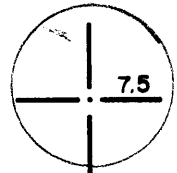


3650' 39 20

CODE _____ CARD _____ PLOT

LATITUDE 39° 17' 30"



0.305
0.680

LONGITUDE 81° 15' 00"

NORTH

E.C.&L.S. DONAHUE
60 AC.

E. BROOKS
22 AC.

PLEASANT'S
WOOD CO.

FE. POST

N70°00'W 2112'

N76°34'E 1786'

N.R.

S21°00'W 675.57'

S57°40'E 1040.36'

PROP. WELL
CNGD 990
EL. 895.94'

STO.

FE. POST

N86°12'E 1123.64'

JAMES NEWLAND
LEASE 74028 31AC.

N70°00'E 2194.50'

N26°00'E 717.75'

3.185
0.680

J.A. SMITH
56 AC.

STK.
N12°00'W 123.75'
STK.

C. JAMES
77 AC.

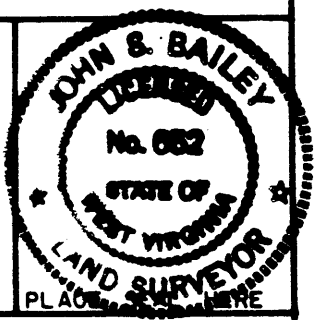
BULL CREEK

REFERENCE TIE LINES

PROPOSED WELL TO 32" BL. WAL. N18°52'W 217.55'
PROPOSED WELL TO 24" SHAGBARK HY. N56°56'W 183.75'

FILE NO. MSES84-426
DRAWING NO. _____
SCALE 1" = 500'
MINIMUM DEGREE OF
ACCURACY 1 IN 200
PROVEN SOURCE OF
ELEVATION JCT. CORT. 1/6 & PVT. RD. EL. 739'

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.S. 652



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



DATE JUNE 25, 19 84
OPERATOR'S WELL NO. CNGD 990
API WELL NO. _____
47 - 107 - 1314
STATE COUNTY PERMIT

Department of Mines
Oil & Gas Division

WELL TYPE: OIL _____ GAS X LIQUID INJECTION _____ WASTE DISPOSAL _____
(IF "GAS", PRODUCTION X STORAGE _____ DEEP _____ SHALLOW X _____
LOCATION: ELEVATION 895.94' WATER SH.E.D. _____ BULL CREEK _____
DISTRICT WALKER 9 COUNTY WOOD
QUADRANGLE WILLOW ISLAND 1957 (PHOTOREVISED 1976) SE 9 Marietta 073

SURFACE OWNER JAMES T. SMITH, JR. ACREAGE 31
OIL & GAS ROYALTY OWNER JAMES E. NEWLAND LEASE ACREAGE 32
LEASE NO. 74028 (31 PER ABSTRACT)

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 5000'
WELL OPERATOR CNG DEVELOPMENT 142 DESIGNATED AGENT GARY A. NICHOLAS
ADDRESS ONE PARK RIDGE CENTER ADDRESS CROSSWIND CORPORATE PARK
PITTSBURGH, PA. 15244 BRIDGEPORT, WV 26330

AUG 20 1984



IV-35
(Rev 8-

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NOV 16 1984

**OIL & GAS DIV.
DEPT. OF MINES**

**State of West Virginia
Department of Mines
Oil and Gas Division**

Date November 5, 1984
Operator's
Well No. CNGD WN 990
Farm Mahoney/Newland
API No. 47 - 107 - 1314

**WELL OPERATOR'S REPORT
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: 895.9 Watershed Bullcreek (053)
District: Walker County Wood Quadrangle Willow Island

COMPANY CNG DEVELOPMENT COMPANY

ADDRESS P.O. BOX 15746, Pittsburgh, PA 15275

DESIGNATED AGENT Gary A. Nicholas

ADDRESS RT. 2 BOX 698, BRIDGEPORT, WV 26330

SURFACE OWNER Beryl Sparks / Zula Mahoney

ADDRESS Rt. 2 Waverly, WV 26184 /

MINERAL RIGHTS OWNER Beryl Sparks/Zula Mahoney

ADDRESS Rt. 2 Waverly, WV 26184 /

OIL AND GAS INSPECTOR FOR THIS WORK

Glen P. Robinson ADDRESS Rt. 1 #6 Mt. Pleas. Estate Minerwells, WV 26150

PERMIT ISSUED 8-13-84

DRILLING COMMENCED 8-31-84

DRILLING COMPLETED 9-10-84

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 Cond.			
11 3/4 9 5/8	234	234	To surf.
8 5/8	1497	1497	To surf
7			
5 1/2			
4 1/2	4478	4478	220 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Devonian Shale Depth 5000 feet

Depth of completed well 4500 feet Rotary x / Cable Tools _____

Water strata depth: Fresh 755⁹⁰ feet; Salt 1200 feet

Coal seam depths: 420 - 423 Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Devonian Shale - 1st Stage Pay zone depth 3650 - 3790 feet
Devonian Shale - 2nd Stage 3020 - 3383
Devonian Shale - 3rd Stage 3080 - 3383
Devonian Shale - 4th Stage 3880 - 3776

Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Bbl/d

Final open flow 131 Mcf/d Final open flow _____ Bbl/d

Time of open flow between initial and final tests _____ hours

Static rock pressure 440 psig (surface measurement) after 7 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

DEC 31 1984

(Continue on reverse side)

Perfco Perf. 1st Stage - 3650-3790; 20holes (.39) HSC Select Fire; Pump 8 bbls water to fill rat hole

Halliburton Frac N₂ Devonian Shale - Break 3360, Avg. TPSI 3550, Avg. Rate 25,000 SCFN₂ ISI 2900, 5 min. 2580, used 500 gals MOD 202 + 800,000 SCFN₂

Perfco Perf 2nd Stage - 3253-3383; 20 holes (.39) HSC Select Fire Set Baker Ret.Plug at 3420'.

Halliburton N₂ Frac Devonian Shale - Break 3090, Avg. TPSI 3350, Avg. Rate 72,000 SCF/min, ISI 2160, 5 min 2050. Used 500 gals MOD 202 + 800,000 SCFN₂ Perfco Ret. Plug @ 3420'

Perfco Perf 3rd Stage - 3060-3157; 20 holes (.39) HSC Select Fire, Set Baker Ret. Plug at 3180'.

Halliburton N₂ Frac Devonian Shale - Break 2870, Avg. TPSI 2600, Avg. Rate 72,000 SCF/min ISI 1980, 5 min 1850, Used 500 gals MOD 202 + 800,000 SCFN₂ Perfo Ret. Baker Plug @ 3180.

Perfco Perf. 4th Stage - 1880 - 2220; 24 holes (.39) HSC Select Fire; Set Retrievable Plug @ 2250'

Halliburton N₂ Frac Devonian Shale - Break 3500, Avg. TPSI 3316, Avg. Rate 70,000 SCF/min ISI 1900, 5 min 1650, used 500 gals MOD 202 + 800,000 SCFN₂

Perfco Retrieved Bridge Plug @ 2250.

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	10	Hole damp @ 90'
Sh. Sand & RR			10	420	Hole damp @ 755'
Coal			420	423	1" stream salt water 1200'
Sh, Sand & RR			423	1085	Coal Seams 420' - 423'
Lime & Shale			1085	1155	
Sand & Shale			1155	4500 TD	

(Attach separate sheets as necessary)

CNG DEVELOPMENT COMPANY

Well Operator

By:

Date: November 5, 1984

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."

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JUL 26 1984



1) Date: July 24, 1984
 2) Operator's Well No. 990
 3) API Well No. 47 - 107 - 1314
 State _____ County _____ Permit _____

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

- 4) WELL TYPE: A Oil / Gas _____
 B (If "Gas", Production / Underground storage _____ / Deep _____ / Shallow)
- 5) LOCATION: Elevation: 895.9' / Watershed: Bullcreek (053)
 District: Walker / County: Wood / Quadrangle: Willow Island
- 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. 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, 4500 feet
- 13) Approximate trata depths: Fresh, _____ 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	250	To surface	By Rule 15.05
Coal									Sizes
Intermediate	8-5/8	X-42	23	X		1500	1500	To surface	By Rule 15.05
Production	4-1/2	J-55	10.5	X		4500	4500	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 47-107-1314 Date August 13, 1984

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 13, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>28</u>	Agent: <u>MW</u>	Plat: <u>MW</u>	Casing: <u>MW</u>	Fee: <u>003419</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.

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

File