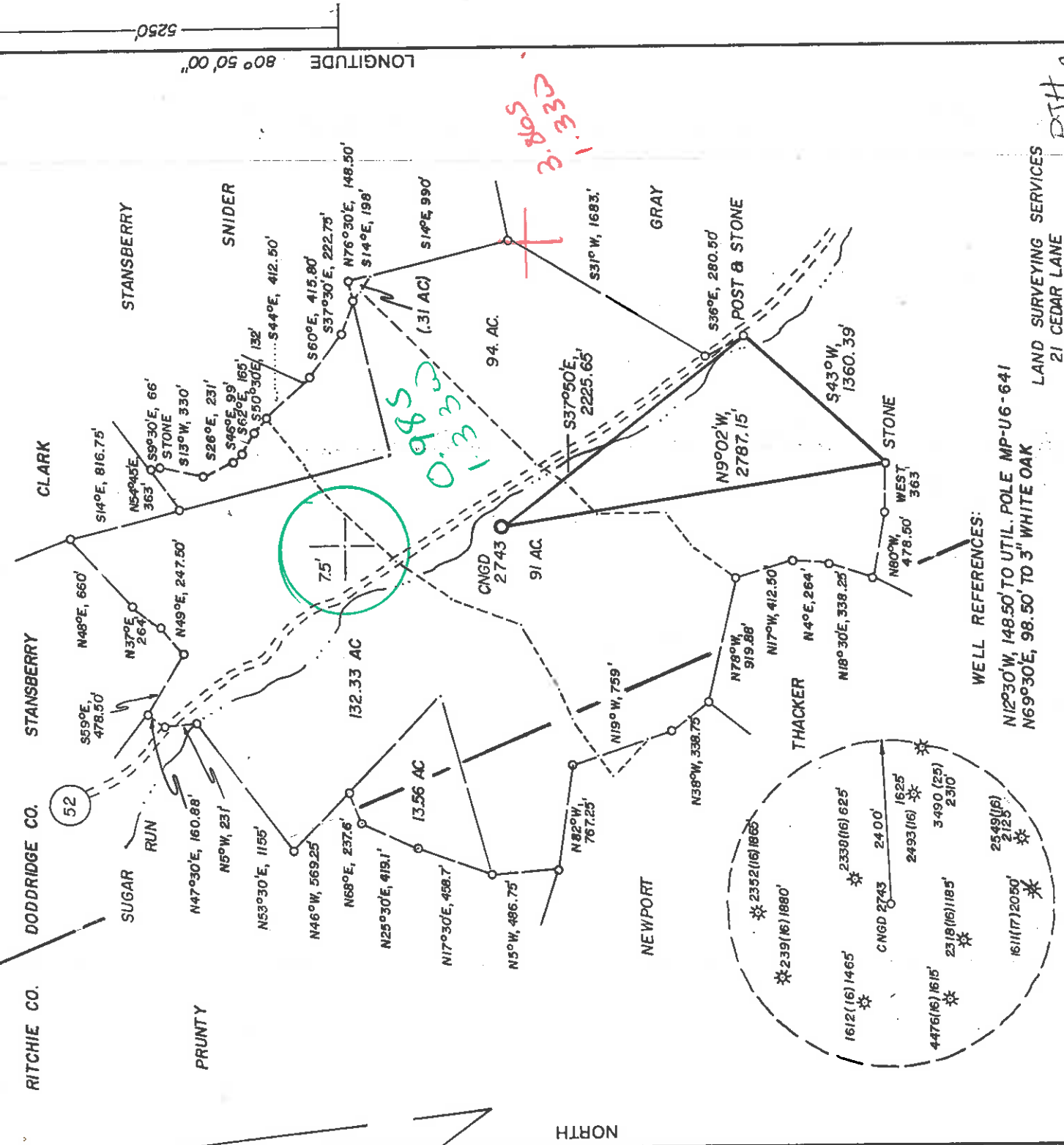


AS 2/23/87

7170' 15

LATITUDE 39° 12' 30"

LONGITUDE 80° 50' 00"



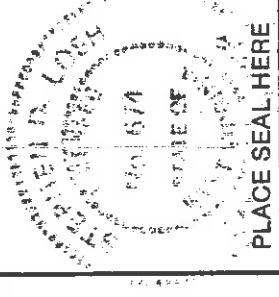
LAND SURVEYING SERVICES
21 CEDAR LANE
BRIDGEPORT, WV 26330
PHONE: 304-842-2018

PJH
2-9-87

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

FILE NO. _____
 DRAWING NO. _____
 SCALE 1" = 1,000'
 MINIMUM DEGREE OF ACCURACY 1 IN 200
 PROVEN SOURCE OF ELEVATION TOP OF KNOB 2385 SW
 OF LOCATION AT ELEV. 1317'

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



STATE OF WEST VIRGINIA
 DEPARTMENT OF ENERGY
 OIL AND GAS DIVISION

DATE JANUARY 5, 1987
 OPERATOR'S WELL NO. CNGD 2743
 API WELL NO. _____

47-017-3522 PERMIT

WELL TYPE: OIL GAS X LIQUID INJECTION WASTE DISPOSAL _____
 (IF "GAS,") PRODUCTION X STORAGE DEEP SHALLOW X _____
 LOCATION: ELEVATION 862' WATER SHED SUGAR RUN
 DISTRICT SOUTHWEST COUNTY DODDRIDGE
 QUADRANGLE OXFORD 75 526 05B N62 Holbrook
 SURFACE OWNER VELMA GASTON GRAY ACREAGE 91.
 OIL & GAS ROYALTY OWNER D. W. GRAY LEASE ACREAGE 343.

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 5150'
 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

MAR 09 1987

6-6 Straight Fork - Bluestone Creek (133)



RECEIVED
JUN 08 1987

Date May 22, 1987
Operator's
Well No. 2743
Farm Grey
API No. 47 - 017 - 3522

State of West Virginia
Department of Mines
Oil and Gas Division

DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

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: 862 Watershed Sugar Run
District: Southwest County Doddridge Quadrangle Oxford

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 Velma Gaston Gray
ADDRESS 534 West Virginia Avenue
Harrisville, WV 26362
MINERAL RIGHTS OWNER D. W. Gray
ADDRESS _____
OIL AND GAS INSPECTOR FOR THIS WORK _____
Mike Underwood ADDRESS Rt. 2, Box 114
Salem, WV 26426
PERMIT ISSUED March 6, 1987
DRILLING COMMENCED April 29, 1987
DRILLING COMPLETED May 4, 1987

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"	203	203	To Surf.
9 5/8			
8 5/8	1352	1352	To Surf.
7			
5 1/2			
4 1/2	5117	5117	200 sks
3			
2 1 1/2	4910	4910	---
Liners used			

GEOLOGICAL TARGET FORMATION Alexander Depth 5150 feet

Depth of completed well 5180 feet Rotary / Cable Tools _____
Water strata depth: Fresh 330 feet; Salt _____ feet

Coal seam depths: 1585 - 1587 Is coal being mined in the area? No

OPEN FLOW DATA

Producing formation Alexander Pay zone depth 4926-4974 feet
Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Bbl/d
Final open flow 474 Mcf/d Final open flow _____ Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 775 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)

JUN 15 1987

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

Perforated Alexander 4926 - 4932, 12 holes; 4950 - 4960, 20 holes; 4968 - 4974, 12 holes
 Foam Frac (70Q) Alexander - Break 1800, Avg TPSP 3050, Avg Rate 20 BPM, HHP used 1121,
 ISI 1700, 5 min 1500, Balled out Alexander with 80 Perf. Balls (7/8") @ 3500#/5 BPM.
 Used 1000 gals 15% FE Acid, 5000# 80/100, 48,300# 20/40, 51,700# 16/30 and 685,280 SCFN₂

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fresh and salt water, coal, oil and gas
KB			0	10	
Sand, Shale & RR			10	1585	1/2" stream water @ 330'
Coal			1585	1587	1/2" stream water @ 745'
Sand & Shale			1587	1754	1/2" stream water @ 1250'
Lime & Injun			1754	1870	Coal 1585 - 1587
Sand & Shale			1870	4465	
Riley			4465	4480	
Shale			4480	4668	
Benson			4600	4715	
Shale			4715	4914	
<u>Alex</u>			4914	4972	
Shale			4972	<u>5180</u>	
LOG TOPS ↗					
Big Lime			1730	1832	
Big Injun			1832	1866	
Weir			2036	2148	
Berea			2225	2229	
Warren			3112	3154	
U. Speechley			3264	3280	
Speechley			3504	3570	
Balltown			4032	4076	
Bradford			4250	4284	
Riley			4596	4616	
Benson			4660	4696	
Alexander			4916	4980	

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DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

CNG DEVELOPMENT COMPANY
 Well Operator
 BY: [Signature]
 Date: May 22, 1987

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
 strata, encountered in the drilling of a well."

RECEIVED
FEB 19 1987



- 1) Date: February 10, 19 87
 2) Operator's Well No. CNGD 2743
 3) API Well No. 47 017 3522
 State County Permit

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

DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY

- 4) WELL TYPE: A Oil Gas X
 B (If "Gas", Production X / Underground storage / Deep / Shallow X /
 Elevation: 862 Watershed: Sugar Run
 District: Southwest County: Doddridge 017 Quadrange: Oxford 525
 5) LOCATION: 7
 6) WELL OPERATOR: Development Co. CODE: 1010 7) DESIGNATED AGENT: Gary Nicholas
 Address: Cheryl S. Hartle P.O. Box 15746 Rt. 2, Box 698, Bridgeport, WV 26330
 Address: Pittsburgh, PA 15244
 8) OIL & GAS INSPECTOR TO BE NOTIFIED
 Name: Mike Underwood
 Address: Route 2, Box 114 P.O. Box 48
 Name: Sam Jack Drilling Co.
 Address: Salem, WV 26426 Buckhannon, WV 26201

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

- 11) GEOLOGICAL TARGET FORMATION: Alexander
 12) Estimated depth of completed well, 5150 feet
 13) Approximate trata depths: Fresh, None reported; salt, 1164 Damp
 14) Approximate coal seam depths: None reported Is coal being mined in the area? Yes / No X

15) CASING AND TUBING PROGRAM Refer to Permit #3490, 3358 and 7472

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	1-3/4	H-40	42	X		200-40	200-40	To surface By rule 15.05
Coal								
Intermediate	8-5/8	X-42	23	X		1325	1325	To surface By rule 15.05
Production	4-1/2	J-55	10.5	X		5150	200 - 400	Depths set By rule 15.01
Tubing	1-1/2	CN-55	2.75	X				Perforations: Top Bottom
Liners								

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-017- 3522 Date March 6 19 87

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 6, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

8022

Bond: <input checked="" type="checkbox"/>	Agent: <input checked="" type="checkbox"/>	Plat: <input checked="" type="checkbox"/>	Casing Fee: 1725-	WCP Fee: 175	Other: SEE
---	--	---	-------------------	--------------	------------

NOTE: Keep one copy of this permit posted at the drilling location.

179
 John L. Johnston
 Director, Division of Oil and Gas
 By: *[Signature]*
 See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

