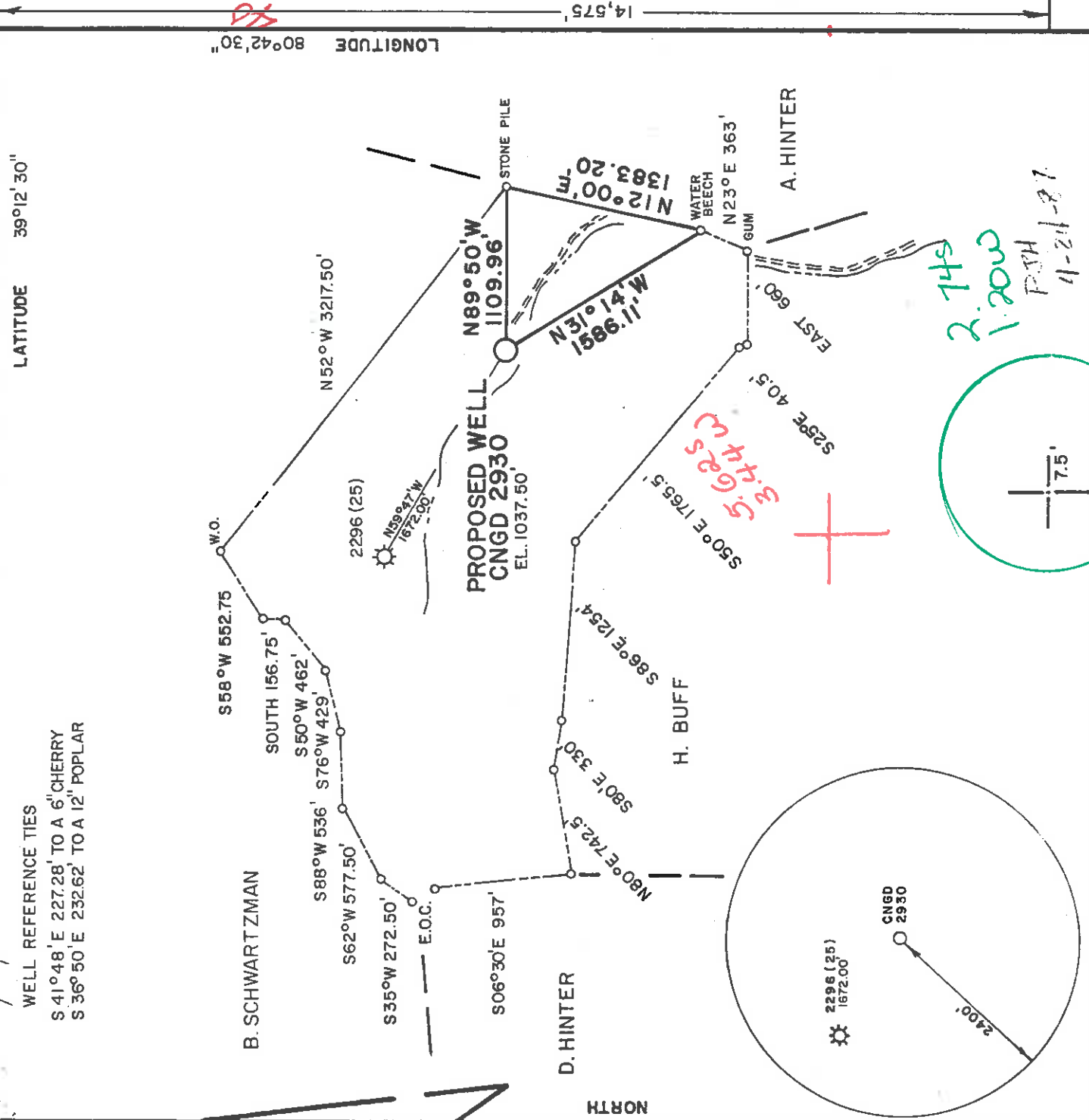


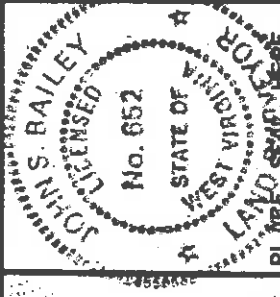
183 5/21/87

3915



FILE NO. MSES 87-762  
 DRAWING NO. JSB/RVS  
 SCALE 1"=1000'  
 MINIMUM DEGREE OF ACCURACY 1 PART IN 200  
 PROVEN SOURCE OF ELEVATION RD. JCT. 8600' S.W. OF LOC. EL. 922

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) J. S. Bailey  
 R. P. E. L.L.S. 652



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
 FORM IV-6  
 (8-78)



Department of Mines  
 Oil & Gas Division

DATE APRIL 6, 19 87  
 OPERATOR'S WELL NO. CNGD 2930  
 API WELL NO. 47-017-3550  
 STATE WV COUNTY PLATEAU PERMIT

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  DEEP  SHALLOW   
 (IF "GAS", PRODUCTION  STORAGE  WATER SHED  TOMS FORK OF MEATHOUSE FORK  
 LOCATION: ELEVATION 1037.50 DISTRICT NEW MILTON COUNTY DODDRIDGE  
 QUADRANGLE NEW MILTON 7.5 511 NEAREST TOWN LEOPOLD  
 SURFACE OWNER BEATRICE SCHWARTZMAN ACREAGE 183.25  
 OIL & GAS ROYALTY OWNER D.C. STOUT HRS. LEASE NO. TC-41996 LEASE ACREAGE 1427

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  ESTIMATED DEPTH 5500'  
 TARGET FORMATION DEVONIAN SHALE  
 WELL OPERATOR CNG DEVELOPMENT COMPANY DESIGNATED AGENT GARY A. NICHOLAS  
 ADDRESS P.O. BOX 15746 ADDRESS ROUTE 2, BOX 698  
PITTSBURGH, PA 15244 ADDRESS BRIDGEPORT, WV 26330  
6-6 Porto Rico (Stout) (134)



**RECEIVED**  
JAN 06 1989  
State of West Virginia  
Department of Mines  
Oil and Gas Division

Date December 20, 1988  
Operator's  
Well No. 2930  
Farm D. C. Stout  
API No. 47-017-3550

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY, WELL OPERATOR'S REPORT

OF  
DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 1037.5 Watershed Toms Fork of Meathouse Fork  
District: New Milton County Doddridge Quadrangle New Milton

COMPANY CNG Development Company  
ADDRESS PO Box 15746  
Birmingham, AL 35244  
DESIGNATED AGENT Rodney J. Biggs  
ADDRESS RT 2 Box 698  
Bridgeport, WV 26330  
SURFACE OWNER Beatrice Schwartzman  
ADDRESS 2530 30th St., N.W.  
Washington, DC 20008  
MINERAL RIGHTS OWNER D. C. Stout Hrs.  
ADDRESS \_\_\_\_\_

OIL AND GAS INSPECTOR FOR THIS WORK  
Mike Underwood ADDRESS RT 2 Box 114  
Salem, WV 26426  
PERMIT ISSUED June 4, 1987  
DRILLING COMMENCED 12/2/88  
DRILLING COMPLETED 12/8/88

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

Casing Tubing Size	Used in Drilling in Well	Left in Well	Cement fill up Cu. ft.
20-16 Cond.	15		
13-10"	257	252	To Surf.
9 5/8			
8 5/8	1489	1489	To Surf.
7			
5 1/2			
4 1/2	5480	5480	320 sks
3			
2	5226	5226	
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 5500 feet  
Depth of completed well 5555 feet Rotary X / Cable Tools \_\_\_\_\_  
Water strata depth: Fresh 20 feet; Salt 1520 feet  
Coal seam depths: 150 - 154 Is coal being mined in the area? N

OPEN FLOW DATA  
Producing formation Alexander Bradford Pay zone depth 5252-5320 feet  
Gas: Initial open flow \_\_\_\_\_ Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow 581 Mcf/d Final open flow 2 Bbl/d

Time of open flow between initial and final tests 4 hours  
Static rock pressure 1000 psig (surface measurement) after 14 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

(Continue on reverse side)  
JAN 06 1989

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

Superior Perforated Alexander 5252-5320, 26 holes, .41 Bt-Wire; Benson 4990-96, 21 shots, .39 HSC; Bradford 4547-4571, 22 shots, .39 HSC  
 Halliburton Frac with 30# Gel - 1st stage - Break 2320, Ave HHP 1714, Ave Rate 34.4, Ave Pres. 2035, Max Tr Pres. 2548, 70,000# Total Sand, Max Conc. 5#, Total Acid 500 gal, Total Fluid 775, SL Fluid 496, ISIP 1271/1500, 5 min 1265.  
 2nd stage - Break 1600, Ave HHP 1845, Ave Rate 32.8, Ave Pres. 2300, Max Tr Pr 2744, 50,000# Total Sand, Max Conc. 4#, Total Acid 500 gal, Total Fluid 699, SL Fluid 440, ISIP 1285/1435, 5 min 1315.  
 3rd stage - Break 2630, Ave HHP 1716, Ave Rate 30.5, Ave Pres. 2283, Max Tr Pres. 2635, 35,000# Total Sand, Max Conc. 3, 500 gal acid, Total Fluid 577, SL Fluid 353, ISIP 1235/1380, 5 min 1198

**WELL LOG**

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including Induction of all free and salt water, coal, oil and c
KB to GL			0	8	
Fill & Clay			8	18	3" stream water @ 20'
Sd, Sh & RR			18	150	1 1/2" stream water @ 1520'
Coal			150	154	
Sd, Sh & RR			154	1956	
Maxton Sand			1956	1991	
Blue Monday			1991	2006	
Little Lime			2006	2032	
Shale			2032	2051	
B. Lime & Injun			2051	2185	
Shale			2185	2315	
Weir			2315	2420	
Sd & Shale			2420	2506	
Berea			2506	2517	
Shale			2517	2714	
Gordon			2714	2860	
Shale			2860	2875	
4th Sand			2875	2888	
Shale			2888	3040	
Bayard			3040	3045	
Shale			3045	3352	
Warren			3352	3389	
Shale			3389	3536	
U. Speckley			3536	3618	
Sd & Shale			3618	4128	
Balltown			4128	4170	
Shale			4170	4541	
Bradford			4541	4596	
Shale			4596	4897	
Riley			4897	4910	
Shale			4910	4982	
Benson			4982	5048	
Shale			5048	5110	
Leopold			5110	5140	
Shale			5140	5260	
Alexander			5260	5354	
Shale			5354	5555	

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 JAN 06 1989  
 DIVISION OF OIL & GAS  
 DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

LOG TOPS

Big Lime	2046	2180
Big Injun	2180	2198
Weir	2310	2404
Berea	2514	2524
Warren	3373	3394
Bradford	4546	4572
Benson	4990	5046
Alexander	5250	5348

CNG DEVELOPMENT COMPANY  
Well Operator

By: [Signature]  
Date: December 20, 1988

**Note: Regulation 3.02(t) provides as follows:**  
 "The term 'log' or 'well log' shall mean a systematic detailed geological record of all formations, including well, encountered in the drilling of a well."

FORM MW-2 (B) FILE COPY  
 RECEIVED  
 MAY 19 1987



1) Date: April 29, 1987  
 2) Operator's Well No. CNGD 2930  
 3) API Well No. 47 017 3550  
 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  Underground storage  Deep  Shallow   
 B (if "Gas", Production  1037.5  
 5) LOCATION: Elevation: 1037.5  
 District: New Milton  
 Watershed: XXXX Toms Fork of Meathouse Fork  
 County: Doddridge 017 Quadrangle: New Milton 510  
 6) WELL OPERATOR: CNG Development Co. CODE: 10110 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  
 Address Route 2, Box 114  
 Salem, WV 26426  
 9) DRILLING CONTRACTOR:  
 Name Sam Jack Drilling Co.  
 Address P.O. Box 48  
 Ruckhannon, WV 26201

10) PROPOSED WELL WORK: Drill  / deeper  / Redrill  / Stimulate   
 Plug off old formation  / Perforate new formation   
 Other physical change in well (specify) \_\_\_\_\_

11) GEOLOGICAL TARGET FORMATION, Alexander  
 12) Estimated depth of completed well, 5500 feet  
 13) Approximate trata depths: Fresh, 197 feet; salt, 1331 feet.  
 14) Approximate coal seam depths: 124 feet. 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	2240	To surface By rule 15.05
Fresh water						
Coal	8-5/8	X-42	23	X	1450	To surface By rule 15.05
Intermediate Production	4-1/2	J-55	10.5	X	5500	200 - 400 Depths set
Tubing	1-1/2	CN-55	2.75	X		By rule 15.01
Liners						Perforations: Top Bottom

OFFICE USE ONLY  
 DRILLING PERMIT  
 Permit number 47-017-3550 Date June 4 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 June 4, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent:	Fee:	Casing:	Other:
		1887	205	WPP

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.

10171

