

APW 10/14/87

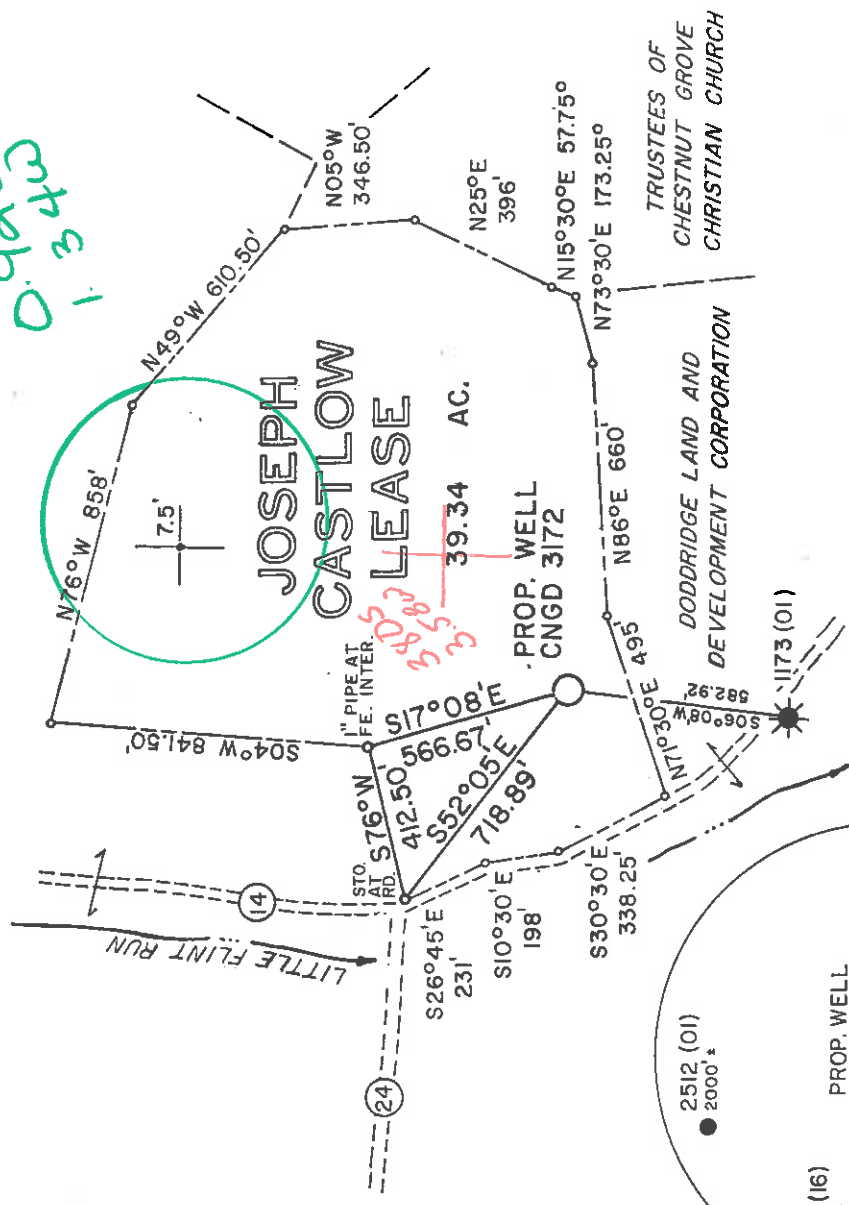
(-)- DENOTES LOCATION OF WELL ON U.S.G.S. TOPOGRAPHIC MAP

LATITUDE 39°22'30"

LONGITUDE 80°42'30"

0.9925
1.3440

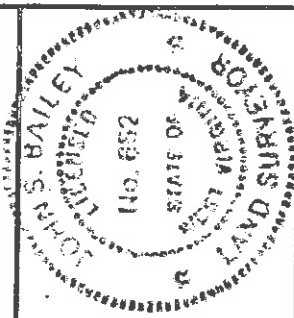
BLONDA STUTTLER SMITH



MAGNETIC REFERENCE TIES
 N08°15'W 187.53' TO 8" Y. POPLAR
 N11°35'W 194.63' TO 8" ASPEN

MSES consultants, inc.
 FILE NO. MSES 87-785
 DRAWN BY AAT/RRG/RVS
 SCALE 1" = 500'
 MIN. DEGREE OF ACCURACY 1/200
 PROVEN SOURCE OF ELEVATION
 B.M. ELEV. 850, 1200, SE OF WELL 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) *Tom S. Bailey*
 R.P.E. L.L.S. 652



FBH 10/17/87

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION



DATE SEPTEMBER 3, 1987
 OPERATOR'S WELL NO. CNGD 3172
 API WELL NO. 47-017 - 3605

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 IF "GAS", PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 950.50' WATERSHED LITTLE FLINT RUN OF MIDDLE ISLAND CREEK
 DISTRICT GRANT 3 Centerpoint COUNTY DODDRIDGE
 QUADRANGLE SMITHBURG, WV 7.5' 61 022. W04 NEAREST TOWN CANTON
 SURFACE OWNER DENZIL F. PRATT ACREAGE 39.34
 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 OUT AND REPLUG
 TARGET FORMATION BENSON ESTIMATED DEPTH 5530' NOV 9 1987
 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

6-6 Smithton-Flint-Sedalia (99)



Date December 23, 1987
 Operator's Well No. 3172
 Firm Castlow
 API No. 47-017-3605

State of West Virginia
 Department of Mines
 Oil and Gas Division

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DIVISION OF OIL & GAS
 DEPARTMENT OF ENERGY
 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: 950.50 Watershed Little Flint Run of Middle Island Creek
 District: Grant County Doddridge Quadrangle Smithburg

COMPANY CNG Development Company
 ADDRESS P.O. Box 15746
Philadelphia, PA 15246
 DESIGNATED AGENT Gary A. Nicholas
 ADDRESS Rt. 2 Box 698
Bridgeton, WV 26330
 SURFACE OWNER Denzil F. Pratt
 ADDRESS Rt. 2 Box 296
West Union, WV 26456
 MINERAL RIGHTS OWNER Joseph Castlow
 ADDRESS

OIL AND GAS INSPECTOR FOR THIS WORK
 Mike Underwood ADDRESS Rt. 2, Box 11426
Salem, WV 26426
 PERMIT ISSUED November 3, 1987
 DRILLING COMMENCED Nov. 23, 1987
 DRILLING COMPLETED Dec. 2, 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" | | | |
| 9 5/8 | | | |
| 8 5/8 | 1177 | 1177 | To Surf. |
| 7 | | | |
| 5 1/2 | | | |
| 4 1/2 | 5490 | 5490 | 510 sks |
| 3 | | | |
| 2 1/2 | 5267 | 5167 | --- |
| Liners used | | | |

GEOLOGICAL TARGET FORMATION Benson Depth 5530 feet
 Depth of completed well 5554 feet Rotary X / Cable Tools
 Water strata depth: Fresh 795 feet; Salt 1349 feet
 Coal seam depths: Is coal being mined in the area? No

OPEN FLOW DATA
 Producing formation Alexander Benson Pay zone depth 5021-37 feet
 Gas: Initial open flow Mcf/d Oil: Initial open flow Bbl/d
 Final open flow 280 Mcf/d Final open flow Bbl/d
 Time of open flow between initial and final tests 4 hours

Static rock pressure 1350 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)

JAN 11 1988

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

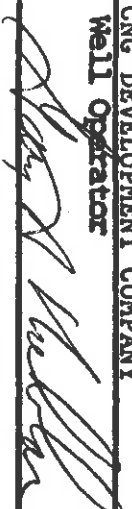
Perforated Alexander 5305 - 5358, 21 holes, .39" HSC; Benson 5021 - 37, 18 holes, .39 HSC
 Frac 30# Gel Water - Breakdown 2410, Ave Rate 28.7, Ave Pr 2733, Max Tr Pr 3000,
 Total Sand 42,000#, Max Conc 4, Total Acid 500 gal, Total Fluid 692 bbl, SL Fl. 417 bbl,
 ISIP 2025, 5 min 1823. 2nd stage - Breakdown 3300, Ave Rate 29.3, Ave Pr 2531, Max
 Tr Pr 3750, Total Sand 70,400, Max Conc. 5, Total Acid 500 gal, Total Fluid 778, SL
 Fluid 575, ISIP 1900,

WELL LOG

| FORMATION | COLOR | HARD OR SOFT | TOP FEET | BOTTOM FEET | REMARKS Including indication of all fire and salt water, coal, oil and g |
|------------------|-------|--------------|----------|-------------|--------------------------------------------------------------------------------|
| KB - GL | | | 0 | 10 | |
| Sand, Shale & RR | | | 10 | 1920 | Hole Damp @ 745' |
| Big Lime | | | 1920 | 2016 | Wet @ 790' - 1/2" stream |
| Injun | | | 2016 | 2084 | Damp @ 1349' |
| Sand & Shale | | | 2084 | 2280 | |
| Water | | | 2280 | 2364 | |
| Sand & Shale | | | 2364 | 2485 | |
| Berea | | | 2485 | 2505 | |
| Sand & Shale | | | 2505 | 2706 | |
| Gordon | | | 2706 | 2810 | |
| Sand & Shale | | | 2810 | 4795 | |
| Riley | | | 4795 | 4810 | |
| Sand & Shale | | | 4810 | 5025 | |
| Benson | | | 5025 | 5050 | |
| Sand & Shale | | | 5050 | 5286 | |
| Alexander | | | 5286 | 5300 | |
| Sand & Shale | | | 5300 | 5554 | |
| LOG TOPS ✓ | | | | | |
| Big Lime | | | 1928 | 2020 | |
| Big Injun | | | 2020 | 2124 | |
| Weir | | | 2284 | 2366 | |
| Berea | | | 2484 | 2506 | |
| Gordon Gp. | | | 2690 | 2750 | |
| Warren | | | 3506 | 3402 | |
| U. Speechley | | | 3420 | 3510 | |
| Balltown | | | 4140 | 4210 | |
| Bradford | | | 4550 | 4622 | |
| Benson | | | 5026 | 5100 | |
| Alexander | | | 5284 | 5326 | |

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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
 (and), encountered in the drilling of a well."

FORM WV-2 (B)
 (Obv)
 7/85



1) Date: October 9, 19 87
 2) Operator's Well No. CNGD 3172
 3) API Well No. 47 017 3605
 State County Permit

OCT 15 1987

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 Undergrnd storage Deep Shallow
 5) LOCATION: Elevation: 950.50 Watershed: Little Flint Run of Middle Island Creek
 District: Grant County: Doddridge 017 Quadrangle: Smithburg 010
 6) WELL OPERATOR: CNG Development Co. CODE: 1010 7) DESIGNATED AGENT Galy Nicholas
 Address c/o Cheryl S. Hattle P.O. Box 15746 Rt. 2, Box 698, Bridgeport, WV 26330
 Pittsburgh, PA 15244
 8) OIL & GAS INSPECTOR TO BE NOTIFIED
 Name: Mike Underwood
 Address: Route 2, Box 114 P.O. Box 48
 Salem, WV 26426 Buckhannon, WV 26201

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, Benson 4.5 feet
 12) Estimated depth of completed well, 5530 feet
 13) Approximate traat depths: Fresh, _____ feet; salt, _____ 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 | New | Used | For drilling | Left in well | Kind | Sizes |
| Conductor | 11-3/4 | H-40 | | X | 40 | 40 | | |
| Fresh water | | | | | | | | |
| Coal | 8-5/8 | X-42 | X | | 1150 | 1150 | | By rule 15.05 |
| Intermediate | 4-1/2 | J-55 | X | | 530 | 530 | | Depths set |
| Production | 1-1/2 | CN-55 | X | | 5430 | 5430 | | By rule 15.01 |
| Tubing | | | | | | | | Perforations: |
| Liners | | | | | | | | Top _____ Bottom _____ |

OFFICE USE ONLY
 DRILLING PERMIT

Permit number 47-017-3605 Date November 3 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 November 3, 1989 unless well work is commenced prior to that date and prosecuted with due diligence.

| | | | | | |
|------|---------------------------|----------|-------------------------|-------------------------|-------|
| Bond | Agent: <i>[Signature]</i> | Fee: 234 | APP: <i>[Signature]</i> | SSP: <i>[Signature]</i> | Other |
| | | 20767 | | | |

58301

NOTE: Keep one copy of this permit posted at the drilling location.
 Director, Division of Oil and Gas File

See the reverse side of the APPLICANT'S COPY for instructions to the well operator.

