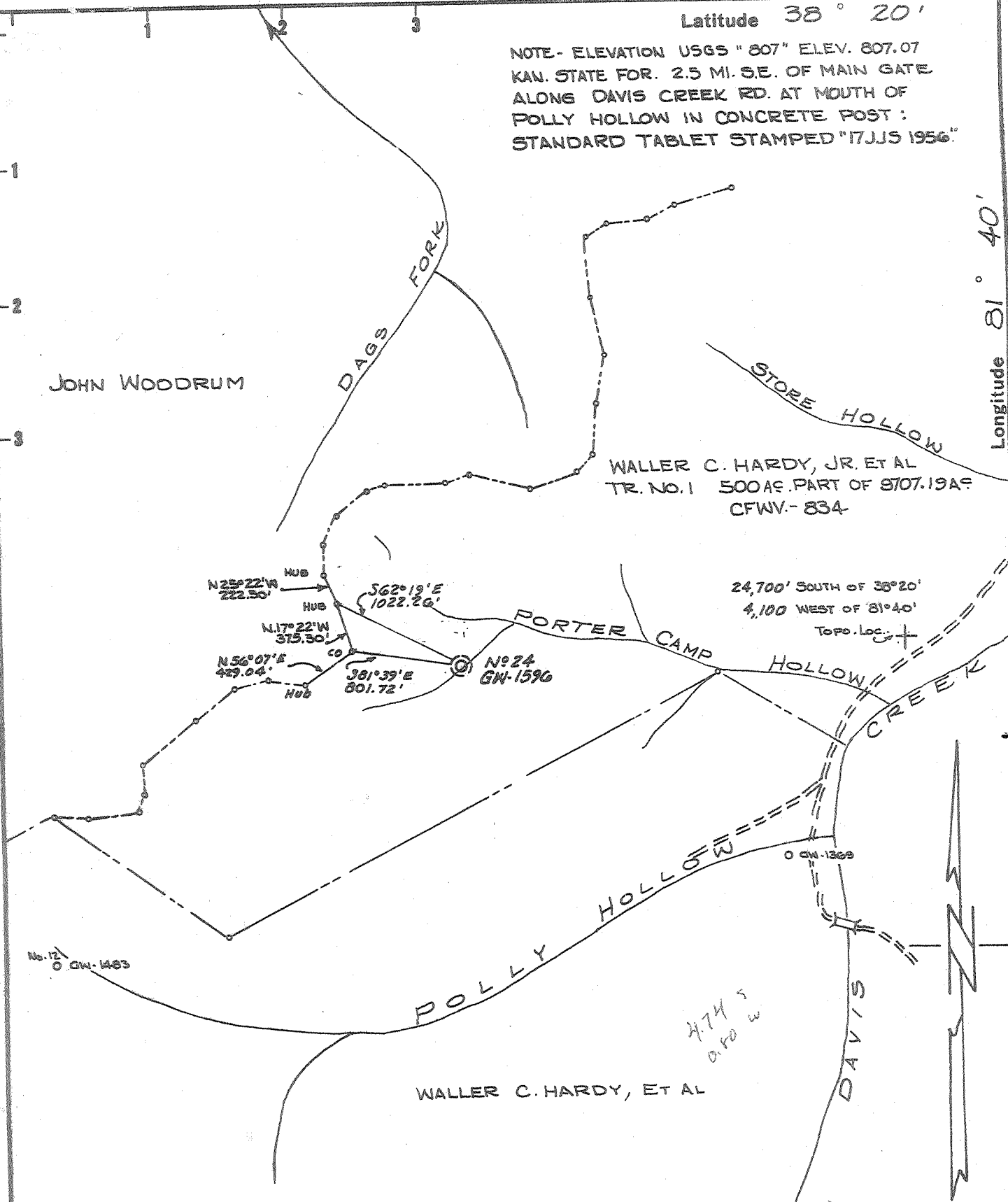


Latitude 38° 20'

NOTE - ELEVATION USGS "807" ELEV. 807.07
KAN. STATE FOR. 2.5 MI. SE. OF MAIN GATE
ALONG DAVIS CREEK RD. AT MOUTH OF
POLLY HOLLOW IN CONCRETE POST:
STANDARD TABLET STAMPED "17JJS 1956"

Longitude 81° 40'



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 WALLER C. HARDY JR. ET AL
PT. OF 9707.19 AC.
 Tract 1 Acres 500 Lease No. CFWV-834
 Well (Farm) No. 24 Serial No. GW-1596
 Elevation (Spirit Level) 1037.87
 Quadrangle CHARLESTON - SW
 County KANAWHA District LOUDON
 Engineer Wendell S Moore
 Engineer's Registration No. 2113
 File No. _____ Drawing No. W-1-67
 Date 5 JAN 67 Scale 1" = 1000'

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

WELL LOCATION MAP
FILE NO. KAN-2092

+ 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.

stepout

Deepwell

(Newburg)

6305



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION

Rotary
Spudder
Cable Tools
Storage
Oil or Gas Well Gas (KIND)

Quadrangle Charleston

WELL RECORD

Permit No. KAN-2092

Company Cities Service Oil Company
Address Box 873, Charleston, W. Va. 25323
Farm W. C. Hardy, Jr., et al Acres 9707.19
Location (waters) Porter Camp Hollow
Well No. "A" #24, GW-1596 Elev. 1037.87'
District Loudon County Kanawha
The surface of tract is owned in fee by State of W. Va. Address Charleston, W. Va.
Mineral rights are owned by W. C. Hardy, Jr., et al
5100 2nd Avenue Address Vienna, W. Va.
Drilling commenced 2-24-67
Drilling completed 3-11-67
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) not acidized
WELL FRACTURED (DETAILS) see reverse side

Casing and Tubing Size	Used in Drilling	Left in Well	Packers
16			Kind of Packer <u>none</u>
13 3/8" 48#	36'	36'	Size of <u> </u>
10			Depth set <u> </u>
8 1/4" 24#	1831'	1831'	Perf. top <u> </u>
6"			Perf. bottom <u> </u>
5 3/16"			Perf. top <u> </u>
4 1/2" 11.6#	5552'	5552'	Perf. bottom <u> </u>
3"			Perf. top <u> </u>
2 3/8" 4.7#	5281'	5281'	Perf. bottom <u> </u>
Liners Used <u>with cage</u>			Perf. top <u> </u>
			Perf. bottom <u> </u>

Attach copy of cementing record.

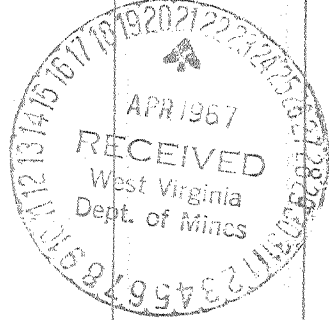
CASING CEMENTED	SIZE	No. Ft.	Date
<u> </u>	<u> </u>	<u> </u>	<u> </u>

Amount of cement used (bags)
Name of Service Co.

COAL WAS ENCOUNTERED AT	FEET	INCHES
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>

RESULT AFTER TREATMENT (Initial open flow or bbls.) 17,224 MCF (Newburg)
ROCK PRESSURE AFTER TREATMENT 1977# HOURS 72 hours
Fresh Water 65' 100' Feet Salt Water Feet
Producing Sand Newburg Depth 5457-5471'

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Sand			0	38			
Sand and Shale			38	336	F. water	65'	hole wet
Shale			336	362	increased at	100'	
Sand and Shale			362	400			
Shale			400	661			
Sand and Shale			661	803			
Shale			803	836			
Sand and Shale			836	904			
Salt Sand			904	1360			
Sand and Shale			1360	1465			
Lime and Shale - <u>limestone & P. Carr</u>			1465	1514			
Lime - <u>Black lime</u>			1514	1691			
Red Rock and Sand - <u>365</u>			1691	1715			
Injun Sand - <u>365</u>			1715	1745			
Shale and Sand - <u>369</u>			1745	1799			
Shale and Shells			1799	4681			
Lime and Shale - <u>Onondaga</u>			4681	4780			
Sand and Lime - <u>Helderberg & Onondaga</u>			4780	4928			
Lime and Shale - <u>Corandora</u>			4928	5300			
Lime and Dolomite - <u>W. Va. Series</u>			5300	5494			
Sand <u>Newburg</u>			5494	5530			
Total depth				5530'	Drillers' Meas.		
				5528'	Schlumberger Meas.		
Plugged back depth				5502'			



5494
1038
5456 electric logs on other side

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks
Electric Logs show:							
Big Lime			1451	1670			
Big Injun			1681	1720			
Newburg Sand			5457	5471			
CASING RECORD							
2-24-67	Set and cemented 13-3/8" 48# H-40 new casing with 30 sacks cement at 36'						
3-3-67	Set and cemented 8-5/8" 24# B Grade J-55 casing with guide shoe at 1,798' with 320 sacks Pozmix with 2% Calcium Chloride. Pumped 50 bbls. gel with lost circulation material ahead of cement. Centralizers at 1,766', 1704', 1,639' and 1,577'.						
3-12-67	Set and cemented 4-1/2" 11.6# new J-55 casing at 5,528' with Baker Whirler Guide Shoe with 150 sacks Pozmix and 71 ft. ³ of cement on bottom. Worked casing 15' while cementing. Reciprocating scratchers on 12' centers 5516-5252'. Centralizers at 5,488', 5,456', 5,327', 5,235', 4,783' and 4,684'.						

3-3-67	Depth 1,802'. Ran Schlumberger Gamma-Ray, Caliper, Density and Induction Logs. Showed Big Lime 1451-1670' -- Big Injun 1681-1720'						
3-11-67	T. D. Ran Schlumberger Gamma Ray, Caliper, Density, Induction and Sidewall Neutron Logs.						
3-30-67	Ran Gamma Ray Correlation Log. Cement Bond Log and Collar Locator Log. Bond log for Newburg indicated good bonding 5502-5350' -- fair 5350-4740'. Indicated top of cement at 4,740'.						
3-30-67	Perforated Newburg 5461-5464' with 4 shots/foot for a total of 13 holes. Swabbed well down to 2,000'. Kicked off and blew for 30 minutes. Gas gauged 2,837 MCFD						
3-31-67	Fracted the Newburg						
	Pumped 500 gallons MCA and 1,000 gallons regular acid into the Newburg Sand. Formation broke down at 4,400'. Fraced down casing with 30,000# 20-40 sand in 28,000 gallons gelled water. Maximum treating pressure 4,700#. Average treating pressure 4,286#. Immediate S.I. pressure 4,100#. AIR 17.7 BPM. Used 769 barrels fluid during treatment. Put radio active material in during treatment. Flowed 5 hours and died. Ran tubing on 4-1-67 to swab.						
4-10-67	F. O. F. 17,224 MCF - 72 hour shut in pressure 1977# tubing and annulus						

Date April 19, 1967

APPROVED Cities Service Oil Company, Owner

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