

3.85  
110

NOTE - ELEVATION TAKEN FROM U.S.C.G. "UE 781" ELEVATION 781.00 ABOUT .6 MILE SOUTH EAST ALONG STATE HIGHWAY 18 FROM JUNCTION U.S. 50 AT WEST UNION 18' WEST OF E RT 18, IN TOP OF ROCK WING WALL IN NW CORNER OF A 15' CONCRETE BRIDGE. A SQUARE CHISELED - PAINTED WHITE.

THE ACCURACY OF THIS SURVEY IS WITHIN THE LIMITS PRESCRIBED BY THE OIL AND GAS DIVISION OF THE DEPARTMENT OF MINES.

- New Location
- Drill Deeper
- 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 6 OF THE RULES AND REGULATIONS OF THE OIL AND GAS SECTION OF THE MINING LAWS OF WEST VIRGINIA.

Company CITIES SERVICE OIL COMPANY  
 Address BOX 873 CHARLESTON, W.VA.  
 Farm LEWIS MAXWELL "B"  
 Tract \_\_\_\_\_ Acres 1562 Lease No. CFWV-908  
 Well (Farm) No. E-23 Serial No. GW-1519  
 Elevation (Spirit Level) 968.87'  
 Quadrangle WEST UNION-7 S383 W-099  
 County DODDRIDGE District WEST UNION  
 Engineer Wendell S. Moore  
 Engineer's Registration No. 2113  
 File No. \_\_\_\_\_ Drawing No. W-20-64  
 Date 17 JULY 64 Scale 1" = 400'

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

WELL LOCATION MAP  
FILE NO. DOD-1159

+ Denotes location of well on United States Topographic Maps, scale 1 to 62500 latitude and longitude lines being represented by border lines as shown.

- Denotes one inch spaces on border line of original tracing.

Sampler 1500 - 1902'

6-6 099



STATE OF WEST VIRGINIA  
DEPARTMENT OF MINES  
OIL AND GAS DIVISION / 0

Rotary   
Spudder   
Cable Tools   
Storage

Quadrangle West Union 7 SW

WELL RECORD

Permit No. Dod-1159

Oil or Gas Well Gas

Company Cities Service Oil Company  
Address P. O. Box 873, Charleston 23, W. Va.  
Farm Lewis Maxwell "B" Acres 1562  
Location (waters) Brushy Fork  
Well No. E-23, GW-1519 Elev 968.87'  
District West Union County Doddridge  
The surface of tract is owned in fee by G. A. Pierce, et ux  
810 Monroe St. apt. 108 Address Annapolis, Md.  
Mineral rights are owned by Mrs. Grace Gaylord, et al  
(for further add. contact C. S. O. Co)  
Address \_\_\_\_\_

Drilling commenced 9-7-64  
Drilling completed 10-6-64  
Date Shot not shot From \_\_\_\_\_ To \_\_\_\_\_  
With \_\_\_\_\_

Open Flow \_\_\_\_\_ /10ths Water in \_\_\_\_\_ Inch  
\_\_\_\_\_ /10ths Merc. in \_\_\_\_\_ Inch  
Volume show \_\_\_\_\_ Cu. Ft.  
Rock Pressure 405 lbs. 48 hrs.  
Oil \_\_\_\_\_ bbls., 1st 24 hrs.

WELL ACIDIZED not acidized

WELL FRACTURED see attached sheet

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			Kind of Packer
16			<u>Anchor packer</u>
13			Size of <u>4-1/2"</u>
10 <u>3/4" 32#</u>	<u>39'</u>	<u>39'</u>	Depth set <u>1,762'</u>
<u>8 1/4" 24#</u>	<u>541'</u>	<u>541'</u>	
<del>7" 23#</del>	<u>1019'</u>	<u>1019'</u>	
<del>4-1/2" 9.5#</del>	<u>1917'</u>	<u>1917'</u>	
3			Perf. top _____
2			Perf. bottom _____
Liners Used			Perf. top _____
			Perf. bottom _____

CASING CEMENTED \_\_\_\_\_ SIZE \_\_\_\_\_ No. Ft. \_\_\_\_\_ Date \_\_\_\_\_  
see attached sheet

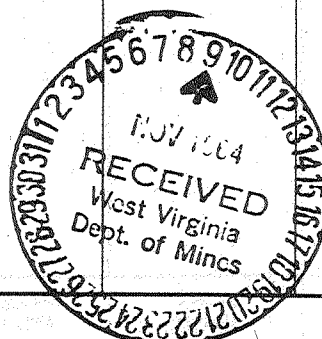
COAL WAS ENCOUNTERED AT 65 FEET 60' INCHES  
\_\_\_\_\_ FEET \_\_\_\_\_ INCHES FEET \_\_\_\_\_ INCHES  
\_\_\_\_\_ FEET \_\_\_\_\_ INCHES FEET \_\_\_\_\_ INCHES

RESULT AFTER TREATMENT 484 MCF (Big Injun)

ROCK PRESSURE AFTER TREATMENT 48 hours 405# (before fracing)

Fresh Water 65-70' Feet Salt Water \_\_\_\_\_ Feet

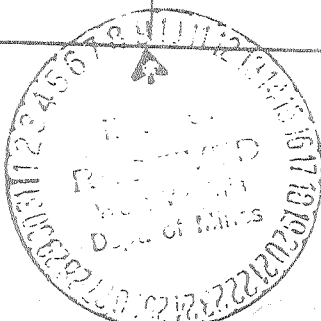
Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Red Rock			0	36			
Lime			36	65			
Coal			65	70	F. water	65-70'	1-1/2 blr/hr.
Slate and Shells			70	85			
Slate and Red Rock			85	95			
Lime			95	115			
Red Rock			115	120			
Sand			120	145			
Lime			145	165			
Red Rock			165	190			
Sand			190	220			
Slate and Shells			220	245			
Lime			245	260			
Slate and Shells			260	335			
Shale			335	340			
Lime			340	370			
Shale			370	390			
Sand			390	414			
Slate and Shells			414	450			
Slate and Red Rock			450	460			
Shale			460	470			
Red Rock			470	485			
Sand			485	530			
Lime			530	530			
Slate			550	560			
Broken Lime			560	590			
Pink Rock			590	610			





Dod-1159

Formation	Color	Hard or Soft	Top 10A	Bottom	Oil, Gas or Water	Depth Found	Remarks
10-6-64	Ran Schlumberger Logs: Gamma Ray, Temperature, Caliper, Induction and Density. After running logs gas gauged 10/10 W. 2" = 133M.						
10-9-64	Perforated 1820-23' - 1827-31' - 1832-38' - 1846-54' 2 shots/foot. After perforating gas gauged 7/10 W. 1" = 28 MCF - 48 hour rock pressure 405#.						
<u>FRACED BIG INJUN 10-12-64</u>							
Pumped in 500 gallons MCA, 2,000 gallons acid. Broke down at 2,300# - displaced acid with 30 bbls. water. Pumped in 50,000 SCF Nitrogen as spearhead. Pumped in 538 bbls. water and sand. Maximum pressure 2,300# - minimum 2,100#. Sand concentration 1/2# to 3#/gallon. Used 45,000# 20-40 sand. Average injection rate 33.6 bbls/minute. Flushed with 32 bbls. Total fluid 690 barrels.							
Final open flow 10-18-64 26/10 W. 3" = 484 MCF							
<u>CASING RECORD</u>							
9-16-64	Ran 8-5/8" casing with shoe at 536'DLM - set in 20' red mud.						
9-19-64	Ran 7" casing at 1,008'DLM with shoe - set in 20' red mud.						
10-7-64	Ran 4-1/2" 9.5# J-55 casing with shoe at 1,906'SLM - insert at 1,874' - Packer at 1,762' - R/L nipple at 1,239' - 3 centralizers. Cemented with 35 sacks. Plug to 1,874' - set pipe down.						



Date November 6, 19 64

APPROVED Cities Service Oil Company, Owner

By W. S. Moore, Division Sup't  
(Title)