

9,370'

38 20

LATITUDE 38° 17' 30"

LONGITUDE 81° 30' 00" 81° 28' 00"

NORTH

7.5 MINUTE

0.165
1.75W

UPPER DONNALLY BRANCH

119
20

3.045
4.01W

SUSAN H. HOGUE
546 ac.

*047-039-191(17)

FRYE HOLLOW

R. WITH C&O RW
4730' ±

KANAWHA

PROPERTY LINE WITH ROAD AND RIDGE.

CITIES SERVICE NO. 1

RIVER

443(17)

N79°W, 430'

R.R. SPIKE SET ON WEST R/W OF C&O RAILROAD

61

TIE LINES

- A) N47°16'E, 774.54'
- B) S36°11'E, 1605.58'
- C) N63°05'W, 1701.28'

NOTE: NO OTHER WELLS WITHIN 3000'

WELL REFERENCES:

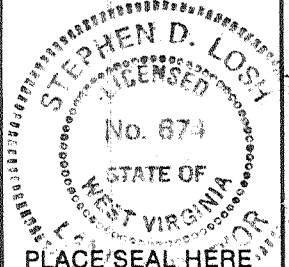
- N78°17'W, 163.50' TO 2" SASSAFRAS
- N35°36'W, 81' TO 6" RED MAPLE

LAND SURVEYING SERVICES
1412 NORTH 18 TH ST.
CLARKSBURG, WV 26301
PHONE: 304-623-1214

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. _____
DRAWING NO. _____
SCALE _____ 1" = 2000'
MINIMUM DEGREE OF ACCURACY _____ IN 200
PROVEN SOURCE OF ELEVATION WELL 047-039-443(26)
775' SW. OF LOCATION AT ELEV. 805'

I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENERGY.
(SIGNED) [Signature]
R.P.E. _____ L.L.S. NO. 674
STEPHEN D. LOSH



STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY
OIL AND GAS DIVISION



DATE JUNE 3, 19 86
OPERATOR'S WELL NO. CITIES SERVICE
API WELL NO.

47-039-4331
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS,") PRODUCTION ___ STORAGE X DEEP ___ SHALLOW ___

LOCATION: ELEVATION 1065' WATER SHED KANAWHA RIVER
DISTRICT LOUDON 6 COUNTY KANAWHA
QUADRANGLE CHARLESTON 7.5 MINUTE 289 024 SE9

SURFACE OWNER SUSAN HOGUE ACREAGE 254.25
OIL & GAS ROYALTY OWNER SUSAN HOGUE LEASE ACREAGE 546.
LEASE NO. _____

PROPOSED WORK: DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR
STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW
FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
TARGET FORMATION ORISKANY ESTIMATED DEPTH 5,100'
WELL OPERATOR STONEWALL GAS COMPANY DESIGNATED AGENT CHARLES CANFIELD
ADDRESS P.O. DRAWER R 847 ADDRESS P.O. DRAWER R
DEEP WELLS JANE LEW, WV 26378-0080 JANE LEW, WV 26378-0080

JUN 30 1986

COUNTY NAME PERMIT

FORM WW-6 H.T. HALL 48573



1) Date: JUNE 16, 1986
 2) Operator's Well No. CITIES SERVICE #1 (355-S)
 3) API Well No. 47 039 -4331
 State County Permit

7/85
RECEIVED
 JUN 25 1986

STATE OF WEST VIRGINIA
 DIVISION OF OIL & GAS DEPARTMENT OF ENERGY, OIL AND GAS DIVISION
 DEPARTMENT OF ENERGY APPLICATION FOR A WELL WORK PERMIT

- 4) WELL TYPE: A Oil / Gas /
 B (If "Gas", Production / Underground storage / Deep / Shallow /)
- 5) LOCATION: Elevation: 1065' Watershed: KANAWHA RIVER
 District: LOUDON 847 County: KANAWHA Quadrangle: CHARLESTON 7.5'
- 6) WELL OPERATOR STONEWALL GAS COMPANY CODE: 47850 7) DESIGNATED AGENT CHARLES W. CANFIELD
 Address P.O. DRAWER R Address P.O. DRAWER R
JANE LEW, WV 26378 JANE LEW, WV 26378
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:
 Name RODNEY G. DILLON (304-469-2015) Name _____
 Address P.O. BOX 30 Address _____
SCARBRO, WV 25917
- 10) PROPOSED WELL WORK: Drill / Drill deeper / Redrill / Stimulate /
 Plug off old formation / Perforate new formation /
 Other physical change in well (specify) _____
- 11) GEOLOGICAL TARGET FORMATION, ORISKANY 475
- 12) Estimated depth of completed well, 5100 feet
 13) Approximate strata depths: Fresh, 531 feet; salt, 901 feet.
 14) Approximate coal seam depths: 185 Is coal being mined in the area? Yes / No /
- 15) CASING AND TUBING PROGRAM Permit #1's 191, 2064, *

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling	Left in well		
Conductor	11 3/4			X		550/61	550/561	TO SURFACE	Per Rule 15.05
Fresh water									
Coal									Sizes
Intermediate	8 5/8			X		1650	1650	TO SURFACE	Depths set
Production	4 1/2			X		5050	5050	RULE 15.05	
Tubing									Perforations: Top Bottom
Lin...									

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-039-4331 Date June 25 19 86

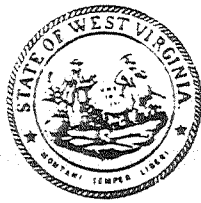
This permit covering the well operator and well location shown below is evidence of permission granted to drill in accordance with the pertinent legal requirements subject to the conditions contained herein and on the reverse hereof. Notification must be given to the District Oil and Gas Inspector. (Refer to No. 8) Prior to the construction of roads, locations and pits for any permitted work. In addition, the well operator or his contractor shall notify the proper district oil and gas inspector 24 hours before actual permitted work has commenced.)

The permitted work is as described in the Notice and Application, plat, and reclamation plan, subject to any modifications and conditions specified on the reverse hereof.
 Permit expires June 25, 1988 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <u>ASB</u>	Plat: <u>AS</u>	Casing: <u>AS</u>	Fee: <u>3054</u>	WPCP: <u>AS</u>	S&E: <u>AS</u>	Other: _____
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NOTE: Keep one copy of this permit posted at the drilling location.

John H. Johnston
 Director, Division of Oil and Gas
 File
Margaret J. Hasse



R-35

State of West Virginia
DEPARTMENT OF ENERGY
Oil and Gas Division

Date OCTOBER 21, 1986
Operator's
Well No. CITIES SERVICE #1
Farm WOODRUFF 355-S
API No. 47-039- - 4331

WELL OPERATOR'S REPORT
OF
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil X / Gas X / Liquid Injection ___ / Waste Disposal ___ /
(If "Gas," Production X / Underground Storage ___ / Deep ___ / Shallow X /)

LOCATION: Elevation: 1065 Watershed KANAWHA RIVER
District: LOUDON County KANAWHA Quadrangle CHARLESTON 7.5

COMPANY STONEWALL GAS COMPANY
ADDRESS PO DRAWER R, JANE LEW, WV 26378
DESIGNATED AGENT CHARLES W. CANFIELD
ADDRESS PO DRAWER R, JANE LEW, WV 26378
SURFACE OWNER BEN WOODRUFF ET AL
ADDRESS 1643 WOODVALE RD., CHARLESTON, WV
MINERAL RIGHTS OWNER SAME AS SURFACE
ADDRESS _____
OIL AND GAS INSPECTOR FOR THIS WORK RODNEY DILLON
ADDRESS BOX 30, SCARBRO, WV 25917
PERMIT ISSUED JUNE 25, 1986
DRILLING COMMENCED JUNE 28, 1986
DRILLING COMPLETED JULY 8, 1986
IF APPLICABLE: PLUGGING OF DRY HOLE ON CONTINUOUS PROGRESSION FROM DRILLING OR REWORKING. VERBAL PERMISSION OBTAINED ON

Casing & Tubing	Used in Drilling	Left in Well	Cement fill up Cu. ft.
Size 20-16 Cond.			
13-10"			
9 11/8 3/4	556	556	208 SKS
8 5/8	1754	1754	375 SKS
7			
5 1/2			
4 1/2	5020	5020	355 SKS
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION ORISKANY Depth 4962 feet
Depth of completed well 5020 feet Rotary X / Cable Tools _____
Water strata depth: Fresh 380 feet; Salt 950 feet
Coal seam depths: 120 & 125 Is coal being mined in the area? N/A

OPEN FLOW DATA
Producing formation ORISKANY Pay zone depth 4962 feet
Gas: Initial open flow 25 Mcf/d Oil: Initial open flow N/A Bbl/d
Final open flow 273 Mcf/d Final open flow N/A Bbl/d
Time of open flow between initial and final tests 72 hours
Static rock pressure 420 psig (surface measurement) after 72 hours shut in
(If applicable due to multiple completion--)
Second producing formation SHALE Pay zone depth 3330-4160 feet
Gas: Initial open flow 25 Mcf/d Oil: Initial open flow N/A Bbl/d
Final open flow 273 Mcf/d Oil: Final open flow N/A Bbl/d
Time of open flow between initial and final tests 72 hours
Static rock pressure 420 psig (surface measurement) after 72 hours shut in

(Continue on reverse side)

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.

FRAC-3 STAGES-ORISKANY, SHALE, WEIR-BEREA
 07-22-86 FRAC ORISKANY

PERFS	HOLES	BBL	SAND	BD	ISIP	N2
ORISKANY 4962-72	20	750	50,000 20/40	3300	2700	
08-12-86 FRAC SHALE						
HALE 3331-4161 <i>Huron</i>	72	270	60,000	2365	1450	721,000
09-25-86 FRAC WEIR & BEREA						
WEIR & BEREA 2075-2131 <i>Weir -> Berea</i>	12	350	60,000	3400	1700	690,000

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
ROCK SAND, SHALE,	RED	HARD	0	12	
	BROWN	MED	12	120	
COAL	BLACK	MED	120	125	
SAND & SHALE	GREY	MED	125	160	
COAL	BLACK	HARD	160	165	1/2 STREAM H ₂ O 380'
COAL	BLACK	HARD	180	187	
SAND & SHALE	GREY	MED	187	380	GAS CK @ 1515 SHOW OIL
SAND & SHALE	BROWN	SOFT	380	950	
1ST SALT SAND	BROWN	SOFT	950	1025	GAS CK @ 1690 NO SHOW
2ND SALT SAND	BROWN	MED	1050	1140	
3RD SALT SAND	BROWN	MED	1210	1335	GAS CK @ 2150 250 MCF
MAXTON SAND	GREY	SOFT	1385	1425	
LITTLE LIME	BROWN	MED	1425	1460	GAS CK @ 4250 211 MCF
BIG LIME	BROWN	MED	1490	1650	
BIG INJUN	GREY	MED	1650	1690	GAS CK @ TD 32/10 239 MCF
BEREA	GREY	MED	2130	2145	
BROWN SHALE	GREY	MED	3330	4770	
MARCELLUS	BROWN	MED	4770	4840	
ORISKANY SAND	GREY	MED	4920	4940	
		TD	5063		

404 2145
 813 3298

(Attach separate sheets as necessary)

STONEWALL GAS COMPANY

Well Operator

By: *Benjamin A. Hardesty*, Vice President
 BENJAMIN A. HARDESTY
 Date: OCTOBER 22, 1986

Note: Regulation 2.02(i) provides as follows:
 "The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including coal, encountered in the drilling of a well."