

Latitude 38° 30'

Longitude 81° 30'

ALCINDA HANNA
(95°)

H.C. JONES
(59°)

Topo. Loc.
14,500' S of 38°30'
19,700' W of 81°30'

Post 576°06'E 1006.50'
576°06'W 396'
523°46'W 1399.00'
583°48'E 1144.52'
Post
GW-1642

Post N45°00'E 882.75'
N65°30'W 495.00'
Post

GW-906

B.F. JONES

WU-239 - 250.75A⁰

R.C. CAVENDER

DORA CAVENDER ET AL
CONSOLIDATION

R.E. McCABE

FORK
FIVEMILE

V.W. PAXTON

M.F. STAUFFER

7.5 min OGIS loc.	15 min
38°30' 2845	2845
81°32'30" 1460	3720

- 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 661.60

Company CITIES SERVICE OIL COMPANY
 Address Box 873 CHARLESTON, W. VA.
 Farm DORA CAVENDER ET AL CONSOL.
 Tract LOT-1 Acres 250.75 Lease No. WU-239
 Well (Farm) No. B-1 Serial No. GW-1642
 Elevation (Spirit Level) 932.80
 Quadrangle CHARLESTON 1 NE
 County KANAWHA District ELK
 Engineer Wendell S. Moore
 Engineer's Registration No. 2113
 File No. _____ Drawing No. W-5-68
 Date 12-20-68 Scale 1" = 660'

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

WELL LOCATION MAP
FILE NO. Ken-2308

✦ 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 4

Rotary
Spudder
Cable Tools
Storage

Quadrangle Charleston 1

Permit No. Kan-2308

WELL RECORD

Oil or Gas Well Gas (KIND)

Company Cities Service Oil Company
Address Box 873, Charleston, W. Va. 25323
Operator Dora Cavender, et al Cons. Acres 96.75
Location (waters) Coopers Creek
Well No. "B" #1, GW-1642 Elev. 932.86'
District E1k County Kanawha
The surface of tract is owned in fee by Emma Jones, et ux
Box 349-A Address Clendenin, W. Va.
Mineral rights are owned by Va. J. Harrison, et al
224 Milam St. Address New Orleans, La
or further add. contact C. S. Oil Co)
Drilling commenced 10-18-68
Drilling completed 10-29-68
Date Shot not shot From To

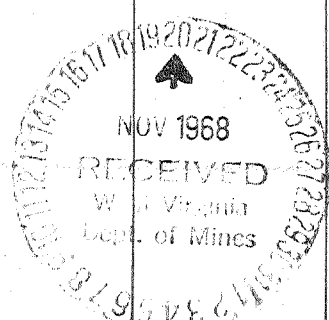
Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
16			none
13 3/8" 48#	90'	90'	Size of
10			Depth set
8 1/4" 24#	1927'	1927'	
6 5/8"			
5 1/2" 17#	5765'	5765'	
4 1/2"			
3			Perf. top
2 3/8" 4.7# 5806'	5806'		Perf. bottom
Liners Used w/ cage on bottom			Perf. top
			Perf. bottom

Open Flow /10ths Water in Inch
/10ths Merc. in Inch
Volume Cu. Ft.
Rock Pressure lbs. hrs.
Oil bbls., 1st 24 hrs.
WELL ACIDIZED (DETAILS) not acidized
WELL FRACTURED (DETAILS) see reverse side

Attach copy of cementing record.
CASING CEMENTED SIZE No. Ft. Date
Amount of cement used (bags)
Name of Service Co. see reverse side
COAL WAS ENCOUNTERED AT none FEET INCHES
FEET INCHES FEET INCHES
FEET INCHES FEET INCHES

RESULT AFTER TREATMENT (Initial open Flow or bbls.) 53,000 MCF (Newburg) Gal. Absolute O. F. 53,000.000
ROCK PRESSURE AFTER TREATMENT 2,268# HOURS 42
Fresh Water 65' Feet Salt Water 1,115' Feet
Producing Sand Newburg Sand Depth 5793-5812' per electric logs

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Top Soil			0	10			
Sandstone			10	100	F. water	65'	
Sand and Shale			100	915			
Sand			915	1620	S. water	1115'	
Argill. Lime			1620	1770			
Sand and Shale			1770	1927			
Shale			1927	4910			
Lime			4910	5000	5800	5800	
Crinoid Sand			5000	5060	5000	933	
Lime & Dolomite			5060	5800			
Newburg Sand			5800	5802	800	4867	
Lime & Dolomite		<u>McKenzie</u>	5802	5840			
Total depth	-----			5840'	Drillers Meas.		
				= 5835'	Schlumberger meas.		
Electric logs showed:							
Newburg Sand			5793	5812			



Formation	Color	Hard or Soft	Top of	Bottom	Oil, Gas or Water	Depth Found	Remarks
Casing Record							
10-18-68							Set and cemented 13-3/8" 48# H-40 B-grade casing at 99' with 100 sacks of regular cement with 4% calcium chloride. Cement circulated to surface.
10-21-68							Set and cemented 8-5/8" 24# H-40 A-grade casing at 1,927' with 300 sacks Pozmix with 2% calcium chloride. Cement circulated to the surface. Pumped 100 bbls. gel with lost circulation material ahead of cement. Float at 1898'. Centralizers 1898', 1807', 1716', 1631' and 1542'.
10-26-68							Running 5-1/2" casing. Odor sour gas while running casing. Set and cemented 5-1/2" 17# J-55 new casing at 5,765' with 119 sacks of Pozmix and 33 sacks cement. Ran 130' of 5-1/2" 15-1/2# J-55 new casing on bottom. Flapper valve at 5,733'. Centralizers 5,733', 5,605', 5,504', 5,373', 5,241' and 5,107'.
10-30-68							Ran Schlumberger Compensated Formation Density, Gamma Ray, Caliper and Induction Logs. Schlumberger T. D. 5,835'. Newburg sand from electric logs 5793-5812'. 6' of net pay with 13% porosity.
11-4-68							70 hour S. I. pressure 2280 psi. Pumped in 500 gallons of mud acid and 1,000 gallons regular 15% acid. Displaced acid and fraced Newburg Sand with 22,000# 20-40 sand in 18,500 gallons gelled water. Maximum treating pressure 5,400#. Average treating pressure 4,332#. AIR 15.8 bbls/min. Used 543 bbls. total fluid. After pumping 50 barrels of flush pressure increased to 5,400#. Opened tubing and displaced remaining frac fluid in casing and tubing. Started flowing back and well kicked off. Flowed 4 hours and shut in.
11-5-68							20 hour S. I. pressure 2,230#. Blowing well to clean up after fracturing.
11-6-68							Flowing 4 hours to clean up.
11-8-68							42 hour shut in pressure 2,268# deadweight pressure. Ran calculated open flow test. Calculated open flow is 53,000 MCFD at the surface. Strong odor of sulphur during test. Kitagawa test indicated 160 parts per million or 9.8 grains per hundred. This is the maximum the testing equipment could indicate.

Date November 19, 1968

APPROVED Cities Service Oil Company, Owner

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