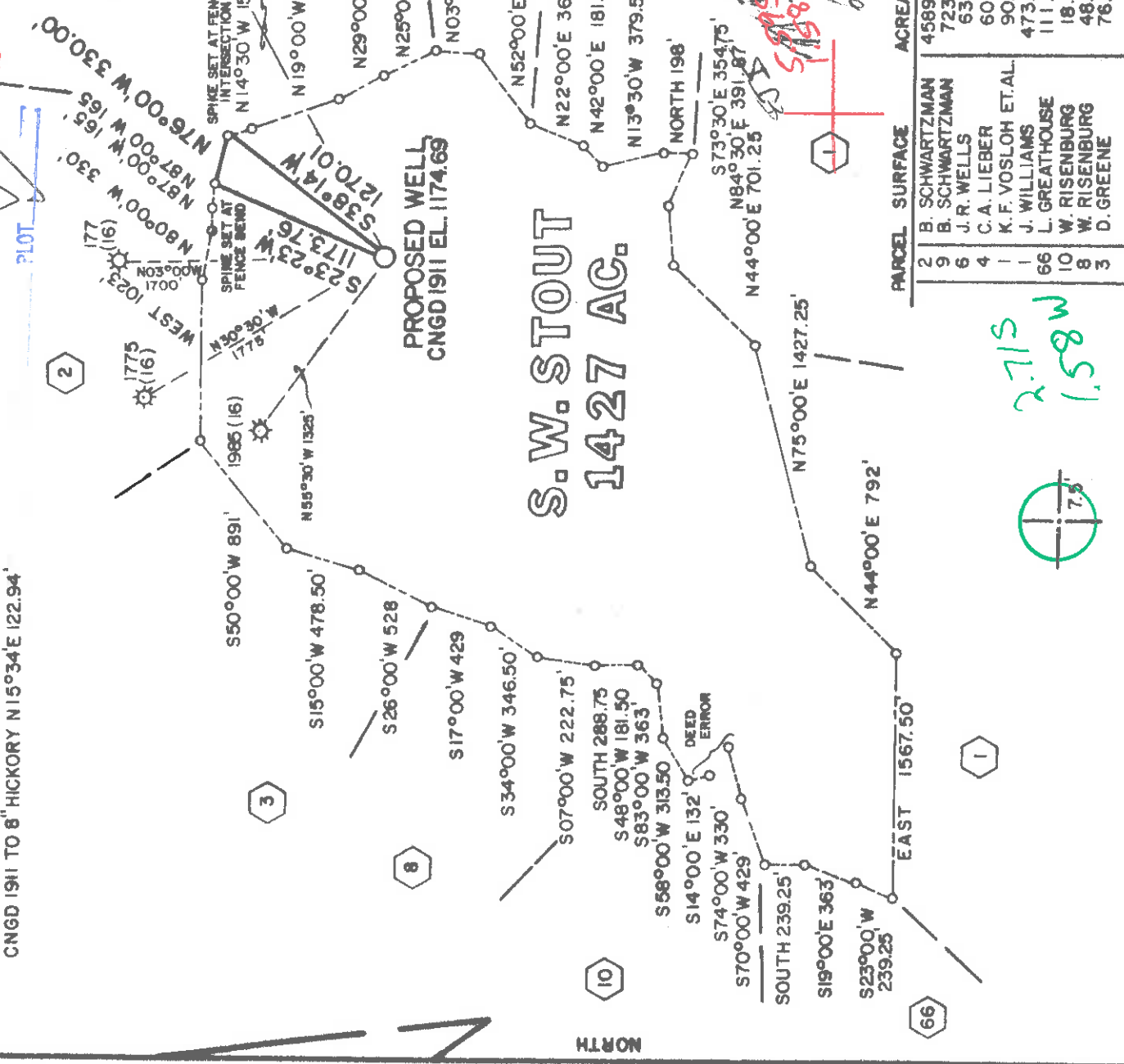


2-87

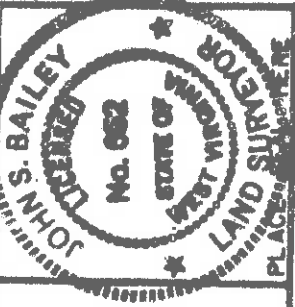
WELL REFERENCE TIES  
CNGD 1911 TO 9" HICKORY N02°13'E 92.02'  
CNGD 1911 TO 8" HICKORY N15°34'E 122.94'

LATITUDE 39°12'30"  
LONGITUDE 80°45'00"



FILE NO. MSES 85-651  
DRAWN BY RRG/RVS  
SCALE 1" = 1000'  
MINIMUM DEGREE OF ACCURACY 1/16" IN 200  
PROVEN SOURCE OF ELEVATION B.M. EL. 924' 6400' NORTH EAST OF LOCATION

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. A. Bailey  
R.P.E. V.L.S. 652*



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
FORM IV - 6  
(8-76)



Department of Mines  
Oil & Gas Division

DATE MAY 3, 19 85  
OPERATOR'S WELL NO. CNGD 1911  
API WELL NO. 47-017-3456  
STATE WV COUNTY PUTNAM PERMIT 1427

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
( IF "GAS", PRODUCTION  STORAGE  DEEP  SHALLOW   
LOCATION: ELEVATION 1174.69 WATER SHED MUDLICK RUN  
DISTRICT SOUTHWEST COUNTY DOODRIDGE  
QUADRANGLE OXFORD 7.5' (1976) 526 058 NE-3 Highbrook  
SURFACE OWNER BEATRICE SCHWARTZMAN ACREAGE 302  
OIL & GAS ROYALTY OWNER S.W. STOUT HRS. 302 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   
TARGET FORMATION ALEXANDER ESTIMATED DEPTH 5575'  
WELL OPERATOR CNG DEVELOPMENT COMPANY 172 DESIGNATED AGENT GARY A. NICHOLAS  
ADDRESS ONE PARK RIDGE CENTER ADDRESS ROUTE 2 BOX 698  
PITTSBURGH, PA. 15219 ADDRESS BRIDGEPORT, W. V. 26301

PREPARED BY MSES consultants, inc. 6.6 Straight Fork Bluestone Creek (133) AUG 19 1985



**RECEIVED**  
DEC 19 1985

Date November 11, 1985  
Operator's  
Well No. CNGD WN 1911  
Farm D. C. Stout  
API No. 47 - 017 - 3456

State of West Virginia  
Department of Mines  
Oil and Gas Division

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: 1175 Watershed Mudlick Run  
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  
Bridgport, WV 26330  
SURFACE OWNER Beatrice Schwartzman  
2530 30th St. NW  
ADDRESS Washington, DC 20008  
MINERAL RIGHTS OWNER S. W. Stout Hrs.  
ADDRESS \_\_\_\_\_

OIL AND GAS INSPECTOR FOR THIS WORK  
Mike Underwood Rt. 2 Box 114  
ADDRESS Salem, WV 26426  
PERMIT ISSUED Aug. 6, 1985  
DRILLING COMMENCED Sept. 3, 1985  
DRILLING COMPLETED Sept. 11, 1985

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

Casing Tubing Size	Used in Drilling	Left in Well	Cement fill up Cu. ft.
20-16 Cond.			
13-10"	160	160	To Surf.
9 5/8			
8 5/8	2186	2186	To Surf.
7			
5 1/2			
4 1/2	5368	5368	530 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Alexander Depth 5575 feet  
Depth of completed well 5575 feet Rotary X / Cable Tools \_\_\_\_\_  
Water strata depth: Fresh 150 feet; Salt \_\_\_\_\_ feet  
Coal seam depths: 1322 - 1325 Is coal being mined in the area? No.  
1480 - 1484

OPEN FLOW DATA  
Producing formation Alexander Pay zone depth 5121-5194 feet  
Henson 4761-4853  
Bradford 4430-38  
Warren 3255-3365  
Gas: Initial open flow \_\_\_\_\_ Mcf/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow (462) Mcf/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests 4 hours

Static rock pressure 1100 psig (surface measurement) after 48 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)  
DEC 30 1985

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

Perforations: 1st Stage - Alexander 5121-5194, 12 holes, .39; 2nd - Benson 4761-4853, 10 holes, .39; 3rd - Bradford 4430-36, 12 holes, .39; 4th - Warren 3255-3365, 12 holes, .39" Halliburton Foam Frac - Alex. - Gel System 20, Break 2400 psi, Ave HHP 4, Ave Rate 16 BPM, Ave Pr. 2800 psi, Max Tr Pres 3100 psi, 500 gal MOD 202, 55,000# 20/40, Max Conc 3, Total Fluid 710 bbl, SL Fluid 630 bbl, ISIP 2530 N2, Total Nit. 615,000 SCF. Benson - Gel System 20, Break 2400 psi, Ave HHP 4, Ave Rate 16 BPM, Ave Pr 2900 psi, Max Tr Pr 3000 psi, 500 gal MOD 202, 45,000# 20/40, Max Conc 3, Total Fluid 675 bbl, SL Fluid 595 bbl, ISIP 2120, 5 min 1500, Total Nitrogen 455,000 SCF. Bradford - Gel System 20, Break 1960 psi, Ave HHP 4, Ave Rate 20 BPM, Ave Pr 2600 psi, Max Tr Pr 4000 psi, 500 gal MOD 202, 13,000# 20/40, Max Conc. 2, Total Fluid 250 bbl, SL Fluid 200 bbl, Total Nitrogen 225,000 SCF  
 Warren - Break 1950, Ave HHP 2, Ave Rate 24 BPM, Ave Pr 3100 psi, Max Tr Pr 3220 psi, 500 gal MOD 202 Acid, 55,000# 20/40, Max Conc. 3, Total Fluid 693 bbl, SL Fluid 520 bbl, ISIP 1160 psi, 5 min 960 psi, Total Nitrogen 460,000 SCF  
 WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas.
Sand, Shale & RR			0	1322	Damp @ 150'
Coal			1322	1325	1380'
Sand & Shale			1325	1480	1" @ 1613'
Coal			1480	1484	
Sand & Shale			1484	1855	Coal 1322 - 1325
Lime			1855	1865	1480 - 1484
B. Lime			1865	1950	
Sand & Shale			1950	5575	TD Alex TD
<b>LOG TOPS</b> ✓					
Big Injun			1945	2034	
Weir			2184	2292	
Gantz			2373	2379	
50'			2480	2527	
Gordon Stray			2556	2604	
Warren (Upper)			3236	3270	
Warren (Lower)			3290	3366	
Balltown (Zone)			3997	4085	
Riley			4748	4776	
Benson			4850	4854	
Leopold			4969	4984	
Alexander			5120	5197	

(Attach separate sheets as necessary)

CNG DEVELOPMENT COMPANY  
Well Operator

By: *Greg A. Miller*

Date: November 11, 1985

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 lithology, encountered in the drilling of a well."

JUL 17 1985

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

4) WELL TYPE: A Oil DEEP GAS MINES

B (If "Gas", Production  / Underground storage  Deep  Shallow )

5) LOCATION: Elevation: 1175 Watershed: Mudlick Run County: Doddridge Quadrangle: Oxford

6) WELL OPERATOR: CNG Development Company DESIGNATED AGENT: Gary Nicholas  
Address: c/o Paul W. Garrett, P.O. Box 15746 (42) Address: Crosswind Corporate Park  
Pittsburgh, PA 15244 10110 Rt. 2, Box 698, Bridgeport, WV 26330

8) OIL & GAS INSPECTOR TO BE NOTIFIED  
Name: Mike Underwood DRILLING CONTRACTOR:  
Address: Route 2, Box 114 Name: Sam Jack Drilling Co.  
Salem, WV 26426 Address: P.O. Box 48  
Buckhannon, WV 26201

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

11) GEOLOGICAL TARGET FORMATION, Alexander (439)  
Other physical change in well (specify)

12) Estimated depth of completed well, 5575 feet

13) Approximate true depths: Fresh, 100 feet; salt, 1865, 1915 feet.

14) Approximate coal seam depths: 1279, 1425, 1430, 1455 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.	New	Used		
Conductor							
Fresh water	11-3/4	H-40	42		X	160	To Surface By Rule 15.05
Coal							
Intermediate	8-5/8	X-42	23		X	2100	To Surface By Rule 15.05
Production	4-1/2	J-55	10.5		X	5575	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 47-017-3456 Date August 6 19 85

Date

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 August 6, 1987 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <u>A.O.</u>	Plat: <u>MM</u>	Casing: <u>MM</u>	Fee: <u>9377</u>
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*A. O. Paul*

**Director, Division**  
Office of Oil and Gas

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.

File

