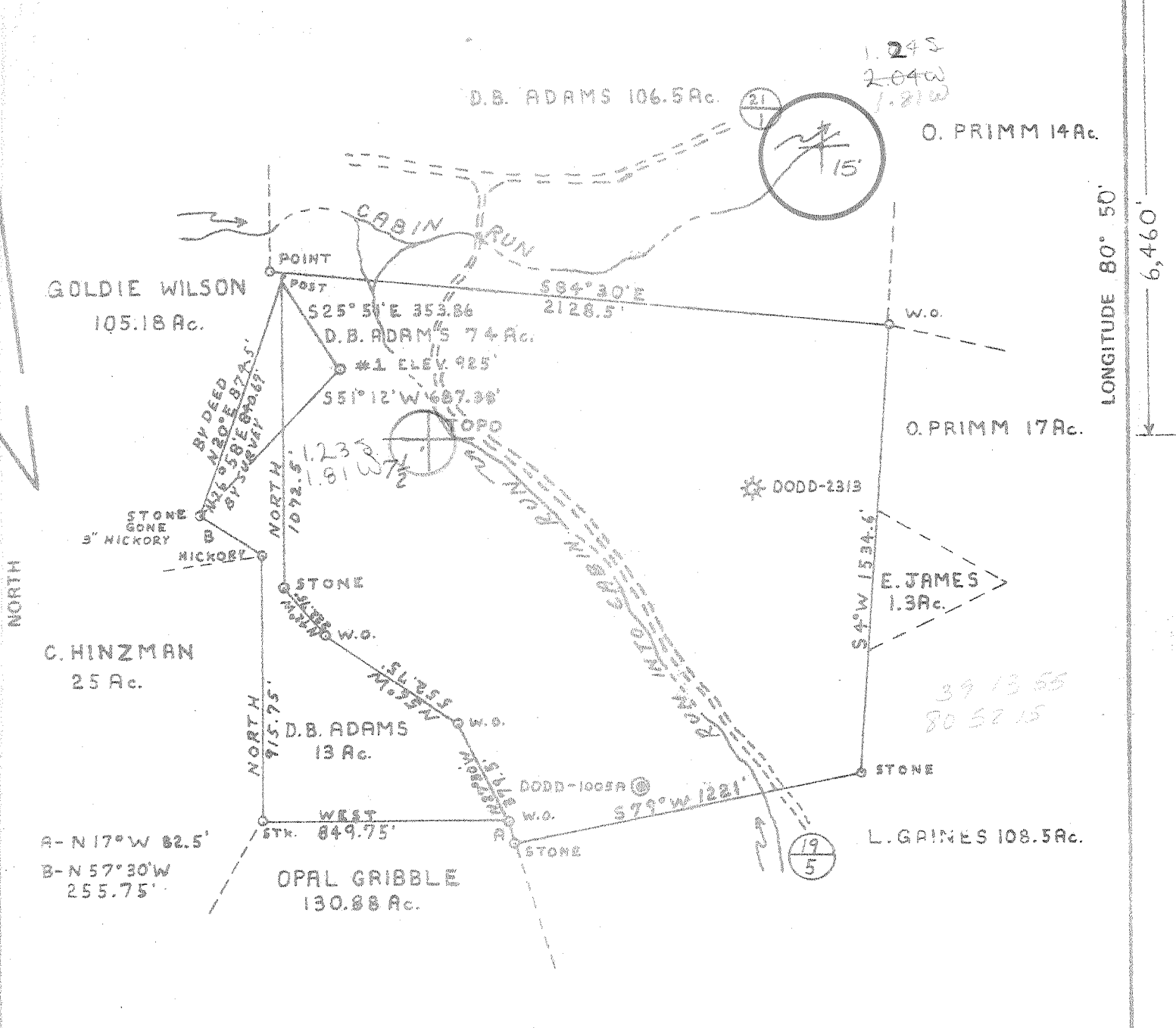


LATITUDE 39° 15'



LONGITUDE 80° 50'
6,460'

FILE NO. B.D.C. #3 - 29.22.23
 DRAWING NO. 1
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1' IN 200'
 PROVEN SOURCE OF ELEVATION 668' INT. W. Va. Rd. 21 AND 21/1

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) Paul G. Dean
 R.P.E. # 1856 L.L.S.

PLACE SEAL HERE

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 FORM IV-6 (8-78)



DATE 10/30 1979
 OPERATOR'S WELL NO. 1
 API WELL NO. 47-017-2534
 STATE COUNTY PERMIT

STATE OF WEST VIRGINIA
 DEPARTMENT OF MINES
 OIL AND GAS DIVISION

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF "GAS,") PRODUCTION STORAGE DEEP SHALLOW
 LOCATION: ELEVATION 925' WATER SHED CABIN RUN
 DISTRICT CENTRAL COUNTY DODDRIDGE
 QUADRANGLE OXFORD, 7 1/2 HOLBROOK 15' NC
 SURFACE OWNER D. B. ADAMS ACREAGE 8.7
 OIL & GAS ROYALTY OWNER L. S. McGEE LEASE ACREAGE 7.8
 LEASE NO. _____
 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 CEDAR CREEK ESTIMATED DEPTH 5500' DEC 6 1979
 WELL OPERATOR PETROLEUM DEVELOPMENT DESIGNATED AGENT PETROLEUM DEVELOPMENT CORP.
 ADDRESS 103 E. MAIN ADDRESS 103 E. MAIN
6-6 BRIDGEPORT W. Va. STRAIGHT FK BRIDGEPORT W. Va. BLUESTONE CO
 PLATED AND SURVEYED BY PAUL G. DEAN C.E. UNDER THE SUPERVISION OF PAUL G. DEAN R.P.C.E. #1856

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State of West Virginia
Division of Environmental Protection
Section of Oil and Gas
Well Operator's Report of Well Work

FARM NAME Layton, Palmer & Gloria OPERATOR WELL NO. Frum 1822
LOCATION: ELEVATION 992.00 QUADRANGLE Smithburg
DISTRICT: West Union COUNTY Doddridge
LATITUDE: 920 Feet South 39 Deg. 17 Min. 30 Sec.
LONGITUDE: 130 Feet West of 80 Deg. 42 Min. 30 Sec.

COMPANY:	CARNEGIE NATURAL GAS CO. 800 REGIS AVENUE PITTSBURGH, PA 15236	CASING/ TUBING SIZE	USED IN DRILLING	LEFT IN WELL	CEMENT FILL UP CU. FT.
AGENT:	DOUGLAS R. NAY	No Additional Pipe Run			
INSPECTOR:	Mike Underwood	Refer to Original Report			
PERMIT ISSUED:	7/14/97				
WELL WORK COMMENCED:	7/15/97				
WELL WORK COMPLETED:	7/21/97				
VERBAL PLUGGING PERMISSION GRANTED ON: ROTARY _____ CABLE _____ RIG _____					
TOTAL DEPTH (FEET):	5262'				
FRESH WATER DEPTHS (FT):					
SALT WATER DEPTHS (FT):					
IS COAL BEING MINED IN AREA (Y/N)					
COAL DEPTHS (FT):					

RECEIVED
Environmental Protection
FEB 12 1998
Permitting
Office of Oil & Gas

* Squeeze Cemented existing 4.5" csg. See Treatment

OPEN FLOW DATA

PRODUCING FORMATION Gordon, Berea, Weir PAY ZONE DEPTH (FT) 2101-2526'
 GAS INITIAL OPEN FLOW _____ MCF/d OIL INITIAL OPEN FLOW _____ Bbl/d
 FINAL OPEN FLOW Co-mingled 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

SECOND PRODUCING FORMATION Big Injun PAY ZONE DEPTH (FT) 1822-1922'
 GAS INITIAL OPEN FLOW _____ MCF/d OIL INITIAL OPEN FLOW _____ Bbl/d
 FINAL OPEN FLOW 103 MCF/d FINAL OPEN FLOW _____ Bbl/d
 TIME OF OPEN FLOW BETWEEN INITIAL AND FINAL TESTS _____ HOURS
 STATIC ROCK PRESSURE 180 psig (SURFACE PRESSURE) AFTER 16 HOURS

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.

FOR: CARNEGIE NATURAL GAS COMPANY

BY: Douglas R. Nay

DATE: 2/19/98

FEB 20 1998

Squeeze Cement Data:

Set Bridge Plug @ 2614', Perforated 4.5" csg. @ 1804', squeeze cemented 4.5" csg. with 85 sks 50/50 POZ, 4.5" cement top @ 1430'.

Well Treatment:

First Stage

Perforated Weir, Berea & Gordon (2101-2526'), 17 holes, Treated with Energized XLink Frac, 500 gal 15 % HCL, 259 sks. 20/40 sand, and 49,000 SCF N₂, BD 2649 psi, MTP 2853 psi, ATP 2325 psi. @ 13 BPM rate, ISIP 1989 psi.

Second Stage

Perforated Big Injun (1822-1922'), 15 holes, Treated with Energized XLink Frac, 500 gal 15 % HCL, 249 sks. 20/40 sand, and 38,000 SCF N₂, BD 2741 psi, MTP 2931 psi, ATP 2430 psi. @ 13 BPM rate, ISIP 2391psi.

Third Stage

Perforated Maxton Sand (1737-1754'), 10 holes. Could not break formation down.

Flowed well back and drilled out all cement & plugs to T.D. 5262'.

[08-78]

WELL OPERATOR'S REPORT OF

Well No. 017 - 2534 State 26330

DRILLING, FRACTURING AND/OR STIMULATING, PLUGS AND CHANGES

WELL TYPE: Oil / Gas X / Liquid Injection / Waste Disposal. (If "Gas", Production X / Underground storage / Over / Under / Other) LOCATION: Elevation: 925' Watershed: Cabin Run District: Southwest County: Doddridge Quadrangle: Oxford

WELL OPERATOR Petroleum Development Corporation DESIGNATION AGENCY Petroleum Development Corporation Address 103 East Main Street, PO Box 26 Bridgeport, W. Va. 26330

PERMITTED WORK: Drill X / Convert / Drill deeper / Redrill / Plug off old formation / Perforate new formation / Other physical change in well (specify)

RECEIVED MAR 24 1980

PERMIT ISSUED ON November 15, 1980 OIL & GAS INSPECTOR FOR THE STATE Name Paul Garrett Address 321 Beach Street Clarksburg, W. Va. 26301

STRATIGRAPHIC TARGET FORMATION: Cedar Creek Depth: 5360 feet Depth of completed well, 5426 feet Rotary X / Cable Tool Water strata depth: Fresh, 1896 feet; salt, Coal seam depths: 145 feet Work was commenced December 5, 1979, and completed December 12, 1979

LOGGING AND TUBING PROGRAM

Table with columns: LOGGING OR TUBING TYPE, SPECIFICATIONS (Size, Grade, Weight, New/Used), FOOTAGE INTERVALS (Left, Right), HEIGHT FROM SURFACE OR CASE HEAD (Case Depth), PACKERS. Rows include: Wash water, 1 3/4" pipe, Compressor 8 5/8" H-40 20# X, Production 4 1/2" K-55 9.5# X.

PERMITS FLOW DATA

Producing formation Benson Day pipe depth 5152 feet Gas: Initial open flow, 1.426 Mcf/d Final open flow, 1.426 Mcf/d Time of open flow between initial and final tests, Static rock pressure, 1800 psig (surface measurement) after 48 hours

APR 28 1980

8-78]

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

Benson	410 bbl	10,000# 80/100	40,000# 20/40	500 gal. 15% acid	5192-5220
Balltown	350 bbl	10,000# 80/100	30,000# 20/40	500 gal. 15% acid	4292-4310

LOG

FORMATION	Color	Hard or Soft	Top Feet	Bottom Feet	Remarks Including indication of all fresh and salt water, coal, oil and gas
shale			0	19	
sand, shale			19	77	
red rock			77	90	
sand, shale			90	145	
coal			145	150	
sand, shale			150	270	
sand			270	630	
sand, shale			630	1904	fresh H ₂ O 2½" @ 1896'
big lime			1904	1972	
big injun			1972	2107	
sand, shale			2107	2212	
weir			2212	2250	
sand, shale			2250	2670	
gordon			2670	2776	
sand, shale			2776	3752	gas check @ 3005' no show
speechley			3752	3808	
sand, shale			3808	4270	gas check @ 4022' no show
balltown			4270	4315	
sand, shale			4315	5168	gas check @ 5120' no show
benson			5168	5232	
sand, shale			5232	5426 TD	gas check @ TD no show

(Attach separate sheets to complete as necessary)

Petroleum Development Corporation
Well Operator
By Charles M. Wilson
Its Completion Engineer

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."

[08-78]

OIL AND GAS WELL PERMIT APPLICATION

Operator's Well No. One (1)

API Well No. 47 - 017 - 2534
State County Permit

WELL TYPE: Oil / Gas X /
(If "Gas", Production X / Underground storage / Deep / Shallow /)
LOCATION: Elevation: 925' Watershed: Cabin Run
District: Central County: Doddridge Quadrangle: Oxford

WELL OPERATOR Petroleum Development Corporation DESIGNATED AGENT Petroleum Development Corp.
Address P.O. Box 26 Address P.O. Box 26
Bridgeport, WV 26330 Bridgeport, WV 26330

OIL & GAS ROYALTY OWNER L. S. McGee, et.al COAL OPERATOR
Address 68 Station Street Address
Shinnston, WV 25431

ACREAGE 78 COAL OWNER(S) WITH DECLARATION ON RECORD:
SURFACE OWNER D. B. Adams Name L. S. McGee, et.al.
Address Rt. 1 Address 68 Station Street
West Union, WV 26456 Shinnston, WV 26431
Acres 87 Name

FIELD SALE (IF MADE) TO: Address
Name COAL LESSEE WITH DECLARATION ON RECORD:
Address Name

OIL & GAS INSPECTOR TO BE NOTIFIED Paul Garrett Address
Name Paul Garrett Address
Address 321 Beech Street NOV 15 1979
Clarksburg, WV 26301

OIL & GAS DIVISION
DEPT. OF MINES

The undersigned well operator is entitled to operate for oil or gas purposes at the above location under a deed / lease / other contract X / dated June 1, 1979, to the undersigned well operator from Clarence W. Mutschelknaus
[If said deed, lease, or other contract has been recorded:]

Recorded on Sept. 14, 1979, in the office of the Clerk of the County Commission of Doddridge County, West Virginia, in Deed Book 110 at page 639. A permit is requested as follows:

PROPOSED WORK: Drill X / Drill deeper / Redrill / Fracture or stimulate /
Plug off old formation / Perforate new formation /
Other physical change in well (specify)

--planned as shown on the work order on the reverse side hereof.

The above named coal operator, coal owner(s), and coal lessee are hereby notified that any operation they wish to make or are required to make by Code § 22-4-3 must be filed with the Department of Mines within fifteen (15) days after the receipt of this Application by the Department.

Copies of this Permit Application and the enclosed plat and reclamation plan have been mailed by registered mail or delivered by hand to the above named coal operator, coal owner(s), and coal lessee on or before the day of the mailing or delivery of this Permit Application to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL
GEOPHYSICAL LOGS DIRECTLY TO:
WEST VIRGINIA OIL AND GAS
CONSERVATION COMMISSION
101 WASHINGTON STREET EAST
CHARLESTON, WV 25311
TELEPHONE: (304) 348-3092

BLANKET BOND

PETROLEUM DEVELOPMENT CORPORATION
Well Operator

Johnny Mutschelknaus
District Drilling Superintendent

PROPOSED WORK ORDER

THIS IS AN ESTIMATE ONLY:
ACTUAL INFORMATION MUST BE SUBMITTED ON FORM IV-35 UPON COMPLETION

DRIILLING CONTRACTOR (IF KNOWN) Unknown

Address _____

GEOLOGICAL TARGET FORMATION, Cedar Creek

Estimated depth of completed well, 5500' feet Rotary X / Cable tools _____ /

Approximate water strata depths: Fresh, 50 feet; salt, 150 feet.

Approximate coal seam depths: _____ Is coal being mined in the area? Yes _____ / No X /

DRILLING AND TUBING PROGRAM


DRILLING 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		
Drill pipe	13 3/8	H		X		X	X		Kinds 20'
Fresh water									
Oil									Sizes
Intermediate	8 5/8	H	20	X		250'	250'	Circulate	
Production	4 1/2"	K	10.5	X			5500'	250	Depths set 5500'
Logging									
Packers									Perforations:
									Top Bottom

Regulation 7.02 of the Department of Mines provides that the original and four copies of Form IV-2 must be filed with the Department, accompanied by (i) a plat in the form prescribed by Regulation 11, (ii) a bond in one of the forms prescribed by Regulation 12, or in lieu thereof the other security allowed by Code § 22-4-2, (iii) Form IV-9, "Reclamation Plan", applicable to the reclamation required by Code § 22-4-12b and Regulation 23, (iv) unless previously paid on the same well, the fee required by Code § 22-4-12a, and (v) if applicable, the consent required by Code § 22-4-8a from the owner of any water well or dwelling within 200 feet of the proposed well.

THIS PERMIT MUST BE POSTED AT THE WELL SITE

A separate Form IV-2 shall not be required for fracturing or stimulating a well where fracturing or stimulating is to be part of the work for which a permit is sought and is a necessary part of the operations with respect to the well. All operations being in accordance with Chapter 22 of the W. Va. Code, the location is hereby approved

for drilling. This permit shall expire if operations have not commenced by 7-16-80.


Deputy Director - Oil & Gas Division

The following waiver must be completed by the coal operator and by any coal owner or coal lessee who has recorded a declaration under Code § 22-4-20, if the permit is to be issued within fifteen (15) days of receipt thereof:

W A I V E R

The undersigned coal operator _____ / owner _____ / lessee _____ / of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of the well location, the well location has been added to the mine map. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.