

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

FILE NO. _____
 DRAWING NO. 1
 SCALE 1" = 200'
 MINIMUM DEGREE OF ACCURACY 1 in 200
 PROVEN SOURCE OF ELEVATION BM 8,600' NE of Location: Elevation 1020

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) Jeffrey D. Adams
 R.P.E. _____ L.L.S. 791



STATE OF WEST VIRGINIA DEPARTMENT OF ENERGY DIVISION OF OIL AND GAS		DATE <u>May 29</u> , 19 <u>91</u> OPERATOR'S WELL NO. <u>Shuttlesworth No.1</u> API WELL NO. <u>47-033-3844</u> STATE COUNTY PERMIT	
WELL TYPE: OIL ___ GAS <u>X</u> LIQUID INJECTION ___ WASTE DISPOSAL ___ (IF "GAS,") PRODUCTION <u>X</u> STORAGE ___ DEEP ___ SHALLOW <u>X</u>		LOCATION: ELEVATION <u>1007'</u> WATER SHED <u>Gnatty Creek</u> DISTRICT <u>Elk 5</u> COUNTY <u>Harrison</u> QUADRANGLE <u>Mount Clare 7 1/2' Weston EC</u>	
SURFACE OWNER <u>Robert S. Shuttlesworth</u> ACREAGE <u>13.5</u> OIL & GAS ROYALTY OWNER <u>Robert S. Shuttlesworth</u> LEASE ACREAGE <u>13.5</u> LEASE NO. <u>445900</u>		PROPOSED WORK: DRILL <u>X</u> 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 <u>Benson</u> ESTIMATED DEPTH <u>687</u>		WELL OPERATOR <u>Petroleum Development Corporation</u> DESIGNATED AGENT <u>Eric R. Stearns</u> ADDRESS <u>P.O. Box 26, Bridgeport, WV 26330</u> ADDRESS <u>P.O. Box 26, Bridgeport, WV 26330</u>	

COUNTY NAME PERMIT

AUG 26 1997

State of West Virginia
DEPARTMENT OF ENERGY
Division of Oil and Gas

Reviewed TMG
Recorded

Well Operator's Report of Well Work

Farm name: SHUTTLEWORTH, ROBERT Operator Well No.: SHUTTLEWORTH 1

LOCATION: Elevation: 1007.00 Quadrangle: MOUNT CLARE

District: ELK County: HARRISON
Latitude: 650 Feet South of 39 Deg. 10Min. 0 Sec.
Longitude 3700 Feet West of 80 Deg. 15 Min. 0 Sec.

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

Agent: ERIC R. STEARNS

Inspector: TIM BENNETT
Permit Issued: 08/22/91
Well work Commenced: 12/20/91
Well work Completed: 12/29/91
Verbal Plugging
Permission granted on:
Rotary x Cable _____ Rig _____
Total Depth (feet) 4318' (overrun)
Fresh water depths (ft) _____
20: 80: 660
Salt water depths (ft) _____
n/a
Is coal being mined in area (Y/N)? N
Coal Depths (ft): n/a

Casing & Tubing Size	Used in Drilling	Left in Well	Cement Fill Up Cu. Ft.
11 3/4"	42'	42'	
8 5/8"	978'	978'	225 sks
4 1/2"	4299'	4299'	381 sks

OPEN FLOW DATA

Producing formation Benson/Riley Pay zone depth (ft) 4043-4218
Gas: Initial open flow 146 MCF/d Oil: Initial open flow 0 Bbl/c
Final open flow 146 MCF/d Final open flow 0 Bbl/c
Time of open flow between initial and final tests 4 Hours
Static rock Pressure 925 psig (surface pressure) after 72 Hours

Second producing formation Bradford/Speechley Pay zone depth (ft) 2906-3487
Gas: Initial open flow _____ MCF/d Oil: Initial open flow _____ Bbl/c
Final open flow co-mingled MCF/d Final open flow _____ Bbl/c
Time of open flow between initial and final tests _____ Hours
Static rock Pressure _____ psig (surface pressure) after _____ Hours

Producing formation Bayard Pay zone depth (ft) 2254-2269

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.

RECEIVED
JAN 29 1992
Division of Energy
Oil and Gas Section

For: PETROLEUM DEVELOPMENT CORP.
By: Eric R. Stearns
Date: January 27, 1992

FEB 03 1992

Shuttlesworth #1

STAGE	FORMATION	PERFS	80/100 SKS	20/40 SKS	ACID GAL	N2 (MCF)
1st.	Benson/Riley	12 (4043-4218)	100	500	1000	69
2nd	Bradford/ Speechley	21 (2906-3487)	100	400	1000	64
3rd	Bayard	12 (2254-2269)	100	500	750	73

W E L L L O G

FORMATION	TOP FEET	BOTTOM FEET	REMARKS: FRESH & SALT WATER, COAL, OIL & GAS
KB - GL	0	10	
sand, shale, RR	10	1230	2" Stream H2O @ 20'
Little Lime	1230	1246	1" Stream H2O @ 80'
sand, shale	1246	1288	2" Stream H2O @ 660'
Big Lime	1288	1385	gas chk @ 1325' No Show
Big Injun	1385	1460	
sand, shale	1460	1658	gas chk @ 1543' 4/10-2"H2O
Gantz	1658	1676	
sand, shale	1676	1688	
50 ft	1688	1742	gas chk @ 1730' 2/10-2" H2O
sand, shale	1742	1744	
30 ft	1744	1788	
sand, shale	1788	1835	
Gordon	1835	1869	gas chk @ 1857' 2/10-2" H2O
sand, shale	1869	2128	gas chk @ 2010' 2/10-2" H2O
4th	2128	2157	
sand, shale	2157	2212	gas chk @ 2193' 4/10-2" H2O
5th	2212	2245	
sand, shale	2245	2260	
Baryard	2260	2287	
sand, shale	2287	2647	gas chk @ 2352' 4/10-2" H2O
Speechley	2647	2972	gas chk @ 2791' 4/10-2" H2O
sand, shale	2972	3034	
Balltown	3034	3342	gas chk @ 3260' 6/10-2" H2O
sand, shale	3342	3448	
Bradford	3448	3560	
sand, shale	3560	3983	gas chk @ 3694' 6/10-2" H2O
Riley	3983	4126	gas chk @ 4007' 8/10-2" H2O
sand, shale	4126	4208	gas chk @ 4134' 8/10-2" H2O
Benson	4208	4261	gas chk @ 4226' 12/10-2" H2O
sand, shale	4261	4320	
	4320	4320	Driller TD
		4318	Logger TD

033-3844
Issued 8/22/91

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
WELL WORK PERMIT APPLICATION

Expired 8/22/93

- 1) Well Operator: Petroleum Development Corporation 38200(5) 487
Shuttlesworth #1
- 2) Operator's Well Number: _____ 3) Elevation: 1007
- 4) Well type: (a) Oil ___ / or Gas XX
(b) If Gas: Production XX / Underground Storage ___ /
Deep ___ / Shallow XX /
- 5) Proposed Target Formation(s): Benson 435
- 6) Proposed Total Depth: 5000 feet
- 7) Approximate fresh water strata depths: 35, 225, 472
- 8) Approximate salt water depths: None reported
- 9) Approximate coal seam depths: 470, 842
- 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	Fill-up (cu. ft.)
Conductor	11 3/4	H-40	42	30	---	---
Fresh Water						38 CSP 11.3
Coal						38 CSP 11.2
Intermediate	8 5/8	H-40	20/23	960'	960'	surface
Production	4 1/2	J-55	10.5	5000	5000	450 sx
Tubing						38 CSP 11.1
Liners						

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Division of Energy

PACKERS : Kind _____ Sizes _____ Depths set _____

AUG 24 1991

For Division of Oil and Gas Use Only

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

- 1) Date: August 15, 1991
- 2) Operator's well number
Shuttleworth #1
- 3) API Well No: 47 - BXX - 033-3844
State - County - Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF ENERGY, DIVISION OF OIL AND GAS
NOTICE AND APPLICATION FOR A WELL WORK PERMIT

RECEIVED
Division of Energy
AUG 21 91
Permitting
Oil and Gas Section

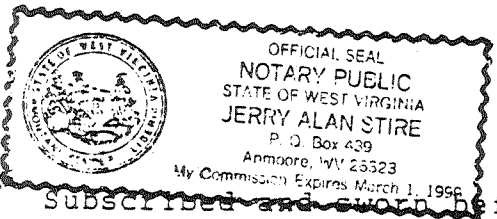
- | | |
|---|---|
| <p>4) Surface Owner(s) to be served:</p> <p>(a) Name <u>Robert Shuttleworth</u>
Address <u>P.O. Box 567</u>
<u>Monterey, VA 24465</u></p> <p>(b) Name _____
Address _____</p> <p>(c) Name _____
Address _____</p> | <p>5) (a) Coal Operator:</p> <p>Name _____
Address _____</p> <p>(b) Coal Owner(s) with Declaration
Name <u>Same as surface owner</u>
Address _____</p> <p>Name _____
Address _____</p> <p>(c) Coal Lessee with Declaration
Name _____
Address _____</p> |
| <p>6) Inspector <u>Phillip Tracy</u>
Address <u>Rt. 3, Box 37-A</u>
<u>Montrose, WV 26283</u>
Telephone (304)- <u>636-8798</u></p> | |

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: _____
 Its: Geologist
 Address P.O. Box 26
Bridgeport, WV 26330
 Telephone (304) 842-6256

Subscribed and sworn to before me this 15th day of August, 1991
Jerry Alan Stire Notary Public
 My commission expires March 1, 1999