

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

Monday, October 30, 2017 WELL WORK PERMIT Horizontal 6A / Re-Work

TRIAD HUNTER, LLC 125 PUTNAM ST

MARIETTA, OH 45750

Re:

Permit approval for 1403 47-095-02153-00-00

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

Operator's Well Number: 1403 Farm Name: WELLS, VELMA L.

U.S. WELL NUMBER: 47-095-02153-00-00

Horizontal 6A / Re-Work

Date Issued: 10/30/2017

Promoting a healthy environment.

API Number: 95-02153D

## **PERMIT CONDITIONS**

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. <u>Failure to adhere to the specified permit conditions may result in enforcement action.</u>

## **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.

API Number: 95-021531)

## **PERMIT CONDITIONS**

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.

API	NO.	47-	95		2153	D	
	OPE	RAT	OR	WELL	NO.	1403	
	We	II Pa	d N	ame:	Wells	Meckley	

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

	(14)						
1) Well Operato	r: Triad F	Hunter, LLC		494494833	Tyler	Lincoln	Paden City
				Operator ID	County	District	Quadrangle
2) Operator's W	ell Numbe	r: 1403		Well F	ad Name: W	ells Meckley	
3) Farm Name/S	urface Ow	ner: Wells N	/leckley	Public R	oad Access:	State Route 1	8
4) Elevation, cur	rent groun	d: 958'	Ι	Elevation, propose	d post-constr	uction: 958'	
5) Well Type	(a) Gas	X	Oil x	17	derground St	***************************************	
	Other		11				**************************************
	(b)If Gas	Shallow	Х	Deep			
		Horizontal	X				Da H
6) Existing Pad:	Yes or No	Yes			-		7-25-17
				cipated Thickness	and Expected	d Pressure(s):	, ,
iviarcellus Sna	ie, 6197-62	256' VD, 50'-5	5. THICK	(, 3,000PSI BHP			
8) Proposed Tota	ıl Vertical	Depth: 6,23	3' TVD				
9) Formation at '	Total Verti	cal Depth:	Marcellu	is Shale			
10) Proposed To	tal Measur	ed Depth:	15,3841	MD- 14,849'	MD		
11) Proposed Ho	rizontal Le	eg Length: 🕹	6495	6,231	DAH 7	-25-17	7,975 WH 12/2/
12) Approximate	Fresh Wa	ter Strata De <sub>l</sub>	oths:	250'			/
13) Method to D	etermine F	resh Water D	epths:	Examine local w	ater wells		
14) Approximate	Saltwater	Depths: 11	00'-2000	)'			
(5) Approximate	Coal Sear	n Depths: 60	00'-1150	)'			
6) Approximate	: Depth to I	Possible Voic	l (coal m	nine, karst, other):	None know	n	
7) Does Propos lirectly overlyin					8 8	No X	
(a) If Yes, prov	ide Mine I	nfo: Name:					
		Depth:					
,		Depth: Seam:					The state of the s

OPERATOR WELL NO. 1403
Well Pad Name: Wells Meckley

18)

## CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	<u>Grade</u>	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	20"	New	A-53B	90 ppf	100' exist	100'	If necessary, will cement to surface
Fresh Water	13 3/8"	New	J-55	54.5 ppf	424' exist	424'	Cement to Surface
Coal	13 3/8"	New	J-55	54.5 ppf	424' exist	424'	Cement to Surface
Intermediate	9 5/8"	New	J-55	36 ppf	2,877' exist	2,877'	Cement to Surface
Production	5 1/2"	New	P-110	20 ppf	14,849'	14,849'	Cement to Surface
Tubing	2 7/8"	New	J-55	4.7 ppf	N/A	As needed	N/A
Liners	N/A	N/A	N/A	N/A	N/A	N/A	N/A

PmH 7-25-17

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"	24"	.375"	1380	0	Standard Class A	1.18 cu.ft./sk
Fresh Water	13 3/8"	17 1/2"	.380"	2730	750	Standard Class A	1.2 cu.ft./sk
Coal	13 3/8"	17 1/2"	.380"	2730	750	Standard Class A	1.2 cu.ft./sk
Intermediate	9 5/8"	12 1/4"	.352"	3520	1750	Light Cement/ Class A	1.9 cu.ft./sk; 1.7 cu.ft./sk
Production	5 1/2"	8 3/4"	.361'	12640	9000	50/50 POZ/ Class H	1.27 cu.ft./sk; 2.58 cu.ft./sk
Tubing	2 7/8"	N/A	.217"	7200	3000	N/A	N/A
Liners	N/A	N/A	N/A	N/A	N/A	N/A	N/A

## **PACKERS**

Kind:	N/A		
Sizes:	N/A		
Depths Set:	N/A		

OPERATOR WELL NO. 1403
Well Pad Name: Wells Meckley

19) Describe proposed well work, including the drilling and plugging b	pack of any pilot hole:
SEE ATTACHMENT: I-B	718 C.L.
	90°
20) Describe fracturing/stimulating methods in detail, including anticipation	pated max pressure and max rate:
SEE ATTACHMENT: II-B	'
	1
DC	14
	7-36-17
21) Total Area to be disturbed, including roads, stockpile area, pits, etc	(acres): 66.45 acres
22) Area to be disturbed for well pad only, less access road (acres): $\frac{3}{2}$	.75 acres
23) Describe centralizer placement for each casing string:	
SEE ATTACHMENT: III-B	
24) Describe all cement additives associated with each cement type:	
SEE ATTACHMENT: IV-B	-
25) P	
25) Proposed borehole conditioning procedures:	
SEE ATTACHMENT: V-B	
*Note: Attach additional sheets as needed	

ATTACHEMENT: I-B

## **#19 Proposed Well Work:**

Drill and complete a new horizontal Marcellus Shale Well.

- 5. Fluid Drill an 8 1/2" production hole to the projected total measured depth @ +/- 15,000 feet.
- 6. Run and Cement 5 ½" production casing to the TMD; cement casing back to the surface with Class A and Class H cement.
- 7. Run Cased-hole logs (Gamma-Ray, CCL, Bond).
- 8. Open toe sleeve and establish 15 BPM pump rate.
- 9. Perforate and stimulate multiple stages in Marcellus lateral section.
  - a. Perforations per stage = sixty to seventy
  - b. Average stage length = one hundred fifty feet
- 10. Clean-out 5 ½" production casing using a coil tubing rig or a work over rig and snubbing unit.
- 11. Flow test well for seven to ten days to clean up wellbore and determine overall productivity.
- 12. Turn well into production.

Donit

ATTACHEMENT: II-B

## #20 Fracturing/Stimulation Methods:

Upon the successful cementation of the 5 ½" production casing, completion of the well will be performed as follows:

- 1. Run a GR/CCL/Bond log from the bottom of the curve to surface.
- 2. Pressure-up on casing, open the toe sleeve and establish pump rate of 15 bpm through the toe sleeve.
- 3. Run a GR/CCL log form the toe to the base of the curve and correlate with the GR/CCL/Bon log.
- 4. Pump down through the casing a solid bridge plug and perforating guns.
- 5. Set the solid bridge plug just above the toe sleeve and perforate the first stage with 60-70 perforations over a 100'-150' interval (stage#1).
- 6. Fracture stage #1 with a slick water/sand stimulation using approximately 8,000bbls of water and 225,000lbs of sand. Average treating pressure is expected to range between 6,000psi and 7,000psi and average treating rates are expected to range between 70bbls and 80bbls per minute. Upon completion of the stage, the five minute and ten minute shut in pressures are recorded.
- 7. Repeat the same methodology of perforating and fracturing on subsequent stages using composite frac plugs instead of solid bridge plugs. Once the heel is reached, completion operations are suspended. The average number of stages completed in each well range between twenty and thirty.
- 8. Upon completion of the last stage, solid bridge plugs are set in the casing, just above the top of the curve and just below the well head for safety purposes.
- 9. Well is shut in until clean out and flow back operations are initiated.

125-10

ATTACHEMENT: III-B

## **#23 Centralizer Placement:**

- A. (5 ½") Production Casing:
  - 1. Metal Spiral glider centralizers every joint in lateral, every other joint in curve and every three joints in vertical. No Bowspring in vertical if rotating, only use solid spirals.

DMH -25-17

## **#24 Cement Additives:**

ATTACHEMENT: IV-B PAGE 1 OF 2

## A. Surface Cement Job (20" csg.)

- 1. Surface Cement Job (20" csg.)
  - a) Average weight = 15.4 to 15.6 lbs./gal
  - b) Average yield = 1.19 to 1.24 ft<sup>3</sup>/5k
- 2. Common Additives
  - a) 1/4 lb./5k Cello Flake

(Lost circulation material)

b) 2%-3% Calcium Chloride

(Accelerator)

\*Note: Gel Sweep is usually pumped ahead of the cement.

Gel Spacer consists of 6% gel w/cello Flake.

## B. Intermediate Cement Job (13 3/8" csg. & 9 5/8" csg.)

Due to depth, most intermediate casings are cemented in two stages.

- 1. The upper (lead) stage cement job usually consists of CLASS A CEMENT or LIGHT CEMENT.
  - a) Average weight = 13.1 to 13.5 lbs. /gal.
  - b) Average yield =  $1.54 \text{ to } 1.70 \text{ ft}^3/5 \text{k}$ .

#### Common Additives

a) 1/4 lb./5k Cello Flake

(Lost circulation material)

b) 1% - 2% Calcium Chloride

(Accelerator)

\*Note: Gel Sweep is usually pumped ahead of the cement.

Gel Spacer consists of 6% gel w/cello Flake.

- 2. The lower (tail) stage usually consists of standard CLASS A CEMENT.
  - a) Average weight = 15.4 to 15.6 lbs./gal
  - b) Average yield = 1.18 to 1.20 ft<sup>3</sup>/5k.

#### Common Additives

a) 1/4 lb./5k Cello Flake

(Lost circulation material)

b) 1% - 2% Calcium Chloride

(Accelerator)

c) 1% bwoc

(Bonding Agent)

d) 55% bwoc

EC-1 BA-10A

(Bonding Agent)

Da H 7-25-1

## **#24 Cement Additives:**

ATTACHEMENT: IV-B PAGE 2 OF 2

## C. Longstring Cement Job (5 1/2" csg.)

Depending on how far cement is brought back into the intermediate casing, the production casing is usually cemented in two stages and a heavy weighted spacer is pumped ahead of the cement to condition the well bore.

<ol> <li>Weighted Spacer</li> </ol>	Ultra Flush II	50 bbs. @ 13lbs. /gal				
a) Barite	@257 lbs. /bbl	(Weighting Material)				
b) US-40	2 gals. /bbl	(Surface tension reducer)				
c) ss-2	13 lbs. /gal	(Suractant)				
2. Weighted Spacer						
a) Barite	@257 lbs. /bbl	(Weighting Material)				
b) SS-2	1 lb. /gal	(Surfactant)				
c) MPA-170	1 lb. /bbl	(Fluid loss additive)				
3. Lead Slurry 50:50 POZ/Premium NE-1						
a) Average Weight = 13.	.50 lbs. /gal					
11						

b) Average yield =  $1.44 \text{ ft}^3 / /5k$ .

## Common Additives

a) BA – 90	3lbs. /5k	(Bonding Agent)
b) R – 3	.258 bwoc	(Retarder)
c) MPA – 170	1 lb. / bbl	(Fluid loss additive)

4. Tail Slurry **CLASS H CEMENT** 

a) Average Weight = 15.2lbs. /gal

b) Average Yield = 1.64 ft<sup>3</sup>/5k

## Common Additives

a) R-3	.2% bwoc	(Retarder)
b) CD-32	.75 % bwoc	(Dispersant)
c) ASA – 301	.35 % bwoc	(Free water removal)
d) BA-10A	1.25% bwoc	(Bonding Agent)
e) ASCA	30lbs. /5k	(Solubility additive)
f) Sodium Metasilicate	.58 bwoc	(Extender)

## **#25 Borehole Conditioning Procedures:**

17 ½" hole – Generally this section of the well is drilled on air with air compressors and boosters. It's imperative through this section of the well to have sufficient air volume and pressure on the borehole during drilling to ensure hole conditions remain clean and unobstructed. If a significant volume of freshwater is encountered during drilling "stiff foam" or soap is utilized to assist in lifting drill cuttings and freshwater out of the hole. "Red Rock" is a clay-dominant strata that is sensitive to freshwater in this area. Stiff foam is applied to the borehole when freshwater is encountered to prevent the clays from swelling and sloughing into the borehole.

12 1/4" hole - Generally this section of the well is drilled on air with air compressors and boosters. It's imperative through this section of the well to have sufficient air volume and pressure on the borehole during drilling to ensure hole conditions remain clean and unobstructed. If a significant volume of saltwater is encountered during drilling "stiff foam" or soap is utilized to assist in lifting drill cuttings and freshwater out of the hole. "Red Rock" is a clay-dominant strata that is sensitive to saltwater in this area. Stiff foam is applied to the borehole when saltwater is encountered to prevent the clays from swelling and sloughing into the borehole.

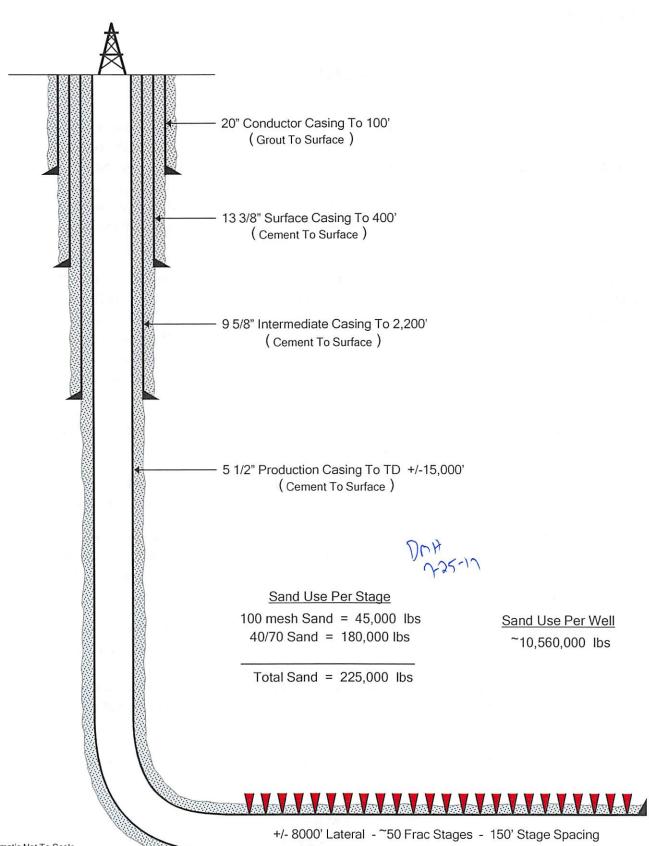
8 ¾" hole – Generally, this section of the well is drilled on fluid. In an effort to keep borehole conditions in good working order several mechanisms are used to condition the borehole:

- 1. **High Viscosity Sweeps**: Sweeps are mixed and pumped after drilling every 3 joints during the drilling process. Sweeps generally run 20 cp over the active mud system viscosity for 20 bbls.
- 2. Clean-Up Cycle: "Clean-Up Cycles" are utilized every 500' in the lateral section of the well. During this routine conditioning procedure drilling is halted for the amount of time it takes to circulate 2 sweeps to surface. Also, during this process the pipe is continuously rotated and reciprocated at this spot to help circulate out any "cutting beds" lying in the wellbore.
- 3. Short Trips: Short trips are utilized to work out tight spots and cutting beds from the borehole which cause increased torque and drag, and pressure. Two short trips are typically run during the drilling of this section of the wellbore. The first at the half-way point of the lateral. The drill pipe is pulled out of the hole to the "kick-off" point of the well. The second short trip is utilized at total depth (TD). At this point the drill pipe is pulled out of the wellbore to the half-way point of the lateral.
- 4. **At TOTAL DEPTH:** A clean-up cycle and short trip is utilized to condition the wellbore when total depth (TD) has been reached in preparation for running production casing.





# Triad Hunter MARCELLUS SHALE WELLBORE SCHEMATIC\* & COMPLETION DATA



\* Schematic Not To Scale

11/03/2017



Date

(Conventional Well Operator) (address) (address)

RE: Wells Meckley Hydraulic Fracturing Notice

To whom it may concern,

Triad Hunter has developed a Marcellus and Utica pad (Wells Meckley pad) located in Tyler County, WV. As an owner or operator of conventional natural gas wells in this area, we are requesting your assistance in this matter.

Due to the apparent presence of unique geological conditions, the potential for communication between deep geologic zones exists in this area. This potential communications, via natural gas, water, or both, mar occur between hydraulically fractured wells in the Marcellus formation (approximately 6,400' TVD) and existing conventional natural gas wells in the partially-depleted, relatively high permeability, Alexander formation (approximately 5,200' TVD).

Triad Hunter LLC anticipates conducting hydraulic fracturing at the Wells Meckley pad during the (1 quarter of 2018). We have identified conventional natural gas wells operated by your company within 1,500' (lateral distance) of our new planned laterals. Plats for each well on this pad are attached.

We recommend that conventional well operators conduct the following activities before, during, and after fracturing operations:

- 1. Inspect surface equipment, prior to fracturing, to establish integrity and establish well conditions.
- 2. Observe wells closely during and after fracturing and monitor for abnormal increases in water, gas, or pressure.
- 3. Inspect or install master valves rated to 3000 psi or other necessary equipment for wellhead integrity.
- 4. Notify the OOG and Triad Hunter, LLC. if any changes in water, gas production, pressure, or other anomalies are identified.

Should you have any questions or comments please call me at 740-760-0558. You may also contact the West Virginia Office of Oil and Gas at 304-926-0440.

Sincerely, Triad Hunter, LLC

Will Harless Supervisor Regulatory Operations

#### Purpose

The purpose of this pad-specific Hydraulic Fracturing Monitoring Plan is to identify and notify conventional well operations near Triad Hunter, LLC. Fracturing in Tyler County, WV prior to hydraulic fracturing at the following Triad Hunter, LLC. wells on the Wells Meckley pad: 1401, 1402, 1403, 1404, 1405.

Due to the apparent presence of unique geological conditions, the potential for communication between deep geologic zones exists in this area. This potential communication, via natural gas, water, or both, may office between hydraulically fractured wells in the Marcellus formation, (approximately 6,400' TVD) and existing natural gas wells in the partially-depleted, relatively high permeability Alexander formation (approximately 5,200' TVD).

The plan is being implemented as an additional safety measure to be utilized in conjunction with existing best management practices and emergency action plans for the site. These additional measures include pre-notification of conventional well operations of the timing and location of the hydraulic fracturing, establishment of measures conventional well operations should implement, and assurance that the OOG is notified of the timeline, as well as any issues that may arise during the fracturing.

## 1. Communications with Conventional Well Operators

Triad Hunter, LLC. using available data (WV geological Survey, WVDEP website, and IHS date service), has identified all known conventional wells and well operators within 1,500 feet of this pad and the lateral sections. A map showing these wells along with a list of the wells and operators is included in Attachment A.

Upon approval of this plan, Triad Hunter, LLC. Will notify these operators, via letter, of the hydraulic fracturing schedule for these wells. A copy of this letter is included in **Attachment B**.

This letter provides the recommendations to these conventional operators to 1) increase their monitoring of their wells, during that time period, 2) ensure that their well head equipment is sound, and 3) provide immediate notification to Triad Hunter, LLC. And the OOG in the event of any changes in their well conditions.

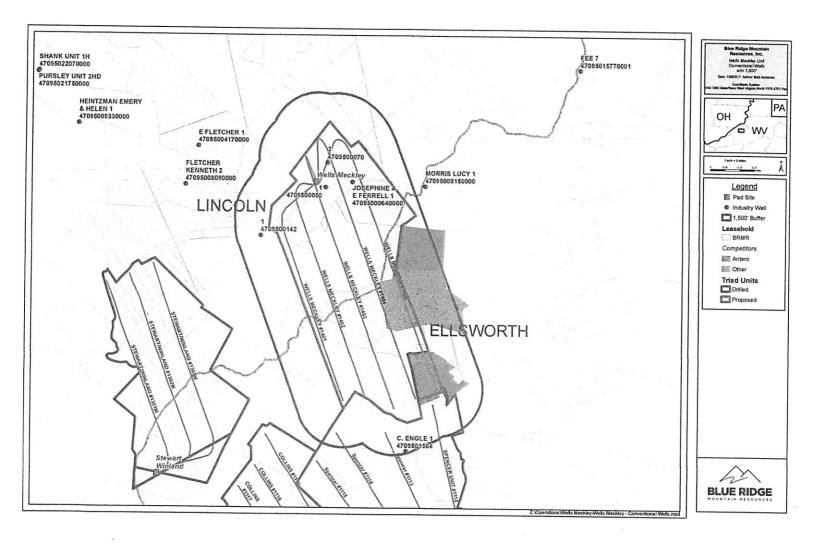
Specifically, the letter recommends that conventional well operators conduct the following activities during and after fracturing operations:

- 1. Inspect their surface equipment prior to fracturing to establish integrity and establish pre-frac well conditions.
- 2. Observe wells closely during and after fracturing and monitor for abnormal increases in water, gas, or pressure.
- 3. Inspect or install master valves rated to 3000 psi or other necessary equipment for wellhead integrity.
- 4. Notify the OOG and Triad Hunter, LLC. if any changes in water, gas production, pressure, or other anomalies are identified.

## 2. Reporting

Triad Hunter, LLC. will provide information relating to the hydraulic fracturing schedule, communication with conventional operators, and ongoing monitoring of the work upon request of the OOG or immediately in the event of any noted abnormalities.

	Prior Operator on Record	Operator - DEP	Status	Latitude	Longitude	Vertical TD	Producing Formation	Geologic zon- depths
95-00064	UNKNOWN	UNKNOWN	Plugged	39.535593	-80.918064	NΔ	Big Injun	182
95-00050	Triad Hunter	Triad Hunter	Abandoned	39.53493	-80.921557		org mjen	184
95-00070	Triad Hunter	Triad Hunter	Abandoned	39.53707	-80.921412		······································	
95-00142	UNKNOWN	UNKNOWN	Plugged	39.530587	-80.928863		·	<del></del>
95-01564	Triad Hunter	Triad Hunter	Abandoned	39.511853	-80.911738			
						-		
								·
				•				



API Number	47 -	96	ä	02153	D
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Operator's Well No. 1403

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

FLUIDS/ CUTTINGS DISP	OSAL & RECLAMATION PLAN
Operator Name_ Triad Hunter, LLC	OP Code _494494833
Watershed (HUC 10) Pursley Creek	Quadrangle Paden City
Do you anticipate using more than 5,000 bbls of water to compl	
Will a pit be used? Yes No V	
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:	
Reuse (at API Number Off Site Disposal (Supply form WW	Number387 Ohio Disposal Well, 34-121-3995) 7-9 for disposal location)
Will closed loop system be used? If so, describe: Yes, cuttings fluids*ga	ases are separated through a series of vessels. Cuttings are then solidified in debris boxes and hauled to landfill.
Drilling medium anticipated for this well (vertical and horizontal	nl)? Air, freshwater, oil based, etc. Top Hole-Air Drilled. Lateral-Syn Mud
-If oil based, what type? Synthetic, petroleum, etc. Sy	nthetic
Additives to be used in drilling medium? See Attachement I-A: D	Orilling Additives List
Drill cuttings disposal method? Leave in pit, landfill, removed	offsite, etcLandfill
-If left in pit and plan to solidify what medium will be	used? (cement, lime, sawdust) N/A
-Landfill or offsite name/permit number? Wetzel Count	y Landfill, SWPU ID 12-10-45
Permittee shall provide written notice to the Office of Oil and Owest Virginia solid waste facility. The notice shall be provided where it was properly disposed.	as of any load of drill cuttings or associated waste rejected at any within 24 hours of rejection and the permittee shall also disclose
on August 1, 2005, by the Office of Oil and Gas of the West Viprovisions of the permit are enforceable by law. Violations of law or regulation can lead to enforcement action.  I certify under penalty of law that I have personally application form and all attachments thereto and that, based	onditions of the GENERAL WATER POLLUTION PERMIT issued reginia Department of Environmental Protection. I understand that the fany term or condition of the general permit and/or other applicable examined and am familiar with the information submitted on this d on my inquiry of those individuals immediately responsible for rue, accurate, and complete. I am aware that there are significant lity of fine or imprisonment.
Company Official Signature M. L. Han	
Company Official (Typed Name) Mike Horan	
Company Official Title Manager Operations Conventional/Infras	tructure
Subscribed and sworn before me this 13th day of My commission expires 8-9-2020	Notary Publicamela K. Nicholson, Notary Public in and For The State of Ohio My Commission Expires 8-9-30.
Any commission capitos	

11/03/2017

Operator's Well No. 1403

Proposed Revegetation Treatment: Acres D	oisturbed 6.6	6	Prevegetation pH _6	5-7
Lime 2-5 Tons/acre	No.			
Fertilizer type 10-20-20		Œ		
Fertilizer amount 500		lbs/a	acre	
Mulch_2		Tons/acr	e	
		Seed N	<u>Mixtures</u>	
Temporary			Permanen	t
Seed Type lbs/acre			Seed Type	lbs/acre
Common Orchard Grass	30%	_	Same as temporary	
Perennial Rye	35%			
Medium Red Clover	25%	<del>-</del> -		
Common Time of hy	10%	_		
Attach: Maps(s) of road, location, pit and proposed provided). If water from the pit will be land acreage, of the land application area.	area for land			
Attach: Maps(s) of road, location, pit and proposed provided). If water from the pit will be land	area for land applied, incl			
Attach: Maps(s) of road, location, pit and proposed provided). If water from the pit will be land acreage, of the land application area. Photocopied section of involved 7.5' topograms	area for land applied, incl aphic sheet.	ude dime		nensions (L x W), and a
Attach: Maps(s) of road, location, pit and proposed provided). If water from the pit will be land acreage, of the land application area	area for land applied, incl aphic sheet.	ude dime	ensions (L x W x D) of the pit, and dir	nensions (L x W), and a
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# TRIAD HUNTER LLC. Subsidiary Of Blue Ridge Mountain Resources

125 Putnam Street Marietta, Ohio 45750

## SITE & SAFETY PLAN

Wells Meckley
Tyler County
West Virginia

Approved:			
West Virginia DEP	12.1	Date:	7-25-17
	Dil +GGT Inspector		
Triad Hunter LLC	Mike Horan	Date:	7/14/17
	J. Wife O J. Comment		

## **Site Safety Plan Table of Contents**

- I. Emergency Phone Numbers (3-5)
- II. Pre-Spud Meeting (6)
- III. Site Access Security Provisions (6)
- IV. Well Site Safety Procedures (7)
  - V. Site Specific Plan/Map (8-13)
    - I. Plan view map
    - II. Area topographical map
    - III. Evacuation Plan
- VI. Drilling & Completion Contingency Plan / Dwellings within 1Mile of Location (8)
- VII. Geological/Drilling Prognosis (14)
- VIII. BOP Equipment & Well Control (16)
  - IX. Typical BOP Stack (16)
  - X. Typical Wellhead Configurations (19)
  - **XI. Flaring Operations** (20)
- XII. Well Killing Procedure (21)
- XIII. System of Maintaining Records (22)
- XIV. Typical Frac Stack (23)
  - XV. MSDS of Chemicals (24)
- XVI. Completion Activities (24)
- XVII. Production Activities (25)
- XVIII. Hydrogen Sulfide Standards (25)
  - XIX. Collision Avoidance Protocol (31)

## 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
Nu	mber	

Grantor, Lessor, etc.

Grantee, Lessee, etc.

Royalty

Book/Page

Please see attached sheets

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

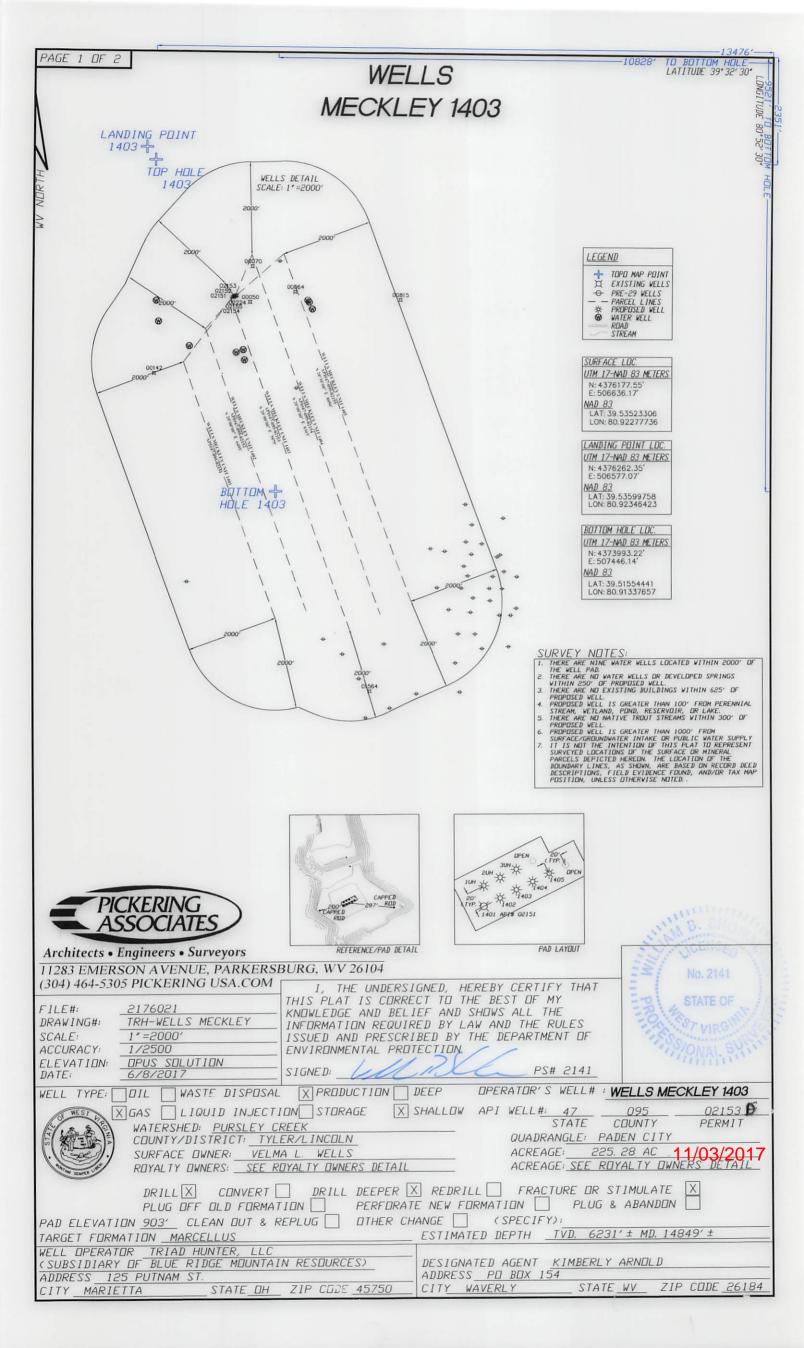
The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

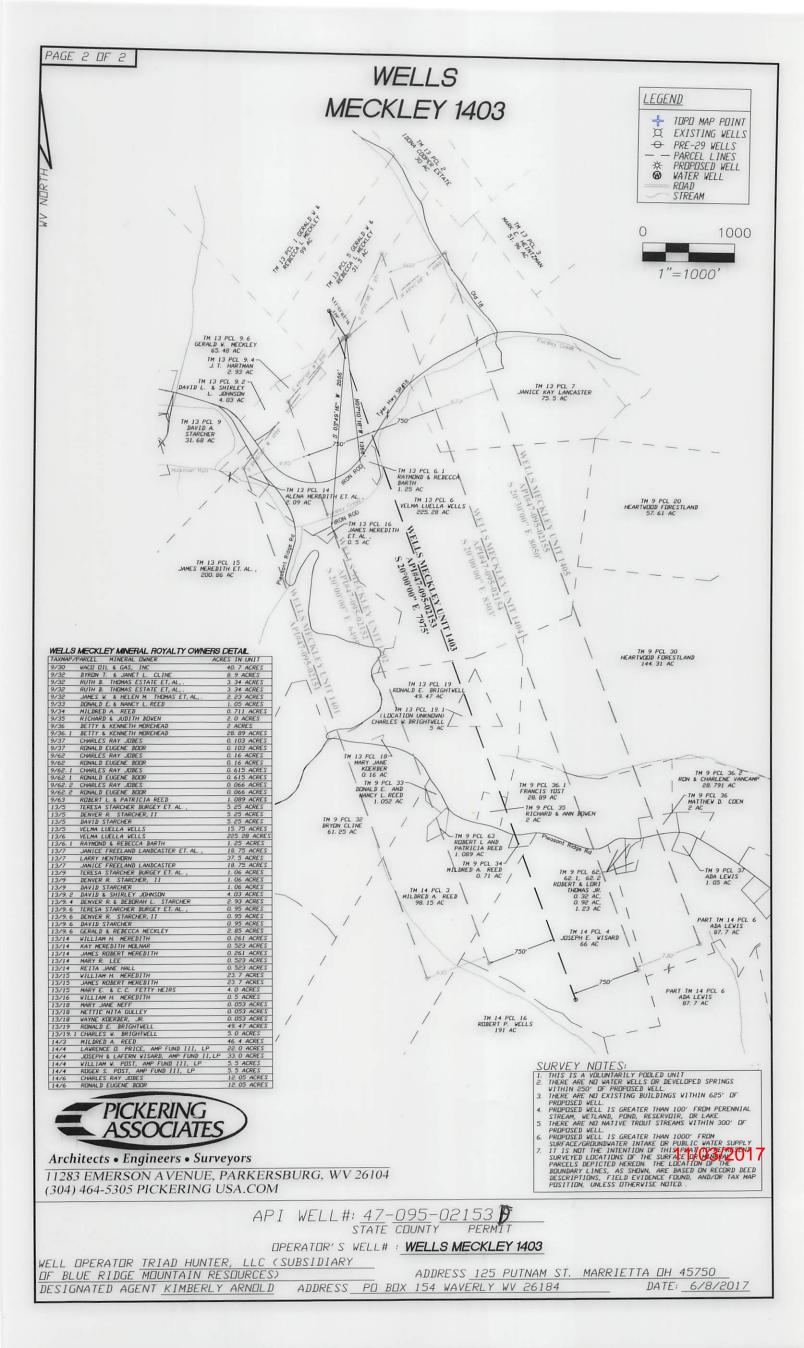
- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- · U.S. Fish and Wildlife Service
- County Floodplain Coordinator

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:	Triad Hunter, LLC
By:	Mike Horan
Its:	Manager Operations Conventional/Infrastructure

Page 1 of \_\_\_\_\_





## Form WW6A1 - List of Lessors Wells-Meckley 1403

Lease Number	Lessor	Lessee	Lessor Address	Lease Recording Info	Lease Recording Info	Lease Date
LSE250STA11	TERESA STARCHER BURGEY Gwendolyn L. Starcher	Triad Hunter, LLC	85 Hickman Road Sistersville WV 26175	Book 383 Page 103	4-13-5	6/14/2011
LSE250STA15	Denver R. Starcher, II	Triad Hunter, LLC	7601 Mistywood Rd. Knoxville, TN 37938	Book 383 Page 55	4-13-5	6/14/2011
LSE250STA10	David Starcher	Triad Hunter, LLC	37 Hickman Road Sistersville WV 26175	Book 383 Page 92	4-13-5	6/14/2011
LSE250WEL17	Velma Luella Wells	Triad Hunter, LLC	1901 Tyler Highway Sistersville WV 26175	Book 392 Page 459	4-13-5	11/7/2011
LSE250WEL17	Velma Luella Wells	Triad Hunter, LLC	1901 Tyler Highway Sistersville WV 26175	Book 392 Page 459	4-13-6	11/7/2011
LSE250BRI2	Charles Wayne Brightwell	Triad Hunter, LLC	637 Pleasants Ridge Road Sistersville, WV 26175	Book 392 Page 457	4-13-19.1	12/14/2011
LSE250BRI1	Ronald E. Brightwell	Triad Hunter, LLC	98 Dee Street Waverly, WV 26184- 9700	Book 391 Page 486	4-13-19	12/19/2011

## Form WW6A1 - List of Lessors Wells-Meckley 1403

LSE250REE2	Mildred A. Reed	Triad Hunter, LLC	722 Pleasant Ridge Road Sistersville, WV 26175	Book 383 Page 100	2-9-34	3/1/2011
LSE250BOW2	Richard D. Bowen and Judith Ann Bowen	Triad Hunter, LLC	745 Pleasant Ridge Road Sistersville, WV 26175-9016	Book 383 Page 118	2-9-35	3/28/2011
LSE250MOR9	Betty Weekly Morehead and Kenneth Morehead	Triad Hunter, LLC	41 Songbird Rd. St Mary's, WV 26170	Book 383 Page 16	2-9-36.1	3/4/2011
LSE250REE2	Mildred A. Reed	Triad Hunter, LLC	722 Pleasant Ridge Road Sistersville, WV 26175	Book 383 Page 100	2-14-3	3/1/2011
LSE250WIS1 (LSE250AMP2)	Joseph E. Wisard and Lafern J. Wisard AMP FUND II, LP	Triad Hunter, LLC	1525 Township Rd. 414, Dundee, Ohio, 44624-9201	Book 377 Page 436	2-14-4	9/8/2010
LSE250PRI2 (LSE250AMP1)	Lawrence O. Price  AMP FUND II, LP	Triad Hunter, LLC	1083 Park Ave. Meadville, PA 16335- 3105	Book 377 Page 433	2-14-4	9/3/2010
LSE250POS1 (LSE250AMP3)	Roger S. Post  AMP FUND II, LP	Triad Hunter, LLC	2517 Woodland Rd. Abington, PA 19001	Book 383 Page 250	2-14-4	4/6/2011

## Form WW6A1 - List of Lessors Wells-Meckley 1403

LSE250POS2 (LSE250AMP4)	William W. Post  AMP FUND II, LP	Triad Hunter, LLC	2180 Veterans Hwy Apt 504, Levittown, Pa 19056	Book 383 Page 247	2-14-4	3/30/2011
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July 13, 2017

WVDEP Office of Oil and Gas 601 57th Street, SE Charleston, WV 25304

RE: Wells Meckley

To whom it may concern.

This letter serves you and the Office of Oil and Gas that Triad Hunter, LLC has the minerals leased for the development of the Marcellus Shale on the Wells-Meckley acreage located in the Lincoln District, Tyler County. Wells Meckley will have portions of the horizontal laterals crossing State Route 18 and County Road 18/4. Triad Hunter, LLC also has the mineral rights and the rights to extract all minerals under this Subject State Route 18 and County Road 18/4.

Should you have any questions please call me at my office 740-868-1324.

Sincerely,

Mike Horan

Manager Operations Conventional/Infrastructure

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

Date of Notic	ce Certification: 0//13/2017		API No. 4	7- 95 - 02	153 🔰
			Operator'	s Well No. 1403	3
			Well Pad	Name: Wells M	feckley
Notice has l					
Pursuant to th	ne provisions in West Virginia Code	e § 22-6A, the Operator has	provided the re	quired parties v	with the Notice Forms listed
below for the	tract of land as follows:				
State:	West Virginia	UTM NAD 8	Easting:	506638.5	
County:	Tyler	— OTM NAD 8	Northing:	4376177.9	
District:	Lincoln	Public Road	Access:	State Route 18	
Quadrangle:	Paden City	Generally us	ed farm name:	Wells Meckley	
Watershed:	Pursley Creek	,		3	
it has provide information re of giving the requirements Virginia Code	the secretary, shall be verified and ed the owners of the surface descrequired by subsections (b) and (c), surface owner notice of entry to sof subsection (b), section sixteen e § 22-6A-11(b), the applicant shall have been completed by the applicant	ribed in subdivisions (1), ( section sixteen of this articl survey pursuant to subsection of this article were waived the tender proof of and certify	(2) and (4), sub e; (ii) that the re- tion (a), section d in writing by	section (b), sec equirement was ten of this arti the surface ov	ction ten of this article, the deemed satisfied as a resul- icle six-a; or (iii) the notice wher: and Pursuant to Wes
that the Ope	West Virginia Code § 22-6A, the Crator has properly served the requireCK ALL THAT APPLY	Operator has attached proof red parties with the following	to this Notice (	Certification	OOG OFFICE USE
					ONLY
☐ 1. NO	TICE OF SEISMIC ACTIVITY o	r ■ NOTICE NOT REQ SEISMIC ACTIVITY W			RECEIVED/ NOT REQUIRED
■ 2. NO	TICE OF ENTRY FOR PLAT SUR	EVEY or NO PLAT SU	RVEY WAS C	ONDUCTED	☐ RECEIVED
☐ 3. NO	TICE OF INTENT TO DRILL or	NOTICE NOT REQ NOTICE OF ENTRY FO WAS CONDUCTED OF	OR PLAT SUR		☐ RECEIVED/ NOT REQUIRED
		☐ WRITTEN WAIVE (PLEASE ATTA		CE OWNER	
■ 4. NO	TICE OF PLANNED OPERATION	1			☐ RECEIVED
■ 5. PUB	BLIC NOTICE				☐ RECEIVED
■ 6. NO	TICE OF APPLICATION				RECEIVED

## 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 Mike Horan, 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:
 Triad Hunter, LLC
 Address:
 125 Putnam Street

 By:
 Mike Horan
 Marietta, OH 45750

 Its:
 Manager - Operations Conventional/Infrastructure
 Facsimile:
 740-374-5270

 Telephone:
 740-868-1324
 Email:
 mhoran@brmresources.com

NOTARY SEAL	Subscribed and sworn before me this 13th day of Tu	ely, 2017.
Pamela K. Nicho son, Notary In and For The State of Ch	nia .	Notary Public
My Commission Expires 8-7	My Commission Expires 8-9-2020	

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 <a href="deepprivacyofficer@wv.gov">deepprivacyofficer@wv.gov</a>.

WW-6A (9-13)

API NO. 47- 95	_ 02153	
OPERATOR WEL	L NO. 1403	
Well Pad Name: V	Vells Meckley	

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

Notice 7	Time Requirem	ent: notice shall be provide	ed no later than	the filing date of permit application.	
Date of Notice (	Notice: <u>7/13/17</u> of:	_ Date Permit Application	on Filed:		
	ERMIT FOR AN ELL WORK			ROVAL FOR THE IN IMPOUNDMENT OR PIT	
Deliver	y method pursu	ant to West Virginia Cod	e § 22-6A-10(	<b>(b)</b>	
☐ PE	ERSONAL	☑ REGISTERED	П метно	DD OF DELIVERY THAT REQUIRES A	
	ERVICE	MAIL		PT OR SIGNATURE CONFIRMATION	
oil and g describe operator more co- well wor impound have a w provide propose subsecti- records provisio Code R.	gas leasehold being din the erosion as or lessee, in the all seams; (4) The rk, if the surface diment or pit as devater well, spring water for consund well work active on (b) of this sec of the sheriff required of this article to \$35-8-5.7.a rec	and developed by the proposed and sediment control plan subsevent the tract of land on whe owners of record of the surfact is to be used for the placescribed in section nine of the or water supply source locat aption by humans or domestifity is to take place. (c)(1) If a tion hold interests in the landwired to be maintained pursuant the contrary, notice to a lier quires, in part, that the operat	d well work, if bmitted pursuantich the well proface tract or tracement, construits article; (5) A ed within one to animals; and more than threeds, the applicant to section en holder is not nor shall also proface in the construits of the section of the construits and the construits are the construits and the construits are the construits and the construits are the constru	ted; (2) The owners of record of the surface tract or tract the surface tract is to be used for roads or other land dint to subsection (c), section seven of this article; (3) The oposed to be drilled is located [sic] is known to be underest overlying the oil and gas leasehold being developed action, enlargement, alteration, repair, removal or abandary surface owner or water purveyor who is known to the thousand five hundred feet of the center of the well pad (6) The operator of any natural gas storage field withing tenants in common or other co-owners of interests desight, article one, chapter eleven-a of this code. (2) Notwood the Well Site Safety Plan ("WSSP") to the surface as provided in section 15 of this rule.	sturbance as e coal owner, erlain by one or by the proposed donment of any he applicant to which is used to which the scribed in escribed in the withstanding any lowner. W. Va.
☑ App	lication Notice	☑ WSSP Notice ☑ E&S	Plan Notice	☑ Well Plat Notice is hereby provided to:	
☑ SURI	FACE OWNER	(s)		☐ COAL OWNER OR LESSEE	
Name:	Velma Luella Wells			Name:	
Address	: 1901 Tyler Highwa	у		Address:	
Sistersville	e, WV 26175				
Name: _	Gerald & Rebecca Me	ckley		☐ COAL OPERATOR	
Address	s: 1701 Tyler Highwa	ay		Name:	
Sistersville	e, WV 26175			Address:	
SURI	FACE OWNER	s) (Road and/or Other Distr	urbance)		
Name:				☑ SURFACE OWNER OF WATER WELL	
Address	s:			AND/OR WATER PURVEYOR(s)	
				Name: Velma Luella Wells	
Name:				Address: 1901 Tyler Highway	
Address	s:			Sistersville, WV 26175	
				OPERATOR OF ANY NATURAL GAS STORA	AGE FIELD
	FACE OWNER	(s) (Impoundments or Pits)		Name:	<b></b>
				Address:	
Address	e•				
riuules:	J			*Please attach additional forms if necessary	
		· ·			

WW-6A (8-13)

API NO. 47-95 - 02153 D
OPERATOR WELL NO. 1403
Well Pad Name: Wells Meckley

## 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 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting <a href="https://www.gov/oil-and-gas/pages/default.aspx">www.dep.wv.gov/oil-and-gas/pages/default.aspx</a>.

## **Well Location Restrictions**

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

WW-6A (8-13)

API NO. 47-95 - 02153 **D**OPERATOR WELL NO. 1403

Well Pad Name: Wells Meckley

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 57<sup>th</sup> 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.

WW-6A (8-13)

- 02153 D API NO. 47-95

OPERATOR WELL NO. 1403

Well Pad Name: Wells Meckley

## 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.

WW-6A		API NO. 47-95 - 02153.
(8-13)		OPERATOR WELL NO. 14
		Well Pad Name: Wells Meckley
Notice is hereby given by:		
Well Operator: Triad Hunter, LLC	Maka	Address: 125 Putnam Street

Oil and Gas Privacy Notice:

Email: mhoran@brmresources.com

Telephone: 740-868-1324

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 deprivacyofficer at depprivacyofficer deprivacyofficer deprivacyof

Marietta, OH 45750

Facsimile: 740-374-5270

* Tamela R. Alchestin, Notary Purity and For The State of One	Subscribed and sworn before me this 13 day of Subscribed	Notary Public
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	My Commission Expires 8-9-2020	

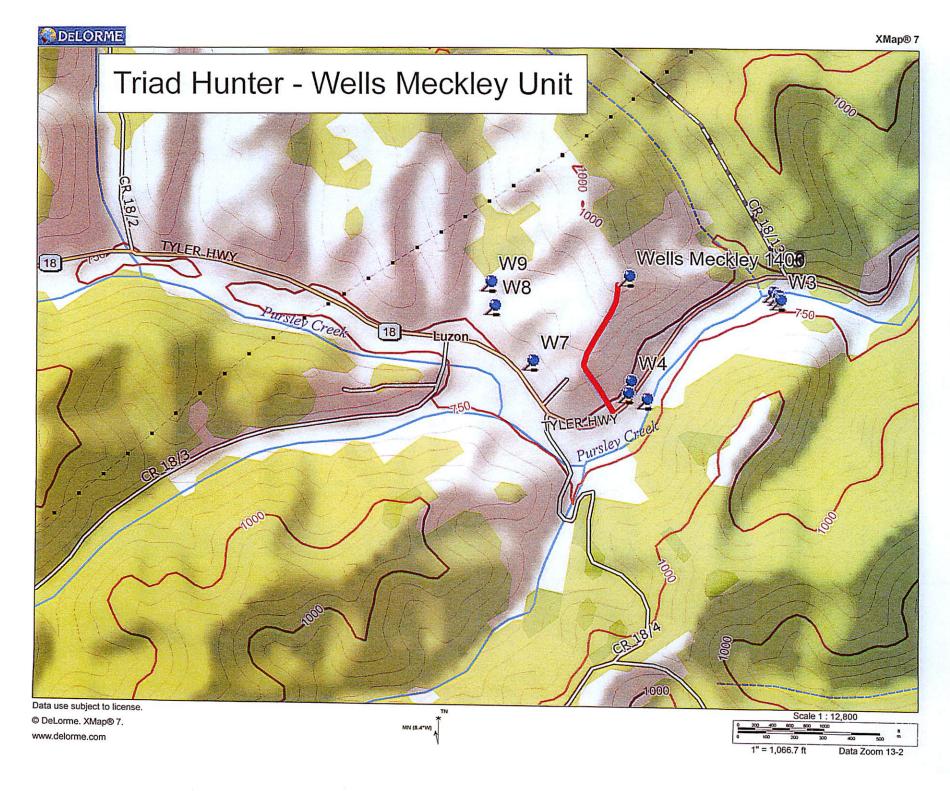
## WW-6A: Additional Water Purveyors

Keith F. & Esther Freeland 2102 Tyler Highway Sistersville, WV 26175

David L. & Shirley L. Johnson 1749 Tyler Highway Sistersville, WV 26175

Gerald W. & Rebecca L. Meckley 1701 Tyler Highway Sistersville, WV 26175

Raymond Keith & Rebecca Ann Barth 1910 Tyler Highway Sistersville, WV 26175



WW-6A3 (1/12)

Operator Well No.	1403
- F	3 45-17 4000000

## STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS **NOTICE OF ENTRY FOR PLAT SURVEY**

Notice Tim	e Requirement:	Notice shall be prov	ided at least SE	EVEN (7) day	s but no more than	FORTY-FIVE (45) days p	rior to
entry  Date of Not	tice: 7/13/2017	Date of Plan	ned Entry: 7/2	20/2017			
Delivery m	ethod pursuant	to West Virginia Co	ode § 22-6A-10	a			
☐ PERSO	ONAL	REGISTERED	□ метн	OD OF DEL	IVERY THAT RE	OUIRES A	
SERVI		MAIL			ATURE CONFIR	19. <del>4</del> - Carrier Control Control Control	
on to the sur but no more beneath such owner of mi and Sedimer Secretary, we enable the su	rface tract to cond than forty-five d h tract that has fil inerals underlying nt Control Manua which statement sl urface owner to co	duct any plat surveys ays prior to such enti- led a declaration purs g such tract in the cou- all and the statutes and thall include contact in the cou- bottain copies from the	required pursury to: (1) The secuent to section anty tax recorded rules related to information, incomparison.	ant to this are urface owner thirty-six, are s. The notice to oil and gas	ticle. Such notice s of such tract; (2) t ticle six, chapter to shall include a state exploration and pi	shall provide notice of plann hall be provided at least seve o any owner or lessee of coal venty-two of this code; and ( tement that copies of the stat roduction may be obtained fro ge on the Secretary's web sit	n days l seams 3) any e Erosion om the
	ereby provided to ACE OWNER(s)	/		П сом	OWNER OR LE	CCCE	
Name: Velma		/					
	01 Tyler Highway			Name:Address:			
Sistersville, WV		,	-	Address			
Name: Gerale	d & Rebecca Meckley						
	01 Tyler Highway			$\square$ MINE	RAL OWNER(s)		
Sistersville, WV			-	Name:			
Name:			-	Address:			
Address: _			_	_			
			-	*please attach	additional forms if neo	cessary	
Pursuant to	y on the tract of la West Virginia Tyler Lincoln		A	approx. Latituublic Road A Vatershed:	ıde & Longitude:	operator is planning entry to  506638.5  4376177.9  Pursley Creek  Wells Meckley	conduct
Quadrangle	. Faderi City			ienerally used	a fariii fianie.	Wells Meckley	
may be obta Charleston, obtained fro	wined from the Se WV 25304 (304 om the Secretary I	cretary, at the WV D -926-0450). Copies by visiting <u>www.dep</u>	epartment of E of such docum	nvironmenta ents or additi	l Protection headquonal information re	l and gas exploration and pro parters, located at 601 57 <sup>th</sup> Str elated to horizontal drilling m	reet, SE,
	ereby given by						
Well Opera	tor: Triad Hunter, LL	С		Address:	125 Putnam Street		
Telephone:	740-760-0558				Marietta, OH 45750		
Email:	wharless@brmre	esources.com		Facsimile:	740-374-5270		

## Oil and Gas Privacy Notice:

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

WW-6A5 (1/12) 95-021531) Operator Well No. 1403

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

Notice Time Date of Noti	Requirement: notice shall be provided no later ce: 07/13/2017 Date Permit Application	r than the filing ation Filed:	date of permit	application.
Delivery me	thod pursuant to West Virginia Code § 22-6A	A-16(c)		
	FIED MAIL HAN RN RECEIPT REQUESTED DEI	ND LIVERY		
return receipthe planned required to be drilling of a damages to the	W. Va. Code § 22-6A-16(c), no later than the of trequested or hand delivery, give the surface of operation. The notice required by this subsection provided by subsection (b), section ten of this horizontal well; and (3) A proposed surface us the surface affected by oil and gas operations to the estimate of the surface affected by this section shall be given to the	vner whose land tion shall inclu article to a surful se and compensible extent the da	I will be used for de: (1) A copy ace owner whos sation agreemen amages are com	or the drilling of a horizontal well notice of of this code section; (2) The information se land will be used in conjunction with the at containing an offer of compensation for pensable under article six-b of this chapter.
Notice is her (at the address Name: Velma L Address: 1907) Sistersville, WV 2	Tyler Highway	Name: Address	Gerald & Rebecca Me s: 1701 Tyler Highwa le, WV 26175	
Notice is her Pursuant to V operation on State: County: District: Quadrangle:	reby given:  Vest Virginia Code § 22-6A-16(c), notice is here the surface owner's land for the purpose of dril West Virginia  Tyler  Lincoln  Paden City	ling a horizonta  UTM NAD 8  Public Road	l well on the tra Easting: Northing:	well operator has developed a planned ct of land as follows:  506638.5  4376177.9  State Route 18  Wells Meckley
Pursuant to V to be provide horizontal we surface affectinformation is	Persley Creek  Shall Include:  Vest Virginia Code § 22-6A-16(c), this notice sleed by W. Va. Code § 22-6A-10(b) to a surfacell; and (3) A proposed surface use and compented by oil and gas operations to the extent the related to horizontal drilling may be obtained to located at 601 57th Street, SE, Charleston, fault.aspx.	hall include: (1) e owner whose sation agreeme damages are co from the Secret	A copy of this of the containing an ompensable und arv, at the WV	ased in conjunction with the drilling of a offer of compensation for damages to the ler article six-b of this chapter. Additional Department of Environmental Protection
Well Operato Telephone:	740-374-2940	Address:	125 Putnam Street Marietta, OH 45750	
Email:	wharless@triadhunter.com	Facsimile:	740-374-5270	

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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 <a href="deepprivacyofficer@wv.gov">deepprivacyofficer@wv.gov</a>.

API NO. 47-95 -02153D
OPERATOR WELL NO. 1403
Well Pad Name: Wells Meckley

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

## Instructions to Persons Named on Page WW-6A

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

#### Comment and Waiver Provisions

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

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,	, hereby state that I have re	ad the Instructi	ons to Persons Na	amed on Page WW-6A and the associated	
	ted above, and that I have received copies of				
	attachments consisting of pages one (1) th			he erosion and sediment control plan, if	
	the well plat, all for proposed well work on the	ne tract of land a	as follows:		
State: West Virginia UT		IITM NAD	Easting:	1598722	
County:	Tyler	Public Road Access:		380271	
District:	Lincoln			SR 18	
Quadrangle:	Paden City			Wells Meckley	
Watershed:	Pursley Creek				
I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.  *Please check the box that applies  FOR EXECUTION BY A NATURAL PERSON					
*Please check	the box that applies		FOR EXECUT	ION BY A NATURAL PERSON	
■ SURFAC	CE OWNER		Signature: 2/20	ma Luella DA	
■ SURFAC	CE OWNER (Road and/or Other Disturba	ince)	Print Name: 1/e Date: 1-2	ma Luella Mells	
☐ SURFAC	CE OWNER (Impoundments/Pits)		EOD EVECUTE	CON DV A CORDOD ATION ETC	
□ COAL C	WNER OR LESSEE		Company:	ION BY A CORPORATION, ETC.	
□ COAL O	PERATOR		Its:		
□ WATER	PURVEYOR		Signature:		
□ OPERA	TOR OF ANY NATURAL GAS STORA	GE FIELD	Date:	· · · · · · · · · · · · · · · · · · ·	

Oil and Gas Privacy Notice:

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## WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

## **Division of Highways**

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

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

March 10, 2014

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

Subject: DOH Permit for the Wells/Meckley Unit Well Site

47-095-02153

Dear Mr. Martin,

**Earl Ray Tomblin** 

Governor

The West Virginia Division of Highways has issued Permit # 06 -2013-0563 previously to Triad Hunter, LLC for access to the State Road for a well site located off of WV 18 in Tyler County Route.

The operator has signed an OIL AND GAS DISTRICT WIDE ROAD MAINTENANCE BONDING AGREEMENT for District 6 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 Regional Maintenance Engineer

Central Oil & Gas Coordinator

Cc:

Sam Miracle

Triad Hunter, LLC

CH, OM, D-6

File

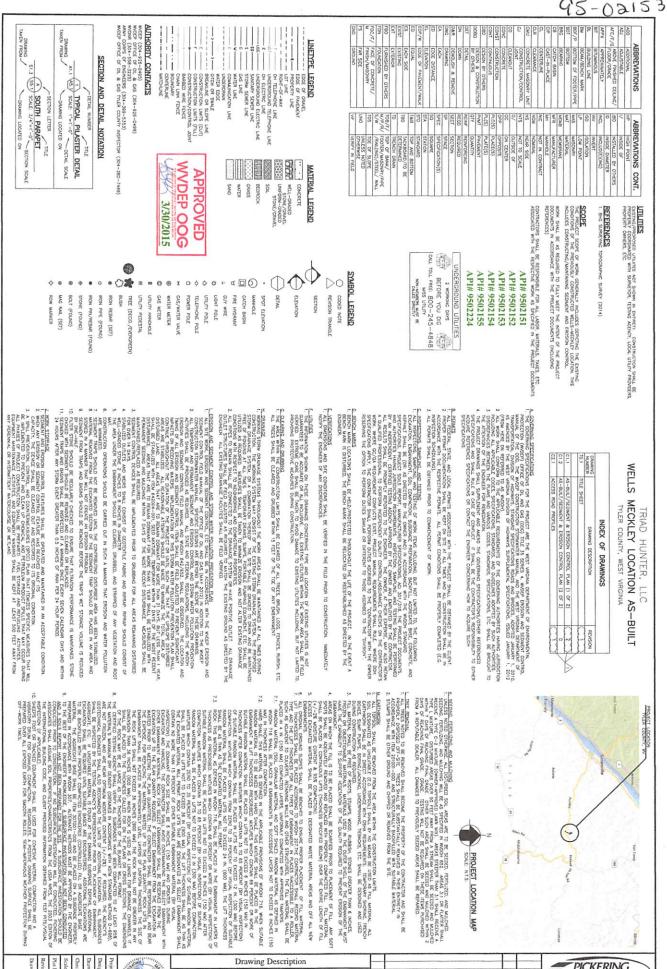
WVDEP 00G JUL 28 2017

## CAS Numbers for frac additives:

1. Friction reducers, (PSC) AS-9810

	a.	Acrylamide,	CAS #26100-47-0	34-40%			
2.	Scale ii	nhibitor, (PSC) AS-9220					
	a.	Organic phosphate,	CAS #11024-99-2	10-25%			
3.	3. Flowback surfactant + iron stabilizer, (PSC) AS-9899						
	a.	Ethoxylated alcohol,	CAS #65439-46-3	10-15%			
	b.	Stannous chloride,	CAS #7772-99-8	5-10%			
	c.	Sulfamic acid,	CAS #5329-14-6,	5-8%			
	d.	Monoethylamine	CAS #141-43-5	2-6%			

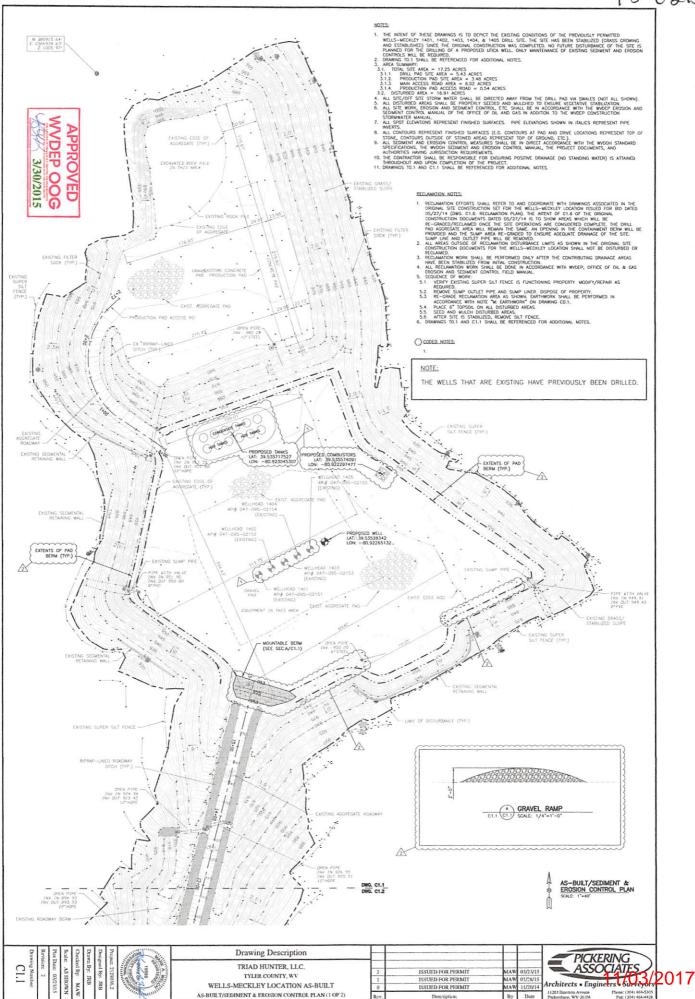
4. Microbiocide, One AquaSource MB-7530 (see attached MSDS, page 1)



TRIAD HUNTER, LLC

TYLER COUNTY, WEST VIRGINIA
WELLS MECKLEY LOCATION AS-BUILT

T0.1



95-621530

