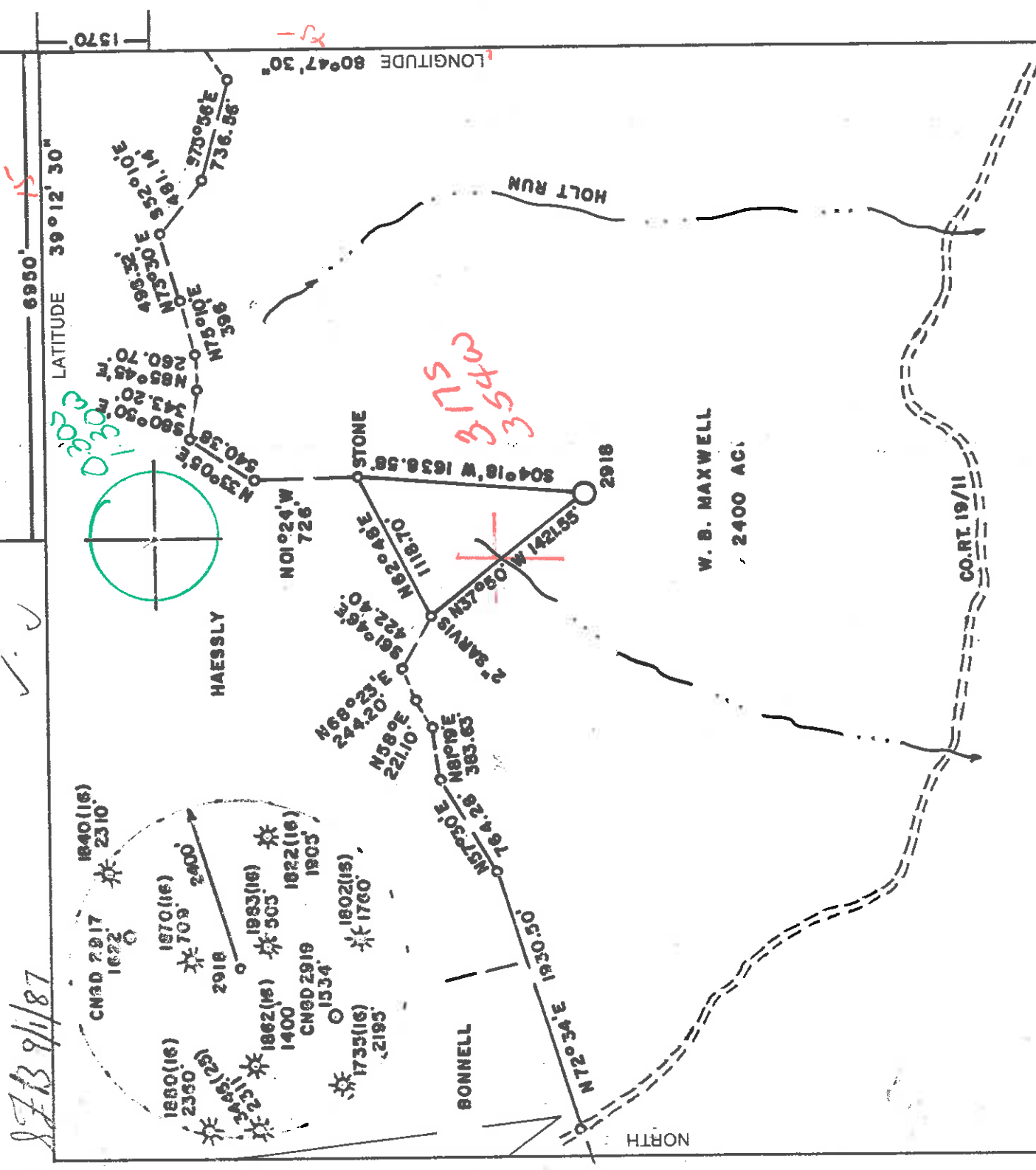


87B 9/1/87



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

SCHWARTZMAN

WELL REFERENCES:
 S39°W, 142' TO 12" R. MAPLE
 N16°E, 171' TO 10" C. OAK

RSH. 5/20/87

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

FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1 in 200
 PROVEN SOURCE OF ELEVATION TOP OF KHC B 1600' N.
 OF LOCATION ELEV. - 1384'

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. **STEPHEN D. LOSH**

PLACE SEAL HERE



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
OIL AND GAS DIVISION

DATE **APRIL 24** 19 **87**
 OPERATOR'S WELL NO. **2918**
 API WELL NO. **47-017-3588**

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL STATE COUNTY PERMIT
 (IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION **1221'** WATER SHED **SOUTH FORK OF HUGHES RIVER**
 DISTRICT **SOUTHWEST** COUNTY **DODDRIDGE**
 QUADRANGLE **OXFORD 7.5 min. 526** **058 A/E3 Holbrook** ACREAGE **4589.21**
 SURFACE OWNER **BEATRICE H. SCHWARTZMAN** LEASE ACREAGE **2400**
 OIL & GAS ROYALTY OWNER **W. B. MAXWELL** LEASE NO. **607C 41998**

PROPOSED WORK: DRILL 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 **DEVONIAN SHALE** ESTIMATED DEPTH **5365'**
 WELL OPERATOR **CNS DEVELOPMENT COMPANY** DESIGNATED AGENT **GARY A. NICHOLAS**
 ADDRESS **ONE PARK RIDGE CENTER RT. 2, BOX 698 BRIDGEPORT, WV 26330**
PITTSBURGH, PA 15244 142
6-6 Straight Fork-Bluestone Creek (133)

SEP 21 1987



Date January 21, 1988
 Operator's
 Well No. 2918
 Farm W. B. Maxwell
 API No. 47-017-3588

RECEIVED
 State of West Virginia
 Department of Mines
 Oil and Gas Division
 FEB 01 1988

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

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

LOCATION: Elevation: 1221 Watershed South Fork of Hughes River
 District: Southwest County Doddridge Quadrangle Oxford

COMPANY CNG Development Company
 ADDRESS P.O. Box 15746
Pittsburgh, PA 15244
 DESIGNATED AGENT Gary A. Nicholas
 ADDRESS Rt. 2 Box 698
Bridgeton, WV 26330
 SURFACE OWNER Beatrice H. Schwartzman
 ADDRESS 2520 - 30th St., N.W.
Washington, DC 20008
 MINERAL RIGHTS OWNER W. B. Maxwell Hrs.
Union Nat'l Bank, A/I/F Maxwell Heirs
 ADDRESS P.O. Box 1450, Clarksburg, WV 26301

OIL AND GAS INSPECTOR FOR THIS WORK
 Mike Underwood ADDRESS Rt. 2, Box 1426
Salem, WV 26426

PERMIT ISSUED Sept. 14, 1987
 DRILLING COMMENCED Dec. 16, 1987
 DRILLING COMPLETED Dec. 20, 1987

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

Casing Tubing Size	Used in Drilling	Left in Well	Cement fill up Cu. ft.
20-16 Cord.			
13-10"			
9 5/8			
8 5/8	1390	1390	To Surf.
7			
5 1/2			
4 1/2	5358	5358	525 sks
3			
2 1/2	5171	5171	---
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 5365 feet
 Depth of completed well 5393 feet Rotary X / Cable Tools _____
 Water strata depth: Fresh 60 feet; Salt 1220 feet
 Coal seam depths: --- Is coal being mined in the area? No _____

OPEN FLOW DATA

Producing formation Alexander Pay zone depth 5156-5197 feet
 Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Bbl/d
 Final open flow 822 Mcf/d Final open flow _____ Bbl/d

Time of open flow between initial and final tests 4 hours
 Static rock pressure 750 psig (surface measurement) after 24 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

FEB 8 1988

(Continue on reverse side)

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

Perforated Alex. 5156 - 5197, 25 holes, .39" HSC

Foam Frac - Ave HHP 2 pumps, Ave Rate 20, Ave Pr 2100, Max Tr Pr 2880, Total Sand 120,000#, Max Conc. 6, Total Acid 500 gal, Total Fluid 537, SL Fluid 364, ISIP 1680, 5 min 1120, Total Nit. 800,000 SCF

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
Sand, Shale & RR			0	1863	1/4" Stream water 60' Damp @ 1220'
Little Lime			1863	1889	
Shale			1889	1901	
Big Lime & Injun			1901	1997	
Sand & Shale			1997	5393	
✓ LOG TOPS					
Big Lime			1896	1970	
Big Injun			1970	2045	
Weir			2201	2322	
Berea			2400	2406	
Warren			3264	3320	
U. Speechley			3330	3435	
Speechley			3772	3840	
Balltown			4224	4268	
Bradford			4452	4494	
Riley			4804	4834	
Benson			4886	4935	
✓ Alexander			5134	5230	

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DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

CNG DEVELOPMENT COMPANY
Well Operator

By: [Signature]
Date: January 21, 1988

Notes: Regulation 2.02(i) provides as follows:
"The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including sand, encountered in the drilling of a well."



1) Date: Aug. 21, 1987
 2) Operator's Well No.: CNGD 2918
 3) API Well No. 017 3588 Permit
 State 47 County

RECEIVED
 AUG 28 1987

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

4) WELL TYPE: A Oil Gas B (If "Gas", Production / Deep / Shallow
 5) LOCATION: Elevation: 1221 Watershed: South Fork of Hughes River
 District: Southwest 7 County: Doddridge 017 Quadrangle: Oxford 525
 6) WELL OPERATOR: CNG Development Co CODE: 1010 7) DESIGNATED AGENT: GARY NICHOLAS
 Address c/o Cheryl S. Hartle P.O. Box 15746 Address Crosswind Corporate Park
Pittsburgh, PA 15244 Rt. 2, Box 698, Bridgeport, WV 26330
 8) OIL & GAS INSPECTOR TO BE NOTIFIED
 Name Mike Underwood Name Sam Jack Drilling Co.
 Address Route 2, Box 114 Address P.O. Box 48
Salem, WV 26426 Buckhannon, WV 26201

10) PROPOSED WELL WORK: Drill / Drill deeper / Redrill / Stimulate
 Plug off old formation / Perforate new formation

11) GEOLOGICAL TARGET FORMATION, Alexander
 12) Estimated depth of completed well, 5364 feet
 13) Approximate trata depths: Fresh, 350 feet; salt, - feet.
 14) Approximate coal seam depths: - Is coal being mined in the area? Yes No

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.	For drilling	Left in well		
Conductor	11-3/4	H-40	42	X	80	To surface	Kind: <u>38CSR18-11.3</u> By rule <u>15-05</u>
Fresh water							Sizes <u>38 CSR18-11.3</u>
Coal						To surface	By rule <u>15-05</u>
Intermediate	8-5/8	X-42	23	X	1400	To surface	Depths set <u>38CSR18-11.1</u>
Production	4-1/2	J-55	10.5	X	5365	200 - 400	By rule <u>15-05</u>
Tubing	1-1/2	CN-55	2.75	X			Perforations:
Liners							Top
							Bottom

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-017-3588 Date September 14 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 14, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <u>[Signature]</u>	Fee: <u>200</u>	Other: <u>[Signature]</u>
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NOTE: Keep one copy of this permit posted at the drilling location.
 Director, Division of Oil and Gas

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

1074

