

8/25/87

8455'

LATITUDE 39° 22' 30"

DAVIS

DRAIN

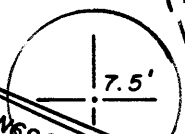
CUMBERLEDGE

MALIEKI

ERNEST R. ROWAND
98.81 AC. SURF.

JOS. SMITH
27.5 AC. O & G

AMOS KEYS NO. 1



1.465
1.582

4.315
3.822

S84°W, 121.750'

SOUTH 1254'

CUMBERLEDGE

N3°E, 1551'

STONE
(HICKORY
DOWN)

2145.78'
N75°W
655.79'

STONE

TIE LINE
S75°E, 614.95'

16" LOGST
FOR W.O.

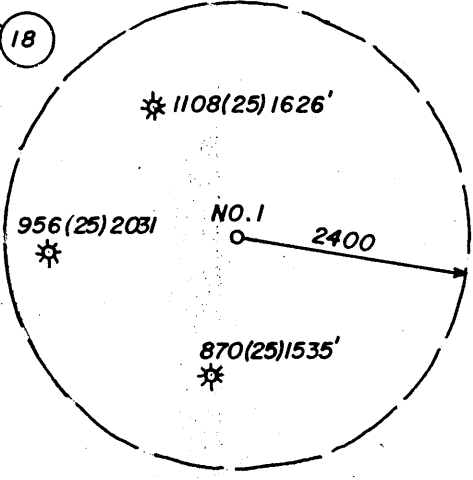
KEYS

THOMAS

WELL REFERENCES:

S81°W, 109' TO 2" RED MAPLE
S11°30'E, 111' TO 14" LYNN

MIDDLE ISLAND
CREEK



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

FILE NO. _____
DRAWING NO. _____
SCALE 1" = 500'
MINIMUM DEGREE OF
ACCURACY 1 IN 200
PROVEN SOURCE OF
ELEVATION B.M. 2920' SE. OF
LOCATION 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 REGU-
LATIONS ISSUED AND PRESCRIBED BY THE DEPART-
MENT 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 AUGUST 7, 19 87
OPERATOR'S WELL NO. AMOS KEYS I
API WELL NO.

47 - 095 - 1209
STATE COUNTY PERMIT

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
LOCATION: ELEVATION 963' WATER SHED CAMP MISTAKE RUN
DISTRICT CENTERVILLE I COUNTY TYLER
QUADRANGLE WEST UNION 7.5 671 133 FC
SURFACE OWNER ERNEST R. ROWAND ACREAGE 98.81
OIL & GAS ROYALTY OWNER AMOS KEYS HRS. LEASE ACREAGE 121
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 5250'
WELL OPERATOR STONEWALL GAS CO. DESIGNATED AGENT CHARLES CANFIELD
ADDRESS P.O. DRAWER R ADDRESS P.O. DRAWER R
JANE LEW, WV 26378-0080 JANE LEW, WV 26378-0080

SEP 14 1987

6-6 Wilbur

(92)

H.T. HALL 4673 FORM WW-6

COUNTY NAME PERMIT



WR-35

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State of West Virginia
DEPARTMENT OF ENERGY
Oil and Gas Division

Date OCTOBER 7, 87
Operator's
Well No. AMOS KEYS #1
Farm 227-S
API No. 47 - 095 - 1209

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: 963 Watershed CAMP MISTAKE RUN
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 ERNEST ROWAND
ADDRESS BOX 493, NEWELL, WV 26050
MINERAL RIGHTS OWNER PAUL HYLBERT
ADDRESS 11 MIDDLE MARSH RETREAT, SAVANNAH, GA 31411
OIL AND GAS INSPECTOR FOR THIS WORK
MIKE UNDERWOOD ADDRESS SALEM, WV 26426
PERMIT ISSUED SEPTEMBER 8, 87
DRILLING COMMENCED SEPTEMBER 21, 87
DRILLING COMPLETED SEPTEMBER 25, 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.			
13-10"			
9 5/8			
8 5/8	1262	1262	320 SKS
7			
5 1/2			
4 1/2	5000	5000	220 SKS
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION BENSON Depth 4870 feet
Depth of completed well 5000 feet Rotary X / Cable Tools
Water strata depth: Fresh 75 feet; Salt 1320 feet
Coal seam depths: N/A Is coal being mined in the area? NO

OPEN FLOW DATA

Producing formation BENSON Pay zone depth 4870 feet
Gas: Initial open flow SHOW Mcf/d Oil: Initial open flow N/A Bbl/d
Final open flow 310 Mcf/d Final open flow N/A Bbl/d
Time of open flow between initial and final tests 48 hours

Static rock pressure 1225 psig (surface measurement) after 72 hours shut in
(If applicable due to multiple completion--)

Second producing formation RILEY Pay zone depth 4455 feet
Gas: Initial open flow SHOW Mcf/d Oil: Initial open flow N/A Bbl/d
Final open flow 310 Mcf/d Oil: Final open flow N/A Bbl/d
Time of open flow between initial and final tests 48 hours

Static rock pressure 1225 psig (surface measurement) after 72 hours shut in

OCT 26 1987

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

FRAC TWO STAGES 9/30/87

PERFS	HOLES	BBL	SAND	B.D.	I.S.I.P.
<u>BENSON</u> 4870-4882	20	585	50,000	1500#	1300#
<u>RILEY</u> 4454-4458	12	715	40,000	2300#	1900#

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fres and salt water, coal, oil and ga
FILL	RED	SOFT	0	10	
SHALE & RED ROCK	RED	SOFT	10	230	H ² O 75' 1/2" STREAM
SAND & SHALE	RED & WHITE	SOFT	230	1840	H ² O 365' 1" STREAM
BIG LIME	GREY	HARD	1840	1930	
BIG INJUN	GREY	HARD	1930	2030	GAS CK @ 2070 18/10 1 1/4" H ² O
WEIR	GREY	SOFT	2180	2290	
BEREA	GREY	SOFT	2390	2400	
GORDON	GREY	SOFT	2590	2640	GAS CK @ 2656 16/10 1 1/4" H ² O
WARREN	GREY	SOFT	3290	3380	
RILEY	GREY	HARD	4440	4540	GAS CK @ 4534 4/10 1 1/4" H ² O
✓BENSON	GREY	HARD	4870	4930	GAS CK @ 4934 60/10 1 1/4" H ² O
T.D.				<u>5055</u>	

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DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

STONEWALL GAS COMPANY

Well Operator

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

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
... of a well."

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1) Date: August 12, 19 87
 2) Operator's Well No. Amos Keys #1 227-S
 3) API Well No. 47 095 1209
 State County Permit

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: 963' Watershed: Camp Mistake Run
 District: Centerville / County: Tyler 095 Quadrangle: West Union 670
- 6) WELL OPERATOR Stonewall Gas 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 Mike Underwood (782-1043) Name S.W. Jack Drilling Co.
 Address Rt 2, Box 114 Address
 Salem, WV 26426 Buckhannon, WV 26201
- 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, Benson
- 12) Estimated depth of completed well, 5250 feet
- 13) Approximate trata depths: Fresh, 100 feet; salt, _____ feet.
- 14) Approximate coal seam depths: 705-710' Is coal being mined in the area? Yes / No
- 15) CASING AND TUBING PROGRAM From TYLER 870

CASING OR TUBING TYPE	SPECIFICATIONS				FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS
	Size	Grade	Weight per ft.	New	Used	For drilling		
Conductor	1 3/4			X		30'	30'	Rule 15.0' cement to Surface
Fresh water								
Coal								Kinds 38CSR18-11.3 Sizes 38CSR18-11.22
Intermediate	8 5/8			X		1263'	1263'	
Production	4 1/2			X		5250'	5250'	Rule 15.0' Depths set 38CSR18-11.1
Tubing								
Liners								Perforations: Top Bottom

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-095-1209 Date September 8 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 8, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <input checked="" type="checkbox"/>	Plat: <input checked="" type="checkbox"/>	Casing: <input checked="" type="checkbox"/>	Fee: 227 3961	WBCP: <input checked="" type="checkbox"/>	S&E: <input checked="" type="checkbox"/>	Other: <input type="checkbox"/>
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NOTE: Keep one copy of this permit posted at the drilling location.

 Director, Division of Oil and Gas File

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

10684