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

October 21, 2015

WELL WORK PERMIT

Horizontal 6A Well

This permit, API Well Number: 47-9101325, issued to MOUNTAINEER KEYSTONE, 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: UNB 211
Farm Name: MACDONALD, CHARLES E.
API Well Number: 47-9101325
Permit Type: Horizontal 6A Well
Date Issued: 10/21/2015

Promoting a healthy environment.

API Number 47 0 9 1 0 1 3 2 5

PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) 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. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.

2. 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 § 22-6A-5a (12), 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 one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.

3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.

4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.

5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.

6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.

7. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.

8. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

9. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, 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.

WW-6B
(04/15)

API NO. 47-_____-_____
OPERATOR WELL NO. 211
Well Pad Name: UNB

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

1) Well Operator: Mountaineer Keystone, LLC

494501227	Taylor	Fetterman	Gladesville 7.5'
Operator ID	County	District	Quadrangle

2) Operator's Well Number: 211 Well Pad Name: UNB

3) Farm Name/Surface Owner: Charles E. MacDonald Public Road Access: Rt. 119

4) Elevation, current ground: 1882.29' Elevation, proposed post-construction: 1878.39'

5) Well Type (a) Gas x Oil ____ Underground Storage ____
Other ____
(b)If Gas Shallow x Deep ____
Horizontal x

6) Existing Pad: Yes or No no

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7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus Shale, 7877' (TVD Heel), 7958' (TVD Toe), 98', 0.5psi/ft

8) Proposed Total Vertical Depth: 7958'

9) Formation at Total Vertical Depth: Marcellus Shale

10) Proposed Total Measured Depth: 14,431'

11) Proposed Horizontal Leg Length: 5,848'

12) Approximate Fresh Water Strata Depths: 350'

13) Method to Determine Fresh Water Depths: Offsetting wells reported water depths (091-00113, 091-00776, 091-00958, 091-00963, 091-00970)

14) Approximate Saltwater Depths: 910'

15) Approximate Coal Seam Depths: Bakerstown 30', Upper Freeport 218', Lower Freeport 290', Upper Kittanning 345', Middle Kittanning 388', Lower Kittanning 438'

16) Approximate Depth to Possible Void (coal mine, karst, other): None known

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes ____ No x

(a) If Yes, provide Mine Info: Name: ____
Depth: ____
Seam: ____
Owner: ____

WW-6B
(04/15)

API NO. 47-_____-_____
OPERATOR WELL NO. 211
Well Pad Name: UNB

18) **CASING AND TUBING PROGRAM**

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	24"	New	H-40	94#	80'	80'	CTS
Fresh Water	13.375"	New	J-55	54.5#	500'	540'	CTS
Coal							
Intermediate	9.625"	New	J-55	40#	1500'	1500'	CTS
Production	5.5"	New	P-110	20#	14,431'	14,431'	TOC @ 1,350' MD
Tubing							
Liners							

Kenneth Greybeck 10-14-15

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	24"	36"			0	None	None
Fresh Water	13.375"	17.5"	0.38"	2730	0	Class A, 3% CaCl2	1.20
Coal							
Intermediate	9.625"	12.25"	0.395"	3950 psi	0	Class A, 2% CaCl2	1.29
Production	5.5"	8.5-8.75	0.361"	12,640 psi	8500	Type 1	1.64/1.32
Tubing					5000		
Liners					N/A		

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PACKERS

Kind:				
Sizes:				
Depths Set:				

WW-6B
(10/14)

API NO. 47-_____-_____
OPERATOR WELL NO. 211
Well Pad Name: UNB

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Describe proposed well work, including the drilling and plugging back of any pilot hole.
The well will be started with a conductor rig drilling a 36" hole to Conductor programmed depth then running 24" casing and grout cement back to surface. The conductor rig will move out and the drilling rig will move in and rig up. The drilling rig will then spud a 17 ½" hole and drill to fresh water casing (Surface) to the programmed depth, Run 13- 3/8" casing and cement to surface. The rig will continue drilling a 12- ¼" intermediate hole to the programmed depth, run 9- 5/8" casing and cement to surface. The rig with then continue to drill a 8- ¾" hole to a designed KOP and then start drilling the curve and lateral section to the programmed total measured depth, run 5 ½" casing and cement according to the program.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

The well will be completed using a plug and perforation method and stimulated with a slickwater and sand slurry. The anticipated maximum rate will be 90 bpm and the maximum pressure will be 9,500 psi.

47-091-01325

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 16.3

22) Area to be disturbed for well pad only, less access road (acres): 5.9

23) Describe centralizer placement for each casing string:

20"- No centralizers 13 3/8" – one bow spring centralizer on every other joint 9 5/8" – one bow spring centralizer every third joint from TD to surface 5 ½" – one semi rigid centralizer on every joint from TD of casing to end of curve. Then every other joint to KOP. Every third joint from KOP to 1,600'; there will be no centralizers from 1,600' to surface.

24) Describe all cement additives associated with each cement type:

24" will be grouted from surface. The 13-3/8" casing will be cemented to surface with Class A cement and no greater than 3% CaCl (calcium chloride). The 9-5/8" casing will be cemented to surface with Type 1 cement, & no greater than 3% calcium chloride. The 5-1/2" production string will be cemented back to 1,350' (+/- 200' above the casing shoe for the 9-5/8") with Type 1 or Class A cement retarder (to extend pumpability) cellophane flaked for fluid loss, Bentonite gel as an extender (increased pumpability and fluid loss), a defoaming agent to decrease cement foaming during mixing to insure the cement is of proper weight to placement and possibly a gypsum gas blocking additive to aid in blocking/gas migration (in combination with other additive mentioned here, helps cement achieve a "right-angle" set) during the plastic phase of the cement set-up.

25) Proposed borehole conditioning procedures:

Top holes will be drilled with fresh water to KOP. At KOP, the wellbore will be loaded with synthetic oil based mud, barite-weighted mud system with such properties as to build a filter-cake on the face to the bore-hole. This will provide lubricity as well as stabilizing the well bore. We will begin rotating the drill string and mud will be circulated upon reaching TD until no further cuttings are observed coming across the shaker screens. Once clean mud is circulated back to surface, we will pull three stands of drill pipe, load the hole, pull three stands and load the hole. The weight indicator on the rig will be monitored for any occurrences of drag and if any are notices, we will re-run the previous stand of pipe pulled across and circulate 2X bottoms up while watching the shakers for signs of cuttings. Once at the base of the curve, the string will be continuously rotated while pumping 2X bottoms up. We will pull three stands and fill the hole until we reach the vertical section of the well.

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*Note: Attach additional sheets as needed.

WW-9
(2/15)

API Number 47 - _____ - _____
Operator's Well No. UNB 211

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

4709101325

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Mountaineer Keystone, LLC OP Code 494501227

Watershed (HUC 10) White Day Creek Quadrangle Gladesville 7.5'

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 ☐

If so, please describe anticipated pit waste: produced water

Will a synthetic liner be used in the pit? Yes ☑ No ☐ If so, what ml.? 60 ml

Proposed Disposal Method For Treated Pit Wastes:

_____ Land Application
_____ Underground Injection (UIC Permit Number_____)
■ Reuse (at API Number various)
_____ Off Site Disposal (Supply form WW-9 for disposal location)
_____ Other (Explain_____)

Will closed loop system be used? If so, describe: Yes, the closed loop system will contain all of the drilling medium and drill cuttings on location to then be taken to landfill.

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. vertical: freshwater, horizontal: synthetic oil-based mud

-If oil based, what type? Synthetic, petroleum, etc. synthetic

Additives to be used in drilling medium? As proposed by mud provider

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) n/a

-Landfill or offsite name/permit number? Advanced Disposal Services, Chestnut Valley Landfill

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.

Company Official Signature N Skeen

Company Official (Typed Name) Nathan Skeen

Company Official Title Designated Agent

Subscribed and sworn before me this 20th day of August, 20 15

Amy L Miller Notary Public

My commission expires 03/15/2022

Official Seal
Notary Public, State Of West Virginia
Amy L Miller
1111 Van Voorhis Road Suite G
Morgantown WV 26505
My commission expires March 15, 2022

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Form WW-9

Operator's Well No. UNB 211

Mountaineer Keystone, LLC

Proposed Revegetation Treatment: Acres Disturbed 16.3 Prevegetation pH unknown

Lime 2.67 Tons/acre or to correct to pH 6.4

Fertilizer type 10-20-20

Fertilizer amount 600 lbs/acre

Mulch 3-4 Tons/acre

4709101325

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Orchard Grass	129	Orchard Grass	129
Ryegrass	93	Ryegrass	93
Clover	24	Clover	24
Timothy	45	Timothy	45

Attach:
Drawing(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Lemuel T. Shepherd

Comments: Pre-seed / mulch all disturbed areas as soon as reasonably possible per regulation. Upgrade E & S where needed per WV DEP E& S manual, if necessary.

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SEP 11 2015

Title: OIL + GAS INSPECTOR Date: 9-9-15

Field Reviewed? (✓) Yes ( ) No

Mountaineer Keystone

Mountaineer Keystone
UNB 211HM
Casing Design
Directional Plan # 2 ADC

Other Names:	N/A	County:	Taylor		
Surface Location:	TBD	State:	West Virginia		
Bottom Hole Location:	TBD	AFE #:	XX	API #:	XX
Total Depth:	14,431 MD (ft)	RKB:	21		
	7,958 TVD (ft)	Ground Level:	1,878		

Logs	Significant Formations (TVD)	Depth (ft) MD	Depth (ft) TVD	Hole Size	Casing and Cement	Mud	Directional & Surveys Drlg /Csg Point
None	Section 1	80	Drive Pipe 80		24" 94# H-40 STC		Vertical
None	Section 2	Possible CBL after cement job 500	Floc 500	17 1/2" (PDC)	Cement: Type 1 489 Sacks w/ 30% Excess TOC: Surface (top off if needed) All cement volumes are estimates 13 3/8" 54.5# J-55 STC	Floc Water	Vertical
None	Section 3	Possible CBL after cement job 1,500	Floc 1,500	12 1/4" (PDC)	Cement: Type 1 678 Sacks w/ 50% Excess TOC: Surface (top off if needed) All cement volumes are estimates 9 5/8" 40# J-55 LTC	Floc Water	Vertical
	Section 4		Floc				
			OBM				
	Big Lime		1,061				
	1st Elk Siltstone		4,748				
	Tully Lime		7,595				
	Purcell (Limestone)		7,939				
	Lower Marcellus		7,942				
	14,431 MD 7958 TVD				5 1/2" 20# P-110 VAR		

Mud Data	From	To
Floc Water	80	1500
Floc Water	1500	7,583
11.5- 12.0 ppg SOBM	7,583	14,431

Bit Data	From	To
17-1/2" & 12 1/4" PDC	80	1,500
8- 3/4" (PDC)	1,500	8,583
8- 1/2" (PDC)	8,583	14,431

Directional Data See Directional Plan

Cement: Type 1
1.2 ft3/sack +10% Exs in OH = 2512 sacks
TOC : 1,350 ft
All cement volumes are estimates

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Revision 1

Note: Not drawn to scale

Cement Outside Casing
Seal Assembly in Annulus

Date Last Revised: 12-Oct-15
Jarrett Toms

Mountaineer Keystone LLC

4709101325

SITE SAFETY PLAN

UNB #211 Well PAD

911 Address:

8740 Victory Avenue

Grafton, WV 26354

Kenneth L. Gasparich

9-9-15

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FORM WW-6

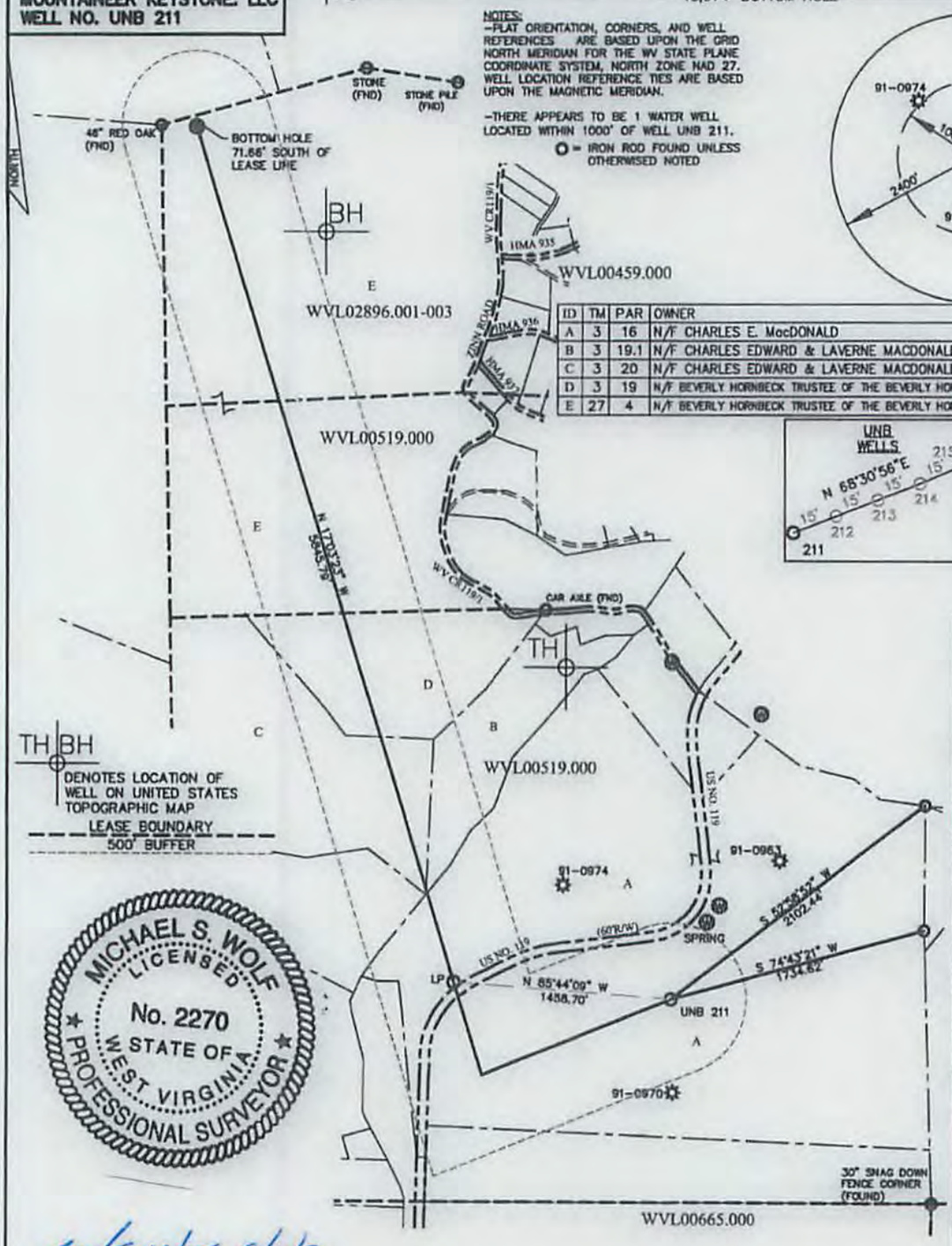
MOUNTAINEER KEYSTONE, LLC
WELL NO. UNB 211

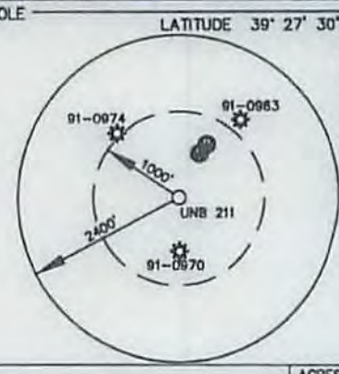
7,779' TOP HOLE
10,974' BOTTOM HOLE
LATITUDE 39° 27' 30"
LONGITUDE 79° 55' 00"
3,251' BOTTOM HOLE
8,933' TOP HOLE

NOTES:
-PLAT ORIENTATION, CORNERS, AND WELL REFERENCES ARE BASED UPON THE GRID NORTH MERIDIAN FOR THE WV STATE PLANE COORDINATE SYSTEM, NORTH ZONE NAD 27. WELL LOCATION REFERENCE TIES ARE BASED UPON THE MAGNETIC MERIDIAN.

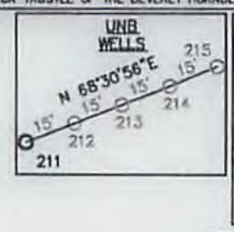
-THERE APPEARS TO BE 1 WATER WELL LOCATED WITHIN 1000' OF WELL UNB 211.

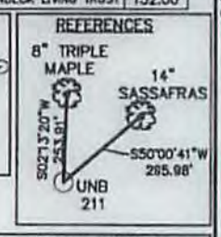
O = IRON ROD FOUND UNLESS OTHERWISED NOTED





ID	TM	PAR	OWNER	ACRES
A	3	16	N/F CHARLES E. MacDONALD	222.75
B	3	19.1	N/F CHARLES EDWARD & LAVERNE MACDONALD & SURV	20.26
C	3	20	N/F CHARLES EDWARD & LAVERNE MACDONALD & SURV	37.00
D	3	19	N/F BEVERLY HORNBECK TRUSTEE OF THE BEVERLY HORNBECK LIVING TRUST	24.50
E	27	4	N/F BEVERLY HORNBECK TRUSTEE OF THE BEVERLY HORNBECK LIVING TRUST	152.00





WELL NO. UNB 211
TOP HOLE
STATE PLANE COORDINATES
(NAD 27 NORTH ZONE)
N: 340427.69
E: 1874537.87
LAT: 39° 26' 02.083"
LON: 79° 56' 38.321"
STATE PLANE COORDINATES
(NAD 83 NORTH ZONE-METER)
N: 103774.34
E: 561778.01
UTM COORDINATES
(NAD 83-METER)
N: 4365462.07
E: 590882.67

WELL NO. UNB 211
LANDING POINT
STATE PLANE COORDINATES
(NAD 27 NORTH ZONE)
N: 340538.21
E: 1873083.20
LAT: 39° 26' 03.084"
LON: 79° 56' 56.869"
STATE PLANE COORDINATES
(NAD 83 NORTH ZONE-METER)
N: 103807.41
E: 561334.61
UTM COORDINATES
(NAD 83-METER)
N: 4365487.75
E: 590438.89

WELL NO. UNB 211
BOTTOM HOLE
STATE PLANE COORDINATES
(NAD 27 NORTH ZONE)
N: 346125.20
E: 1871368.79
LAT: 39° 26' 58.236"
LON: 79° 57' 19.079"
STATE PLANE COORDINATES
(NAD 83 NORTH ZONE-METER)
N: 105510.86
E: 560812.09
UTM COORDINATES
(NAD 83-METER)
N: 4367181.87
E: 589888.21

ms wlz 9/10/15
Michael S. Wolf, P.S. 2270

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.

FILE NO. 030-1999
SCALE: 1"=1000'
MINIMUM DEGREE OF ACCURACY: 1 in 2500
PROVEN SOURCE OF ELEVATION: OPUS SURVEY GRADE GPS

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

DATE SEPTEMBER 10 2015
OPERATOR'S WELL NO. UNB NO. 211
API WELL NO.
47 - 091 - 01325 H6A
STATE COUNTY PERMIT

WELL TYPE: OIL ☐ GAS ☒ LIQUID INJECTION ☐ WASTE DISPOSAL ☐ (IF "GAS"), PRODUCTION ☒ STORAGE ☐ DEEP ☐ SHALLOW ☒
LOCATION: ELEVATION: 1878' WATER SHED: WHITE DAY CREEK
DISTRICT: FETTERMAN COUNTY: TAYLOR
QUADRANGLE: GLADESVILLE 7.5' ACREAGE: 222.75 AC±
SURFACE OWNER: CHARLES E. MacDONALD LEASE ACREAGE: 456.51 AC +
OIL & GAS ROYALTY OWNER: JP MORGAN LEASE NO.
PROPOSED WORK: DRILL ☒ CONVERT ☐ DRILL DEEPER ☐ REDRILL ☐ FRACTURE OR STIMULATE ☒
PERFORATE NEW FORMATION ☐ PLUG OFF OLD FORMATION ☐ OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
PLUG AND ABANDON CLEAN OUT AND REPLUG
TARGET FORMATION: MARCELLUS SHALE ESTIMATED DEPTH: 7,958' TVD / 14,431' MD

THRASHER
THE THRASHER GROUP, INC.
600 WHITE OAKS BLVD.
BRIDGEPORT, WV 26330
PHONE 304-624-4108

WELL OPERATOR: MOUNTAINEER KEYSTONE DESIGNATED AGENT: NATHAN SKEEN
ADDRESS: 6031 WALLACE ROAD EX. ADDRESS: 6031 WALLACE ROAD EX.
WEXFORD, PA 15090 WEXFORD, PA 15090

WW-6A1
(5/13)

Operator's Well No. UNB 211

INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
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:

4709101325

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page

*see attached pages

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

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:

Received
Office of Oil & Gas
SEP 11 2015

- 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

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: Mountaineer Keystone, LLC
By: Amy L. Miller
Its: Regulatory Compliance Specialist

Attachment to WW-6A1, UNB No. 211HM

Letter Designation/Number Designation on Plat	Grantor, Lessor, Assignor, etc.	Grantee, Lessee, Assignee, etc.	Royalty	Book/Page	Acreage
WVL00519.000	Union National Bank, Trustee - Truman E. Gore and C. Burke Morris	Pepper Resources, Inc.	12.50%	44/70	907
	Pepper Resources, Inc.	Petroleum Development Corporation		19/440 31/28	
	Petroleum Development Corporation	PDC Mountaineer, LLC		30/698	
	PDC Mountaineer, LLC	PDC Mountaineer Holdings, LLC			
WVL02896.001	Ronald L. and Beverly Hornbeck, H/W	Chesapeake Appalachia, L.L.C.	12.50%	1021/314 1064/301	152
	Chesapeake Appalachia, L.L.C.	Statoilhydro USA Onshore Properties, Inc.		34/738	
	Chesapeake Appalachia, LLC and Statoil USA Onshore Properties, Inc.	PDC Mountaineer, LLC		45/677	
	PDC Mountaineer, LLC	PDC Mountaineer Holdings, LLC			
WVL02896.002	Cara Michelle Davidson, a/k/a Cara Michelle Krauch	Chesapeake Appalachia, L.L.C.	12.50%	1072/754	152
	Chesapeake Appalachia, L.L.C.	Statoilhydro USA Onshore Properties, Inc.			
	Chesapeake Appalachia, LLC and Statoil USA Onshore Properties, Inc.	PDC Mountaineer, LLC		45/677	
	PDC Mountaineer, LLC	PDC Mountaineer Holdings, LLC			
WVL02896.003	Beth Mays a/k/a Catherine Elizabeth (Beth) Mays	Chesapeake Appalachia, L.L.C.	15.00%	1070/137	152
	Chesapeake Appalachia, L.L.C.	Statoilhydro USA Onshore Properties, Inc.			
	Chesapeake Appalachia, LLC and Statoil USA Onshore Properties, Inc.	PDC Mountaineer, LLC		45/677	
	PDC Mountaineer, LLC	PDC Mountaineer Holdings, LLC			

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Agreement to Drill, Complete and Operate Oil & Gas Wells

This Agreement to Drill, Complete and Operate Oil & Gas Wells (this "**Agreement**"), by and among Mountaineer Keystone LLC, a West Virginia limited liability company ("**Mountaineer Keystone**"), PDC Mountaineer, LLC, a Delaware limited liability company ("**PDC**"), and PDC Mountaineer Holdings, LLC, a Delaware limited liability company ("**PDC Holdings**"), is effective as of **October 15, 2014.** (the "**Effective Date**") and sets forth the terms pursuant to which Mountaineer Keystone will drill, complete and operate the Wells (as defined below) on behalf of PDC and PDC Holdings. Mountaineer Keystone, PDC, and PDC Holdings are each a "**Party**" and are collectively the "**Parties**". In consideration of the foregoing and the respective agreements hereinafter set forth and the mutual benefits to be derived therefrom, the Parties, intending to be legally bound, hereby agree as follows:

1. **Term:** This Agreement is effective from the Effective Date until terminated by Mountaineer Keystone on the one hand or PDC and PDC Holdings on the other hand with 30 days' written notice to the other Party or Parties, as applicable (the "**Term**").

2. **Authorization to Operate:** PDC and PDC Holdings authorize Mountaineer Keystone to undertake and perform, on PDC and PDC Holdings behalf, all operations, including without limitation permit applications, well pad preparation, drilling and completing wells, and marketing gas, oil and other hydrocarbons therefrom with respect to all oil and gas wells to be drilled on oil and gas leasehold acreage held by PDC or PDC Holdings. PDC, PDC Holdings and Mountaineer Keystone are affiliates with a common parent. Mountaineer Keystone was formed to operate oil and gas leasehold acreage held by PDC, PDC Holdings and certain other affiliates. Mountaineer Keystone agrees that it shall, in a good and workmanlike manner and in accordance with industry standards as they prevail in the area, drill, complete and operate oil and gas wells on leasehold acreage owned by PDC or PDC Holdings from time to time as directed by PDC or PDC Holdings (collectively, the "**Wells**").

3. **No Third Party Beneficiary:** This Agreement is for the benefit of the Parties and is not for the benefit of any third party.

4. **Counterparts:** This Agreement may be simultaneously executed in several counterparts and via facsimile or similar electronic transmittal, each of which shall be deemed to be an original and taken together shall constitute one and the same instrument.

[Signature Page Follows]

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IN WITNESS WHEREOF, Mountaineer Keystone, PDC, and PDC Holdings have caused their duly authorized representatives to execute this Agreement as of the Effective Date.

MOUNTAINEER KEYSTONE LLC

By:_____
Name: Robert Kozel
Title: CEO

PDC MOUNTAINEER, LLC

4709101325

By:_____
Name: Robert Kozel
Title: CEO

PDC MOUNTAINEER HOLDINGS, LLC

By:_____
Name: Robert Kozel
Title: CEO

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SEP 11 2015

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Mountaineer Keystone LLC

8/20/2015

Gene Smith
Assistant Chief – Office of Oil and Gas
WVDEP
601 57th Street, SE
Charleston, WV 25304

4709101325

RE: Ownership of Roadways; UNB Pad, Taylor County, Fetterman District

Dear Mr. Smith:

In preparation of filing a permit application for the above referenced well, Mountaineer Keystone's Title Department conducted thorough title examinations to determine ownership of the oil and gas underlying all roadways crossed by the proposed well. The findings of our examinations show that that the roadways crossed by the proposed well are right of ways only, with the oil and gas being owned and covered by our leasehold as provided on the plat for the proposed well.

If you have any questions, concerns or need further information, please do not hesitate to contact me at the contact information below.

Sincerely,

Orla Lavender

Orla Lavender
Director of Title

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6031 Wallace Road Extension, Suite 300, Wexford, PA 15090 Phone (724) 940-1100 eFax 1-800-428-0981

4709101325

THE MOUNTAIN STATESMAN
PO BOX 218
GRAFTON, WV 26354
(304) 265-3333
FEIN NO. 363672215

MOUNTAINEER KEYSTONE LLC
AMY L MILLER
65 PROFESSIONAL PL SUITE 200
BRIDGEPORT WV 26330

LEGAL ADVERTISEMENT INVOICE

ACCT# 5023 **LEGAL#** 2744

DESCRIPTION Horizontal Natural Gas Well Work Permit
Well# 211; 212; 213; 214; 215

PUBICATION DATES			PUBLICATION COST
8/19/2015			$ 144.21
8/26/2015			$ 108.16
			$ -
			$ -
			$ -
			$ -
			$ -
			$ -
	AFFIDAVIT FEE		$ 2.00
		TOTAL	$ 254.37

Legal Rate: .11 1/5 cents per word space for the first publication
75% of the first cost for each additional publication

AFFIDAVIT

STATE OF WEST VIRGINIA, COUNTY OF TAYLOR,
TAMMY A LYONS, PUBLISHER of the MOUNTAIN STATESMAN
a Newspaper Published in Grafton in said county,
do hereby certify that the annexed

Was published once a week for two
weeks in said Mountain Statesman a Newspaper as aforesaid,
commencing on the 19th day of August 2015

Publisher: Tammy A Lyons

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Office of Oil & Gas
SEP 11 2015

WEST VIRGINIA, TAYLOR COUNTY, TO WIT:
Subscribed and sworn before me this 31st
day of August, 2015

Notary Public: Monica G Robinson
My commission expires: May 22, 2024

OFFICIAL SEAL
Notary Public, State of West Virginia
Monica G Robinson
19 Rogers Street
Grafton, WV 26354
My commission expires May 22, 2024

WW-6AC
(1/12)

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE CERTIFICATION

Date of Notice Certification: 09/10/2015

API No. 47- - 2
Operator's Well No. UNB 211
Well Pad Name: UNB

4709

Notice has been given:
Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State:	West Virginia	UTM NAD 83	Easting:	590882.67
County:	Taylor		Northing:	4365462.07
District:	Fetterman	Public Road Access:		Rt. 119
Quadrangle:	Gladesville 7.5'	Generally used farm name:		Charles E. MacDonald
Watershed:	White Day Creek			

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following: *PLEASE CHECK ALL THAT APPLY	OOG OFFICE USE ONLY
☐ 1. NOTICE OF SEISMIC ACTIVITY or ☒ NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED	☐ RECEIVED/ NOT REQUIRED
☐ 2. NOTICE OF ENTRY FOR PLAT SURVEY or ☒ NO PLAT SURVEY WAS CONDUCTED	☐ RECEIVED
☒ 3. NOTICE OF INTENT TO DRILL or ☐ NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or ☐ WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)	☐ RECEIVED/ NOT REQUIRED
☒ 4. NOTICE OF PLANNED OPERATION	☐ RECEIVED
☒ 5. PUBLIC NOTICE	☐ RECEIVED
☒ 6. NOTICE OF APPLICATION	☐ RECEIVED

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SEP 11 2015

Required Attachments:
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

WW-6AC
(1/12)

Certification of Notice is hereby given:

THEREFORE, I Nathan Skeen, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification 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:	Mountaineer Keystone, LLC	Address:	65 Professional Place, Suite 200
By:	Nathan Skeen		Bridgeport, WV 26330
Its:	Designated Agent	Facsimile:	800-428-0981
Telephone:	724-940-1202	Email:	amiller@mkeystone.com

NOTARY SEAL
Official Seal
Notary Public, State Of West Virginia
Amy L Miller
1111 Van Voorhis Road Suite G
Morgantown WV 26505
My commission expires March 15, 2022

Subscribed and sworn before me this 10th day of September.

Amy L Miller Notary Public

My Commission Expires 03/15/2022

Oil and Gas Privacy Notice:
The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

4709101325

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SEP 11 2015

WW-6A
(9-13)

API NO. 47-_____-_____
OPERATOR WELL NO. UNB 211
Well Pad Name: UNB

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**

Date of Notice: 9/10/2015 **Date Permit Application Filed:** 9/11/2015

Notice of:

4709101325

☑ PERMIT FOR ANY WELL WORK

☑ CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

☐ PERSONAL SERVICE

☐ REGISTERED MAIL

☑ METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

☑ Application Notice ☑ WSSP Notice ☑ E&S Plan Notice ☑ Well Plat Notice is hereby provided to:

☑ SURFACE OWNER(s)
Name: Mr. Charles E. MacDonald
Address: RR 3 Box 165
Grafton, WV 26354
Name:
Address:

☑ SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: Mr. Charles E. MacDonald
Address: RR 3 Box 165
Grafton, WV 26354
Name:
Address:

☑ SURFACE OWNER(s) (Impoundments or Pits)
Name: Mr. Charles E. MacDonald
Address: RR 3 Box 165
Grafton, WV 26354

☐ COAL OWNER OR LESSEE
Name:
Address:

☐ COAL OPERATOR
Name:
Address:

☑ SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: Mr. Charles E. MacDonald
Address: RR 3 Box 165
Grafton, WV 26354

☐ OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name:
Address:

*Please attach additional forms if necessary

Received
Office of Oil & Gas
SEP 11 2015

WW-6A
(9-13)

API NO. 47-_____-_____
OPERATOR WELL NO. UNB 211
Well Pad Name: UNB

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**

Date of Notice: 9/10/2015 **Date Permit Application Filed:** 9/11/2015

Notice of:

☑ PERMIT FOR ANY WELL WORK ☑ CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

☐ PERSONAL SERVICE ☐ REGISTERED MAIL ☑ METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

☑ Application Notice ☑ WSSP Notice ☑ E&S Plan Notice ☑ Well Plat Notice is hereby provided to:

☐ SURFACE OWNER(s)
Name: _____
Address: _____
Name: _____
Address: _____

☐ SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: _____
Address: _____
Name: _____
Address: _____

☑ SURFACE OWNER(s) (Impoundments or Pits)
Name: _____
Address: _____

☑ COAL OWNER OR LESSEE
Name: Patriot Reserve Holdings, LLC
Address: 500 Lee Street East, Suite 900
Charleston, WV 25301

☑ COAL OPERATOR
Name: Patriot Reserve Holdings, LLC
Address: 500 Lee Street East, Suite 900
Charleston, WV 25301

☐ SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: _____
Address: _____

☐ OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: _____
Address: _____

*Please attach additional forms if necessary

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SEP 2015

WW-6A
(9-13)

API NO. 47-_____-_____
OPERATOR WELL NO. UNB 211
Well Pad Name: UNB

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**

Date of Notice: 9/10/2015 **Date Permit Application Filed:** 9/11/2015

Notice of:

☑ PERMIT FOR ANY WELL WORK

☑ CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

☐ PERSONAL SERVICE

☐ REGISTERED MAIL

☑ METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

☑ Application Notice ☑ WSSP Notice ☑ E&S Plan Notice ☑ Well Plat Notice is hereby provided to:

4709101325

☐ SURFACE OWNER(s)
Name: _____
Address: _____
Name: _____
Address: _____

☐ SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: _____
Address: _____
Name: _____
Address: _____

☑ SURFACE OWNER(s) (Impoundments or Pits)
Name: _____
Address: _____

☑ COAL OWNER OR LESSEE
Name: Eastern Associated Coal Corporation
Address: 500 Lee Street East, Suite 202
Charleston, WV 25301

☑ COAL OPERATOR
Name: Eastern Associated Coal Corporation
Address: 500 Lee Street East, Suite 202
Charleston, WV 25301

☐ SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: _____
Address: _____

☐ OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: _____
Address: _____

*Please attach additional forms if necessary

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WW-6A
(9-13)

API NO. 47-_____-_____
OPERATOR WELL NO. UNB 211
Well Pad Name: UNB

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**

Date of Notice: 9/10/2015 **Date Permit Application Filed:** 9/11/2015

Notice of:

☑ PERMIT FOR ANY WELL WORK ☑ CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

☐ PERSONAL SERVICE ☐ REGISTERED MAIL ☑ METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

☑ Application Notice ☑ WSSP Notice ☑ E&S Plan Notice ☑ Well Plat Notice is hereby provided to:

☐ SURFACE OWNER(s)
Name: _____
Address: _____
Name: _____
Address: _____

☐ SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: _____
Address: _____
Name: _____
Address: _____

☑ SURFACE OWNER(s) (Impoundments or Pits)
Name: _____
Address: _____

☑ COAL OWNER OR LESSEE
Name: Ark Land Company
Address: 114 Miley Drive, Suite B
Charleston, WV 26311

☐ COAL OPERATOR
Name: _____
Address: _____

☐ SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
Name: _____
Address: _____

☐ OPERATOR OF ANY NATURAL GAS STORAGE FIELD
Name: _____
Address: _____

*Please attach additional forms if necessary

4709101325

Received
Office of Oil & Gas
SEP 11 2015

WW-6A
(8-13)

API NO. 47-_____-_____
OPERATOR WELL NO. UNB 211
Well Pad Name: UNB

Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

This Notice Shall Include:
Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Location Restrictions
Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

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examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

Water Well Testing:
Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

Water Testing Laboratories:
Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service until authorized to do so by the secretary or a court of competent jurisdiction.

Written Comment:
Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

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

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

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(8-13)

API NO. 47-_____-_____
OPERATOR WELL NO. UNB 211
Well Pad Name: UNB

Time Limits and Methods for Filing Comments.

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) 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.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

Comment Requirements

Your comments must be in writing and 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.

Disclaimer: All comments received will be placed on our web site http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

Permit Denial or Condition

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

(1) The proposed well work will constitute a hazard to the safety of persons;
(2) The plan for soil erosion and sediment control is not adequate or effective;
(3) Damage would occur to publicly owned lands or resources; or
(4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

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Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

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SEP 11 2015

WW-6A
(8-13)

API NO. 47-_____-_____
OPERATOR WELL NO. UNB 211
Well Pad Name: UNB

Notice is hereby given by:

Well Operator: Mountaineer Keystone, LLC
Telephone: 724-940-1202
Email: amiller@mkeystone.com

Address: 6031 Wallace Road Extension, Suite 300
Wexford, PA 15090
Facsimile: 800-428-0981

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

Official Seal
Notary Public, State Of West Virginia
Amy L Miller
1111 Van Voorhis Road Suite G
Morgantown WV 26505
My commission expires March 15, 2022

Subscribed and sworn before me this 10th day of September, 2015.

Amy L Miller Notary Public

My Commission Expires 3/15/2022

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SEP 11 2015

WW-6A
(8-13)

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Amy L Miller Notary Public

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Office of Oil & Gas
SEP 11 2015

ID	TM	PAR	OWNER	ADDRESS	CITY, STATE	ZIP CODE	DISTRICT	FEATURE - DISTANCE S=SPRING/SH=SPRING HOUSE/ SB=SPRING BOX/ST=STREAM/W=WELL
A	3	19.1	CHARLES E. & LAVERNE & SURV MACDONALD	RR 3 BOX 165	GRAFTON, WV	26354	FETTERMEN	
B	3	16	CHARLES E. MACDONALD	RR 3 BOX 165	GRAFTON, WV	26354	FETTERMEN	W-577.4' / S-457.2'
C	6	7	VIRGINIA M. BREWER	RR 3 BOX 161	GRAFTON, WV	26354	FETTERMEN	
D	3	22	MARY ERICKSON	870 CHALFONT PL	COPPELL, TX	75019	FETTERMEN	
E	3	17	TRUSTEES FAIRMONT DIST OF FREE METHODIST CHURCH	1835 BOYCE ST	HASTINGS, NE	68901	FETTERMEN	

LEGEND

- = PROPERTY LINE
- = 1500' BOUNDARY LINE
- E = PROPERTY ID
- = POTENTIAL WATER SOURCE

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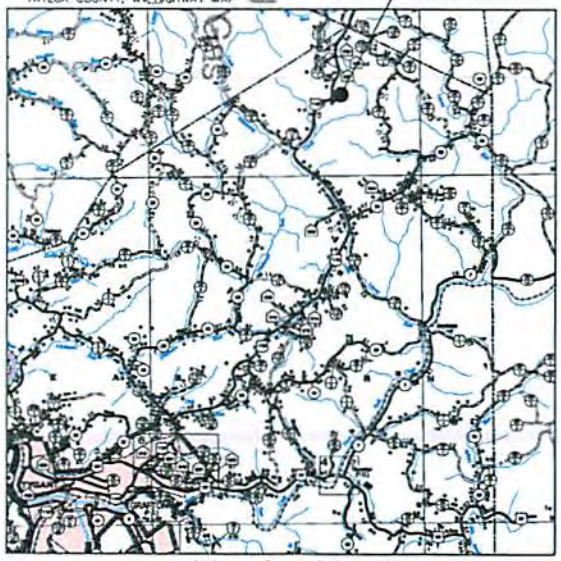
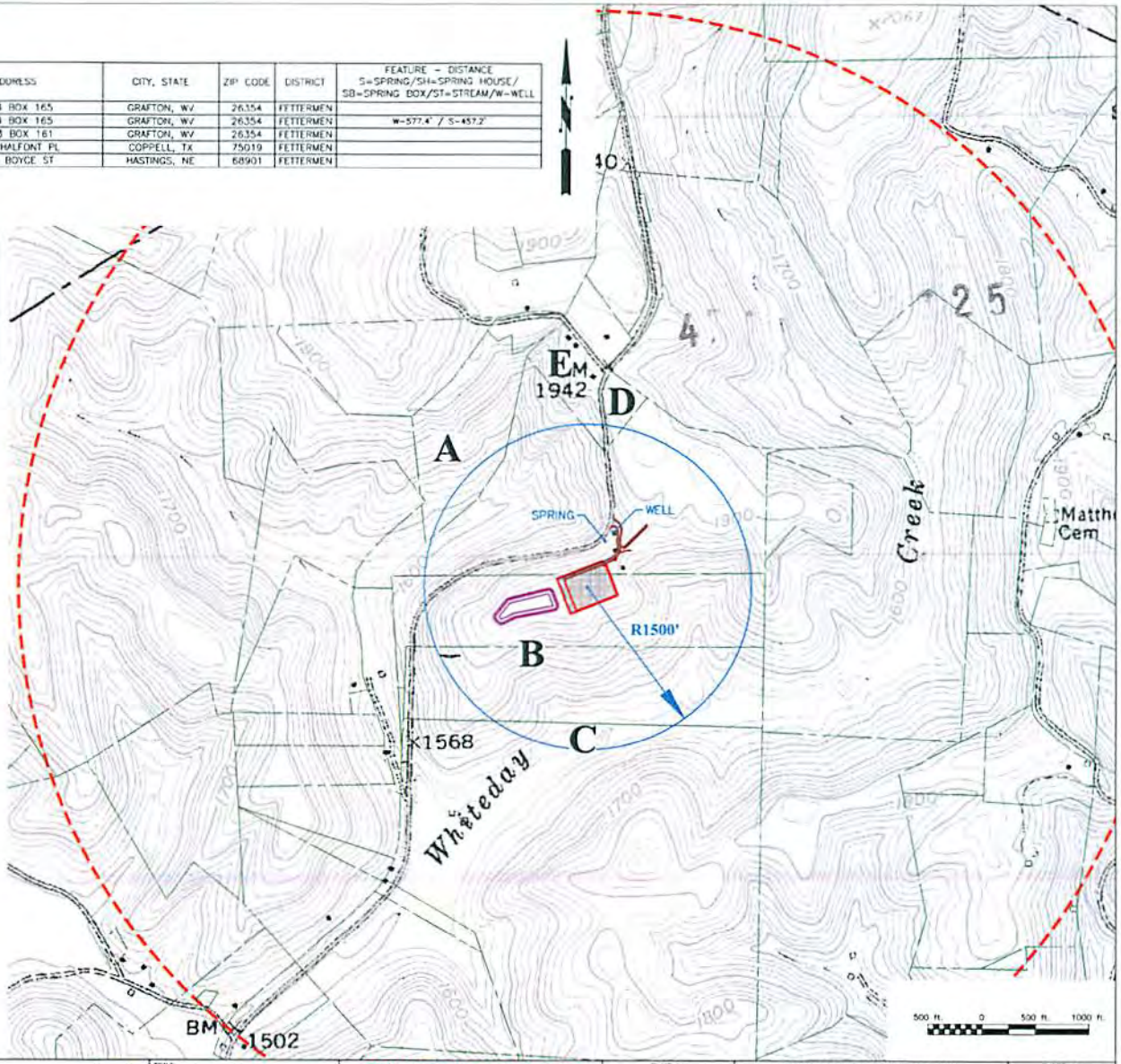
Office of Oil & Gas
SEP 11 2015

TAYLOR COUNTY, WV HIGHWAY MAP



HIGHWAY MAP SCALE



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NO.	BY	DATE	DESCRIPTION

Mountaineer Keystone LLC

SCALE:
DRAWN: DATE:
CHECKED: DATE:
APPROVED: DATE:
SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:

THRASHER
THE THRASHER GROUP, INC.
600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330
PHONE: (304) 624-4108 FAX: (304) 624-1831

PHASE No.
CONTRACT No.
PROJECT No. 101-030-2770

MOUNTAINEER KEYSTONE, LLC
CONSTRUCTION PLANS FOR UNB
WELL PAD AND FLOWBACK PIT
TAYLOR COUNTY, WV
WATER SOURCES

SHEET No. V

WW-6A4
(1/12)

Operator Well No. UNB 211

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF INTENT TO DRILL

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

Notice Time Requirement: Notice shall be provided at least **TEN (10)** days prior to filing a permit application.
Date of Notice: 08/19/2015 **Date Permit Application Filed:** ~~09/04/2015~~ 9/11/2015 alm

Delivery method pursuant to West Virginia Code § 22-6A-16(b)

4709101325

☐ HAND DELIVERY ☒ CERTIFIED MAIL RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided,* That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however,* That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

Notice is hereby provided to the SURFACE OWNER(s):

Name: Charles E. MacDonald
Address: RR 3 Box 165
Grafton, WV 26354

Name:
Address:

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State:	West Virginia	UTM NAD 83 Easting:	590882.662
County:	Taylor	Northing:	4365462.087
District:	Fetterman	Public Road Access:	Rt. 119
Quadrangle:	Gladesville 7.5'	Generally used farm name:	Charles E. MacDonald
Watershed:	White Day Creek		

This Notice Shall Include:

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator:	Mountaineer Keystone, LLC	Authorized Representative:	Nathan Skeen
Address:	6031 Wallace Road Extension, Suite 300	Address:	65 Professional Place, Suite 200
	Wexford, PA 15090		Bridgeport, WV 26330
Telephone:	724-940-1202	Telephone:	724-940-1205
Email:	amiller@mkeystone.com	Email:	nskeen@mkeystone.com
Facsimile:	800-428-0981	Facsimile:	800-428-0981

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SEP 11 2015

Oil and Gas Privacy Notice:

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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(1/12)

Operator Well No. UNB 211

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF PLANNED OPERATION

Notice Time Requirement: notice shall be provided no later than the **filing date of permit application.**
Date of Notice: 09/10/2015 **Date Permit Application Filed:** 09/11/2015

Delivery method pursuant to West Virginia Code § 22-6A-16(c)

☒ CERTIFIED MAIL RETURN RECEIPT REQUESTED ☐ HAND DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

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Notice is hereby provided to the SURFACE OWNER(s)
(at the address listed in the records of the sheriff at the time of notice):

Name: Charles E. MacDonald
Address: RR 3 Box 165
Grafton, WV 26354

Name:
Address:

Notice is hereby given:
Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State:	West Virginia	UTM NAD 83	Easting:	590882.67
County:	Taylor		Northing:	4365462.07
District:	Fetterman	Public Road Access:		Rt. 119
Quadrangle:	Gladesville 7.5'	Generally used farm name:		Charles E. MacDonald
Watershed:	White Day Creek			

This Notice Shall Include:
Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1)A copy of this code section; (2) The information required to be provided by **W. Va. Code § 22-6A-10(b)** to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Operator:	Mountaineer Keystone, LLC	Address:	6031 Wallace Road Extension, Suite 300
Telephone:	724-940-1202		Wexford, PA 15090
Email:	amiller@mkeystone.com	Facsimile:	800-428-0981

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Office of Oil & Gas
SEP 11 2015

WW-6RW
(1-12)

MOUNTAINEER KEYSTONE LLC-ERIC LANTZ
65 PROFESSIONAL OLACE
BRIDGEPORT, WV 26330-

API NO. 47- 091 -
OPERATOR WELL NO. 211
Well Pad Name: UNB

11-472

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL LOCATION RESTRICTION WAIVER

The well operator, Mountaineer Keystone, LLC is applying for a permit from the State of West Virginia to conduct oil or gas well work. Please be advised that well work permits are valid for twenty-four (24) months.

Well Location Restrictions

Pursuant to West Virginia Code § 22-6A-12(a), Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements.

WAIVER

I, Charles E. MacDonald and Laverne M. MacDonald, hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages one (1) through 23, including the erosion and sediment control plan, if required, and the well plat, all for proposed well work on the tract of land as follows:

State:	West Virginia	UTM NAD 83 Easting:	590882.67
County:	Taylor	UTM NAD 83 Northing:	4365462.07
District:	Fetterman	Public Road Access:	US 119
Quadrangle:	Gladesville	Generally used farm name:	MacDonald
Watershed:	White Day Creek		

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 and I therefore waive all well site restrictions listed under West Virginia Code § 22-6A-12(a).

WELL SITE RESTRICTIONS BEING WAIVED
*Please check all that apply

- ☒ EXISTING WATER WELLS
- ☒ DEVELOPED SPRINGS
- ☒ DWELLINGS
- ☒ AGRICULTURAL BUILDINGS

FOR EXECUTION BY A NATURAL PERSON
Signature: Charles E. MacDonald Laverne M. MacDonald
Print Name: Charles E. MacDonald and Laverne M. MacDonald
Date: May 27, 2015

FOR EXECUTION BY A CORPORATION, ETC.
Company:
By:
Its:
Signature:
Date:

Georgianna Thompson
TAYLOR County 02:30:23 PM
Instrument No 201501480
Date Recorded 08/31/2015
Document Type MIS
Pages Recorded 1
Book-Page 11-472
Recording Fee $5.00
Additional 2015.00

Well Operator: Mountaineer Keystone, LLC
By: Nathan Skeen
Its: Designated Agent
Signature:
Telephone: 724-940-1205

NOTARY SEAL
OFFICIAL SEAL
Notary Public, State Of West Virginia
COLE DODD
730 Maple Lake
Bridgeport, WV 26330
My Commission Expires January 13, 2020

Subscribed and sworn before me this 27 day of MAY, 2015

COLE DODD
Notary Public

My Commission Expires JANUARY 13, 2020

Received
Office of Oil & Gas
SEP 11 2015

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

WW-6AW
(1-12)

API NO. 47- 091 -
OPERATOR WELL NO. UNB 211
Well Pad Name: UNB

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

VOLUNTARY STATEMENT OF NO OBJECTION

Instructions to Persons Named on Page WW-6A
The well operator named on page WW-6A is applying for a permit from the State of West Virginia to conduct oil or gas well work. Well work permits are valid for twenty-four (24) months. Please contact the listed well operator and the Office of Oil and Gas if you do not own any interest in the listed surface tract.

Comment and Waiver Provisions
Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary.

4708101359

Pursuant to West Virginia Code § 22-6A-8(b) No permit may be issued less than thirty days after the filing date of the application for any well work except plugging or replugging; and no permit for plugging or replugging may be issued less than five days after the filing date of the application except a permit for plugging or replugging a dry hole: *Provided,* That if the applicant certifies that all persons entitled to notice of the application under the provisions of subsection (b), section ten of this article have been served in person or by certified mail, return receipt requested, with a copy of the well work application, including the erosion and sediment control plan, if required, and the well plat, and further files written statements of no objection by all such persons, the secretary may issue the well work permit at any time.

VOLUNTARY STATEMENT OF NO OBJECTION

I, Charles E. MacDonald and LaVerne M. MacDonald, hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages one (1) through 23, including the erosion and sediment control plan, if required, and the well plat, all for proposed well work on the tract of land as follows:

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County:	Taylor		Northing:	4365462.07
District:	Fetterman	Public Road Access:		US 119
Quadrangle:	Gladesville	Generally used farm name:		MacDonald
Watershed:	White Day Creek			

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.

*Please check the box that applies	FOR EXECUTION BY A NATURAL PERSON
☒ SURFACE OWNER	Signature: Charles E MacDonald / LaVerne M MacDonald
☒ SURFACE OWNER (Road and/or Other Disturbance)	Print Name: CHARLES E MacDonald / LAVERNE M. MacDONALD
☒ SURFACE OWNER (Impoundments/Pits)	Date: 9/1/15
☐ COAL OWNER OR LESSEE	**FOR EXECUTION BY A CORPORATION, ETC.**
☐ COAL OPERATOR	Company:
☒ WATER PURVEYOR	By:
☐ OPERATOR OF ANY NATURAL GAS STORAGE FIELD	Its:
	Signature:
	Date:

Oil and Gas Privacy Notice:
The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as 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 or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

Received
Office of Oil & Gas
SEP 11 2015

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
Division of Highways
1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Earl Ray Tomblin
Governor

Paul A. Mattox, Jr., P. E.
Secretary of Transportation/
Commissioner of Highways

August 21, 2015

James A. Martin, Chief
Office of Oil and Gas
Department of Environmental Protection
601 57th Street, SE
Charleston, WV 25304

4709101325

Subject: DOH Permit for the UNB Pad, Taylor County

UNB 211 Well Site	UNB 212 Well Site	UNB 213 Well Site
UNB 214 Well Site	UNB 215 Well Site	

Dear Mr. Martin,

The West Virginia Division of Highways has issued Permit #04-2015-0726 for the subject site to Mountaineer Keystone, LLC for access to the State Road for the well site located off of US 119 T in Taylor County.

The operator has signed a DISTRICT WIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT for DOH District 4 and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

Gary K. Clayton

Gary K. Clayton
Regional Maintenance Engineer
Central Office Oil &Gas Coordinator

Cc: Amy L. Miller
Mountaineer Keystone, LLC
CH, OM, D-4
File

Received
Office of Oil & Gas
SEP 11 2015

Mountaineer Keystone LLC

Received
Office of Oil & Gas
SEP 11 2015

UNB 211			
Fracturing Additives			
	PURPOSE	TRADE NAME	CAS #:
Additive #1:	Friction Reducer	WFRA-405	Proprietary
Additive #2:	Scale Inhibitor	SI-1000	7440-21-3
Additive #3:	Biocide	BIOCLEAR 2000	25314-61-8
Additive #4:	Gelling Agent	LGC-15	9000-30-0
Additive #5:	Corrosion Inhibitor	AI-300	111-76-2
Additive #6:	Gel Breaker	AP-One	7727-54-0
Additive #7:	Acid	HCL-7.5%	7647-01-0

6031 Wallace Road Extension, Suite 300, Wexford, PA 15090 Phone (724) 940-1100 eFax 1-800-428-0981

MOUNTAINEER KEYSTONE, LLC

CONSTRUCTION PLANS FOR THE

UNB WELL PAD AND FLOWBACK PIT

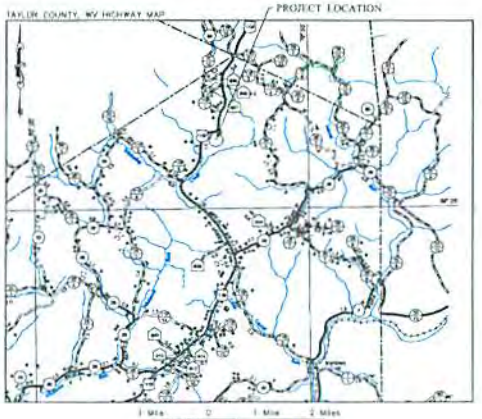
FETTERMEN DISTRICT, TAYLOR COUNTY, WV
AUGUST 2015

Mountaineer Keystone

API#9101325

APPROVED
WVDEP OOG
10/16/2015

TAYLOR COUNTY, WV HIGHWAY MAP



HIGHWAY MAP SCALE

GLADEHAVEN, WV USGS QUAD MAP

VICINITY MAP SCALE

TOP HOLE COORDINATES

Well Number	WV83-N Latitude	WV83-N Longitude	WV83-N Northing	WV83-N Easting	UTM 83-17 Northing	UTM 83-17 Easting
213	N 39.433912°	W 79.943978°	340466.184 ft	1843099.563 ft	4365462.87 m	590682.47 m
212	N 39.433779°	W 79.943928°	340471.621 ft	1843114.048 ft	4365463.76 m	590686.91 m
213	N 39.433842°	W 79.943879°	340477.189 ft	1843127.802 ft	4365465.50 m	590690.17 m
214	N 39.433905.7°	W 79.943830°	340482.702 ft	1843141.841 ft	4365467.22 m	590695.35 m
215	N 39.433973°	W 79.943781°	340488.201 ft	1843155.797 ft	4365469.05 m	590699.52 m

DISTURBANCE SUMMARY

Property Owner (Tax Map / Parcel)	Access Road Disturbance	Well Pad Disturbance	Flowback Pit Disturbance	Topsoil Stockpile Disturbance	Total Disturbance
Charles MacDonald (3/16)	3.50	3.90	4.60	2.50	14.30
Total Disturbance	3.50	3.90	4.60	2.50	14.30

SHEET INDEX

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8	FLOWBACK PIT AND WELL PAD PROFILE
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12	TOPSOIL STOCKPILE PROFILE AND SECTIONS
13-15	GEOMETRIC LAYOUTS
16	RECLAMATION PLAN
17	GENERAL NOTES
18	QUANTITY SUMMARY
19	TYPICAL SECTIONS
20-21	DETAILS

THRASHER

RUSSELL B. MESSENGER
REGISTERED
18226
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
10/15/15

■	APPROVED FOR PERMITS	DATE: 08/31/15	BY: RBM
☐	APPROVED FOR BID	DATE:	BY:
☐	APPROVED FOR CONSTRUCTION	DATE:	BY:

REVISION NUMBER	REVISED SHEETS	BY	DATE	DESCRIPTION
1	1, 3, 4, 17, & 22	BW	10/15/15	ADDRESSED WVDEP OOG PERMIT COMMENTS - ADDED DISTURBANCE SUMMARIES, DIMENSION TO THE RESIDENCE, CULVERT LABELS, REVISED SUMP DETAIL, ADDED LIFE LINE NOTE

CENTER OF WELL PAD
LAT: 39.434063°
LONG: 79.943987°
WV83 - NF N 340521.512 ft
WV83 - NF E 1843094.803 ft
UTM - 17 N 4365478.824 m
UTM - 17 E 590686.830 m

CENTER OF FLOWBACK PIT
LAT: 39.433634°
LONG: 79.945827°
WV83 - NF N 340367.755 ft
WV83 - NF E 1842582.971 ft
UTM - 17 N 4365429.422 m
UTM - 17 E 590725.633 m

BEGINNING OF PROPOSED ACCESS ROAD
LAT: 39.435776°
LONG: 79.943187°
WV83 - NF N 341144.072 ft
WV83 - NF E 1843326.793 ft
UTM - 17 N 4365669.755 m
UTM - 17 E 590948.313 m

WHITEDAY CREEK WATERSHED

FEMA FLOOD MAP
TAYLOR COUNTY, WV
MAP: 54091
PANEL: 0095 D
SITE OUTSIDE OF MAPPED FLOOD PLAIN

CONTACT INFORMATION

THE THRASHER GROUP, INC.
R. BRAD MESSENGER, PE
OFFICE: 304-624-4108
EMAIL: bmessenger@thrashereng.com

MOUNTAINEER KEYSTONE, LLC
AMY MILLER
OFFICE: 304-848-9130
EMAIL: amiller@mkeystone.com

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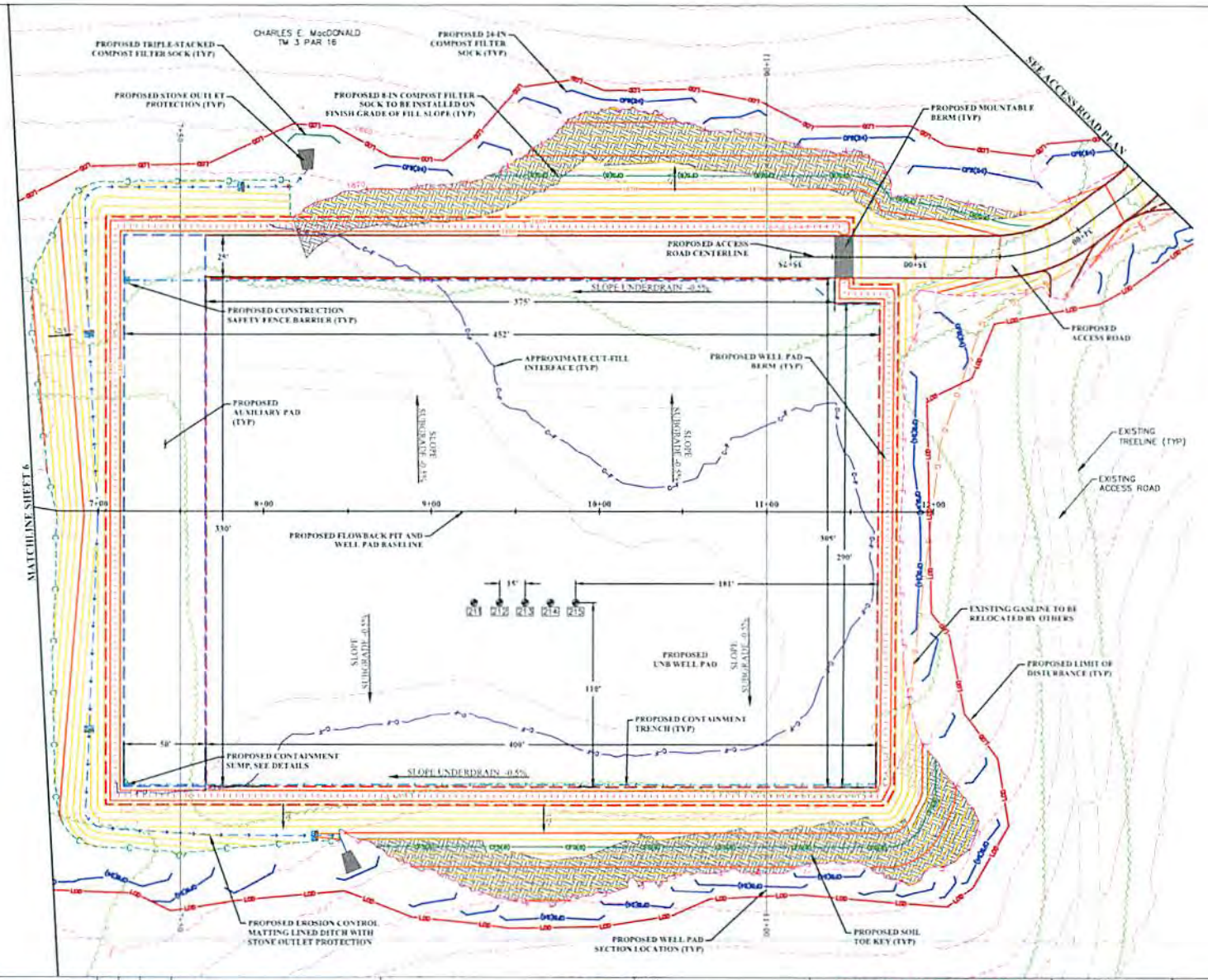
PHONE (304) 624-4108 THRASHER (FAX) (304) 624-7831
THE THRASHER GROUP, INC
600 WHITE OAKS BOULEVARD - BRIDGEPORT, WV 26330



PLAN LEGEND

- PROPERTY LINE
- EXISTING CONTOURS
- EXISTING PAVED ROAD EDGE
- EXISTING GUARDRAIL
- EXISTING DRIVEWAY
- EXISTING TRAIL
- DELINEATED STREAM - PERENNIAL
- DELINEATED STREAM - INTERMITTENT
- DELINEATED STREAM - EPHEMERAL
- ACE DELINEATED STREAM
- EXISTING TREE LINE
- EXISTING CULVERT
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING OVERHEAD UTILITY
- EXISTING OVERHEAD UTILITY TO BE REMOVED
- EXISTING UNDERGROUND UTILITY TO BE RELOCATED
- EXISTING GAS LINE AND GAS FEATURES
- EXISTING WATER WELL
- LOD LIMIT OF DISTURBANCE
- A/O COMBINED LIMIT OF ENVIRONMENTAL DELINEATION
- PROPOSED CONTOURS
- PROPOSED TOE KEY
- PROPOSED 24-IN COMPOST FILTER SOCK
- PROPOSED 8-IN COMPOST FILTER SOCK
- PROPOSED STACKED COMPOST FILTER SOCK
- PROPOSED CUT LIMIT
- PROPOSED FILL LIMIT
- PROPOSED EROSION CONTROL MATTING LINED DITCH
- PROPOSED ROCK LINED DITCH
- PROPOSED ROCK CHECK DAM
- PROPOSED OUTLET PROTECTION
- PROPOSED EDGE OF ACCESS ROAD
- PROPOSED EDGE OF PAD
- PROPOSED EDGE OF AUXILIARY PAD
- PROPOSED EDGE OF FLOWBACK PIT
- PROPOSED EDGE OF STAGING AREA
- PROPOSED EDGE OF TOPSOIL STOCKPILE
- PROPOSED FENCE
- PROPOSED TEMPORARY CONSTRUCTION FENCE

NOTES

1. PROPERTY LINES ARE DERIVED FROM DEED PLOTS AND FIELD SURVEY PERFORMED BY THRASHER
2. THE DATUM FOR THIS PROJECT IS NAD83 WEST VIRGINIA STATE PLANE, NORTH ZONE, US FOOT
3. EXISTING FEATURES AND CONTOURS ARE BASED ON AERIAL MAPPING PROVIDED BY BMI IN MARCH 2015. MAPPING WAS ESTABLISHED BASED ON LIDAR DATA AND PHOTOGRAPHY FROM 6 APRIL 2014.
4. ENVIRONMENTAL FEATURES SHOWN ARE BASED ON DELINEATIONS PERFORMED AND VERIFIED BY ALLIANCE CONSULTING, INC. IN DECEMBER 2011 AND FEBRUARY 2014 AND VERIFIED BY THRASHER IN MARCH 2015 AND JULY 2015
5. LIMIT OF DISTURBANCE FOR THIS PROJECT REPRESENTS THE LIMIT OF CLEARING
6. UNLESS OTHERWISE NOTED, ALL CUT AND STRUCTURAL FILL SLOPES ARE 2H:1V

APPROVED
WVDEP OOG
10/16/2015

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NO.	BY	DATE	DESCRIPTION

Mountaineer Keystone LLC

SCALE
DRAWN DATE
CHECKED DATE
APPROVED DATE
SURVEY DATE
SURVEY BY
FIELD BOOK No.

THRASHER
THE THRASHER GROUP, INC.
600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330
PHONE (304) 624-4108 FAX (304) 624-7831

PROJECT No. 101-030-2770

MOUNTAINEER KEYSTONE, LLC
CONSTRUCTION PLANS FOR UNB
WELL PAD AND FLOWBACK PIT
TAYLOR COUNTY, WV
WELL PAD PLAN

SHEET No. 7

MOUNTAINEE

CONSTRUCT

UNB W

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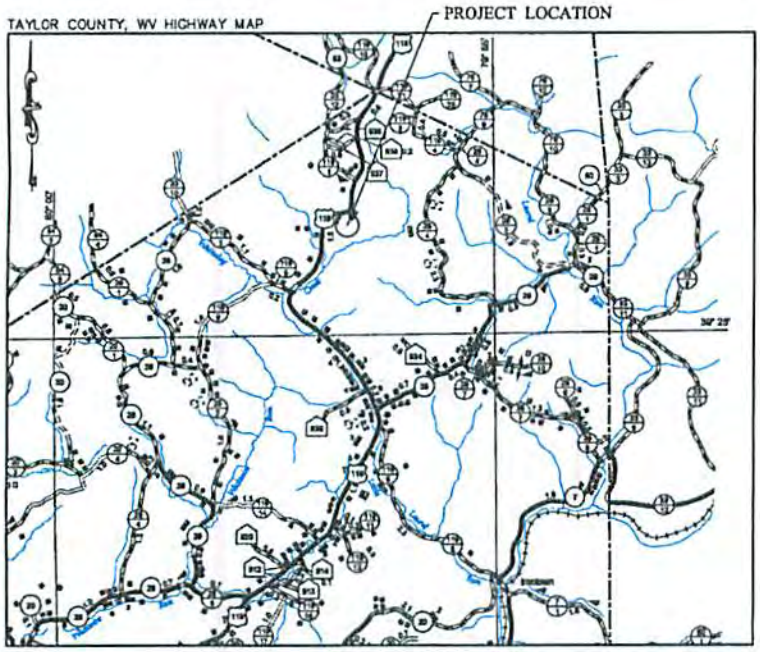
AU

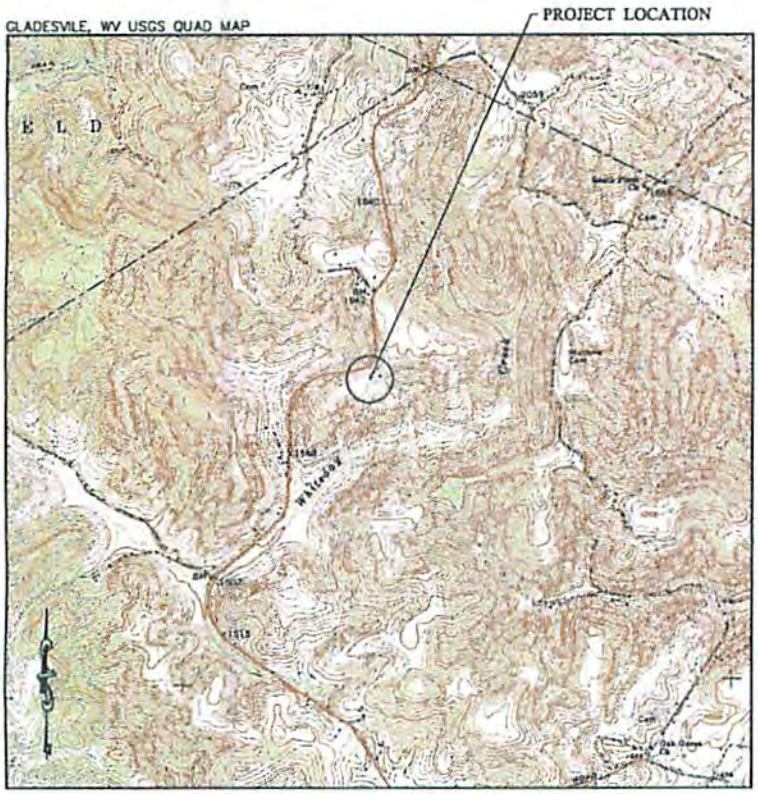
TAYLOR COUNTY, WV HIGHWAY MAP



1 Mile 0 1 Mile 2 Miles

HIGHWAY MAP SCALE

GLADESVILE, WV USGS QUAD MAP



2000' 0 2000' 4000'

VICINITY MAP SCALE

TOI

Well Number	WV83-N Latitude	WV83-N Longitude
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THRA

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UTM - 17 E 590880.830 m

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LONG: 79.945807°
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UTM - 17 N 4365429.422 m
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LAT: 39.435776°
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UTM - 17 N 4365669.755 m
UTM - 17 E 590948.313 m

WHITEDAY CREEK WATE

FEMA FLOOD MAP
TAYLOR COUNTY, W
MAP: 54091
PANEL: 0095 D
SITE OUTSIDE OF MAPPED FL

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COPYRIGHT © 2015 TH

CAD FILE: P:\030-2770 - MR - UNB South Road Access\Drawing\2770-Cover.dwg PLOT DATE/TIME: 8/31/2015 10:55 AM

ER KEYSTONE, LLC

TION PLANS FOR THE

ELL PAD AND

VBACK PIT

RICT, TAYLOR COUNTY, WV

GUST 2015

Mountaineer Keystone LLC

9-9-15

4700101325

HOLE COORDINATES

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RUSSELL B. MESSENGER
REGISTERED
18226
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER

08/31/15

Received
Office of Oil & Gas
SEP 11 2015

■ APPROVED FOR PERMITS	DATE: 08/31/15	BY: RBM
☐ APPROVED FOR BID	DATE:	BY:
☐ APPROVED FOR CONSTRUCTION	DATE:	BY:

REVISION NUMBER	REVISED SHEETS	BY	DATE	DESCRIPTION

RSHED

V

OOD PLAIN

CONTACT INFORMATION

THE THRASHER GROUP, INC.
R. BRAD MESSENGER, PE
OFFICE: 304-624-4108
EMAIL: bmessenger@thrashereng.com

MOUNTAINEER KEYSTONE, LLC
AMY MILLER
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EMAIL: amiller@mkeystone.com

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THRASHER GROUP, INC.

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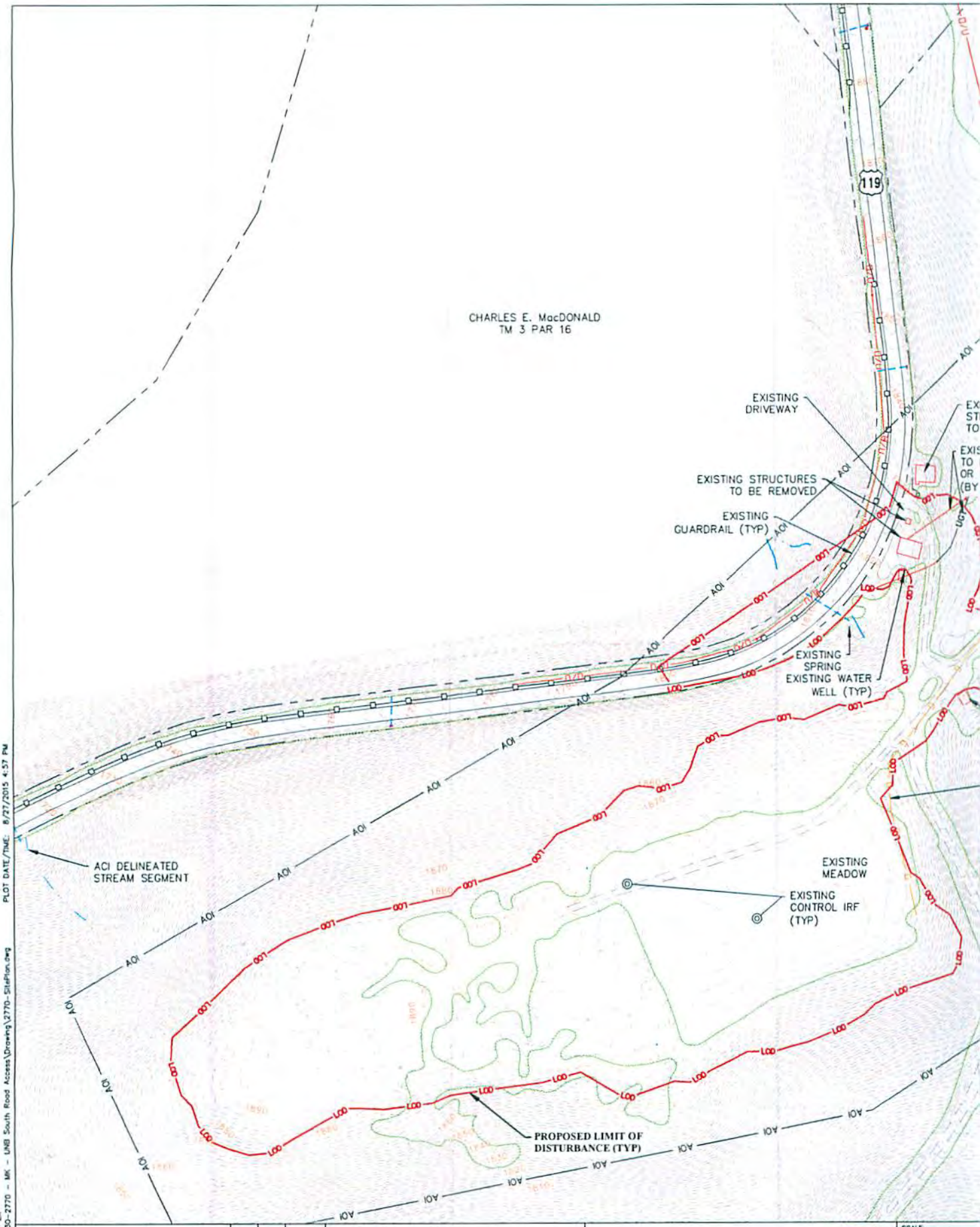

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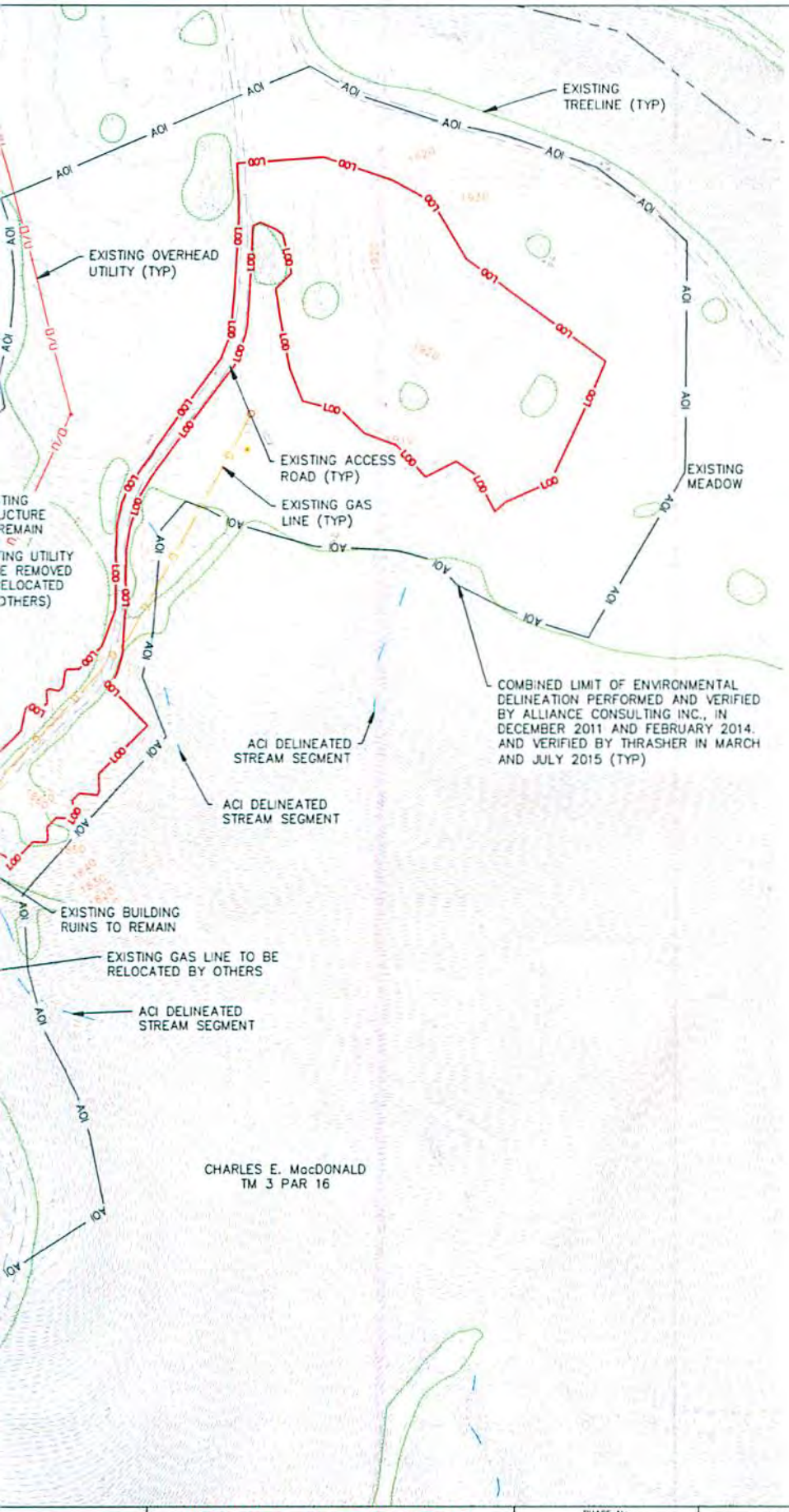
NO.	BY	DATE	DESCRIPTION

Mountaineer Keystone LLC

SCALE:
DRAWN:
CHECKED:
APPROVED:
SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:

LAYOUT TAB: D25-EX
CAD FILE: R:\030-2770 - MK - UNB South Road Access\Drawing\2770-SitePlan.dwg
PLOT DATE/TIME: 8/27/2015 4:57 PM



PLAN LEGEND

- PROPERTY LINE
- EXISTING CONTOURS
- EXISTING PAVED ROAD EDGE
- EXISTING GUARDRAIL
- EXISTING DRIVEWAY
- EXISTING TRAIL
- UGT — EXISTING UNDERGROUND TELEPHONE LINE
- ACI DELINEATED STREAM
- DELINEATED STREAM - PERENNIAL
- DELINEATED STREAM - INTERMITTENT
- DELINEATED STREAM - EPHEMERAL
- EXISTING TREE LINE
- EXISTING CULVERT
- EXISTING BUILDING
- X — EXISTING FENCE
- O/U — EXISTING OVERHEAD UTILITY
- G — EXISTING GAS LINE AND GAS FEATURES
- EXISTING WATER WELL
- LOD — LIMIT OF DISTURBANCE
- COMBINED LIMIT OF ENVIRONMENTAL DELINEATION

NOTES

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2. THE DATUM FOR THIS PROJECT IS NAD83 WEST VIRGINIA STATE PLANES, NORTH ZONE, US FOOT.
3. EXISTING FEATURES AND CONTOURS ARE BASED ON AERIAL MAPPING PROVIDED BY BMI IN MARCH 2015. MAPPING WAS ESTABLISHED BASED ON LIDAR DATA AND PHOTOGRAPHY FROM 6 APRIL 2014.
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Kemert L. Gerpelt
9-9-15

Received
Office of Oil & Gas
SEP 11 2015

100 ft. 0 100 ft. 200 ft.

ATE: ATE: ATE:	THRASHER THE THRASHER GROUP, INC. 600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330 PHONE (304) 624-4108 FAX (304) 624-7831	PHASE No. CONTRACT No. PROJECT No. 101-030-2770	MOUNTAINEER KEYSTONE, LLC CONSTRUCTION PLANS FOR UNB WELL PAD AND FLOWBACK PIT TAYLOR COUNTY, WV EXISTING CONDITIONS	SHEET No. 2

LAYOUT TAB: 03-OV
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NO.	BY	DATE	DESCRIPTION

Mountaineer Keystone LLC

SCALE:
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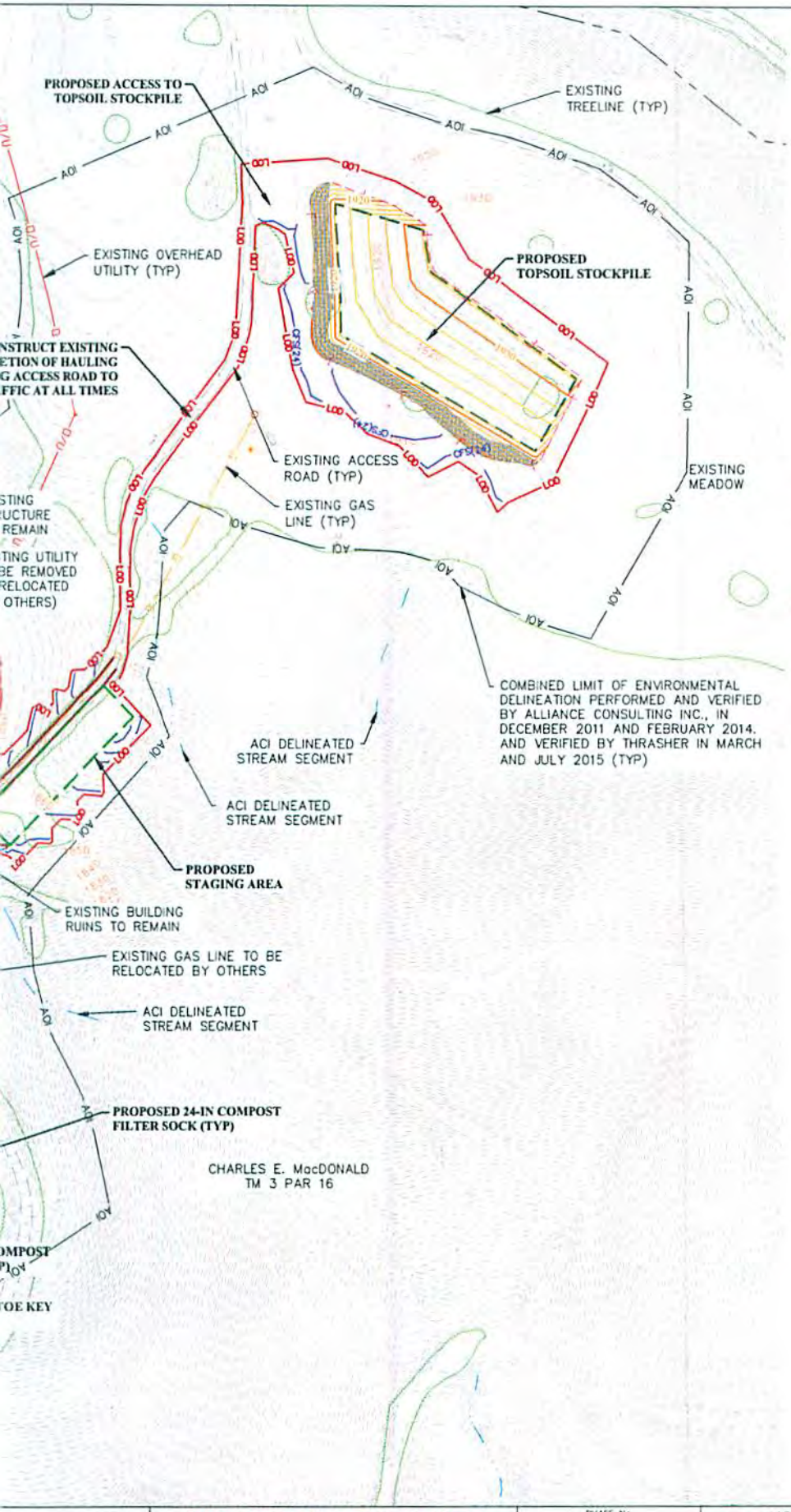
APPROVED:
SURVEY DATE:
SURVEY BY:
FIELD BOOK No.:



PLAN LEGEND

- PROPERTY LINE
- EXISTING CONTOURS
- EXISTING PAVED ROAD EDGE
- EXISTING GUARDRAIL
- EXISTING DRIVEWAY
- EXISTING TRAIL
- DELINEATED STREAM - PERENNIAL
- DELINEATED STREAM - INTERMITTENT
- DELINEATED STREAM - EPHEMERAL
- ACI DELINEATED STREAM
- EXISTING TREE LINE
- EXISTING CULVERT
- EXISTING BUILDING
- EXISTING FENCE
- EXISTING OVERHEAD UTILITY
- EXISTING OVERHEAD UTILITY TO BE REMOVED
- EXISTING UNDERGROUND UTILITY TO BE RELOCATED
- EXISTING GAS LINE AND GAS FEATURES
- EXISTING WATER WELL
- LIMIT OF DISTURBANCE
- COMBINED LIMIT OF ENVIRONMENTAL DELINEATION
- PROPOSED CONTOURS
- PROPOSED TOE KEY
- PROPOSED 24-IN COMPOST FILTER SOCK
- PROPOSED 8-IN COMPOST FILTER SOCK
- PROPOSED STACKED COMPOST FILTER SOCK
- PROPOSED CUT LIMIT
- PROPOSED FILL LIMIT
- PROPOSED EROSION CONTROL MATTING LINED DITCH
- PROPOSED ROCK LINED DITCH
- PROPOSED ROCK CHECK DAM
- PROPOSED OUTLET PROTECTION
- PROPOSED EDGE OF ACCESS ROAD
- PROPOSED EDGE OF PAD
- PROPOSED EDGE OF AUIXILIARY PAD
- PROPOSED EDGE OF FLOWBACK PIT
- PROPOSED EDGE OF STAGING AREA
- PROPOSED EDGE OF TOPSOIL STOCKPILE
- PROPOSED FENCE
- PROPOSED TEMPORARY CONSTRUCTION FENCE

NOTES

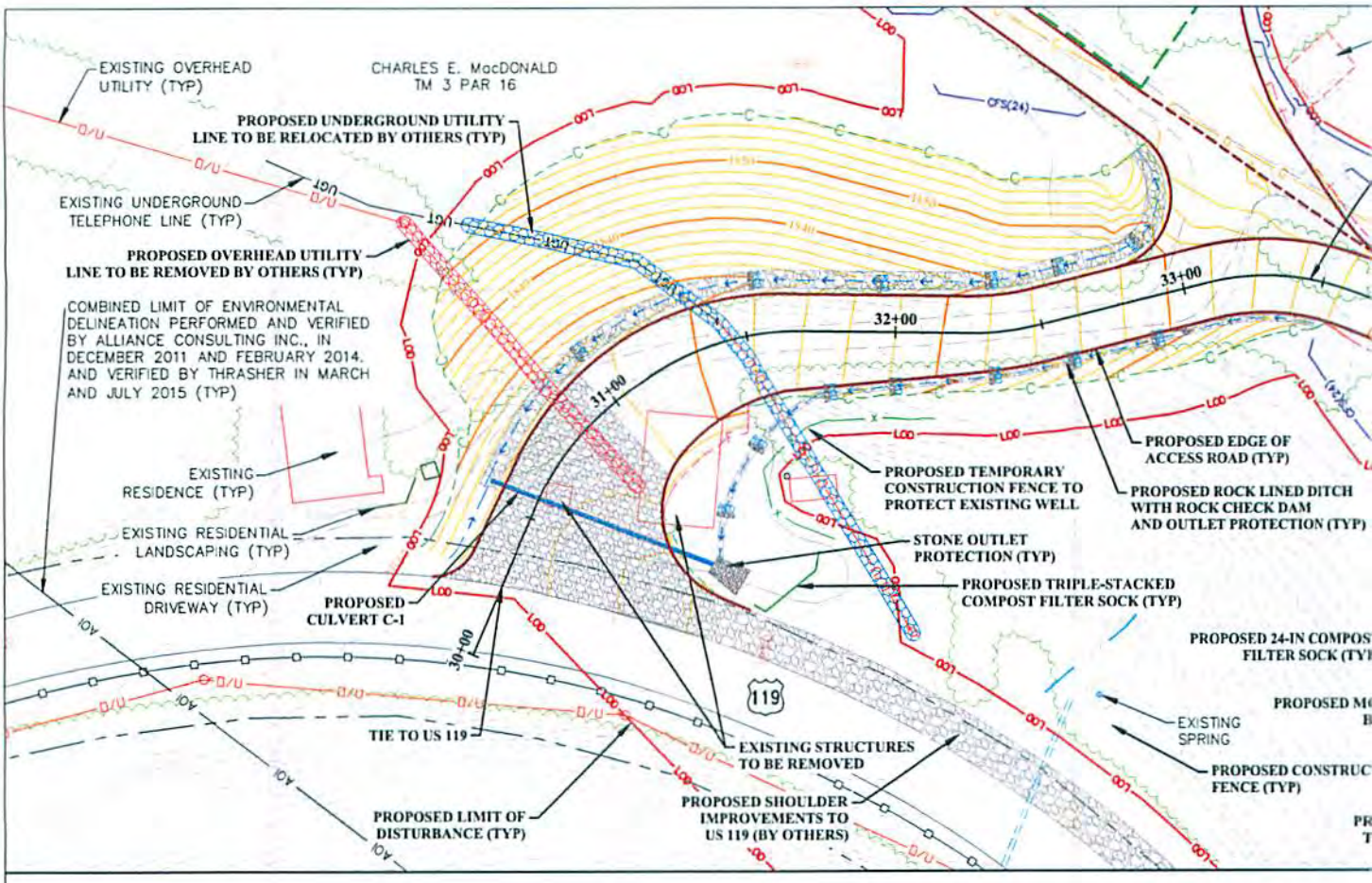
1. PROPERTY LINES ARE DERIVED FROM DEED PLOTS AND FIELD SURVEY PERFORMED BY THRASHER.
2. THE DATUM FOR THIS PROJECT IS NAD83 WEST VIRGINIA STATE PLANES, NORTH ZONE, US FOOT.
3. EXISTING FEATURES AND CONTOURS ARE BASED ON AERIAL MAPPING PROVIDED BY BMI IN MARCH 2015. MAPPING WAS ESTABLISHED BASED ON LIDAR DATA AND PHOTOGRAPHY FROM 6 APRIL 2014.
4. ENVIRONMENTAL FEATURES SHOWN ARE BASED ON DELINEATIONS PERFORMED AND VERIFIED BY ALLIANCE CONSULTING, INC., IN DECEMBER 2011 AND FEBRUARY 2014. AND VERIFIED BY THRASHER IN MARCH 2015 AND JULY 2015.
5. LIMIT OF DISTURBANCE FOR THIS PROJECT REPRESENTS THE LIMIT OF CLEARING.
6. UNLESS OTHERWISE NOTED, ALL CUT AND STRUCTURAL FILL SLOPES ARE 2H:1V.

Lemuel T. Seymour
9-9-15

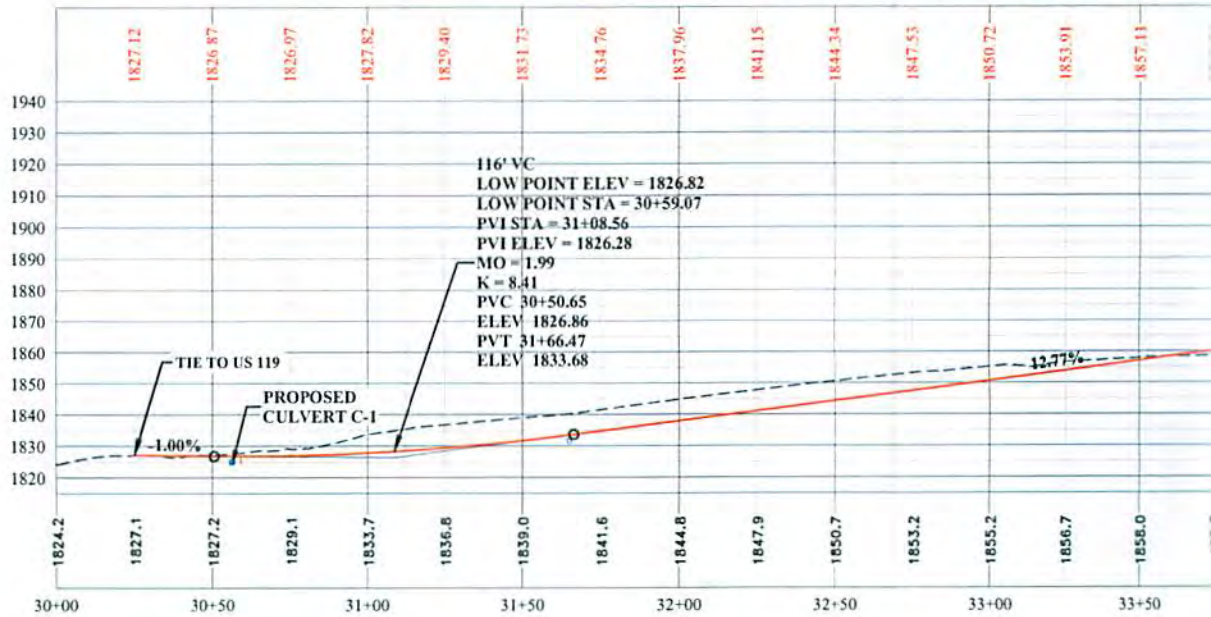
Received
Office of Oil & Gas
SEP 11 2015

100 ft. 0 100 ft. 200 ft.

DATE:	THRASHER THE THRASHER GROUP, INC. 600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330 PHONE (304) 624-4108 FAX (304) 624-7831	PHASE No. CONTRACT No. PROJECT No. 101-030-2770	MOUNTAINEER KEYSTONE, LLC CONSTRUCTION PLANS FOR UNB WELL PAD AND FLOWBACK PIT TAYLOR COUNTY, WV OVERALL SITE PLAN	SHEET No. 3



PROPOSED ACCESS ROAD CENTERLINE PROF



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Mountaineer Keystone LLC

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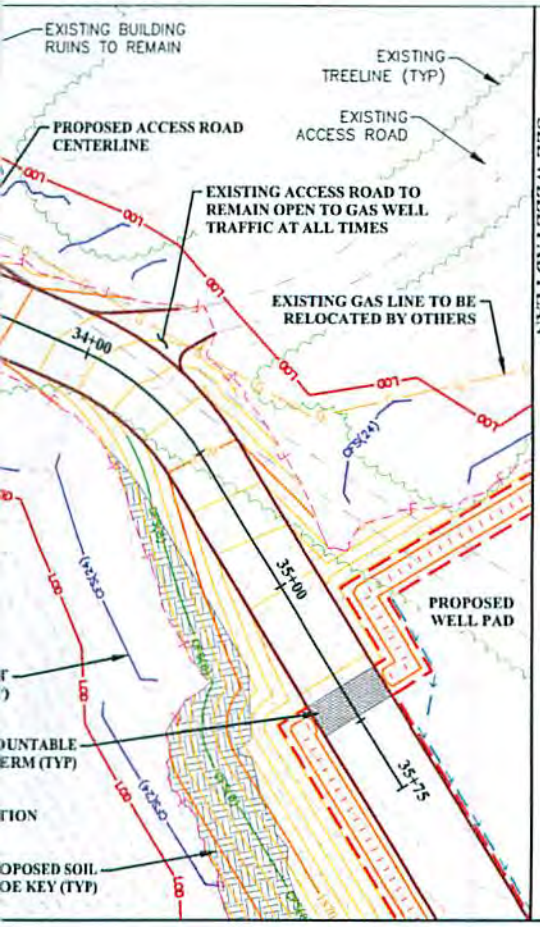

SEE WELL PAD PLAN

PLAN LEGEND

- PROPERTY LINE
- EXISTING CONTOURS
- EXISTING PAVED ROAD EDGE
- EXISTING GUARDRAIL
- EXISTING DRIVEWAY
- EXISTING TRAIL
- DELINEATED STREAM - PERENNIAL
- DELINEATED STREAM - INTERMITTENT
- DELINEATED STREAM - EPHEMERAL
- ACI DELINEATED STREAM
- EXISTING TREE LINE
- EXISTING CULVERT
- EXISTING BUILDING
- X — EXISTING FENCE
- O/U — EXISTING OVERHEAD UTILITY
- EXISTING OVERHEAD UTILITY TO BE REMOVED
- EXISTING UNDERGROUND UTILITY TO BE RELOCATED
- G — EXISTING GAS LINE AND GAS FEATURES
- EXISTING WATER WELL
- LOD — LIMIT OF DISTURBANCE
- ACI — COMBINED LIMIT OF ENVIRONMENTAL DELINEATION
- PROPOSED CONTOURS
- PROPOSED TOE KEY
- CFS(24) — PROPOSED 24-IN COMPOST FILTER SOCK
- CFS(8) — PROPOSED 8-IN COMPOST FILTER SOCK
- SCFS — PROPOSED STACKED COMPOST FILTER SOCK
- C — PROPOSED CUT LIMIT
- F — PROPOSED FILL LIMIT
- PROPOSED EROSION CONTROL MATTING LINED DITCH
- PROPOSED ROCK LINED DITCH
- RCD — PROPOSED ROCK CHECK DAM
- PROPOSED OUTLET PROTECTION
- PROPOSED EDGE OF ACCESS ROAD
- PROPOSED EDGE OF PAD
- PROPOSED EDGE OF AUIXILIARY PAD
- PROPOSED EDGE OF FLOWBACK PIT
- PROPOSED EDGE OF STAGING AREA
- PROPOSED EDGE OF TOPSOIL STOCKPILE
- PROPOSED FENCE
- X — PROPOSED TEMPORARY CONSTRUCTION FENCE

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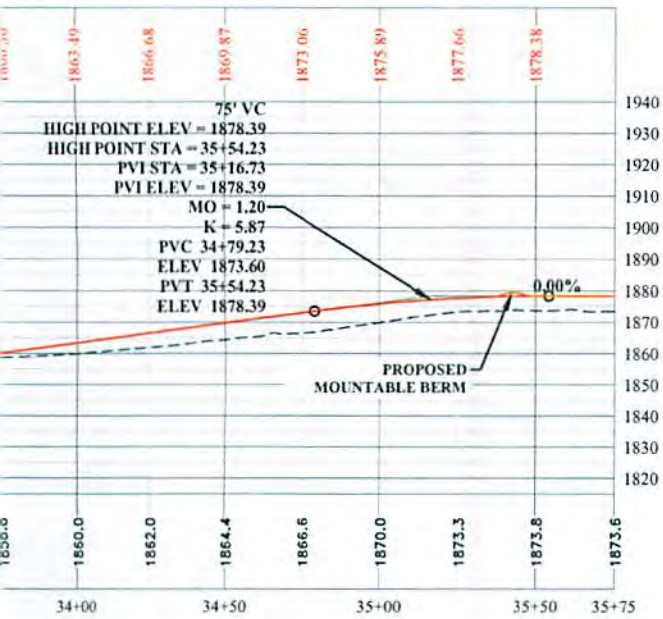

PROFILE LEGEND

- EXISTING GROUND
- PROPOSED GRADE
- PROPOSED CULVERT

DATE:
DATE:
DATE:

THRASHER
THE THRASHER GROUP, INC.
600 WHITE OAKS BOULEVARD, BRIDGEPORT, WV 26330
PHONE (304) 624-4108 FAX (304) 624-7831

PHASE No.
CONTRACT No.
PROJECT No.
101-030-2770

MOUNTAINEER KEYSTONE, LLC
CONSTRUCTION PLANS FOR UNB
WELL PAD AND FLOWBACK PIT
TAYLOR COUNTY, WV
ACCESS ROAD PLAN AND PROFILE

SHEET No.
4