



west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Wednesday, April 4, 2018
WELL WORK PERMIT
Horizontal 6A / New Drill

CHEVRON APPALACHIA, LLC
700 CHERRINGTON PARKWAY

CORAOPOLIS, PA 15108

Re: Permit approval for HICKS M21H
47-051-01997-00-00

This well work permit 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 any additional specific 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 of 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.

Per 35 CSR 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- 0450.

James A. Martin
Chief

A blue ink signature of James A. Martin, written in a cursive style.

Operator's Well Number: HICKS M21H
Farm Name: THOMAS E. HICKS
U.S. WELL NUMBER: 47-051-01997-00-00
Horizontal 6A New Drill
Date Issued: 4/4/2018

PERMIT CONDITIONS 4705101997

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. 24 hours prior to the initiation of the completion process the operator shall notify the Chief or his designee.
8. During the completion process the operator shall monitor annular pressures and report any anomaly noticed to the chief or his designee immediately.
9. 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.
10. 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.

PERMIT CONDITIONS 4705101997

11. 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.



west virginia department of environmental protection

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

Jim Justice, Governor
Austin Caperton, Cabinet Secretary
www.dep.wv.gov

**ORDER
ISSUED UNDER
WEST VIRGINIA CODE, CHAPTER 22, ARTICLE 6A**

TO: Chevron Appalachia, LLC
P.O. Box 611
Moon Township, PA 15108

DATE: February 22, 2017
ORDER NO.: 2017-W-4

INTRODUCTION

This Order (hereinafter "Order") is issued by the Office of Oil and Gas (hereinafter "OOG"), by and through its Chief, pursuant to the authority of W. Va. Code §§ 22-1-1, 22-6-1 and 22-6A-1 *et seq.* to Chevron Appalachia, LLC (hereinafter "Operator"), collectively the "Parties."

FINDINGS OF THE CHIEF

In support of this Order, the Chief hereby finds the following:

1. OOG, an office within the West Virginia Department of Environmental Protection, is the agency with the duty and authority to execute and enforce W. Va. Code §22-6-1 and §22-6A-1 *et seq.*, and the rules and regulations promulgated thereunder.
2. Chevron Appalachia, LLC is a "person" as defined by W. Va. Code §22-6-1(n), with a corporate address as P.O. Box 611, Moon Township, Pennsylvania.
3. On December 1, 2016, Chevron Appalachia, LLC submitted well work permit applications identified as API#s 47-051-01897, 47-051-01898, 47-051-01899, 47-051-01900, 47-051-01901, 47-051-01902 and 47-051-01913. The proposed wells are to be located on the Hicks Pad in Clay District of Marshall County, West Virginia.
4. On December 1, 2016, Chevron Appalachia, LLC requested a waiver for Wetland W-02 outlined in Attachment 1, from well location restriction requirements in W. Va. Code §22-6A-12(b) for the well work permit applications identified as API#s 47-051-01897, 47-051-01898, 47-051-01899, 47-051-01900, 47-051-01901, 47-051-01902 and 47-051-01913.

CONCLUSIONS OF LAW

1. West Virginia Code §22-1-6(d) requires, in part, that “[i]n addition to other powers, duties and responsibilities granted and assigned to the secretary by this chapter, the secretary is authorized and empowered to... (3) Enter private lands to make surveys and inspections for environmental protection purposes; to investigate for violations of statutes or rules which the Office of Oil and Gas is charged with enforcing; to serve and execute warrants and processes; to make arrests; issue orders, which for the purposes of this chapter include consent agreements; and to otherwise enforce the statutes or rules which the Office of Oil and Gas is charged with enforcing.”
2. West Virginia Code §22-6A-2(a)(6) requires, in part, that “Concomitant with the broad powers to condition the issuance of well work permits, the secretary should also have broad authority to waive certain minimum requirements of this article when, in his or her discretion, such waiver is appropriate: *Provided*, That the secretary shall submit a written report of the number of waivers granted to the Legislature commencing January 1, 2013, and each year thereafter.”
3. West Virginia Code §22-6A-12(b) requires, in part, that “[n]o 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 Office of Oil and Gas 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 Office of Oil and Gas 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.”

ORDER

West Virginia Code §22-6A-12(b) requires, in part, that “[n]o 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. The Office of Oil and Gas grants the request for a waiver for Wetland W-02 from well location restriction requirements in W. Va. Code §22-6A-12(b) for the well work permit applications identified as API#s 47-051-01897, 47-051-01898, 47-051-01899, 47-051-01900, 47-051-01901, 47-051-01902 and 47-051-01913. The Office of Oil and Gas hereby **ORDERS** that Chevron Appalachia, LLC shall meet the following site construction and operational requirements for the Hicks Well Pad:

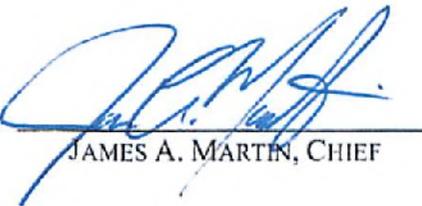
- a. A berm shall be constructed around the perimeter of the pad to contain any potential spills and storm water runoff. Berm is to be at least twenty-four inches (24”) in height;
- b. Erosion control blankets shall be installed on all slopes and down gradient locations of the pad as erosion and sediment controlling BMPs;
- c. Wetland W-02 shall have two layers of thirty-inch (30”) silt fence to prevent any sediment from reaching the wetland or stream from the well pad and adjacent tank pad. Orange construction fence also delineates the LOD boundary near the wetland to minimize the change of disturbance.
- d. Disturbed areas not used for operations shall be seeded and mulched per the seeding tables in the WVDEP-OOG Erosion and Sediment Control Manual;
- e. Drill cuttings and associated drilling mud shall be disposed of in a permitted landfill;
- f. Waste generated by the flowback treatment systems shall be sent to offsite disposal at a permitted landfill;
- g. Weekly site inspections shall be conducted to monitor and maintain the integrity of the BMP storm water controls;
- h. Weekly storm water and spill prevention inspections shall be conducted focusing on storm water and spill prevention BMPs and maintenance of these BMPs;
- i. Inspections of the storm water and spill prevention measures shall be conducted after any major storm event defined as a half inch (½”) rain within any twenty-four (24) hour period;
- j. Pad inspections shall be conducted no less than once a week to identify and mitigate potential deficiencies;
- k. All records from inspections shall be maintained on site for the life of the project and be available upon request.

Thus ORDERED, the 22nd day of February, 2017.

4705101997

IN THE NAME OF THE STATE OF WEST VIRGINIA:

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

By: 
JAMES A. MARTIN, CHIEF

4705101997

11/3/14

Wetland and Perennial Stream Waiver Request

API Number: _____

Operator's Well Number: _____

Well Operator: Chevron Appalachia, LLC

Well Number: _____ Well Pad Name: Hicks Well Site

County, District, Quadrangle of Well Location: Marshall County, Clay District, Moundsville & Glen Easton, WV

Answer the questions below to request a waiver from West Virginia Department of Environmental Protection for any wetlands or perennial streams which lie within one hundred feet of proposed project Limit of Disturbance (LOD), which includes any erosion and sediment control devices to be used.

This waiver shall be requested pursuant to Chapter 22 Article 6A Section 12 of West Virginia Code, which states:

§22-6A-12(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.

§22-6A-12(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.

11/3/14

Wetland and Perennial Stream Waiver Request

API Number: _____

Operator's Well Number: _____

Answer in the space provided, or use additional pages as necessary to fully answer the questions below:

1. Describe the proposed project location, including unique identifying names of all wetlands, and the names of perennial streams for which the waiver is sought.

The project site consists of forest and meadow with an existing road. The proposed alterations to the project area include clearing approximately 0.1 acres of forest, construction of a combined well pad and tank pad, the improvement of existing private road and the construction of new access road for natural gas operations. The proposed development will disturb approximately 27.4 acres. The waiver is sought for wetland W-02, for which the buffer between the wetland and the limit of disturbance (LOD) is 14 feet. No perennial streams are located within the project area. Please refer to the Erosion and Sediment Control Drawings for the location of wetland W-02.

2. Justify the proposed activity by describing alternatives to this project that were considered.
 - a. Include a No-Action Alternative as to show "the future without the project"
 - b. Location Alternatives must be shown
 - c. Must demonstrate why a one hundred foot buffer cannot be maintained
 - d. Describe how the proposed project is the least environmentally damaging practicable alternative

A. The No-Action Alternative for this site would involve the construction of four additional pad sites to access the natural gas resources that will be covered by the Hick's Site. The construction of the four alternate locations would cause a greater disturbance to the surrounding environment and region.

B. Chevron investigated several alternate locations in conjunction with the Hick's site. The Hick's Well site was designed to combine all of three separate locations and a portion of a fourth location into one pad site. By combining these alternate sites, the total disturbance to the existing land, forested areas and other critical natural resources has been minimized.

C. Due to the surrounding topography and site conditions, maintaining a 100 foot buffer between the limit of disturbance and wetland W-02 is not viable.

D. The Hick's Well site was designed to utilize the topography of the site in the most practical and efficient manner. Temporary soil stock piles were placed to minimize the overall disturbance to the site. Alternate locations would increase disturbed area and expand the overall limit of disturbance. The proposed stockpile locations minimize the surface area of the stockpile, thus minimizing the disturbed area. Additional E&S controls will be implemented to protect the wetland from adverse impacts.

11/3/14

Wetland and Perennial Stream Waiver Request

API Number: _____

Operator's Well Number: _____

- 3. Identify sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. This description should include all additional erosion and sediment control measures and devices that will be used.**

Temporary erosion and sediment control measures including, erosion control blanket, rock filters, riprap aprons, channels, silt fence, a sediment basin, stone construction entrances, mountable berms and temporary seeding and mulching will be used to protect the waters of the state.

Permanent erosion control measures include permanent seeding and mulching and aggregate surfacing. Any areas that are not permanently stabilized with aggregate will be seeded and mulched according to the seeding specifications. Temporary erosion and sediment control measures will remain in place until the site has reached a uniform 70% perennial vegetative cover on all disturbed areas.

Additional details, including maintenance guidelines, have been included on the attached Erosion and Sediment Control Plan. The contractor(s) will be responsible for inspecting and maintaining all temporary and permanent erosion and sediment control best management practices.

- 4. Provide mapping, plans, specifications and design analysis for the preferred alternative to the project.**
- a. Specify in writing what additional controls, measures, devices, monitoring, etc. will be used to protect these wetlands and/or perennial streams for which the waiver is sought.

All erosion and sediment control features have been designed and shall be installed in accordance with the 2006 West Virginia Erosion and Sediment Control Best Management Practice Manual and the West Virginia Erosion and Sediment Control Field Manual (dated 2012).

A double layer of 30" silt fence will be installed as additional protection between the disturbed area and wetland W-02.

HICKS WETLAND WAIVER - ATTACHMENT 1



SITE LOCATION MAP
USGS MOUNDSVILLE & GLEN EASTON QUADS
1" = 2000

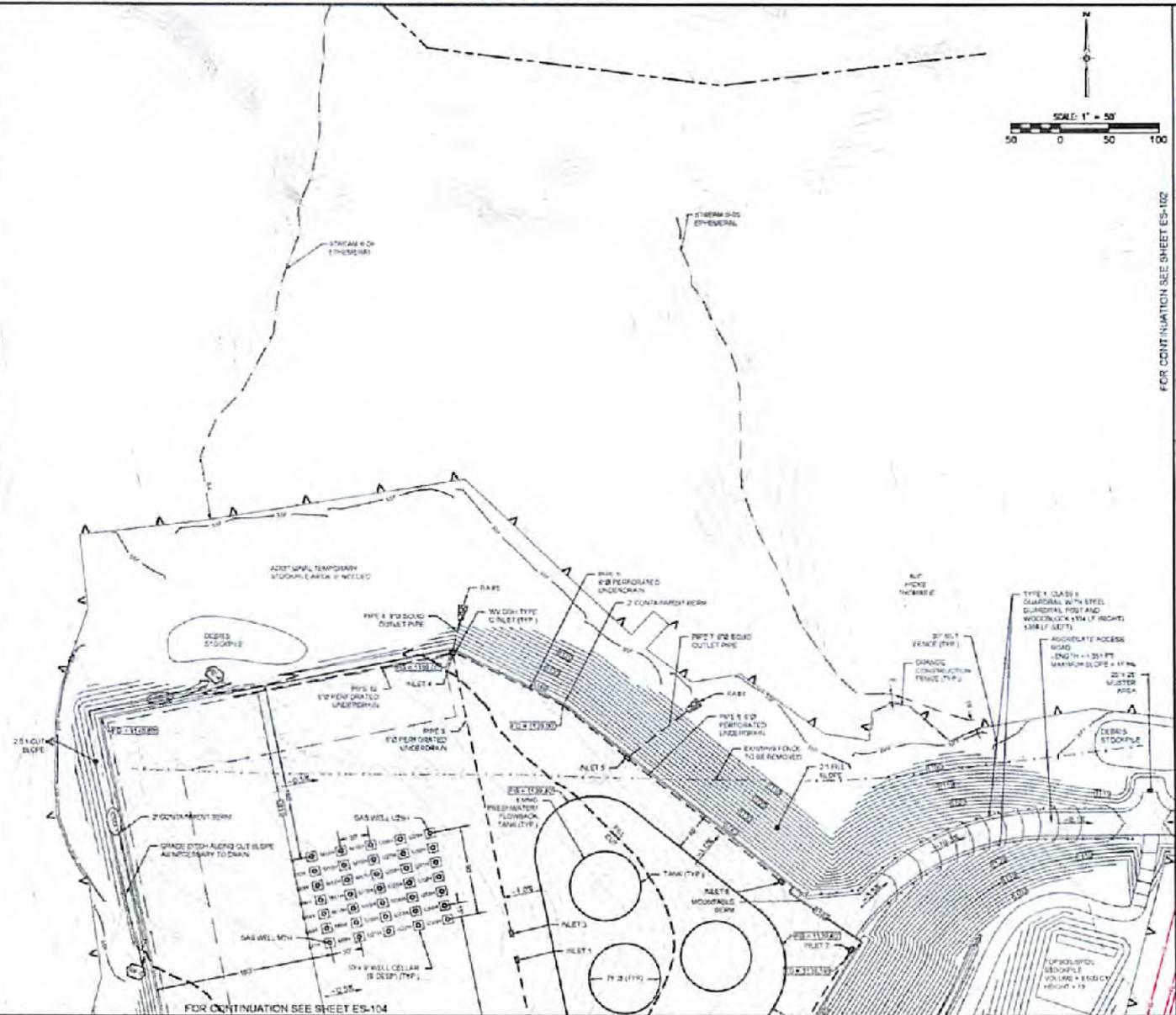
- NOTE:**
1. THE UNDERGROUND UTILITIES SHOWN ON THESE MAPS WERE NOT PHYSICALLY LOCATED BY SURVEY. THE 811 CALL REPORTING WAS COMPLETED ON MAY 26, 2016. NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN CORRELATE ALL UTILITIES IN THE AREA. IF THERE IS SERVICE OR ABANDONED PLAN PROVIDED FOR REFERENCE ONLY, MICHAEL BAKER INTERNATIONAL DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH THEY ARE SHOWN AS ACCURATE YET POSSIBLE FROM THE INFORMATION AVAILABLE.
 2. EXISTING TOPOGRAPHICAL DATA PROVIDED FROM BLUE MOUNTAIN SURVEY DATED MARCH 27, 2016, BASED ON ADJACENT WEST VIRGINIA STATE PLANS, NORTH ZONE, 1" = 4000.
 3. ENVIRONMENTAL SCREENING PERFORMED ON APRIL 28, 2016 BY MICHAEL BAKER INTERNATIONAL.
 4. GRADE ALL CHANNELS TO PROVIDE FOR THE FLOW TO THE OUTFALL.
 5. ROCK FILTER MEDIA CROSS DRAINS TO BE CONSTRUCTED PER ALL SIX INCHES OF TOPSOIL SHALL BE PLACED ON ALL FINAL SLOPES PRIOR TO FINAL STABILIZATION.
 6. STOCKPILE VOLUME INCLUDES A BUFFER FOR FUTURE FACILITIES WORK.
 7. **WELL PAD FILLS**
 - a. FILL SHALL BE COMPACTED TO 90% OF STANDARD PROCTOR DENSITY (ASTM D 1557).
 - b. MAXIMUM LIFT THICKNESS FOR ALL FILL SHALL BE 6".
 - c. FILL SHALL BE FREE OF OBJECTIONABLE MATERIAL LARGER THAN 6".
 - d. ROCK FILL LIFTS SHALL NO THICKER THAN 12".
 8. CELEBRATION WELLS WITH TROPHY CUP WILL BE INSTALLED DURING THE FINAL SITE CONSTRUCTION. THE REMAINING CELEBRATION WELLS WILL BE INSTALLED AS THE DRILLING PROGRAM PROGRESSES.

TOTAL AREA = 27.4 ACRES
DISTURBED AREA = 27.4 ACRES

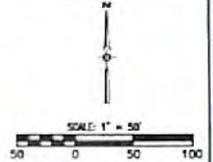


Know what's below
Call before you dig
EROSION & SEDIMENT CONTROL LEGEND

- LIMITS OF DISTURBANCE/PROJECT LIMIT
- 4" SILT FENCE
- 12" SILT FENCE
- SUPER SILT FENCE
- ORANGE CONSTRUCTION FENCE
- WOOD CONSTRUCTION ENTRANCE
- EROSION CONTROL BLANKET
- ROCK FILTER
- RIP RAP BARRON
- TEMPORARY FLOW DIRECTION CHANNELS
- ACCESS ROAD CHANNEL
- CUT SLOPE DITCH



FOR CONTINUATION SEE SHEET ES-104



Michael Baker INTERNATIONAL
MICHAEL BAKER INTERNATIONAL
CONSULTING ENGINEERS
MOON TOWNSHIP, PENNSYLVANIA



FOR CONTINUATION SEE SHEET ES-102

NO.	DATE	REVISION RECORD
1	12/12/2016	REVISED PER COMMENTS
2		
3		
4		
5		
6		
7		
8		
9		
10		

HICKS WELL PAD
ON THE EIGHTH OF CLAY COUNTY
PREPARED FOR
CHEVRON APPALACHIA, LLC
SOUTH FARM DRIVE
SAINTFIELD, VA 24152

EROSION AND SEDIMENT CONTROL PLAN
Project No: 15-016
Drawing Date: 03/20/2016
Scale: AS SHOWN
Sheet No: ES-103
Drawn by: JES
Checked by: BLS
Project Manager: JES

ES 103

4705101997

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

1) Well Operator: Chevron Appalachia, LLC 49449935 Marshall Clay Glen Easton 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: M21H Well Pad Name: Hicks

3) Farm Name/Surface Owner: Thomas E Hicks Public Road Access: Fork Ridge Rd/WV-17

4) Elevation, current ground: 1161.57 Elevation, proposed post-construction: 1140

5) Well Type (a) Gas X Oil _____ Underground Storage _____

Other _____

(b)If Gas Shallow X Deep _____

Horizontal X

6) Existing Pad: Yes or No Yes

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus, 6,362, 61' thick, 0.64 psi/ft

8) Proposed Total Vertical Depth: 6,366

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 15,735

11) Proposed Horizontal Leg Length: 8,729

12) Approximate Fresh Water Strata Depths: 430'

13) Method to Determine Fresh Water Depths: 1' mile radius search around pad location

14) Approximate Saltwater Depths: 1147', 1751', 2112'

15) Approximate Coal Seam Depths: 398', 678'

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

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: _____

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	20	New			60	60	CTS
Fresh Water	13.375	New	J-55	54.5	480	480	CTS
Coal							
Intermediate	9.625	New	L-80	40	2,024	2,024	CTS
Production	5.50	New	P110	20	15,735	15,735	2,524' (500' below
Tubing							9.625" shoe)
Liners							

Handwritten signature and date: 11/2/17

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	20	26					
Fresh Water	13.375	17.5	0.38	2,730	1911	Class A	1.2
Coal							
Intermediate	9.625	12.375 & 12.25	0.395	5,750	2768	Class A	1.19
Production	5.5	8.75 & 8.5	0.361	14,360	9975	Class A, G or H	1.25
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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DEC 06 2017

WV Department of
Environmental Protection

JH
11/3/17

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

Drill vertical depth to the Marcellus at an estimated total vertical depth of approximately 6,366 feet.
Drill horizontal leg.

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

Slickwater completion with 200' stage length, 1750 lbs/ft proppant (max anticipated rate/pressure will be 115 bpm/9900 psi, respectively)

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 27.4

22) Area to be disturbed for well pad only, less access road (acres): 19.7

23) Describe centralizer placement for each casing string:

Surface: (1) on shoe track w/stop collar & (1) per jt over coupling to surface; Intermediate: (1) on shoe track w/stop collar & (1) per 3 jts over coupling; Production String: (1) centralizer every jt in the lateral and curve & (1) every other joint from KOP to surface.

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

For the Water String the blend will contain Class A cement 3% CaC12, and flake. The intermediate will contain Class A cement, 3% CaC12, Salt and flake. The Production cement will have a lead and tail cement. The lead will contain Class A, G or H cement, KCl, dispersant, suspension agent, and retarder. the tail will contain Class A, G or H cement, Calcium Carbonate, KCl, dispersant, de-foamer, suspension agent and friction reducer.

25) Proposed borehole conditioning procedures:

Air sections ensured to be clean via air circulation once TD is reached. Fluid sections will be circulated a minimum of 2 bottoms up once casing point has been reached and until uniform mud properties are achieved.

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DEC 08 2017

*Note: Attach additional sheets as needed.

4705101997

Hicks Marcellus – Cement Additives

Attachment WW-6B

For the Water String the blend will contain Class A cement, 3% CaC12, and flake.

The intermediate will contain Class A cement, 3% CaC12, and flake.

The Production cement will have a lead and tail cement.

The lead will contain Class A, G, or H cement, KCl, dispersant, suspension agent, and retarder.

The tail will contain Class A, G, or H cement, Calcium Carbonate, KCl, dispersant, de-foamer, suspension agent, and friction reducer.

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**WV Department of
Environmental Protection**

04/6/2018

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April 6, 2018

Department of
Environmental Protection

04/6/2018

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Hicks M21H

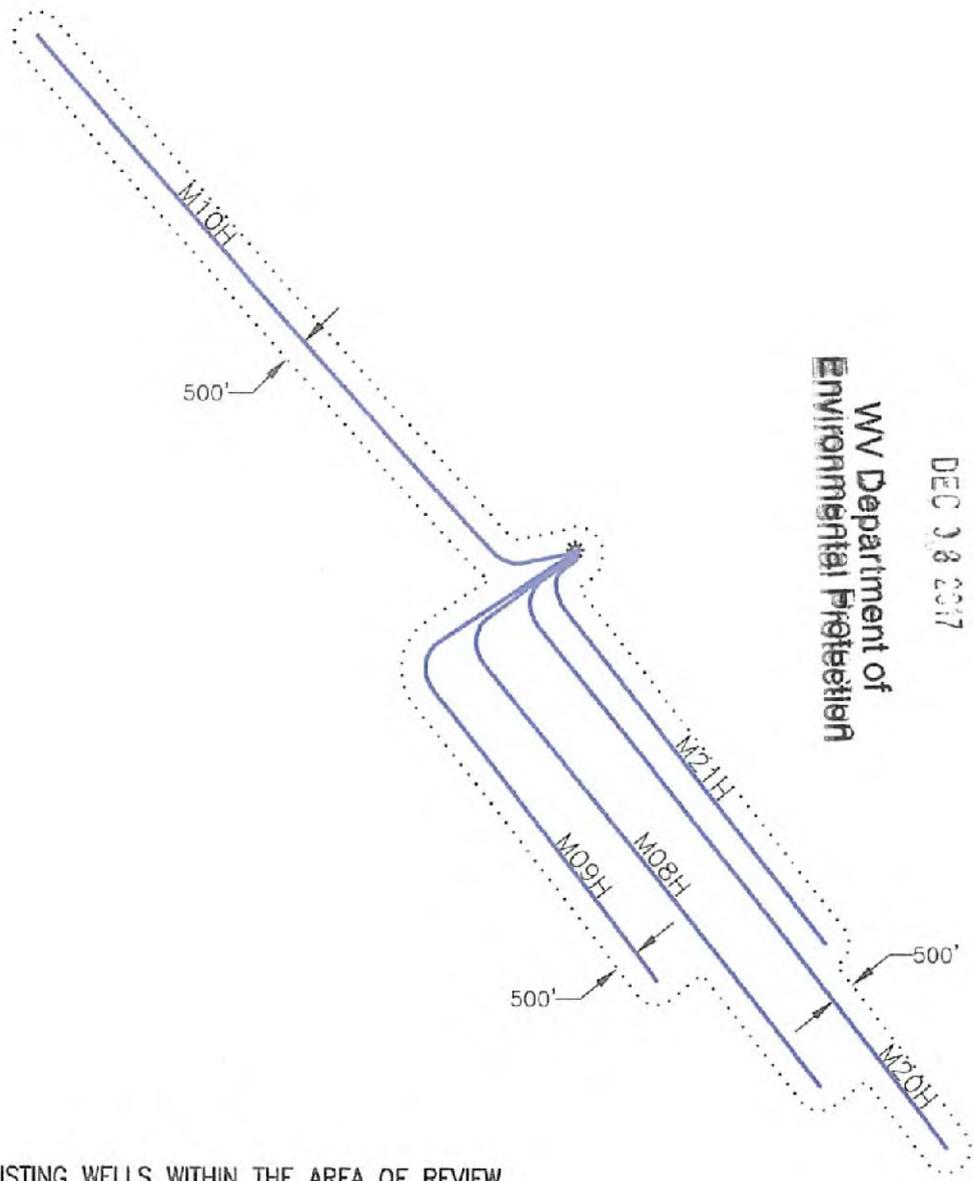
Clay Twp, Marshall Co, WV						Ground Level Elev. (ft above SL):		1,138	
DRILLING FLUID / BIT TYPE / TFA	CENTRALIZER PROGRAM	CASING SIZE / FORMATION	DEPTH		WELLHEAD DESIGN		HOLE SIZE (IN)	CASING SPECS	CEMENT PROGRAM
			MD (FT)	TVD (FT)	INC	AZM			
Core Barrel / Auger		20" Conductor	60	60			26	<u>Conductor</u> 20" API 5L Minimum 40 ft from GL or at least 10 ft into bedrock	Grout to Surface
	Bow Spring: (1) on shoe track w/ stop collar & (1) per ft over coupling to surface	13-3/8" Casing	480	480			17.5	<u>Surface Casing</u> 13-3/8" 54.5# J-55 BTC 0.380" Wall Coupling OD (in) 14.375 ID (in) 12.615 Drift ID (in) 12.459 Burst (psi) 2,730 Collapse (psi) 1,130 Yield (Jt Strength 1,000 lbs) 853	<u>Surface Blend (Class A)</u> Cement to Surface
	Bow Spring: (1) on shoe track w/ stop collar & (1) per 3 fts over coupling	9-5/8" Casing	2,024	2,024			12.375 - 12.25	<u>Intermediate Casing</u> 9-5/8" 40# L-80 BTC 0.395" Wall Coupling OD (in) 10.625 ID (in) 8.835 Drift ID (in) 8.679 Burst (psi) 5,750 Collapse (psi) 3,080 Yield (Jt Strength 1,000 lbs) 916	<u>Intermediate II Blend (Class A)</u> Cement to Surface
	Bow Spring: (1) per every other ft over coupling SpiraGlider or Centek: (1) per ft of csg to KOP	5-1/2" Casing	15,735				8.75 - 8.5	<u>Production Casing</u> 5-1/2" 20# P-110, 0.361" Wall Coupling OD (in) 6.300 ID (in) 4.778 Drift ID (in) 4.653 Burst (psi) 14,380 Collapse (psi) 12,090 Yield (Jt Strength 1,000 lbs) 729	<u>Production Lead Slurry</u> Cement to 500' below 9-5/8" shoe <u>Production Tail Slurry</u> TOC minimum 200' above Marcellus
Non-Conservation	Float Equip. (2) Jts of Csg	5-1/2" Casing	15,735				8.75 - 8.5		

JRC
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NOTE: NO EXISTING WELLS WITHIN THE AREA OF REVIEW.



PREPARED FOR:
 CHEVRON APPALACHIA, LLC
 700 CHERRINGTON PARKWAY
 CORAOPOLIS, PA 15108

LEGEND
 - WELL LOCATION
 - ACTIVE WELL

HICKS
 AREA OF REVIEW MAP
 MARSHALL COUNTY
 CLAY DISTRICT
 WEST VIRGINIA

TOPO QUAD: GLEN EASTON, WV
 SCALE: 1" = 4000'
 DATE: OCTOBER 2, 2017

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Chevron Appalachia, LLC OP Code 49449935

Watershed (HUC 10) Middle Grave Creek-Grave Creek Quadrangle Glen Easton, WV 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: _____

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

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number _____)
- Reuse (at API Number _____ at next anticipated well _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

Will closed loop system be used? If so, describe: Yes, we will be utilizing multiple open/closed top tanks.

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air to KOP, SBM from KOP to TMD

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

Additives to be used in drilling medium? Barite, fluid loss, emulsifiers, rheological control

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

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

-Landfill or offsite name/permit number? Arden Landfill #100172; South Hills Landfill #100592; Short Creek Landfill #VVV0109517

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.

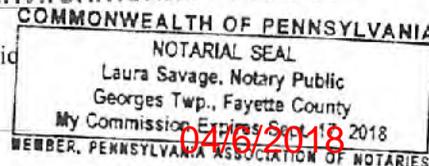
Company Official Signature Jenny Hayes
Company Official (Typed Name) Jenny Hayes
Company Official Title Permitting Team Lead

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Subscribed and sworn before me this 30th day of October, 2017 WV Department of Environmental Protection

Laura Savage
Notary Public

My commission expires September 17, 2018



Chevron Appalachia, LLC

Proposed Revegetation Treatment: Acres Disturbed +/-4 acres Prevegetation pH Per soils testing report

Lime 3 Tons/acre or to correct to pH unless otherwise noted in soils report

Fertilizer type 10-20-20

Fertilizer amount 300 lbs/acre

Mulch 3 Tons/acre

Seed Mixtures

Temporary

Permanent

Seed Type	lbs/acre	Seed Type	lbs/acre
Annual Ryegrass	50	Non Aricultural Upland and Hayfield, Pastureland and Cropland	
Winter Wheat	75	Tall Fescue 100, Orchard Grass 80, Perennial Ryegrass 33,	
		Timothy 80, Ladino Clover 18, Birdsfoot-Trefoil 20,	
		Birdsfoot-Trefoil 18, Ladino Clover 20, Red Top 6	

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: *Jim Underhill*

Comments: _____

Title: Oil & Gas Inspector

Date: 11/3/17

Field Reviewed? Yes No

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Environmental Protection

4705101997



Chevron

**Appalachian LLC
WV Well Site Safety Plan**

Pad: Hicks Pad A

Well # M21H

**271 Arbor Lane
Moundsville, WV 26041
Clay District
Marshall County, WV**

*ju
11/3/17*

Access Point – [39.872100°N, 80.711825°W]

Well Site – [39.871558°N, 80.717794°W]

Marshall County, West Virginia

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4702101207

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Department of Energy
Office of Energy Efficiency
and Renewable Energy

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Office of Oil and Gas

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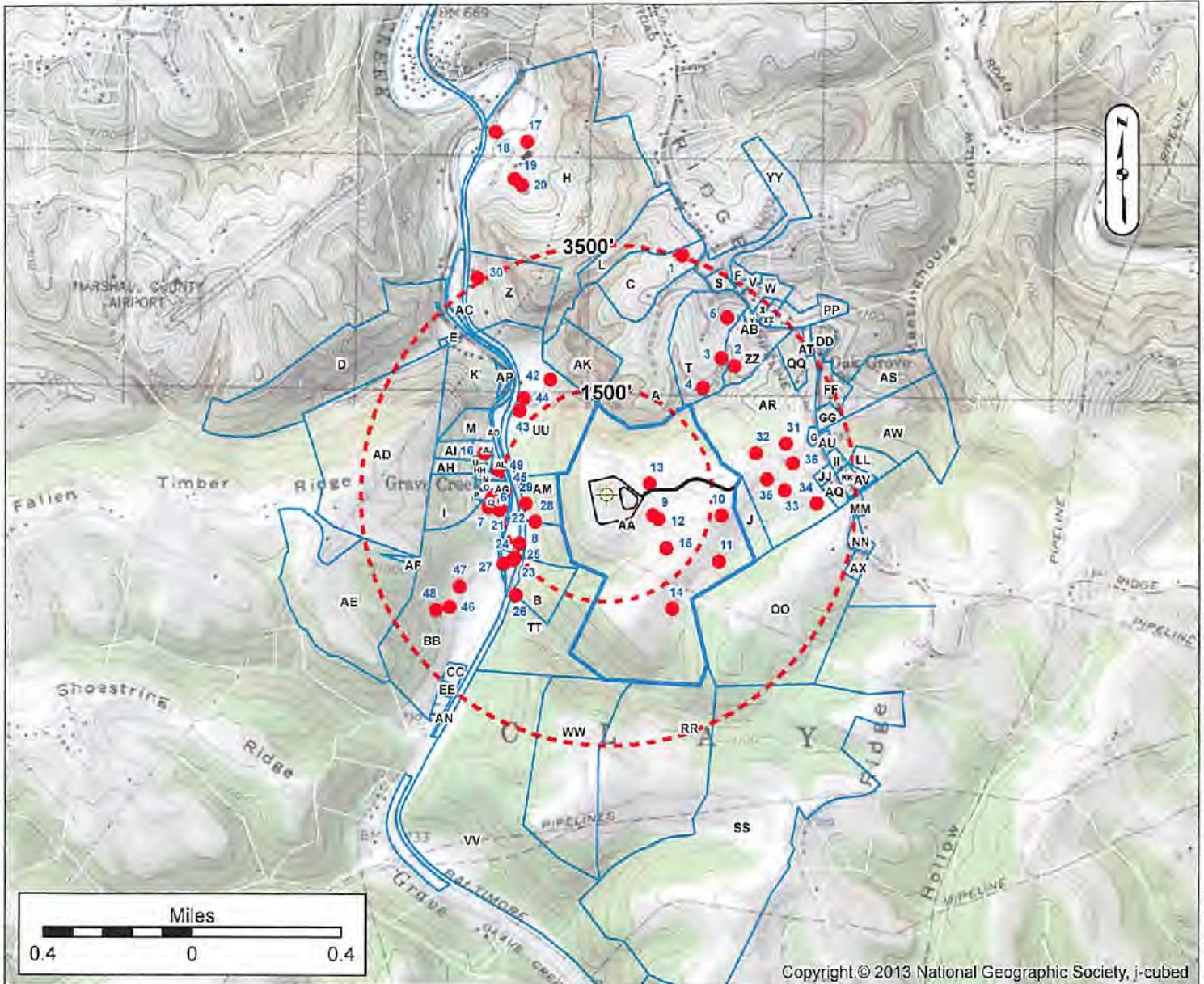
Department of Energy
Office of Energy Efficiency
and Renewable Energy

04/6/2018



WATER SUPPLY EXHIBIT HICKS PAD

4705101997



LOT OWNERS

Label	OWNER	TM	Label	OWNER	TM	Label	OWNER	TM	Label	OWNER	TM
A	SCHAFER LESLIE B & DRI	25-04 800890000000	Q	CLAYTON RALPH L ET UX	25-02 800250000000	GG	SCHULMAN GUY RYAN J & SUZANNE K	25-04 800020000000	HW	SCOTTE EDWARD B ET UX ESTS -	25-04 800020000000
B	FORD SIDNEY P & VICTOR	25-04 800360000000	R	POND SIDNEY P & VICTOR I	25-04 800750000000	MH	WHELAN ANDREW ET UX	25-05 800090000000	KS	DESPILL ROBERT V ET UX	25-04 800090000000
C	ADKINS IRON B & DAWN R	25-04 800700000000	S	RISLEY ROBERT L ET UX	25-02 4005800130000	II	LOSKI ROBERT W & JOYCE L	25-04 8000200010000	VY	DOH JOHN W ET UX	25-04 4005600180000
D	REEDER CHARLES W JR & LINDY	25-04 800160000000	T	CHAMBERS MARIE J ET UX	25-05 800380000000	II	HENRY MARIE L - LIFE	25-04 8000200030000	ZI	CHAMBERS JERONDA & MONIE	25-04 4005800120000
E	CLARK PAUL ANN	25-04 800480000000	U	LITMAN RICHARD E ET UX	25-04 800200000000	KK	EDDIE MARTHA B & JAMES L	25-04 800070000000	AB	CARPENTER DONALD T ET UX	25-04 4005800120000
F	LITTLETON HARRY LEROY ET UX	25-04 800500000000	V	BYRD JAMES R ET UX	25-04 4005800100000	LL	BURCH GARON LYNN ET UX	25-04 800020000000	AF	CONSOLIDATION COAL COMPANY	25-04 4007400000000
G	WICKS THOMAS E	25-04 800280000000	W	TRISSETT JACQUELINE S TRICIA L	25-04 4005800100000	MM	RIDGE CHRISTAL S	25-04 800090000000	BT	ESTON HENRY W & LINDA BARRY	25-04 800300000000
H	SMOUNTAIN ENTERPRISES LLC	25-04 800300000000	X	STERN JAMES MARTIN ET UX	25-04 4005800100000	NN	MULLER ROBERT D ET UX	25-04 800090000000	AF	BOWMAN JIMMY W REVOCABLE TR	25-04 8001800000000
I	LITMAN RICHARD L SR	25-04 800280000000	Y	CARPENTER DONALD T ET UX	25-04 4005800120000	OO	BUCHMAN JAMES R ET UX	25-04 800020000000	AV	WILLIAMS ANNEI SUARITA	25-04 8001800000000
J	WICKS LUCILLE F	25-04 800300000000	Z	RICHMOND JAMES ELOUISE	25-04 4002900000000	PP	DEWELL ROBERT V ET UX	25-04 800200000000	AG	FORD SIDNEY P & VICTOR	25-04 8002800000000
K	MORRIS DONNIS B ET UX	25-04 8008900010000	AA	HICKS THOMAS E	25-04 800750000000	DD	MCCAMPY BLAIR LAVERNE ET AL - LIFE	25-04 800200000000	AH	LITMAN RICHARD E SR	25-04 8002800000000
L	CONLEY JOSEPH	25-04 800280000000	BB	WILSON MARIE JUANITA	25-04 800280000000	RR	CANTRE EDWARD B ET UX ESTS	25-04 1000000000000	AI	LITMAN RICHARD E SR	25-04 8003000000000
M	THOMAS DONALD C ET UX	25-04 800280000000	CC	MORRIS MARIE YV	25-04 800280000000	SS	WILSON MARIE JUANITA ET UX	25-04 8003600000000	AK	LITMAN RICHARD E SR	25-04 8003600000000
N	WHEELER RICHARD P & JAMIE	25-04 800700000000	DD	CHACKOVIC MAE CHURCH	25-04 800280000000	TT	SCARLETT LEVON	25-04 8003600000000	AL	SCHAFER LESLIE B & DRI B	25-04 8003600000000
O	TALC KIMBLETH	25-04 800280000000	EE	ALLMAN MICHAEL RAY	25-04 800280000000	UU	ATYEN RONALD EDWARD ET UX	25-04 8000900000000	AM	LITMAN RICHARD E SR	25-04 8003600000000
P	CLAYTON RALPH L ET UX	25-04 800750000000	FF	HENRY MARIE YV & CHRISTINA M	25-04 8000200010000	VV	MOUNDVILLE CITY OF	25-04 100000000000000	AN	FORD SIDNEY P & VICTOR P	25-04 8003600000000

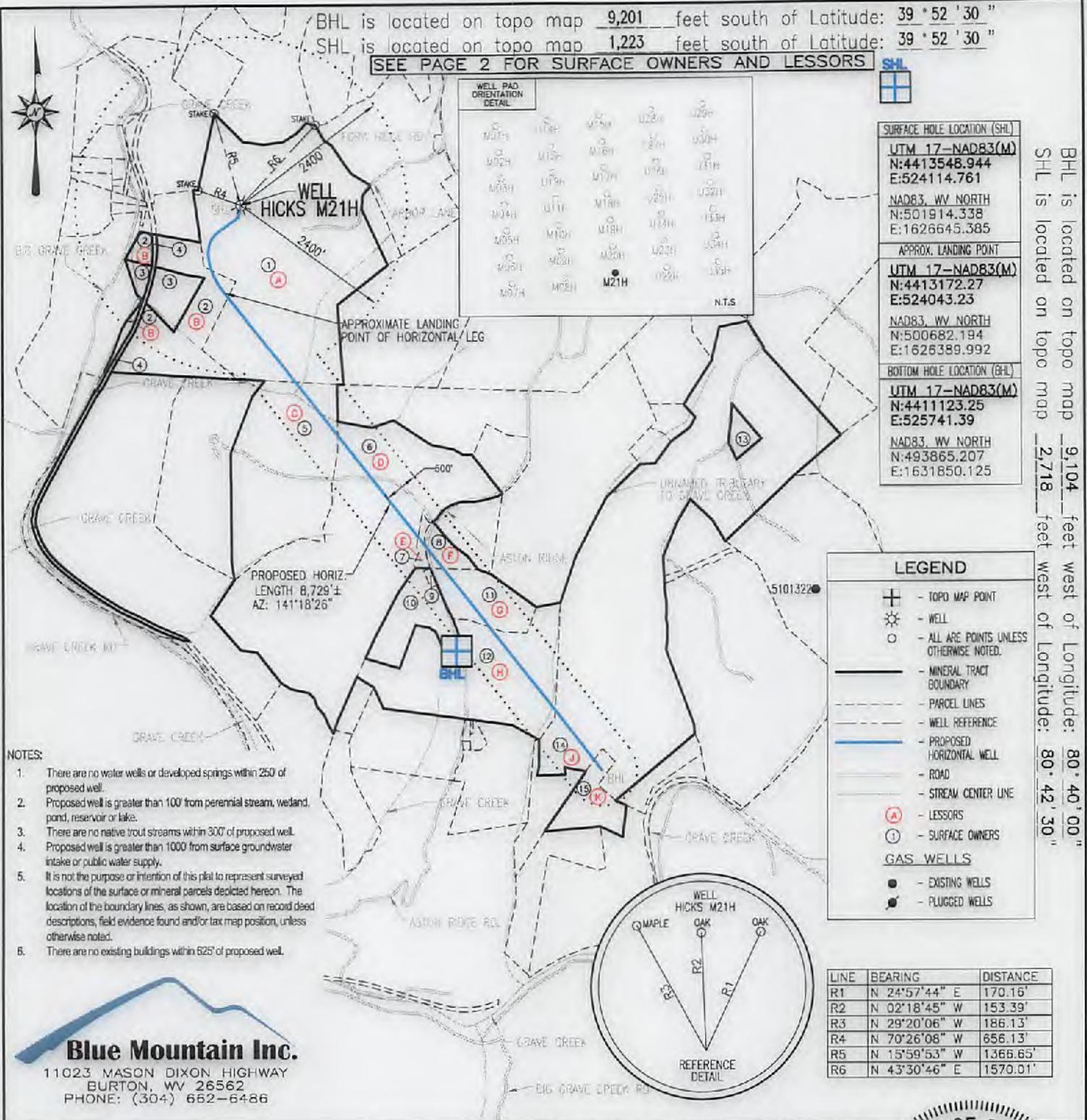
Surface Owner: THOMAS E. HICKS
 Oil/Gas Owner: THOMAS E. HICKS
 Well Operator: CHEVRON APPALACHIA, LLC
 Address: 700 CHERRINGTON PARKWAY
CORAOPOLIS, PA 15108
 Phone: 724-564-3700

County: MARSHALL
 Township: MOUNDSVILLE, WV
 GROUNDWATER & ENVIRONMENTAL
 Surveyor: SERVICES, INC.
 Address: 301 COMMERCE PARK DR
CRANBERRY TOWNSHIP, PA 16066
 Phone: 800-267-2549

NOTICE: THE INTENT OF THIS EXHIBIT IS TO IDENTIFY EXISTING WATER SUPPLIES IN THE VICINITY OF A PROPOSED GAS WELL, AND IS NOT A COMPLETE SURVEY. PROPERTY LINES AND OWNER INFORMATION WERE OBTAINED FROM DEEDS, TAX RECORDS, AERIAL PHOTOGRAPHY, GIS, AND FIELD SURVEYED EVIDENCE. 02/16/2018

BHL is located on topo map 9,201 feet south of Latitude: 39° 52' 30"
 SHL is located on topo map 1,223 feet south of Latitude: 39° 52' 30"

SEE PAGE 2 FOR SURFACE OWNERS AND LESSORS



SURFACE HOLE LOCATION (SHL)	
UTM 17-NAD83(M)	N:4413548.944
	E:5241114.761
NAD83_WV NORTH	
	N:501914.338
	E:1626645.385
APPROX. LANDING POINT	
UTM 17-NAD83(M)	N:4413172.27
	E:524043.23
NAD83_WV NORTH	
	N:500682.194
	E:1626389.992
BOTTOM HOLE LOCATION (BHL)	
UTM 17-NAD83(M)	N:4411123.25
	E:525741.39
NAD83_WV NORTH	
	N:493865.207
	E:1631850.125

BHL is located on topo map 9,104 feet west of Longitude: 80° 40' 00"
 SHL is located on topo map 2,718 feet west of Longitude: 80° 42' 30"

- NOTES:
1. There are no water wells or developed springs within 250' of proposed well.
 2. Proposed well is greater than 100' from perennial stream, wetland, pond, reservoir or lake.
 3. There are no native trout streams within 300' of proposed well.
 4. Proposed well is greater than 1000' from surface groundwater intake or public water supply.
 5. It is not the purpose or intention of this plat to represent surveyed locations of the surface or mineral parcels depicted hereon. The location of the boundary lines, as shown, are based on record deed descriptions, field evidence found and/or tax map position, unless otherwise noted.
 6. There are no existing buildings within 625' of proposed well.

Blue Mountain Inc.
 11023 MASON DIXON HIGHWAY
 BURTON, WV 26562
 PHONE: (304) 662-6486

FILE #: HICKS M21H
 DRAWING #: HICKS M21H
 SCALE: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1/2500
 PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: George D. Six
 R.P.E.: _____ L.L.S.: P.S. No. 2000



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 WVDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304

DATE: OCTOBER 2, 2017
 OPERATOR'S WELL #: HICKS M21H
 API WELL #: 47 51 01997
 STATE COUNTY PERMIT

Well Type: Oil Waste Disposal Production Deep Gas Liquid Injection Storage Shallow

WATERSHED: MIDDLE GRAVE CREEK-GRAVE CREEK ELEVATION: 1161.57'

COUNTY/DISTRICT: MARSHALL / CLAY QUADRANGLE: GLEN EASTON, WV 7.5'

SURFACE OWNER: THOMAS E. HICKS ACREAGE: 172.100±
 OIL & GAS ROYALTY OWNER: CHRISTA DAWN HICKS ET AL ACREAGE: 824.991± **04/6/2018**

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION PLUG & ABANDON CLEAN OUT & REPLUG OTHER CHANGE

(SPECIFY): _____

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: TVD: 6,320'± TMD: 15,734.08'±

WELL OPERATOR CHEVRON APPALACHIA, LLC DESIGNATED AGENT KENNETH E. TAWNEY
 Address 700 CHERRINGTON PARKWAY Address 500 LEE STREET, EAST SUITE 1600
 City CORAOPOLIS State PA Zip Code 15108 City CHARLESTON State WV Zip Code 25301-3202

HICKS M21H PAGE 2 OF 2

	LESSOR	DIST-TM/PAR
A	CHRISTA DAWN HICKS ET AL	4-8/37
B	LILLIE LAVERN GAREY	4-8/36
C	JAMES L. COSTER ET AL	4-10/3
	FLOYD G. GREATHOUSE ET UX	
	PAUL R. BLAZER ET UX	
	ROBERT A. HOWARD EDGE JR. ET UX	
	THOMAS A. MONTE ET UX	
	G. JEANETTE SOUTH	
	RONALD L. LANCH ET UX	
	MICHAEL E. RHODEHAMEL ET UX	
	EDWARD D. YEATER	
	ROBERT A. EDGE ET UX	
	KENNETH R. RUNYAN ET UX	
	KENNETH R. RUNYAN ET UX	
	DANIEL G. MAY ET UX	
	KEVIN R. DURBIN ET UX	
	GARY D. HINERMAN ET UX	
D	ELAIN A. FONTES	4-10/4
	THE DAKAN FAMILY REVOCABLE LIVING TRUST	
	RONALD W. DAKAN	
	DAVID H. DAKAN	
	SUZANNE SWIFT	
	BARBARA D. FURFARI	
	DIANE WILLIS ET VIR	
	LESLIE MARIE BUTTS	
E	ELAIN A. FONTES	4-10/4.3
	THE DAKAN FAMILY REVOCABLE LIVING TRUST	
	RONALD W. DAKAN	
	DAVID H. DAKAN	
	SUZANNE SWIFT	
	BARBARA D. FURFARI	
	DIANE WILLIS ET VIR	
	LESLIE MARIE BUTTS	
F	ELAIN A. FONTES	4-10/4.1
	THE DAKAN FAMILY REVOCABLE LIVING TRUST	
	RONALD W. DAKAN	
	DAVID H. DAKAN	
	SUZANNE SWIFT	
	BARBARA D. FURFARI	
	DIANE WILLIS ET VIR	
	LESLIE MARIE BUTTS	
G	CHARLES EMERY ET UX	4-10/7.2
H	JOSEPH W. GOULDSBERRY ET UX	4-10/7
J	LEE TAYLOR ET UX	4-10/21
K	ROBERT M. SULLIVAN	4-10/15

SURFACE HOLE LOCATION (SHL)
UTM 17-NAD83(M) N:4413548.944 E:524114.761
NAD83, WV NORTH N:501914.338 E:1626645.385
APPROX. LANDING POINT
UTM 17-NAD83(M) N:4413172.27 E:524043.23
NAD83, WV NORTH N:500682.194 E:1626389.992
BOTTOM HOLE LOCATION (BHL)
UTM 17-NAD83(M) N:4411123.25 E:525741.39
NAD83, WV NORTH N:493865.207 E:1631850.125

	SURFACE OWNER	DIST-TM/PAR
1	THOMAS E. HICKS	4-8/37
2	LILLEY LAVERN GAREY	4-8/36
3	SIDNEY P. POND ET UX	4-8/36.2
4	CONSOLIDATION COAL COMPANY/MURRAY ENERGY C/O LAND DEPT	4-12/25
5	JAMES L. COSTER	4-10/3
6	DENNIS D. WINGROVE ET UX	4-10/4
7	DENNIS D. WINGROVE ET UX	4-10/4.3
8	RONALD K. LILLEY SR. ET UX	4-10/4.1
9	CHARLES E. & DEBBY R. EMERY - TOD	4-10/7.1
10	CHARLES E. & DEBBY R. EMERY - TOD	4-10/7.3
11	CHARLES EDWARD EMERY - TOD	4-10/7.2
12	JOSEPH W. GOULDSBERRY ET UX	4-10/7
13	LEE R. TAYLOR ET UX	4-9/27
14	LEE R. TAYLOR ET UX	4-10/21
15	ROBERT MORRIS SULLIVAN - ROBERT W. SULLIVAN	4-10/15

OCTOBER 2, 2017

04/6/2018

**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:

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

See Attached

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Office of Oil and Gas

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WV Department of
Environmental Protection

**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:

- 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: Chevron Appalachia, LLC
 By: Jenny Hayes
 Its: Permitting Team Lead

Hicks Unit #21H

Plat ID	Lessor	Lessee	Royalty	Book/Page	Assignment #1	Assignment #2	Assignment #3
4-8-37	Hicks, Christa Dawn et al	Chevron U.S.A. Inc.	0.18	841/246	n/a 24/180	n/a 756/332	n/a
4-8-36	Garey, Lillie Lavern	TriEnergy Holdings, LLC	0.16	707/9	TriEnergy Holdings, LLC to NPAR, LLC	NPAR, LLC to Chevron U.S.A. Inc.	n/a
4-10-3	Coster, James L. et al	Chevron U.S.A. Inc.	0.16	873/233	n/a	n/a	n/a
	Greathouse, Floyd G. et ux	Chevron U.S.A. Inc.	0.16	817/473	n/a	n/a	n/a
	Blazer, Paul R. et ux	Chevron U.S.A. Inc.	0.16	817/564	n/a	n/a	n/a
	Edge, Robert A. Howard Jr. et ux	Chevron U.S.A. Inc.	0.16	816/430	n/a	n/a	n/a
	Monti, Thomas A. et ux	Chevron U.S.A. Inc.	0.16	816/436	n/a	n/a	n/a
	South, G. Jeanette	Chevron U.S.A. Inc.	0.16	819/115	n/a	n/a	n/a
	Lanch, Ronald L. et ux	Chevron U.S.A. Inc.	0.16	821/195	n/a	n/a	n/a
	Rhodehamel, Michael E. et ux	Chevron U.S.A. Inc.	0.16	821/201	n/a	n/a	n/a
	Yeater, Edward D.	Chevron U.S.A. Inc.	0.16	819/121	n/a	n/a	n/a
	Edge, Robert A. et ux	Chevron U.S.A. Inc.	0.16	822/486	n/a	n/a	n/a
	Runyan, Kenneth R. et ux	Chevron U.S.A. Inc.	0.16	826/162	n/a	n/a	n/a
	Runyan, Kenneth R. et ux	Chevron U.S.A. Inc.	0.16	826/152	n/a	n/a	n/a
	May, Daniel G. et ux	Chevron U.S.A. Inc.	0.16	835/207	n/a	n/a	n/a
4-10-4	Durbin, Kevin R. et ux	Chevron U.S.A. Inc.	0.16	829/555	n/a	n/a	n/a
	Hinerman, Gary D. et ux	Chevron U.S.A. Inc.	0.16	835/255	n/a	n/a	n/a
					30/461		
	Fontes, Elaine A.	Chesapeake Appalachia, L.L.C.	0.1875	708/525	Chesapeake Appalachia, L.L.C. to Chevron U.S.A. Inc. 30/461	n/a	n/a
	The Dakan Family Revocable Living Trust	Chesapeake Appalachia, L.L.C.	0.1875	708/528	Chesapeake Appalachia, L.L.C. to Chevron U.S.A. Inc. 30/461	n/a	n/a
	Dakan, Ronald W.	Chevron U.S.A. Inc.	0.16	837/154	n/a	n/a	n/a
	Dakan, David H.	Chevron U.S.A. Inc.	0.16	837/145	n/a	n/a	n/a
	Swift, Suzanne	Chevron U.S.A. Inc.	0.16	839/373	n/a	n/a	n/a
	Furfari, Barbara D.	Chevron U.S.A. Inc.	0.16	847/364	n/a	n/a	n/a
	Willis, Diane et vir	Chevron U.S.A. Inc.	0.18	849/636	n/a	n/a	n/a
	Butts, Leslie Marie	Chevron U.S.A. Inc.	0.18	849/630	n/a	n/a	n/a
					30/461		
	Fontes, Elaine A.	Chesapeake Appalachia, L.L.C.	0.1875	708/525	Chesapeake Appalachia, L.L.C. to Chevron U.S.A. Inc. 30/461	n/a	n/a
10-4.3	The Dakan Family Revocable Living Trust	Chesapeake Appalachia, L.L.C.	0.1875	708/528	Chesapeake Appalachia, L.L.C. to Chevron U.S.A. Inc. 30/461	n/a	n/a
	Dakan, Ronald W.	Chevron U.S.A. Inc.	0.16	837/154	n/a	n/a	n/a
	Dakan, David H.	Chevron U.S.A. Inc.	0.16	837/145	n/a	n/a	n/a
	Swift, Suzanne	Chevron U.S.A. Inc.	0.16	839/373	n/a	n/a	n/a
	Furfari, Barbara D.	Chevron U.S.A. Inc.	0.16	847/364	n/a	n/a	n/a
	Willis, Diane et vir	Chevron U.S.A. Inc.	0.18	849/636	n/a	n/a	n/a
	Butts, Leslie Marie-	Chevron U.S.A. Inc.	0.18	849/630	n/a	n/a	n/a

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	Fontes, Elaine A.	Chesapeake Appalachia, L.L.C.	0.1875	708/525	30/461 Chesapeake Appalachia, L.L.C. to Chevron U.S.A. Inc. 30/461	n/a	n/a
4-10-4.1	The Dakan Family Revocable Living Trust	Chesapeake Appalachia, L.L.C.	0.1875	708/528	Chesapeake Appalachia, L.L.C. to Chevron U.S.A. Inc.	n/a	n/a
	Dakan, Ronald W.	Chevron U.S.A. Inc.	0.16	837/154	n/a	n/a	n/a
	Dakan, David H.	Chevron U.S.A. Inc.	0.16	837/145	n/a	n/a	n/a
	Swift, Suzanne	Chevron U.S.A. Inc.	0.16	839/373	n/a	n/a	n/a
	Furfari, Barbara D.	Chevron U.S.A. Inc.	0.16	847/364	n/a	n/a	n/a
	Willis, Diane et vir	Chevron U.S.A. Inc.	0.18	849/636	n/a	n/a	n/a
	Butts, Leslie Marie-	Chevron U.S.A. Inc.	0.18	849/630	n/a	n/a	n/a
4-10-7.2	Emery, Charles et ux	Mountaineer Natural Gas Company	0.125	679/389	21/359 Mountaineer Natural Gas Company to Anchor OGM, L.L.C. 21/288	21/362 Anchor OGM, L.L.C. to AB Resources LLC	756/397 AB Resources LLC to Chevron U.S.A. Inc.
4-10-7	Gouldsberry, Joseph W. et ux	Central Michigan Exploration LLC	0.125	671/502	Central Michigan Exploration, LLC to Stone Energy Corporation 19/138	33/276 Stone Energy Corporation to Chevron U.S.A. Inc. 756/397	n/a
4-10-21	Taylor, Lee et ux	TriEnergy, Inc.	0.125	741/94	TriEnergy, Inc. to AB Resources LLC	AB Resources LLC to Chevron U.S.A. Inc.	n/a
4-10-15	Sullivan, Robert M.	Chevron U.S.A. Inc.	0.16	579/77	n/a	n/a	n/a

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Branden Weimer
Permitting Team Lead

Chevron Appalachia, LLC
800 Mountain View Drive
Smithfield, PA 15478
Tel 724 564 3745
Fax 724 564 3894
bwkb@chevron.com

January 6, 2015

West Virginia D.E.P.
Office of Oil & Gas
601 57th Street SE
Charleston, WV 25304-2345

To Whom It May Concern:

Please be advised that Chevron Appalachia, LLC and Chevron U.S.A. Inc. are affiliated entities. Unless and until revoked, and as evidenced by the signatures of authorized representatives of each entity below, Chevron Appalachia, LLC is authorized to operate assets owned by Chevron U.S.A. Inc. which are located in West Virginia, including oil and gas leases. More particularly, Chevron Appalachia, LLC is authorized to obtain well work permits for assets owned by Chevron U.S.A. Inc. I trust that this will alleviate any concerns the Department may have about Chevron Appalachia, LLC applying for well work permit applications on properties either leased or owned by Chevron U.S.A. Inc. If you have any further questions or concerns, please do not hesitate to contact me.

A handwritten signature in black ink, appearing to read "Branden Weimer".

Branden Weimer
Attorney-In-Fact for Chevron Appalachia, LLC

A handwritten signature in black ink, appearing to read "Marc Tate".

Marc Tate
Attorney-In-Fact for Chevron U.S.A. Inc.

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04/6/2018



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Madeline Fitzgerald
Land Representative

October 23, 2017

West Virginia D.E.P.
Office of Oil & Gas
601 57th Street SE
Charleston, WV 25304-2345

RE: Hicks 8H, 9H, 10H, 20H, 21H

To whom it may concern:

This letter is to confirm that Chevron U.S.A. Inc. has the rights to access minerals under any road along the above referenced laterals. If you should have any further questions or need additional documentation, please feel free to contact me.

Sincerely,

Madeline Fitzgerald
Land Representative

Appalachian Mountain Business Unit
Chevron North America Exploration and Production Company
A Division of Chevron U.S.A. Inc.
700 Cherrington Parkway, Coraopolis, PA 15108
Tel 412 865 1584 Mobile 719 859 0110
MadelineFitzgerald@chevron.com

04/6/2018

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

Date of Notice Certification: _____

API No. 47- _____
Operator's Well No. M21H _____
Well Pad Name: Hicks _____

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: <u>West Virginia</u>	UTM NAD 83 Easting: <u>524114.761</u>
County: <u>Marshall</u>	UTM NAD 83 Northing: <u>4413548.944</u>
District: <u>Clay</u>	Public Road Access: <u>Fork Ridge Road/WV-17</u>
Quadrangle: <u>Glen Easton, WV 7.5'</u>	Generally used farm name: <u>Hicks</u>
Watershed: <u>Middle Grave Creek-Grave Creek</u>	

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.

<p>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:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p align="center">OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input checked="" type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input checked="" type="checkbox"/> RECEIVED</p> <p><input checked="" type="checkbox"/> RECEIVED</p> <p><input checked="" type="checkbox"/> RECEIVED</p>
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Required Attachments:

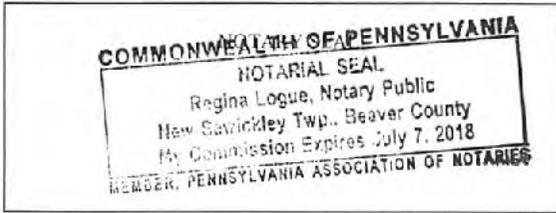
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication 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.

Certification of Notice is hereby given:

THEREFORE, I Jenny Hayes, 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: Chevron Appalachia, LLC
By: *Jenny Hayes*
Its: Permitting Team Lead
Telephone: 412-865-1533

Address: 700 Cherrington Parkway
Coraopolis, PA 15108
Facsimile: 412-865-2403
Email: jzyk@chevron.com



Subscribed and sworn before me this 27th day of Nov. 20,
Regina Logue Notary Public
My Commission Expires July 7, 2018

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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**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: 11/01/2017 Date Permit Application Filed: _____

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

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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: Thomas E. Hicks
Address: 353 Arbor Lane
Moundsville, WV 26041

Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: Jeffrey Ryan
Address: 141 Clover Lane
Moundsville, WV 26041

Name: _____
Address: _____

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

COAL OWNER OR LESSEE
Name: Consol Mining Company, LLC
Address: 1000 Consol Energy Drive
Canonsburg, PA 15317

COAL OPERATOR
Name: Murray Energy
Address: 46226 National Road
St. Clairsville, OH 43950

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

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

*Please attach additional forms if necessary

4705101997

WW-6A
(8-13)

API NO. 47- _____
OPERATOR WELL NO. M21H _____
Well Pad Name: Hicks _____

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, 2017, 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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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.

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.

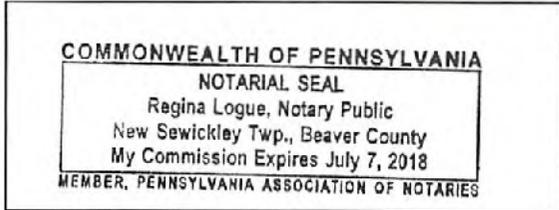
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Notice is hereby given by: Jenny Hays
Well Operator: Chevron Appalachia, LLC
Telephone: 412-865-1533
Email: jzyk@chevron.com

Address: 700 Cherrington Parkway
Coraopolis, PA 15108
Facsimile: _____

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.



Subscribed and sworn before me this 30th day of oct, 2017.
Regina Logue Notary Public
My Commission Expires 7/7/18

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Environmental Protection

Attachment

API No. 47- _____ - _____

OPERATOR WELL NO. M21H

Well Pad Name: Hicks

COAL OWNER OR LESSEE
 Name: Christa Dawn Hicks
 Address: 65 Clover Lane
 Moundsville, WV 26041

COAL OWNER OR LESSEE
 Name: Leslie Mae Hicks
 Address: 1611 Skye Drive
 Chapel Hill, NC 27516

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR
 Name: Lillie & Lavern Garey
 Address: 798 Big Grave Creek Road
 Moundsville, WV 26041

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR
 Name: Vickie L. & Sidney P. Pond
 Address: 3331 Big Grave Road
 Moundsville, WV 26041

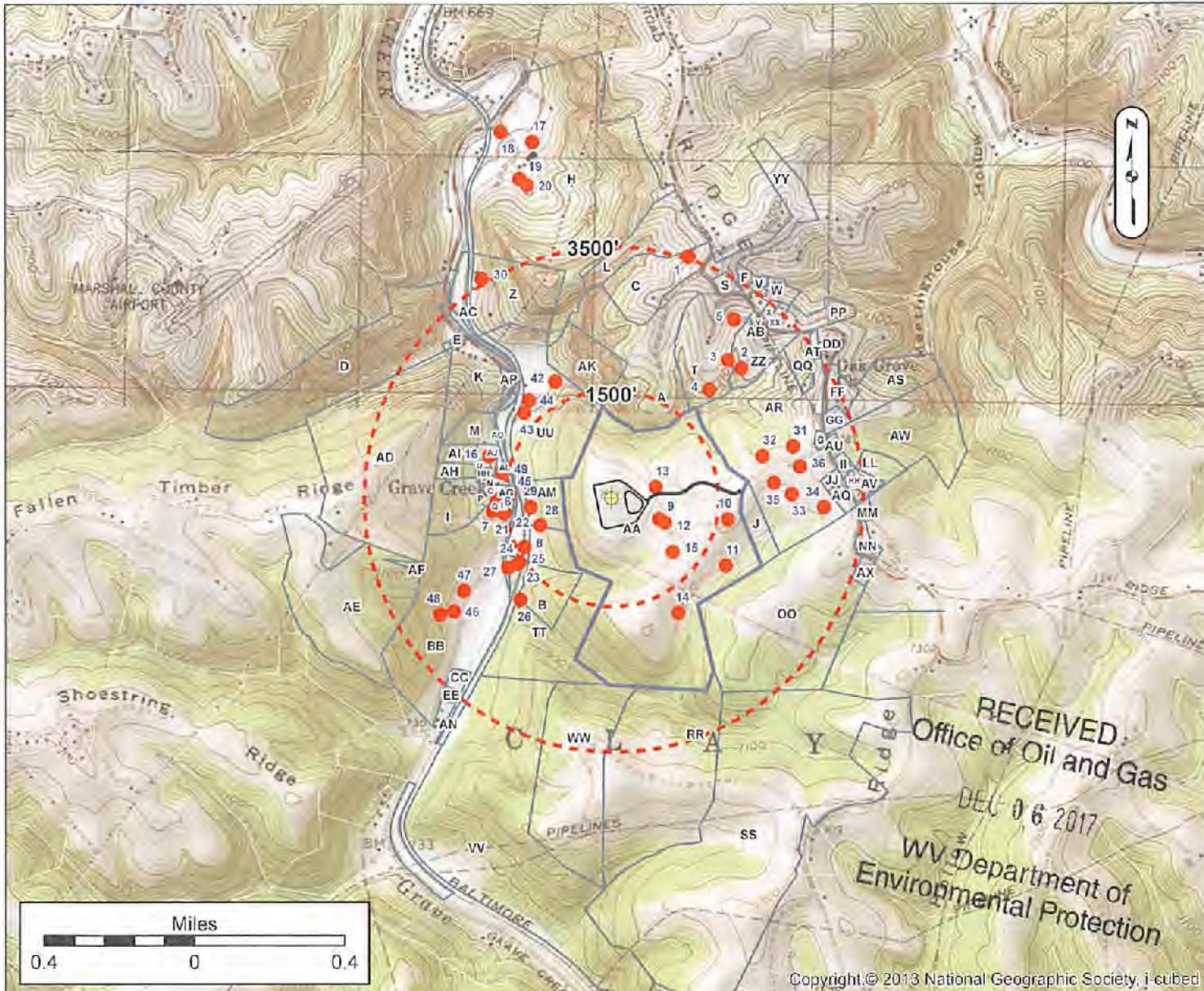
SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR
 Name: Kenneth B. Tagg
 Address: 3303 Big Grave Creek Road
 Moundsville, WV 26041

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WATER SUPPLY EXHIBIT HICKS PAD

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LOT OWNERS

Label	OWNER	TAX	Label	OWNER	TAX	Label	OWNER	TAX	Label	OWNER	TAX
A	SCHELL LESLIE B & DW	25-04 800310000000	II	CLAYTON RALPH ET UX	25-04 800310000000	GG	SCHUMAN GUSTAV J & SUZANNE E	25-04 800310000000	WW	EDGER EDWARD B ET UX 1515	25-04 100021000000
B	POND SIDNEY P ET UX	25-04 800310000000	KK	RODNEY STIMP P & VICKI L	25-04 800310000000	HH	WYNER W A ANDREW ET UX	25-04 800310000000	XX	FRANK ROBERT V ET UX	25-04 800310000000
C	ADKINS JASON S & DAWN T	25-04 800310000000	LL	RICHIE ROBERT ET AL	25-04 400300100000	II	LOS ROGER W & JOEY L	25-04 900310010000	YY	DE JON W H ET UX	25-04 400300100000
D	MERCER CHARLES W JR & JUDY	25-04 800310000000	MM	CHAVARRAS MONTE J ET UX	25-04 800310000000	JJ	HENRIK MARIE L - LIFE	25-04 900310030000	ZZ	CHAMBERS LINDA R MONIE	25-04 400300100000
E	CLARK PATSY ANN	25-04 800310000000	NN	LITMAN RICHARD E JR ET UX	25-04 800310000000	KK	COCHRAN MARTHA E & JAMES I	25-04 900310010000	AA	CRANDER DONALD T ET UX	25-04 400300100000
F	LIT LILIAN HARRY L CHRY ET UX	25-04 800310000000	OO	ALICE JAMES ET UX	25-04 400300100000	LL	M HOB CAPOL LYNN T VIKI	25-04 900310000000	BB	CONSOLIDATION COAL COMPANY	25-04 400300100000
G	HUGHES FAY M	25-04 800310010000	PP	BRIP ET JASON E & TRICIA L	25-04 400300100000	MM	HOWLER R STANIS	25-04 900300000000	CC	ADSON HARRY W & LUCIA L ET UX	25-04 800310000000
H	MOUNDSVILLE FREEHOLDING CO	25-04 800310000000	QQ	WELLS JAMES RALPH ET UX	25-04 400300100000	NN	WELLS ROBERT D ET UX	25-04 900310000000	DD	RODAR FAMILY INTERESTS TR	25-04 800310000000
I	LITMAN RICHARD E SR	25-04 800310000000	RR	CARPENTER DONALD T JR	25-04 400300100000	OO	MUTCHMAN JAMES R ET UX	25-04 900310000000	EE	W L ANS MABEL JEANITA	25-04 800310000000
J	HUGHES LILLIS L	25-04 800310000000	SS	KILMORNDY JAMES E JR ET UX	25-04 400300100000	PP	WELLS ROBERT D ET UX	25-04 400300000000	FF	POND SIDNEY P & VICKIE L	25-04 800310000000
K	MORSE DONNIE ET UX	25-04 800310000000	TT	HICKS THOMAS E	25-04 800310000000	QQ	MCCARY RUBY LAVANNE ET AL - LIFE	25-04 900310000000	GG	LITMAN RICHARD E SR	25-04 800310000000
L	SCHEICHI JOSEPH	25-04 800310000000	UU	WELLS MABEL JEANITA	25-04 800310000000	RR	COOPER EDWARD B ET UX 1515	25-04 100021000000	HH	LITMAN RICHARD E SR	25-04 800310000000
M	THOMAS SPANGLER ET UX	25-04 800310000000	VV	MARTIN GABRIEL VV	25-04 800310000000	SS	WINDUP COY DEWAR D ET UX	25-04 100021000000	II	LITMAN RICHARD E SR	25-04 800310000000
N	WYLLIATE RICHARD P & JAMIE L	25-04 800310000000	WW	DAN GUYHE N L CHURCH	25-04 800310000000	TT	GARY L LEE LANT TR	25-04 800310000000	JJ	SCHEICHI JOSEPH	25-04 800310000000
O	TASSO KENNETH B	25-04 800310000000	XX	ALMAN MICHAEL RAY	25-04 800310000000	UU	STEVEN THOMAS EDWARD ET UX	25-04 800310000000	KK	LITMAN RICHARD E SR	25-04 800310000000
P	CLAYTON RALPH ET UX	25-04 800310000000	YY	HEIFMAN JASON C & CHRISTINA M	25-04 800310010000	VV	MOUNDVILLE CITY OF	25-04 100021000000	LL	POND VICKIE L & SIDNEY P	25-04 800310000000

Surface Owner: THOMAS E. HICKS
 Oil/Gas Owner: THOMAS E. HICKS
 Well Operator: CHEVRON APPALACHIA, LLC
 Address: 700 CHERRINGTON PARKWAY
CORAOPOLIS, PA 15108
 Phone: 724-564-3700

County: MARSHALL
 Township: MOUNDSVILLE, WV
 Surveyor: GROUNDWATER & ENVIRONMENTAL SERVICES, INC.
 Address: 301 COMMERCE PARK DR
CRANBERRY TOWNSHIP, PA 16066
 Phone: 800-267-2549

NOTICE: THE INTENT OF THIS EXHIBIT IS TO IDENTIFY EXISTING WATER SUPPLIES IN THE VICINITY OF A PROPOSED GAS WELL, AND IS NOT A COMPLETE BOUNDARY SURVEY. PROPERTY LINES AND OWNER INFORMATION WERE OBTAINED FROM DEEDS, TAX RECORDS, AERIAL PHOTOGRAPHY, GIS, AND FIELD SURVEYED EVIDENCE.

04/6/2018

**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: 11/01/2017 **Date Permit Application Filed:** _____

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

- 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: Thomas E. Hicks
Address: 363 Arbor Lane
Moundsville, WV 26041

Name: Jeffrey L. Ryan
Address: 141 Clover Lane
Moundsville, WV 26041

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: <u>West Virginia</u>	UTM NAD 83	Easting: <u>524114.761</u>
County: <u>Marshall</u>		Northing: <u>4413548.944</u>
District: <u>Clay</u>	Public Road Access: <u>Fork Ridge Road/WV-17</u>	
Quadrangle: <u>Glen Easton, 7.5'</u>	Generally used farm name: <u>Hicks</u>	
Watershed: <u>Middle Grave Creek - Grave Creek</u>		

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: Chevron Appalachia, LLC
Address: 700 Cherrington Parkway
Coraopolis, PA 15108
Telephone: 412-865-1533
Email: jzyk@chevron.com
Facsimile: 412-865-2403

Authorized Representative: _____
Address: _____
Telephone: _____
Email: _____
Facsimile: _____

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 local entities in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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Environmental Protection

04/6/2018

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 an 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.

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, Sidney + Vickie Pond / Fork & Carey, 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 _____, 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: <u>West Virginia</u>	UTM NAD 83 Easting: <u>524114.761</u>
County: <u>Marshall</u>	UTM NAD 83 Northing: <u>4413548.944</u>
District: <u>Clay</u>	Public Road Access: <u>Fork Ridge Road/WW-17</u>
Quadrangle: <u>Glen Easton, WV 7.5'</u>	Generally used farm name: <u>Hicks</u>
Watershed: <u>Middle Grave Creek-Grave Creek</u>	

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.

<p>*Please check the box that applies</p> <p><input type="checkbox"/> SURFACE OWNER</p> <p><input type="checkbox"/> SURFACE OWNER (Road and/or Other Disturbance)</p> <p><input type="checkbox"/> SURFACE OWNER (Impoundments/Pits)</p> <p><input type="checkbox"/> COAL OWNER OR LESSEE</p> <p><input type="checkbox"/> COAL OPERATOR</p> <p><input checked="" type="checkbox"/> WATER PURVEYOR</p> <p><input type="checkbox"/> OPERATOR OF ANY NATURAL GAS STORAGE FIELD</p>	<p>FOR EXECUTION BY A NATURAL PERSON</p> <p>Signature: <u>[Signature]</u></p> <p>Print Name: <u>Sidney + Vickie L Pond</u></p> <p>Date: <u>11-3-17</u></p> <p>FOR EXECUTION BY A CORPORATION, ETC.</p> <p>Company: _____</p> <p>By: _____</p> <p>Its: _____</p> <p>Signature: _____</p> <p>Date: _____</p>
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Oil and Gas Privacy Notice:

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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
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VOLUNTARY STATEMENT OF NO OBJECTION

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Watershed:	<u>Middle Grave Creek-Grave Creek</u>		

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.

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	<p>FOR EXECUTION BY A CORPORATION, ETC.</p> <p>Company: <u>Office of Oil and Gas</u></p> <p>By: _____</p> <p>Its: <u>DEC 16 2017</u></p> <p>Signature: _____</p> <p>Date: _____</p> <p>WV Department of Environmental Protection</p>

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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
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VOLUNTARY STATEMENT OF NO OBJECTION

I, Kenneth B. Tagg, 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 _____, 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:	<u>West Virginia</u>	UTM NAD 83 Easting:	<u>524114.761</u>
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District:	<u>Clay</u>	Public Road Access:	<u>Fork Ridge Road/WW-17</u>
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Watershed:	<u>Middle Grave Creek-Grave Creek</u>		

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.

<p>*Please check the box that applies</p> <p><input type="checkbox"/> SURFACE OWNER</p> <p><input type="checkbox"/> SURFACE OWNER (Road and/or Other Disturbance)</p> <p><input type="checkbox"/> SURFACE OWNER (Impoundments/Pits)</p> <p><input type="checkbox"/> COAL OWNER OR LESSEE</p> <p><input type="checkbox"/> COAL OPERATOR</p> <p><input checked="" type="checkbox"/> WATER PURVEYOR</p> <p><input type="checkbox"/> OPERATOR OF ANY NATURAL GAS STORAGE FIELD</p>	<p>FOR EXECUTION BY A NATURAL PERSON</p> <p>Signature: <u>Kenneth B. Tagg</u></p> <p>Print Name: <u>KENNETH B. TAGG</u></p> <p>Date: <u>Nov. 8 2017</u></p>
	<p>FOR EXECUTION BY A CORPORATION, ETC.</p> <p>Company: <u>Office of Oil and Gas</u></p> <p>By: _____</p> <p>Its: _____</p> <p>Signature: _____</p> <p>Date: <u>DEC 06 2017</u></p> <p>RECEIVED</p> <p>WV Department of Environmental Protection</p>

Oil and Gas Privacy Notice:

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to the Department of
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04/6/2018



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

1900 Kanawha Boulevard East • Building Five • Room 110
Charleston, West Virginia 25305-0430 • (304) 558-3505

Jim Justice
Governor

Thomas J. Smith, P. E.
Secretary of Transportation/
Commissioner of Highways

November 15, 2017

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

Subject: DOH Permit for the Hicks Pad A Well Site, Marshall County
Hicks A M21H

Dear Mr. Martin,

The West Virginia Division of Highways has issued Permit #06-2016-0504 for the subject site to Chevron Appalachia, L.L.C for access to the State Road for the well site located off of Marshall County Route 17 S.L.S.

The operator has signed a STATEWIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT 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, P.E.
Regional Maintenance Engineer
Central Office Oil & Gas Coordinator

Cc: Mandy Fordyce
Chevron Appalachia, LLC
CH, OM, D-6
File

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WV Department of
Environmental Protection

Section VI - Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	
State:	WV
County:	Marshall
API Number:	047-51-XXXX
Operator Name:	Chevron
Well Pad Name:	Hicks
Longitude:	39 872100
Latitude:	80 711825
Long/Lat Projection:	NAD 83
Production Type:	
True Vertical Depth (TVD):	
Total Water Volume (gal)*:	116001,000

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Environmental Protection

Hydraulic Fracturing Fluid Additives:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Comments
Corrosion Inhibitor AZ64	Schlumberger	Corrosion Inhibitor	Methanol/Aliphatic Acids/Prop-2-yn-1-ol/Aliphatic Alcohols, ethoxylated #1	Mixture	
28% HCl Acid	Schlumberger	Used to open pores	Hydrochloric Acid	7647-01-0	
Breaker J134	Schlumberger	Gel Breaker	Hemicellulase Enzyme	9012-54-8	
Water Gelling Agent J580	Schlumberger	Water Viscosifier	Carbohydrate Polymer	Proprietary	
Friction Reducer J609	Schlumberger	Friction Reducer	Ammonium Sulfate	7783-23-2	
Iron Stabilizer L58	Schlumberger	Iron Stabilizer	Sodium Erythorbate	5381-77-7	
EC6116A	Nalco	Bicocide	Dibromoacetonitrile/2,2-Dibromo 3-nitropropionamide/Polyethylene Glycol	Mixture	
EC6486A Scale Inhibitor	Nalco	Scale Inhibitor	Amine Triphosphate/Ethylene Glycol	Mixture	
NALCO EC6673W	Nalco	Iron Control	Ethylene Glycol	107-21-1	
5012-3050	Schlumberger	Proppant	Crystalline Silica	14808-60-7	
5012-4070	Schlumberger	Proppant	Crystalline Silica	14808-60-7	

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal law protects "proprietary", "trade secret", and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(j) and Appendix D.

4705101997



Know what's below
Call before you dig

HICKS V

EROSION AND SEDIMENTATION

FORK RIDGE CLAY DISTRICT, MARSHALL COUNTY, WEST VIRGINIA

PREF

CHEVRON APPROVED
800 MOUNTAIN MARSH
SMITHFIELD

BLUE MOUNTAIN AERIAL MAPPING
11023 MASON DIXON HIGHWAY
BURTON, WEST VIRGINIA 25562
304-562-2926

CONSULTANTS



HICKS LIMITS OF DISTURBANCE AREA (AC)

	TOTAL SITE
ACCESS ROADS	7.7
WELL PAD	19.7
TOTAL AFFECTED AREA	27.4
TOTAL WOODED ACRES DISTURBED	0.1
IMPACTS TO RYAN JEFFREY L	
ACCESS ROADS	2.2
WELL PAD	0.0
TOTAL AFFECTED AREA	2.2
TOTAL WOODED ACRES DISTURBED	0.0
IMPACTS TO HICKS LUDLLE E	
ACCESS ROADS	0.1
WELL PAD	0.0
TOTAL AFFECTED AREA	0.1
TOTAL WOODED ACRES DISTURBED	0.0
IMPACTS TO HICKS THOMASE	
ACCESS ROADS	5.2
WELL PAD	13.9
TOTAL AFFECTED AREA	25.0
TOTAL WOODED ACRES DISTURBED	0.1

START OF ARBOR LANE AT FORK RIDGE ROAD
LATITUDE: 39.873781 N LONGITUDE: 80.710781 W

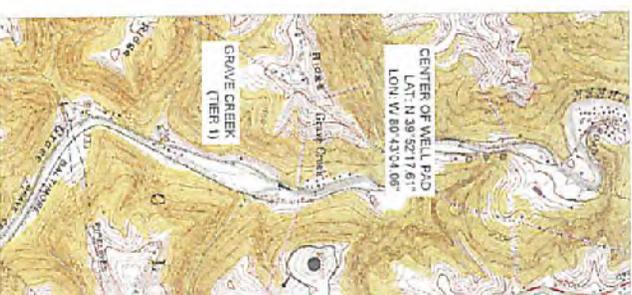
START OF ACCESS ROAD AT ARBOR LANE
LATITUDE: 39.8721 N LONGITUDE: 80.711825 W

WELL PIN 141H
LATITUDE: 39.871847 N LONGITUDE: 80.718297 W

WELL PIN 143SH
LATITUDE: 39.871676 N LONGITUDE: 80.717811 W

BASED ON NAD 83 WEST VIRGINIA STATE PLANE, NORTH ZONE,
U.S. FOOT

WATERSHED NAME (WW WATER PLAN), UPPER OHIO - WHEELING
RECEIVING STREAM (USGS BLUE LINE), GRAVE CREEK
DISTANCE TO NEAREST USGS BLUE LINE STREAM = 1061 FT
NO ANTICIPATED WETLAND IMPACTS



SITE L
USGS 7.5' TOPOGRAPHIC
MOUNDVILLE & CLAY

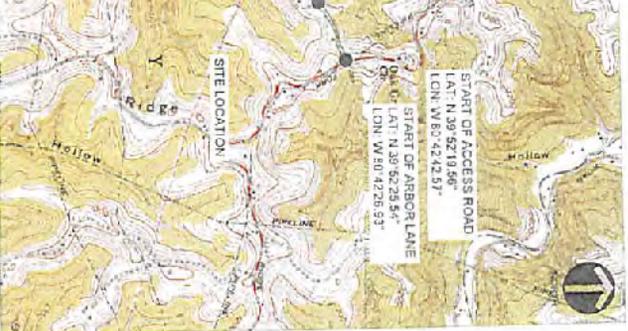
LEGEND	EXISTING
TC - TOP OF CURB	CURT N
O - DITCH	CONCRETE ANCHOR
TW - TOP OF WALL	CONCRETE FENCE
BTW - BOTTOM OF WALL	CONCRETE FENCE
TS - TOP OF SLOPE	CONCRETE FENCE
BS - BOTTOM OF SLOPE	CONCRETE FENCE
SAN - SANITARY	CONCRETE FENCE
ST - STORM	CONCRETE FENCE
MH - MANHOLE	CONCRETE FENCE
TOP - TOP OF CURB	CONCRETE FENCE
FL - FLOWLINE	CONCRETE FENCE
WW - WATER VALVE	CONCRETE FENCE
GV - GAS VALVE	CONCRETE FENCE
PH - FIRE HYDRANT	CONCRETE FENCE
CO - CLEAN OUT	CONCRETE FENCE
STD - STANDARD	CONCRETE FENCE
FM - PARKING METER	CONCRETE FENCE
MB - MAILBOX	CONCRETE FENCE
DS - DOOR SILL	CONCRETE FENCE

WELL PAD EROSION CONTROL PLANS

ROAD (C.R. 17)
CLAY COUNTY, WEST VIRGINIA

DESIGNED FOR:

APPALACHIA, LLC
MOUNTAIN VIEW DRIVE
SMITHFIELD, PA 15478



Handwritten signature and date:
11/23/17

PROPOSED
HICKS WELL PAD
HICKS QUADRANGLE MAP
SECTION 10, T10N, R10E, S17E
MARSHALL COUNTY, WV 1997

PROPOSED

Symbol	Description
Circle with dot	Well
Circle with cross	Accession
Circle with horizontal lines	Stream
Circle with vertical lines	4:1 Slope
Circle with diagonal lines	3:1 Slope
Circle with wavy lines	2:1 Slope
Circle with zigzag lines	1:1 Slope
Circle with horizontal dashed lines	Gravel
Circle with vertical dashed lines	Gravel
Circle with diagonal dashed lines	Gravel
Circle with wavy dashed lines	Gravel
Circle with zigzag dashed lines	Gravel
Circle with horizontal solid lines	Gravel
Circle with vertical solid lines	Gravel
Circle with diagonal solid lines	Gravel
Circle with wavy solid lines	Gravel
Circle with zigzag solid lines	Gravel
Circle with horizontal dashed-dotted lines	Gravel
Circle with vertical dashed-dotted lines	Gravel
Circle with diagonal dashed-dotted lines	Gravel
Circle with wavy dashed-dotted lines	Gravel
Circle with zigzag dashed-dotted lines	Gravel
Circle with horizontal solid-dotted lines	Gravel
Circle with vertical solid-dotted lines	Gravel
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Circle with wavy solid-dotted-dotted-dotted-dotted-dotted lines	Gravel
Circle with zigzag solid-dotted-dotted-dotted-dotted-dotted lines	Gravel

NO	TITLE	SHEET INDEX
CS 000	COVER SHEET	
ES 050	EXISTING TOPOGRAPHIC PLAN	
ES 100	OVERALL EROSION SEDIMENT CONTROL PLAN	
ES 101	EROSION AND SEDIMENT CONTROL PLAN	
ES 102	EROSION AND SEDIMENT CONTROL PLAN	
ES 103	EROSION AND SEDIMENT CONTROL PLAN	
ES 104	EROSION AND SEDIMENT CONTROL PLAN	
ES 105	EROSION AND SEDIMENT CONTROL NOTES	
ES 106	EROSION AND SEDIMENT CONTROL NOTES	
ES 107	EROSION AND SEDIMENT CONTROL DETAILS	
ES 108	EROSION AND SEDIMENT CONTROL DETAILS	
ES 109	EROSION AND SEDIMENT CONTROL DETAILS	
ES 110	EROSION AND SEDIMENT CONTROL DETAILS	
ES 111	EROSION AND SEDIMENT CONTROL DETAILS	
ES 112	EROSION AND SEDIMENT CONTROL DETAILS	
ES 113	WELL PAD CROSS SECTION PLAN	
ES 114	WELL PAD CROSS SECTIONS A AND B	
ES 115	STOCKPILE CROSS SECTIONS C, D, E AND F	
ES 116	ARBOR LANE PLAN AND PROFILE	
ES 117	ACCESS ROAD PLAN AND PROFILE	
ES 118	ROAD CROSS SECTION S	
GE 500	GEOTECHNICAL SUBSURFACE SUMMARY	
GE 501	GEOTECHNICAL SUBSURFACE SUMMARY	
GE 502	GEOTECHNICAL CROSS SECTIONS	
GE 503	GEOTECHNICAL TEST BORING INFORMATION	
GE 504	GEOTECHNICAL SUBSURFACE DETAILS AND NOTES	
PC 800	RECLAMATION PLAN WITH AERIAL	
PC 801	RECLAMATION PLAN	



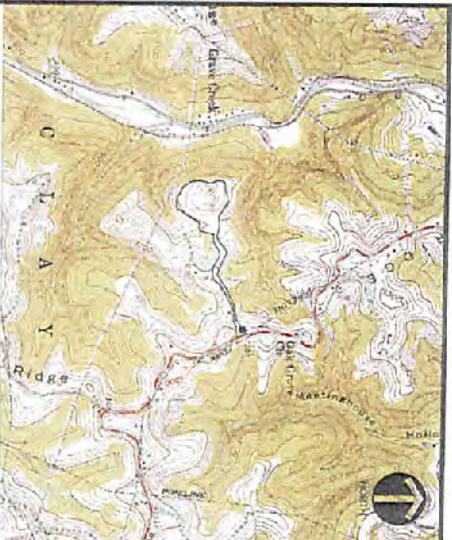
Michael Baker
INTERNATIONAL
MICHAEL BAKER INTERNATIONAL
CONSULTING ENGINEERS
MOON TOWNSHIP, PENNSYLVANIA

Date	No	REVISION RECORD
12-21-2016	01	REVISED PER WV DEP COMMENTS
	02	
	03	
	04	
	05	
	06	
	07	
	08	

Project Number: 150618
Drawing Scale: AS SHOWN
Date Issued: 10/13/2016
Index Number:
Checked By: JAC
Project Manager: TJP
CS000

HICKS WELL PAD
FORK RIDGE ROAD - C.R. 17
CLAY DISTRICT, MARSHALL COUNTY
PREPARED FOR
CHEVRON APPALACHIA, LLC
800 MOUNTAIN VIEW DRIVE
SMITHFIELD, PA 15478

COVER SHEET



SITE LOCATION MAP
USGS MOUNDSVILLE & GLEN EASTON QUADS
 1" = 2000'

NOTES

1. SILT FENCE, CROSS DRAINS AND ROCK FILTERS SHALL REMAIN OPERATIONAL UNTIL THE SITE HAS BEEN RESTORED TO ORIGINAL TOPOGRAPHY.
2. ALL CROSS DRAINS, ROCK FILTERS AND ROCK CHECK DAMS SHALL REMAIN IN PLACE WITHIN THE GRAVEL ACCESS ROAD, UNLESS OTHERWISE NOTED.
3. COMPACTION OF RECLAMATION FILL MATERIAL TO BE 90% OF THE STANDARD PROCTOR DENSITY PER ASTM D698 -3% OF OPTIMUM MOISTURE. 24-INCH MAX LIFT THICKNESS (TYP) ALL RECLAMATION FILL SLOPES!

SITE RESTORATION SEQUENCE:

1. ONCE OPERATIONS ARE COMPLETE, SEED AND MULCH ALL DISTURBED AREAS. USING THE SPECIFIED SEEDING REQUIREMENT FOUND ON THE DETAILED PLAN, ALL DISTURBED AREAS MUST BE TEMPORARILY STABILIZED IF REMAINING IDLE, OR ANTICIPATED TO REMAIN IDLE.
 2. RESEED ALL DISTURBED AREAS IF VEGETATION IS NOT ESTABLISHED WITHIN 30 DAYS.
 3. REMOVE THE SEDIMENT BASIN BY
 - a. DEWATER THE BASIN AS NECESSARY USING A PUMPED WATER FILTER BAG.
 - b. REMOVE THE TEMPORARY RISER, CUTLET PIPE AND RIPRAP OUTLET PROTECTION.
 - c. REGRADE THE BASIN TO THE ORIGINAL TOPOGRAPHY.
 4. REMOVE ALL SILT FENCE AND ROCK FILTERS FOLLOWING COMPLETION OF THE ABOVE STEPS AND AFTER THE SITE HAS A UNIFORM 70% PERENNIAL VEGETATIVE COVER.
 5. SPREAD ROCK FILTER RIPRAP OVER RIPRAP APRONS.
 6. VALVES ON PAD DRAINAGE SUMP'S SHALL REMAIN OPEN AFTER DRILLING AND COMPLETION OPERATIONS ARE COMPLETE. SUMP'S AND VALVES TO REMAIN IN PLACE FOR LIFE OF THE WELL PAD AND SHALL BE MAINTAINED AS NEEDED TO ENSURE OPERABILITY.

TOTAL AREA = 27.4 AC
 DISTURBED AREA = 27.4 AC

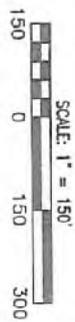


Know what's below
 Call before you dig

SITE RESTORATION LEGEND

- LIMITS OF DISTURBANCE/PROJECT LIMIT
- PERMANENT SEED AND MULCH





REVISION RECORD	
Date	No
12-21-2015	01
-	02
-	03
-	04
-	05
-	06
-	07
-	08

Michael Baker
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HICKS WELL PAD
 FORK RIDGE ROAD - C.R. 17
 CLAY DISTRICT, MARSHALL COUNTY

PREPARED FOR:
CHEVRON APPALACHIA, LLC
 800 MOUNTAIN VIEW DRIVE
 SMITHFIELD, PA 15478

Handwritten signature and date: 11/13/17

RECLAMATION
 PLAN WITH AERIAL
 Project Number: 159615
 Drawing Scale: AS SHOWN
 Date Issued: 10-13-2016
 Inset Number:
 Drawn By: JMC
 Checked By: EBN
 Project Manager: TMP
PC 600