



PREPARED BY MSES CONSULTANTS

FILE NO. MSES 84-297

DRAWING NO. \_\_\_\_\_

SCALE 1" = 500'

MINIMUM DEGREE OF ACCURACY 1/16" 200

PROVEN SOURCE OF ELEVATION RD. JCL 11.8 11/4 EL. 816'

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 D. Biley  
R. P. E. \_\_\_\_\_ L. L. S. 652

PLACE SEAL HERE

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

FORM IV - 6  
(8-78)



Department of Mines  
Oil & Gas Division

DATE FEBRUARY 3, 19 84  
OPERATOR'S WELL NO. CNGD 454  
API WELL NO. 47-017-3299-W  
STATE WV COUNTY \_\_\_\_\_ PERMIT \_\_\_\_\_

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

LOCATION: ELEVATION 826.40 WATER SHED \_\_\_\_\_ LEFT FORK \_\_\_\_\_  
DISTRICT \_\_\_\_\_ WEST UNION \_\_\_\_\_ COUNTY DODDRIDGE

SURFACE OWNER \_\_\_\_\_ WEST UNION 75' (1976) \_\_\_\_\_ ACREAGE 30.58  
OIL & GAS ROYALTY OWNER JAMES ANDERSON \_\_\_\_\_ LEASE NO. 35099 LEASE ACREAGE 85

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 5300'

WELL OPERATOR CNG DEVELOPMENT COMPANY DESIGNATED AGENT GARY A. NICHOLAS  
ADDRESS ONE PARK RIDGE CENTER ADDRESS CROSSWIND CORPORATE PARK  
PITTSBURGH, PA 15244 147 ROUTE 2 BOX 698  
BRIDGEPORT, W.V. 26330

ALLEN RIEDERBINT Co. 11 S. M. 31-211  
6-6 Straight Fork - Bluestone Creek (17a)  
Charleston, WV

0000 3299-W

OCT 8 1984

Plot Card CSD

LATITUDE 39°17'30"

2503(25)

LONGITUDE 80°47'30"

80°45'

T. B. M. HARE  
70 AC.  
PARCEL 17

J. A. GAIN  
39 AC.  
PARCEL 14

PROPOSED WELL  
CNGD 449

480 (16)

N70°30'W 2295'

P. BRITTON  
22 AC.  
PARCEL 18

PROPOSED WELL  
CNGD 454 EL. 826.40'

NORTH

NO2°10'W  
387.75'  
PROPOSED WELL  
JJ 837

D. PERRINE  
4 AC.  
PARCEL 12



R. N. BRITTON  
40.5 AC.  
PARCEL 04

909 (16)

PREPARED BY MSES CONSULTANTS

FILE NO. MSES.84-297

DRAWING NO. \_\_\_\_\_

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MINIMUM DEGREE OF ACCURACY 1/16" 200'

PROVEN SOURCE OF ELEVATION RD. JCT. 118 11/4 EL. 816'

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 J. Bilyeu*  
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 FEBRUARY 3, 19 84  
OPERATOR'S WELL NO. CNGD 454  
API WELL NO. 47-017-3299  
STATE COUNTY PERMIT

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  DEEP  SHALLOW   
(IF "GAS", PRODUCTION  STORAGE  WATER SHED  LEFT FORK

LOCATION: ELEVATION 826.40' DISTRICT WEST UNION 8 COUNTY DODDRIDGE

QUADRANGLE WEST UNION 7.5 (1976) 415' 56' ACREAGE 30.58

SURFACE OWNER JAMES ANDERSON OIL & GAS ROYALTY OWNER J.S. NEIZER HRS. LEASE NO. 35099

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 5300'

TARGET FORMATION ALEXANDER 145  
WELL OPERATOR CNG DEVELOPMENT COMPANY DESIGNATED AGENT GARY A. NICHOLAS  
ADDRESS ONE PARK RIDGE CENTER ADDRESS CROSSWIND CORPORATE PARK ROUTE 2 BOX 698 BRIDGEPORT, W.V. 26330

ALLEN BLUEPRINT CO. *AM 2/22/84* *6-6* *2184* *133* Charleston, WV  
198A



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

Well Operator's Report of Well Work

Farm name: J. S. Netzer Hrs. Operator Well No.: CNGD 454

LOCATION: Elevation: 826.40' Quadrangle: West Union 7.5'(1976)

District: West Union  
Latitude:  
Longitude

County: Doddridge  
17'30" Deg. 39  
47'30" Deg. 80

Company: CNG PRODUCING CO., A DEL. CORP.  
1450 POYDRAS ST.  
NEW ORLEANS, LA 70112

Agent: RODNEY J. BIGGS

Inspector: Mike Underwood  
Permit Issued: 10/04/93  
Well work Commenced: 12/3/93  
Well work Completed: 12/30/93  
Verbal Plugging  
Permission granted on: \_\_\_\_\_  
Rotary Cable \_\_\_\_\_ Rig  
Total Depth (feet) \_\_\_\_\_  
Fresh water depths (ft) \_\_\_\_\_  
Salt water depths (ft) \_\_\_\_\_

Is coal being mined in area (Y/N)? \_\_\_\_\_  
Coal Depths (ft): \_\_\_\_\_

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
No Additional Casing ran in Well			

OPEN FLOW DATA

Gordon Balltown  
Producing formation Speechley  
Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow \* 350 MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ Hours  
Static rock Pressure 400 psig (surface pressure) after 48 Hours  
\*Commingled with existing production  
Second producing formation \_\_\_\_\_  
Gas: Initial open flow \_\_\_\_\_ MCF/d Oil: Initial open flow \_\_\_\_\_ Bbl/d  
Final open flow \_\_\_\_\_ MCF/d Final open flow \_\_\_\_\_ Bbl/d  
Time of open flow between initial and final tests \_\_\_\_\_ Hours  
Static rock Pressure \_\_\_\_\_ psig (surface pressure) after \_\_\_\_\_ Hours

2379-2393  
3586-3592  
3016-3178

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.

Rodney J. Biggs, Manager  
For: CNG PRODUCING CO. A DELAWARE CORP.

By: *Rodney J. Biggs*  
Date: January 10, 1994

JAN 21 1994

Perf. Balltown 3586-3592, 24 holes, .39" HSC. Plug @ 3600'  
 Spechley 3016-3178, 27 holes, .39" HSC. Plug @ 3186'

Nowco Frac with 25# Gel

	Balltown	Spechley
Breakdown	1600	2500
Ave HHP	1720	1525
Ave Rate	26	27
Ave Pres.	2700	2300
Max Tr Pres.	3500	3500
Total Acid	500	500
Total Sand	12,000	20,000
Max Conc.	3#/gal	2.5#/gal
Total Fluid	272	442
SL Fluid	154	235
ISIP	1200	1100
5-min	---*	1000

\*Screen out when 3#/g hit perfs.

Perf. Gordon 2379-2393, 22 hoels, .39" HSC  
 Nowco Frac with 25# Gel

Breakdown	3000
Ave Rate	25
Ave Pres.	2720
Max Tr Pres.	3000
Total Acid	500
Total Sand	30,000#
Max Conc.	3#/gal
Total Fl	529
SL Fluid	342
ISIP	2180
5-min	1670

TD SIPD

DF 424

DF 429

-595/1

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JUN 12 1984

IV-35  
(Rev 8-8)

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



State of West Virginia

Department of Mines  
Oil and Gas Division

Date 05/30/84  
Operator's  
Well No. CNGD 454  
Farm J.S. Netzer  
API No. 47 - 017 - 3299

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 X / Underground Storage / Deep / Shallow X /)

LOCATION: Elevation: 826.40 Watershed Left Fork  
District: West Union County Doddridge Quadrangle West Union

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 JAMES ANDERSON

301 COLUMBIA STREET

ADDRESS WEST UNION, WEST VIRGINIA 26456

MINERAL RIGHTS OWNER J.S. Netzer heirs

c/o 1st NATIONAL BANK

ADDRESS WEST UNION, WEST VIRGINIA 26456

OIL AND GAS INSPECTOR FOR THIS WORK

H.M. Rt. 2 Box 114

Underwood ADDRESS Salem, WV 26426

PERMIT ISSUED 03/27/84

DRILLING COMMENCED 04/17/84

DRILLING COMPLETED 04/25/84

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" - 13-10"	41	0	
9 5/8			
8 5/8	1519	1519	To Surf
7			
5 1/2			
4 1/2	5147	5147	500 sks
3			
2			
Liners used			

GEOLOGICAL TARGET FORMATION Alexander Depth 5300 feet

Depth of completed well 5180 feet Rotary X / Cable Tools

Water strata depth: Fresh 1151 feet; Salt

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

OPEN FLOW DATA

Producing formation Alexander Pay zone depth 4928 - 4971 feet

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

Final open flow 9032 Mcf/d Final open flow          Bbl/d

Time of open flow between initial and final tests          hours

Static rock pressure 1275 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)

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

Perfo Perforated: 4928 - 4934; 4 holes  
~~4942 - 4944;~~ 2 holes  
~~4566 - 4958;~~ 2 holes  
~~4965 - 4971;~~ 4 holes  
*Alex*  
 Total 12 holes (.39")

Halliburton Fractured with 60,000# 20/40 sand, 810,000 SCF N2

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
Clay			0	11	Including indication of all fresh and salt water, coal, oil and gas 115' - 1/4" stream water 155' - 2" stream water
R.R., Sd & Sh			11	710	
Sd & Sh			710	1665	
Big Lime			1665	1710	
Big Injun			1710	1800	
Sd & Sh			1800	<u>5180 T.D.</u>	<i>Alex @ T.D.</i>
<u>LOG TOPS</u>					
Big Injun			1712	1795	
Weir			1936	2058	
Gantz			2148	2155	
Gordon Stray/Gordon			2376	2515	
4th			2526	2562	
Warren			3009	3069	
Upper Speechley			3125	3272	
Speechley			3393	3537	
Balltown			3768	4004	
Bradford			4206	4255	
Riley			4466	4612	
Benson			4651	4658	

(Attach separate sheets as necessary)

CNG DEVELOPMENT COMPANY  
Well Operator

By: *Stacy Webster*

Date: May 30, 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 well, encountered in the drilling of a well."



1) Date: February 24, 19 84  
 2) Operator's Well No. 454  
 3) API Well No. 47 - 017 - 3299 State County Permit

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   
 5) LOCATION: Elevation: 826.40 Watershed: Left Fork  
 District: West Union County: Doddridge Quadrangle: West Union  
 6) WELL OPERATOR XXXXXXXXXXXXXXXXXXXX 7) DESIGNATED AGENT Mr. Gary Nicholas  
 Address CNG Development Co., 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. H. M. Underwood 9) DRILLING CONTRACTOR:  
 Address Rt. 2, Box 114 Name Sam Jack Drilling Company  
Salem, WV 26426 Address P. O. Box 48  
Buckhannon, WV 26201

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10) PROPOSED WELL WORK: Drill  deeper  Redrill  Stimulate   
 Plug off old formation  Perforate new formation   
 Other physical change in well (specify) \_\_\_\_\_  
 11) GEOLOGICAL TARGET FORMATION, Alexander  
 12) Estimated depth of completed well, 5185 feet  
 13) Approximate trata depths: Fresh, 270 feet; salt, \_\_\_\_\_ feet.  
 14) Approximate coal seam depths: 350 Is coal being mined in the area? Yes \_\_\_\_\_

OIL & GAS DIVISION  
 DEPT. OF MINE

CASING OR TUBING TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT FILL-UP OR SACKS (Cubic feet)	PACKERS	
	Size	Grade	Weight per ft.	New	Used			For drilling
Conductor								
Fresh water								
Coal	11-3/4	H-40	42	X		30	30	To surface By Rule 15.05
Intermediate	8-5/8	X-42	23	X		926 1025	926	Sizes
Production	4-1/2	J-55	10.5	X		5185	5185	To surface By Rule 15.05
Tubing	1-1/2	CN-55	2.75	X			200-400 sks	Depths set Rule 15.01
Liners								Perforations:
								Top
								Bottom

OFFICE USE ONLY  
 DRILLING PERMIT

Permit number 47-017-3299 Date March 27, 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 March 27, 1986 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond:	Agent:	Plat:	Casing	Fee
BLANKET	<i>[Signature]</i>	<i>[Signature]</i>	MW	001 Cell

*[Signature]*  
 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



