west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

May 31, 2016

WELL WORK PERMIT

Vertical Well

This permit, API Well Number: 47-2500044, issued to BRC OPERATING COMPANY, LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

In addition to the applicable requirements of this permit, and the statutes and rules governing oil and gas activity in WV, this permit may contain specific conditions which must be followed. Permit conditions are attached to this cover letter.

Per 35CSR-4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0499 ext. 1654.

James Martin
Chief

Operator's Well No: MWV RUPERT 3-1H
Farm Name: PLUM CREEK TIMBERLANDS LI
API Well Number: 47-2500044
Permit Type: Vertical Well
Date Issued: 05/31/2016

west virginia department of environmental protection

Oil and Gas Conservation Commission
601 57th Street, SE Charleston, WV 25304
(304)926-0499, Ext 1656

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
dep.wv.gov

May 27, 2016

Department of Environmental Protection
Office of Oil and Gas
Charleston, WV 25304

RE: Application for Deep Well Permit – API #47-025-00044

COMPANY: BRC Operating Company, LLC

FARM: Plum Creek Timberlands LP - MWV Rupert 3-1H

COUNTY Greenbrier DISTRICT: Williamsburg QUAD: Richwood

The application for the above company is **approved to drill to Black River (Point Pleasant and Rose Hill completion).**

The applicant has complied with the provision of Chapter 22C-9, of the Code of West Virginia, nineteen hundred and thirty-one (1931), as amended, Oil and Gas Conservation Commission as follows:

1. Provided a certified copy of duly acknowledged and recorded consent and easement form from all surface owners; n/a

2. Provided a tabulation of all deep wells within one mile of the proposed location, including the API number of all deep wells, well name, and the name and address of the operator; none

3. Provided a plat showing that the proposed location is a distance of >400 feet from the nearest **lease line** or unit boundary and showing the following wells drilled to or capable of producing from the objective formation within 3,000 feet of the proposed location.

Sincerely,

Cynthia Raines

Cindy Raines
Program Manager

2500044

PERMIT CONDITIONS

West Virginia Code §22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code §22-6-20, which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than fifty (50) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.

2. Pursuant to 35 CSR 4-19.1.a, at the request of the surface owner all water wells or springs within 1000 feet of the proposed well that are actually utilized for human consumption, domestic animals or other general use shall be sampled and analyzed.

3. Pursuant to 35 CSR 4-19.1.c, if the operator is unable to sample and analyze any water well or spring with one thousand (1,000) feet of the permitted well location, the Office of Oil and Gas requires the operator to sample, at a minimum, one water well or spring located between one thousand (1,000) feet and two thousand (2,000) feet of the permitted well location.

4. All pits must be lined with a minimum of 20 mil thickness synthetic liner.

5. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.

6. During the surface casing and cementing process, in the event cement does not return to the surface, or any other casing string that is permitted to circulate cement to the surface and does not return to the surface, the oil and gas inspector shall be notified within twenty-four (24) hours

7. Well work activities shall not constitute a hazard to the safety of persons.

8. Operator shall provide the Office of Oil & Gas notification of the date that drilling commenced, drilling ceased, completion of any other permitted well work and completion of the well. Such notice shall be provided by sending an email to DEPOOGNotify@wv.gov within 30 days of commencement of drilling.

25 00044

WW - 2B
(Rev. 8/10)

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator: BRC Operating Company, LLC

494489323	Greenbrier	Williamsburg	Richwood
Operator ID	County	District	Quadrangle

2) Operator's Well Number: MWV Rupert 3-1H 3) Elevation: 3589

4) Well Type: (a) Oil____ or Gas X

(b) If Gas: Production X / Underground Storage ____

Deep X / Shallow ____

5) Proposed Target Formation(s): Black River Proposed Target Depth: 12,400'
6) Proposed Total Depth: 12,400' Feet Formation at Proposed Total Depth: 12,362'
7) Approximate fresh water strata depths: 2,400'
8) Approximate salt water depths: 2,560'

9) Approximate coal seam depths: 330'

10) Approximate void depths,(coal, Karst, other): None

11) Does land contain coal seams tributary to active mine? No

12) Describe proposed well work and fracturing methods in detail (attach additional sheets if needed) 5/31/16
Drill to TD=12,400' Black River formation for logging purpose.
Conduct completion and testing on ~~too~~ two separate formations; the Point Pleasant (11,995'-12,174') and Rose Hill (9,650'-10,004'). See attached page for additional description of proposed work.

13) **CASING AND TUBING PROGRAM** 5-26-16

TYPE	SPECIFICATIONS			FOOTAGE	INTERVALS	CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	Fill -up (Cu. Ft.)
Conductor#1	30"	J-55	310#	110'	110'	240
Conductor#2	20"	J-55	94#	500'	500'	675
Surface	13-3/8"	J-55	54.5#	2,500'	2,500'	~~1157~~ * CTS 5-26-16
Intermediate	9-5/8"	L-80	53.5#	10,100'	10,100'	2626
Production Liner	7"	P-110	32.0#	12,400'	2,550'	246
Frac String Point Pleasant	4-1/2"	P-110	13.5#		9,880'	
Frac String Rose Hill	4-1/2"	P-110	13.5#		9,430'	

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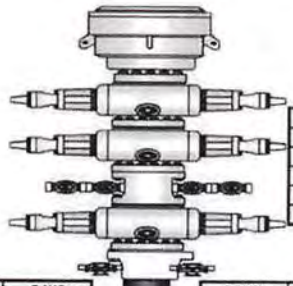
Packers: Kind:
Sizes:
Depths Set

* AT 50% EXCESS, IT WOULD TAKE ≈ 2700 CFT OF CEMENT TO CIRCULATE TO SURFACE.

2500044



BRC Operating Co, LLC

Well Name:	MWV Rupert 3-1H	Rig:	
Category:	Exploratory	SH Location:	
Formation:	Point Pleasant	Latitude:	
County, State:	Greenbrier, WV	Longitude:	
AFE:		Ground Elevation:	3589'
Permit:		API Number:	47-025-XXXXX

As Drilled — SPUD: 5/15/2016

HOLE SIZE	DAYS	DEPTH	FORMATION TOPS TVD	LOGGING PROGRAM	CASING AND CEMENT	MUD PROGRAM
17 1/2" Surface	10	2500'			13 3/8" 54.5# J-55 1736 cuft of volume gauge w/ 50% excess ~2152 sacks of HalCem™	Air Drill 0 ppg 17 1/2" Hammer
12 1/4"	11	~9,600' TVD 10,100' TVD	Geneseo Shale 8,227' Tully Lime 8,268' Mahantango 8,274' Marcellus Shale 8,279' Onondaga Lime 8,334' Huntersville Chert 8,354' Oriskany 8,464' Helderberg 8,526' Salina 9,100' Newberg 9,351' Halliburton Versa-flex hanger with Packer Rose Hill 9,650' Tuscarora SS 10,004' Juniata 10,085'	Mud log from surface casing to TD OH logs Quad Combo with 50 side wall cores in Rose Hill	9 5/8" 53.5# L-80 Total volume to surface 3283.7 cuft gauge hole Lead Slurry with 20% excess OH ~1657 sacks VariCem™ Tail Slurry with 20% excess OH ~1017 sacks HalCem™	Air Drill 0 ppg ***If pressure is encountered in McKenzie formation (~9,400') load hole and drill ahead on fluid
8 1/2" Pilot Hole	9	12,400' TVD	Point Pleasant 11,955' Trenton 12,174' Black River 12,362'	OH logs Quad Combo with 50 side wall cores in Point Pleasant	7" 32# P-110 Production csg back to s Hole Volume to 10,000' 307.6 cuft Tail slurry w/ 20% excess in OH ~330 sacks ShaleCem™	Fluid drilled with salt-based Polymer 12.5 - 13.0 ppg
Total Drilling Days	30					

CEMENT TO SURFACE.

5/31/16

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Prepared By:	Jaron Simon
Date:	4/21/2016

2500044

VERTICAL DRILLING PROCEDURE: The target formation will be the Point Pleasant, located at a TVD of 11,955' to 12,174'. For logging purposes, drilling will be made to the Black River formation, located at a TVD of 12,362'-12,400'.

1. Contact required agencies relative to pre-spud meeting.
2. Conductor pipe and mouse hole – Complete installation of 20" casing to 100' depth and cement.
3. Surface casing – Drill and complete installation of 13-3/8" casing to 2,500' and cement TO SURFACE. gwm
4. Intermediate casing – Drill and complete installation of 9-5/8" casing to 10,100' and cement.
5. Production wellbore – Drill 8-1/2" wellbore to TVD = 12,400' and cement back to 9-5/8" intermediate casing at TVD ~ 9,850'.
6. Log entire open hole interval to Black River formation TVD = 12,400'.
7. Production liner – Complete installation of 7" production liner from 12,400' to 9,850'.
8. Cement 7" production liner in place.
9. Set liner hanger and packer, and pressure test.
10. POOH.
11. PU and run 4-1/2" frac string from surface to liner hanger.
12. Pressure test seals in PBR.
13. RD and release rig.

VERTICAL COMPLETION/TEST GENERAL PLAN: This well will be completed and tested on separate vertical operations for both the Point Pleasant formation and the Rose Hill formation, as a multiple-stage deep vertical well w/ slickwater fracture stimulation.

Point Pleasant Formation (11,995' to 12,174')

1. MIRU work over unit.
2. Run TCP gun to bottom of formation, positioned at TVD ≤ 12,174'.
3. Position and fire gun into formation, 4 SPF and 90° phasing at 2' length. Distribute at 5 clusters spaced evenly throughout formation; total 40 holes.
4. RD.
5. RU fracturing equipment.
6. Fracture/stimulate Point Pleasant formation; use water source from MWV Fresh Water Impoundment. ALREADY REGISTERED
7. Flush wellbore clean.
8. RD.
9. Initiate flowback operations.
10. Record flowback volumes.
11. Evaluate Point Pleasant formation open and final flows/ pressures for 60 day period.

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Rose Hill Formation (9,650' to 10,004')

1. MIRU work over unit.

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2. Remove 4-1/2-inch frac string.
3. Cement 7" production liner. Install CIBP above liner hanger and packer assembly TVD ~ 9,850'. Cement over CIBP.
4. RIH with bit and work string, tag and polish off cement. POOH.
5. On frac string run and set service packer in 9-5/8" intermediate casing, TVD ~ 9,400'.
6. Hang off frac string in the well head on surface. Pressure test.
7. Run TCP gun to formation starting at top of cement located above CIBP; 3. Above.
8. Position and fire gun to formation, 4 SPF and 90° phasing for 2' length. Distribute at 5 clusters spaced evenly throughout formation; total 40 holes.
9. RD.
10. RU fracturing equipment.
11. Fracture / stimulate Rose Hill formation; use water source from MWV Fresh Water Impoundment. ALREADY REGISTERED
12. Flush wellbore clean.
13. RD.
14. Initiate flowback operations.
15. Record flowback volumes.
16. Evaluate Rose Hill formation open and final flows/ pressures for 60 day period.

Revision date: 4-20-16

5/31/16

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NTG ENVIRONMENTAL

6000 Town Center Blvd.
Suite 220
Canonsburg, PA 15317
Tel. 724.745.5929
www.ntglobal.com

May 16, 2016

Mr. Wade Stransberry, Environmental Technician
West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th. Street, SE
Charleston, WV
25304-2345

ATTN: Mr. Wade Stransberry

RE: BRC Operating Company, LLC
Proposed Deep Vertical Gas Well Development
Cover Letter
Operators Well Number - MWV Rupert 3-1H
Submission of Well Work Permit Application
Checklist for Filing a Permit, Required Supplemental Items
Greenbrier County, WV

As a follow-up to our discussion of May 9, 2016, along with Gene Smith of the Office of Oil and Gas, please find transmitted for your review is the above referenced Well Work Permit application.
The following documents necessary for application submittal are provided:

Tab 1: Checklist for Filing a Permit
Tab 2: Well Work Permit Application (Form WW-2B) & Narrative of Planned Drilling and Completion Procedures, Wellhead and Choke Manifold
Tab 3: Well Work Permit Application (Form WW-2B) Signed off by OOG Inspector
Tab 4: Surface Owner Waiver (Form WW-2A)
Tab 5: Coal Operator, Owner, or Lessee Waiver (Form WW-2A)
Tab 6: Information Supplied Under West Virginia Code Chapter 22, Article 6, Section 8(d) In Lieu of Filing Lease(s) And Other Continuing Contract(s)
Tab 7: Notice To Surface Owners (Form WW-2B1)
Tab 8: Fluids/Cuttings Disposal & Reclamation Plan (Form WW-9)
Tab 9: Fluids/Cuttings Disposal & Reclamation Plan (Form WW-9) Inspector Signature
Tab 10: Reclamation Plan
Tab 11: Mylar Plat
Tab 12: Topography Map of the Proposed Location
Tab 13: Database for Coal Depths, Permits, Boundaries
Tab 14: Bond
Tab 15: Application Fee
Tab 16: Business Registration with WV Secretary of State / Verification of Account Status / Workers Compensation-Unemployment Compensation
Tab 17: Site Safety Plan – Provided under separate cover
Tab 18: Alternate Form WW-2A Notice and Application for a Well Work Permit

5/31/16

Should you have any questions or may require an on-site meeting, please do not hesitate to contact me at 724-470-8664, or via email at wjenko@ntglobal.com.

Respectfully,

Walter W. Jenko, P.E.

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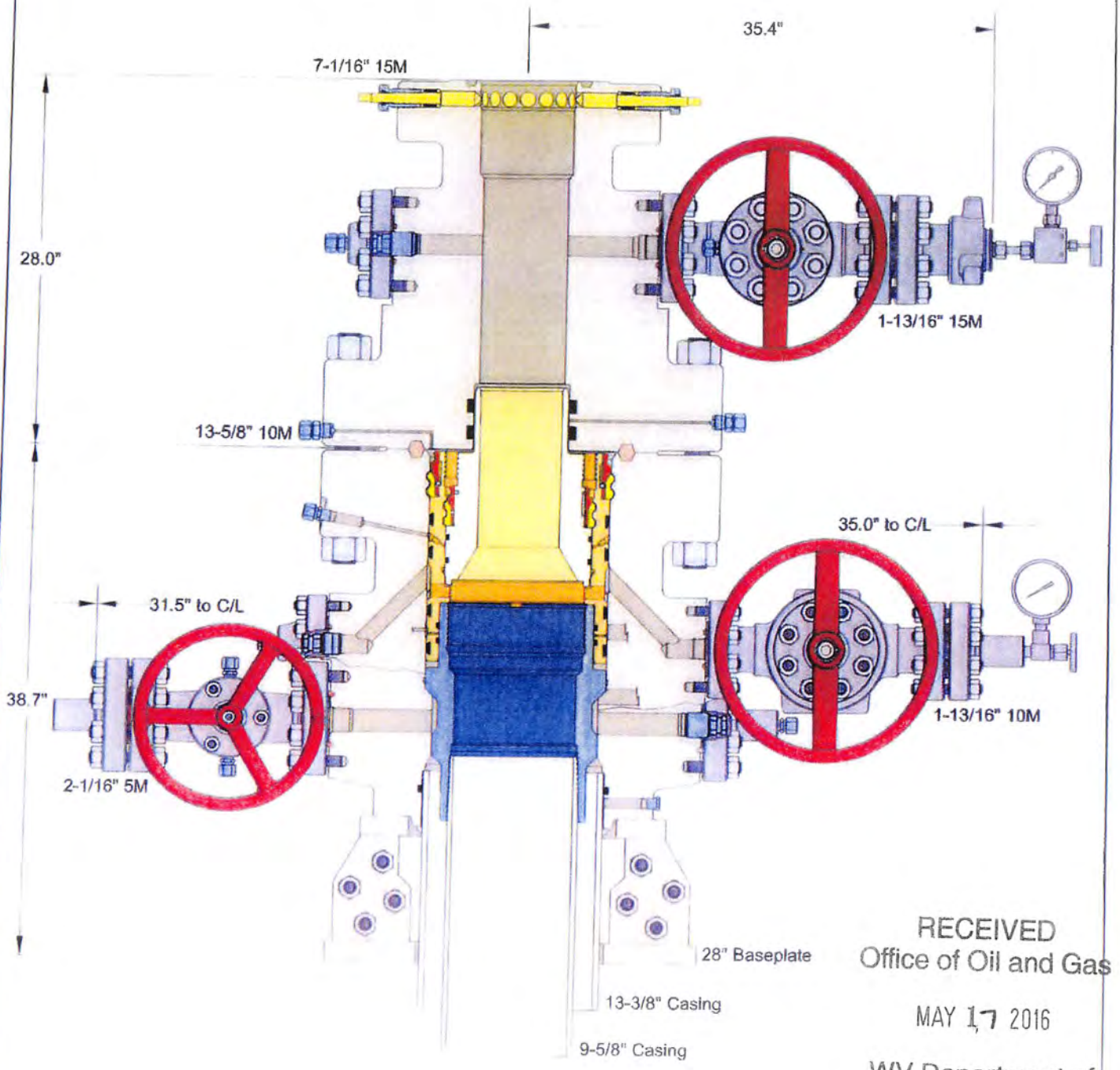
cc: Chad Touchet, Vice President-BRC Operating Company, LLC

2500044



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INFORMATION CONTAINED HEREIN IS THE PROPERTY OF CACTUS WELLHEAD, LLC. REPRODUCTION, DISCLOSURE OR USE THEREOF IS PERMISSIBLE ONLY AS PROVIDED BY CONTRACT OR AS EXPRESSLY AUTHORIZED BY CACTUS WELLHEAD, LLC.

CACTUS WELLHEAD LLC

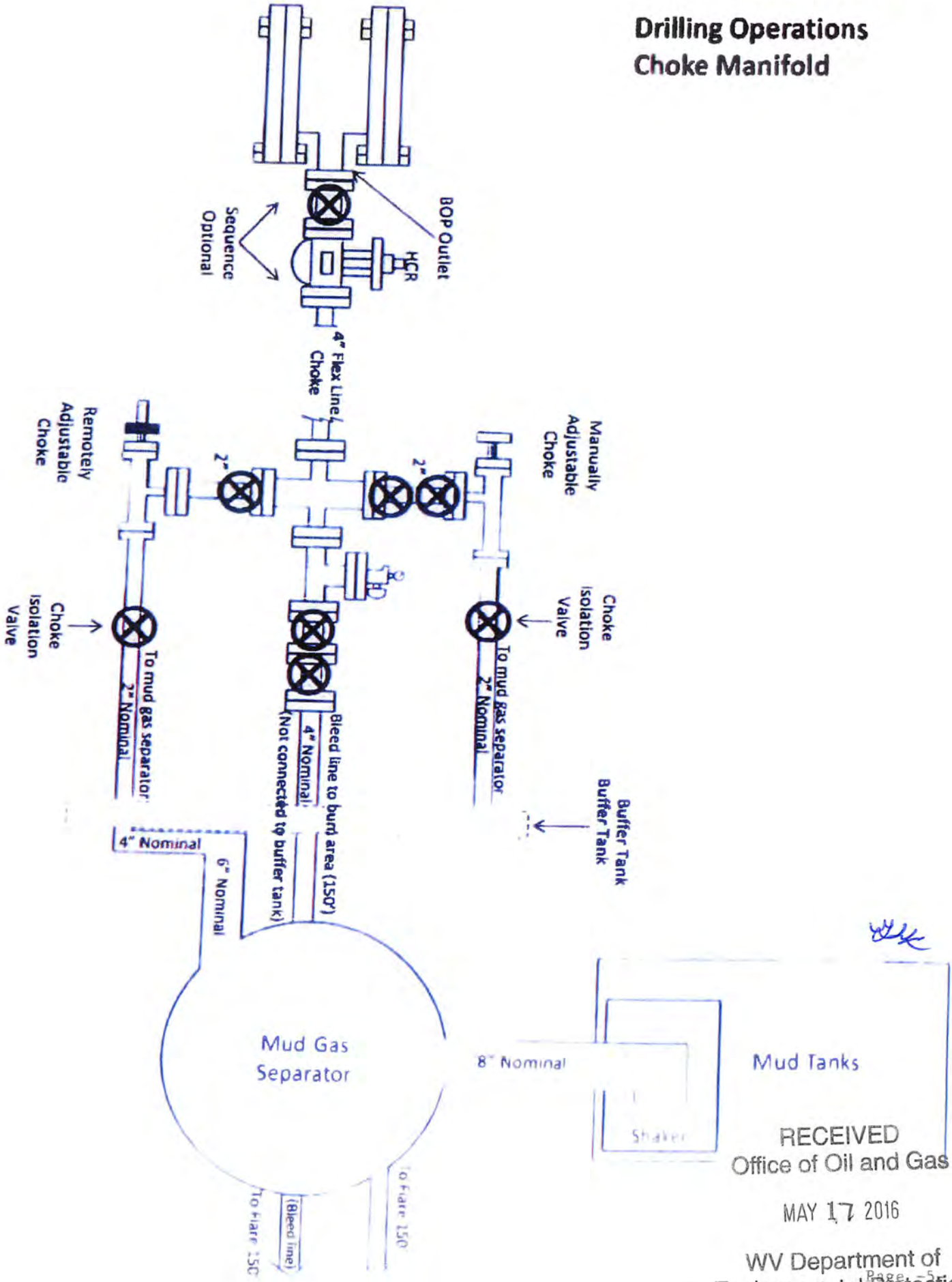
13-3/8" x 9-5/8" MBU-LR Wellhead Assembly
With 13-5/8" 10M x 7-1/16" 15M DBLHPS Tubing Head
& Fluted Mandrel Casing Hanger & Packoff & Isolation Bushing

BLUESCAPE RESOURCES
MWV RUPERT 3-1H

DRAWN	THH	08APR16
APPRV		
DRAWING NO	DNE0000079	

2500044

Drilling Operations
Choke Manifold



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25000 44

WW-2B1
(5-12)

Well No. MWV Rupert 3-1H

West Virginia Department of Environmental Protection
Office of Oil and Gas

NOTICE TO SURFACE OWNERS

The well operator named below is preparing to file for a permit from the state to drill a new well. Before a well work permit can be filed with the Chief of the Office of Oil and Gas, the well operator is required to have given notice of the right to request water well or spring analytical testing. This notice shall be given to the owners or occupants of land which have a water well or spring being utilized for human consumption, domestic animals, or other general use and which is located within 1000 feet of the proposed well site.

With this form, the operator is giving you notice of your right to request analytical testing. The operator is required to sample and analyze the water wells or springs of all owners or occupants who request it. Therefore, if you wish to have your water well or spring tested, contact the operator named below.

All sampling shall be completed prior to drilling. Within thirty (30) days of the receipt of such sample analyses the operator shall submit the results to the Chief of the Office of Oil and Gas and to the owners or occupants who may have requested them.

Be advised, you have the right to sample and analyze any water supply at your own expense.

Listed below is the laboratory chosen by operator to perform analysis, and contactor chosen to collect sample.

Certified Laboratory Name
Sampling Contractor Sampling not required-Potable water sources are not present within 2000-foot radius of surface hole location.

Well Operator BRC Operating Company, LLC
Address 200 Crescent Court, Suite 1900
Dallas, Texas 75201
Telephone 469-398-2232

FOR OPERATOR'S USE ONLY: Below, or on an attached page, list those persons which were given this notice. Place an asterisk beside the one(s) that contacted you and requested sampling and analyses. If there were no requests made, indicate by underling which one you have selected to sample and analyze. If there are no water wells or springs within 1000 feet of the proposed site, the Chief may require the operator to test wells up to 2000 feet from the proposed site.

SEE ATTACHMENTS
WW-2B1A
& WW-2B1B

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WW-2A1
(Rev. 1/11)

Operator's Well Number MWV Rupert 3-1

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6, Section 8(d)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

(1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;

(2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
MWV Community Development and Land Management, LLC	BRC Operating Company, LLC	1/8	28/515

Acknowledgement of Possible Permitting/Approval
In Addition to the Office of Oil and Gas

5/31/16

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources
- WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

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The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: Marc A Monteleone
BRC Operating Company, LLC
By: Its: Marc A. Monteleone Designated Agent

2500044

WW-2A
(Rev. 6-14)

1). Date: May 2, 2016

2.) Operator's Well Number MWV Rupert 3-1H

3.) API Well No.: 47- 025 - ----

Certified Mail Article Number:
7015 0640 0006 8988 5458
7015 0640 0006 8988 5465
7015 0640 0006 8988 5489

State County Permit

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE AND APPLICATION FOR A WELL WORK PERMIT

4) Surface Owner(s) to be served: Waiver

(a) Name Plum Creek Timberlands, LP
Address P.O. Box 1109
Lewisburg, WV 24901-4410

(b) Name
Address

(c) Name
Address

6) Inspector Gary Kennedy
Address P.O. Box 268
Nimitz, WV 25978
Telephone 304-382-8402

5) (a) Coal Operator
Name
Address

(b) Coal Owner(s) with Declaration
Name Highland Mineral Resources,LLC Waiver
Address Five Concourse Parkway, Suite 1650
Atlanta, Georgia 30328

Name
Address

(c) Coal Lessee with Declaration
Name
Address

TO THE PERSONS 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

x Included is the information required by Chapter 22, Article 6, Section 8(d) of the Code of West Virginia (see page 2)

I certify that as required under Chapter 22-6 of the West Virginia Code I have served copies of this notice and application, a location plat, and accompanying documents pages 1 through 5 on the above named parties by:

___ Personal Service (Affidavit attached)
X Certified Mail (Postmarked postal receipt attached)
___ Publication (Notice of Publication attached)

5/31/16

I have read and understand Chapter 22-6 and 35 CSR 4, 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 BRC Operating Company, LLC
By: Chad Touchet Chad Touchet
Its: Vice President
Address: 200 Crescent Court, Suite 1900
Dallas, Texas 75201
Telephone: 214-855-2265
Email: catouchet@bluescapegroup.com

ANGELEE HARADER
MY COMMISSION EXPIRES
May 29, 2017

Subscribed and sworn before me this 2nd day of May, 2016

Angelee Harader Notary Public

My Commission Expires 5-29-2017

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at deprivacyofficer@wv.gov

2500044

WW-2A Surface Waiver
(4/16)

SURFACE OWNER WAIVER

County Greenbrier

Operator BRC Operating Company, LLC
Operator well number MWV Rupert 3-1H

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW2-A

The well operator named on page WW2A is applying for a permit from the State to do oil or gas well work. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.

WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

Time Limits and methods for filing comments. The law requires these materials to be served on or before the date the operator files his Application. You have **FIFTEEN (15) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Comments must be in writing. Your comments must include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

1) The proposed well work will constitute a hazard to the safety of persons.
2) The soil erosion and sediment control plan is not adequate or effective;
3) Damage would occur to publicly owned lands or resources;
4) The proposed well work fails to protect fresh water sources or supplies;
5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation...".

If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.

List of Water Testing Laboratories. The Office maintains a list of water testing laboratories which you can hire to test your water to establish water quality prior to and after drilling. Contact the Chief to obtain a copy.

VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application for a Well Work Permit on Form WW2-A, and attachments consisting of pages 1 through ___ including a work order on Form WW2-B, a survey plat, WW-9, and a soil and erosion plan, all for proposed well work on my surface land as described therein.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON

_____ Date _____
Signature

_____
Print Name

FOR EXECUTION BY A CORPORATION, ETC.

Company Name Plum Creek Timberlands, LP
By Area Manager
Its Date
Steven Yeager
Steven Yeager 5/10/2016
Signature agent Date

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Greenbrier
Operator BRC Operating Company, LLC Operator's Well Number MWV Rupert 3-1H

INSTRUCTIONS TO COAL OPERATOR, OWNER, OR LESSEE

To the coal operator, owner, or lessee named on page WW2-A. You are hereby notified that any objection you wish to make or are required to make by WV Code 22-6-15, 16 or 17, must be filed with the Chief of the Office of Oil and Gas within fifteen (15) days after the receipt of this application by the Office. Mail objections to:

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0499 extension 1654

WAIVER

The undersigned coal operator _____/ owner X / lessee _____/ of the coal under this well location has examined this proposed well location. If a mine map exists which covers the area of 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 well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

FOR EXECUTION BY A NATURAL PERSON

_____ Date _____
Signature

FOR EXECUTION BY A CORPORATION, ETC.

Company Name Highland Mineral Resources, LLC
By John Woodrum
Its Minerals Manager - East Date 5-10-16

Signature Date 5-10-16

2500044

WW-2A Coal Waiver

COAL OPERATOR, OWNER, OR LESSEE WAIVER

County Greenbrier
Operator BRC Operating Company, LLC Operator's Well Number MWV Rupert 3-1H

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FOR EXECUTION BY A NATURAL PERSON

_____ Date _____
Signature

FOR EXECUTION BY A CORPORATION, ETC.

Company Name Highland Mineral Resources, LLC
By John Woodrum
Its Minerals Manager - East Date 5-10-16

Signature Date 5-10-16

WW-2B1(A)

2500044

HUPP Surveying & Mapping

P.O. BOX 647
GRANTSVILLE, WV 26147
(304) 354-7035 hupp@frontiernet.net FAX: (304) 354-6548

August 10, 2015

RE: Water Samples for MWV 3-1H

There appears to be no potable water sources within 2,000' of MWV 3-1H, therefore no tests need to be taken.

5/31/16

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Environmental Protection

WW-2B1(B)

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Form W-9

BRC OPERATING CO., LLC.

MWV 3-1H Water

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GK 5/31/16

HUPP Surveying & Mapping P.O. BOX 647 GRANTSVILLE, WV 26147 PH: (304)354-7035 E-MAIL: hupp@frontiernet.net	1" = 1000' Richwood Quad	BRC OPERATING CO. LLC. 200 Crescent Court, Suite 200 Dallas, TX 75201

25 00044

WW-9
(4/16)

API Number 47 - 025 - 00043
Operator's Well No. MWV Rupert 3-1H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name BRC Operating Company, LLC OP Code 494489323

Watershed (HUC 10) 0505000504 Quadrangle Richwood

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes ☑ No ☐

Will a pit be used? Yes ☐ No ☑ 5/31/16

If so, please describe anticipated pit waste: _____

Will a synthetic liner be used in the pit? Yes ☐ No ☐ If so, what ml.? _____

Proposed Disposal Method For Treated Pit Wastes:

- ____ Land Application
- ■ Underground Injection (UIC Permit Number North Hills#1 UIC2D01900460 & North Hills #1A UIC2D01900508)
- ____ Reuse (at API Number _____)
- ■ Off Site Disposal (Supply form WW-9 for disposal location)
- ____ Other (Explain _____

Will closed loop system be used? If so, describe: Yes

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. See attached sheet.

-If oil based, what type? Synthetic, petroleum, etc. Newpark Drilling Fluids, LLC / SBOM for production hole

Additives to be used in drilling medium? Vertical drilling-filtration control,weighing material,KCl, NaCl,emulsifier,corrosion inhibitor

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Landfill

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust) _____

-Landfill or offsite name/permit number? Nicholas County Solid Waste Authority SWF-2072/WV0109444

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

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 thereto 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 or imprisonment.

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Office of Oil and Gas
MAY 17 2016
WV Department of
Environmental Protection

Company Official Signature Marc A Monteleone

Company Official (Typed Name) Marc A. Monteleone

Company Official Title Designated Agent

Subscribed and sworn before me this 17th day of May, 2016

Jennifer Collins Notary Public

My commission expires October 26, 2019

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
Jennifer L. Collins
Bowles Rice McDavid Graff & Love LLP
600 Quarrier St.
Charleston, WV 25301
My Commission Expires Oct. 26, 2019

2500044

Form WW-9

Operator's Well No. MWV Rupert 3-1H

BRC Operating Company, LLC

Proposed Revegetation Treatment: Acres Disturbed 7.6 Prevegetation pH 6.1

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 400 lbs/acre

Mulch 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Annual Ryegrass	40	Perennial Ryegrass	20
		Lathco Flatpea	30

Attach:
Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, include dimensions (L x W x D) of the pit, and dimensions (L x W), and area in acreage, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Jeffrey Kennedy

Comments:

Title: Inspector Date: 5/31/16

Field Reviewed? (✓) Yes ( ) No

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2500044

Supplement to Form WW-9

Drilling medium anticipated for this well

Surface, 17-1/2" Hole / 13-3/8" Casing [0-2,500']: Fluid Type-Air/Mist

Intermediate, 12-1/4" Hole / 9-5/8" Casing [0-10,100']: Fluid Type-Dust

Intermediate, 12-1/4" Hole / 9-5/8" Casing [2,500'-10,100']: 6% KCl Air Mist System; if water encountered

Intermediate, 12-1/4" Hole / 9-5/8" Casing [9,400'-10,100']: Salt Water Polymer Fluid System; Type-NaCl Water Based Polymer Gel; if pressure encountered at McKenzie formation

Production-Vertical, 8-1/2" Hole / 7" Casing [10,100'-12,400']: Synthetic Based Oil Mud

Revision date: April 15, 2016

5/31/16

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Office of Oil and Gas

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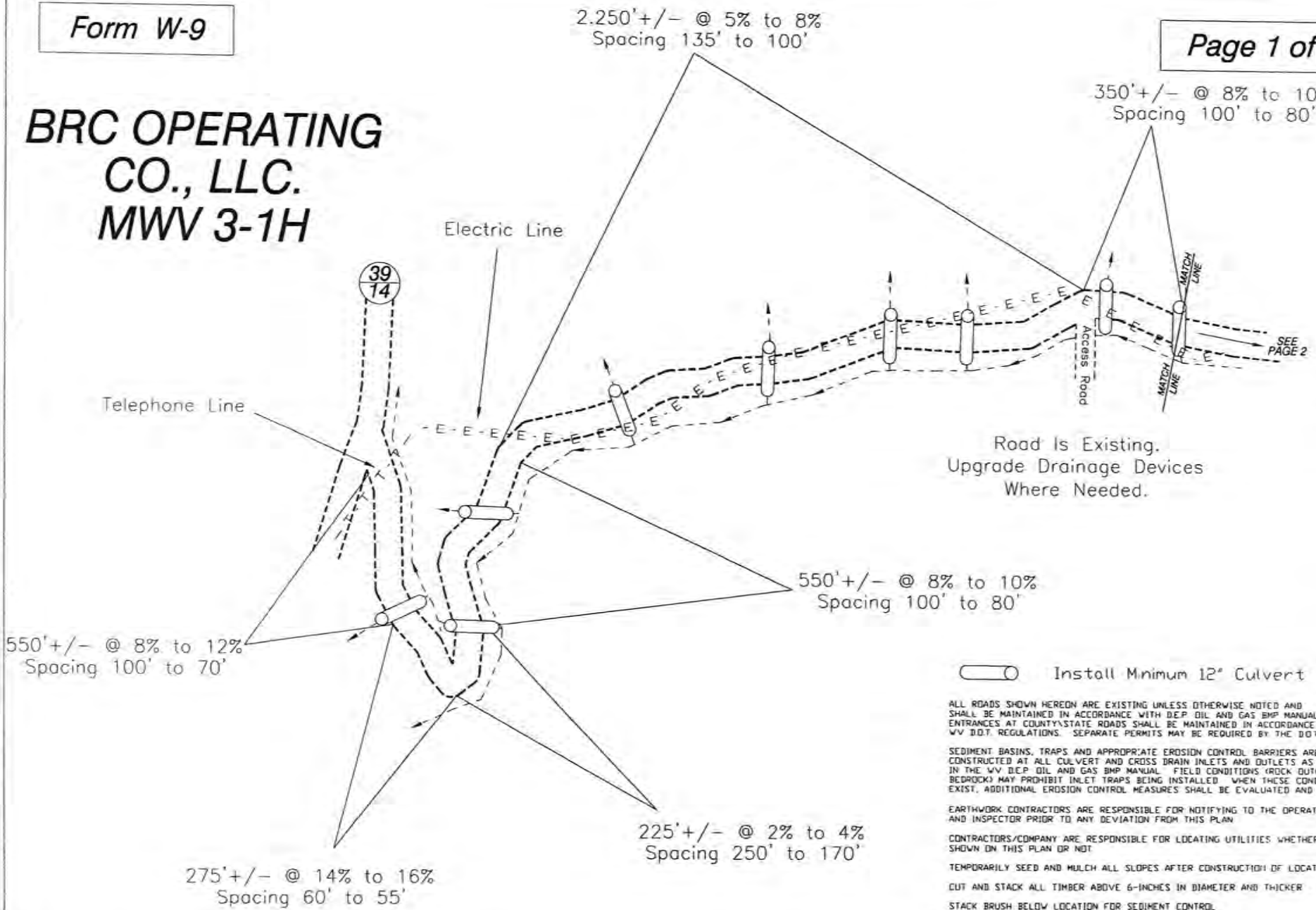
Form W-9

BRC OPERATING CO., LLC. MWV 3-1H



ALL ROADS SHOWN HEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH D.E.P. OIL AND GAS BMP MANUAL. ENTRANCES AT COUNTY\STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATIONS. SEPARATE PERMITS MAY BE REQUIRED BY THE DOT.

SEDIMENT BASINS, TRAPS AND APPROPRIATE EROSION CONTROL BARRIERS ARE TO BE CONSTRUCTED AT ALL CULVERT AND CROSS DRAIN INLETS AND OUTLETS AS REQUIRED IN THE WV D.E.P. OIL AND GAS BMP MANUAL. FIELD CONDITIONS (ROCK OUTCROPS AND BEDROCK) MAY PROHIBIT INLET TRAPS BEING INSTALLED. WHEN THESE CONDITIONS EXIST, ADDITIONAL EROSION CONTROL MEASURES SHALL BE EVALUATED AND UTILIZED.

EARTHWORK CONTRACTORS ARE RESPONSIBLE FOR NOTIFYING TO THE OPERATOR AND INSPECTOR PRIOR TO ANY DEVIATION FROM THIS PLAN.

CONTRACTORS/COMPANY ARE RESPONSIBLE FOR LOCATING UTILITIES WHETHER SHOWN ON THIS PLAN OR NOT.

TEMPORARILY SEED AND MULCH ALL SLOPES AFTER CONSTRUCTION OF LOCATION.

CUT AND STACK ALL TIMBER ABOVE 6-INCHES IN DIAMETER AND THICKER.

STACK BRUSH BELOW LOCATION FOR SEDIMENT CONTROL.

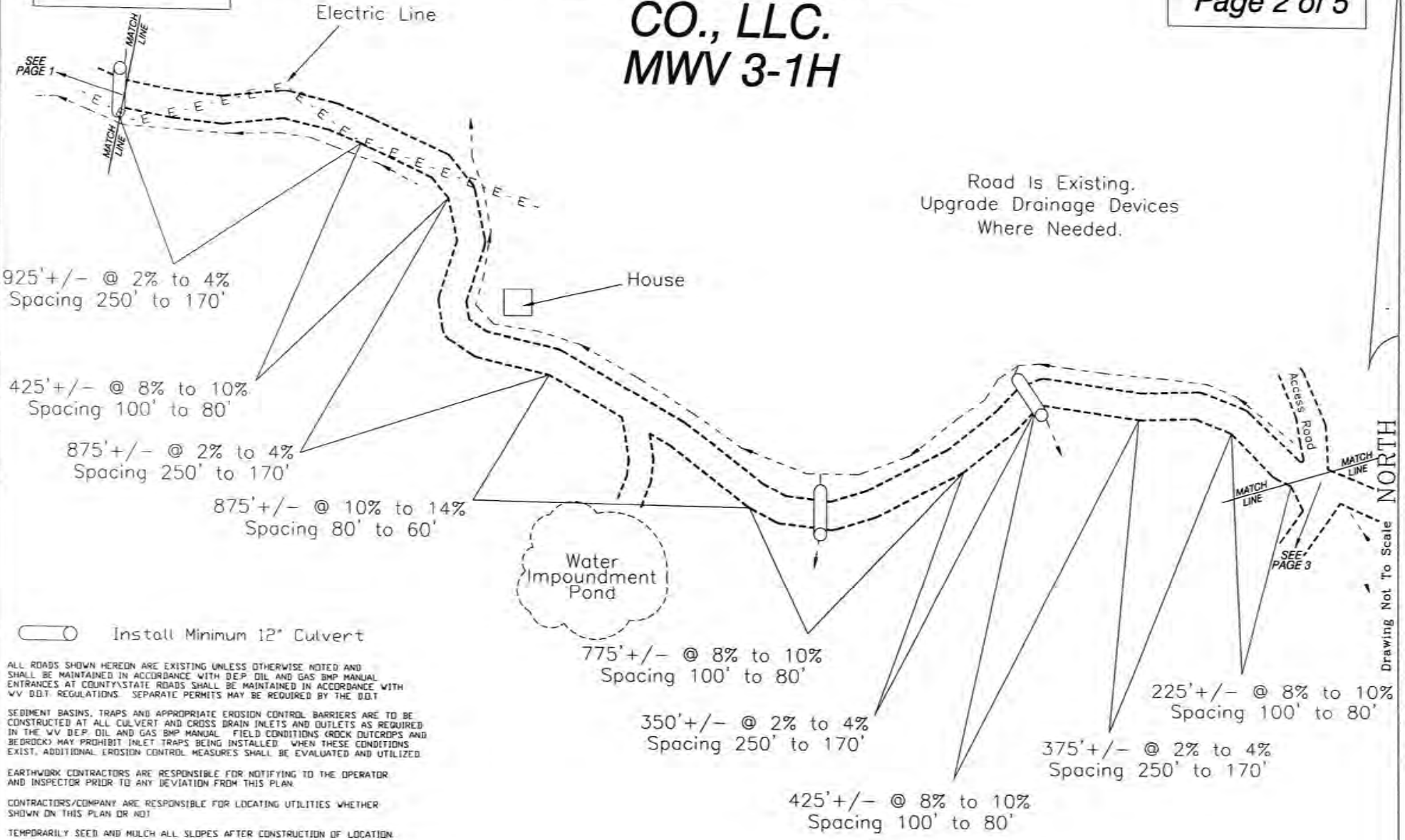
HUPP Surveying & Mapping
P.O. BOX 647 GRANTSVILLE, WV 26147
PH: (304)354-7035 E-MAIL: hupp@frontiernet.net

Drafted BY:	Date Drafted:	Job Number:
DB	08/06/15	W20081834

5/31/16

Form W-9

BRC OPERATING CO., LLC. MWV 3-1H



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5/31/16

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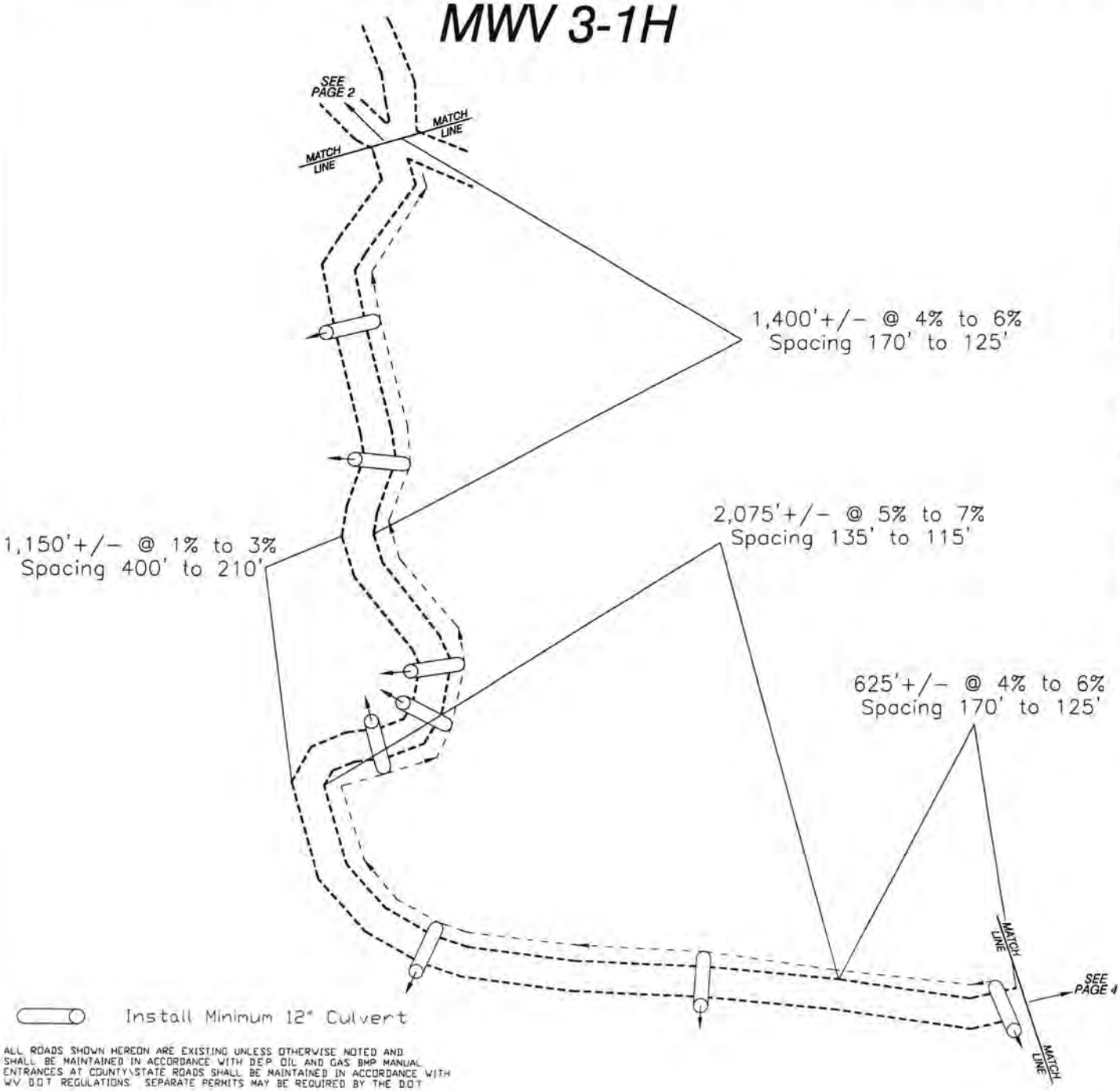
BRC OPERATING CO., LLC. MWV 3-1H



Install Minimum 12" Culvert

ALL ROADS SHOWN HEREON ARE EXISTING UNLESS OTHERWISE NOTED AND SHALL BE MAINTAINED IN ACCORDANCE WITH DEP OIL AND GAS BMP MANUAL. ENTRANCES AT COUNTY\STATE ROADS SHALL BE MAINTAINED IN ACCORDANCE WITH WV DOT REGULATIONS. SEPARATE PERMITS MAY BE REQUIRED BY THE DOT

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STACK BRUSH BELOW LOCATION FOR SEDIMENT CONTROL

Road Is Existing.
Upgrade Drainage Devices
Where Needed.

5/31/16

HUPP Surveying & Mapping
P.O. BOX 647 GRANTSVILLE, WV 26147
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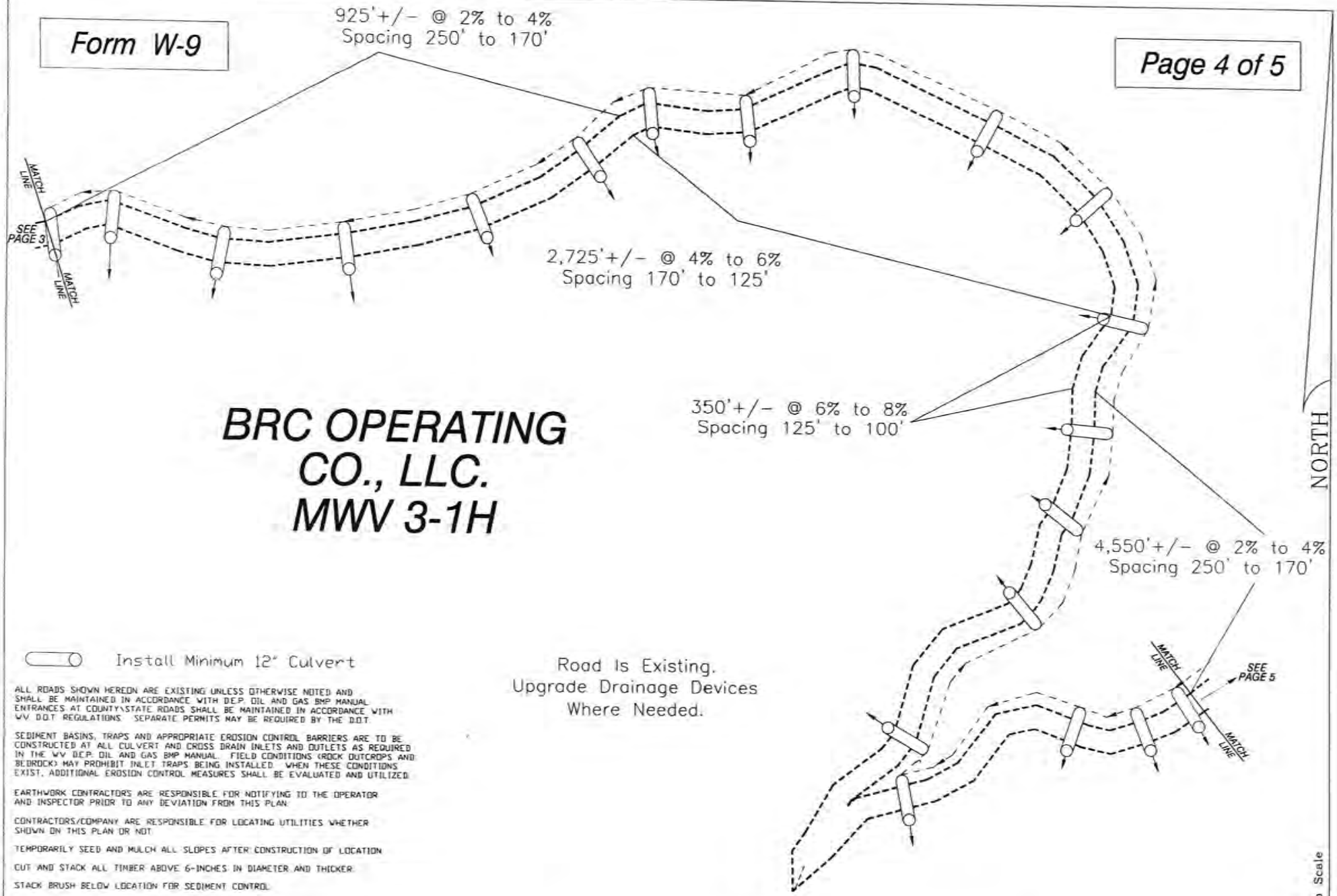
Form W-9



BRC OPERATING CO., LLC. MWV 3-1H

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P.O. BOX 647 GRANTSVILLE, WV 26147
PH:(304)354-7035 E-MAIL: hupp@frontiernet.net

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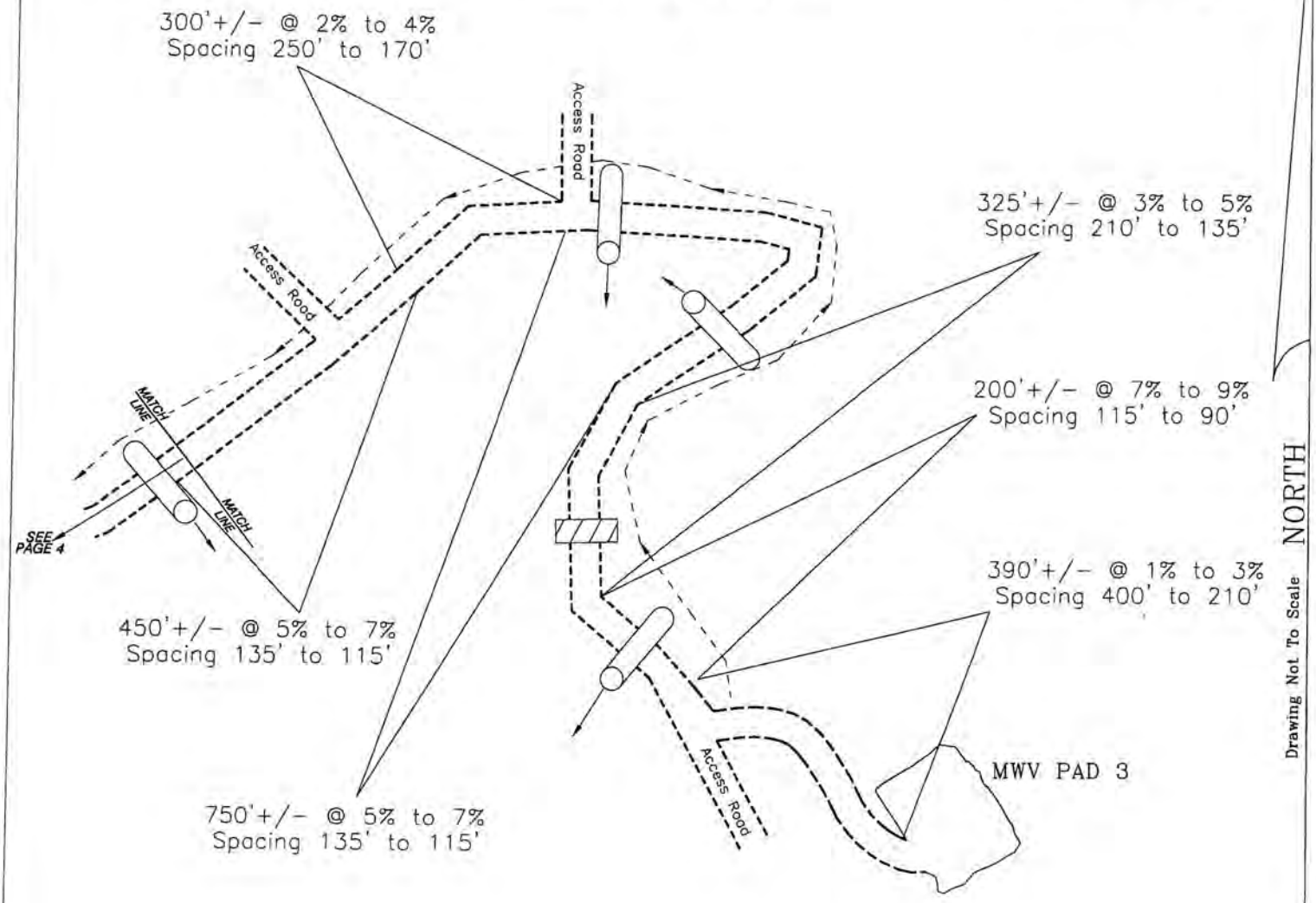
DB	08/06/15	W20081834

5/31/16

Drawing Not To Scale

BRC OPERATING CO., LLC.
MWV 3-1H

Form W-9



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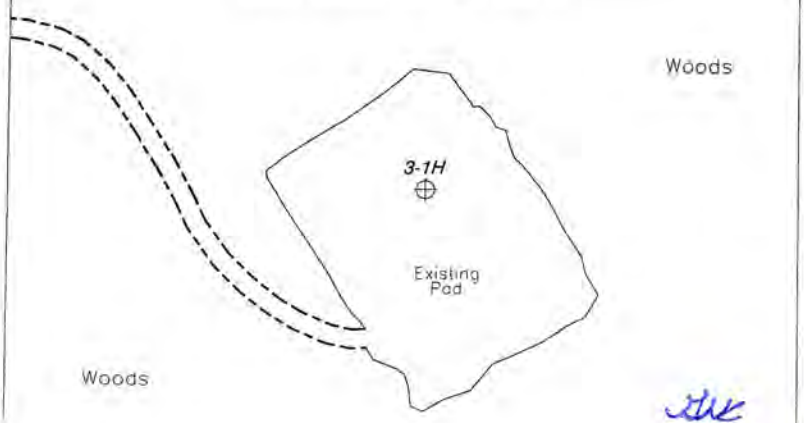
Detail Sketch for MWV PAD 3



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HUPP Surveying & Mapping	Drafted BY	Date Drafted	Job Number
P.O. BOX 647 GRANTSVILLE, WV 26147 PH (304)354-7035 E-MAIL: hupp@frontiernet.net	DB	08/06/15	W20081834

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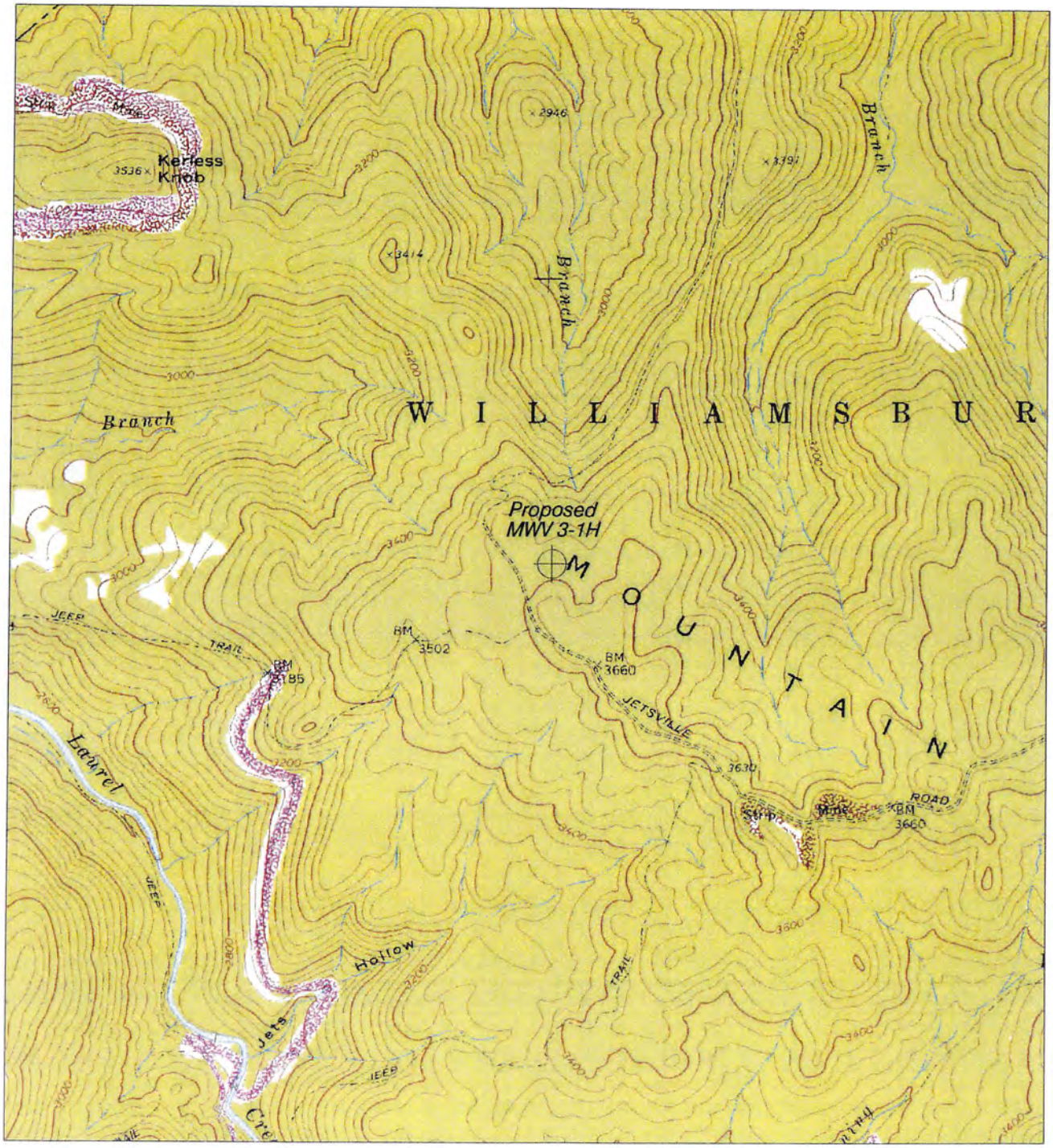
Form W-9

BRC OPERATING CO., LLC.
MWV 3-1H



NORTH

HUPP Surveying & Mapping P O BOX 647 GRANTSVILLE, WV 26147 PH (304)354-7035 E-MAIL hupp@frontiernet net	1" = 1000' Richwood Quad	BRC OPERATING CO. LLC. 200 Crescent Court, Suite 200 Dallas, TX 75201

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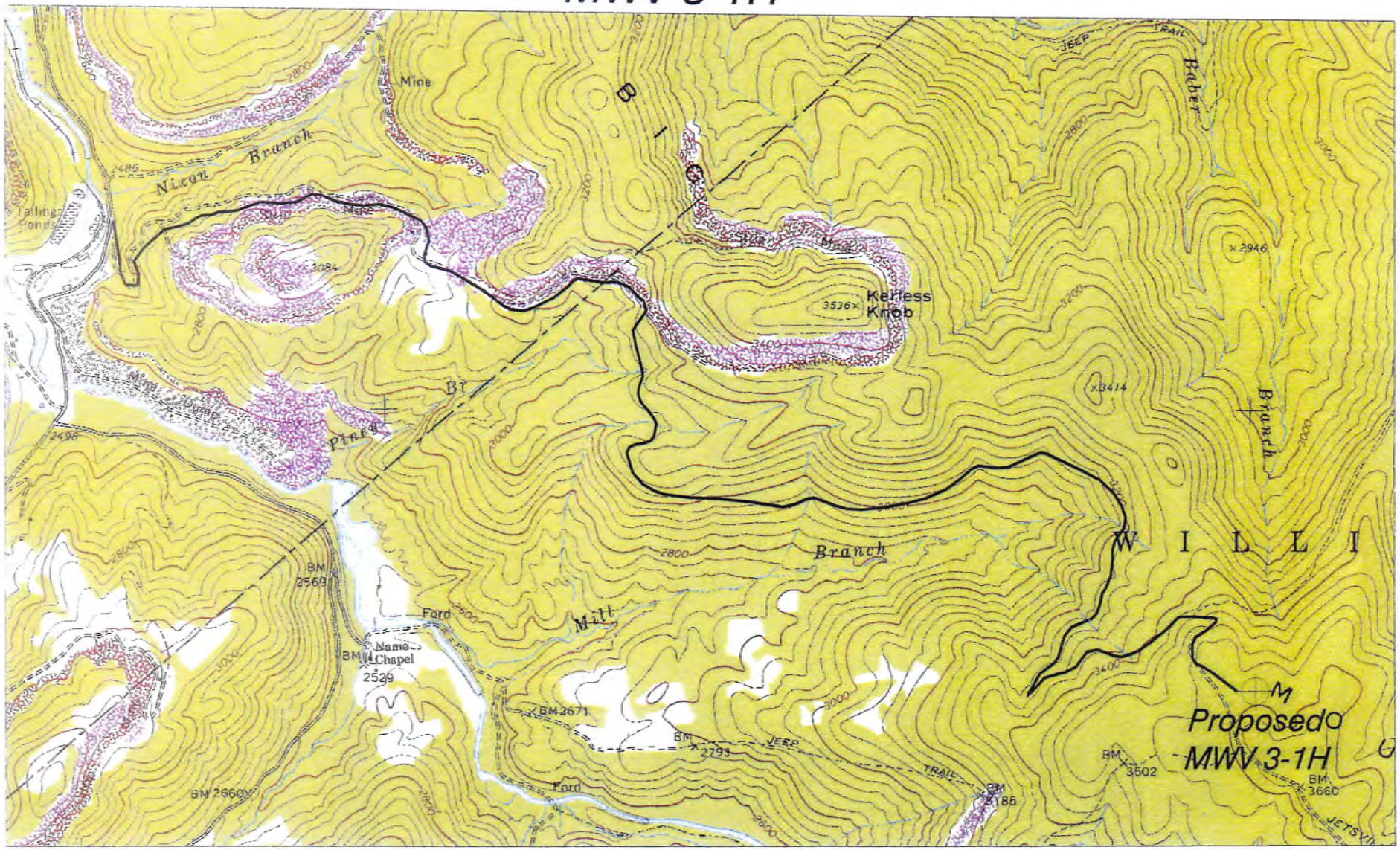
Form W-9

BRC OPERATING CO., LLC.
MWV 3-1H



HUPP Surveying & Mapping P.O. BOX 647 GRANTSVILLE, WV 26147 PH. (304)354-7035 E-MAIL: hupp@frontiernet.net	1" = 2000' Richwood Quad	BRC OPERATING CO. LLC. 200 Crescent Court, Suite 200 Dallas, TX 75201

5/31/16

2500044

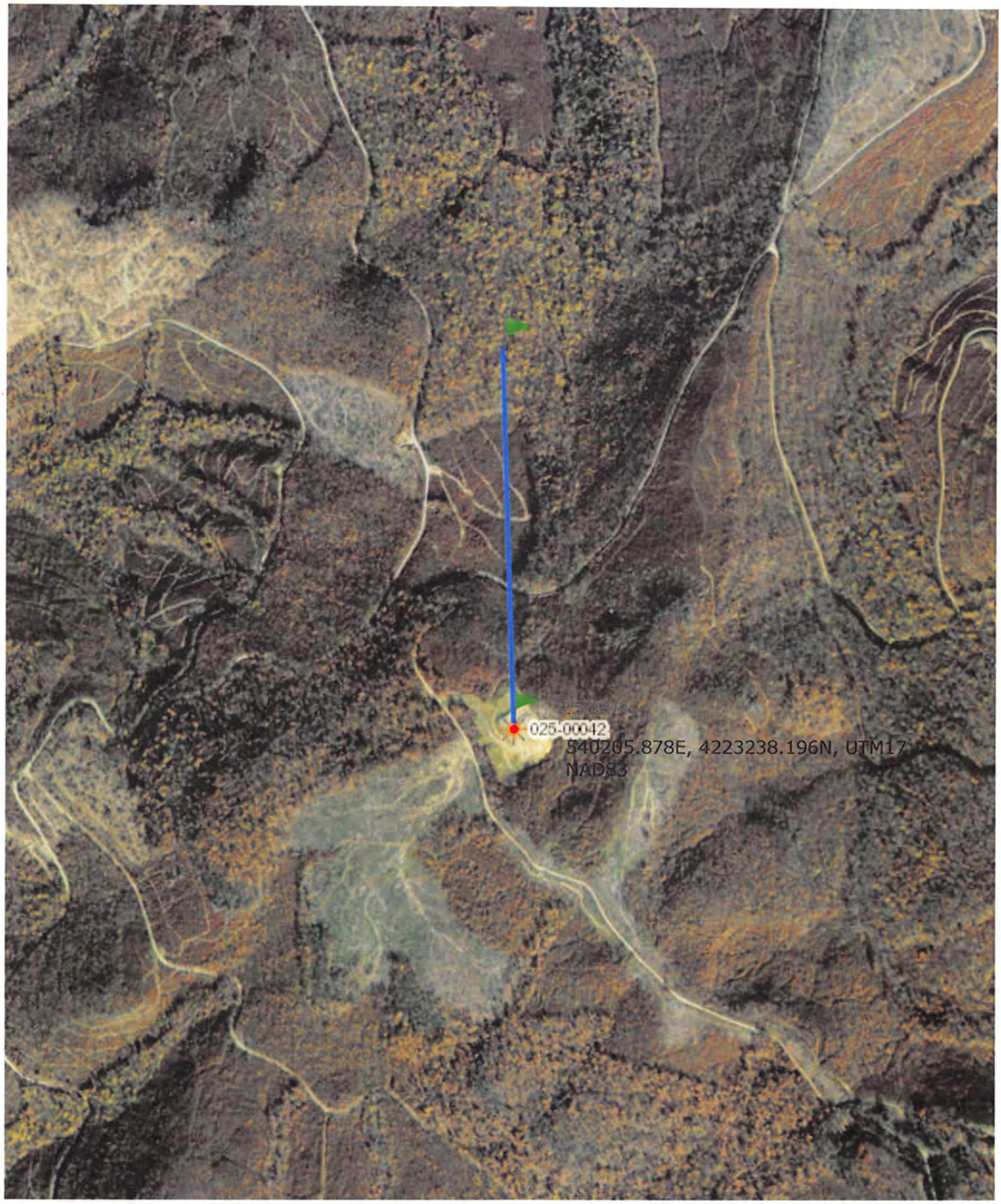
2500044 Deep

Feet

Measurement Result

NO WELLS W/IN 3000'

3,091.1 Feet



5/31/16

25 00044

NTG ENVIRONMENTAL

6000 Town Center Blvd.
Suite 220
Canonsburg, PA 15317
Tel. 724.745.5929
www.ntglobal.com

July 24, 2015
Revised September 2, 2015

Ms. Liz Stout
U.S. Department of Interior
Fish and Wildlife Service
West Virginia Field Office
694 Beverly Pike
Elkins, WV
26241

RE: BRC Operating Company, LLC (Bluescape Resources)
Proposed Unconventional Gas Well Development
Operators Well Number – MeadWestvaco Rupert 3-1H
Greenbrier County, WV

Dear Ms. Stout :

The purpose of this communication is to advise the Fish and Wildlife Service of BRC Operating Company, LLC intent to make application to the West Virginia Department of Environmental Protection for the development of an unconventional gas well at the following surface location. The purpose for issuing this revised letter results from a slight change in surface hole location, from those coordinates which were provided through my previous correspondence dated July 24, 2015. The revised coordinates are as follows:

State Plane Coordinates, NAD 27, WV South Plane, US Feet
(N) 421263
(E) 2131899

UTM (NAD 83, Zone 17) Meters
4223238.196
540205.878

L & L DECIMAL (NAD 27, Geographic)
38.15609
80.54128

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The pad-site area construction was completed in 2012, with surface disturbance as permitted by the WVDEP for a previous gas well development at this location.
The Fish and Wildlife Service previously conducted a review of the area in January 2012 with correspondence stating a "no effect" determination that the project would affect federally listed endangered or threatened species. Furthermore, you had provided similar comment to the July 24, 2015 inquiry, through email dated August 18, 2015.

Should there be any differing comments offered by the Service, as a result of the **60' +/-** shift in the proposed surface hole drilling location, please do not hesitate to contact me. My email address is wjenko@ntglobal.com.

Respectfully,

Walter W. Jenko, P.E.

5/31/16

2500044

United States Department of the Interior

FISH AND WILDLIFE SERVICE

West Virginia Field Office
694 Beverly Pike
Elkins, West Virginia 26241

Contact Name: Walter Jenko

Email Address or Fax Number: wjenko@ntglobal.com

Project Name & Location: MeadWestvaco Rupert 3-1H Greenbrier Co

Date of Letter Request: 7/24/15

This is in response to your letter requesting threatened and endangered species information in regard to the proposed project listed above. These comments are provided pursuant to the Endangered Species Act (ESA, 87 Stat. 884, as amended; 16 U. S. C. 1531 *et seq.*).

Two federally listed species could occur in the project area, the endangered Indiana bat (*Myotis sodalis*), and the threatened northern long-eared bat (*M. septentrionalis*).

The Indiana bat and NLEB may use the project area for foraging and roosting between April 1 and November 15. Indiana bat summer foraging habitats are generally defined as riparian, bottomland, or upland forest, and old fields or pastures with scattered trees. Roosting/maternity habitat consists primarily of live or dead hardwood tree species which have exfoliating bark that provides space for bats to roost between the bark and the bole of the tree. Tree cavities, crevices, splits, or hollow portions of tree boles and limbs also provide roost sites. Similar to the Indiana bat, NLEB bat foraging habitat includes forested hillsides and ridges, and small ponds or streams. NLEB are typically associated with large tracts of mature, upland forests with more canopy cover than is preferred by Indiana bats. Northern long-eared bats seem to be flexible in selecting roosts, choosing roost trees based on suitability to retain bark or provide cavities or crevices, and this species is known to use a wider variety of roost types than the Indiana bat. Males and non-reproductive females may also roost in cooler places, like caves and mines. This bat has also been found rarely roosting in structures, like barns and sheds. In West Virginia, the Service considers all forest habitats containing trees greater than or equal to 3 inches in diameter at breast height (DBH) to be potentially suitable as summer roosting and foraging habitat for the Indiana and northern long-eared bat.

Indiana bats and NLEB use caves or mine portals for winter hibernation between November 15 and March 31. These species also use the hibernacula and the areas around them for fall-swarming and spring-staging activity (August 15 to November 14 and April 1 to May 14, respectively). Some males have been known to stay close to the hibernacula during the summer and may use the hibernacula as a summer roosts. There may be other landscape features being used by NLEB during the winter that have yet to be documented.

5/31/16

The U.S. Fish and Wildlife Service (Service) has determined the number of acres of potential summer foraging and roosting habitat on the West Virginia landscape available to each Indiana bat, versus the total acreage of forest. On that basis, we have determined that small projects, more than 10 miles from a

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WV Department of
Environmental Protection

2500044

known priority 1 or 2 Indiana bat hibernaculum, more than 5 miles from a known priority 3 or 4 Indiana bat hibernaculum, or more than 2.5 miles from any known maternity roost, or more than 5 miles from summer detection sites where no roosts were identified, that affect less than 17 acres of forested habitat, and will not affect any potential hibernacula, will have a very small chance of resulting in direct or indirect take of the Indiana bat, and therefore these effects are considered discountable.

This 17 acre threshold was developed based on information specific to the Indiana bat in West Virginia. While there are many similarities between the Indiana bat and the NLEB, the distribution and abundance of NLEB in West Virginia is much different than the Indiana bat and there are a number of factors that make the NLEB different from the Indiana bat in regard to whether they are likely to be adversely affected by these types of activities. The WVFO is currently reviewing existing data and available literature on the NLEB to determine how our recommendations should be modified to address the NLEB. We anticipate that additional information may become available as the Service accepts public comments and works to finalize the 4(d) rule for the species. **We expect that this 17 acre threshold may change** in the near future and our intent is to make modifications to our recommendations concurrent with the anticipated completion of the final 4(d) rule **on or before the end of the 2015 calendar year.** In the interim, our office will be using the threshold developed for the Indiana bat to make determinations regarding the NLEB.

Because the distance that NLEB typically travel between foraging and roosting sites and hibernacula are different from the Indiana bat, we are using species-specific buffers around known NLEB captures, maternity, and hibernacula sites. Therefore, small projects completed before the end of the 2015 calendar year that are more than 5 miles from a NLEB hibernaculum or 1.5 miles of a known NLEB maternity roost or 3 miles of a NLEB detection site with no roost identified, that affect less than 17 acres of suitable forested habitat, and will not affect any potential hibernacula, will also be considered to have discountable effects on the NLEB.

Because your project 1) will affect less than 17 acres of potential Indiana bat or NLEB foraging or roosting habitat; 2) is not within any of the Indiana bat or NLEB hibernacula or summer use buffers described above; and 3) will not affect any potential caves or mines that could be used as hibernacula for these species, we have made a determination that the project is not likely to adversely affect the Indiana bat or NLEB.

Therefore no biological assessment or further section 7 consultation under the ESA is required with the Service. Should project plans change or amendments be proposed that we have not considered in your proposed action, or if additional information on listed and proposed species becomes available, or if new species become listed or critical habitat is designated, this determination may be reconsidered. **If your project is not completed before the end of the 2015 calendar year, additional coordination may be required.**

If you have any questions regarding these comments, please contact the biologist listed below at (304) 636-6586 or at the letterhead address.

Biologist — Date: 8/6/15

John Schmidt, Field Supervisor — Date: 8/13/15

5/31/16

RECEIVED
Office of Oil and Gas
MAY 17 2016
WV Department of
Environmental Protection

2500044

NTG ENVIRONMENTAL

6000 Town Center Blvd.
Suite 220
Canonsburg, PA 15317
Tel. 724.745.5929
www.ntglobal.com

July 24, 2015

Ms. Deborah Carter
U.S. Department of Interior
Fish and Wildlife Service
West Virginia Field Office
694 Beverly Pike
Elkins, WV
26241

RE: BRC Operating Company, LLC (Bluescape Resources)
Proposed Unconventional Gas Well Development
Operators Well Number – MeadWestvaco Rupert 3-1H
Greenbrier County, WV

Dear Ms. Carter:

The purpose of this communication is to advise the Fish and Wildlife Service of BRC Operating Company, LLC intent to make application to the West Virginia Department of Environmental Protection for the development of an unconventional gas well at the following surface location, as defined by coordinates:

State Plane Coordinates, South Zone
(N) 421312
(E) 2131864

UTM (NAD 83)
4223253
540195

L & L DECIMAL
38.15615
80.54140

The padsite area construction was completed in 2012, with approximately 7+ acres of surface disturbance as permitted by the WVDEP for a previous gas well development at this location.
The Fish and Wildlife Service previously conducted a review of the area in January 2012 with correspondence stating a " no effect" determination that the project would affect federally listed endangered or threatened species.

The Service's acknowledgement of this advisory letter is requested.

5/31/16

Should you have any questions, please do not hesitate to contact me at 724-470-8664, or via email at wjenko@ntglobal.com.

Respectfully,

Walter W. Jenko, P.E.

RECEIVED
Office of Oil and Gas
MAY 17 2016
WV Department of
Environmental Protection

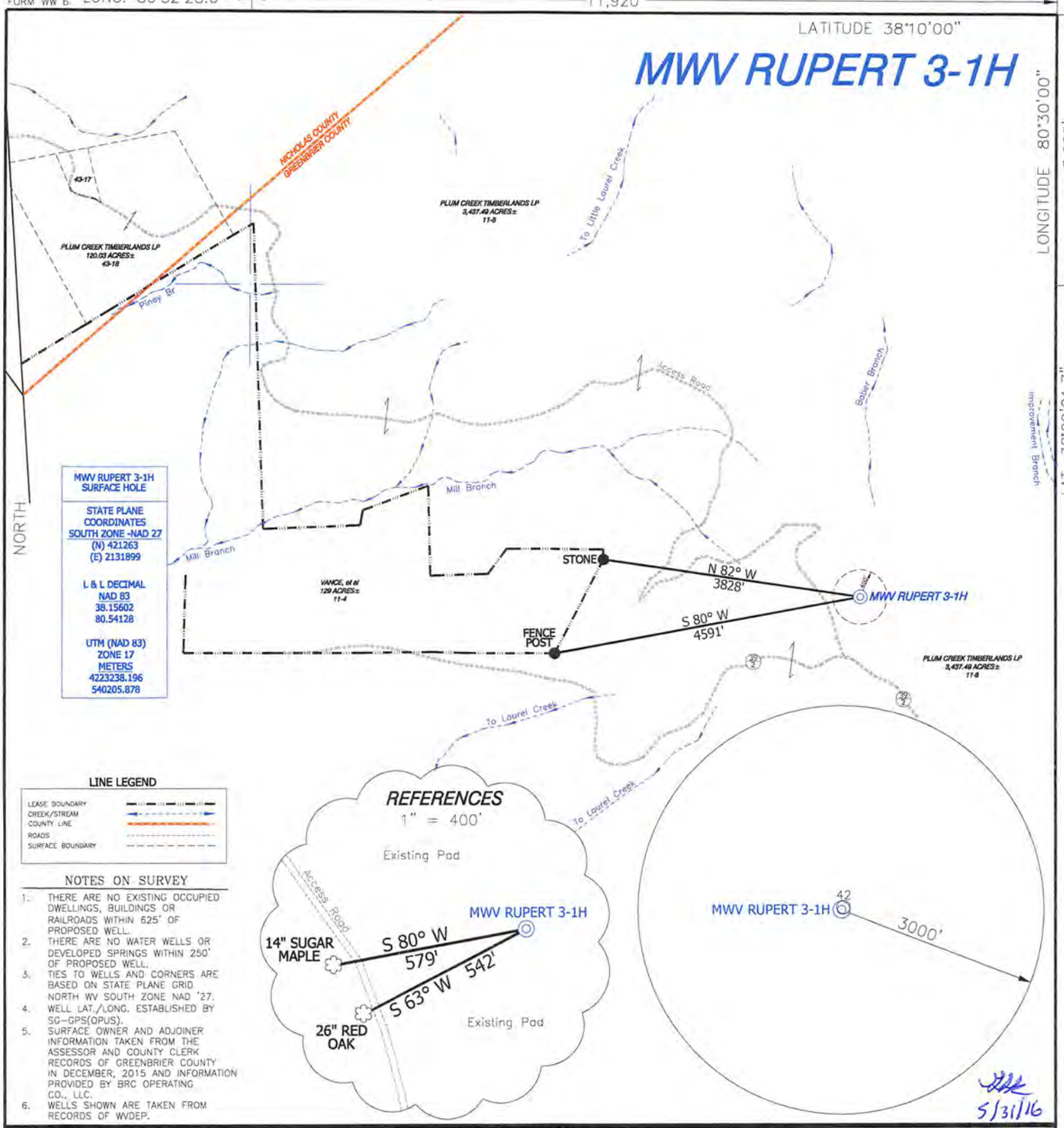
2500044

FORM WW 6 LONG. 80°32'28.6" — 11,920'

LATITUDE 38°10'00"

MWV RUPERT 3-1H

LONGITUDE 80°30'00" — 3,990' — LAT. 38°09'21.7"



NOTES ON SURVEY

1. THERE ARE NO EXISTING OCCUPIED DWELLINGS, BUILDINGS OR RAILROADS WITHIN 625' OF PROPOSED WELL.
2. THERE ARE NO WATER WELLS OR DEVELOPED SPRINGS WITHIN 250' OF PROPOSED WELL.
3. TIES TO WELLS AND CORNERS ARE BASED ON STATE PLANE GRID NORTH WV SOUTH ZONE NAD '27.
4. WELL LAT./LONG. ESTABLISHED BY SG-GPS(OPUS).
5. SURFACE OWNER AND ADJOINER INFORMATION TAKEN FROM THE ASSESSOR AND COUNTY CLERK RECORDS OF GREENBRIER COUNTY IN DECEMBER, 2015 AND INFORMATION PROVIDED BY BRC OPERATING CO., LLC.
6. WELLS SHOWN ARE TAKEN FROM RECORDS OF WVDEP.

5/31/16

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 RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 834

DOYLE HUPP, JR. LICENSED No. 834 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

HUPP Surveying & Mapping
P.O. Box 647 Grantsville, WV 26147
(304) 354-7035 EMAIL: hupp@frontiernet.net

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

DATE MAY 11, 20 16

OPERATORS WELL NO. MWV RUPERT 3-1H

API WELL NO. 47 — 025 — 00044D
STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. W1834 (BK50-14)

SCALE 1" = 2000'

PROVEN SOURCE OF ELEVATION SG-GPS (OPUS)

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

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

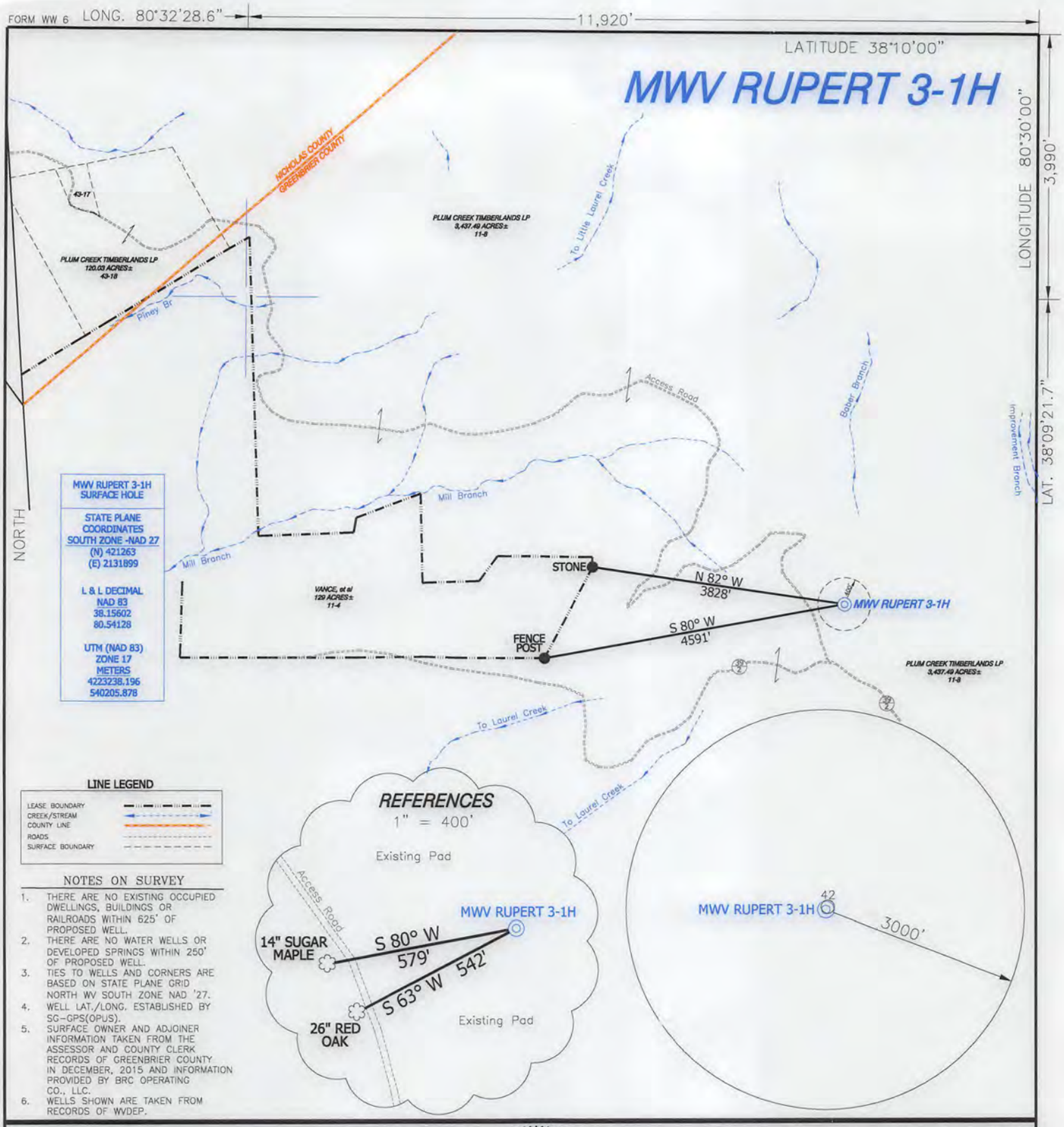
LOCATION :
ELEVATION 3,589' WATERSHED BABER BRANCH
DISTRICT WILLIAMSBURG COUNTY GREENBRIER QUADRANGLE RICHWOOD 7.5'
SURFACE OWNER PLUM CREEK TIMBERLANDS LP ACREAGE 3,437.49±
ROYALTY OWNER MEADWESTVACO CORP., et al LEASE ACREAGE 3,437.49±
PROPOSED WORK : LEASE NO. ___
DRILL X CONVERT ___ DRILL DEEPER ___ REDRILL ___ FRACTURE OR STIMULATE X PLUG OFF OLD FORMATION ___ PERFORATE NEW FORMATION ___ PLUG AND ABANDON ___ CLEAN OUT AND REPLUG ___ OTHER ___
PHYSICAL CHANGE IN WELL (SPECIFY) ___ TARGET FORMATION POINT PLEASANT
ESTIMATED DEPTH 12,070'

COUNTY NAME

PERMIT

WELL OPERATOR BRC OPERATING CO., LLC DESIGNATED AGENT MARC A. MONTELEONE
ADDRESS 200 CRESCENT COURT, SUITE 1900 DALLAS, TX 75201 ADDRESS P.O. Box 1386 Charleston WV 25325

FORM WW 6



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ESTIMATED DEPTH 12,070'

WELL OPERATOR BRC OPERATING CO., LLC DESIGNATED AGENT MARC A. MONTELEONE

ADDRESS 200 CRESCENT COURT, SUITE 1900 DALLAS, TX 75201 ADDRESS P.O. Box 1386 Charleston WV 25325

COUNTY NAME

PERMIT

WSM