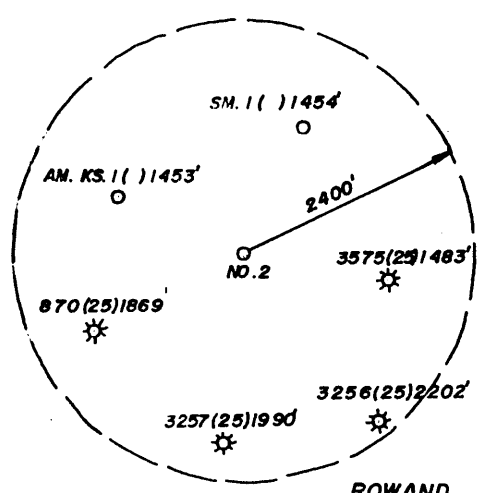


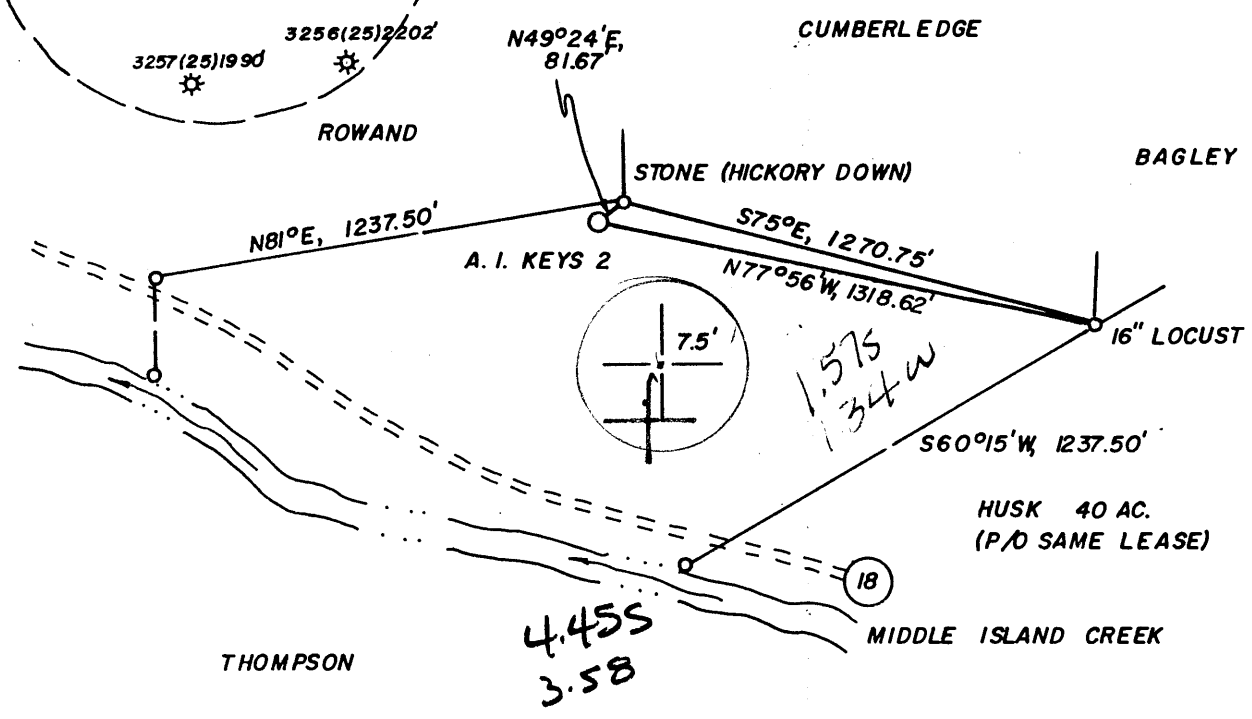
87B 9/3/87

7135' 25  
LATITUDE 39° 22' 30"



WELL REFERENCES:  
N20°30'W, 123.50' TO 6" BLACK OAK  
N46°E, 83.50' TO 1' ASH

LONGITUDE 80° 47' 30"  
8420



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" = 500'  
MINIMUM DEGREE OF ACCURACY 1 IN 200  
PROVEN SOURCE OF ELEVATION B.M. 1515' SE. OF LOC.  
AT ELEV. 749

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) Stephen D. Losh  
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 21, 19 87  
OPERATOR'S WELL NO. A. I. KEYS 2  
API WELL NO.

WELL TYPE: OIL \_\_\_ GAS X LIQUID INJECTION \_\_\_ WASTE DISPOSAL \_\_\_ STATE COUNTY PERMIT  
(IF "GAS,") PRODUCTION X STORAGE \_\_\_ DEEP \_\_\_ SHALLOW X  
LOCATION: ELEVATION 960' WATER SHED MIDDLE ISLAND CREEK  
DISTRICT CENTERVILLE 1 COUNTY TYLER  
QUADRANGLE WEST UNION 7.5' 671 1336 EC  
SURFACE OWNER DWIGHT R. HUSK, ET. AL. ACREAGE 27.  
OIL & GAS ROYALTY OWNER AUSTIN I. KEYS, HRS. LEASE ACREAGE 67.  
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 COMPANY DESIGNATED AGENT CHARLES CANFIELD  
ADDRESS P.O. DRAWER R ADDRESS P.O. DRAWER R  
JANE LEW, WV 26378-0080 847 JANE LEW, WV 26378-0080

SEP 21 1987

6-6 Wilbur

(92)

FORM WW-6  
H.T. HALL 4-8673

COUNTY NAME  
PERMIT



Date OCTOBER 7, 87  
Operator's KEYS #2 231-S  
Well No. KEYS #2 231-S  
Farm \_\_\_\_\_  
API No. 47 - 095 - 1211

**RECEIVED** State of West Virginia  
DEPARTMENT OF ENERGY  
OCT 15 1987 Oil and Gas Division

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY  
**WELL OPERATOR'S REPORT**  
OF  
**DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE**

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

LOCATION: Elevation: 960 Watershed MIDDLE ISLAND CREEK  
District: CENTERVILLE County TYLER Quadrangle WEST UNION

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 DWIGHT R. HUSK  
ADDRESS RT 5, BOX 138 MECHANICSVILLE, MD 20659  
MINERAL RIGHTS OWNER PAUL HYLBERT  
ADDRESS 11 MIDDLE MARSH RETREAT, SAVANNAH, GA 31411  
OIL AND GAS INSPECTOR FOR THIS WORK ROBERT LOWTHER  
ADDRESS MIDDLEBOURNE, WV 26149

PERMIT ISSUED SEPTEMBER 18, 87  
DRILLING COMMENCED SEPTEMBER 25, 87  
DRILLING COMPLETED OCTOBER 1, 87

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.			
11 3/4" 13-10"	189'	189'	100 SKS
9 5/8			
8 5/8	1441'	1441'	310 SKS
7			
5 1/2			
4 1/2	5025'	5025'	210 SKS
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION BENSON Depth 4850 feet  
Depth of completed well 5025 feet Rotary X / Cable Tools \_\_\_\_\_  
Water strata depth: Fresh 90 feet; Salt 1665 feet  
Coal seam depths: 130 to 133 Is coal being mined in the area? N/A

OPEN FLOW DATA

Producing formation BENSON Pay zone depth 4850 feet  
Gas: Initial open flow 83 Mcf/d Oil: Initial open flow N/A Bbl/d  
Final open flow 919 Mcf/d Final open flow N/A Bbl/d  
Time of open flow between initial and final tests 48 hours

Static rock pressure 1550 psig (surface measurement) after 72 hours shut in  
(If applicable due to multiple completion--)

Second producing formation RILEY Pay zone depth 4430 feet  
Gas: Initial open flow 83 Mcf/d Oil: Initial open flow N/A Bbl/d  
Final open flow 919 Mcf/d Oil: Final open flow N/A Bbl/d  
Time of open flow between initial and final tests 48 hours

Static rock pressure 1550 psig (surface measurement) after 72 hours shut in

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

FRAC TWO STAGES 10/7/87

PERFS	HOLES	BBL	SAND	B.D.	I.S.I.P.
<u>BENSON</u> 4850 - 4858	16	830	70,000#	1850#	1650#
<u>RILEY</u> 4431 - 4460	16	985	66,000#	1700#	1550#

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all : and salt water, coal, oil and
CLAY & FILL	GREY	SOFT	0	15	H <sub>2</sub> O 305' ½" STREAM
RED ROCK	RED	SOFT	15	130	
COAL	BLACK	SOFT	130	133	
SAND & SHALE	BROWN	SOFT	133	1362	
SHALE	GREY	SOFT	1362	1830	H <sub>2</sub> O 1665' DAMP
BIG LIME	TAN	HARD	1830	1920	
BIG INJUN	TAN	HARD	1920	2020	
WEIR	GREY	SOFT	2170	2280	GAS CK @ 2289 NO SHOW
BEREA	GREY	SOFT	2380	2390	
GORDON	GREY	SOFT	2580	2630	
WARREN	GREY	SOFT	3280	3320	GAS CK @ 3336 NO SHOW
RILEY	BROWN	HARD	4430	4520	GAS CK @ 4533 NO SHOW
<u>BENSON</u>	BROWN	HARD	4850	4920	GAS CK @ 4996 4/10 1½"
T.D.				<u>5157</u>	GAS CK @ 5150 20/10 1½"

**RECEIVED**  
OCT 15 1987

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

STONEWALL GAS COMPANY

Well Operator

By: Benjamin A. Hardesty  
BENJAMIN A. HARDESTY, VICE PRESIDENT

Date: \_\_\_\_\_

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  
the physical and chemical characteristics of a well."

RECEIVED  
7  
SEP 02 1987



1) Date: SEPTEMBER 1, 19 87  
2) Operator's Well No. A. I. KEYS #2  
3) API Well No. 47 - 095 1211  
State County Permit

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

- 4) WELL TYPE: A Oil / Gas X
B (If "Gas", Production X / Underground storage / Deep / Shallow X
5) LOCATION: Elevation: 960' Watershed: MIDDLE ISLAND CREEK 670
District: CENTERVILLE / County: TYLER 095 Quadrangle: WEST UNION 7.5
6) WELL OPERATOR STONEWALL GAS CODE: 47850 7) DESIGNATED AGENT CHARLES W. CANFIELD
Address PO DRAWER R Address PO DRAWER R
JANE LEW, WV 26378-0080 JANE LEW, WV 26378-0080
8) OIL & GAS INSPECTOR TO BE NOTIFIED Name ROBERT LOWTHER
Address GENERAL DELIVERY MIDDLEBOURNE, WV 26149
9) DRILLING CONTRACTOR: Name UNKNOWN
Address
10) PROPOSED WELL WORK: Drill X / Drill deeper / Redrill / Stimulate /
Plug off old formation / Perforate new formation /
Other physical change in well (specify)
11) GEOLOGICAL TARGET FORMATION, BENSON
12) Estimated depth of completed well, 5200 feet
13) Approximate trata depths: Fresh, 177, 50, 375, 782 feet; salt, 1412, 1450, 1550, 1826 feet.
14) Approximate coal seam depths: UNKNOWN 880 Is coal being mined in the area? Yes / No X

15) CASING AND TUBING PROGRAM

Table with columns: CASING OR TUBING TYPE, SPECIFICATIONS (Size, Grade, Weight per ft., New, Used), FOOTAGE INTERVALS (For drilling, Left in well), CEMENT FILLUP OR SACKS (Cubic feet), PACKERS (Sizes, Perforations: Top, Bottom). Rows include Conductor, Fresh water, Coal, Intermediate, Production, Tubing, and Liners.

OFFICE USE ONLY  
DRILLING PERMIT

Permit number 47-095-1211 Date September 18, 19 87

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 September 18, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

Table with columns: Bond, Agent, Plat, Fee, WPOP, Other. Includes handwritten signatures and amounts like 329 and 3495.

NOTE: Keep one copy of this permit posted at the drilling location.

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

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

10765