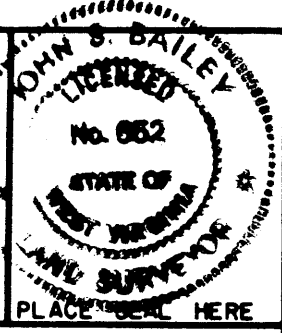


FILE NO. MSES 84-468
 DRAWING NO. _____
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1 IN 200
 PROVEN SOURCE OF ELEVATION USGS DISK EL 1947' 1200' WEST OF LOCATION

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) 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 AUGUST 16, 19 84
 OPERATOR'S WELL NO. CNGD 1164
 API WELL NO. 47-097-2673
 STATE WEST VIRGINIA COUNTY UPSHUR PERMIT 61

WELL TYPE: OIL _____ GAS X LIQUID INJECTION _____ WASTE DISPOSAL _____
 (IF "GAS", PRODUCTION X STORAGE _____ DEEP _____ SHALLOW X)
 LOCATION: ELEVATION 1905.40' WATER SHED LITTLE LAUREL FORK
 DISTRICT UNION COUNTY UPSHUR
 QUADRANGLE BUCKHANNON 7.5' (1977) 268 Sage 116 NC2
 SURFACE OWNER ALAN D. BLAKE ACREAGE 8.44
 OIL & GAS ROYALTY OWNER OSIE PEARL CHAMP ET AL. LEASE ACREAGE 61
 LEASE NO. 73463
 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 HAVERTY ESTIMATED DEPTH 5300'
 WELL OPERATOR CNG DEVELOPMENT COMPANY DESIGNATED AGENT GARY A. NICHOLAS
 ADDRESS ONE PARK RIDGE CENTER ADDRESS CROSSWIND CORPORATE PARK
PITTSBURGH, PA. 15219 ROUTE 2 BOX 698
BRIDGEPORT, W.V. 26301

OCT 09 1984

IV-35
(Rev 8-81)

RECEIVED

FEB 6 - 1985

OIL & GAS DIVISION
DEPT. OF MINES



State of West Virginia
Department of Mines
Oil and Gas Division

Date January 3, 1985
Operator's
Well No. CNGD WN 1164
Farm Champ
API No. 47 - 097 - 2673

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: 1905.4 Watershed Little Laurel Fork
District: Union County Upshur Quadrangle Buckhannon 7.5'

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 Alan D. Blake
ADDRESS Star Rt. Box 85C, Ellamore, WV 26267
MINERAL RIGHTS OWNER Osie Pearl Champ, etal
ADDRESS Volga, West Virginia 26238
OIL AND GAS INSPECTOR FOR THIS WORK
Phillip Tracy ADDRESS Forest Festival Ter. #24
Elkins, WV 26241
PERMIT ISSUED 10-2-84
DRILLING COMMENCED 12-3-84
DRILLING COMPLETED 12-11-84
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 Cord.			
13-10"			
9 5/8			
8 5/8	953	953	To Surf.
7			
5 1/2			
4 1/2	5313	5313	780 Poz
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Haverty Depth 5300 feet
Depth of completed well 5321 feet Rotary x / Cable Tools
Water strata depth: Fresh 210 feet; Salt feet
Coal seam depths: 275 - 278 Is coal being mined in the area? No
370 - 375

OPEN FLOW DATA
Producing formation Haverty Pay zone depth 2143 - 2208 feet
Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl/d
Final open flow 267 Mcf/d 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
(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 19 1985
(Continue on reverse side)

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

SEE SHEET ATTACHED

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
KB - GL			0	10	Coal Seams 275 - 278
Sand & Shale			10	275	370 - 375
Coal			275	278	
Sand & Shale			278	360	
Coal			360	375	
Sand, Shale & RR			375	1285	
Big Lime & Injun			1285	1545	
Sand & Shale			1545	4010	
1st Elk			4010	4040	
Sand & Shale			4040	4385	
Sand & Shale			4385	5321	
LOG TOPS					
See Attached Sheet					
					<i>braker</i> <i>@ TD.</i>

(Attach separate sheets as necessary)

CNG Development Company

Well Operator

By:

Date: January 3, 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 coal, encountered in the drilling of a well."

CNGD Well No. 1164
Champ
Lewis County, WV
API No. 47 - 097-2673

LOG TOPS

Formation	Top	Bottom
BiLime/B. Inj	1270	1514
Berea	1518	1540
Gantz A	1554	1606
50'	1612	1688
30'	1690	1723
Gord. Str./Gord	1726	1888
4th	1894	1982
5th	1986	2080
Bayard/L. Bay	2140	2220
Elizabeth	2434	2450
Speechley	2758	2770
Bradford	3168	3310
Riley	3650	3758
Benson	3956	3984
1st Elk <i>FLY</i>	4136	4234
2nd Elk	4315	
3rd Elk	4518	4654
4th Elk	4764	4994
Harverty	5232	5292

over →

Allegheny Nuclear Perforated Haverty - 5258 - 5260; 8 holes; .33
Elk - 4784 - 4794; 10 holes; .33
Benson - 3979 - 4007; 14 holes; .39
Riley & Etc. - 3641 - 3745; 14 holes; .39
Eliz. & Speechley - 2437 - 2767; 10 holes; .39
- Bayard & Lower Bayard - 2143 - 2208; 10 holes; .39

Eliz 2437 - 2450
Speechley 2758 - 2767
Bayard 2143 - 2208

Halliburton Water Frac 1st Stage - Break 3000, Avg. HHP 1090, Avg. BPM 11.7, Avg. PSI 3800,
500 gal MOD 202 Acid + 1000 EnWar, 30,000 20-40 Sand,
459 Total BBL Fluid, ISIP 1990, 5 min 1620, WAC-9 25.

2nd Stage - Break 2150, Avg. HHP 1581, Avg. BPM 17.9, Avg. PSI 3600,
500 gal MOD 202 Acid, 30,000 20-40 Sand, 540 Total BBL Fluid,
ISIP 1330, 5 min 1290, WAC - 9 25

3rd Stage - Break 1400, Avg. HHP 1712, Avg. BPM 34.9, Avg. PSI 2000,
500 gal MOD 202, 30,000 20-40 Sand, 475 Total BBL Fluid,
ISIP 1000, 5 min 960, WAC - 9 25

4th Stage - Break 3500, Avg. HHP 1855, Avg. BPM 25.2, Avg. PSI 3000,
500 gal MOD 202, 35,000 20-40 Sand, 505 Total BBL Fluid,
ISIP 850, 5 min 800, WAC - 9 25

5th Stage - Break 1500, Avg. HHP 1912, Avg. BPM 27.6, Avg. PSI 2900,
500 gal MOD 202, 40,000 20-40 Sand, Total BBL Fluid 534,
ISIP 990, 5 min 950, WAC - 9 50

6th Stage - Break 1300, Avg. HHP 2055, Avg. BPM 29.9, Avg. PSI 2800,
500 gal MOD 202, 40,000 20-40 Sand, Total BBL Fluid 516,
ISIP 1160, 5 min 1000, WAC - 9 50



1) Date: September 11, 19 84
 2) Operator's Well No. 1164
 3) API Well No. 47 - 097 - 2673
 State County Permit

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

4) WELL TYPE: A Oil X / Gas _____
 B (If "Gas", Production _____ / Underground storage _____ / Deep _____ / Shallow _____)
 5) LOCATION: Elevation: 1905.4' Watershed: Little Laurel Fork
 District: Union County: Upshur Quadrangle: Buckhannon 7.5'
 6) WELL OPERATOR CNG Development Company
 Address C/o Paul W. Garrett, P.O. Box 15746
Pittsburgh, PA 15244
 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 Mr. Phillip Tracy
 Address Forest Festival Terrace #24
Elkins, WV 26241
 9) DRILLING CONTRACTOR:
 Name Sam Jack Drilling Company
 Address P. O. Box 48
Buckhannon, WV 26201

10) PROPOSED WELL WORK: Drill X / Drill deeper _____ / Redrill _____ / Stimulate _____
 Plug off old formation _____ / Perforate new formation _____
 Other physical change in well (specify) _____
 11) GEOLOGICAL TARGET FORMATION, Haverty
 12) Estimated depth of completed well, 5300 feet
 13) Approximate trata depths: Fresh, 330, 370 feet; salt, _____ feet.
 14) Approximate coal seam depths: 250, 315, 595 Is coal being mined in the area? Yes _____

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 OIL & GAS DIVISION
 No. _____
DEPT. OF MINES

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		40	40	To surface	By Rule 15.05
Coal									Sizes
Intermediate	8-5/8	X-42	23	X		950	950	To surface	By Rule 15.05
Production	4-1/2	J-55	10.5	X		5300	5300	200-400 sks	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 47-097-2673 Date October 2, 19 84

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 October 2, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>28</u> BLANKE	Agent: <u>✓</u>	Plat: <u>LMU</u>	Casing: <u>LMU</u>	Fee: <u>003-977</u>
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Margaret J. Hesse
 Administrator, Office of Oil and Gas

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