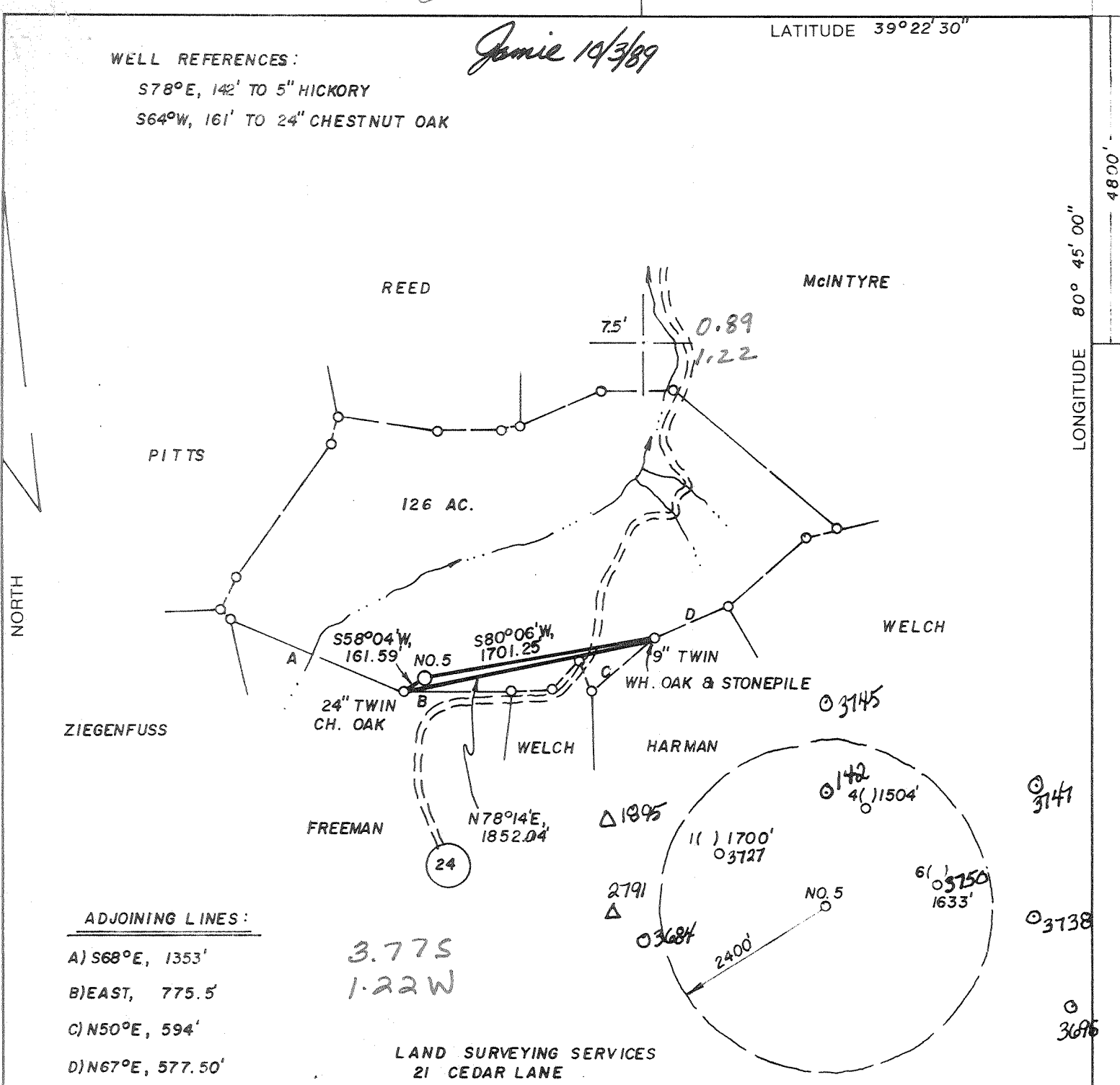


WELL REFERENCES:

S78°E, 142' TO 5" HICKORY

S64°W, 161' TO 24" CHESTNUT OAK

*Jamie 10/3/89*



ADJOINING LINES:

- A) S68°E, 1353'
- B) EAST, 775.5'
- C) N50°E, 594'
- D) N67°E, 577.50'

LAND SURVEYING SERVICES  
 21 CEDAR LANE  
 BRIDGEPORT, WV 26330  
 PHONE: 304-842-2018

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

FILE NO. \_\_\_\_\_  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 1,000'  
 MINIMUM DEGREE OF ACCURACY 1 IN 200  
 PROVEN SOURCE OF ELEVATION TOP OF KNOB 1940' NW.  
AT ELEV. 1307'

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) \_\_\_\_\_  
 R.P.E. \_\_\_\_\_ L.L.S. NO. 674  
STEPHEN D. LOSH

PLACE SEAL HERE

STATE OF WEST VIRGINIA  
 DEPARTMENT OF ENERGY  
 OIL AND GAS DIVISION



DATE AUGUST 14, 19 89  
 OPERATOR'S WELL NO. SANDY 5  
 API WELL NO. \_\_\_\_\_

47 - 017 - 3749  
 STATE COUNTY PERMIT

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_  
 (IF "GAS,") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X  
 LOCATION: ELEVATION 1270' WATER SHED SANDY RUN  
 DISTRICT GRANT COUNTY DODDRIDGE  
 QUADRANGLE WEST UNION 7.5 & 15 EC

SURFACE OWNER BILLY ELMORE ACREAGE 126.  
 OIL & GAS ROYALTY OWNER WM. SANDY LEASE ACREAGE 637.  
 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 5650'  
 WELL OPERATOR STONEWALL GAS CO. DESIGNATED AGENT CHARLES CANFIELD  
 ADDRESS P. O. DRAWER R ADDRESS P. O. DRAWER R  
JANE LEW, WV 26378-0080 0847 JANE LEW, WV 26378-0080

OCT 6 1989

6-6 Wilbur (092)

LONGITUDE 80° 45' 00"

4800'

3147

3138

3096

COUNTY NAME

PERMIT

FORM WW-6

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

Well Operator's Report of Well Work

Farm name: ELMORE, BILLY RAY Operator Well No.: SANDY 5-423-S

LOCATION: Elevation: 1270.00 Quadrangle: WEST UNION

District: GRANT County: DODDRIDGE  
Latitude: 4800 Feet South of 39 Deg. 22Min. 30 Sec.  
Longitude 6485 Feet West of 80 Deg. 45 Min. 0 Sec.

Company: STONEWALL GAS CO.  
P. O. BOX 1575  
RICHMOND, VA 23213-1575

Agent: JESSE A. SHELL

Inspector: MIKE UNDERWOOD  
Permit Issued: 10/03/89  
Well work Commenced: 10-22-89  
Well work Completed: 10-27-89  
Verbal Plugging \_\_\_\_\_  
Permission granted on: \_\_\_\_\_  
Rotary X Cable \_\_\_\_\_ Rig \_\_\_\_\_  
Total Depth (feet) 50  
Fresh water depths (ft) \_\_\_\_\_  
Salt water depths (ft) 2075

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
11 3/4	171	171	85 SKS
8 5/8	1407	1407	320 SKS
4 1/2	5292	5292	695 SKS

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DEPARTMENT OF ENERGY

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

OPEN FLOW DATA

Producing formation BENSON Pay zone depth (ft) 5250  
Gas: Initial open flow \* \_\_\_\_\_ MCF/d Oil: Initial open flow N/A Bbl/d  
Final open flow 1905 MCF/d Final open flow N/A Bbl/d  
Time of open flow between initial and final tests 1 Hours  
Static rock Pressure 1600 psig (surface pressure) after 168 Hours

Second producing formation RILEY Pay zone depth (ft) 4795  
Gas: Initial open flow \* \_\_\_\_\_ MCF/d Oil: Initial open flow N/A Bbl/d  
Final open flow 1905 MCF/d Final open flow N/A Bbl/d  
Time of open flow between initial and final tests 1 Hours  
Static rock Pressure 1600 psig (surface pressure) after 168 Hours

\* UNABLE TO DETERMINE DUE TO INJUN FORMATION FLOWING 267 MCF/D NATURAL

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 CO.

By: [Signature]  
Date: NOVEMBER 15, 1989

FRAC WATER	STAGE TWO	DATE NOVEMBER 1, 1989				
ZONES	PERFS	HOLES	BBL	SAND	BD	ISIP
BENSON	5240-5234	19	700	60,000	2350 PSI	1670 PSI
RILEY	4800-4795	15	500	40,000	2070 PSI	1750 PSI

FORMATION	COLOR	HARD/SOFT	TOP FT	BOTTOM FT	REMARKS
SUB CLAY	BROWN	SOFT	0	10	50' ¼" H <sub>2</sub> O
SHALE & RR	RED	SOFT	10	15	DAMP @ 1030
SHALE & SD	RED	HARD	15	170	1½-2" STREAM SALT WATER @ 2075
SAND	BROWN	HARD	170	240	
RR & SHALE	GREY	SOFT	204	242	
SAND	GREY	SOFT	242	320	
SD & SHALE & RR	BROWN	SOFT	320	325	GAS CK @ 2233 NO SHOW
RR	REDDISH	HARD	325	765	GAS CK @ 2294 50/10
SAND & SHALE	GREY	SOFT	765	825	2" W/H <sub>2</sub> O
RR & SHALE	BROWN	SOFT	825	950	
SAND	TAN	SOFT	950	1085	GAS CK @ 2948 44/10
SAND & SHALE	GREY	HARD	1085	1115	2" W/H <sub>2</sub> O
SAND & SHALE & RR	TAN	HARD	1115	1280	
SAND & SHALE	GREY	HARD	1280	1390	
SHALE	GREY	HARD	1390	1490	GAS CK @ 3009 68/10
SAND (WHITE)	GREY	HARD	1490	1735	2" W/H <sub>2</sub> O
SAND & SHALE	TAN	SOFT	1735	1831	
L-LIME	TAN	SOFT	1831	2115	GAS CK @ 4034 40/10
SAND & SHALE	TAN	SOFT	2115	2135	2" W/H <sub>2</sub> O
B-LIME	GREY	SOFT	2135	2160	
INJUN	GREY	SOFT	2160	2220	GAS CK @ 4839 42/10
SAND & SHALE	GREY	SOFT	2220	2250	2" W/H <sub>2</sub> O
GORDON	TAN	HARD	2250	2929	
SAND & SHALE	TAN	HARD	2929	2989	GAS CK @ 5306 44/10
RILEY	GREY	SOFT	2989	4768	2" W/H <sub>2</sub> O
SAND & SHALE	GREY	SOFT	4768	4800	
BENSON	TAN	SOFT	4800	5210	GAS CK @ TD 40/10
SAND & SHALE	TAN	SOFT	5210	5240	2" W/H <sub>2</sub> O
TD	BROWN	SOFT	5240	5500	

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DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

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

- 1) Well Operator: STONEWALL GAS COMPANY *47850, 3,670*
- 2) Operator's Well Number: SANDY #5 3) Elevation: 1270'
- 4) Well type: (a) Oil  or Gas /  
 (b) If Gas: Production  / Underground Storage   
 Deep  / Shallow
- 5) Proposed Target Formation(s): BENSON 430
- 6) Proposed Total Depth: 5450' feet
- 7) Approximate fresh water strata depths: 150' *389'*
- 8) Approximate salt water depths: 1390' *1126'*
- 9) Approximate coal seam depths: N/A
- 10) Does land contain coal seams tributary to active mine? Yes  / No
- 11) Proposed Well Work: *Drill & Stimulate New Well.*
- 12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	
Conductor	11 3/4"	ERW	42#	170'	170'	38 CSR 18-11.3
Fresh Water						<i>o.k. 2/4/89</i>
Coal						
Intermediate	8 5/8"	ERW	23#	1425'	1425'	38 CSR 18-11.3
Production	4 1/2"	ERW	10.5#	5450'	5450'	38 CSR 18-11.1
Tubing						
Liners						

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

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For Division of Oil and Gas Use Only

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

Fee(s) paid: *27*  Well Work Permit  Reclamation Fund  WPCP

Plat *6523*  WW-9  WW-2B *Blanket one*  Agent

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DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

1) Date: SEPTEMBER 28, 1989  
2) Operator's well number  
SANDY #5 (423-S)  
3) API Well No: 47 - 017 - 3749  
State - County - Permit

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

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

4) Surface Owner(s) to be served:  
(a) Name BILLY RAY ELMORE  
Address RT 1, BOX 211  
WASHINGTON, WV 26181  
(b) Name KERMIT DAVID ELLISON  
Address C/O BILLY RAY ELMORE  
RT 1, BOX 211  
(c) Name WASHINGTON, WV 26181  
Address \_\_\_\_\_  
6) Inspector MIKE UNDERWOOD  
Address RT 2, BOX 135  
SALEM, WV 26426  
Telephone (304)-782-1043

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

- X Personal Service (Affidavit attached)
- \_\_\_\_\_ 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: [Signature]  
Its: PRESIDENT  
Address PO DRAWER R  
JANE LEW, WV 26378-0080  
Telephone 304-884-7881

Subscribed and sworn before me this 28TH day of SEPTEMBER, 19 89

Richard K. Edwards  
My commission expires OCTOBER 14, 1993

XXXXXXXXXXXXXXXXXXXX