

8213 6/16/86

CARD PLOT

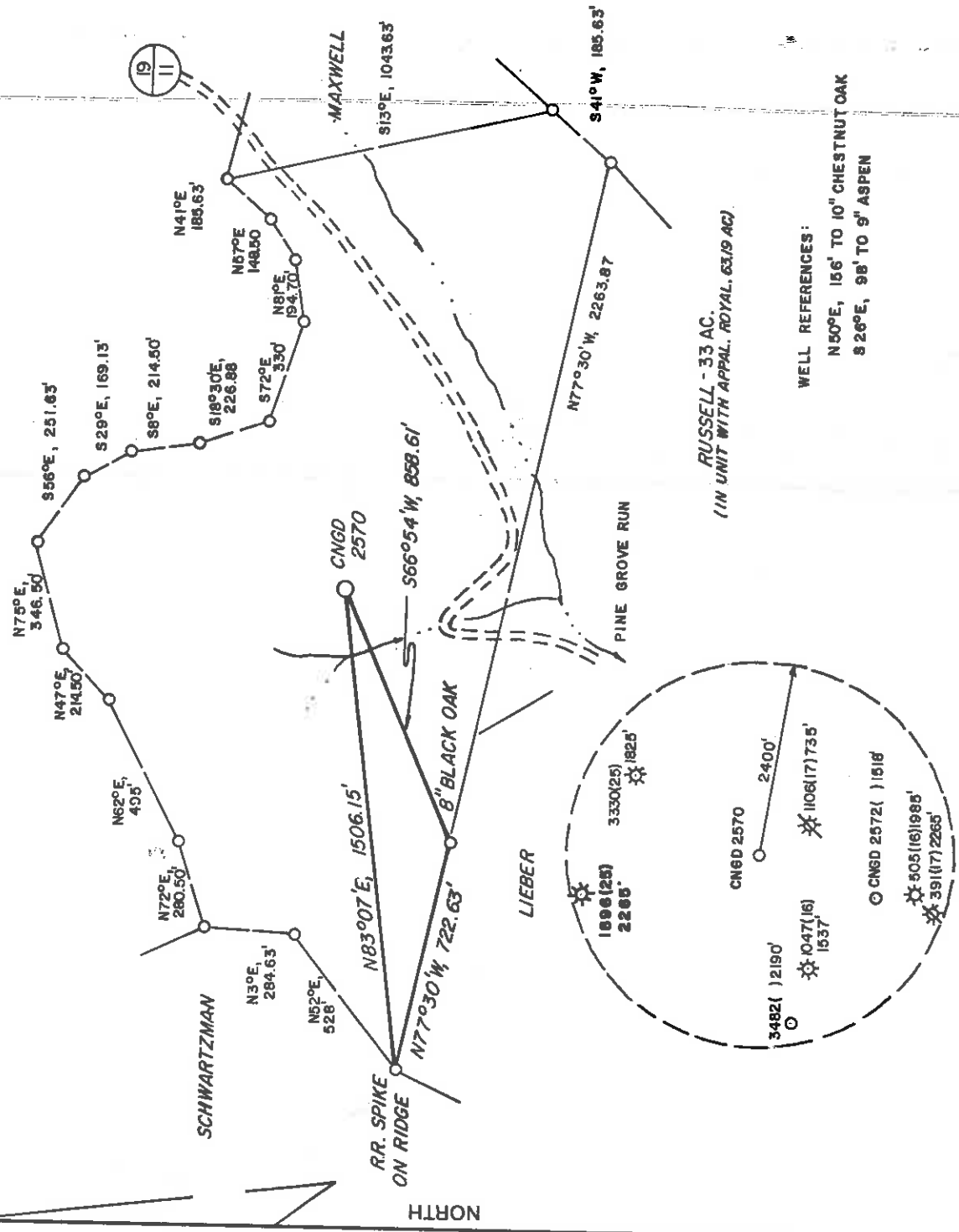
5915

LATITUDE 39° 10' 00"

0.12007
P.J.H.
5/17/86

7.5 MINUTE

LONGITUDE 80° 45' 00"



WELL REFERENCES:
 N 50°E, 156' TO 10" CHESTNUT OAK
 S 26°E, 98' TO 9' ASPEN

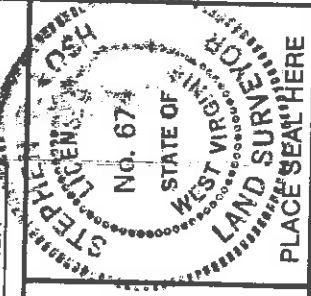
LAND SURVEYING SERVICES
 1412 NORTH 18 TH ST.
 CLARKSBURG, WV 26301
 PHONE: 304-623-1214

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

FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 500'
 MINIMUM DEGREE OF _____
 ACCURACY 1/16" IN 200'
 PROVEN SOURCE OF _____
 ELEVATION EXISTING WELL 1047'
 1537' SW. OF LOC. AT ELEV. 1143'

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) *Stephen D. Losh*

R.P.E. _____ I.L.S. NO. 674
 STEPHEN D. LOSH



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION



PLACE SEAL HERE

DATE APRIL 22, 1986
 OPERATOR'S WELL NO. CNGD 2570
 API WELL NO. _____

47-017-3506
 STATE COUNTY PERMIT

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS,") PRODUCTION X STORAGE DEEP SHALLOW X
 LOCATION: ELEVATION 1140' WATER SHED MIDDLE FORK
 DISTRICT COVE COUNTY DODDRIDGE

SURFACE OWNER OXFORD 7.5 MINUTE 098 EC-6 Holbrook
 OIL & GAS ROYALTY OWNER APPALACHIAN ROYALTIES, INC. LEASE ACREAGE 63.19
 LEASE NO. DV17

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 6-6 Straight Fork-Bluestone Creek (133) JUL 7 1986
 TARGET FORMATION ALEXANDER ESTIMATED DEPTH 5400'
 WELL OPERATOR CNG DEVELOPMENT COMPANY DESIGNATED AGENT GARY A. NICHOLAS
 ADDRESS ONE PARK RIDGE CENTER 142 ADDRESS ROUTE 2, BOX 698
 PITTSBURGH, PA 15244 BRIDGEPORT, WV 26330

COUNTY NAME PERMIT



State of West Virginia
Department of Mines
Oil and Gas Division

Date Sept. 22, 1986
Operator's Well No. 2570
Farm Appalachian Royalties
API No. 47 - 017 - 3506

Corrected Well Record

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: 1140 Watershed Middle Fork
District: Cove County Doddridge Quadrangle Oxford

COMPANY CNG Development Company
ADDRESS P. O. Box 15746
Pittsburgh, PA 15244
DESIGNATED AGENT Garv A. Nicholas
ADDRESS Rt. 2 Box 698
Bridgeport, WV 26110
SURFACE OWNER John R. Wells, et ux
ADDRESS 3714 Patuxent River Rd.
Davidsonville, MD 21035
MINERAL RIGHTS OWNER Appalachian Royalties, Inc.
ADDRESS P. O. Box 1917
Clarksburg, WV 26301

OIL AND GAS INSPECTOR FOR THIS WORK
Mike Underwood ADDRESS Salem, WV 26426

PERMIT ISSUED July 1, 1986
DRILLING COMMENCED Aug. 12, 1986
DRILLING COMPLETED Aug. 18, 1986

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

Casing Tubing Size 20-16 Cond.	Used in Drilling	Left in Well	Cement fill up Cu. ft.
13-10"	163	163	To Surf.
9 5/8			
8 5/8	1980	1980	To Surf.
7			
5 1/2			
4 1/2	5413	5413	640 sks.
3			
2-3/8	5128	5128	----
Liners used			

GEOLOGICAL TARGET FORMATION Alexander Depth 5400 feet

Depth of completed well 5430 feet Rotary / Cable Tools _____

Water strata depths: Fresh 370 feet; Salt _____ feet

Coal seam depths: 5 - 7 Is coal being mined in the area? No

OPEN FLOW DATA
Alexander 5144 - 5205
Benson & Riley 4775 - 4865
Producing formation: Sassahly Pay zone depth 3350 - 3370 feet

Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Bbl/d
Final open flow 692 Mcf/d Final open flow 5 Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 450 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

(Continue on reverse side)

OCT 20 1986

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

Perf. Alexander 5198 - 5205, 10 holes, 5144 - 5153, 10 holes (.39) HSC
 Perf. Benson & Riley 4860 - 4865, 12 holes; 4767 - 4771, 5 holes; 4775 - 4777, 3 holes (.39) HSC
 Perf. Speethley 3363 - 3370, 16 holes; 3350 - 3354, 10 holes, (.39) HSC
 Frac Alexander - (70Q) - Break 2700, Avg TPST 3300, Avg Rate 25 BPM, HHP used 1362,
 ISI 1700, used 800 gals 15% HCL & 9000# 80/100 sand, 113,000 20/40 Sand and 798,390 SCFN₂
 6# Max. Sand Conc.
 Frac Benson & Riley (70Q) - Break 3500, Avg TPST 3250, Avg Rate 16BPM, HHP used 1341,
 ISI 1650, used 700 gals 15% HCL, 9,000# 80/100 Sand, 103,000 20/40 Sand, and 741,738 SCFN₂
 6# Max Sand Conc.
 Frac Speethley - (70Q) - Break - Pumped into FM @ 1700#, 45 BPM, Avg TPST 2300,
 Avg Rate 25 BPM, HHP used 919, ISI 1250, used 500 gals 15% HCL & 9000# 80/100 Sand,
 88,000# 20/40 Sand and 484,470 SCFN₂. 6# Max Sand Conc.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
Clay			0	5	Including indication of all fractures and salt water, coal, oil and gas
Coal			5	7	
Clay, Soil			7	15	1/4" Stream Water @ 50' Damp at 370' Damp at 1394'
Sand, Shale & RR			15	1866	Coal 5 - 7'
B. Lime			1866	1980	
Sand & Lime			1980	2055	
Sand & Shale			2055	5430	
LOG TOPS					
Little Lime			1850	1880	Poorly developed
Big Lime			1880	1950	
Big Injun			1950	2042	
Greenbrier Unconf.			2042	2042	
Weir			2182	2290	
Berea/Gantz			2384	2392	
Gordon			2600	2617	
Warren			3234	3372	
Balltown			3970	4060	
Bradford			4420	4470	
Riley			4760	4800	
Benson			4856	4940	
Alexander			5114	5206	

(Attach separate sheets as necessary)

CNG DEVELOPMENT COMPANY
Well Operator

By:

David A. Miller

Date:

Sept. 22, 1986

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
 all, encountered in the drilling of a well."

RECEIVED
SEP 29 1986DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

State of West Virginia

Department of Mines

Oil and Gas Division

Date Sept. 22, 1986
Operator's
Well No. 2570
Fazm Appalachian Royalties
API No. 47 - 017 - 3506WELL OPERATOR'S REPORT
OFDRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGEWELL TYPE: Oil / Gas X / Liquid Injection / Waste Disposal /
(If "Gas," Production X / Underground Storage / Deep / Shallow X /)LOCATION: Elevation: 1140 Watershed Middle Fork
District: Cove County Doddridge Quadrangle OxfordCOMPANY CNG Development CompanyADDRESS P. O. Box 15746
Pittsburgh, PA 15244DESIGNATED AGENT Gary A. Nicholas
ADDRESS Rt. 2 Box 698
Bridgport, WV 26330SURFACE OWNER John R. Wells, et ux
ADDRESS 3714 Patuxent River Rd.
Davidsonville, MD 21035MINERAL RIGHTS OWNER Appalachian Royalties, Inc.ADDRESS P. O. Box 1917
Clarksburg, WV 26301OIL AND GAS INSPECTOR FOR THIS WORK
Mike Underwood ADDRESS Salem, WV 26426PERMIT ISSUED July 1, 1986DRILLING COMMENCED Aug. 12, 1986DRILLING COMPLETED Aug. 18, 1986IF APPLICABLE: **PLUGGING OF DRY HOLE ON
CONTINUOUS PROGRESSION FROM DRILLING OR
REWORKING. VERBAL PERMISSION OBTAINED
ON**

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GEOLOGICAL TARGET FORMATION Alexander Depth 5400 feetDepth of completed well 5430 feet Rotary X / Cable Tools Water strata depth: Fresh 370 feet; Salt feetCoal seam depths: 5 - 7 Is coal being mined in the area? NoOPEN FLOW DATA
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(If applicable due to multiple completion--)

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(Continue on reverse side)

OCT 6 1986

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Sand & Lime			1980	2055	
Sand & Shale			2055	5430	Coal 5 - 7'
			2055		
LOG TOPS ✓ See corrected well record for revised log tops					
L Lime			1713	1735	
B. Lime/B. Inj.			1755	1927	
Well			1940	2060	
Ganta			2136	2204	
30'			2390	2404	
Gord. St.			2420	2434	
Gord.			2500	2550	
5th			2700	2720	
Bayard			2740	2772	

(Attach separate sheets as necessary)

CNG DEVELOPMENT COMPANY
 Well Operator
 By: David A. Miller
 Date: Sept. 22, 1986

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."



1) Date: May 22, 1986
2) Operator's Well No. 2570
3) API Well No. 47-017-3506
State County Permit

JUN 11 1986

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

DEPT. OF ENERGY

- 4) Well Type: A Oil Gas Underground storage Middle Fork Deep Shallow
- 5) LOCATION: Elevation: 1140 Watershed: Doddridge County: Oxford Quadrangle: 525
District: Cove 2
- 6) WELL OPERATOR: Development Co. CODE: 10110 7) DESIGNATED AGENT Gary Nicholas
Address: Paul M. Garrett, P.O. Box 15746 Address: Greerwind Corporate Park
Pittsburgh, PA 15244 Rt. 2, Box 698, Bridgeport, WV 26330
- 8) OIL & GAS INSPECTOR TO BE NOTIFIED
Name: Mike Underwood 9) DRILLING CONTRACTOR:
Name: Sam Jack Drilling Co.
Address: Route 2, Box 114 P.O. Box 48
Salem, WV 26426 Buckhannon, WV 26201

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

11) GEOLOGICAL TARGET FORMATION, Alexander
Other physical change in well (specify):
12) Estimated depth of completed well, 5400 feet
13) Approximate trata depths: Fresh, 115 feet; salt, 1840 feet.
14) Approximate coal seam depths: 1287 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.			
Conductor	1-3/4	H-40	42	For drilling: 160 Left in well: 160	To surface	By rule 15.05
Fresh water						
Coal						
Intermediate	8-5/8	X-42	23	2000	To surface	By rule 15.05
Production	4-1/2	J-55	10.5	5400	200 - 40050	Depths set
Tubing	1-1/2	CN-55	2.75			By rule 15.01
Lin...						Perforations:
						Top
						Bottom

OFFICE USE ONLY
DRILLING PERMIT
Permit number 47-017-3506 Date July 1 1986

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 July 1, 1988 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: AS	Plat: AS	Casing: AS	Fee: 14411	WPCP: AS	S&E: AS	Other: AS
---	-----------	----------	------------	------------	----------	---------	-----------

NOTE: Keep one copy of this permit posted at the drilling location.
See the reverse side of the APPLICANT'S COPY for instructions on well operations.
John L. Johnston
Director, Division of Oil and Gas
File # 1-5-86

