



- Fracture Before 6/5/27
- New Location
- Drill Deeper
- Redrill
- Abandonment

I, the undersigned, hereby certify that this map is correct to the best of my knowledge and belief and shows all the information required by Paragraph 5 of the Rules and Regulations of the Oil and Gas Section of the Mining Laws of West Virginia.
 The accuracy of this survey is within the limits and as prescribed in paragraph 5 by the Oil and Gas Division of the Department of Mines Regulations.
PROVEN ELEVATION U.S.S. "596"

Company CITIES SERVICE OIL COMPANY
 Address BOX 873 CHARLESTON, W. VA.
 Farm FRED H. HATCH ET AL
 (PT. 201.22 A?)
 Tract _____ Acres 7.44 Lease No. WV-221
 Well (Farm) No. A-1 Serial No. GW-1614
 Elevation (Spirit Level) 680.08
 Quadrangle ST. ALBANS NE
 County KANAWHA District UNION
 Engineer Wendell S. Moore
 Engineer's Registration No. 2113
 File No. _____ Drawing No. W-2-67
 Date 6 MAR. 67 Scale 1" = 400'

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON
WELL LOCATION MAP
 FILE NO. KAN-2098

+ 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.



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

Rotary
Spudder
Cable Tools
Storage

Quadrangle St. Albans
Permit No. Kan-2098

WELL RECORD

Oil or Gas Well gas
(KIND)

Company Cities Service Oil Company
Address Box 873, Charleston, W. Va. 25323
Farm Fred H. Hatch, et al Acres 281.22'
Location (waters) Clay Bank Branch
Well No. "A" #1, GW-1614 Elev 680.08'
District Union County Kanawha
The surface of tract is owned in fee by Fred H. Hatch
124 Lakeshore Drive Address Charleston, W. Va.
Mineral rights are owned by F. H. Hatch, et al
(for further add. contact C. S. Oil Co)
Address _____
Drilling commenced 3-30-67
Drilling completed 4-7-67
Date Shot not shot From _____ To _____
With _____
Open Flow /10ths Water in _____ Inch
/10ths Merc. in _____ Inch
Volume 12,438 M Cu. Ft.
Rock Pressure _____ lbs. _____ hrs.
Oil _____ bbls., 1st 24 hrs.
WELL ACIDIZED (DETAILS) not acidized
WELL FRACTURED (DETAILS) not fractured

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
16			none
13 3/8" 48#	56'	56'	Size of
9-5/8" 32#	1820'	1820'	Depth set
8 1/4			Perf. top
6 7/8" 23#	5327'	5327'	Perf. bottom
5 3/16			Perf. top
4 1/2			Perf. bottom
3			
2			
Liners Used			

Attach copy of cementing record.
CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____
Amount of cement used (bags) see reverse side
Name of Service Co. _____
COAL WAS ENCOUNTERED AT 590 FEET 48 INCHES
FEET _____ INCHES FEET _____ INCHES
FEET _____ INCHES FEET _____ INCHES

RESULT AFTER TREATMENT (Initial open Flow or bbls.) 12,438 MCF (Newburg) actual open flow
ROCK PRESSURE AFTER TREATMENT 19 das HOURS 2233.5#
Fresh Water 35' Feet _____ Salt Water _____ Feet _____
Producing Sand Newburg Sand Depth 5360-5386' per electric logs

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Top Soil and Red Rock			0	35	f. water	35'	
Sand			35	60			
Sand and Shale			60	590			
Coal			590	594			
Sand and Shale			594	1060			
Lime and Shale			1060	1405			
Salt Sand			1405	1505			
Big Lime			1505	1664			
Keener			1664	1672			
Big Injun			1672	1740			
Sandy Shale			1740	1870			
Shale			1870	2150			
Sandy Shale			2150	2165			
Shale			2165	4544			
Corniferous Lime			4544	4630			
Oriskany Sand			4630	4670			
Sand and Lime streaks			4670	5350			
Newburg Sand			5350	5371			
Lime - McKenzie			5371	5395	Gas	5355-65'	12,438 MCF
Total depth				5395'	Drillers' Meas.		
Electric Logs show				5409'	Schlumberger's Meas/		
Newburg			5360	5386'			

Deep Well (Newburg)

Formation	Color	Hard or Soft	Top C	Bottom	Oil, Gas or Water	Depth Found	Remarks
CASING RECORD							
3-30-67							Set and cemented 13-3/8" 48# H-40 B Grade casing at 60' with 50 sacks cement.
4-1-67							Set and cemented 9-5/8" 32.3# 8 rd A-Grade, H-40 casing at 1,820' with 270 sacks Litepoz and 100 sacks regular cement with 2% Calcium Chloride. Good cement circulation to the surface. Pumped 50 bbls. gel with lost circulation material ahead of cement. Centralizers at 1460', 1594', 1690' and 1787'. Re-cemented 4-2-67 with 100 sacks regular cement. Last 50 sacks with 2% Calcium Chloride.
4-5-67							Set and cemented 7" 23# B-Grade, J-55 casing at 5,275' with 120 sacks regular cement. Pumped 200 bbls. gel ahead of cement. Good circulation to surface. Pumped plug to 5,263'. Centralizers at 5235', 5166', 5052', 4926' and 4,799'. R/L nipple at 3,908'.
4-7-67							Drilled 6-1/4" hole to 5,395' Drillers' T.D. Flare lit at 5,355', Est. 1,000 MCFD at 5,355 - gas increased to 12,438 MCFD at 5,358'
4-19-67							12 day SIP 2225#. Ran Schlumberger Gamma Ray, Caliper, Induction and Compensated Formation Density Logs.
4-25-67							Ran Critical Flow Multi Point back pressure test.
4-26-67							Calculated open flow from test data 10,200 MCFD. Actual open flow 12,438 MCFD, 19 day shut in pressure 2233.5#.

Date May 15, 1967

APPROVED Cities Service Oil Company, Owner

By L. D. Todd, District Sup't
(Title)