

LATITUDE 39° 17' 30"
 (15') 39° 20'
 39 16 00
 80 4 3 50
 4.59S
 3.37W
 3.52W
 LONGITUDE 80° 40' 30"
 (15') 80° 42' 30"

- CONVERT TO SWD
- NEW LOCATION
- RECONDITION
- DRILL DEEPER
- ABANDONMENT

CERTIFICATE

"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."
 Minimum degree of accuracy is one part in 200

Signed Donald J. Bay W.S. # 227

COMPANY CITIES SERVICE OIL COMPANY
 ADDRESS BOX 873 CHARLESTON, W. VA.
 FARM S.T. SHERWOOD
 MAP _____ ACRES 162 LEASE NO. CFNV 39
 WELL (FARM) NO. 3 SERIAL NO. GW-27
 ELEVATION (SPIRIT LEVEL) 816' SW
 QUADRANGLE SMITHBURG; Centerpoint 15'
 COUNTY DODDRIDGE DISTRICT NEW MILTON
 POINT OF PROVEN ELEVATION _____

FILE NO. _____ DRAWING NO. W-7-75
 DATE OCTOBER 8, 1975 SCALE 1" = 1320'

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION
 CHARLESTON
WELL LOCATION MAP
 FILE NO. DOD-1793
Brine Disposal Well
 + DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC
 MAPS SCALE 1 TO 24,000 LATITUDE AND LONGITUDE LINES
 BEING REPRESENTED BY BORDER LINES AS SHOWN **47-017**
 - DENOTES ONE INCH SPACES ON BORDER LINE OF ORIGINAL TRACING



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
Oil and Gas Division
WELL RECORD 3

RECEIVED
DEC 1
OIL & GAS DIVISION
DEPT. OF MINES

Quadrangle Smithburg

Permit No. DODD-1793

Rotary On Gas
Cable Gas
Recycling
Water Flood Storage
Disposal
(Kind)

Company Cities Service Company
Address Box 873, Charleston, WV 25323
Farm S. T. Sherwood Acres 162
Location (waters) Meathouse Fork
Well No. "A" #3, GW-27 Elev. 816'
District West Union County Doddridge
The surface of tract is owned in fee by Robert Gabbert, West Union, W. Va.

Address _____
Mineral rights are owned by S. T. Sherwood Heirs
Address _____

Drilling Commenced 5-25-76
Drilling Completed 9-13-76
Initial open flow 12 cu. ft. 0 bbls.
Final production 57 cu. ft. per day 0 bbls.
Well open 144 hrs. before test 81# RP.

Casing and Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft. (Sks.)
Size 20-16"			
Cond. 13-10"	16'	16'	
9 5/8			
8 5/8			
7 6-5/8"	1436'	1436'	
5 1/2			
4 1/2 11.16#	N-80 1609'	1609'	33 Sx RFC Cement
3			
2 - 3/8"	1563	1563	
Liners Used			
Packer Set			@ 1446'

Well treatment details: salt water disposal Attach copy of cementing record.
Convert gas well to SWD (5-25-76) Cement 1 bbl. 6% gel, 250 gal. mud acid (6 bbls.) 33 Sx RFC Cement (12 bbls.) Flush with 500 gal. 10% acid with 4 gal. inhibitor cement density 14.2#/gal. Displacing pressure 200# Bumped plug with 1000# Ran McCullough cement bond to 1600'. Top of cement at 1163' (446 fillup) cement bond pipe to cement bond fair to good; cement to formation bond indicator. Perf 1590-1560'; 1550-1538'

(OVER)

Coal was encountered at 190'-195' Feet _____ Inches _____
Fresh water 57', 640' Feet _____ Salt Water _____ Feet _____
Producing Sand Big Injun Depth 1526-1620'

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
Coal			190	195		
Little Dunkard Sand			639	655		F. Water 57'
Big Dunkard Sand			726	787		F. Water 640'
1st Salt Sand			940	1006		
2nd Salt Sand			1069	1086		
3rd Salt Sand			1113	1148		
Red Rock			1383	1395		
Little Lime			1400	1430		
Pencil Cave			1430	1438		
Blue Monday			1438	1468		
Big Lime			1468	1529		
Big Injun			1526	1620	1620 PBTB	Gas Gas

(over)

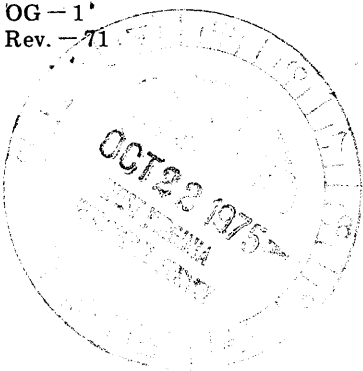
* Indicates Electric Log tops in the remarks section.

Formation	Color	Hard or Soft	Top Feet	Bottom Feet	Oil, Gas or Water	* Remarks
<u>6-2-76</u> (4-1/2" at 1609' PBD 1600' Big Injun Perfs 1538-90' Big Lime Perfs 1458-70) Treated Big Injun Perfs 1538-90'. Displaced 500 gal. acid at 1100# Frac with 22,000# Sand in 22,050 gal. fluid. Flush with 30 bbls. sand concentration 1/4 to 2-1/4# per gal. Max. treating pressure 2000# Avg. 1650# AIR 31 B/M dropped 10 perf balls at 250 bbls. in pressure increased from 1600 to 1700#. Dropped 10 perf balls at 315 bbls. in, at 1700# No pressure increased TL&T 605 bbls. on vac 7 min. after shut down. Ran GR log to 1590'. Log indicates top to bottom perfs open. Breakdown pressure 3100# Pump 1500 gal. 28% acid and 36 bbls. Fine pumping pressure 1400# at 5 B/M ISIP 1300# S.I. 30 min.						
<u>6-4-76</u> Ran 50 jts 2-3/8" 4# 10 Rd Thd tubing with Baker AD Tension Packer. Tubing is at 1563' 3' below top of Big Injun. Perfs and 26" offbottom. Perf tubing jt 1516' to 1547', 800' of fluid in hole. Swabbing						
<u>6-10-76</u> Swabbed 5 BLM - Set packer at 1446; Swabbed 5 BLW 558 BLWTR. Gas Volume 37 MCFD Packing held.						
<u>6/11-13/76</u> 17 Hr. SIP 80# Blew water 30 Min. Ran swab recovered 25 gal. S.I. 557-1/2 BLWTR						
<u>6-29-76</u> Pressure buildup 144 hrs. 81# SIPSIG Turned into line 11 a.m. 6-30-76 stabilized flow rate 57 MCFD - Will drop from report until SWD system is connected.						
<u>9-13-76</u> Completed SWD - Hookup 9-1-76 - W.O. State Inspector						

Date December 16, 19 77
 Cities Service Company

APPROVED Sam J. Matthews, Owner

By Region Production Manager
 (Title)



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES

RECEIVED

OCT 20 1975

OIL & GAS DIVISION
DEPARTMENT OF MINES

Oil and Gas Division

OIL AND GAS WELL PERMIT APPLICATION

TO THE DEPARTMENT OF MINES,
Charleston, W. Va.

DATE October 20, 1975

Surface Owner Robert Gabbert
Address West Union, W. Va.
Mineral Owner S. T. Sherwood Heirs
Address _____
Coal Owner Not Leased
Address _____
Coal Operator _____
Address _____

Company Cities Service Oil Company
Address Box 873, Charleston, W. Va.
Farm S. T. Sherwood Acres 162
Location (waters) Neathouse Fork
Well No. 3 Elevation 816'
District West Union County Doddridge
Quadrangle Smithburg

THIS PERMIT MUST BE POSTED AT THE WELL SITE

CONVERSION TO PRODUCTION BRINE WELL

All provisions being in accordance with Chapter 22, of the W. Va. Code, the location is hereby approved for conversion. This permit shall expire if operations have not commenced by 2-21-76.

Robert L. Todd
Deputy Director - Oil & Gas Division

INSPECTOR TO BE NOTIFIED Paul Garrett
PH: 622-3871 ADDRESS Clarksburg, W. Va.

GENTLEMEN:

The undersigned well operator is entitled to ~~convert~~ convert said well on ~~the~~ production brine the above named farm or tract of land for oil and gas, having fee title thereto, (or as the case may be) under grant or lease dated February 9 19 75 by S. T. Sherwood Heirs made to Cities Service Oil Company and recorded on the _____ day of _____ 19____, in _____ County, Book _____ Page _____

_____NEW WELL _____DRILL DEEPER _____REDRILL _____FRACTURE OR STIMULATE

_____OIL AND GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1969.

Convert for disposal of Production Brine

The enclosed plat was prepared by a registered engineer or licensed land surveyor and all coal owners and/or operators have been notified as of the above date.

The above named coal owners and/or operator are hereby notified that any objection they wish to make, or are required to make by Section 3 of the Code, must be received by, or filed with the Department of Mines within ten (10) days. *

Copies of this notice and the enclosed plat were mailed by registered mail, or delivered to the above named coal operators or coal owners at their above shown respective address same day _____ before, or on the same day with the mailing or delivery of this copy to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL
GEOPHYSICAL LOGS DIRECTLY TO:

West Virginia Geological and Economic Survey
P. O. Box 879
Morgantown, W. Va. 26505
AC 304-296-4461

Very truly yours, **CITIES SERVICE OIL COMPANY**
(Sign Name) [Signature]
Well Operator Sam J. Matthews
Prod. Reg. Manager
P. O. Box 873
Street
Charleston,
City or Town
West Virginia 25323
State

Address
of
Well Operator

*SECTION 3 If no objections are filed or found by the Department of mines, within said period of ten days from the receipt of notice and plat by the department of mines, to said proposed location, the department shall forthwith issue to the well operator a permit reciting the filing of such plat, that no objections have been made by the coal operators or found thereto by the department and that the same is approved and the well operator authorized to proceed.

BLANKET BOND

DODD-1793 PERMIT NUMBER
47-017

Matthews

THIS IS AN ESTIMATE ONLY
ACTUAL INFORMATION WILL BE SUBMITTED ON OG-10 UPON COMPLETION

Production Brine Well

PROPOSED WORK ORDER TO DRILL DEEPEN FRACTURE-STIMULATE
 DRILLING CONTRACTOR: (If Known) _____ RESPONSIBLE AGENT: _____
 NAME N/A NAME Sam J. Matthews
 ADDRESS _____ ADDRESS Box 373, Charleston, W. Va. 25323
 TELEPHONE _____ TELEPHONE 344-8383
 ESTIMATED DEPTH OF COMPLETED WELL: 1615' ROTARY _____ CABLE TOOLS _____
 PROPOSED GEOLOGICAL FORMATION: Big Lime-Big Injun
 TYPE OF WELL: OIL _____ GAS _____ COMB. _____ STORAGE _____ DISPOSAL XX
 RECYCLING _____ WATER FLOOD _____ OTHER _____

TENTATIVE CASING PROGRAM:

CASING AND TUBING SIZE	USED FOR DRILLING	LEFT IN WELL	CEMENT FILL UP OR SACKS - CUBIC FT.
20 - 16"			
13 - 10			
9 - 5/8			
8 - 5/8			
7 6-5/8"	<u>1436'</u>	<u>1436'</u>	<u>Top 456' squeezed w/200 sk.</u>
5 1/2			
4 1/2 <u>9.5# J-55</u>	<u>1619'</u>	<u>1619'</u>	<u>64 sk cement-Bt. 500'</u>
3			Perf. Top
2 - 3/8" <u>4.6#</u>		<u>1480'</u>	Perf. Bottom
Liners			Perf. Top
<u>Packer set @</u>		<u>1450'</u>	Perf. Bottom

APPROXIMATE FRESH WATER DEPTHS 57', 640' FEET - SALT WATER - FEET
 APPROXIMATE COAL DEPTHS 190'-195'
 IS COAL BEING MINED IN THE AREA? No BY WHOM? _____

TO DRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, \$100.00 PERMIT FEE, PERFORMANCE BOND AND PERMANENT COPY OF PLAT.

TO DRILL DEEPER OR REDRILL:

SUBMIT FIVE (5) COPIES OF OG - 1, SHOWING ORIGINAL PERMIT NUMBER AND PERFORMANCE BOND. ON WELLS DRILLED PRIOR TO 1929, A PERMANENT COPY OF THE PLAT AND THE ORIGINAL WELL RECORD MUST ALSO BE SUBMITTED.

TO FRACTURE - STIMULATE:

OIL AND/OR GAS WELL ORIGINALLY DRILLED BEFORE JUNE 5, 1929, FIVE (5) COPIES OG - 1, PERFORMANCE BOND, PERMANENT PLAT AND ORIGINAL WELL RECORD.

OIL AND/OR GAS WELL ORIGINALLY DRILLED ON AND/OR AFTER JUNE 5, 1929, FIVE COPIES OG - 1, SHOWING ORIGINAL PERMIT NUMBER, AND PERFORMANCE BOND.

Required forms must be filed within ninety (90) days of completion for bond release. Inspector to be notified twenty-four (24) hours in advance.

The following waiver must be completed by the coal operator if the permit is to be issued within ten days of receipt thereof.

WAIVER: I the undersigned, Agent for _____ Coal Company, Owner or Operator of the coal under this lease have examined and place on our mine maps this proposed well location.

We the _____ Coal Company have no objections to said well being drilled at this location, providing operator has complied with all rules and regulations in Articles 4, 5, and 7, Chapter 22 of the West Virginia Code.

 For Coal Company

 Official Title

CODE No. G. W. 27 NAME Sherwood CENTRE POINT - S - SW
 S. T. ~~2000~~ N. E.

CASING AND TUBING				GAS, WATER AND OIL RECORD			
SIZE	PUT IN WELL	PULLED	CASING FT.	DATE	DEPTH	FT. RAISED IN HOLE	VOLUME
Conductor			16'	No record	Water	57	
10"	122	122			Water	640	
1 1/2"					Gas	1468	
5/8"	1439				Gas	1535 - 1540	
Tubed with 2" Tubing.					Gas	2183	
3 1/2" and 10" casing pulled.					Gas	2210	

*2 Million - estimated
 blew down to
 1 1/2 Hg - 2" in 8 hours
 3/11/4*

RECORD OF SHOT

TE SHOT	FROM	TO	SAND	TYPE OF EXPLOSIVE	QUANTITY	PRODUCTION BEFORE SHOT	PRODUCTION AFTER SHOT
Not shot							

YEAR	DEPLETION CALCULATION	GRAPHIC LOG	FROM	TO	THICKNESS	FORMATION
	Recond. 2-5-58 to 3-19-58	100'	Conductor		16	
	Had hole in 7" casing - water drowned out Big Injun Gas.	200'	Water		57	
	Gas gauged 11MCF - 3 hr. press.	300'	10" casing		122	
	14# Pulled 2, 29' of 2" tubing.	400'	Coal		190	195
		500'	Little Dunkard		630	655
		600'	Water		640	
	Re-ran 1630'6" of 2-3/8" 4# tubing with Parmaco Special Gas Anchor packer set at 1500'.	700'	Big Dunkard		726	786
		800'	8" casing			
		900'	1st. Salt Sand		940	1006
		1000'	2nd. Salt Sand		1069	1086
		1100'	3rd. salt Sand		1113	1148
	Cemented hole in 7" at 472' with 200 sacks and at 641' with 25 sacks	1200'	Red Rock		1383	1393
	Fished out tubing - T. D. 2219'	1300'	Little Lime		1400	1430
		1400'	Pencil Cave		1430	1434
	R n Birdwell Survey - bottom of pipe 1436' - Blue Monday sand	1500'	Blue Monday		1434	1468
	1438-1450' Pencil Cave 1450-54' - Big Lime 1454-1478' Gas 1458-62'	1600'	6 5/8" casing		1437	
	Big Injun 1478-1610' Gas show 1571'	1700'	Gas		1468	
		1800'	Big Lime		1468	1529
		1900'	Big Injun		1529	1566
		2000'	Gas		1535	1540
		2100'	Squew Sand		1600	1630
	Bridged Gordon off at 2190' filled to 2170' - dumped 2 sacks cement at 2160' - set upper bridge at 1680' Filled to 1595' - 2 sacks C. lceal at 1585'.	2200'	Cents Sand		1763	1865
		2300'	Pencil Cave		2135	2159
		2400'	Gordon Stray		2131	2193
		2500'	Gas		2183	
		2600'	Slate		2193	2207
		2700'	Gordon Sand		2207	2214
		2800'	Gas		2210	
		2900'	Slate		2214	2219
		3000'	TOTAL DEPTH		2219'	
	Ran 3 tubing with Baker Packer set at 1526' would not hold. Reset at 1500- held O. K. Gas would not gauge in 1". Fractured with 2,000 gallons kerosene and 2400# sand. 30 bbls. to breakdown and 30 bbls. to flush.	3100'				
	Pulled tubing and cleaned out.	3200'				
	Ran 2-3/8" tubing with packer and 112'6" of 3" anchor. Perforated joint 16' off bottom.	3300'				
		3400'				

