

LONGITUDE 80°47'30"

NORTH

SURVEY LINES

- A) S14°03'E, 126.17'
- B) N54°08'E, 69.72'
- C) N46°54'W, 119.32'

WELL REFERENCES:

- N56°W, 180' TO 12" CHESTNUT OAK
- N14°30'E, 195' TO 8" CHESTNUT OAK

LAND SURVEYING SERVICES
 21 CEDAR LANE
 BRIDGEPORT, WV 26330
 PHONE: 304-842-2018

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1 IN 200
 PROVEN SOURCE OF ELEVATION ROAD INT. 1630' SE. OF LOC. AT ELEV. 860'

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 ENERGY.

(SIGNED) [Signature]
 R.P.E. _____ L.L.S. NO. 674
STEPHEN D. LOSH

PLACE SEAL HERE

STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION



DATE OCT. 1, 19 87
 OPERATOR'S WELL NO. CNGD 2859
 API WELL NO. _____

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
 LOCATION: ELEVATION 998' WATER SHED LEFT FORK ARNOLD CREEK
 DISTRICT WEST UNION COUNTY DODDRIDGE
 QUADRANGLE WEST UNION 7.5' SE
 SURFACE OWNER JAMES A. GAIN ACREAGE 10.4
 OIL & GAS ROYALTY OWNER J. A. GAIN LEASE ACREAGE 200.

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 ALEXANDER ESTIMATED DEPTH 5250'
 WELL OPERATOR CNG DEVELOPMENT COMPANY DESIGNATED AGENT GARY A. NICHOLAS
 ADDRESS ONE PARK CENTER ADDRESS RT. 2, BOX 698
PITTSBURGH, PA 15244 BRIDGEPORT, WV 26330

COUNTY NAME DODD

PERMIT 3620-W

PSH
 10-27-87

523
 253

2.35
 2.30

7.5'

088 12/2/87

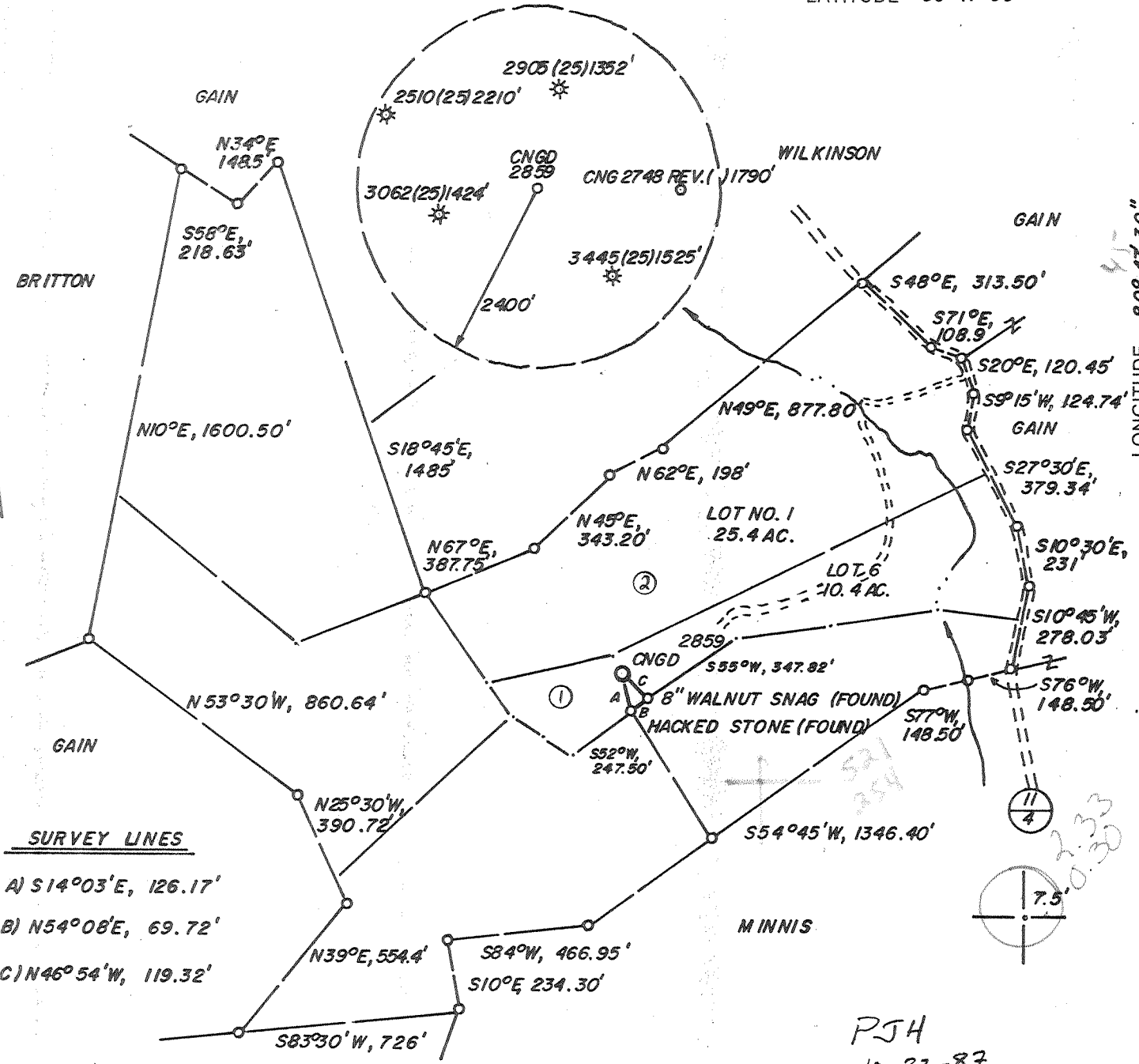
1695'

LATITUDE 39°17'30"

20

LONGITUDE 80°47'30"

NORTH



- SURVEY LINES
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 - B) N54°08'E, 69.72'
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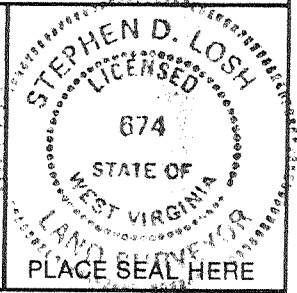
LAND SURVEYING SERVICES
 21 CEDAR LANE
 BRIDGEPORT, WV 26330
 PHONE: 304-842-2018

PJH
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 (SIGNED) [Signature]
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STEPHEN D. LOSH



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION



DATE OCT. 1, 1987
 OPERATOR'S WELL NO. CNGD 2859
 API WELL NO. _____

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X

LOCATION: ELEVATION 998' WATER SHED LEFT FORK ARNOLD CREEK
 DISTRICT WEST UNION 8 COUNTY DODDRIDGE
 QUADRANGLE WEST UNION 7.5' 671 133 9 SE

SURFACE OWNER JAMES A. GAIN ACREAGE 10.4
 OIL & GAS ROYALTY OWNER J. A. GAIN LEASE ACREAGE 200.
 LEASE NO. CNGTC 13767

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 ALEXANDER ESTIMATED DEPTH 5250'
 WELL OPERATOR CNG DEVELOPMENT COMPANY DESIGNATED AGENT GARY A. NICHOLAS
 ADDRESS ONE PARK CENTER ADDRESS RT. 2, BOX 698
PITTSBURGH, PA 15244 BRIDGEPORT, WV 26330

COUNTY NAME
 PERMIT

DEC 21 1987

6-ft Straight Fork - Bluestone Creek (400')



IV-35
(Rev 8-81)

Date January 26, 1988
Operator's
Well No. 2859
Farm J. A. Gain
API No. 47 - 017 - 3620

State of West Virginia

Department of Mines
Oil and Gas Division

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WELL OPERATOR'S REPORT

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY
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: 998 Watershed Left Fork Arnold Creek
District: West Union County Doddridge Quadrangle West Union

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 James A. Gain

ADDRESS Rt. 1, Box 54
West Union, WV 26426

MINERAL RIGHTS OWNER James A. Gain

ADDRESS Rt. 1, Box 54
West Union, WV 26426

OIL AND GAS INSPECTOR FOR THIS WORK

Mike Underwood ADDRESS Rt. 2, Box 135
Salem, WV 26426

PERMIT ISSUED December 16, 1987

DRILLING COMMENCED December 28, 1987

DRILLING COMPLETED January 6, 1988

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" | 215 | 215 | To Surf. |
| 9 5/8 | | | |
| 8 5/8 | 1430 | 1430 | To Surf. |
| 7 | | | |
| 5 1/2 | | | |
| 4 1/2 | 5173 | 5173 | 200 sks |
| 3 | | | |
| 2 | 4962 | 4962 | ---- |
| Liners used | | | |

GEOLOGICAL TARGET FORMATION Alexander Depth 5250 feet

Depth of completed well _____ feet Rotary ___ / Cable Tools _____

Water strata depth: Fresh 400⁵⁰ feet; Salt _____ feet

Coal seam depths: _____ Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Alexander Pay zone depth 4999-5069 feet

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

Final open flow 855 Mcf/d Final open flow _____ Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 1125 psig (surface measurement) after 24 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.

Perforated Alexander 4999 - 5069, 32 holes, .39
 Nowsco Foam Frac - Breakdown 2150, Ave HHP 460, Ave Rate 6.8 BPM, Ave Pr 2760,
 Max. Tr Pr 3090, 700 gal 15% acid, 120,000# Sand, Max Conc. 12, Total Fluid 400 bbl,
 SL Fluid 239 bbl, ISIP 1660, 5 min SIP 1560, Total Nit. 848,000

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 | 3 | 1/2" stream water 50' |
| Sand, Shale & RR | | | 3 | 1690 | 1/2" stream water @ 400' |
| L. Lime | | | 1690 | 1721 | |
| Shale | | | 1721 | 1734 | |
| B. Lime & Injun | | | 1734 | 1870 | |
| Sand & Shale | | | 1870 | 5269 | |
| LOG TOPS | | | | | |
| Big Lime | | | 1732 | 1802 | |
| Big Injun | | | 1802 | 1884 | |
| Weir | | | 1980 | 2143 | |
| Berea | | | 2234 | 2245 | |
| Gordon Gp. | | | 2450 | 2526 | |
| Warren | | | 3098 | 3151 | |
| U. Speechley | | | 3168 | 3266 | |
| Speechley | | | 3660 | 3734 | |
| Bradford | | | 4292 | 4337 | |
| Riley | | | 4582 | 4590 | |
| Benson | | | 4734 | 4793 | |
| ✓ Alexander | | | 4994 | 5070 | |

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DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

CNG DEVELOPMENT COMPANY

Well Operator

By: Gary A. Tubbs

Date: January 26, 1988

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
 encountered in the drilling of a well."

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
WELL WORK PERMIT APPLICATION

- 1) Well Operator: CNG Development Company ¹⁴² 10110 8 670
- 2) Operator's Well Number: 2859 3) Elevation: 998
- 4) Well type: (a) Oil / or Gas X/
(b) If Gas: Production X/ Underground Storage /
Deep / Shallow X/
- 5) Proposed Target Formation(s): Alexander 439
- 6) Proposed Total Depth: 5250 feet
- 7) Approximate fresh water strata depths: 37, 75', 90, 270', 400'
- 8) Approximate salt water depths: SANDER. 1075'-1135'
- 9) Approximate coal seam depths: 1390? ^{Coal} 50'-54', 45'-46', 270'-273', 530'
FROM Doddridge 2905, 3002, 3104, 3445
- 10) Does land contain coal seams tributary to active mine? Yes / No X/
- 11) Proposed Well Work:
- 12)

CASING AND TUBING PROGRAM

| TYPE | SPECIFICATIONS | | | FOOTAGE INTERVALS | | CEMENT |
|--------------|----------------|-------|----------------|-------------------|--------------|--|
| | Size | Grade | Weight per ft. | For drilling | Left in well | Fill-up (cu. ft.) |
| Conductor | | | | | | |
| Fresh Water | 11-3/4 | H-40 | 42 | 200 | 200 | To surface |
| Coal | | | | | | \uparrow 38CSR18-11.3 \downarrow 38CSR18-11.2.2 |
| Intermediate | 8-5/8 | X-42 | 23 | 1425 | 1425 | To surface |
| Production | 4-1/2 | J-55 | 10.5 | 5250 | 5250 | 38CSR18-11.1 200 - 400 Sks |
| Tubing | 1-1/2 | CN-55 | 2.75 | 5150 | 5150 | |
| Liners | | | | | | |

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PACKERS : Kind _____
Sizes _____
Depths set _____

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

For Division of Oil and Gas Use Only

100024
231
6451

Fee(s) paid: Well Work Permit Reclamation Fund WPCP
 Plat WW-9 WW-2B Bond 50 Blanket Agent
 (Type)

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Page 1 of 2
Form WW2-A
(09/87)
File Copy

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

1) Date: October 30, 1987
2) Operator's well number
CNGD 2859
3) API Well No: 47 - 017 - 3620
State - County - Permit

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

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

4) Surface Owner(s) to be served:
(a) Name James A. Gain
Address Rt. 1, Box 54
West Union, WV 26426
(b) Name _____
Address _____
(c) Name _____
Address _____

5) (a) Coal Operator:
Name _____
Address _____
(b) Coal Owner(s) with Declaration
Name See attached sheet
Address _____
Name _____
Address _____

6) Inspector Mike Underwood
Address Route 2, Box 135
Salem, WV 26426
Telephone (304)-782-1043

(c) Coal Lessee with Declaration
Name _____
Address _____

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

 Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR

 X Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through on the above named parties, by:

- Personal Service (Affidavit attached)
- X Certified Mail (Postmarked postal receipt attached)
- Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator CNG Development Company
By: [Signature]
Its: _____
Address One Park Ridge Center
P.O. Box 15746 Pittsburgh, PA 15244
Telephone (412) 787-4117

Subscribed and sworn before me this 30th day of October, 1987

[Signature] Notary Public
My commission expires December 19, 1988