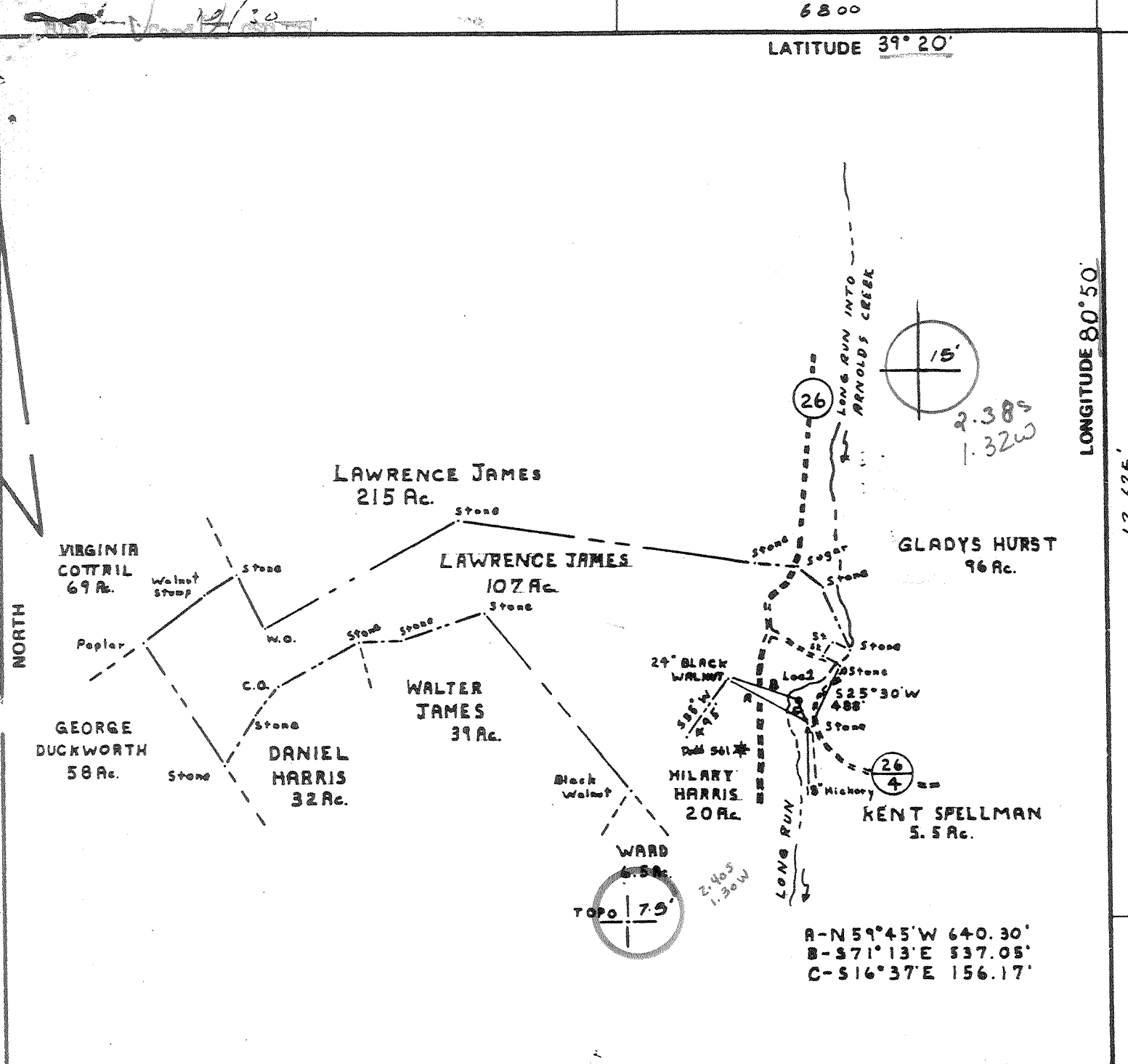


6800'

LATITUDE 39° 20'

LONGITUDE 80° 50'



A-N 59° 45' W 640.30'
 B-S 71° 13' E 537.05'
 C-S 16° 37' E 156.17'

FILE NO. P.B.C. 23-2956
 DRAWING NO. 1
 SCALE 1" = 1000'
 MINIMUM DEGREE OF ACCURACY 1 IN 200
 PROVEN SOURCE OF ELEVATION INT. RT. 26 & RT. 26 1/2
= 839'

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, Jr.
 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 10-23, 1981
 OPERATOR'S WELL NO. 1
 API WELL NO. 47-017-3057
 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 840' WATER SHED LONG RUN
 DISTRICT CENTRAL COUNTY RODRIDGE
 QUADRANGLE WEST UNION 7 1/2' & 15' 50'
 SURFACE OWNER LAWRENCE JAMES ACREAGE 107 Ac.
 OIL & GAS ROYALTY OWNER WILLIAM CAIN LEASE ACREAGE 107 Ac.
 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) _____
 NOV 18 1981
 PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___
 TARGET FORMATION ALEXANDER ESTIMATED DEPTH 5800' 6-6 Greenwood (89)
 WELL OPERATOR PETROLEUM DEVELOPMENT DESIGNATED AGENT PETROLEUM DEVELOPMENT CORP
 ADDRESS P.O. BOX 26 ADDRESS P.O. BOX 26
BRIDGEPORT W.V. 26330 BRIDGEPORT W.V. 26330

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OIL & GAS DIVISION
DEPT. OF MINES



State of West Virginia
Department of Mines
Oil and Gas Division

Date _____
Operator's _____
Well No. ONE (1)
Farm WILLIAM CAIN
API No. 47 - 017 - 3057

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 ___ /)
LOCATION: Elevation: 840' Watershed LONG RUN
District: CENTRAL County DODDRIDGE Quadrangle WEST UNION

COMPANY PETROLEUM DEVELOPMENT CORPORATION
ADDRESS P.O. BOX 26 BRIDGEPORT WV 26301
DESIGNATED AGENT SAME AS ABOVE
ADDRESS SAME AS ABOVE
SURFACE OWNER LAWRENCE JONES
ADDRESS BOX 104 GREENWOOD WV 26360
MINERAL RIGHTS OWNER WILLIAM CAIN ET AL
ADDRESS 204 FRONT ST. WEST UNION WV 26456
OIL AND GAS INSPECTOR FOR THIS WORK
STEPHEN CASEY RT 2 BOX 232-D JANE LEW WV
ADDRESS _____
PERMIT ISSUED 10/27/81
DRILLING COMMENCED 11/17/81
DRILLING COMPLETED 11/25/81

Casing Tubing	Used in Drilling	Left in Well	Content fill up Cu. ft.
Size 20-16 Cond.			
12-19 <u>11 3/4</u>	122'	122'	70 sks
9 5/8			
8 5/8	1814'	1814'	450 sks
7			
5 1/2			
4 1/2	5045'	5045'	85 sks
3			
2			
Liners used			

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

GEOLOGICAL TARGET FORMATION ALEXANDER Depth 5800 feet
Depth of completed well 5565 feet Rotary x / Cable Tools _____
Water strata depth: Fresh 180 feet; Salt _____ feet
Coal seam depths: _____ Is coal being mined in the area? _____

OPEN FLOW DATA
Producing formation Cedar Creek Pay zone depth 4962-4984 feet
Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Ebl/d
Final open flow 220 Mcf/d Final open flow 3 Ebl/d
Time of open flow between initial and final tests _____ hours
Static rock pressure 1280 psig (surface measurement) after 48 hours shut in
(If applicable due to multiple completion--)
Second producing formation Riley Pay zone depth 4188-4192 feet
Gas: Initial open flow _____ Mcf/d Oil: Initial open flow _____ Ebl/d
Final open flow _____ Mcf/d Oil: Final open flow _____ Ebl/d
Time of open flow between initial and final tests _____ hours
Static rock pressure _____ psig (surface measurement) after _____ hours shut in

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

2 Stage Water Frac

	<u>Perforation</u>	<u>BBL/SL/Fluid</u>	<u>80/100</u>	<u>20/40</u>	<u>Total Sand</u>	<u>Acid</u>
1st stage	22(4962-4984)	560 BBLs	25,000lbs	34,000lbs	59,000#	500 gal.
2nd stage	16(4188-4192)	523 BBLs	10,000lbs	37,400lbs	47,400#	500 gal.

WELL LOG

FORMATION	COLOR	HARD OR SOFT	TOP FEET	BOTTOM FEET	REMARKS
					Including indication of all fresh and salt water, coal, oil and gas
K.B.-G.L.			0	10'	
Sand, shale, red rock			10'	1709'	3"-4" stream H ₂ O @ 180'
Big Lime			1709'	1790'	
Big Injun			1790'	1866'	
Sand, shale			1866'	2018'	
Weir			2018'	2193'	
Sand, shale			2193'	2210'	
Berea			2210'	2216'	
Sand, shale			2216'	2391'	
Gordon Stray			2391'	2458'	
Sand, shale			2458'	2596'	
4th			2596'	2638'	
Sand, shale			2638'	3102'	
Warren			3102'	3162'	
Sand, shale			3162'	3416'	
Upper Speechley			3416'	3487'	
Sand, shale			3487'	3605'	
Speechley			3605'	3650'	
Sand, shale			3650'	3858'	
Balltown			3858'	4092'	
Sand, shale			4092'	4254'	
Bradford			4254'	4287'	
Sand, shale			4287'	4484'	Gas check @ 4400' - No show
Riley			4484'	4550'	
Sand, shale			4550'	4663'	
Benson			4663'	4683'	
Sand, shale			4683'	4919'	
Cedar Creek <i>alex</i>			4919'	4996'	
Sand, shale			4996'	5565' TD	

(Attach separate sheets as necessary)

PETROLEUM DEVELOPMENT CORPORATION BRIDGEPORT, WV 26301

Well Operator

By:

[Signature]

Date:

12/16/83

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."

(Revised 3-81)

PROPOSED WORK ORDER

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

DRILLING CONTRACTOR (IF KNOWN) Unknown

Address _____

GEOLOGICAL TARGET FORMATION Alexander

Estimated depth of completed well 5800 feet. Rotary X / Cable tools /
Approximate water strata depths: Fresh, 150 feet; salt, 275 feet.
Approximate coal seam depths: no coal.
Is coal being mined in this area: Yes / No X /

CASING AND TUBING PROGRAM

CASING OR TUBING TYPE	SPECIFICATIONS					FOOTAGE INTERVALS		CEMENT FILL UP OR SACKS	PACKERS
	Size	Grade	Weight per ft	New	Used	For Drilling	Left in Well		
Conductor	11 3/4	-	-		X	19'	19'	Surface	Kinds
Fresh water well									Sizes
Interned.	8 5/8	H-40	20 & 23#	X		2100	2100	Circulate	
Production Tubing	4 1/2	J-55	9.5#	X		5800	5800	630 sks	Depths set
Liners									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-3, "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 §22-4-3a from the owner of any water well or dwelling within 200 feet of the proposed well.

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 noted as such on the Form IV-2 filed in connection therewith.

THIS PERMIT MUST BE POSTED AT THE WELL SITE

All provisions 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 7-4-82.

[Signature]
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 coal operator has complied with all applicable requirements of the West Virginia Code and the governing regularions.

Date: _____, 19____.

By: _____

Its: _____



Well No. One (1)
Farm William Cain
API # 47-017-3057
Date October 23, 1981

STATE OF WEST VIRGINIA
OFFICE OF OIL AND GAS - DEPARTMENT OF MINES

OIL AND GAS WELL PERMIT APPLICATION

WELL TYPE: Oil / Gas / Other / None
Well Depth, Production: Underground / Deep / Shallow
Elevation: 840' Water shed: Long Run
District: Central County: Doddridge Quadrangle: West Union 7 1/2'

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

ROYALTY OWNER: William Cain et al COAL OPERATOR: None
Address: 204 Front Street Address: _____
West Union, WV 26456
Address: 107

SURFACE OWNER: Lawrence James COAL OWNER(S) WITH DECLARATION ON RECORD:
Address: Box 104 NAME: Same as oil and gas
Greenwood, WV 26360 Address: _____
Address: _____ NAME: _____
Address: _____

FIELD SALE (IF MADE) TO:
NAME: Unsure
Address: _____
COAL LESSEE WITH DECLARATION ON RECORD:
NAME: No lease
Address: _____

OIL AND GAS INSPECTOR TO BE NOTIFIED:
Name: Stephen Casey
Address: Rt. 2 Box 232-D
Jane Lew, WV 26378
Telephone: 884-7470

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OCT 27 1981

OIL AND GAS DIVISION
WV DEPARTMENT 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 / dated June 9, 1981, to the undersigned well operator from Petro-Enterprises, Inc.

Recorded on August 22, 1981, in the office of the Clerk of County Commission of Doddridge County, West Virginia, in Deed 232 Book at page 662. A permit is requested as follows:

PROPOSED WORK: Drill / 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 objection 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 receipt of this Application by the Dept. 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 lessees on or before the day of the mailing or delivery of this Application to the Department of Mines at Charleston, West Virginia.

PLEASE SUBMIT COPIES OF ALL
GEOLOGICAL LOGS DIRECTLY TO:

WEST VIRGINIA OIL AND GAS
CONSERVATION COMMISSION
1613 WASHINGTON ST., E.
CHARLESTON, WV 25311
Telephone - 304/348-3092

PETROLEUM DEVELOPMENT CORPORATION
Well Operator

By: John P. Mitchell
Area Manager

MARKET BOND

Signature