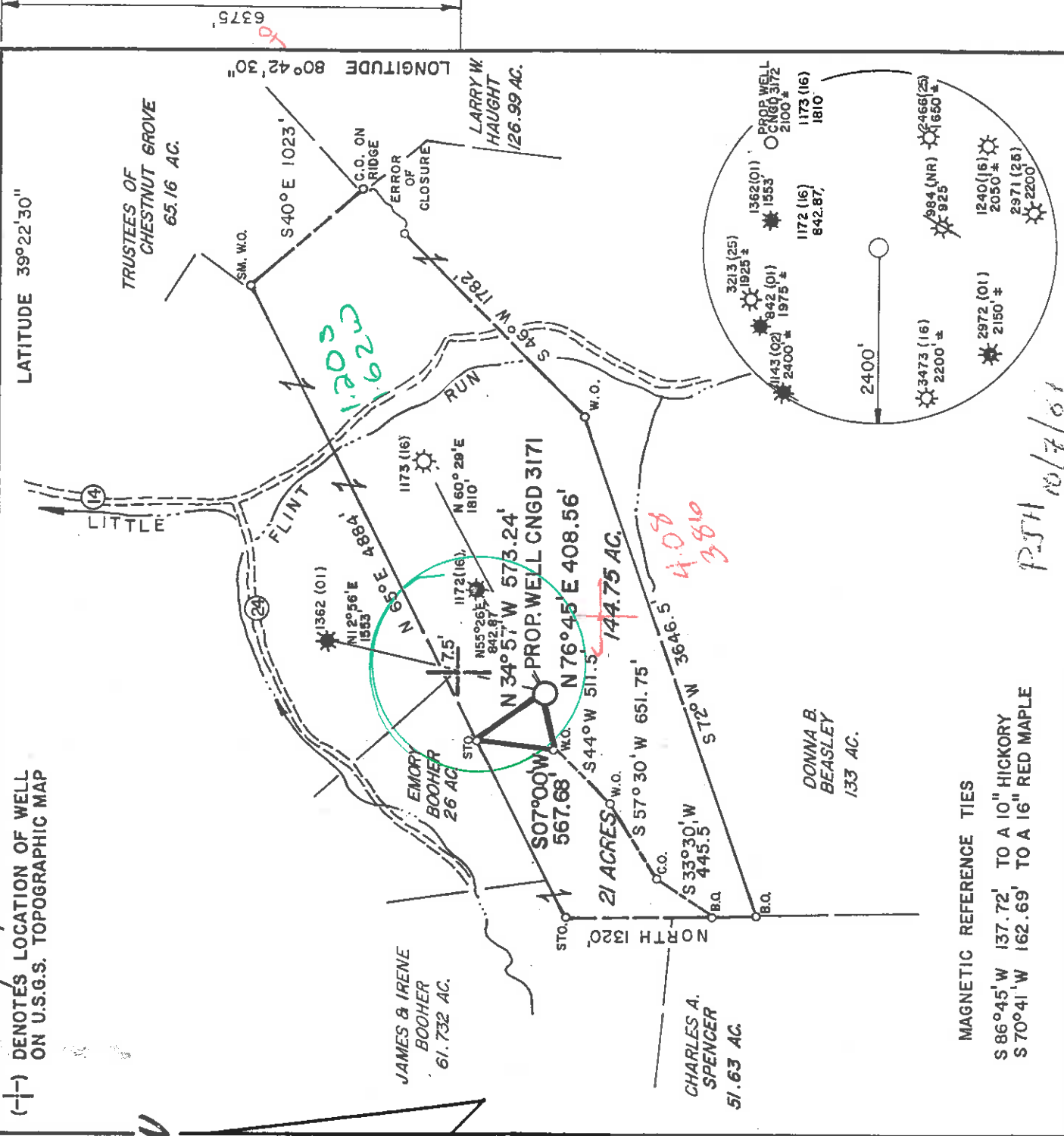


878 10/23/87

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

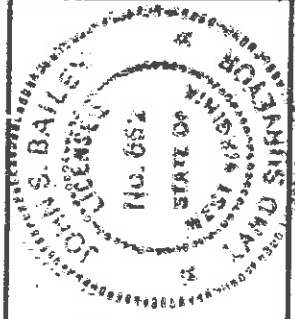


MAGNETIC REFERENCE TIES
 S 86°45' W 137.72' TO A 10" HICKORY
 S 70°41' W 162.69' TO A 16" RED MAPLE

MSES consultants, inc.
 FILE NO. MSES 87 - 786
 DRAWN BY RRQ/VSH
 SCALE 1" = 1000'
 MIN. DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION
 ELEV. 850' AT B.M. EAST 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
 B.P.E. L.I.S. 652



STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

DATE SEPTEMBER 8, 1987
 OPERATOR'S WELL NO. CNGD 3171
 API WELL NO. 47-017-3606
 STATE COUNTY PERMIT



WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 IF "GAS", PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 1195.20' WATERSHED LITTLE FLINT RUN OF MIDDLE ISLAND CREEK
 DISTRICT GRANT 3 Centerpoint COUNTY DODDRIDGE
 QUADRANGLE SMITHBURG, WV 7.5' 611 022 664 NEAREST TOWN CANTON
 SURFACE OWNER DODDRIDGE LAND & DEVELOPMENT CORP. ACREAGE 281.96
 OIL & GAS ROYALTY OWNER JOSEPH CASTLOW LEASE ACREAGE 350

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 CUT AND REPLUG

TARGET FORMATION BENSON ESTIMATED DEPTH 5775'
 NOV 9 1987
 WELL OPERATOR CNG DEVELOPMENT COMPANY DESIGNATED AGENT GARY A. NICHOLAS
 ADDRESS P.O. BOX 15746 ROUTE 2 BOX 698
 PITTSBURGH, PA 15244 BRIDGEPORT, WV 26330

6-6 Swiger (Flint Run) (99)

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DIVISION OF OIL & GAS
DEPARTMENT OF ENERGY



State of West Virginia
Department of Mines
Oil and Gas Division

Date December 23, 1987
Operator's Well No. 3171
Farm Castlow
API No. 47-017 - 3606

WELL OPERATOR'S REPORT
OF

DRILLING, FRACURING AND/OR STIMULATING, OR PHYSICAL CHANGE

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

LOCATION: Elevation: 1195.20 Watershed Little Flint of Middle Island Creek
District: Grant County Doddridge Quadrangle Smithburg

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 Doddridge Land & Dev. Corp.
ADDRESS P. O. Box 67
West Union, WV 26456
MINERAL RIGHTS OWNER Joseph Castlow
ADDRESS _____

OIL AND GAS INSPECTOR FOR THIS WORK

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

PERMIT ISSUED November 5, 1987

DRILLING COMMENCED Dec. 4, 1987

DRILLING COMPLETED Dec. 8, 1987

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

Casing Tubing Size	Used in Drilling	Left in Well	Cement fill up Cu. ft.
20-16 Cond.			
13-10"			
9 5/8			
8 5/8	1396	1396	To Surf.
7			
5 1/2			
4 1/2	5443	5443	525 sks
3			
2 1/2	5268	5268	----
Liners used			

GEOLOGICAL TARGET FORMATION Benson

Depth of completed well 5780 feet Rotary X / Cable Tools _____ feet
Water strata depth: Fresh 480 feet; Salt 1590 feet

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

OPEN FLOW DATA

Producing formation Benson Pay zone depth 5306-12 feet
Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Bbl/d
Final open flow 250 Mcf/d Final open flow _____ Bbl/d

Time of open flow between initial and final tests 4 hours

Static rock pressure 1200 psig (surface measurement) after 24 hours shut in
(If applicable due to multiple completion--)

Second producing formation

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)

JAN 11 1988

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

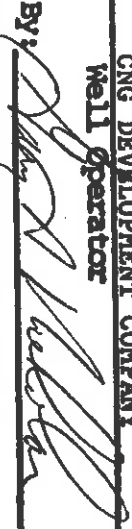
Perforated Benson 5306-12, 21 holes, .39" HSC
 Frac - 30# Gel Water - Breakdown 1800, Ave HHP 1765, Ave Rate 30, Ave Pr 2400,
 Max Tr Pr 2650, 500 gal Acid, 68,000# Sand, Max Conc. 5, Total Fl 771 bbl, SL Fl. 494,
 ISIP 1600, 5 min 1500.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS Including indication of all fire and salt water, coal, oil and c
KB - GL			0	10	Damp @ 480'
Sand, Shale & RR			10	2176	1/2" stream water @ 623'
B. Lime			2176	2264	Damp @ 1590'
Injun			2264	2390	
Sand & Shale			2390	2526	
Weir			2526	2612	
Sand & Shale			2612	3625	
Warren			3625	3665	
Sand & Shale			3665	3742	
U. Speechley			3742	3752	
Sand & Shale			3752	5006	
Riley			5006	5010	
Sand & Shale			5010	5274	
Benson			5274	5332	
Sand & Shale			5332	5536	
Alexander			5536	5618	
Sand & Shale			5618	5780	
LOG TOPS ✓					
Big Lime			2198	2282	
Big Injun			2282	2400	
Weir			2540	2620	
Berea			2746	2766	
Gordon Gp.			2955	3120	
Warren			3610	3669	
U. Speechley			3720	3772	
Benson			5300	5374	
Alexander			5560	5650	

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 DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY

(Attach separate sheets as necessary)

CNG DEVELOPMENT COMPANY
 Well Operator
 By: 
 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
 their, encountered in the drilling of a well."

7/8 RECEIVED
OCT 20 1987



1) Date: October 8, 19 87
 2) Operator's Well No. CNGD 3171
 3) API Well No. 47 State 017 County 3606 Permit

STATE OF WEST VIRGINIA
 DEPARTMENT OF OIL & GAS DEPARTMENT OF ENERGY, 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: 1195.20 Watershed: Little Flint Run of Middle Island Creek
 District: Grant County: Doddrige Quadrangle: Smithburg
 6) WELL OPERATOR: CNG Development Co CODE: 1010 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: Mike Underwood
 Name: Sam Jack Drilling Co.
 Address: Route 2, Box 114 P.O. Box 48
Salem, WV 26426 Ruckhannon, WV 26201

10) PROPOSED WELL WORK: Drill deeper Redrill Stimulate
 Plug off old formation Perforate new formation
 Other physical change in well (specify) Benson
 11) GEOLOGICAL TARGET FORMATION, Benson feet
 12) Estimated depth of completed well, 5775 feet
 13) Approximate true depths: Fresh, 370 feet; salt, 1468 feet.
 14) Approximate coal seam depths: 390, 853-1224 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.	For drilling	Left in well		
Conductor							
Fresh water	11-3/4H-40		42		40		
Coal							
Intermediate	8-5/8 X-42		23	1400	1400	To surface	By rule <u>38CSR18-11.3</u>
Production	4-1/2 J-55		10.5	5775	5775	200 - 400	Depth set <u>38CSR 11.1</u>
Tubing	1-1/2 CN-55		2.75	5675	5675		By rule <u>38CSR 11.1</u>
Liners							Perforations: Top Bottom

OFFICE USE ONLY
 DRILLING PERMIT
 Permit number 47-017-3606 Date November 5 1987

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 November 5, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

Bond	Agent:	Fee	Other
<u>11</u>	<u>Sam Jack Drilling Co</u>	<u>235</u>	<u>500</u>
		<u>2075</u>	

NOTE: Keep one copy of this permit posted at the drilling location.
 Director, Division of Oil and Gas
 See the reverse side of the APPLICANT'S COPY for instructions to the well operator. File

