

NOTE- ELEVATION TAKEN FROM U.S.G.S. "82J" ELEVATION 825.80' ABOUT 2.1 MILES SE ALONG STATE HIGHWAY 18 FROM JUNCTION U.S.50 AT WEST UNION, 18' WEST OF E RT.18, IN TOP OF THE ROCK WING WALL AT THE SE CORNER OF A 15' CONCRETE BRIDGE. A STANDARD TABLET STAMPED "34 JEA" 82J" 1962.

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 Co.
 Address Box 873, CHARLESTON, W.VA.
 Farm LEWIS MAXWELL "D"
 Part of 1882[±]
 Tract Acres 640 Lease No. CFWV-909
 Well (Farm) No. F-23 Serial No. GW-1485
 Elevation (Spirit Level) 869.63'
 Quadrangle WEST UNION-7 S352-W011SE
 County DODDRIDGE District WEST UNION
 Engineer Wendell S Moore
 Engineer's Registration No. 2113
 File No. _____ Drawing No. W-9-64
 Date 5 MARCH 64 Scale 1" = 1000'

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

WELL LOCATION MAP
 FILE NO. Dod-1104

+ 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.

samples 1400 - TD.

6-6 99



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION 3

Rotary
Spudder
Cable Tools
Storage

Quadrangle West Union 7 SW

Permit No. Dod-1104

WELL RECORD

Oil or Gas Well gas
(KIND)

Company Cities Service Oil Company
Address P. O. Box 873, Charleston 23, W. Va.
Farm Lewis Maxwell "D" Acres 640

Location (waters) Bluestone Creek
Well No. F-23, GW-1485 Elev 869.63'
District West Union County Doddridge

The surface of tract is owned in fee by Paul McCutcheon
West Union Address West Virginia

Mineral rights are owned by H. M. Garrett, Spec. Rec. etal
445 W. Main Street Address Clarksburg, W. Va.

Drilling commenced 4-2-64
Drilling completed 4-30-64
Date Shot not shot From _____ To _____
With _____

Open Flow /10ths Water in _____ Inch
/10ths Merc. in _____ Inch
Volume shows Cu. Ft.

Rock Pressure _____ lbs. _____ 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>67'</u>	<u>67'</u>	Depth set <u>1676'</u>
<u>8 1/4" 24#</u>	<u>360'</u>	<u>360'</u>	
<u>7" 23#</u>	<u>893'</u>	<u>pulled</u>	
<u>4-1/2" 9.5#</u>	<u>1827'</u>	<u>1827'</u>	
3			Perf. top _____
2			Perf. bottom _____
Liners Used			Perf. top _____
			Perf. bottom _____

CASING CEMENTED SIZE _____ No. Ft. _____ Date _____
see reverse side 50 sks. cement 10 sks.

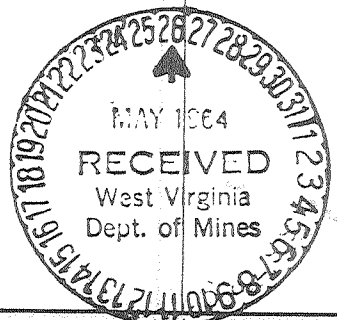
COAL WAS ENCOUNTERED AT none FEET _____ INCHES
FEET _____ INCHES FEET _____ INCHES
FEET _____ INCHES FEET _____ INCHES

RESULT AFTER TREATMENT F. O. F. 1,299 MCF (Big Injun 825M, Salt Sand & Maxon 474M)

ROCK PRESSURE AFTER TREATMENT 190# 48 hours

Fresh Water 30' 78' Feet Salt Water _____ Feet

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Red Rock			0	20			
Lime			20	40	F. water	30'	1-10" b/lr/hr.
Red Rock			40	47			
Lime			47	80	F. water	78'	4 blrs/hr.
Red Rock			80	100			
Slate			100	125			
Sand			125	140			
Broken Lime			140	190			
Red Rock			190	205			
Slate and Shells			205	300			
Lime			300	320			
Slate and Shells			320	385			
Red Rock			385	405			
Lime			405	500			
Red Rock			500	525			
Slate and Shells			525	615			
Red Rock			615	670			
Slate and Shells			670	880			
Sand			880	985			
Slate and Shells			985	1005			
Sand			1005	1035			
Slate and Shells			1035	1095			
Sand			1095	1165			
Slate			1165	1200			
Sand			1200	1230			
Slate and Shells			1230	1270			
Lime			1270	1300			



Formation	Color	Hard or Soft	Top 3	Bottom	Oil, Gas or Water	Depth Found	Remarks
Sand			1300	1398			
Slate and Shells			1398	1430			
Black Lime			1430	1470			
Slate			1470	1493			
Sand			1493	1525			
Lime			1525	1533			
Slate			1533	1550			
Red Rock			1550	1565			
Lime			1565	1590			
Slate			1590	1602			
Lime			1602	1670			
Sand			1670	1775			
Slate			1775	1815			
Total depth-----					1815'DLM		
=					1816'Schl. Meas.		
Plugged back depth-----					1782'	Temperature Log showed gas:	
						1685')	
						1694')	
Schlumberger Log showed:						1706')	Big Injun
Big Injun			1670'	1774'		1742')	
Salt Sand			1331	1395'		1744')	
Maxon Sand			1488	1518'		1754')	
						1370')	
						1385')	Salt Sand
						1389')	
						1500')	Maxon
						1504')	
CASING RECORD							
4-7-64	Ran 8-5/8" casing at 356'DLM. Ran with shoe-set in 20' red clay.						
4-15-64	Ran 7" casing with shoe 885'DLM-set in 20' red clay, R/L nipple 3 joints off bottom. Pulled later.						
5-1-64	Ran 4-1/2" with shoe at 1816' Schlumberger Meas. Packer set at 1576'. Float insert 1782'. Baffle plate at 1671' in top of packer - 6 centralizers. Cemented with 50 sacks after killing with 10 sacks Gel mixed with water. Plug to 1782', Recemented with 50 sacks on 5-8-64. Plug to 1352'						
Logged well 4-30-64. Schlumberger ran Induction, Gamma Gamma, Gamma Ray, Temperature and Caliper Logs.							
See Perforating and Fracturing Record on attached sheet.							

Date May 25, 1964

APPROVED Cities Service Oil Company, Owner

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

Dod-1104

May 25, 1964

Perforating and Fracturing Record for GW-1485, Lewis Maxwell F-23

5-4-64 Perforated Big Injun 1684-90'; 1694-98'; 1704-10'; 1728-30'; 1742-45'; 1762-65' with 2 shots/foot. Used McCullough Jet.

Fractured the Big Injun 5-5-64

Loaded hole with MCA. Broke down at 3,500# to 1,100#, Injected 500 gallons MCA, 5,000 gallons 15% acid, 25,200 gallons water and sand, 1,680 gallons flush. Used 38,000# sand. Average treating pressure 2,200#. Injected 25 perf balls when one half of treatment in. Pressure went to 2,500#. Average injection rate 35.6 bbls/minute. Maximum pressure 2,500#. Maximum sand concentration 1-1/2#/gallon. Used 110,000 SCF Nitrogen, Opened well - flowing back. After fracturing gas gauged 949MCF. (32/10 W. 4").

5-6-64 Perforated Salt Sand 1380-93' with 2 shots/foot. Perforated Maxon 1504-08' with 2 shots/foot. Gas increased from 949M to 1,299 MCF (60/10 W. 4").

5-12-64 Reperforated 1380-93' - gas gauging 14/10 W. 2" = 158M after perforating (Big Injun dead)

Fractured Salt Sand and Maxon 5-12-64

Broke down at 3,400# with 500 gallons MCA-50 bbls. water and nitrogen. Treated Salt Sand and Maxon with 600 bbls. water and 38,000# sand. Maximum treating pressure 2200# - minimum 2,000#. Average injection rate 40 bbls/minute. Sand concentration 1/2 to 2#/gallon. When treatment half in injected 25 perf balls - no change in pressure. Flushed with 40 bbls. water. Used 151,000 SCF Nitrogen. Opened well-flowed back.

Final open flow - all gas 60/10 W. 4" = 1,299 MCF (Big Injun 825 M - Salt Sand and Maxon 474M)

