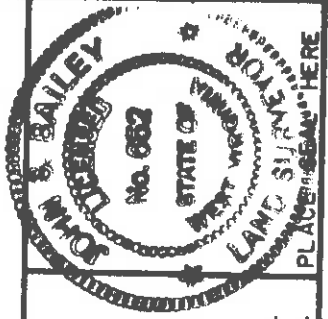


REFERENCE WELL TIES  
 CNGD 457 TO 7" HY. S 37° 04' E 166.22' (MAG.)  
 CNGD 457 TO 14" W.O. S 16° 47' E 199.91' (MAG.)

PREPARED BY MSES CONSULTANTS, INC.

FILE NO. MSES84-447  
 DRAWING NO. \_\_\_\_\_  
 SCALE 1" = 1000'  
 MINIMUM DEGREE OF ACCURACY 1/16" 200  
 PROVEN SOURCE OF ELEVATION EL. 841 ROAD JCT. RT. 19/11 & RT. 23/5

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 JULY 20 19 84  
 OPERATOR'S WELL NO. CNGD 457  
 API WELL NO. 47-017 - 3364  
 STATE WV COUNTY PUTNAM PERMIT \_\_\_\_\_

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 (IF "GAS", PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION: ELEVATION 947.32' WATER SHED SOUTH FORK HUGHES RIVER  
 DISTRICT SOUTHWEST COUNTY DODDRIDGE  
 QUADRANGLE OXFORD 7.5' (1976) 5/24 Alleghenok 15' N67  
 SURFACE OWNER BEATRICE SCHWARTZMAN ACREAGE 0.58  
 OIL & GAS ROYALTY OWNER W.B. MAXWELL LEASE ACREAGE 2400  
 LEASE NO. 41998  
 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  ESTIMATED DEPTH 5050'  
 TARGET FORMATION ALEXANDER  
 WELL OPERATOR CNG DEVELOPMENT COMPANY DESIGNATED AGENT GARY A. NICHOLAS  
 ADDRESS ONE PARK RIDGE CENTER ADDRESS CROSSWIND CORPORATE PARK  
PITTSBURGH, PA. 15219 BRIDGEPORT, W.V. 26330

OCT 29 1984  
OCT 29 1984

ALLEN BLUEPRINT Co. 11A E 7-30-84 6-6 Straight Fork-Bluestone (133) Charleston, WV

CODE 10,775' PLOT 3915' LATITUDE 39°12'30" LONGITUDE 80°47'30"

RECEIVED

IV-35  
(Rev 8-81)

MAR 06



Oil & Gas Division  
DEPT. OF MINES

State of West Virginia

Department of Mines

Oil and Gas Division

Date January 28, 1985  
Operator's  
Well No. CNGD.WN.457  
Farm Brent Maxwell  
API No. 47 - 017 - 3364

WELL OPERATOR'S REPORT

OF

DRILLING, FRACTURING AND/OR STIMULATING, OR PHYSICAL CHANGE

WELL TYPE: Oil / Gas X / Liquid Injection / Waste Disposal /  
(If "Gas," Production / Underground Storage / Deep / Shallow /)

LOCATION: Elevation: 947 Watershed South Fork Hughes River  
District: Southwest County Doddridge Quadrangle Oxford 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 Beatrice Schwartzman

ADDRESS 2530 - 30th St. NW, Washington, DC 20008

MINERAL RIGHTS OWNER W. B. Maxwell

ADDRESS c/o Katherine Hill, 37 W. 10th St. New York, NY 10011

OIL AND GAS INSPECTOR FOR THIS WORK

Mike Underwood ADDRESS St. 2, Box 114 Salem, WV 26426

PERMIT ISSUED 10-26-84

DRILLING COMMENCED 1-14-85

DRILLING COMPLETED 1-19-85

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

Casing Tubing	Used in Drilling in Well	Left in Well	Cement fill up Cu. ft.
Size			
20-16			
Cond.			
13-10"			
9 5/8			
8 5/8	1495	1495	To Surf
7			
5 1/2			
4 1/2	5099	5099	250 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Alexander Depth 5050 feet

Depth of completed well 5134 feet Rotary X / Cable Tools

Water strata depth: Fresh 70' feet; Salt        feet

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

OPEN FLOW DATA

Alexander

Producing formation Leopold & Benson Pay zone depth 4906 - 4951

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

Final open flow 1225 Mcf/d Final open flow        Bbl/d

Time of open flow between initial and final tests        hours

Static rock pressure 350 psig (surface measurement) after 1 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

MAR 25 1985

(Continue on reverse side)

Benson  
4636-4684; Leopold 4792-4797

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

Allegheny Perforated Alexander 4906 - 4954; 10 holes (.39)  
 Leopold & Benson 4636 - 4797; 6 holes (Leopold) 4 holes (Benson) .39  
 Halliburton 75Q Foam Frac - 1st stage - Break 1400 w/H<sub>2</sub>O, 4 pumps (to break 1st stage)  
 AVG. BPM 22, AVG. PSI 3000, 500 gals MOD 202 Acid, 62,000# 20/40 Sand, 700 BBL Foam,  
 ISIP - N<sub>2</sub> - 2800, H<sub>2</sub>O - 900, 5 min 2750, BHTP 3000, SCFM<sub>2</sub> 556,000.  
 2nd Stage - Break 2700 w/N<sub>2</sub> & Foam, 2 pumps to complete job,  
 AVG. BPM 20, AVG. PSI 3100, 500 gals MOD 202 Acid, 30,000# 20/40 Sand, 364 BBL Foam,  
 ISIP 1300 w/H<sub>2</sub>O, 5 min 1200 w/H<sub>2</sub>O, BHTP 3300, SCFM<sub>2</sub> 380,000.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
Sand, Shale & RR			0	1630	Including indication of all fresh and salt water, coal, oil and gas
Sand, Shale & Lime			1630	1666	
Big Lime			1666	1735	
Injun			1735	1785	
Sand & Shale			1785	5134	
<u>LOG TOPS</u>					
Base Big Injun				1815	
Weir			1976	2102	
Gantz			2170		
Gordon Stray			2364		
Gordon			2536	2530	
Ath			3016	2593	
Warren			3196	3094	
U. Speechley			3196	3302	
Speechley			3410	3570	
Balltown			3798	4076	
Bradford			4220	4272	
Riley			4466	4606	
Benson			4634	4684	
Leopold			4792	4844	
Alexander			4878	4970	

TS  
5134'

(Attach separate sheets as necessary)

CNG DEVELOPMENT COMPANY  
 Well Operator \_\_\_\_\_  
 By: [Signature]  
 Date: January 28, 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  
 and encountered in the drilling of a well."



STATE OF WEST VIRGINIA  
 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   
 Elevation: 947 Watershed: South Fork Hughes River LKH9  
 District: Southwest County: Doddridge Quadrangle: Oxford 7.5'  
 5) LOCATION: Southwest  
 6) WELL OPERATOR CNG Development Company 7) DESIGNATED AGENT Mr. Gary Nicholas  
 Address C/o Paul W. Garrett, P.O. Box 15746 Address Crosswind Corporate Park  
Pittsburgh, PA 15244 Rt. 2, Box 698, Bridgeport, WV 26330  
 8) OIL & GAS INSPECTOR TO BE NOTIFIED  
 Name Mr. Mike Underwood  
 Address Rt. 2, Box 114  
Salem, WV 26426  
 9) DRILLING CONTRACTOR:  
 Name Sam Jack Drilling Company  
 Address P. O. Box 48  
Buckhannon, WV 26201

**RECEIVED**  
 SEP 7 - 1984

10) PROPOSED WELL WORK: Drill  deeper  Redrill  Stimulate   
 Plug off old formation  Perforate new formation   
 Other physical change in well (specify) Alexander

11) GEOLOGICAL TARGET FORMATION, 5050 feet  
 12) Estimated depth of completed well, 5050 feet  
 13) Approximate trata depths: Fresh, 5050 feet; salt, - feet.  
 14) Approximate coal seam depths: Is coal being mined in the area? Yes  No

OIL & GAS DIVISION  
 DEPT. OF MINES

CASING OR TUBING TYPE	SPECIFICATIONS		FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS			
	Size	Grade	Weight per ft.	New			Used	Per drilling	Left in well
Conductor	11-3/4	H-40	42	X			40	To surface	By Rule 15.05
Fresh water	8-5/8	X-42	23	X			1450	To surface	By Rule 15.05
Coal	4-1/2	J-55	10.5	X			5050	200-400 sks.	Depths set
Intermediate Production	1-1/2	CN-55	2.75	X					By Rule 15.01
Tubing									Perforations:
Liners									Top
									Bottom

OFFICE USE ONLY  
 DRILLING PERMIT

Permit number 47-017-3364 Date October 26, 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 26, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <u>28</u>	Agent: <u>WTS</u>	Plat: <u>75</u>	Casing: <u>003-</u>	Fee: <u>973</u>
BLANKET				

*Margaret J. Kavan*  
 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

