

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC

FILE NO. W10-290-1813

DRAWING NO. W10-290-AIR

SCALE 1"=1000'

MINIMUM DEGREE OF ACCURACY 1:2500

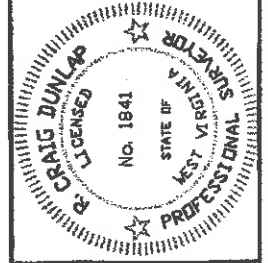
PROVEN SOURCE OF ELEVATION GPS

GLOBAL POSITIONING SYSTEM

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 DIVISION OF ENVIRONMENTAL PROTECTION.

(SIGNED) *R. S. [Signature]*

PROFESSIONAL SURVEYOR No. 1841



WYDEP
OFFICE OF OIL AND GAS
1356 HANSFORD ST.
CHARLESTON, WV 25301

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

LOCATION: ELEVATION 3700.1 WATERSHED SOUTH FORK OF CHERRY RIVER
DISTRICT FALLING SPRINGS COUNTY GREENBRIER
QUADRANGLE FORK MOUNTAIN ACREAGE 21527

SURFACE OWNER PLUM CREEK TIMBERLANDS, LP LEASE ACREAGE 21527

OIL & GAS ROYALTY OWNER HIGHLAND RESOURCES INC. & BRC APPALACHIAN MINERALS I, LLC, & OXY USA, INC.

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 HUNTERSVILLE CHERT

ESTIMATED DEPTH TVD = 8114' MD = 13555'



DATE JANUARY 2012

OPERATOR'S WELL NO. PCSF 2 - 1H

API WELL NO. 47 025 00034H

STATE WEST VIRGINIA COUNTY GREENBRIER PERMIT Revised

DESIGNATED AGENT MARC MONTELEONE

ADDRESS 600 QUARRIER STREET

CHARLESTON, WV 25325

03/02/2012

Farm name: Plum Creek Timberlands, LP Operator Well No.: PCSF 2-1H

LOCATION: Elevation: 3,665 Quadrangle: Fort Mountain

District: Kentucky County: Greenbrier
Latitude: 1998 Feet South of 38 Deg. 12 Min. 30 Sec.
Longitude 998 Feet West of 86 Deg. 25 Min. 00 Sec.

Company: BRC Operating Company, LLC

Address:	200 Crescent Court, Suite 200	Casing & Tubing:	20"	Used in drilling:	138'	Left in well:	138'	Cement fill up Cu. Ft.	207
Agent:	Dallas, TX 75201		13 3/8"		1,571'		1,571'	1,290	
Inspector:	Marc A. Monteleone		9 5/8"		6,010'		6,010'	2,490 L sand/202 Lig	
Date Permit Issued:	1/10/11		5 1/2"		12,948'		12,948'	2,200 L sand/1,144 Lig	
Date Well Work Commenced:	8/6/11		2 3/8"		7,400'		7,400'		
Date Well Work Completed:	9/2/12								
Verbal Plugging:									
Date Permission granted on:									
Rotary <input type="checkbox"/> Cable <input type="checkbox"/> Rig <input type="checkbox"/>									
Total Vertical Depth (ft):	7,943'								
Total Measured Depth (ft):	12,919'								
Fresh Water Depth (ft.):	1,500'								
Salt Water Depth (ft.):	2,350'								
Is coal being mined in area (N/Y)?	N								
Coal Depths (ft.):	276'								
Void(s) encountered (N/Y) Depth(s)	N/A								

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Office of Oil & Gas

OCT 30 2013

WV Department of Environmental Protection

OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet)

Producing formation Lower Marcellus Pay zone depth (ft) 7,934

Gas: Initial open flow 3,355 MCF/d Oil: Initial open flow Bbl/d

Final open flow 300 MCF/d Final open flow Bbl/d

Time of open flow between initial and final tests 4.512 Hours

Static rock Pressure 3,350 psig (surface pressure) after 36 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

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the 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.



Signature

10/29/13

Date

11/08/2013

unnamed (0)6-6

Were core samples taken? Yes No

Were cuttings caught during drilling? Yes No

Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Pilot hole: Platform Express (0-8102), Sonic Scanner, WRI (6738 - 6102), MWD GR in Island (6998 - 12914)

NOTE: IN THE AREA BELOW 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 THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH.

Perforated Intervals, Fracturing, or Stimulating:

23 Stages from 8,217 TMD to 12,948 TMD. 60 degree phasing. 6 SPF, total 24-42 shots/stage 1 thru 23

Fractured using slickwater fracs at average rates of 65 bpm.

Total sand injected into each frac stage 250,000 lbs.

Average pressures observed were approximately 7,500 psi.

Plug Back Details Including Plug Type and Depth(s): Well was not plugged

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Formations Encountered:

Geologic Age	Formation	Lithology	Top Depth	Bottom Depth
Mississippian	Ravencloff	Sandstone	1770	1833
Mississippian		Shale	1833	2107
Mississippian	Lower Maxon	Sandstone	2107	2120
Mississippian		Shale	2120	2211
Mississippian	Greenbrier	Limestone	2120	2211
Mississippian	Big Lime	Limestone	2211	2359
Mississippian		Shale	2359	2677
Mississippian	Injun	Sandstone	2677	2731
Mississippian	Squaw	Shale	2731	2763
Mississippian		Shale	2763	2783
Mississippian	Weir	Sandstone	2783	2929
Mississippian		Shale	2929	2937
Mississippian	Berea	Sandstone	2937	3350
Mississippian		Shale	3350	3370
Mississippian	Gordon	Sandstone	3370	3436
Mississippian		Shale	3436	3468
Mississippian		Shale	3468	3719
Mississippian	Huron	Shale	3719	6582
Mississippian		Shale	6582	7533
Mississippian	Rhinestreet	Organic Shale	7533	7616
Mississippian		Shale	7616	7814
Mississippian	Upper Marcellus	Shale	7814	7915
Mississippian	Cherry Valley	Limestone	7915	7930
Mississippian	Lower Marcellus	Shale	7930	7998
Mississippian	Onodaga	Limestone	7998	8008
Mississippian	Huntersville	Chert	8008	TD

11/08/2013

