

LONG. 81°49'15.5"

8380'

LATITUDE 38°32'30"

BLACK BETSY LEASE 2,500 ACRES ±

AMHERST INDUSTRIES, INC.
5,917.73 AC. ±
(SURFACE)

AMHERST INDUSTRIES, INC.
5,917.73 AC. ±
(SURFACE)

REBAR
(FOUND)

REBAR
(FOUND)

GARY
RILEY
13.10 AC

JOSEPH
MANDEVILLE

ROBERT W.
MOORE
15.23 AC.

HENRY
SMITH
42" BEECH
(FOUND)

T-RAIL
(FOUND)

BLACK BETSY
NO. 29

JOSEPH L. MANDEVILLE
486.4 AC ±
(SURFACE)

HENRY
SMITH

NOTES ON SURVEY

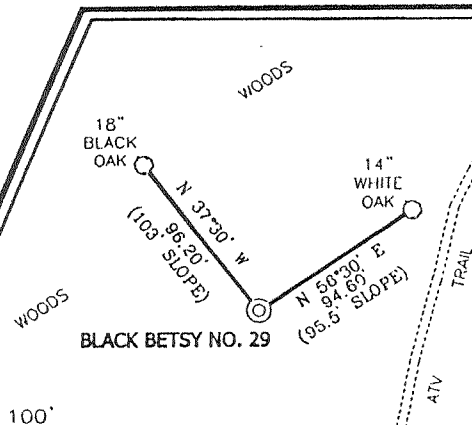
1. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27.
2. TIES TO REFERENCES ARE BASED ON MAGNETIC NORTH 12/03/99.
3. LEASE BOUNDARY SHOWN HEREON TAKEN FROM DEED BOOK 303 ON OAGE 691.
4. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF PUTNAM COUNTY IN DECEMBER, 1999.
5. WELL LAT./LONG. ESTABLISHED BY DGPS (SUBMETER MAPPING GRADE).

NOTE:
THERE APPEARS TO BE NO
KNOWN PERMITTED WELLS
WITHIN 3000'.

BLACK BETSY NO. 29

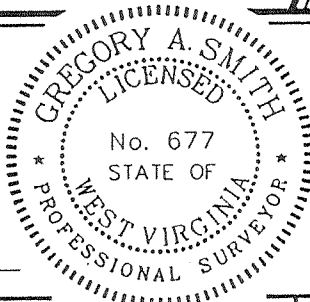
BLACK BETSY NO. 29

REFERENCES



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.

P.S. 677 Gregory A. Smith



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

DATE DECEMBER 6, 19 99

OPERATORS WELL NO. BLACK BETSY #29

API WELL NO. 47-079-01262
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 4314P29 (86-47)
PROVEN SOURCE OF ELEVATION TOP OF KNOB ELEVATION 1010' SCALE 1" = 800'

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



WELL TYPE : OIL GAS LIQUID INJECTION WASTE DISPOSAL "GAS" PRODUCTION STORAGE DEEP SHALLOW

LOCATION : ELEVATION 955' WATERSHED FARLEY CREEK
DISTRICT POCOTALICO COUNTY PUTNAM QUADRANGLE BANCROFT 7.5'
SURFACE OWNER JOSEPH L. MANDEVILLE ACREAGE 486.4
ROYALTY OWNER CABOT OIL AND GAS CORPORATION LEASE ACREAGE 2500
PROPOSED WORK : LEASE NO. 47-9124
DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER
PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION _____
ESTIMATED DEPTH _____

WELL OPERATOR CABOT OIL AND GAS CORPORATION DESIGNATED AGENT JOHN ABSHIRE ADDRESS P.O. BOX 454 GLASGOW, WV 25086

DEEP WELL

6-6 192

LONGITUDE 81°47'30"
LAT. 38°30'34.4"
COUNTY NAME PUT
PERMIT 1262

Reviewed [Signature]

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

Farm name: Mandeville, Joseph

Operator Well No.: Black Betsy #29

LOCATION: Elevation: 955' Quadrangle: Bancroft 7.5'
District: Pocatalico County: Putnam
Latitude: 11,700 feet South of 38 DEG. 32 MIN. 30 SEC.
Longitude: 8380' feet West of 38 DEG. 30 MIN. 34.4 SEC.
81

Company: Cabot Oil & Gas Corporation
400 Fairway Drive: Suite 400
Coraopolis, PA 15108-4308

Agent: John Abshire

Inspector: Carlos Hively

Permit Issued: 08/25/00

Well Work Commenced: 9/6/00

Well Work Completed: 9/23/00

Verbal Plugging Permitted on: _____

Rotary Cable _____

Total Depth (feet) TD 5016' / PBTD 4250'

Fresh Water Depths (ft) 95', 500', 560', 870'

Salt Water Depths (ft) _____

Is coal being mined in area (Y / N)? N

Coal Depths (ft) _____

OPEN FLOW DATA

Producing formation Devonian Shale Pay zone depth 3709' - 3735'
4088' - 4172'

Gas: Initial open flow TSTM MCF/d Oil: Initial open flow N/A Bbl/d

Final open flow 700 MCF/d Final open flow N/A Bbl/d

Time of open flow between initial and final tests 16 Hours

Static rock 400 psig (surface) 408 Hours
preSandstoneure preSandstoneure after

Second producing formation Pay zone depth (ft) _____

Gas: Initial open flow _____ MCF/d Oil: Initial open flow N/A Bbl/d

Final open flow _____ MCF/d Final open flow N/A Bbl/d

Time of open flow between initial and final tests _____ Hours

Static rock _____ psig (surface) _____ Hours
preSandstoneure preSandstoneure after

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: CABOT OIL & GAS CORPORATION

NOV 03 2000

By: [Signature] Operations Manager
Date: 10/12/00

RECEIVED
Office of Oil & Gas
Permitting
OCT 16 2000
WV Division of
Environmental Protection

PUT 1262

OPEN FLOW DATA

Perfed well as follows: 4172', 4170', 4168', 4154', 4150', 4148', 4134', 4130', 4119', 4117', 4115', 4113, 4111', 4109', 4104', 4098', 4096', 4094', 4092', 4090', 4088', select fire 3-1/8 HCG, total of 22 shots.

Broke down Lower Devonian Shale with 250 gals 15% acid . Well had broken when perforated. DS treated Lower Devonian shale using 822,000 scf N2 at 65,000 scf/min. ATP 2520#. MTP 2609#. ATR 65,000 scf/min. ISIP 1648#. 5 min 1231#. 10 min. 1209#. 15 min. 1190#. RU Fisher Wireline and perforated Upper Devonian Shale from 3709'-3716', 2 SPF, 15 holes and from 3729'-3735', 2 SPF, 15 holes. Drop frac ball and break down Upper Devonian Shale with 400 gal 7.5% acid. Displaced with 50,000 scf N2 @ 38,000 scfm. BDP 2138#. ISIP 1950#, Calc BHTP 2325#. ATP 2900#. MTP 2965#. ATR 63,000. ISIP 2088#. 5 min. 1928#. 10 min. 1850#. 15 min 1795#. RDMO Dowell. Total N2 for both stages 1,622,000.

FORMATION	TOP	BOTTOM	REMARKS
Silt/Shale	0	1172'	
Sandstone	1172'	1212'	
Sandstone	1212'	1508'	
Sandstone	1508'	1752'	
Sandstone	1752'	1802'	
L. Lime	1802'	1850'	
B. Lime	1850'	2005'	
Shale	2005'	2018'	
Injun	2018'	2075'	
Shale	2075'	2492'	
Berea	2492'	2510'	
Shale	2510'	4796'	
Onondaga	4796'	4900'	
Oriskany	4900'	4910'	
Limestone	4910'	5016' - TD	

