

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

FILE NO. _____
 DRAWING NO. 1
 SCALE 1" = 500'
 MINIMUM DEGREE OF ACCURACY 1 in 200
 PROVEN SOURCE OF ELEVATION Road junction
2100' N. of Location; elev. 859

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 ENERGY.
 (SIGNED) David Z. Jackson
 R.P.E. _____ L.L.S. 708

12" W.O.
 S62E SD=83'
 HD=82.5'
 Location
 N30E SD=128.5'
 HD=128.5'
 7" elm
 REFERENCES

STATE OF WEST VIRGINIA
 Division of Environmental Protection
 OFFICE OF OIL AND GAS

DATE July 23, 1993
 OPERATOR'S WELL NO. Bates No. 2
 API WELL NO. _____

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
 (IF "GAS,") PRODUCTION ___ STORAGE ___ DEEP ___ SHALLOW X

LOCATION: ELEVATION 1245 WATER SHED Riggins Run
 DISTRICT McClellan COUNTY Doddridge
 QUADRANGLE Smithburg 7 1/2' Centerpoint WC

SURFACE OWNER Fletcher G. Shatley ACREAGE 50
 OIL & GAS ROYALTY OWNER Arby F. Glaspell et al LEASE ACREAGE 50
 LEASE NO. 474400

PROPOSED WORK: DRILL ___ CONVERT X 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 5000
 WELL OPERATOR Petroleum Development Corp. 661 DESIGNATED AGENT Eric R. Stearns
 ADDRESS P.O. Box 26, Bridgeport, WV 26330 ADDRESS P.O. Box 26, Bridgeport, WV 26330

AUG 30 1993

FORM WW-6

COUNTY NAME
 PERMIT

G.G. Smithton-Flint-Sedalia (099)

State of West Virginia
Division of Environmental Protection
Section of Oil and Gas

Well Operator's Report of Well Work

Farm name: SHATLEY, FLETCHER G. Operator Well No.: BATES #1

LOCATION: Elevation: 883.00 Quadrangle: SMITHBURG

District: MCCLELLAN County: DODDRIDGE
Latitude: 3550 Feet South of 39 Deg. 22Min. 30 Sec.
Longitude 375 Feet West of 80 Deg. 40 Min. Sec.

Company: PETROLEUM DEVELOPMENT COR
P. O. BOX 26
BRIDGEPORT, WV 26330-0026

Agent: ERIC R. STEARNS

Inspector: MIKE UNDERWOOD
Permit Issued: 08/24/93
Well work Commenced: 09/30/93
Well work Completed: 10/07/93
Verbal Plugging _____
Permission granted on: _____
Rotary x Cable _____ Rig
Total Depth (feet) 5105'
Fresh water depths (ft) _____
18; 57; 700
Salt water depths (ft) _____
n/a
Is coal being mined in area (Y/N)? N
Coal Depths (ft): 245-248

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
11 3/4"	107'	107'	102 sks
8 5/8"	1542'	1542'	385 sks
4 1/2"	5080'	5080'	165 sks

OPEN FLOW DATA

Producing formation Benson Pay zone depth (ft) 4968-71
Gas: Initial open flow 21 MCF/d Oil: Initial open flow 0 Bbl/d
Final open flow 281 MCF/d Final open flow 0 Bbl/d
Time of open flow between initial and final tests 4 Hours
Static rock Pressure 1500 psig (surface pressure) after 72 Hours

Second producing formation _____ Pay zone depth (ft) _____
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/d
Final open flow _____ 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

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: PETROLEUM DEVELOPMENT CORP.

By: Eric R. Stearns
Date: November 8, 1993

Reviewed TMG
Recorded _____

NOV 23 1993

BATES #1

STAGE	FORMATION	PERFS	80/100 SKS	20/40 SKS	ACID GAL	N2 (MCF)
1ST	Benson	10(4968'-4971')	50	400	500	40

W E L L L O G

FORMATION	TOP FEET	BOTTOM FEET	REMARKS: FRESH & SALT WATER, COAL, OIL & GAS
KB - GL	0	10	1/2" water @ 18', 75'
sand, shale, RR	10	1640	
Maxton	1640	1711	Coal @245'-248'
sand, shale	1711	1812	1/2" water @ 700'
Big Lime	1812	1919	gas chk @ 1750' No Show
sand, shale	1919	1925	gas chk @ 1920' No Show
Big Injun	1925	2049	gas chk @2524' 6/10 thru 1"/water
sand, shale	2049	2201	
Weir	2201	2261	
sand, shale	2261	2410	
Berea	2410	2440	gas chk @2709' 2/10 thru 1"/water
sand, shale	2440	2601	
Gordon	2601	2644	
sand, shale	2644	2919	gas chk @3116' no show
5th	2919	2966	gas chk @3616' no show
sand, shale	2966	3267	gas chk @4800' no show
Warren	3267	3403	gas chk @4894' 2/10 thru 1"/water
sand, shale	3403	3465	
Speechley	3465	3822	gas chk @4983' 10/10 thru 1"/water
sand, shale	3822	3871	gas chk @TD 4/10 thru 1"/water
Balltown	3871	4050	
sand, shale	4050	4122	gas chk @COLLARS 4/10 thru 1"/water
Bradford	4122	4240	
sand, shale	4240	4728	
Riley	4728	4902	
sand, shale	4902	4962	
Benson	4962	5024	
sand, shale		5105	Drillers TD
		5107	Logger TD

OF 424
OFT 435

85LL1

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
WELL WORK PERMIT APPLICATION
Expires 08/24/95

- 1) Well Operator: Petroleum Development Corporation 38200 (S) 611
- Operator's Well Number: Bates #1 3) Elevation: 883'
- Well type: (a) Oil / or Gas X/
- (b) If Gas: Production X Underground Storage
Deep Shallow X
- Proposed Target Formation(s): Benson Sand 435
- Proposed Total Depth: 5200 feet
- 7) Approximate fresh water strata depths: 75', 780', 880', 975'
- 8) Approximate salt water depths: 1475'
- 9) Approximate coal seam depths: 15', 410'
- 10) Does land contain coal seams tributary to active mine? Yes / No X
- 11) Proposed Well Work: Drill & stimulate new well
- 12)

CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft.	For drilling	Left in well	
Conductor	11 3/4"	H-40	42#	30'/150'	30'/150'	-/surf.
Fresh Water						
Coal						
Intermediate	8 5/8"	H-40	20#/23#	1100'/1550'	1100'/1580'	Surface
Production	4 1/2"	J-55	10.5#	5200'	5200'	450 sks
Tubing						
Liners						

PACKERS : Kind -660
 Sizes
 Depths set

For Division of Oil and Gas Use Only

Fee(s) paid: Well Work Permit Reclamation Fund WPCP
 Plat WW-9 WW-2B Bond C D Blanket Agent

(Type)

17758

005615
15

RECEIVED
DEPARTMENT OF ENVIRONMENTAL PROTECTION
JUL 26 1993
Permitting
DIVISION OF OIL & GAS

1) Date: July 27, 1993
2) Operator's well number
Bates #1
3) API Well No: 47 - 017 - 4034
State - County - Permit

STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS

NOTICE AND APPLICATION FOR A WELL WORK PERMIT

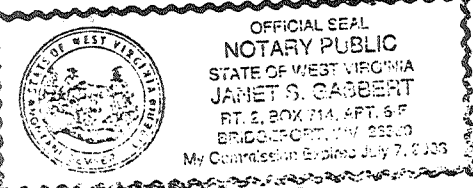
- 4) Surface Owner(s) to be served:
 - (a) Name Fletcher G. Shatley
Address Box 8234, Honolulu Drive
Orlando, FL 32818
 - (b) Name _____
Address _____
 - (c) Name _____
Address _____
- 5) (a) Coal Operator:
 - Name _____
Address _____
 - (b) Coal Owner(s) with Declaration
Name No Coal Declaration
Address _____
 - Name _____
Address _____
 - (c) Coal Lessee with Declaration
Name _____
Address _____
- 6) Inspector Mike Underwood
Address Rt. 2, Box 135
Salem, WV 26426
Telephone (304)- 782-1043

TO THE PERSON(S) NAMED ABOVE TAKE NOTICE THAT:

_____ Included is the lease or leases or other continuing contract or contracts by which I hold the right to extract oil and gas OR
 Included is the information required by Chapter 22B, Article 1, Section 8(d) of the Code of West Virginia (see page 2)
 I certify that as required under Chapter 22B of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through _____ on the above named parties, by:
 Personal Service (Affidavit attached)
 Certified Mail (Postmarked postal receipt attached)
 Publication (Notice of Publication attached)

I have read and understand Chapter 22B and 38 CSR 11-18, and I agree to the terms and conditions of any permit issued under this application.
 I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete.
 I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator PETROLEUM DEVELOPMENT CORPORATION
 By: [Signature]
 Its: _____ Geologist
 Address P O Box 26
Bridgeport, WV 26330
 Telephone 304-842-6256



_____ subscribed and sworn before me this 27th day of July, 1993
Janet S. Gabbert Notary Public
 My commission expires July 7, 2003

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
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Tubing						
Liners						

o.k. M.L.K.

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