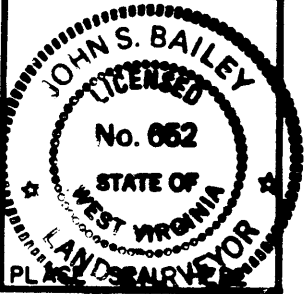


MAGNETIC REFERENCE TIE LINES
 PROPOSED WELL TO 18" W.O. AT ROAD BANK
 S73°00' W 189.3'
 PROPOSED WELL TO 14" PINE
 N88°51' W 114.8'

FILE NO. MSES 84-557
 DRAWN BY SARC
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1 PART IN 200
 PROVEN SOURCE OF ELEVATION RD. INT. PLEAS. CO. RT. 1/6 & WOOD CO. RT. 20/2, B.M. EL. 755.7'

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) John 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 NOVEMBER 5, 19 84
 OPERATOR'S WELL NO. CNGD 1506
 API WELL NO. 47-107-1345
 STATE COUNTY PERMIT

WELL TYPE: OIL _____ GAS X LIQUID INJECTION _____ WASTE DISPOSAL _____
 (IF "GAS", PRODUCTION X STORAGE _____ DEEP _____ SHALLOW X)
 LOCATION: ELEVATION 1035.3' WATER SHED LAUREL FORK
 DISTRICT WALKER 9 COUNTY WOOD
 QUADRANGLE WILLOW ISLAND, W.VA. - OH 7.5' 1957 (1976) Manetta 15' SE 9
 SURFACE OWNER EDNA L. NEWLAND ROGERS ACREAGE 55
 OIL & GAS ROYALTY OWNER EDNA L. ROGERS LEASE ACREAGE 55
 LEASE NO. 74061 & 74032

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 DEVONIAN SHALE ESTIMATED DEPTH 3450'
 WELL OPERATOR CNG DEVELOPMENT COMPANY DESIGNATED AGENT GARY A. NICHOLAS
 ADDRESS ONE PARK RIDGE CENTER ADDRESS RT. 2, BOX 698
PITTSBURGH, PA 15219 BRIDGEPORT, WV 26330

JAN 14 1985



RECEIVED

MAR 06 1985

State of West Virginia

Department of Mines
Oil and Gas Division

Date February 21-85
Operator's _____
Well No. CNGD WN 1506
Farm Rogers
API No. 47 - 107 - 1345

OIL & GAS DIVISION
DEPT. OF MINES

WELL OPERATOR'S REPORT
OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 1035.3 Watershed Laurel Fork
District: Walker County Wood Quadrangle Willow Island WV-OH

COMPANY CNG Development Company
ADDRESS P. O. Box 15746
Pittsburgh, PA 15244
DESIGNATED AGENT Gary A. Nicholas
ADDRESS Rt. 2 Box 698,
Bridgeport, WV 26330
SURFACE OWNER Edna L. Newland Rogers
ADDRESS Rt. 3 Box 228
Parkersburg, WV 26101
MINERAL RIGHTS OWNER Edna Rogers
ADDRESS Rt. 3 Box 228
Parkersburg, WV 26101

OIL AND GAS INSPECTOR FOR THIS WORK
Glen Robinson ADDRESS Rt. 1 #6 Mt. Pleasant Est.
Mineralwells, WV 26150

PERMIT ISSUED 1-3-85
DRILLING COMMENCED 2-1-85
DRILLING COMPLETED 2-7-85

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.			
11-3/4	335	335	To Surf.
9 5/8			
8 5/8	1035	1035	To Surf.
7			
5 1/2			
4 1/2	3447	3447	100 sk. Poz 290 sk. Thi x
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 3450 feet
Depth of completed well 3455 feet Rotary x / Cable Tools _____
Water strata depth: Fresh 130 feet; Salt _____ feet
Coal seam depths: 375 - 380
390 - 395 Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth 3231-2786
2651-2324 feet
Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Bbl/d
Final open flow (est.) (75) Mcf/d Oil: Final open flow (est.) (50) Bbl/d
Time of open flow between initial and final tests _____ hours
Static rock pressure (est.) 600 psig (surface measurement) after _____ 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

DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC.
 Perfco Perf. Devonian Shale ^{Huron} 3231-2786; 22 holes; (.39) H.S.C. Select Fire
 Huron 2651-2324; 23 holes (.39) H.S.C. Select Fire
 Huron 1830-1501; 22 holes (.39) H.S.C. Select Fire
 Halliburton Nit. Frac Devonian Shale - Break 2800, Avg. T PSI 2850, Rate 84,000 SCF/min N₂
 ISI 1600, 5 min 1530, used 500 gals 15% HCL + 800,000 SCFN₂
 2nd Stage - Break 3080, Avg. T PSI 3100, Rate 83,000 SCF/min N₂
 ISI 1650, 5 min 1400, used 500 gals 15% HCL + 800,000 SCFN₂
 3rd Stage - Break 2900, Avg. T PSI 2850, Rate 80,000 SCF/min N₂
 ISI 1575, 3 min 1400, used 500 gals 15% HCL + 800,000 SCFN₂

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
Clay			0	5	Hole Wet @ 130'
Sand & Shale			5	375	
Coal			375	380	
Shale			380	390	
Coal			390	395	
Sand & Shale			395	780	
Lime & Shale			780	875	
Sand & Shale			875	3455 ✓	here Huron @ 77
LOG TOPS ✓					
Base - Big Injun				1036	
Berea			1404	1408	

(Attach separate sheets as necessary)

CNG DEVELOPMENT COMPANY
Well Operator

By: *[Signature]*

Date: 7-21-85

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

FILE COPY
RECEIVED



1) Date: November 20, 19 84
 2) Operator's Well No. 1506
 3) API Well No. 47 - 107 - 1345
 State County Permit

1984

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

OIL & GAS DIVISION
DEPT. OF MINES

- 4) WELL TYPE: A Oil / Gas _____
 B (If "Gas", Production _____ / Underground storage _____ / Deep _____ / Shallow _____)
- 5) LOCATION: Elevation: 1035.3 Watershed: Laurel Fork
 District: Walker County: Wood Quadrangle: Willow Island WV-0H
- 6) WELL OPERATOR CNG Development Company
 Address c/o Paul Garrett, P.O. Box 15746
Pittsburgh, PA 15244 10110
- 7) DESIGNATED AGENT Mr. Gary Nicholas
 Address Crosswind Corporate Park
Rt. 2, Box 698, Bridgeport, WV 26330
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED
 Name Glen P. Robinson
 Address Rt. 1, #6, Mt. Pleasant Estate
Mineralwells, WV 26150
- 9) DRILLING CONTRACTOR:
 Name Sam Jack Drilling Company
 Address P.O. Box 48
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, Devonian Shale
- 12) Estimated depth of completed well, 3450 feet
- 13) Approximate strata depths: Fresh, 2285 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.	New	Used	For drilling	Left in well		
Conductor	16					20-30			Kinds
Fresh water	11 3/4	H-40	42	x		250 315	250 315	To Surface	By rule 15.05
Coal									Sizes
Intermediate	8 5/8	X-42	23	x		1020	1020	To Surface	
Production	4 1/2	J-55	10.5	x		3450	3450	200-400	Depths set
Tubing	2 3/8	CW-55	4.6	x					By rule 15.01
Liners									Perforations:
									Top Bottom

OFFICE USE ONLY
DRILLING PERMIT

Permit number 47-107-1345

Date January 3, 19 85

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 January 3, 1987 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>28</u>	Agent: <u>MN</u>	Plat: <u>MN</u>	Casing: <u>MN</u>	Fee: <u>004-980</u>
-----------------	------------------	-----------------	-------------------	---------------------

Margaret J. Hase
 Administrator, 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