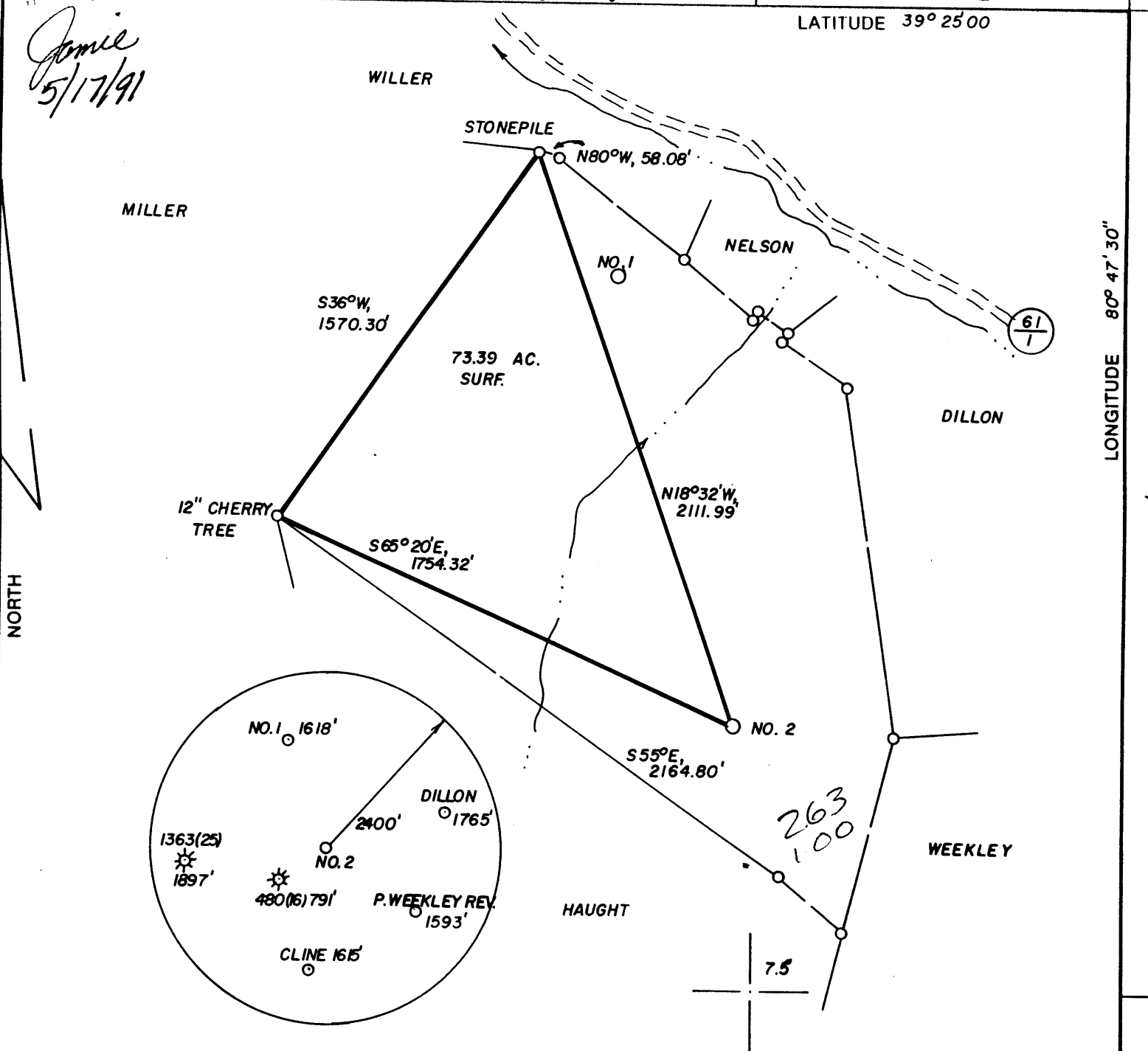


*Jamil*  
5/17/91

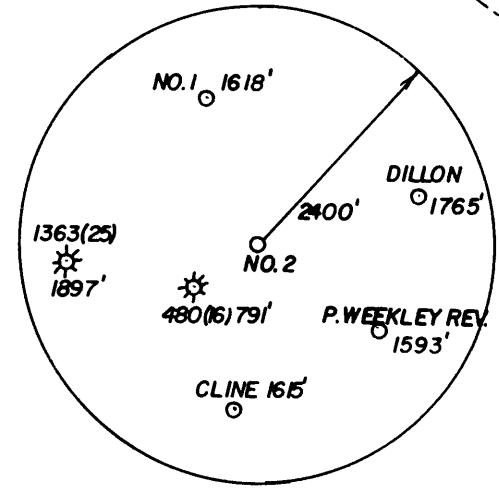
5228

LATITUDE 39° 25' 00"



NORTH

LONGITUDE 80° 47' 30"



WELL REFERENCES:  
N85°E, 144' TO SOUTH END CISTERN  
S27°E, 146' TO 2" DOGWOOD

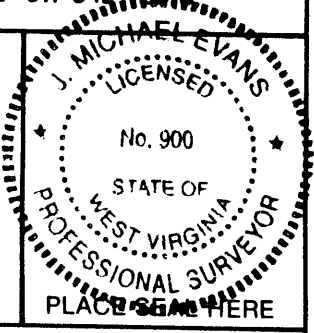
2.63 S  
3.23 W

LAND SURVEYING SERVICES  
304-842-5762 OR 842-2018

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

FILE NO. \_\_\_\_\_  
DRAWING NO. \_\_\_\_\_  
SCALE 1" = 500'  
MINIMUM DEGREE OF ACCURACY 1 IN 200  
PROVEN SOURCE OF ELEVATION RD. INT. 5025' NE. AT ELEV. 822'

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) J. Michael Evans  
R.P.E. \_\_\_\_\_ L.L.S. NO. 900  
MICHAEL EVANS



STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY  
OIL AND GAS DIVISION



DATE MAY 1, 19 91  
OPERATOR'S WELL NO. UNDERWOOD 2  
API WELL NO. 47-095-1465

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

LOCATION: ELEVATION 1096' WATERSHED JEFFERSON RUN  
DISTRICT McELROY 5 COUNTY TYLER  
QUADRANGLE SHIRLEY WU ac

SURFACE OWNER MARK STACK, ET. UX ACREAGE 73.39  
OIL & GAS ROYALTY OWNER MARK STACK, ET. UX LEASE ACREAGE 22.0  
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) \_\_\_\_\_

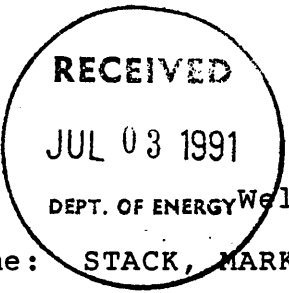
PLUG AND ABANDON \_\_\_ CLEAN OUT AND REPLUG \_\_\_  
TARGET FORMATION BENSON ESTIMATED DEPTH 5200'  
WELL OPERATOR STONEWALL GAS CO. DESIGNATED AGENT JESSE SHELL  
ADDRESS P. O. DRAWER R 847 ADDRESS P. O. DRAWER R  
JANE LEW, WV 26378-0080 JANE LEW, WV 26378-0080

COUNTY NAME

PERMIT

66 Wilbur (092)

MAY 31 1991



State of West Virginia  
DEPARTMENT OF ENERGY  
Division of Oil and Gas

DEPT. OF ENERGY Well Operator's Report of Well Work

Farm name: STACK, MARK & BARBARA Operator Well No.: UNDERWOOD 2  
LOCATION: Elevation: 1096.00 Quadrangle: SHIRLEY

District: MCELROY County: TYLER  
Latitude: 13835 Feet South of 39 Deg. 25Min. 0 Sec.  
Longitude: 5225 Feet West of 80 Deg. 47 Min. 30 Sec.

Company: STONEWALL GAS COMPANY  
909 E. MAIN ST. P.O. BOX 1575  
RICHMOND, VA 23219-1575

Agent: JESSE A. SHELL

Inspector: MIKE UNDERWOOD  
Permit Issued: 05/27/91  
Well work Commenced: 05-31-91  
Well work Completed: 06-07-91  
Verbal Plugging  
Permission granted on: \_\_\_\_\_  
Rotary X Cable \_\_\_\_\_ Rig \_\_\_\_\_  
Total Depth (feet) 5200  
Fresh water depths (ft) 60' 225'  
716'  
Salt water depths (ft) \_\_\_\_\_

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
11 3/4	117	117	85 SKS
8 5/8	1010	1010	260 SKS
4 1/2	5138	5138	710 SKS

Is coal being mined in area (Y/N)? N  
Coal Depths (ft): 240, 710

OPEN FLOW DATA

Producing formation BENSON Pay zone depth (ft) 5024  
Gas: Initial open flow \* \_\_\_\_\_ MCF/d Oil: Initial open flow 0 Bbl/d  
Final open flow 1110 MCF/d Final open flow 0 Bbl/d  
Time of open flow between initial and final tests 1 Hours  
Static rock Pressure 1550 psig (surface pressure) after 168 Hours

Second producing formation RILEY Pay zone depth (ft) 4598  
Gas: Initial open flow \* \_\_\_\_\_ MCF/d Oil: Initial open flow 0 Bbl/d  
Final open flow 1110 MCF/d Final open flow 0 Bbl/d  
Time of open flow between initial and final tests 1 Hours  
Static rock Pressure 1550 psig (surface pressure) after 168 Hours

\*UNABLE TO DETERMINE DUE TO LARGE OPEN FLOW UP HOLE  
NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: STONEWALL GAS COMPANY JUL 08 1991  
By: [Signature] RAY M. FREAR, JR.  
Date: JUL 1, 1991 PETROLEUM ENGINEER

2	STAGES	WATER FRAC	06-18-91	DATE		
ZONES	PERFS	HOLES		BBL	BP	ISIP
BENSON	5024-5028	16		600	1630	1600
RILEY	4598-4604	18		700	1750	1700

FORMATION	COLOR	HARD/SOFT	TOP	BOTTOM	REMARKS
RR & SHALE	BROWN	HARD	0	60	
SAND	GRAY	HARD	60	80	GAS CKS @ 2025 NO SHOW
SAND & SHALE	GRAY	SOFT	80	135	2057 60/10 2" W/W
SAND	GRAY	SOFT	135	150	2088 44/10 2" W/W
RR & SHALE	RED	SOFT	150	170	2117 130/10 2" W/W
SAND	BROWN	HARD	170	175	
SAND & SHALE	BROWN	HARD	175	240	2149 16/10 2" W/MER
COAL	BLACK	SOFT	240	245	2180 16/10 2" W/MER
SAND & SHALE	GRAY	SOFT	245	710	
COAL	BLACK	SOFT	710	716	2771 14/10 2" W/MER
SAND	GRAY	HARD	716	735	3729 8/10 2" W/MER
SAND & SHALE	BROWN	HARD	735	1785	
SAND	BROWN	HARD	1785	1865	4661 8/10 2" W/MER
SAND & SHALE	BROWN	SOFT	1865	1917	
LITTLE LIME	GRAY	SOFT	1917	1930	5095 6/10 2" W/MER
SHALE	GRAY	SOFT	1930	1950	
BIG LIME	GRAY	HARD	1950	2025	TD 4/10 2" W/MER
BIG INJUN	BROWN	HARD	2025	2175	
SAND & SHALE	BROWN	SOFT	2175	2685	
GORDON	BROWN	SOFT	2685	2750	
SAND & SHALE	GRAY	HARD	2750	4585	
RILEY	GRAY	HARD	4585	4655	
SAND & SHALE	BROWN	SOFT	4655	5000	
BENSON	GRAY	SOFT	5000	5070	
SHALE	GRAY	SOFT	5070	5200	
TD			5200		

12219

095-1465

Issued 5/27/91

Page of

Expires 5/27/93

FORM WW-2B

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

847

- 1) Well Operator: STONEWALL GAS COMPANY 47850(5) 606
- 2) Operator's Well Number: UNDERWOOD #2 (596-S) 3) Elevation: 1096'
- 4) Well type: (a) Oil    / or Gas X /  
(b) If Gas: Production X / Underground Storage    /  
Deep    / Shallow X /
- 5) Proposed Target Formation(s): 435 BENSON
- 6) Proposed Total Depth: 5200 feet
- 7) Approximate fresh water strata depths: 70' & 180'
- 8) Approximate salt water depths: N/A
- 9) Approximate coal seam depths: N/A
- 10) Does land contain coal seams tributary to active mine? Yes    / No X /
- 11) Proposed Well Work: DRILL & STIMULATE NEW WELL
- 12)

CASING AND TUBING PROGRAM

12219

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor	11 3/4"		27#	100'	100'	CSR 38 18-11.1
Fresh Water						<i>Handwritten signature</i>
Coal						
Intermediate	8 5/8"		20#	1000'	1000'	CSR 38 18-11.2.2
Production	4 1/2"	J-55	10.5#	5140'	5140'	CSR 38 18-11.3
Tubing						
Liners						

PACKERS : Kind \_\_\_\_\_  
Sizes \_\_\_\_\_  
Depths set \_\_\_\_\_

For Division of Oil and Gas Use Only

Fee(s) paid:  Well Work Permit  Reclamation Fund  WPCP

Plat  WW-9  WW-2B  Bond *C.D. Blanket* Agent

**RECEIVED**

Division of Energy

MAY 07 91

Permitting  
Oil and Gas Section

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

- 1) Date: MAY 2, 1991
- 2) Operator's well number UNDERWOOD #2 (596-S)
- 3) API Well No: 47 - 095 - 1465  
State - County - Permit

- 4) Surface Owner(s) to be served:
  - (a) Name MARK A. & BARBARA STACK  
Address HCR 74 BOX 27  
WILBUR, WV 26320
  - (b) Name \_\_\_\_\_  
Address \_\_\_\_\_
  - (c) Name \_\_\_\_\_  
Address \_\_\_\_\_

- 5) (a) Coal Operator:
  - Name N/A
  - Address \_\_\_\_\_
- (b) Coal Owner(s) with Declaration
  - Name SAME AS SURFACE
  - Address \_\_\_\_\_
- Name \_\_\_\_\_  
Address \_\_\_\_\_

- 6) Inspector MIKE UNDERWOOD  
Address RT 2 BOX 135  
SALEM, WV 26426  
Telephone (304)-782-1043

- (c) Coal Lessee with Declaration
  - Name N/A
  - Address \_\_\_\_\_

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

\_\_\_\_ Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR  
X Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through \_\_\_\_ on the above named parties, by:

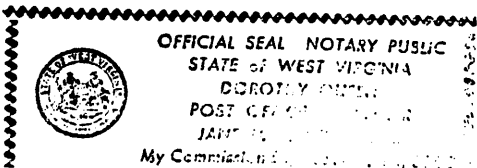
- \_\_\_\_ Personal Service (Affidavit attached)
- X Certified Mail (Postmarked postal receipt attached)
- \_\_\_\_ Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator STONEWALL GAS COMPANY  
 By: B. J. Amstutz  
 Its: PRESIDENT  
 Address PO DRAWER R  
JANE LEW, WV 26378  
 Telephone 304-884-7881



Subscribed and sworn before me this 3RD day of MAY, 19 91

Dorothy Queen  
My commission expires MARCH 14, 2000

