

Amie 4/1/98

(+) DENOTES LOCATION OF WELL ON U.S.G.S. TOPOGRAPHIC MAP

LATITUDE 7.5' 38°55'00"

U. S. A. 119.31 AC.

U.S.A. 213.2 AC.

U.S.A. 228.41 AC.

PROPOSED WELL CNGD 2845 EL. 2827.10'

J. KNUTTI 54.5 AC.

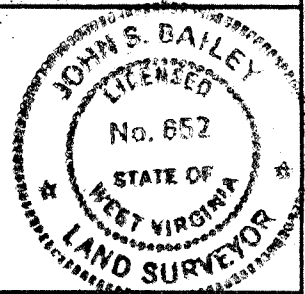
U.S.A. 2.18 AC.

WELL REFERENCE TIES
N07°10' W 198.35 TO FENCE POST
N02°10' W 171.72 TO FENCE POST

MSES consultants, inc.
FILE NO. MSES 781 - 87
DRAWN BY RVS - JSB
SCALE 1" = 1000'
MIN. DEGREE OF ACCURACY 1 IN 200
PROVEN SOURCE OF ELEVATION
TOP OF KNOB EL. 2980' 1000' N. OF LOC.

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



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS DIVISION



DATE AUGUST 3, 19 87
OPERATOR'S WELL NO. CNGD 2845
API WELL NO. 47 - 083 - 1069
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
IF "GAS", PRODUCTION STORAGE DEEP SHALLOW
LOCATION: ELEVATION 2827.10' WATERSHED BICKLE RUN OF SHAVERS FORK
DISTRICT BEVERLY 1 HORTONW COUNTY RANDOLPH
QUADRANGLE BOWDEN 7.5' 260 060 NEAREST TOWN ELKINS
SURFACE OWNER UNITED STATES OF AMERICA ACREAGE 213.20 AC.
OIL & GAS ROYALTY OWNER UNITED STATES OF AMERICA LEASE ACREAGE 213.20 AC.
LEASE NO. SUN 743066

PROPOSED WORK: DRILL 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 ORISKANY ESTIMATED DEPTH 7625'
WELL OPERATOR CNG DEVELOPMENT COMPANY DESIGNATED AGENT GARY A. NICHOLAS APR 22 1988
ADDRESS P.O. BOX 15746 ADDRESS ROUTE 2 BOX 698
PITTSBURGH, PA. 15244 BRIDGEPORT, WV. 26330

DEEP WELL H. Bowden (376)

FORM IV-6

COUNTY PERMIT

API # 47-083-1069

State of West Virginia
DEPARTMENT OF ENERGY
Division of Oil and Gas

CONFIDENTIAL

Well Operator's Report of Well Work

Farm name: MONONGAHELA NAT'L FOREST Operator Well No.: 2845

LOCATION: Elevation: 2827.10 Quadrangle: ROWDEN
Watershed: Bickle Run of Shavers Fork
District: BEVERLY County: RANDOLPH
Latitude: 150 Feet South of 38 Des. 55Min. 0 Sec.
Longitude: 3050 Feet West of 79 Des. 42 Min. 30 Sec.

Company: CNG DEV. CO.
P. O. BOX 15746
PITTSBURGH, PA

Agent: GARY A. NICHOLAS

Inspector: PHILLIP TRACY
Permit Issued: 04/18/88
Well work Commenced: 08/07/88
Well work Completed: 09/05/88
Verbal Plugging
Permission granted on: _____
Rotary Cable _____ Rig 15
Total Depth (feet) 7478'
Fresh water depths (ft) 150-156'
Salt water depths (ft) 1000'
Is coal being mined in area (Y/N)? N
Coal Depths (ft): _____

Casings & Tubings Size	Used in Drillings	Left in Well	Cement Fill Use Cu. Ft.
13	46	46	To Surf.
9 5/8	2023	2023	To Surf.
5 1/2	7474	7474	325 sks*
2 3/8	7263	7263	

OPEN FLOW DATA

258
492
750

Producing formation: Oriskany Pay zone depth (ft) 7317-7345
 Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
 Final open flow 2.58 MCF/d Final open flow _____ Bbl/d
 Time of open flow between initial and final tests _____ Hours
 Static rock Pressure 2650 psig (surface pressure) after 7 days ~~XXXX~~

Second producing formation: Chert Pay zone depth (ft) 7030-7127
 Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
 Final open flow 4.92 MCF/d Final open flow _____ Bbl/d
 Time of open flow between initial and final tests _____ Hours
 Static rock Pressure 2600 psig (surface pressure) after 7 days ~~XXXX~~

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: CNG DEV. CO.
By: Rodney J. Biggs
Date: November 14, 1988

083 1069

Perforated Oriskany 7336 - 7345, 27 holes; 7317 - 7324, 21 holes
 Breakdown Oriskany FM with 270 KCL @ 1750#. Sweep tubing and casing with
 1000 gals 15% HCL, 3 gal/1000 inhabitator and 10#/ 1000 Ferchek. Displace
 out of hole with 184 bbls of 2% KCL. Inject 5 bbls of 2% KCL into Perf.
 ISIP 2000#, 3 min 1000#, 5 min 325#, 7 min 230#, 10 min 50#, 12 min 0#
 Pressure test choke manifold to 3000#

Acidize Oriskany with 4000 gals 15% FE Acid. Ballout with 96 7/8" Perf.
 Balls @ 5000#, Avg T PSI 3600#, 20 bbls/min down annulus, ISIP 1972#

Mc Cullough ran Gamma Ray Tracer log 7399 - 6400; Pressure bomb test for
 7 days.

Perforated Chert 7030 - 7056, 26 holes; 7056 - 7084, 56 holes; 7087 - 7127,
 20 holes; 4" HSC, .44 dia., Tripped in hole with Otis overshot tubing seal
 divider 6' pup, X-0 sliding door, 1 jt tubing, seating nipple, plus 2 3/8"
 BUE tubing, set at 7000'. Broke Chert at 4000' with 2% KCL, ISIP 1475#.

Halliburton tested lines to 5000#, set pop off at 4500#, Tested Choke
 Manifold at 3500#, Acidized Chert with 9500 gal 28% FE Acid, Ran 180
 7/8" Perf. Balls, No Ballout seen, Ave. Tr. Pres. 2650#, Ave Rate 4 BPM
 Tubing, 18 BPM Annulus.

Rock, Sd, Sh.	0	6010	1" stream water @ 150 - 156
Sycamore Grit	6010	6090	1" stream water @ 1000'
Shale	6090	6900	
Marcellus Shale	6900	7020	
Onondaga Limestone	7020	7050	
Huntersville Chert	7050	7100	
Shale	7100	7202	
Oriskany	7202	7360	
Helderburg	7360	7478	

LOG TOPS

Sycamore Grit	5992	6074
Tally Ls.	6726	6740
U. Marcellus	6891	6924
Purcell Ls.	6924	6945
L. Marcellus	6945	6987
Onondaga Ls.	6987	7024
Huntersville Chert	7024	7153
Needmore Sh.	7153	7189
Oriskany Ss.	7189	7375
Helderberg Ls.	7375	
TD	7470	

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

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

1) Date: March 21, 1988
2) Operator's well number
CNGD 2845
3) API Well No: 47 - 083 - 1069
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 Forest Supervisor
Address Monongahela National Forest
Sycamore Street
(b) Name Box 1548
Address Elkins, WV 26241
(c) Name _____
Address _____
6) Inspector Phillip Tracy
Address P.O. Box 2536
Elkins, WV 26241
Telephone (304)-636-8798

5) (a) Coal Operator:
Name _____
Address _____
(b) Coal Owner(s) with Declaration
Name U.S. Department of Interior
Address Bureau of Land Management
Eastern States Office
Name 350 S. Pickett Street
Address Alexandria, VA 22304
(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: Cheryl S. Hartle
Address One Park Ridge Center, P.O. Box 15746
Pittsburgh, PA 15241
Telephone (412) 787-4117

Subscribed and sworn before me this 21st day of March, 1988

[Signature] Notary Public

My commission expires 12/19/88

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

- 1) Well Operator: CNG Development Company ¹⁴² 10110, 1, 260
- 2) Operator's Well Number: CNGD 2845 3) Elevation: 2827.10
- 4) Well type: (a) Oil ___ / or Gas X /
(b) If Gas: Production X / Underground Storage ___ /
Deep X / Shallow ___ /
- 5) Proposed Target Formation(s): Oriskany 475
- 6) Proposed Total Depth: 7625 feet
- 7) Approximate fresh water strata depths: -
- 8) Approximate salt water depths: -
- 9) Approximate coal seam depths: -
- 10) No wells in area or Quad. fw map OK.
Does land contain coal seams tributary to active mine? Yes ___ / No - /
- 11) Proposed Well Work: Drill deep well to Oriskany
- 12)

CASING AND TUBING PROGRAM

TYPE	SIZE	SPECIFICATIONS	FOOTAGE INTERVALS	CEMENT		
	Size	Grade	Weight per ft.	For drilling	Left in well	Fill-up (cu. ft.)
Conductor						
Fresh Water	13-3/8	K-55	54.5	40	40	Sand in
Coal						
Intermediate	9-5/8	K-55	36	2000	2000	380SR18-11.3 To surface
Production	5-1/2	M-75	17	7625	7625	380SR18-11.1 200-400 sks
Tubing	2-3/8	J-55	4.7	7525	7525	
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

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

6827

22735