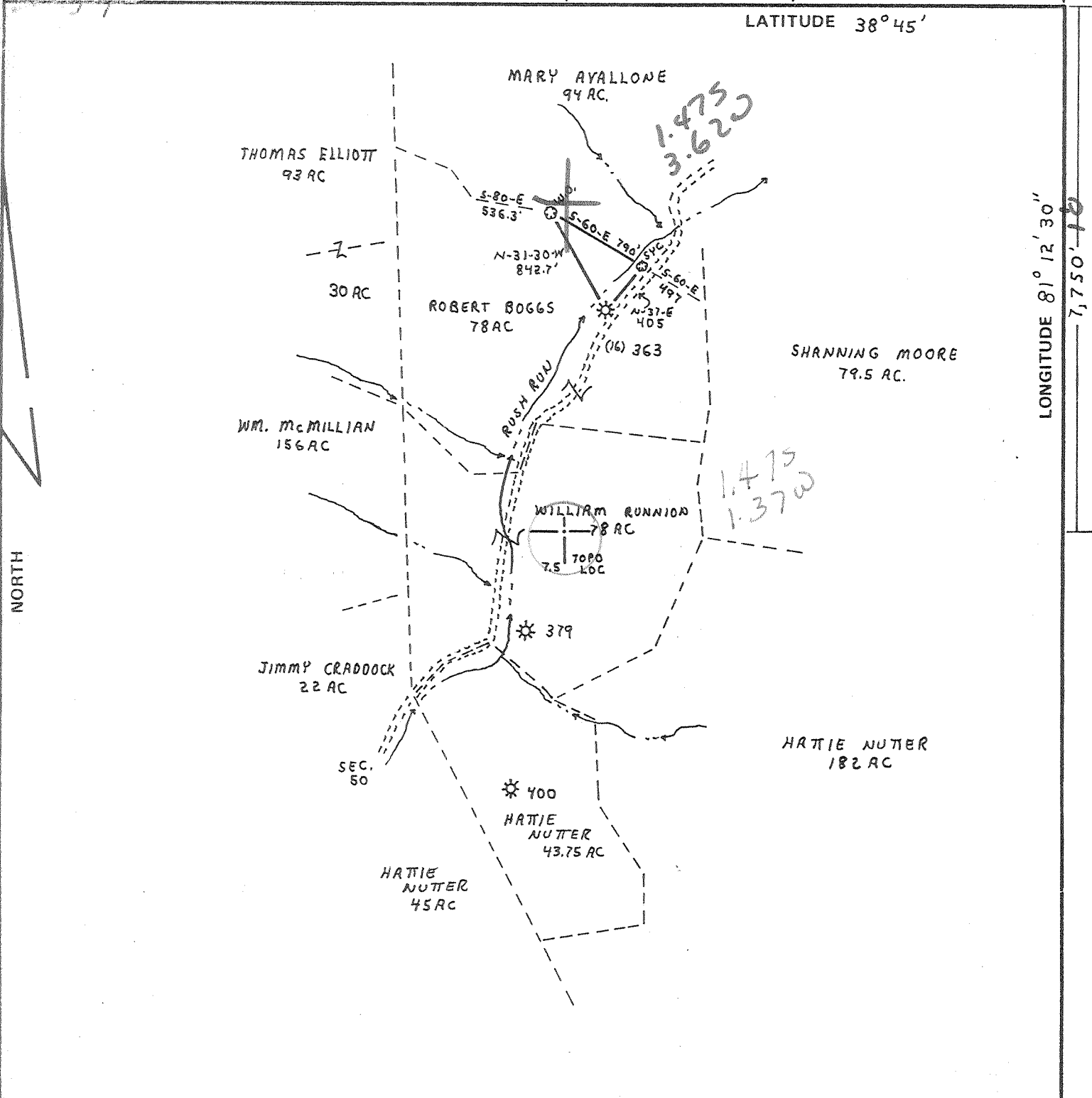


AR 4/8/87

7,300' LATITUDE 38°45'

LONGITUDE 81°12'30" 7,750'



FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1 IN 200
 PROVEN SOURCE OF ELEVATION RD. INTER. 800'± NORTH OF WELL ELV = 763

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 MINES.
 (SIGNED) *William J. Baird*
 R.P.E. _____ L.L.S. 526

PLACE SEAL HERE

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION



DATE MARCH 4, 1987
 OPERATOR'S WELL NO. 363-1
 API WELL NO. 47-087-4040-DD
 STATE COUNTY PERMIT

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
 LOCATION: ELEVATION 765 WATER SHED RUSH RUN OF HENRY FORK
 DISTRICT SMITHFIELD COUNTY ROANE
 QUADRANGLE TARIFF 7.5 635 096 NW1 Other
 SURFACE OWNER ROBERT BOGGS ACREAGE 78
 OIL & GAS ROYALTY OWNER F.F. HARLESS HRS LEASE ACREAGE 78
 LEASE NO. _____
 PROPOSED WORK: DRILL ___ CONVERT ___ DRILL DEEPER X REDRILL ___ FRACTURE OR STIMULATE ___ PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
 PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OWDD Amma-Looneyville - (1987)
 TARGET FORMATION SHALE ESTIMATED DEPTH 5500 Newton
 WELL OPERATOR BOGGS NATURAL GAS DESIGNATED AGENT HARRY BOGGS
 ADDRESS P.O. BOX 148 ADDRESS P.O. BOX 148
DEEPWELL SPENCER, WV 25276 103 SPENCER, WV 25276

APR 13 1987

Overland TB



RECEIVED
OCT 09 1987

State of West Virginia

DEPARTMENT OF ENERGY
Oil and Gas Division

Date May 15 1987
Operator's
Well No. Harless 363-1
Farm Robert Boggs
API No. 47 - 087 - 4040-DD

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

WELL OPERATOR'S REPORT
OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 765 Watershed Rush Run
District: Smithfield County Roane Quadrangle Tarriff 7.5

COMPANY Boggs Natural Gas

ADDRESS P.O. 148 Spencer WV 25276

DESIGNATED AGENT Harry C. Boggs

ADDRESS P.O. 148 Spencer, WV 25276

SURFACE OWNER Robert Boggs

ADDRESS Ravenswood WV

MINERAL RIGHTS OWNER Harry C. Boggs

ADDRESS P.O. 148 Spencer WV 25276

OIL AND GAS INSPECTOR FOR THIS WORK Homer

Daugherty ADDRESS LOoneyville

PERMIT ISSUED March 18 1987

DRILLING COMMENCED March 18 1987

DRILLING COMPLETED March 24 1987

IF APPLICABLE: PLUGGING OF DRY HOLE ON
CONTINUOUS PROGRESSION FROM DRILLING OR
REWORKING. VERBAL PERMISSION OBTAINED
ON

Casing & Tubing Size 20-16 Cord.	Used in Drilling	Left in Well	Cement fill up Cu. ft.
13-10"			
9 5/8			
8 5/8			
7			
5 1/2			
4 1/2			
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Oriskany Depth 5750' feet

Depth of completed well 5476 feet Rotary x / Cable Tools

Water strata depth: Fresh 50 feet; Salt feet

Coal seam depths: Is coal being mined in the area? no

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth 3500-5406 feet

Gas: Initial open flow 50 Mcf/d Oil: Initial open flow 0 Bbl/d

Final open flow 150 Mcf/d Final open flow 0 Bbl/d

Time of open flow between initial and final tests 24 hours

Static rock pressure 750 psig (surface measurement) after 18 hours shut in

(If applicable due to multiple completion--)

Second producing formation Pay zone depth feet

Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl/d

Final open flow Mcf/d Oil: Final open flow Bbl/d

Time of open flow between initial and final tests hours

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

OCT 10 1987

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

st Stage- 5406-4436 22 shots 1500 gal HCl, 550,000 scf N₂, 290 Bbl H₂O, 60,000 # sd.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Big Line (bottom of 7")			1600	1654	
Big Injun			1654	1754	
Shale			2125	5476	
✓ Corniferous Lime			5480	5519 TD	
	404	2115			<p style="text-align: center;"> <i>new TD 5519</i> <i>old TD? 1742</i> <i>new Avg. 3777</i> </p> <p style="text-align: center; font-size: 2em; font-weight: bold;">RECEIVED</p> <p style="text-align: center;">OCT 09 1987</p> <p style="text-align: center;">DIVISION OF OIL & GAS DEPARTMENT OF ENERGY</p>
	813	3215			
	822	4215			
	825	4415			
	830	4715			

(Attach separate sheets as necessary)

Boggs Natural Gas Co.

Well Operator

By: Jeffery C. Boggs

Date: May 15 1987

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."

4430

(Obv) 7/85



1) Date: 3-20- 19 87
 2) Operator's Well No. Harless 363-1
 3) API Well No. 47 087 4040-DD
 State County Permit

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 APR 08 1987
 08

DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY

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

APPLICATION FOR A WELL WORK PERMIT

- 4) WELL TYPE: A Oil / Gas XX /
 B (If "Gas", Production / Underground storage / Deep XX / Shallow)
- 5) LOCATION: Elevation: 765 Watershed: Rush Run
 District: Smithfield County: Roane 087 Quadrangle: Tarriff 7.5634
- 6) WELL OPERATOR Boggs Natural Gas CODE: 6450 7) DESIGNATED AGENT Harry C. Boggs
 Address P.O. 148 Address P.O. 148
Spencer, WV 25276 Spencer, WV 25276
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED 9) DRILLING CONTRACTOR:
 Name Homer Daughtery Name Boggs Natural GAS CO
 Address Looneyville Address P.O. 148
Spencer, WV 25276 Spencer, WV 25276
- 10) PROPOSED WELL WORK: Drill / Drill deeper XX / Redrill / Stimulate XX /
 Plug off old formation / Perforate new formation /
 Other physical change in well (specify)
- 11) GEOLOGICAL TARGET FORMATION, Oriskany
 12) Estimated depth of completed well, 5750' feet
 13) Approximate trata depths: Fresh, 50' feet; salt, feet.
 14) Approximate coal seam depths: Is coal being mined in the area? Yes / No XX /
- 15) CASING AND TUBING PROGRAM

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									Kinds
Fresh water	8.25'					340	220	existing	
Coal									Sizes
Intermediate	7"						1612	existing	
Production	4.5"						5750'	3000'	Depths set
Tubing									
Liners									Perforations:
(WILL CEMENT) Shot Hole @ 1720' to 1742' prior to Commencement of drilling activities)									Top Bottom

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-087-4040-DD Date April 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 April 8, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>Single</u>	Agent: <u>✓</u>	Plat: <u>18</u>	Casing: <u>MU</u>	Fee: <u>137.30</u>	WROP: <u>18</u>	S&E: <u>18</u>	Other: <u> </u>
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John H. Johnston
 Director, Division of Oil and Gas
 by Margaret J. Hasa File

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

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