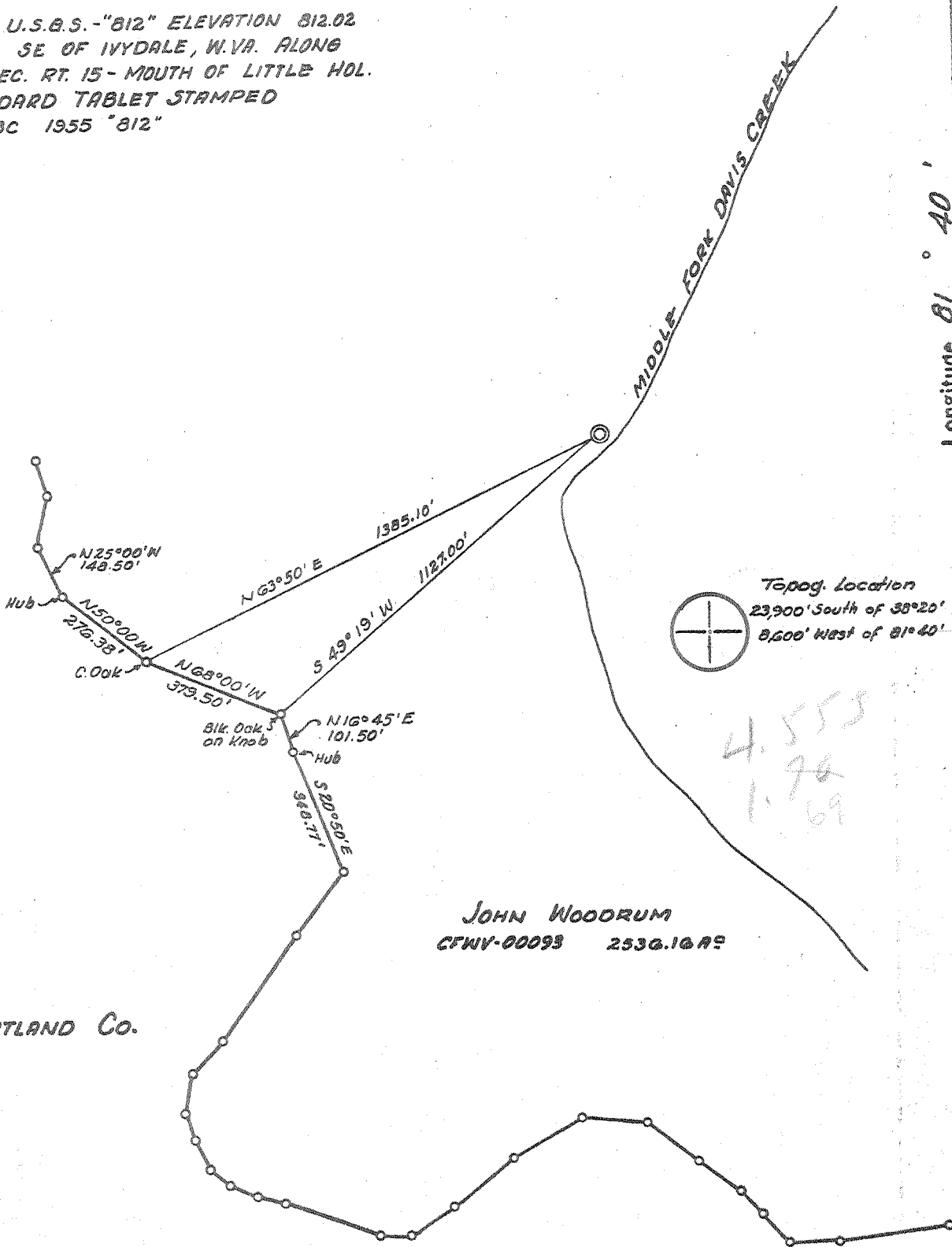


Latitude 38° 20'

Longitude 81° 40'

NOTE: U.S.G.S. "812" ELEVATION 812.02
12 MILES SE OF IVYDALE, W.VA. ALONG
W.VA. SEC. RT. 15 - MOUTH OF LITTLE HOL.
A STANDARD TABLET STAMPED
7738 CBC 1955 "812"



THE COURTLAND CO.

JOHN WOODRUM
CFWV-00093 2536.16 AC

- 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 Regulation.

PROVEN ELEVATION USGS "812" 812.02'

Partial Plugging issued 330170

Company CITIES SERVICE OIL COMPANY
 Address Box 873 CHARLESTON, W.VA.
 Farm JOHN WOODRUM
 Tract _____ Acres 2536.16 Lease No. CFWV-00093
 Well (Farm) No. 2A Serial No. GW-1613
 Elevation (Spirit Level) 931.85
 Quadrangle CHARLESTON 9 SW
 County KANAWHA District LOUPOON
 Engineer Wardell D. Moore
 Engineer's Registration No. 2113
 File No. _____ Drawing No. W-5-67
 Date 28 APRIL 67 Scale 1" = 400'

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

WELL LOCATION MAP
FILE NO. KAN-2112-PP

+ 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.

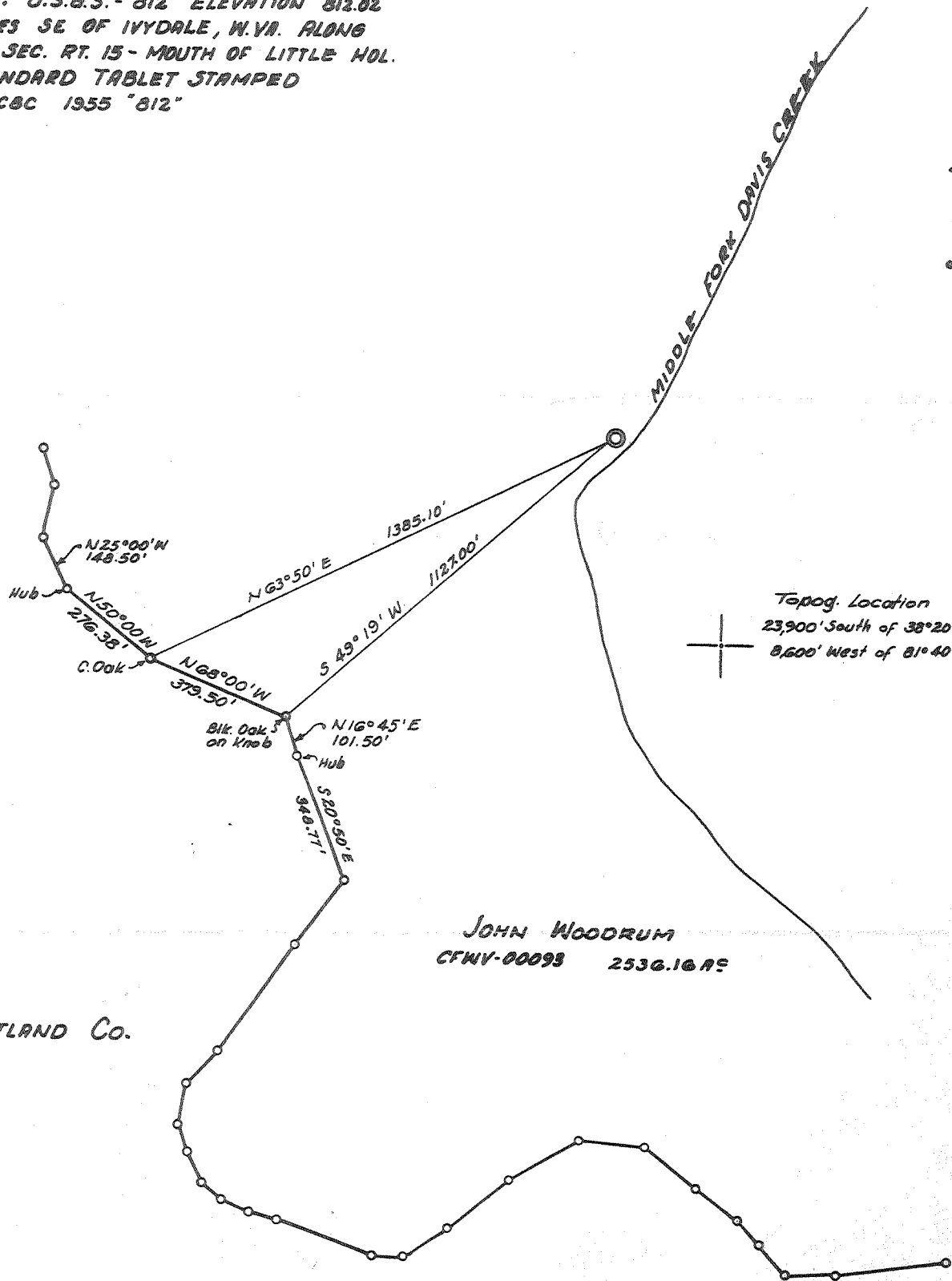
- Denotes one inch spaces on border line of original tracing.

5/2/67 CEN

Latitude 38° 20'

NOTE: U.S.G.S. - "812" ELEVATION 812.02
 12 MILES SE OF IVYDALE, W.VA. ALONG
 W.VA. SEC. RT. 15 - MOUTH OF LITTLE HOL.
 A STANDARD TABLET STAMPED
 TT38 CBC 1955 "812"

Longitude 81° 40'



Topog. Location
 23,900' South of 38°20'
 8,600' West of 81°40'

JOHN WOODRUM
 CFMV-00093 2536.16 AS

THE COURTLAND CO.

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

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 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 USGS "812" 812.02'

Company CITIES SERVICE OIL COMPANY
 Address Box 873 CHARLESTON, W.VA.
 Farm JOHN WOODRUM
 Tract _____ Acres 2536.16 Lease No. CFMV-00093
 Well (Farm) No. 2A Serial No. GW-1613
 Elevation (Spirit Level) 931.85
 Quadrangle CHARLESTON 9
 County KANAWHA District LOUDON
 Engineer Wendell D Moore
 Engineer's Registration No. 2113
 File No. _____ Drawing No. W-5-67
 Date 28 APRIL 67 Scale 1" = 400'

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON
WELL LOCATION MAP
 FILE NO. KAN-2112

+ 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
WELL RECORD

Rotary
Spudder
Cable Tools
Storage

Oil or Gas Well Gas
(KIND)

Quadrangle Charleston 9
Permit No. KAN-2112

Company Cities Service Oil Company
Address Box 873, Charleston, W. Va.
Farm John Woodrum, et al Acres 2536.16
Location (waters) Middle Fork of Davis Creek
Well No. "A" #2, GW-1613 Elev. 931.85'
District Loudon County Kanawha
The surface of tract is owned in fee by John R. Woodrum, et al
3340 NE 2nd Ave. Address Miami, Fla. 33138

Mineral rights are owned by same
(for further add. contact C. S. Oil Co)
Address

Drilling commenced May 7, 1967
Drilling completed May 27, 1967
Date Shot not shot From To

With

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) see reverse side
WELL FRACTURED (DETAILS) see reverse side

Casing and Tubing	Used in Drilling	Left in Well	Packers
Size			
20"	31'	pulled	Kind of Packer
133/8" 48#	26'	26'	none
10			Size of
8 1/4" 24#	1793'	1793'	Depth set
6#			
5 3/16			
4 1/2" 11.6#	5529'	5529'	Perf. top <u>5418</u>
3			Perf. bottom <u>5422</u>
2 3/8" 4.7#	5467'	5467'	Perf. top
Liners Used	with cage		Perf. bottom

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 218 FEET 24 INCHES
232 FEET 36 INCHES 247 FEET 36 INCHES
FEET INCHES FEET INCHES

RESULT AFTER TREATMENT (Initial open Flow or bbls.) 400 MCFD (Newburg)
ROCK PRESSURE AFTER TREATMENT 23 HOURS Tubing 1800#, B.H. 1890#
Fresh Water 87' Feet Salt Water Feet
Producing Sand Newburg Sand Depth 5418-5435' per electric logs

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Soil			0	30			
Gravel			30	34			
Sand			34	45			
Sand and Shale			45	105	F. water	87'	
Sand and Lime			105	165			
Sand			165	210			
Sand and Shale			210	218			
Coal			218	220			
Sand and Shale			220	232			
Coal			232	235			
Shaley Sand			235	247			
Coal			247	250			
Shale			250	600			
Sand			600	835			
Shale			835	875			
Sandy Shale			875	906			
Sand			906	1110			
Sand and Shale			1110	1148			
Sand			1148	1313			
Sand and Shale			1313	1364			
Red Rock and Shale	<u>Mich</u>		1364	1384 <u>-20</u>			
Sand	<u>Branton</u>		1384	1425 <u>41</u>			
Sand and Shale			1425 <u>1000</u>	1435 <u>10</u>			
Lime	<u>Big Lame</u>		1435	1658 <u>-23</u>			
Red Rock and Shale	<u>Marysdy</u>		1658	1680 <u>-22</u>			
Big Injun Sand			1680	1710 <u>-30</u>			

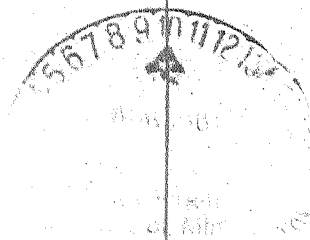
Formation	Color	Hard or Soft	Top /D	Bottom	Oil, Gas or Water	Depth Found	Remarks
Shale			1710	4640			
Lime			4640	5400			
Lime & Dolomite			5400	5433			
Sand and Shale			5433	5480			
Total depth-----				5480' Drillers' Meas.			
Plugged back depth-----				5475' Schlumberger's Meas.			
				5471'			
<u>Electric Log shows:</u>							
Newburg Sand			5418	5435			
Oriskany Sand			4740	4750			
<u>CASING RECORD</u>							
5-7-67	Set 20" drive pipe at 31' - did not cement. Pulled after running 13-3/8"						
5-8-67	Set and cemented 13-3/8" 48# H-40 new casing at 35' with 150 sacks. Re-cemented 13-3/8" 5-12-67 with 150 sacks with 2% Calcium Chloride. Good circulation.						
5-19-67	Set and cemented 8-5/8" 24# B-Grade J-55 casing at 1780' with 525 sacks Pozmix and 250 sacks of regular cement with 2% Calcium Chloride. Pumped 50 bbls. gel with lost circulation material ahead of cement. Good circulation of gel and cement. Centralizers at 1748', 1653' and 1557'.						
5-28-67	Set and cemented 4-1/2" 11.6# J-55 new casing at 5475' with 180 sacks of Pozmix and 55 sacks Latex. Used 500 gallons mud wash ahead of cement. Worked casing 15' while cementing. Baker reciprocating scratchers on 12' centers 5475-5283'. Centralizers 5437', 5369', 5268', 5168', 5069' and 4967'. Pumped plug to 5471'.						
5-18-67	Ran Schlumberger Gamma Ray, Caliper, Compensated Formation Density and Induction Logs. Schlumberger's T. D. 1763'. Big Injun 1663-1708', Big Lime 1430-1646'						
5-27-67	Ran Schlumberger Gamma Ray, Caliper, Compensated Formation Density, Induction, Sonic and sidewall Neutron Logs. Schlumberger T. D. 5475'. Newburg 5418-5435', Oriskany 4740-4750'.						
5-26-67	Cut Core #1 5400' to 5433' - Cut and recovered 33' - average coring time 27 min/ft.						
6-28-67	Ran Schlumberger Gamma Ray, Cement Bond and Collar Locator Log. Perforated Newburg Sand 5427-5430' with 4 shots/foot. Total of 13 holes. Used Schlumberger Hyperjet.						
6-30-67	Acidized Newburg Sand with 500 gallons mud acid and 1,500 gallons regular 15% acid. Formation broke down at 2,500#. Maximum treating pressure 3,500#. Average treating pressure 3,300#. AIR 1/2 BPM. ISIP 3,500#.						
	see next page						

Date _____, 19__

APPROVED _____, Owner

By _____ (Title)

Formation	Color	Hard or Soft	Top 10	Bottom	Oil, Gas or Water	Depth Found	Remarks
<u>ADDITIONAL INFORMATION ON WOODRUM "A" #2</u>							
7-6-67	Perforated additional Newburg Sand from 5418' to 5422' with 4 shots/foot. Total of 17 holes. Used Schlumberger Hyperjet. Fraced Newburg Sand from 5418' to 5430'. Pumped 500 gallons mud acid and 1,000 gallons regular 15% acid into formation at 4,700#. Fraced Newburg Sand with 16,000# 20-40 sand-17,500 gallons gelled water. Maximum treating pressure 4,800#. Average treating pressure 4,559#. AIR 16 BPM. Immediate Shut In pressure 4,000#. Flowing back.						
7-19-67	23 hour shut in pressure tubing 1800# - annulus 1890#. FOF 400 MCFD						



Date August 8, 1967

APPROVED Cities Service Oil Company, Owner

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