcedony; a little dolomite in small white rhombs
2903		Total depth

WEST VIRGINIA DEPARTMENT OF MINES

OIL AND GAS DIVISION

WELL RECORD

Permit No. Way-117

Gas Well

Naugatuck Quad.

CASING & TUBING

Company	The Owens, Libbey-Owens Gas Dept.	8 $\frac{1}{2}$ "	305'	305'
Address	P.O.Box 1375, Charleston, W.Va.	6 5/8"	1112'	1112'
Farm	Glenhayes Co. Acres 3495	3"	1241'	1241'
Location	Tug River			
Well No.	488	Elev. 640'		
District	<u>Lincoln</u>	County <u>Wayne</u>	PACKER	
Surface	Glenhayes Co., Glenhayes, W.Va.	Kind	Hook Wall	
Mineral	Same	Size	3 x 6 5/8 x 16"	
Drilling	Commenced Aug. 16, 1937	Depth Set	1224'	
	Completed Oct. 4, 1937			
Volume	744,000 Cu.Ft.			
Rock Press.	512# 45 hrs.			

Formation	Color	Hor	Top	Base	Result	Formation	Color	Hor	Top	Base	Result
Clay	Yellow	S	0	19		Slate&Shells	White	M	1825	1912	
Coal	Black	S	19	24		Shale	Brown	S	1912	1966	
Sand	Gray	S	24	31		Slate&Shells	Dark	M	1966	1991	Gas
Slate	Black	S	31	46		Slate&Shells	Light	M	1991	2050	1921'
Slate	White	S	46	148		Shale	Brown	S	2050	2066	increas
Sand	White	S	148	163		Slate&Shells	Light	S&H	2066	2151	12,000
Slate	White	S	163	270		Shale	Brown	S	2151	2302	
Coal	Black	S	270	274		Slate&Shells	Light	S&H	2302	2347	
Slate	Light	S	274	285		Shale	Brown	S	2347	2394	
Sand	Light	M	285	300		Slate&Shells	Light	M	2394	2435	
Slate	Light	S	300	342	Show	Shale	Brown	S	2435	2462	
Slate&Shells	Black	S	342	448	Gas	Sand	Light	H	2462	2472	
Slate	White	S	448	486	442'	Slate	Light	S	2472	2488	
Sand	White	S	486	578	Water	Shale	Brown	S	2488	2560	
Sand	White	H	578	813	520'	Shell	Dark	H	2560	2564	
Slate	Black	S	813	817	Hole	Shale & Shells	Brown	S	2564	2607	
Red Rock	Red	S	817	827	Full.	Slate	White	S	2607	2836	
Slate	Blue	S	827	836		Shale	Brown	S	2836	2899	Gas
Red Rock	Red	S	836	864		Corniferous Lime			2899	2903	2894'
Slate & Shells	Light	S	864	972		TOTAL DEPTH				2903	increas
Slate	Light	S	972	983							6,000
Sand	Light	H	983	990							
Shells	Light	H	990	1010		Acid Treatment	Sept. 29, 1937.				
Slate	Light	S	1010	1026		Test before Acid treatment	217,000 Cu.Ft.				
Slate&Shells	Light	H	1026	1042		Test after acid treatment	744,000 Cu.Ft.				
Sand	White	H	1042	1063							
Lime	Light	H	1063	1071							
Lime	Dark	S	1071	1084							
Slate	Dark	S	1084	1086							
Big Lime	White	H	1086	1216							
Slate	Blue	S	1216	1219							
Big Lime	White	H	1219	1278	Gas						
Injun Sand	Red	H	1278	1325	1228-						
Slate & Shells	Dark	M	1325	1424	1239'						
Lime	Dark	H	1424	1455	256,000						
Shells	Dark	H	1455	1479							
Slate	Dark	S	1479	1491							
Slate&Shells	Dark	M	1491	1613							
Shale	Dark	S	1613	1625							
Shells	Gray	H	1625	1633							
Shale	Dark	S	1633	1663							
Slate&Shells	Dark	M	1663	1775							
Shale	Brown	S	1775	1785							
Sand	Light	H	1785	1800							
Slate	Light	M	1800	1805							
Sandy Lime	Light	H	1805	1815							
Sand	White	H	1815	1825	- Screen						