

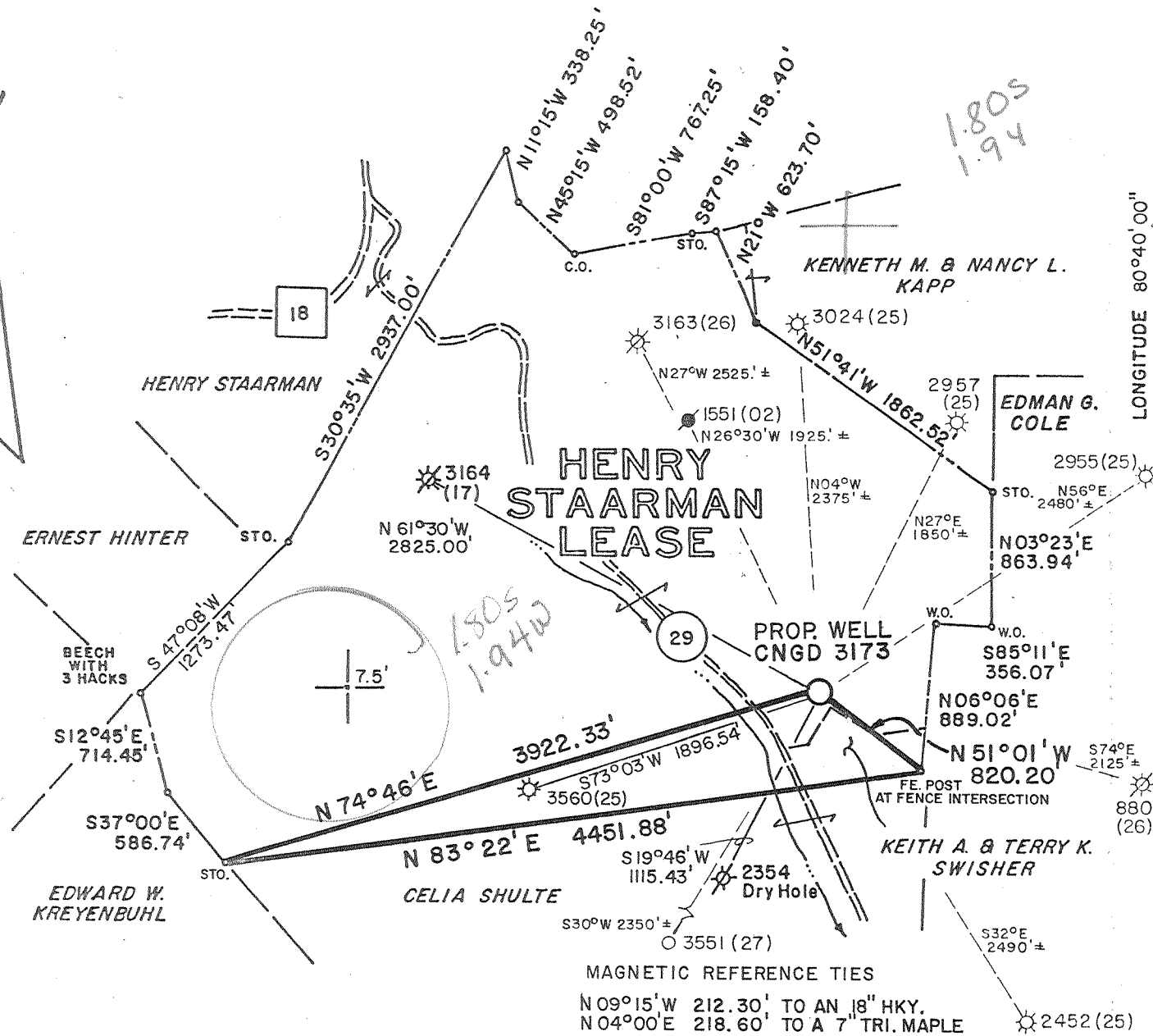
87B 10/30/87

10,300'

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

LATITUDE 39°10'00"

LONGITUDE 80°04'00"



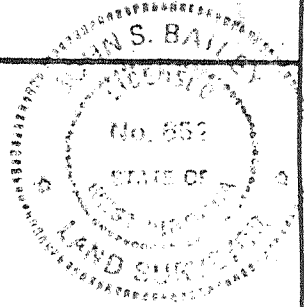
PJH 10-7-87

MSES consultants, inc.

FILE NO. MSES 87-783  
 DRAWN BY RRC/VSH  
 SCALE 1" = 1000'  
 MIN. DEGREE OF ACCURACY 1/200  
 PROVEN SOURCE OF ELEVATION ELEV. 888', BM. SOUTH 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 A. Bailus  
 R.P.E. \_\_\_\_\_ L.L.S. 652



STATE OF WEST VIRGINIA  
 DEPARTMENT OF MINES  
 OIL AND GAS DIVISION



DATE SEPTEMBER 1, 1987  
 OPERATOR'S WELL NO. CNGD 3173  
 API WELL NO. 47-017-3611  
 STATE WV COUNTY DODDRIDGE PERMIT 3611

WELL TYPE: OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL   
 IF "GAS", PRODUCTION  STORAGE  DEEP  SHALLOW   
 LOCATION: ELEVATION 979.02' WATERSHED BUCK RUN OF HUGHES RIVER  
 DISTRICT COVE 2 COUNTY DODDRIDGE  
 QUADRANGLE NEW MILTON, WV 7.5' 511, 123 NEAREST TOWN LEOPOLD  
 SURFACE OWNER HENRY STAARMAN ACREAGE 329  
 OIL & GAS ROYALTY OWNER HENRY STAARMAN LEASE ACREAGE 331  
 LEASE NO. DV 17700

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 BENSON ESTIMATED DEPTH 5585'  
 WELL OPERATOR CNG DEVELOPMENT COMPANY DESIGNATED AGENT GARY A. NICHOLAS  
 ADDRESS P. O. BOX 15746 ADDRESS ROUTE 2, BOX 698  
PITTSBURGH, PA 15244 BRIDGEPORT, WV 26330

FORM IV-6

COUNTY PERMIT

6-6 New Milton South (307)



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

Perforated Alexander 5063-5284, 20 holes, .39"; Benson 4926-4936, 18 holes, .39"  
 Frac - 35# Gel Water - Breakdown 950, Ave HHP 2136, Ave Rate 35 BPM, Ave Pr 2490,  
 Max Tr Pr 3100, 500 gal 15% Acid, 49,000# Sand, Max Conc. 5, Total Fluid 645 bbl,  
 SL Fluid 441 bbl, ISIP 1465, 5 min 1330.  
 2nd stage - Breakdown.2800, Ave HHP 2160, Ave Rate 35 BPM, Ave Pr 2520, Max Tr. Pr 3100,  
 500 gal 15% Acid, 66,600# Sand, Max Conc. 5, Total Fluid 850, SL Fluid 579, ISIP 2060,  
 5 min 1330.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fre and salt water, coal, oil and c.
Sand, Shale & RR			0	2012	1/4" Water @ 40'
Little Lime			2012	2024	1/4" Water @ 110'
Sand & Shale			2024	2058	Damp @ 1450'
B. Lime			2058	2147	
Injun Sand			2147	2201	
Sand & Shale			2201	4935	
Benson			4935	4950	
Sand & Shale			4950	5682	
LOG TOPS ✓					
Big Lime			2052	2158	
Big Injun			2158	2202	
Weir			2260	2360	
Berea			2472	2490	
Gordon Grp.			2682	2850	
Warren			3312	3348	
U. Speechley			3370	3430	
Benson			4922	4976	
Leopold			5040	5070	
✓ Alexander			5178	5300	

RECEIVED  
JAN 07 1988

DIVISION OF OIL & GAS  
DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

CNG DEVELOPMENT COMPANY  
Well Operator

By: *[Signature]*

Date: December 23, 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  
 coal, encountered in the drilling of a well."

**RECEIVED**  
OCT 27 1987



1) Date: October 8, 19 87  
 2) Operator's Well No. CNGD 3173  
 3) API Well No. 47 - 017 - 3611  
 State County Permit

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

- 4) WELL TYPE: A Oil  / Gas  /  
 B (If "Gas", Production  / Underground storage  / Deep  / Shallow  )
- 5) LOCATION: Elevation: 979.02 Watershed: Buck Run of Hughes River  
 District: Cove 2 County: Doddridge 017 Quadrangle: New Milton 510
- 6) WELL OPERATOR CNG Development Co CODE: 10110 7) DESIGNATED AGENT Gary Nicholas  
 Address c/o Cheryl S. Hartle 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 9) DRILLING CONTRACTOR:  
 Name Mike Underwood Name Sam Jack Drilling Co.  
 Address Route 2, Box 114 Address P.O. Box 48  
Salem, WV 26426 Buckhannon, WV 26201
- 10) PROPOSED WELL WORK: Drill  / Drill deeper  / Redrill  / Stimulate  /  
 Plug off old formation  / Perforate new formation  /  
 Other physical change in well (specify) \_\_\_\_\_
- 11) GEOLOGICAL TARGET FORMATION, Benson  
 12) Estimated depth of completed well, 5585 feet  
 13) Approximate trata depths: Fresh, - feet; salt, 1174 feet.  
 14) Approximate coal seam depths: - 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.	New	Used	For drilling	Left in well		
Conductor									Kinds <u>38 CSR 18-11.3</u>
Fresh water	<u>11-3/4</u>	<u>H-40</u>	<u>42</u>	<u>X</u>		<u>150</u>	<u>150</u>	<u>To surface</u>	By rule <del>11.3</del>
Coal									Sizes <u>38 CSR 18-11.22</u>
Intermediate	<u>8-5/8</u>	<u>X-42</u>	<u>23</u>	<u>X</u>		<u>1300</u>	<u>1300</u>	<u>To surface</u>	By rule <del>11.3</del>
Production	<u>4-1/2</u>	<u>J-55</u>	<u>10.5</u>	<u>X</u>		<u>5585</u>	<u>5585</u>	<u>200 - 400</u>	By rule <del>11.3</del>
Tubing	<u>1-1/2</u>	<u>CN-55</u>	<u>2.75</u>	<u>X</u>					By rule <del>11.3</del>
Liners									Perforations: Top Bottom

OFFICE USE ONLY  
 DRILLING PERMIT

Permit number 47-017-3611 11/12 19 87  
 Date

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 11/12/89 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond: <input checked="" type="checkbox"/>	Agent: <input checked="" type="checkbox"/>	Plat: <input checked="" type="checkbox"/>	Casing: <input checked="" type="checkbox"/>	Fee: <u>235</u>	WROP: <input checked="" type="checkbox"/>	SSE: <input checked="" type="checkbox"/>	Other: <input type="checkbox"/>
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20780

John Johnston by Margaret J. Hesse  
 Director, Division 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.