



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

Tuesday, December 3, 2019
WELL WORK PERMIT
Horizontal 6A / New Drill

TUG HILL OPERATING, LLC
380 SOUTHPOINTE BLVD

CANONSBURG, PA 15317

Re: Permit approval for KNOB CREEK S-8HM
47-051-02283-00-00

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 handwritten signature in blue ink, appearing to read 'James A. Martin', is written over the typed name and title.

Operator's Well Number: KNOB CREEK S-8HM
Farm Name: DAVID LEE FRANKLIN
U.S. WELL NUMBER: 47-051-02283-00-00
Horizontal 6A New Drill
Date Issued: 12/3/2019

PERMIT CONDITIONS**4705102283**

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.

API Number: _____

PERMIT CONDITIONS

4705102283

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.

WW-6B
(04/15)

API NO. 47-051 -
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

1) Well Operator: Tug Hill Operating, LLC 494510851 Marshall Meade Powhatan Point 7
Operator ID County District Quadrangle

2) Operator's Well Number: Knob Creek S-8HM Well Pad Name: Knob Creek

3) Farm Name/Surface Owner: David Lee Franklin Public Road Access: St. Joseph Road - CR 21

4) Elevation, current ground: 734.67' Elevation, proposed post-construction: 734.67'

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

(b) If Gas Shallow Deep _____
Horizontal _____

6) Existing Pad: Yes or No No

Handwritten signature and date: 9/27/19

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus is the target formation at a depth of 6202' - 6253', thickness of 51' and an anticipated approximate pressure of 3800 psi.

8) Proposed Total Vertical Depth: 6353'

9) Formation at Total Vertical Depth: Onondaga

10) Proposed Total Measured Depth: 8,610'

11) Proposed Horizontal Leg Length: 1,835.14'

12) Approximate Fresh Water Strata Depths: 40'; 380'

13) Method to Determine Fresh Water Depths: Use shallow offset wells to determine deepest freshwater, or determine using pre-drill tests, testing while drilling or petrophysical evaluation of resistivity.

14) Approximate Saltwater Depths: 1,740'

15) Approximate Coal Seam Depths: Sewickley Coal - 292' and Pittsburgh Coal - 374'

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

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

WW-6B
(04/15)

4705102283
API NO. 47-051 -
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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	30"	NEW	BW	BW	120'	120'	259ft^3(CTS)
Fresh Water	13 3/8"	NEW	J55	54.5#	480'	480'	683ft^3(CTS)
Coal	13 3/8"	NEW	J55	54.5#	480'	480'	683ft^3(CTS)
Intermediate	9 5/8"	NEW	J55	36#	2,253'	2,253'	729ft^3(CTS)
Production	5 1/2"	NEW	P110	20#	8,610'	8,610'	2,214ft^3(CTS)
Tubing	2 3/8"	NEW	N80	4.7#	5,937'		
Liners							

mu
9/27/19

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	30"	36"	1.0	2,333	1,866	CLASS A	1.2
Fresh Water	13 3/8"	17.5"	.33	2,740	2,192	SEE #24	1.2
Coal	13 3/8"	17.5"	.33	2,740	2,192	SEE #24	1.2
Intermediate	9 5/8"	12 1/4"	.352	3,520	2,816	SEE #24	1.19
Production	5 1/2"	8 7/8" _ 8 3/4"	.361	12,640	10,112	SEE #24	1.17/1.19
Tubing	2 3/8"		.19	8,960	11,200		
Liners							

PACKERS

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

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WW-6B
(10/14)

4705102283
API NO. 47-051 -
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

JM
9/20/19

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

Drill through the Marcellus tagging less than 100' from the top of the Onondaga to get depths and log data. Plug back to proposed kick off point. Drill the horizontal section to planned and proposed TD. Run casing and cement to surface. Run Bond Log from app. 60 deg to surface. Make clean out run and stimulate.

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

Well to completed with approximately 4,587,500 lb. proppant and 70,926 barrels of water.
Max rate = 80bpm; max psi = 9,000#.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 12.93 acres

22) Area to be disturbed for well pad only, less access road (acres): 5.55 acres

23) Describe centralizer placement for each casing string:

Will run 3 centralizers on surface casing at equal distance. Intermediate will have 1 centralizer every other joint. Production casing will have one centralizer every other joint in lateral, one centralizer every joint through curve, one centralizer every other joint to surface.

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

*See attachment

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25) Proposed borehole conditioning procedures:

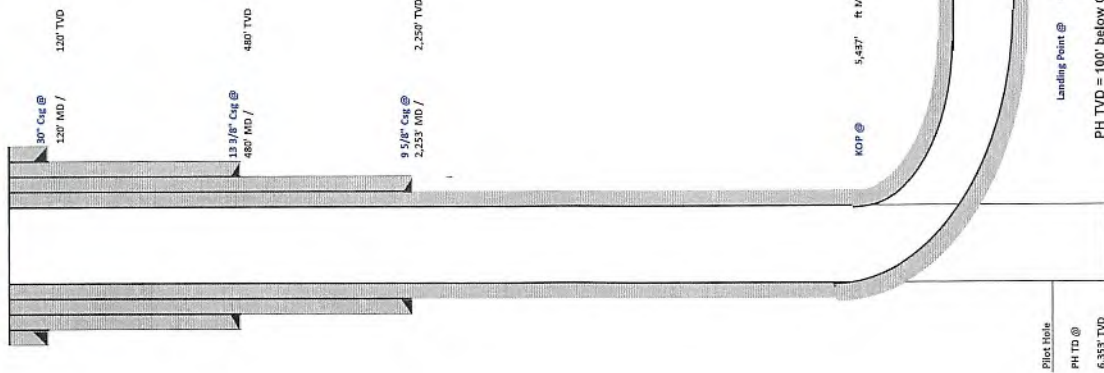
Will circulate a minimum of 3 hours at TD, short trip to curve, circulate bottoms up, check for flow, POOH.

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*Note: Attach additional sheets as needed.



WELL NAME: Knob Creek S-8HM
STATE: WV **COUNTY:** Marshall
DISTRICT: Meade
DF Elev: 737' **GL Elev:** 737'
TD: 8,610'
TH Latitude: 39.7701084
TH Longitude: -80.70540046
BH Latitude: 39.767076
BH Longitude: -80.70247



Formation	Depth TVD
Deepest Fresh Water	380
Swickley Coal	292
Pittsburgh Coal	374
Big Lime	1697
Wair	1998
Berea	2182
Gordon	2445
Rhinestreet	5559
Genesee/Burkett	6071
Tully	6101
Hamilton	6134
Marcellus	6202
Landing Depth	6237
Onondaga	6253
Pilot Hole Depth	6353

Type	Hole Size (in)	Csg Size (in)	Depth (MD)	Depth (TVD)	Weight (lb/ft)	Grade	Top of Cement
Conductor	36	30	120'	120'	BW	BW	Surface
Surface	17.5	13 3/8	480'	480'	54.5	J55	Surface
Intermediate 1	12 1/4	9 5/8	2,253'	2,250'	36	J55	Surface
Production	8 7/8 x 8 3/4	5 1/2	8,610'	6,289'	20	CYP1210	Surface

CEMENT SUMMARY			DRILLING DETAILS	
Sacks	Class	Density	Fluid Type	Centralizer Notes
388	A	15.6	Air	None
661	A	15.6	Air	3 Centralizers at equal distance
767	A	15	Air	1 Centralizer every other ft
2,025	A	14.5	Air / SOBM	1 every other joint in lateral; 3 per joint in curve; 1 every other ft to etc

10/22/19

Pilot Hole PH TD @ 6,353' TVD
 Landing Point @ 6,775' MD / 6,237' TVD
 PH TVD = 100' below Onondaga Top
 Lateral TD @ 8,610' ft MD
 6,289' ft TVD

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Tug Hill Operating, LLC Casing and Cement Program

Knob Creek S-8HM

Casing

	String	Grade	Bit Size	Depth (Measured)	Cement Fill Up
Conductor	30"	BW	36"	120'	CTS
Surface	13 3/8"	J55	17 1/2"	480'	CTS
Intermediate	9 5/8"	J55	12 1/4"	2,253'	CTS
Production	5 1/2"	CYHP110	8 7/8 x 8 3/4	8,610'	CTS

Cement

- Conductor: Premium NE-1 + 2% bwoc CaC12 + 46.5% Fresh Water – Conductor Cement mixed at 15.6 ppg, Y=1.2
- Surface: Premium NE-1 + 2% bwoc CaC12 + 46.5% Fresh Water – Surface Cement mixed at 15.6 ppg, Y=1.2
- Intermediate: Premium NE-1 + 1% bwoc CaC12 + 46.5% Fresh Water – Intermediate Cement mixed at 15.6 ppg, Y=1.19
- Kick Off Plug: Class H Cement + 1% CD-32 + .7% Sodium Metasilicate + .1% R-3 + .75 gal/100sk FP-13L - KOP Plug
- Production: 50:50 Poz: Premium NE-1 + .1% bwoc ASA-301 + 60lb/sk ASCA-1 + .35% bwoc BA-10A + .25% bwoc MPA-170, 44 lb sack + .5% bwoc R-3 + .75 gals/100sk FP-13L – Production Cement mixed at 15.2ppg, Y = 1.19

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Area of Review

Sources of information to Support 35CSR8 - 5.11: 9.3 et seq.

Description of process to identify potential pathways for well communication during hydraulic fracturing activities.

Data Sources Reviewed:

1. IHS Well Data service: Public nationwide data service that pulls directly from State agency Oil and Gas databases
2. Farm Maps
3. Topo Maps: Recent and older (contact WVGES)
4. Check with DPS

Contacted Devin Ducoeur 724-705-0444, dducoeur@dpslandservices.com DPS GIS (9/23/2019) to have him make maps of the wellbores with his information. DPS utilizes WVGES maps for their mapping seems it as the best publicly available. See attached map he provided.

Request maps for:

1. Wellbore with IHS All Wells Layer
2. Map with Farm lines overlain and any well spots identified on Farm Maps
3. More recent (1970s vintage) topos and older topos

Discussion with Phil Dinterman WVGES GIS Department (7/15/2016)

- WVGES has plotted every well spot they have access to and are aware of with that contains a coordinate. 30000, 70000, and 90000 series wells are available via the WVGES online map. Some locations aren't great due to vintage and manipulation of maps through time
- 30000 series – any well drilled prior to 1929 – APIs were not assigned to original wells
- 70000 series – Well spots pulled from old Farm line maps that the WVGES has access to
- 90000 series – Any sources that the WVGES has access that shows a well spot but has no additional supporting information. DEP does not have 90000 series on their maps.
- There can be duplication between wells in the 3 series
- Phil indicated that other Operators are providing a screenshot of the WVGES map with their planned well and using that for permits

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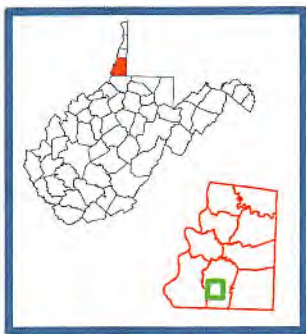
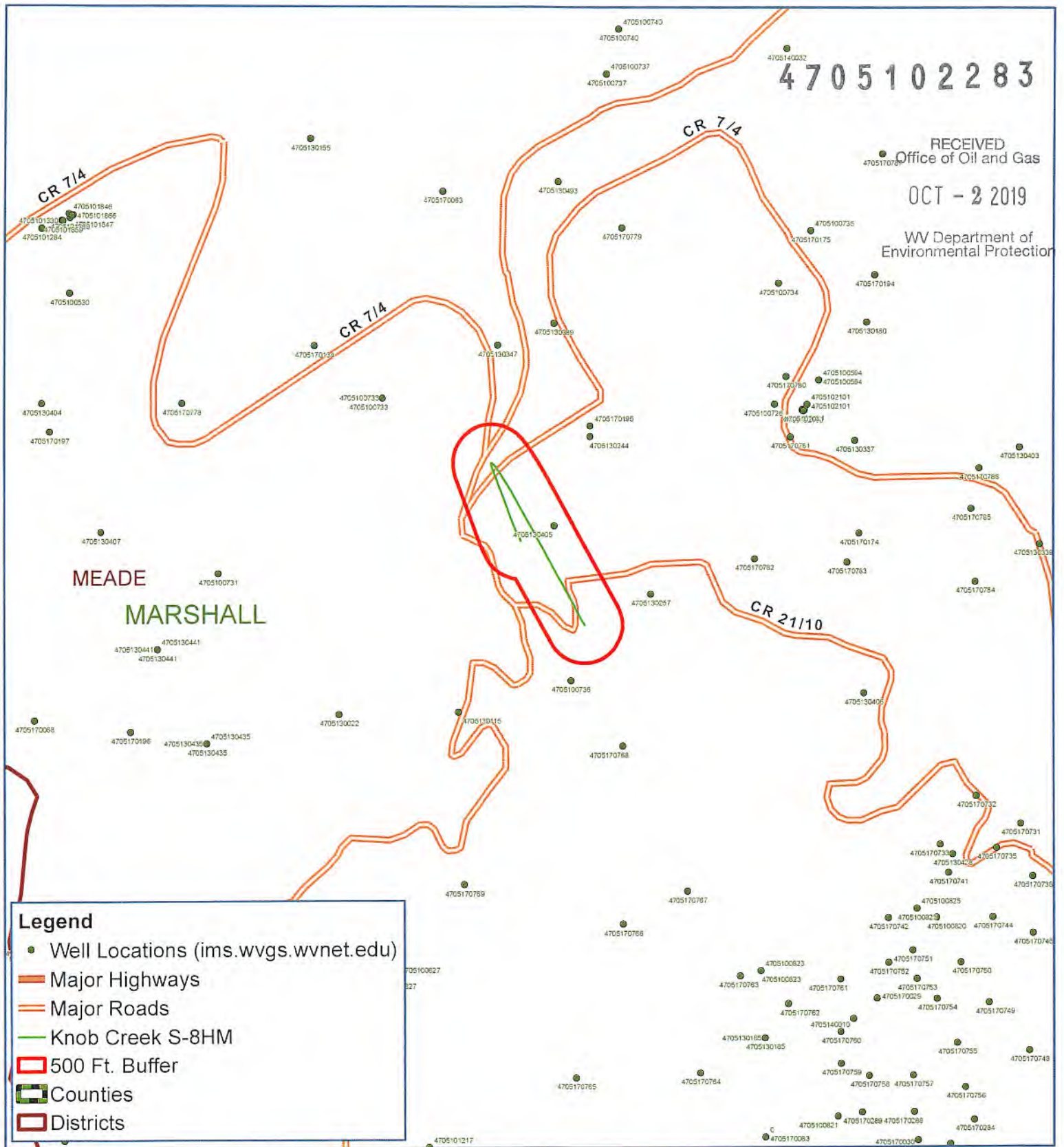
Permit well - Knob Creek S-8HM

Wells within 500' Buffer

Note: Well spots depicted on Area of Review map (page 3) are derived from State held coordinates. The spots may differ from those depicted on the Well Plat because the Plat locations represent actual field surveyed locations. Please refer to the Plat for surveyed well spots

API Number	Operator Name	Total Depth	Perforated Fms	Producing zones not perforated	Is this well "known or reasonably expected to penetrate a depth that could be within the range of Fracture propagation"? 1000' is max limit I would assign to wells that might be within in range of fracture propagation	Comments
4705102267	Tug Hill Operating	n/a	n/a	n/a	Yes, existing Marcellus permit Proper casing and cement should prevent migration of fluids from new wellbore to existing wellbore	Currently a permit
4705102032	Tug Hill Operating	n/a	n/a	n/a	Yes, existing Marcellus permit Proper casing and cement should prevent migration of fluids from new wellbore to existing wellbore	Currently a permit
4705102268	Tug Hill Operating	n/a	n/a	n/a	No, existing Point Pleasant permit Proper casing and cement should prevent migration of fluids from new wellbore to existing wellbore	Currently a permit
4705102269	Tug Hill Operating	n/a	n/a	n/a	No, existing Point Pleasant permit Proper casing and cement should prevent migration of fluids from new wellbore to existing wellbore	Currently a permit
4705130405	Wilhelm & Jackson	Unknown	Unknown	Unknown	Unknown but unlikely. The well likely represents an old shallow well that is too shallow to be effected by fracturing in the planned Marcellus well.	Well plugged 12/4/1959

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Knob Creek S - 8HM Meade District Marshall County, WV



Notes:
All locations are approximate and are for visualization purposes only.



Map Prepared by:
PS
LAND SERVICES

4705102283

WW-9
(4/16)

API Number 47 - 051 - _____
Operator's Well No. Knob Creek S-8HM

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Tug Hill Operating, LLC OP Code 494510851

Watershed (HUC 10) Fish Creek Quadrangle Glen Easton 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: AST Tanks with proper containment will be used for slaging fresh water for frac and flow back water

Will a synthetic liner be used in the pit? Yes No If so, what ml.? AST Tanks will be used with proper contain

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number UIC 2459, UIC 965, UIC 359, UIC 2D0732540, UIC 2D0732523)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

Will closed loop system be used? If so, describe: Yes - For Vertical and Horizontal Drilling

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air for vertical / Oil for Horizontal

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

Additives to be used in drilling medium? Barite for weight

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. All drill cuttings to be disposed of in a Landfill

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

-Landfill or offsite name/permit number? Wetzel County Sanitary Landfill (SWF-1021 / WV0109185) and Westmoreland Sanitary Landfill, LLC (SAN1405 / PA DEP EC#1386426)

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 Jim Pancake
Company Official (Typed Name) Jim Pancake
Company Official Title VP Geosciences

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Subscribed and sworn before me this 26 day of SEPTEMBER, 2019

Maureen A Stead

Notary Public
Commonwealth of Pennsylvania - Notary Seal
MAUREEN A STEAD - Notary Public
Washington County
My Commission Expires Jan 28, 2023
Commission Number 1259926

My commission expires 1/28/23

Tug Hill Operating, LLC

Proposed Revegetation Treatment: Acres Disturbed 12.93 Prevegetation pH 6.0

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch 2.5 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Annual Ryegrass	40	Orchard Grass	12
Spring Oats	96	Ladino	3
		White Clover	2

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 Willock*

Comments: _____

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Title: WVDEP Oil and Gas Inspector

Date: 7/27/19

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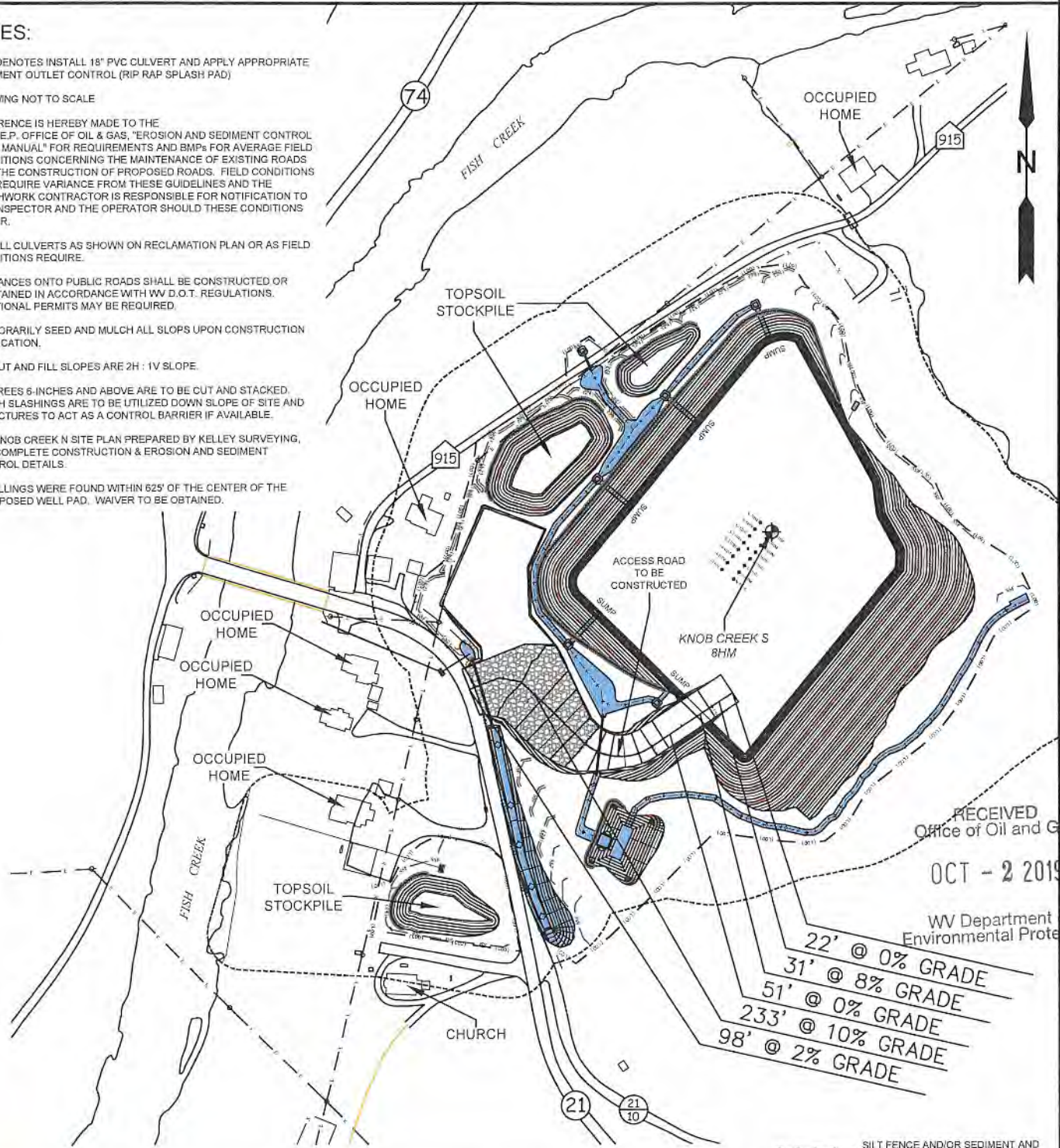
Field Reviewed? Yes No

PROPOSED KNOB CREEK S - 8HM

4705102283

NOTES:

1. Ⓞ-- DENOTES INSTALL 18" PVC CULVERT AND APPLY APPROPRIATE SEDIMENT OUTLET CONTROL (RIP RAP SPLASH PAD)
2. DRAWING NOT TO SCALE
3. REFERENCE IS HEREBY MADE TO THE WV D.E.P. OFFICE OF OIL & GAS, "EROSION AND SEDIMENT CONTROL FIELD MANUAL" FOR REQUIREMENTS AND BMPs FOR AVERAGE FIELD CONDITIONS CONCERNING THE MAINTENANCE OF EXISTING ROADS AND THE CONSTRUCTION OF PROPOSED ROADS. FIELD CONDITIONS MAY REQUIRE VARIANCE FROM THESE GUIDELINES AND THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR NOTIFICATION TO THE INSPECTOR AND THE OPERATOR SHOULD THESE CONDITIONS OCCUR.
4. INSTALL CULVERTS AS SHOWN ON RECLAMATION PLAN OR AS FIELD CONDITIONS REQUIRE.
5. ENTRANCES ONTO PUBLIC ROADS SHALL BE CONSTRUCTED OR MAINTAINED IN ACCORDANCE WITH WV D.O.T. REGULATIONS. ADDITIONAL PERMITS MAY BE REQUIRED.
6. TEMPORARILY SEED AND MULCH ALL SLOPS UPON CONSTRUCTION OF LOCATION.
7. ALL CUT AND FILL SLOPES ARE 2H : 1V SLOPE.
8. ALL TREES 6-INCHES AND ABOVE ARE TO BE CUT AND STACKED. BRUSH SLASHINGS ARE TO BE UTILIZED DOWN SLOPE OF SITE AND STRUCTURES TO ACT AS A CONTROL BARRIER IF AVAILABLE.
9. SEE KNOB CREEK N SITE PLAN PREPARED BY KELLEY SURVEYING, FOR COMPLETE CONSTRUCTION & EROSION AND SEDIMENT CONTROL DETAILS.
10. DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF THE PROPOSED WELL PAD. WAIVER TO BE OBTAINED.



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22' @ 0% GRADE
31' @ 8% GRADE
51' @ 0% GRADE
233' @ 10% GRADE
98' @ 2% GRADE

***** SILT FENCE AND/OR SEDIMENT AND EROSION CONTROL MEASURE.

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www.slsurveys.com

TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR: TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317	
COUNTY	DISTRICT		
MARSHALL	MEADE		
DRAWN BY	JOB NO.	DATE	SCALE
K.G.M.	8789	07/27/2018	NONE

TUG HILL
OPERATING

4705102283



Well Site Safety Plan
Tug Hill Operating, LLC

JW
9/27/19

Well Name: Knob Creek S-8HM

Pad Location: Knob Creek Pad

Marshall County, West Virginia

UTM (meters), NAD83, Zone 17:

Northing: 4,402,283.49

Easting: 525,226.79

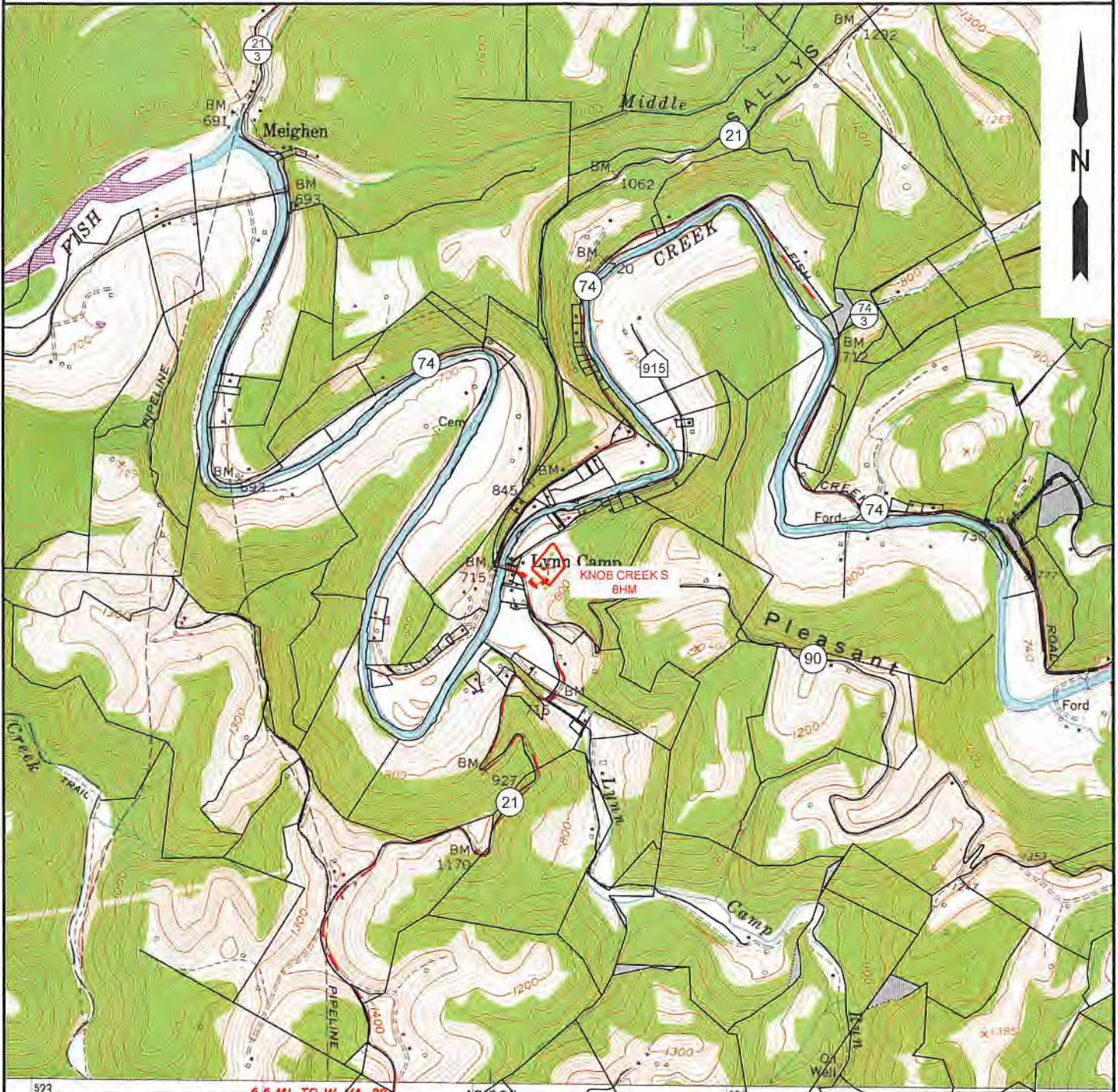
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September 2019

PROPOSED KNOB CREEK S - 8HM



NOTE: CLOSEST WATER PURVEYOR
GRANDVIEW - DOOLIN PUBLIC SERVICE DISTRICT
PROCTOR, WV

LAT: 39.7137712
LON: -80.8258327
LOCATED: S 59°36'12" W AT 39,574.55' FROM THE CENTER OF KNOB CREEK S WELL PAD LOCATION.

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TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR:	
COUNTY	DISTRICT	TUG HILL OPERATING, LLC	
MARSHALL	MEADE	380 SOUTHPOINTE BLVD	
DRAWN BY		DATE	SCALE
K.G.M.		07/27/2018	1" = 2000'

TUG HILL
OPERATING

**KNOB CREEK S LEASE
WELL 8HM
TUG HILL OPERATING**

T.H. LATITUDE 39°47'30"
B.H. LATITUDE 39°47'30"

(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)

NAD'83 S.P.C.(FT)	N. 464,885.90	E. 1,629,676.72
NAD'83 GEO.	LAT-(N) 39.770108	LONG-(W) 80.705450
NAD'83 UTM (M)	N. 4,402,283.49	E. 525,226.79

LANDING POINT

NAD'83 S.P.C.(FT)	N. 465,389.7	E. 1,629,696.6
NAD'83 GEO.	LAT-(N) 39.771490	LONG-(W) 80.705617
NAD'83 UTM (M)	N. 4,402,436.8	E. 525,212.0

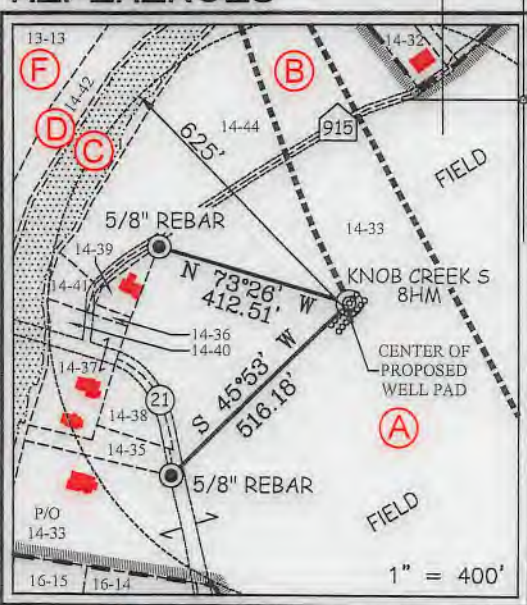
BOTTOM HOLE

NAD'83 S.P.C.(FT)	N. 463,770.2	E. 1,630,499.6
NAD'83 GEO.	LAT-(N) 39.767076	LONG-(W) 80.702470
NAD'83 UTM (M)	N. 4,401,947.8	E. 525,483.2

T.H. LONGITUDE 80°40'00"
B.H. LONGITUDE 80°40'00"

MAP/PARCEL	ADJOINING SURFACE OWNER LIST	ACRES
9-13-13.1	THOMAS JOHN FOX	0.827
9-14-28	CHARLES R. SCHELLHASE, ET UX	3.029
9-14-29	ANDREW FASOULETOS, ET UX	0.209
9-14-29.1	ANDREW FASOULETOS, ET UX	1.171
9-14-30	WILLIAM C. GROFT, ET UX	0.35
9-14-31	WILFORD F. NELSON, JR., ET UX	0.954
9-14-32	TWILA C. COFFIELD	0.583
9-14-32.1	TWILA C. COFFIELD	0.184
9-14-35	PAUL G. FOX	0.338
9-14-36	MARGARET FOX - LIFE	1600 SQ. FT.
9-14-37	MARGARET FOX - LIFE	LOT (ASSD)
9-14-38	MARGARET FOX - LIFE	0.631
9-14-39	MARGARET FOX - LIFE	8675 SQ. FT.
9-14-40	MARGARET FOX - LIFE	19,560 SQ. FT.
9-14-41	MARGARET FOX - LIFE	9165 SQ. FT.
9-14-43	JAMES G. FOX	0.66
9-14-44.1	GEORGE R. TAYLOR, ET UX	4.423
9-14-51	GEORGE R. TAYLOR, ET UX	1.621
9-14-52	JAMES E. PEELMAN	0.439
9-14-53	JAMES E. PEELMAN	0.555
9-14-54	RICHARD L. HARVETH, ET UX	1.649
9-16-13.2	ELEANOR M. FOX EST.	1.570
9-16-13.4	JOHN FOX	0.533
9-16-14	LYNN CAMP METHODIST CHURCH	0.762
9-16-15.1	ERIC J. YOUNG	1.98
9-16-16	CLINTON B. WHITELATCH, SR., ET UX ESTS	1 AC. 3 6/10 PO.
9-16-17	ELEANOR M. FOX EST.	0.741
9-16-18.1	ROBIN D. & DAVID G. STEWART	3.333

REFERENCES

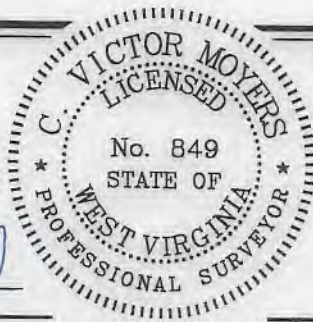


NOTES ON SURVEY

- NO WATER WELLS WERE FOUND WITHIN 250' OF PROPOSED GAS WELL. NO AGRICULTURAL BUILDINGS ≥ 2500 SQ. FT. WERE FOUND WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- SEE REFERENCES FOR DWELLINGS LOCATED WITHIN 625' OF THE CENTER OF PROPOSED WELL PAD.
- WELL SPOT CIRCLE & TOPO MARK SCALE IS 1"=2000'.
- BASED ON WV DOT COUNTY ROUTE 74 IS A 40' STRIP OF LAND ACQUIRED IN NUMEROUS DEEDS.



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



P.S. 849 *C. Victor Moyers*

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

DATE JULY 27, 20 18
 REVISED SEPTEMBER 30, 20 19
 OPERATORS WELL NO. KNOB CREEK S-8HM
 API WELL NO. 47 - 051 - 02283
 STATE COUNTY PERMIT

MINIMUM DEGREE OF ACCURACY 1 / 2500 FILE NO. 8789P8HMR.dwg
KNOB CREEK S-8HM REV4
 HORIZONTAL & VERTICAL CONTROL DETERMINED BY DGPS (SURVEY GRADE TIE TO CORS NETWORK) SCALE 1" = 2000'

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



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

LOCATION: GROUND = 727.50' ELEVATION PROPOSED = 734.67' WATERSHED FISH CREEK (HUC 10)
 DISTRICT MEADE COUNTY MARSHALL QUADRANGLE GLEN EASTON 7.5'

SURFACE OWNER DAVID LEE FRANKLIN ACREAGE 65.824±
 ROYALTY OWNER DAVID LEE FRANKLIN, ET AL - SEE WW-6A1 ACREAGE 65.824±
 PROPOSED WORK: LEASE NO. SEE WW-6A1
 DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER
 PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS
 ESTIMATED DEPTH TVD: 6,353' / TMD: 8,610'

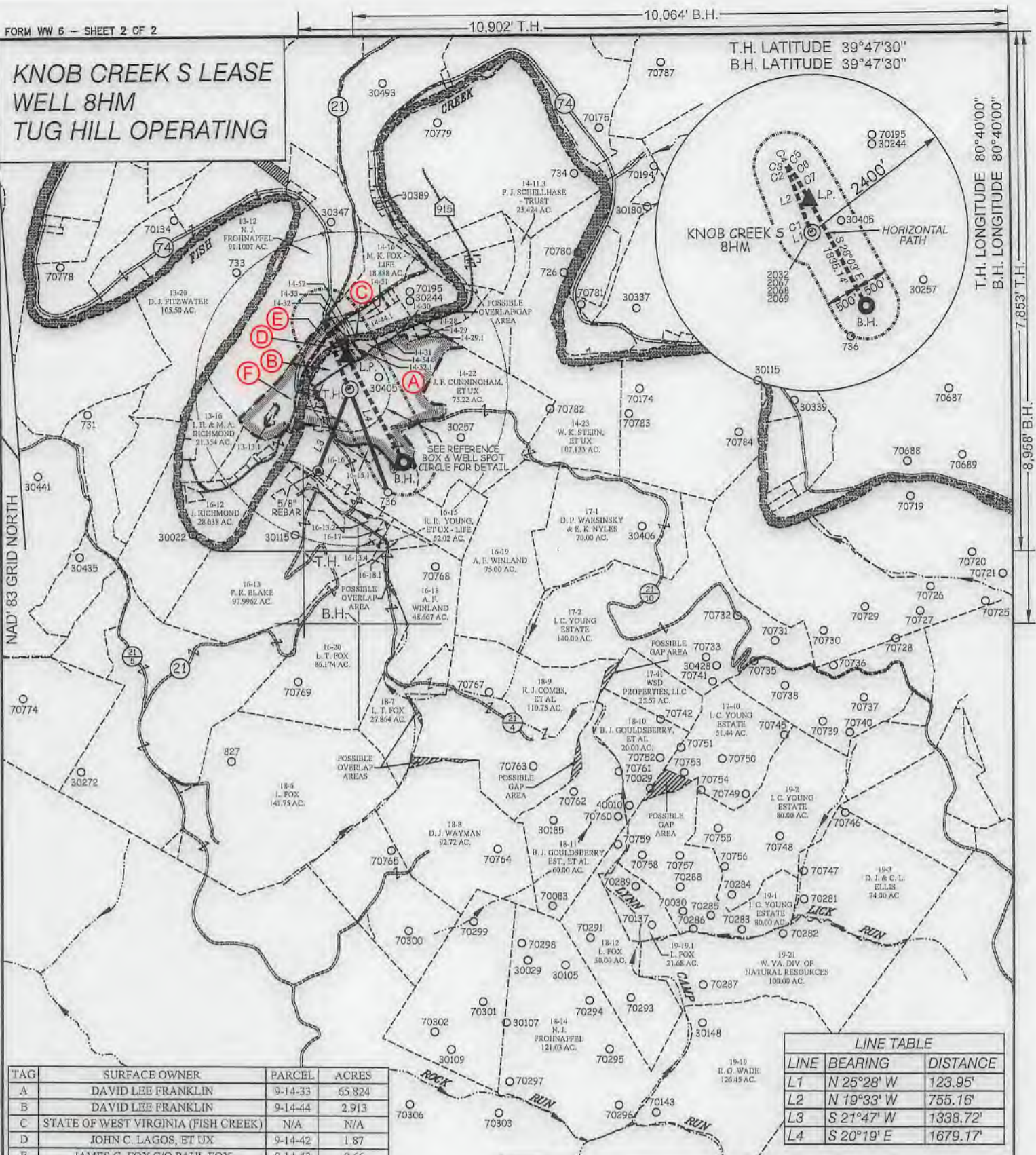
WELL OPERATOR TUG HILL OPERATING, LLC
 ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500
FORT WORTH, TX 76107

DESIGNATED AGENT DIANNA STAMPER
CT CORPORATION SYSTEM
 ADDRESS 5400 D BIG TYLER ROAD
CHARLESTON, WV 25313

COUNTY NAME
 PERMIT

**KNOB CREEK S LEASE
WELL 8HM
TUG HILL OPERATING**

T.H. LATITUDE 39°47'30"
B.H. LATITUDE 39°47'30"



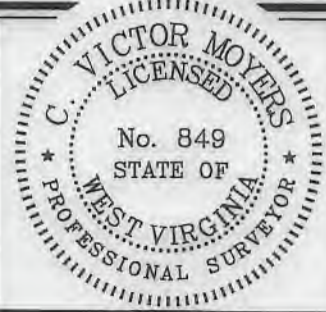
TAG	SURFACE OWNER	PARCEL	ACRES
A	DAVID LEE FRANKLIN	9-14-33	65.824
B	DAVID LEE FRANKLIN	9-14-44	2.913
C	STATE OF WEST VIRGINIA (FISH CREEK)	N/A	N/A
D	JOHN C. LAGOS, ET UX	9-14-42	1.87
E	JAMES G. FOX C/O PAUL FOX	9-14-43	0.66
F	MARGARET K. FOX (LIFE)	9-13-13	15.513

LINE	BEARING	DISTANCE
L1	N 25°28' W	123.95'
L2	N 19°33' W	755.16'
L3	S 21°47' W	1338.72'
L4	S 20°19' E	1679.17'

CURVE	ARC LENGTH	RADIUS	CHORD BEARING	CHORD LENGTH
C1	119.87'	851.82'	N 22°23' W	119.77'
C2	81.29'	380.98'	N 15°55' W	81.13'
C3	11.33'	13.52'	N 12°25' E	11.00'
C4	9.65'	7.79'	S 79°57' E	9.05'
C5	35.80'	153.00'	S 44°54' E	35.72'
C6	198.16'	1518.30'	S 34°04' E	198.02'
C7	377.53'	6427.14'	S 29°35' E	377.48'



(S.P.C. NORTH ZONE) (UTM(M) ZONE 17 NORTH)
 NAD'83 S.P.C.(FT) N. 464,885.90 E. 1,629,676.72
 NAD'83 GEO. LAT-(N) 39.770108 LONG-(W) 80.705450
 NAD'83 UTM (M) N. 4,402,283.49 E. 525,226.79
LANDING POINT
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 NAD'83 GEO. LAT-(N) 39.771490 LONG-(W) 80.705617
 NAD'83 UTM (M) N. 4,402,436.8 E. 525,212.0
BOTTOM HOLE
 NAD'83 S.P.C.(FT) N. 463,770.2 E. 1,630,499.5
 NAD'83 GEO. LAT-(N) 39.767076 LONG-(W) 80.702470
 NAD'83 UTM (M) N. 4,401,947.8 E. 525,483.2



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.
 P.S. 849 *C. Victor Moyers*

SCALE 1" = 2000' FILE NO. 8789P8HMR.dwg
 KNOB CREEK S-8HM REV4
 DATE JULY 27, 2018
 REVISED SEPTEMBER 30, 2019
 OPERATORS WELL NO. KNOB CREEK S-8HM
 API WELL NO. _____
 NO. STATE COUNTY PERMIT

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

LEGEND	
LEASE LINE	
SURFACE LINE	
WELL LATERAL	
500' OFFSET LINE	
TIE LINE	
CREEK	
ROAD	
COUNTY ROUTE	
PROPOSED WELL	
EXISTING WELL	
PERMITTED WELL	
TAX MAP-PARCEL	
SURFACE OWNER (SEE TABLE)	
LEASE # (SEE WW-6A1)	

WELL OPERATOR TUG HILL OPERATING, LLC
 ADDRESS 1320 SOUTH UNIVERSITY DRIVE, SUITE 500 FORT WORTH, TX 76107
 DESIGNATED AGENT DIANNA STAMPER
 ADDRESS CT CORPORATION SYSTEM 5400 D BIG TYLER ROAD CHARLESTON, WV 25313

COUNTY NAME PERMIT

WW-6A1
(5/13)

Operator's Well No. Knob Creek S-8HM

**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
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*See attached pages

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

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

- 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: Tug Hill Operating, LLC
 By: Amy L. Miller *Amy Miller*
 Its: Permitting Specialist - Appalachia Region

4705102283



October 1, 2019

WV Department of Environmental Protection
Office of Oil & Gas
601 57th Street, SE
Charleston, WV 25304
Attention: Laura Adkins

RE: Knob Creek S-8HM

Subject: CR 21, 74 and 915 Road Crossing Letter

Dear Laura:

Tug Hill Operating, LLC (THO) hereby submits this letter as confirmation that THO has obtained the right to drill, extract and produce the minerals under Marshall County Route 21, 74 and 915 in the area reflected on the Knob Creek S-8HM well plat. THO has conducted a full title search in the relevant Court House to confirm its ownership under said County Routes and is not currently aware of any recorded document that would suggest an ownership other than THO.

If your office has any questions or concerns regarding the contents of this letter, please do not hesitate to contact me directly at 304-376-0111, or by email at amiller@tug-hilop.com.

Sincerely,

A handwritten signature in blue ink that reads "Amy Miller".

Amy Miller
Permit Specialist – Appalachia Region
Cell 304-376-0111
Email: amiller@tug-hilop.com

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Office of Oil and Gas

OCT - 2 2019

WV Department of
Environmental Protection

WW-6AC
(1/12)

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

Date of Notice Certification: 10/01/2019

API No. 47- 051

Operator's Well No. Knob Creek S-8HM

Well Pad Name: Knob Creek

Notice has been given:

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

State:	West Virginia	UTM NAD 83	Easting:	525,226.79
County:	Marshall		Northing:	4,402,283.49
District:	Meade	Public Road Access:	St. Joseph Road - CR 21	
Quadrangle:	Glen Easton 7.5'	Generally used farm name:	David Lee Franklin	
Watershed:	Fish Creek (HUC 10)			

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

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:

- *PLEASE CHECK ALL THAT APPLY
- 1. NOTICE OF SEISMIC ACTIVITY or NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED
 - 2. NOTICE OF ENTRY FOR PLAT SURVEY or NO PLAT SURVEY WAS CONDUCTED
 - 3. NOTICE OF INTENT TO DRILL or NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)
 - 4. NOTICE OF PLANNED OPERATION
 - 5. PUBLIC NOTICE
 - 6. NOTICE OF APPLICATION

OOG OFFICE USE ONLY

- RECEIVED/ NOT REQUIRED
- RECEIVED
- RECEIVED/ NOT REQUIRED
- RECEIVED
- RECEIVED
- RECEIVED

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Office of Oil and Gas
OCT - 2 2019

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.

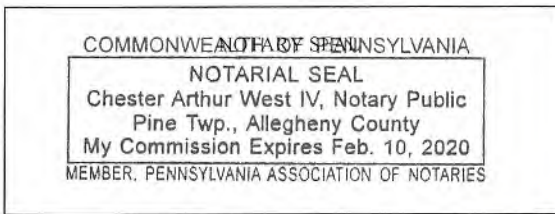
WV Department of Environmental Protection

WW-6AC
(1/12)

Certification of Notice is hereby given:

THEREFORE, I Amy L. Miller, 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:	<u>Tug Hill Operating, LLC</u>	Address:	<u>380 Southpointe Boulevard, Plaza II, Suite 200</u>
By:	<u>Amy L. Miller <i>Amy Miller</i></u>		<u>Canonsburg, PA 15317</u>
Its:	<u>Permitting Specialist - Appalachia</u>	Facsimile:	<u>724-749-8388</u>
Telephone:	<u>724-749-8388</u>	Email:	<u>amiller@tug-hillop.com</u>



Subscribed and sworn before me this 1st day of October 2019
[Signature] Notary Public
 My Commission Expires 2-10-2020

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 depprivacyofficer@wv.gov.

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Office of Oil and Gas

OCT - 2 2019

WV Department of
Environmental Protection

WW-6A
(9-13)

4705102283
API NO. 47- _____
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

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

Date of Notice: 9/30/2019 Date Permit Application Filed: 10/1/2019

Notice of:

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

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

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

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

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

SURFACE OWNER(s)
Name: David Lee Franklin
Address: 131 Saint Joseph Road
Glen Easton, WV 26039
Name: _____
Address: _____

COAL OWNER OR LESSEE
Name: CNX Land Resources, Inc.
Address: 1000 Consol Energy Drive
Canonsburg, PA 15318

COAL OPERATOR
Name: _____
Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
Name: David Lee Franklin
Address: 131 Saint Joseph Road
Glen Easton, WV 26039
Name: _____
Address: _____

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

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

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

*Please attach additional forms if necessary

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WV Department of
Environmental Protection

OCT - 2 2019

WV Department of
Environmental Protection

Notice is hereby given:

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

This Notice Shall Include:

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

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

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

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

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

Well Location Restrictions

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

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

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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.**

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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WW-6A
(8-13)

4705102283
API NO. 47-
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

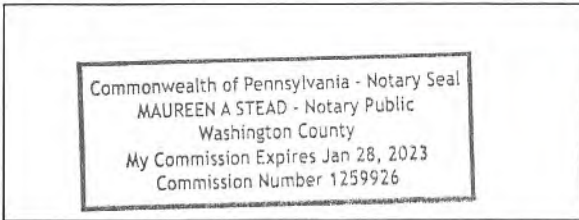
Notice is hereby given by:

Well Operator: Tug Hill Operating, LLC
Telephone: 724-749-8388
Email: amiller@tug-hilltop.com *amiller*

Address: 380 Southpointe Boulevard, Plaza II, Suite 200
Canonsburg, PA 15317
Facsimile: 724-338-2030

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 30 day of SEPT., 2019.
Maureen A Stead Notary Public
My Commission Expires 1/28/23

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Exhibit WW-6A

Supplement Pg. 1A

Tug Hill Operating, LLC
380 Southpointe Blvd, Suite 200
Cannonsburg, PA 15137

Residences within Two-Thousand Feet (2,000')

Well: KNOB CREEK S – 8HM
District: Meade (House #'s 1-12, 14-26) (Church #13)
State: WV

There are twenty-six (25) residences, no businesses, one (1) church, no schools or no emergency facilities within two-thousand feet (2,000') of the above referenced well location.

<p>House 1 TM 14 Pcl. 39 Margaret Fox – Life c/o Paul Fox Phone: 304-455-3817 (Per Tax Address – Paul G. Fox) Physical Address: 31 Crow Dr. Glen Easton, WV 26039 Tax Address: 5761 Saint Joseph Rd. Proctor, WV 26055</p>	<p>House 2 TM 14 Pcl. 32 Twila C. Coffield Phone: 304-845-5941 Physical Address: 184 Crow Dr. Glen Easton, WV 26039 Tax Address: 16 Sandy Ave. Moundsville, WV 26041-1020</p>	<p>House 3 TM 14 Pcl. 54 Richard L. Harveth, Et Ux c/o Richard Lee Harveth Phone: 304-845-7397; 304-845-5128 Physical Address: 220 Crow Dr. Glen Easton, WV 26039 Tax Address: Same</p>
<p>House 4 TM 14 Pcl. 42 John C. Lagos, Et Ux Phone: 304-845-2793 Physical Address: 12529 Fish Creek Rd. Glen Easton, WV 26039 Tax Address: 404 Jefferson Ave. Glen Dale, WV 26038</p>	<p>House 5 TM 14 Pcl. 53 James E. Peelman Phone: None Found Physical Address: 12551 Fish Creek Rd. Glen Easton, WV 26039 Tax Address: 12551 Fish Creek Rd. Glen Easton, WV 26039</p>	<p>House 6 TM 14 Pcl. 29.1 Andrew Fasouletos, Et Ux Phone: 304-845-9009 Physical Address: 329 Crow Dr. Glen Easton, WV 26039 Tax Address: 1. Rd. 2 Box 150 Proctor, WV 26055 2. 3391 Taylors Ridge Rd. Proctor, WV 26055-9723</p>
<p>House 7 TM 14 Pcl. 29.1 Andrew Fasouletos, Et Ux Phone: 304-845-9009 Physical Address: 361 Crow Dr. Glen Easton, WV 26039 Tax Address: 1. Rd. 2 Box 150 Proctor, WV 26055 2. 3391 Taylors Ridge Rd. Proctor, WV 26055-9723</p>	<p>House 8 TM 14 Pcl. 29 Andrew Fasouletos, Et Ux c/o Tena Marie Stricklin Phone: 304-845-9009 Physical Address: 389 Crow Dr. Glen Easton, WV 26039 Tax Address: 1. 3391 Taylors Ridge Rd. Proctor, WV 26055-9723 2. Rd. 2 Box 150 Proctor, WV 26055</p>	<p>House 9 TM 14 Pcl. 48 Michael L. & Cheryl J. Acree Phone: 304-455-2148; 304-455-5859 Physical Address: 12725 Fish Creek Rd. Glen Easton, WV 26039 Tax Address: 189 Plum St. Proctor, WV 26055</p>

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<p>House 10 TM 14 Pcl. 45 George R. Taylor, Et Ux Phone: 304-845-2987 Physical Address: 12781 Fish Creek Rd. Glen Easton, WV 26039 Tax Address: Same</p>	<p>House 11 TM 16 Pcl. 15.1 Eric J. Young Phone: 304-686-3398; 304-905-1986 (Per Address – Chelsey Long); 304-845-0154 (Per Address – Bill J. Blatt) Physical Address: 153 Young Ln. Glen Easton, WV 26039 Tax Address: Same</p>	<p>House 12 TM 16 Pcl. 15 Ronald R. Young, Et Ux - Life Phone: 304-845-6044 (Per Tax Address – Geraldine M. Young) Physical Address: 348 Saint Joseph Rd. Glen Easton, WV 26039 Tax Address: Same</p>
<p>House 13 TM 16 Pcl. 14 Lynn Camp Methodist Church Phone: Physical Address: 171 Saint Joseph Rd. Glen Easton, WV 26039 Tax Address: Unknown Address Moundsville, WV 26041</p>	<p>House 14 TM 16 Pcl. 15 Ronald R. Young, Et Ux - Life Phone: 304-845-6044 (Per Tax Address – Geraldine M. Young) Physical Address: 323 Saint Joseph Rd. Glen Easton, WV 26039 Tax Address: 348 Saint Joseph Rd. Glen Easton, WV 26039</p>	<p>House 15 TM 16 Pcl. 13.5 Paul R. Blake & Paul R. Blake II Phone: 304-845-9369 Physical Address: 616 Saint Joseph Rd. Glen Easton, WV 26039 Tax Address: 121 Vandivere Ln. Glen Easton, WV 26039-9707</p>
<p>House 16 TM 16 Pcl. 13.1 Paul W. Blake - Life Phone: 304-845-2999 Physical Address: 581 Saint Joseph Rd. Glen Easton, WV 26039 Tax Address: 1500 8th St. Moundsville, WV 26041-2031</p>	<p>House 17 TM 16 Pcl. 13.6 Wesley D. Yeater, Et Ux Phone: 304-843-5212 Physical Address: 37 Vandivere Ln. Glen Easton, WV 26039 Tax Address: Same</p>	<p>House 18 TM 16 Pcl. 13.3 Paul R. Blake Phone: 304-845-9369 Physical Address: 121 Vandivere Ln. Glen Easton, WV 26039 Tax Address: Same</p>
<p>House 19 TM 16 Pcl. 12.2 Spencer J. & Carrie A. Richmond Phone: 304-845-2274; 304-845-8186 Physical Address: 293 Richmond Ln. Glen Easton, WV 26039 Tax Address: 243 Richmond Ln. Glen Easton, WV 26039</p>	<p>House 20 TM 16 Pcl. 12.7 Spencer J. & Carrie A. Richmond Phone: 304-845-2274; 304-845-8186 Physical Address: 243 Richmond Ln. Glen Easton, WV 26039 Tax Address: Same</p>	<p>House 21 TM 16 Pcl. 12.1 James G. Richmond, Et Ux Phone: 304-845-8186 Physical Address: 157 Richmond Ln. Glen Easton, WV 26039 Tax Address: Same</p>
<p>House 22 TM 14 Pcl. 33 David Lee Franklin Phone: 304-845-6025; 304-845-3203 Physical Address: 131 Saint Joseph Rd. Glen Easton, WV 26039 Tax Address: 131 Saint Joseph Rd. Glen Easton, WV 26039</p>	<p>House 23 TM 14 Pcl. 37 Margaret Fox – Life c/o Paul Fox Phone: 304-455-3817 (Per Tax Address – Paul G. Fox) Physical Address: 107 Saint Joseph Rd. Glen Easton, WV 26039 Tax Address: 5761 Saint Joseph Rd. Proctor, WV 26055</p>	<p>House 24 TM 14 Pcl. 37 Margaret Fox – Life c/o Paul Fox Phone: 304-455-3817 (Per Tax Address – Paul G. Fox) Physical Address: 51 Saint Joseph Rd. Glen Easton, WV 26039 Tax Address: 5761 Saint Joseph Rd. Proctor, WV 26055</p>

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4705102283

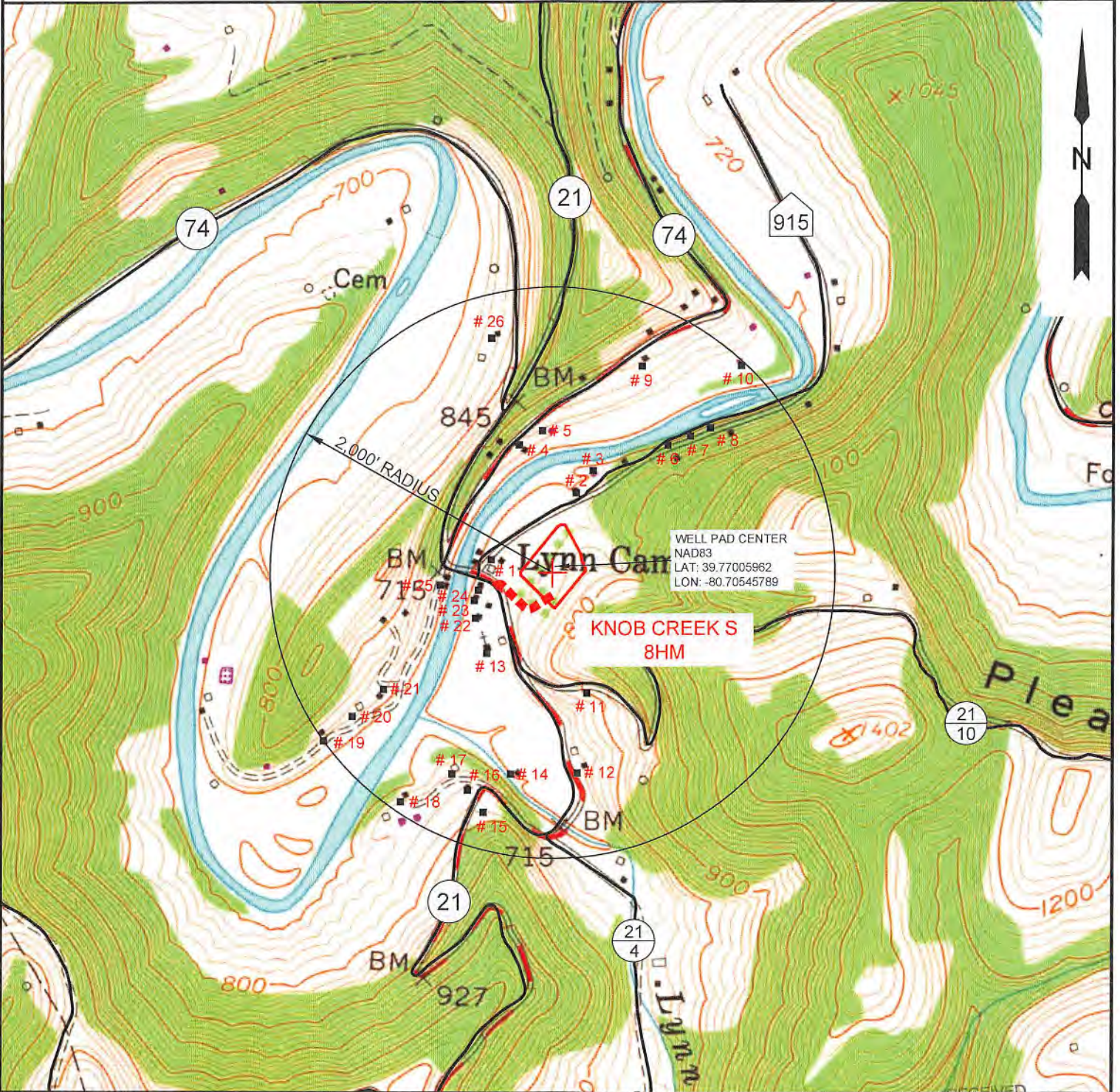
<p>House 25 TM 13 Pcl. 13 Margaret K. Fox – Life c/o Paul Fox Phone: 304-455-3817 (Per Tax Address – Paul G. Fox) Physical Address: 28 Richmond Ln. Glen Easton, WV 26039 Tax Address: 5761 Saint Joseph Rd. Proctor, WV 26055</p>	<p>House 26 TM 13 Pcl. 12 Nila Jean Prohnapfel Phone: None Found Physical Address: 11975 Fish Creek Rd. Glen Easton, WV 26039 Tax Address: Rd. 1 Box 190 Proctor, WV 26055-9703</p>	
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PROPOSED KNOB CREEK S - 8HM



NOTE: THERE APPEARS TO BE TWENTY-SIX (26) POSSIBLE WATER SOURCES WITHIN 2,000'. Office of Oil and Gas

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Solutions from the ground up.
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www.slssurveys.com

TOPO SECTION:		OPERATOR:	
GLEN EASTON 7.5'		PREPARED FOR: TUG HILL OPERATING, LLC 380 SOUTHPOINTE BLVD SUITE 200 CANONSBURG, PA 15317	
COUNTY	DISTRICT	DATE	SCALE
MARSHALL	MEADE	07/27/2018	1" - 1000'
DRAWN BY	JOB NO.		
K.G.M.	8789		

WV Department of Environmental Protection
TUG HILL
OPERATING

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

Notice Time Requirement: Notice shall be provided at least SEVEN (7) days but no more than FORTY-FIVE (45) days prior to entry

Date of Notice: 2/5/2018 **Date of Planned Entry:** 2/12/2018

Delivery method pursuant to West Virginia Code § 22-6A-10a

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

Pursuant to West Virginia Code § 22-6A-10(a), Prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

Notice is hereby provided to:

SURFACE OWNER(s)
Name: David Lee Franklin (Pad and Access Road)
Address: 131 Saint Joseph Road
 Glen Easton, WV 26039

Name: _____
Address: _____

Name: _____
Address: _____

COAL OWNER OR LESSEE
Name: CNX Land Resources, Inc.
Address: 1000 Consol Energy Drive
 Canonsburg, PA 15318

MINERAL OWNER(s)
Name: David Lee Franklin
Address: 131 Saint Joseph Road
 Glen Easton, WV 26039

 *please attach additional forms if necessary

Notice is hereby given:

Pursuant to West Virginia Code § 22-6A-10(a), notice is hereby given that the undersigned well operator is planning entry to conduct a plat survey on the tract of land as follows:

State:	West Virginia	Approx. Latitude & Longitude:	39.7700596; -80.7054579
County:	Marshall	Public Road Access:	St. Joseph Road - County Route 21
District:	Meade	Watershed:	Fish Creek (HUC 10)
Quadrangle:	Glen Easton 7.5'	Generally used farm name:	David Lee Franklin

Copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production 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). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator: Tug Hill Operating, LLC
Telephone: 724-749-8388
Email: amiller@tug-hilltop.com

Address: 380 Southpointe Boulevard, Plaza II, Suite 200
 Canonsburg, PA 15317
Facsimile: 724-338-2030

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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)

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

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

Date of Notice: 10/01/2019 **Date Permit Application Filed:** 10/01/2019

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

CERTIFIED MAIL HAND
RETURN RECEIPT REQUESTED DELIVERY

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

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

Name: David Lee Franklin

Address: 131 Saint Joseph Road

Glen Easton, WV 26039

Name: _____

Address: _____

Notice is hereby given:

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

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>525,226.79</u>
County: <u>Marshall</u>		Northing: <u>4,402,283.49</u>
District: <u>Meade</u>	Public Road Access: <u>St. Joseph Road - CR 21</u>	
Quadrangle: <u>Glen Easton 7.5'</u>	Generally used farm name: <u>David Lee Franklin</u>	
Watershed: <u>Fish Creek (HUC 10)</u>		

This Notice Shall Include:

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

Well Operator: Tug Hill Operating, LLC

Telephone: 724-749-8388

Email: amiller@tug-hillop.com

Address: 380 Southpointe Boulevard, Plaza II, Suite 200

Canonsburg, PA 15317

Facsimile: 724-338-2030

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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.

4705102283

WW-6RW
(1-12)

API NO. 47-
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

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

Well Location Restrictions

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

WAIVER

I, Thomas John Fox, by my Attorney-in-Fact, TH Exploration, LLC, 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: West Virginia UTM NAD 83 Easting: 525,226.79
County: Marshall UTM NAD 83 Northing: 4,402,283.49
District: Meade Public Road Access: St. Joseph Road - County Route 21
Quadrangle: Glen Easton 7.5' Generally used farm name: David Lee Franklin
Watershed: Fish Creek (HUC-10)

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials and I therefore waive all well site restrictions listed under West Virginia Code § 22-6A-12(a).

WELL SITE RESTRICTIONS BEING WAIVED

*Please check all that apply

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

FOR EXECUTION BY A NATURAL PERSON

Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for Thomas John Fox
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: _____
Date: 9/30/2019

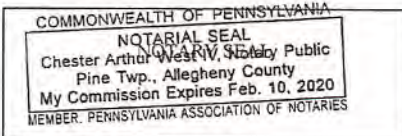
Well Operator: Tug Hill Operating, LLC

By: David G. DeLallo

Its: Land Team Lead

Signature: _____

Telephone: 724-749-8388



Subscribed and sworn before me this 30th day of September 2019

Notary Public

My Commission Expires 2-10-2020

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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 of your personal information, please contact DEP's Chief Privacy Officer at deprivacyofficer@wv.gov.

That I, Thomas John Fox, hereby make, name and appoint, Tug Hill Operating, LLC, by and through its officers, agents or employees to be my limited power of attorney, for the sole and specific purpose of executing Well Location Restriction Waivers(s) that permit the conducting of oil or gas well work and the drilling of additional oil and gas wells on the Knob Creek Well Pad situate in Meade District, Marshall County, West Virginia, shown on Tax Map 14, as Parcel 33. See attached **Exhibit A**. Said waivers shall be of the type shown on the attached **Exhibit B**, differing only in the api number and operator well number located on the form.

I the said Thomas John Fox hereby declare that acts done by my said attorney for said specific and sole purpose shall be as good, valid and effective, to all intents and purposes whatsoever, as if the same had been made or done by me, and I hereby undertake to ratify whatsoever my attorney shall lawfully do or cause to be done, by virtue of these presents.

I further direct this Limited Power of Attorney shall be good and valid until a revocation thereof has been duly executed by the undersigned.

Thomas John Fox (SEAL)

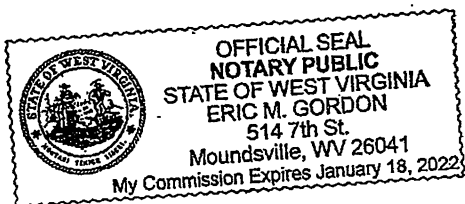
STATE OF West Virginia:
County of Marshall, to-wit:

The foregoing instrument was acknowledged before me this 31st day of March, 2018, by Thomas John Fox.

Given under my hand this 31st day of March, 2018.

My commission expires: Jan 18, 2022

(NOTARY SEAL/STAMP REQUIRED)



[Signature]
Notary Public for the aforesaid
County and/or State

RECEIVED
Office of Oil and Gas

OCT - 2 2019

WV Department of
Environmental Protection

This Instrument Prepared By:

Eric M. Gordon, Esquire
Berry, Kessler, Crutchfield, Taylor & Gordon
514 Seventh Street
Moundsville, WV 26041

4705102283

WW-6RW
(1-12)

API NO. 47- _____
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

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

Well Location Restrictions

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

WAIVER

I, David E. Fox by my Attorney-in-Fact TH Exploration, LLC, 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: West Virginia UTM NAD 83 Easting: 525,225.79
County: Marshall UTM NAD 83 Northing: 4,402,283.49
District: Meade Public Road Access: St. Joseph Road - County Route 21
Quadrangle: Glen Easton 7.5' Generally used farm name: David Lee Franklin
Watershed: Fish Creek (HUC-10)

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials and I therefore waive all well site restrictions listed under West Virginia Code § 22-6A-12(a).

WELL SITE RESTRICTIONS BEING WAIVED

*Please check all that apply

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

FOR EXECUTION BY A NATURAL PERSON

Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for David E. Fox
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: _____
Date: 9/30/2019

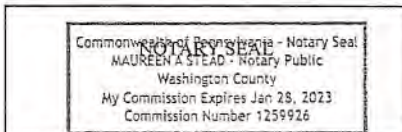
Well Operator: Tug Hill Operating, LLC

By: David G. DeLallo

Its: Land Team Lead

Signature: _____

Telephone: 724-749-8388



Subscribed and sworn before me this 30 day of SEPTEMBER 2019

Maureen A Stead Notary Public

My Commission Expires 1/28/23

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 of your personal information, please contact DEP's Chief Privacy Officer at deprivacyofficer@wv.gov.

RECEIVED
Office of Oil and Gas

OCT - 2 2019

WV Department of
Environmental Protection

LIMITED POWER OF ATTORNEY

4705102283

That I, David E. Fox, hereby make, name and appoint, Tug Hill Operating, LLC, by and through its officers, agents or employees to be my limited power of attorney, for the sole and specific purpose of executing Well Location Restriction Waivers(s) that permit the conducting of oil or gas well work and the drilling of additional oil and gas wells on the Knob Creek Well Pad situate in Meade District, Marshall County, West Virginia, shown on Tax Map 14, as Parcel 33. See attached **Exhibit A**. Said waivers shall be of the type shown on the attached **Exhibit B**, differing only in the api number and operator well number located on the form.

I the said David E. Fox hereby declare that acts done by my said attorney for said specific and sole purpose shall be as good, valid and effective, to all intents and purposes whatsoever, as if the same had been made or done by me, and I hereby undertake to ratify whatsoever my attorney shall lawfully do or cause to be done, by virtue of these presents.

I further direct this Limited Power of Attorney shall be good and valid until a revocation thereof has been duly executed by the undersigned.

David E. Fox (SEAL)

STATE OF West Virginia :

County of Marshall , to-wit:

The foregoing instrument was acknowledged before me this 27 day of March, 2018, by David E. Fox.

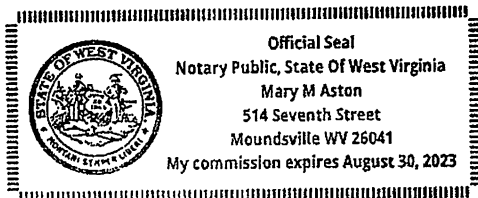
Given under my hand this 27 day of March, 2018.

My commission expires: August 30, 2023.

(NOTARY SEAL/STAMP REQUIRED)

RECEIVED
Office of Oil and Gas

OCT - 2 2019



Mary M Aston
Notary Public for the aforesaid
County and/or State
WV Department of
Environmental Protection

This Instrument Prepared By:

Eric M. Gordon, Esquire
Berry, Kessler, Crutchfield, Taylor & Gordon
514 Seventh Street
Moundsville, WV 26041

WW-6RW
(1-12)

API NO. 47-
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

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WAIVER

I, David Lee Franklin, by my Attorney-in-Fact, TH Exploration, LLC, 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:

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County: Marshall UTM NAD 83 Northing: 4,402,283.49
District: Meade Public Road Access: St. Joseph Road - County Route 21
Quadrangle: Glen Easton 7.5' Generally used farm name: David Lee Franklin
Watershed: Fish Creek (HUC-10)

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials and I therefore waive all well site restrictions listed under West Virginia Code § 22-6A-12(a).

WELL SITE RESTRICTIONS BEING WAIVED

*Please check all that apply

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

FOR EXECUTION BY A NATURAL PERSON

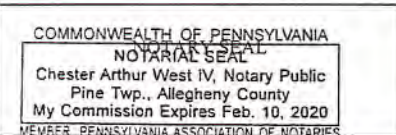
Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for David Lee Franklin
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: _____
Date: 9/30/2019

Well Operator: Tug Hill Operating, LLC
By: David G. DeLallo
Its: Land Team Lead

Signature: _____
Telephone: 724-749-8368



Subscribed and sworn before me this 30th day of September 2019

Notary Public
My Commission Expires 2-10-2020

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 of your personal information, please contact DEP's Chief Privacy Officer at deprivacyofficer@wv.gov.

RECEIVED
Office of Oil and Gas

OCT - 2 2019

WV Department of
Environmental Protection

LIMITED POWER OF ATTORNEY

4705102283

That I, David Lee Franklin, hereby make, name and appoint, Tug Hill Operating, LLC, by and through its officers, agents or employees to be my limited power of attorney, for the sole and specific purpose of executing Well Location Restriction Waivers(s) that permit the conducting of oil or gas well work and the drilling of additional oil and gas wells on the Knob Creek Well Pad situate in Meade District, Marshall County, West Virginia, shown on Tax Map 14, as Parcel 33. See attached **Exhibit A**. Said waivers shall be of the type shown on the attached **Exhibit B**, differing only in the api number and operator well number located on the form.

I the said David Lee Franklin hereby declare that acts done by my said attorney for said specific and sole purpose shall be as good, valid and effective, to all intents and purposes whatsoever, as if the same had been made or done by me, and I hereby undertake to ratify whatsoever my attorney shall lawfully do or cause to be done, by virtue of these presents.

I further direct this Limited Power of Attorney shall be good and valid until a revocation thereof has been duly executed by the undersigned.

David Lee Franklin (SEAL)

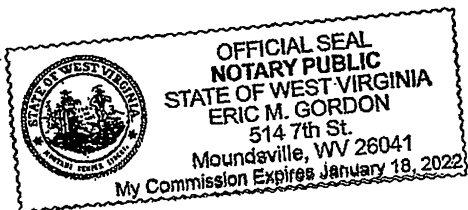
STATE OF West Virginia:
County of Marshall, to-wit:

The foregoing instrument was acknowledged before me this 29th day of March, 2018, by David Lee Franklin.

Given under my hand this 29th day of March, 2018.

My commission expires: JAN 18, 2022.

(NOTARY SEAL/STAMP REQUIRED)



Eric M. Gordon
Notary Public for the aforesaid
County and/or State

RECEIVED
Office of Oil and Gas
OCT - 2 2019

WV Department of
Environmental Protection

This Instrument Prepared By:

Eric M. Gordon, Esquire
Berry, Kessler, Crutchfield, Taylor & Gordon
514 Seventh Street
Moundsville, WV 26041

4705102283

WW-6RW
(1-12)

API NO. 47-
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

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

Well Location Restrictions

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WAIVER

I, Linda Lee Franklin, by my Attorney-in-Fact, TH Exploration, LLC, 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:

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County: Marshall UTM NAD 83 Northing: 4,402,283.49
District: Meade Public Road Access: St. Joseph Road - County Route 21
Quadrangle: Glen Easton 7.5' Generally used farm name: David Lee Franklin
Watershed: Fish Creek (HUC-10)

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials and I therefore waive all well site restrictions listed under West Virginia Code § 22-6A-12(a).

WELL SITE RESTRICTIONS BEING WAIVED

*Please check all that apply

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

FOR EXECUTION BY A NATURAL PERSON

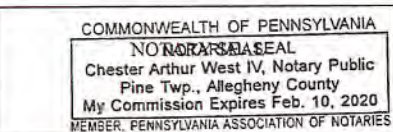
Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for Linda Lee Franklin
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: [Signature]
Date: 9/30/2019

Well Operator: Tug Hill Operating, LLC
By: David G. DeLallo
Its: Land Team Lead

Signature: [Signature]
Telephone: 724-749-8368



Subscribed and sworn before me this 30th day of September 2019
[Signature] Notary Public
My Commission Expires 2-10-2020

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RECEIVED
Office of Oil and Gas

OCT - 2 2019

WV Department of
Environmental Protection

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I the said Linda Lee Franklin hereby declare that acts done by my said attorney for said specific and sole purpose shall be as good, valid and effective, to all intents and purposes whatsoever, as if the same had been made or done by me, and I hereby undertake to ratify whatsoever my attorney shall lawfully do or cause to be done, by virtue of these presents.

I further direct this Limited Power of Attorney shall be good and valid until a revocation thereof has been duly executed by the undersigned.

Linda Lee Franklin (SEAL)

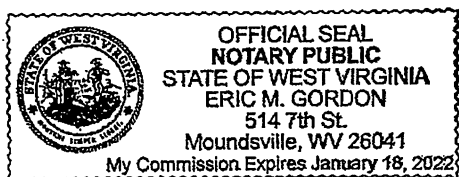
STATE OF West Virginia :
County of Marshall , to-wit:

The foregoing instrument was acknowledged before me this 29th day of March , 2018, by Linda Lee Franklin.

Given under my hand this 29th day of March , 2018.

My commission expires: Jan 18, 2022

(NOTARY SEAL/STAMP REQUIRED)



Eric M. Gordon
Notary Public for the aforesaid
County and/or State

RECEIVED
Office of Oil and Gas
OCT - 2 2019
WV Department of
Environmental Protection

This Instrument Prepared By:
Eric M. Gordon, Esquire
Berry, Kessler, Crutchfield, Taylor & Gordon
514 Seventh Street
Moundsville, WV 26041

4705102283

WW-6RW
(1-12)

API NO. 47-
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

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WAIVER

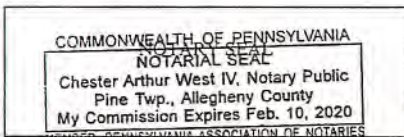
I, Douglas L. DeMartino, Esq., hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages 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:

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County: Marshall UTM NAD 83 Northing: 4,402,283.49
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Watershed: Fish Creek (HUC-10)

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WELL SITE RESTRICTIONS BEING WAIVED *Please check all that apply <input type="checkbox"/> EXISTING WATER WELLS <input type="checkbox"/> DEVELOPED SPRINGS <input checked="" type="checkbox"/> DWELLINGS <input type="checkbox"/> AGRICULTURAL BUILDINGS	FOR EXECUTION BY A NATURAL PERSON Signature: _____ Print Name: _____ Date: _____
	FOR EXECUTION BY A CORPORATION, ETC. Company: <u>TH Exploration, LLC</u> By: <u>Douglas L. DeMartino, Esq.</u> Its: <u>Attorney-in-Fact</u> Signature: _____ Date: <u>9/20/2019</u>

Well Operator: Tug Hill Operating, LLC Signature: _____
By: David G. DeLallo Telephone: 724-749-8388
Its: Land Team Lead



Subscribed and sworn before me this 30th day of September 2019

Notary Public
My Commission Expires 2-10-2020

Oil and Gas Privacy Notice:
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RECEIVED
Office of Oil and Gas
OCT - 2 2019
WV Department of
Environmental Protection

4705102283

WW-6RW
(1-12)

API NO. 47-
OPERATOR WELL NO. Knob Creek S-5HM
Well Pad Name: Knob Creek

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

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WAIVER

I, Paul G. Fox, by my Attorney-in-Fact, TH Exploration, LLC, 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:

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- DEVELOPED SPRINGS
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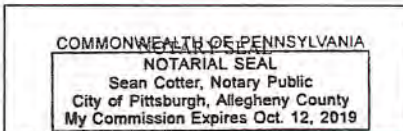
Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for Paul G. Fox
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: [Signature]
Date: 9/30/2019

Well Operator: Tug Hill Operating, LLC
By: David G. DeLallo
Its: Land Team Lead

Signature: [Signature]
Telephone: 724-749-6968



Subscribed and sworn before me this 30 day of September

[Signature]

Notary Public

My Commission Expires 10/12/2019

Oil and Gas Privacy Notice:

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RECEIVED
Office of Oil and Gas

OCT - 2 2019

WV Department of
Environmental Protection

That I, Paul G. Fox, hereby make, name and appoint, Tug Hill Operating, LLC, its successors and assigns, by and through its officers, agents or employees to be my limited power of attorney, for the sole and specific purpose of executing Well Location Restriction Waivers(s) waiving all well site restrictions listed under West Virginia Code 22-6A-12(a) for the Knob Creek Well Pad situate in Meade District, Marshall County, West Virginia, located on Tax Map 14, Parcel 33 and depicted on the attached **Exhibit A**. Said waivers shall be of the type shown on the attached **Exhibit B**.

I the said Paul G. Fox hereby declare that acts done by my said attorney for said specific and sole purpose shall be as good, valid and effective, to all intents and purposes whatsoever, as if the same had been made or done by me, and I hereby undertake to ratify whatsoever my attorney shall lawfully do or cause to be done, by virtue of these presents.

I further direct this Limited Power of Attorney shall be good and valid until a revocation thereof has been duly executed by the undersigned.

Paul G. Fox 3/24-18 (SEAL)

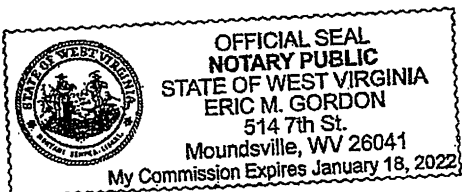
STATE OF West Virginia:
COUNTY OF Marshall, to-wit:

The foregoing instrument was acknowledged before me this 24th day of March, 2018, by Paul G. Fox.

Given under my hand this 24th day of March, 2018.

My commission expires: Jan 18, 2022.

(NOTARY SEAL/STAMP REQUIRED)



Notary Public for the aforesaid
County and/or State

RECEIVED
Office of Oil and Gas
OCT - 2 2019

This Instrument Prepared By:
Eric M. Gordon, Esquire
Berry, Kessler, Crutchfield, Taylor & Gordon
514 Seventh Street
Moundsville, WV 26041
(304) 845-2580

WV Department of
Environmental Protection

4705102283

WW-6RW
(1-12)

API NO. 47-
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

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

Well Location Restrictions

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

WAIVER

I, Mark H. Fox, by my Attorney-in-Fact, TH Exploration, LLC, 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: West Virginia UTM NAD 83 Easting: 525,226.79
County: Marshall UTM NAD 83 Northing: 4,402,283.49
District: Meade Public Road Access: St. Joseph Road - County Route 21
Quadrangle: Glen Easton 7.5' Generally used farm name: David Lee Franklin
Watershed: Fish Creek (HUC-10)

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials and I therefore waive all well site restrictions listed under West Virginia Code § 22-6A-12(a).

WELL SITE RESTRICTIONS BEING WAIVED

*Please check all that apply

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

FOR EXECUTION BY A NATURAL PERSON

Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for Mark H. Fox
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: _____
Date: 9/30/2019

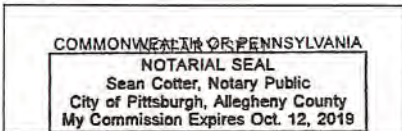
Well Operator: Tug Hill Operating, LLC

By: David G. DeLallo

Its: Land Team Lead

Signature: _____

Telephone: 724-749-3388



Subscribed and sworn before me this 30 day of September

Notary Public

My Commission Expires 10/12/2019

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 of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

RECEIVED
Office of Oil and Gas

OCT - 2 2019

WV Department of
Environmental Protection

LIMITED POWER OF ATTORNEY

4705102283

That I, MARK H. FOX, hereby make, name and appoint, Tug Hill Operating, LLC, its successors and assigns, by and through its officers, agents or employees to be my limited power of attorney, for the sole and specific purpose of executing Well Location Restriction Waivers(s) waiving all well site restrictions listed under West Virginia Code 22-6A-12(a) for the Knob Creek Well Pad situate in Meade District, Marshall County, West Virginia, located on Tax Map 14, Parcel 33 and depicted on the attached **Exhibit A**. Said waivers shall be of the type shown on the attached **Exhibit B**.

I the said MARK H. FOX hereby declare that acts done by my said attorney for said specific and sole purpose shall be as good, valid and effective, to all intents and purposes whatsoever, as if the same had been made or done by me, and I hereby undertake to ratify whatsoever my attorney shall lawfully do or cause to be done, by virtue of these presents.

I further direct this Limited Power of Attorney shall be good and valid until a revocation thereof has been duly executed by the undersigned.

Mark H. Fox 3-24-18 (SEAL)

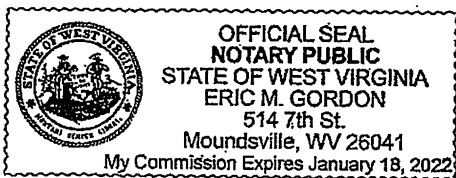
STATE OF West Virginia:
COUNTY OF Marshall, to-wit:

The foregoing instrument was acknowledged before me this 24th day of March, 2018, by MARK H. FOX.

Given under my hand this 24th day of MARCH, 2018.

My commission expires: JAN 18, 2022.

(NOTARY SEAL/STAMP REQUIRED)



Notary Public for the aforesaid
County and/or State

RECEIVED
Office of Oil and Gas

OCT - 2 2019

This Instrument Prepared By:

Eric M. Gordon, Esquire
Berry, Kessler, Crutchfield, Taylor & Gordon
514 Seventh Street
Moundsville, WV 26041
(304) 845-2580

WV Department of
Environmental Protection

4705102283

WW-6RW
(1-12)

API NO. 47- _____
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

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WAIVER

I, Mary A. Fox, by my Attorney-in-Fact, TH Exploration, LLC, 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:

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County: Marshall UTM NAD 83 Northing: 4,402,283.49
District: Meade Public Road Access: St. Joseph Road - County Route 21
Quadrangle: Glen Easton 7.5' Generally used farm name: David Lee Franklin
Watershed: Fish Creek (HUC-10)

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials and I therefore waive all well site restrictions listed under West Virginia Code § 22-6A-12(a).

WELL SITE RESTRICTIONS BEING WAIVED

*Please check all that apply

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

FOR EXECUTION BY A NATURAL PERSON

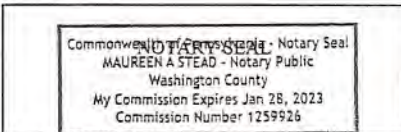
Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for Mary A. Fox
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: _____
Date: 9/30/2019

Well Operator: Tug Hill Operating, LLC
By: David G. DeLallo
Its: Land Team Lead

Signature: _____
Telephone: 724-749-8388



Subscribed and sworn before me this 30 day of SEPTEMBER 2019
Maureen A Stead Notary Public
My Commission Expires 1/28/23

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 of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

RECEIVED
Office of Oil and Gas

OCT - 2 2019

WV Department of
Environmental Protection

LIMITED POWER OF ATTORNEY

4705102283

That I, Mary A. Fox, hereby make, name and appoint, Tug Hill Operating, LLC, its successors and assigns, by and through its officers, agents or employees to be my limited power of attorney, for the sole and specific purpose of executing Well Location Restriction Waivers(s) waiving all well site restrictions listed under West Virginia Code 22-6A-12(a) for the Knob Creek Well Pad situate in Meade District, Marshall County, West Virginia, located on Tax Map 14, Parcel 33 and depicted on the attached **Exhibit A**. Said waivers shall be of the type shown on the attached **Exhibit B**.

I the said Mary A. Fox hereby declare that acts done by my said attorney for said specific and sole purpose shall be as good, valid and effective, to all intents and purposes whatsoever, as if the same had been made or done by me, and I hereby undertake to ratify whatsoever my attorney shall lawfully do or cause to be done, by virtue of these presents.

I further direct this Limited Power of Attorney shall be good and valid until a revocation thereof has been duly executed by the undersigned.

Mary A. Fox (SEAL)

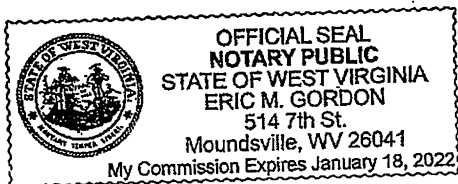
STATE OF West Virginia:
COUNTY OF Marshall, to-wit:

The foregoing instrument was acknowledged before me this 30th day of March, 2018, by Mary A. Fox.

Given under my hand this 30th day of March, 2018.

My commission expires: Jan 18, 2022

(NOTARY SEAL/STAMP REQUIRED)



Notary Public for the aforesaid County and/or State

RECEIVED
Office of Oil and Gas

OCT - 2 2019

WV Department of Environmental Protection

This Instrument Prepared By:

Eric M. Gordon, Esquire
Berry, Kessler, Crutchfield, Taylor & Gordon
514 Seventh Street
Moundsville, WV 26041
(304) 845-2580

4705102283

WW-6RW
(1-12)

API NO. 47- -
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

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WAIVER

I, Loula T. Fox, by my Attorney-in-Fact, TH Exploration, LLC, 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:

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Quadrangle: Glen Easton 7.5' Generally used farm name: David Lee Franklin
Watershed: Fish Creek (HUC-10)

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials and I therefore waive all well site restrictions listed under West Virginia Code § 22-6A-12(a).

WELL SITE RESTRICTIONS BEING WAIVED

*Please check all that apply

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

FOR EXECUTION BY A NATURAL PERSON

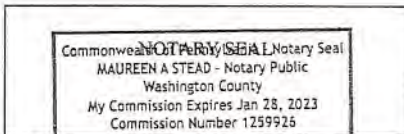
Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for Loula T. Fox
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: _____
Date: 9/20/2019

Well Operator: Tug Hill Operating, LLC
By: David G. DeLallo
Its: Land Team Lead

Signature: _____
Telephone: 724-749-8388



Subscribed and sworn before me this 30 day of SEPTEMBER 2019
Maureen A Stead Notary Public
My Commission Expires 1/28/23

Oil and Gas Privacy Notice:

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RECEIVED
Office of Oil and Gas

OCT - 2 2019

WV Department of
Environmental Protection

LIMITED POWER OF ATTORNEY

4705102283

That I, Louis T. Fox, hereby make, name and appoint, Tug Hill Operating, LLC, its successors and assigns, by and through its officers, agents or employees to be my limited power of attorney, for the sole and specific purpose of executing Well Location Restriction Waivers(s) waiving all well site restrictions listed under West Virginia Code 22-6A-12(a) for the Knob Creek Well Pad situate in Meade District, Marshall County, West Virginia, located on Tax Map 14, Parcel 33 and depicted on the attached **Exhibit A**. Said waivers shall be of the type shown on the attached **Exhibit B**.

I the said Louis T. Fox hereby declare that acts done by my said attorney for said specific and sole purpose shall be as good, valid and effective, to all intents and purposes whatsoever, as if the same had been made or done by me, and I hereby undertake to ratify whatsoever my attorney shall lawfully do or cause to be done, by virtue of these presents.

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Louis T. Fox 3-24-18 (SEAL)

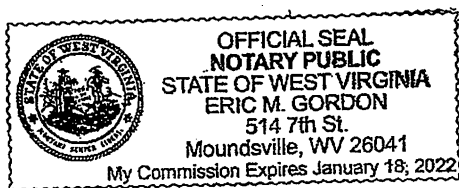
STATE OF West Virginia:
COUNTY OF Marshall, to-wit:

The foregoing instrument was acknowledged before me this 24th day of March, 2018, by Louis T. Fox.

Given under my hand this 24th day of March, 2018.

My commission expires: Jan 18, 2022.

(NOTARY SEAL/STAMP REQUIRED)



Notary Public for the aforesaid County and/or State

RECEIVED Office of Oil and Gas

OCT - 2 2019

WV Department of Environmental Protection

This Instrument Prepared By:

Eric M. Gordon, Esquire
Berry, Kessler, Crutchfield, Taylor & Gordon
514 Seventh Street
Moundsville, WV 26041
(304) 845-2580

4705102283

WW-6RW
(1-12)

API NO. 47- _____
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

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WAIVER

I, Thomas John Fox, by my Attorney-in-Fact, TH Exploration, LLC, 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:

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Watershed: Fish Creek (HUC-10)

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WELL SITE RESTRICTIONS BEING WAIVED

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- DWELLINGS
- AGRICULTURAL BUILDINGS

FOR EXECUTION BY A NATURAL PERSON

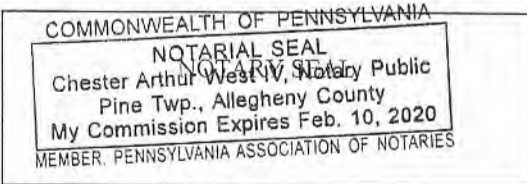
Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for Thomas John Fox
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: _____
Date: 9/30/2019

Well Operator: Tug Hill Operating, LLC
By: David G. DeLallo
Its: Land Team Lead

Signature: _____
Telephone: 724-749-8388



Subscribed and sworn before me this 30th day of September 2019

Notary Public

My Commission Expires 2-10-2020

Oil and Gas Privacy Notice:

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RECEIVED
Office of Oil and Gas

NOV 26 2019

WV Department of
Environmental Protection

Marshall County
Jan Pest, Clerk
Instrument 1459620
10/01/2019 @ 02:29:21 PM
MISCELLANEOUS
Book 40 @ Page 86
Pages Recorded 1
Recording Cost \$ 11.00

4705102283

WW-6RW
(1-12)

API NO. 47- _____
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

I, David Lee Franklin, by my Attorney-in-Fact, TH Exploration, LLC, 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:

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- DEVELOPED SPRINGS
- DWELLINGS
- AGRICULTURAL BUILDINGS

FOR EXECUTION BY A NATURAL PERSON

Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for David Lee Franklin
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: _____
Date: 9/30/2019

Well Operator: Tug Hill Operating, LLC

By: David G. DeLallo

Its: Land Team Lead

Signature: _____

Telephone: 724-749-8388

COMMONWEALTH OF PENNSYLVANIA
NOTARY SEAL
Chester Arthur West IV, Notary Public
Pine Twp., Allegheny County
My Commission Expires Feb. 10, 2020
MEMBER PENNSYLVANIA ASSOCIATION OF NOTARIES

Subscribed and sworn before me this 30th day of September 2019

Notary Public

My Commission Expires 2-10-2020

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RECEIVED
Office of Oil and Gas

NOV 26 2019

WV Department of
Environmental Protection

Marshall County
Jan Pest, Clerk
Instrument 1459621
10/01/2019 @ 02:29:22 PM
MISCELLANEOUS
Book 40 @ Page 87
Pages Recorded 1
Recording Cost \$ 11.00

4705102283

API NO. 47-
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

WW-6RW
(1-12)

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

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

Well Location Restrictions

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

WAIVER

I, Linda Lee Franklin, by my Attorney-in-Fact, TH Exploration, LLC, 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: West Virginia UTM NAD 83 Easting: 525,226.79
County: Marshall UTM NAD 83 Northing: 4,402,283.49
District: Meade Public Road Access: St. Joseph Road - County Route 21
Quadrangle: Glen Easton 7.5' Generally used farm name: David Lee Franklin
Watershed: Fish Creek (HUC-10)

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials and I therefore waive all well site restrictions listed under West Virginia Code § 22-6A-12(a).

WELL SITE RESTRICTIONS BEING WAIVED

*Please check all that apply

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

FOR EXECUTION BY A NATURAL PERSON

Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for Linda Lee Franklin
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: [Signature]
Date: 9/30/2019

Well Operator: Tug Hill Operating, LLC
By: David G. DeLallo
Its: Land Team Lead

Signature: [Signature]
Telephone: 724-748-8368

COMMONWEALTH OF PENNSYLVANIA
NOTARY SEAL
Chester Arthur West IV, Notary Public
Pine Twp., Allegheny County
My Commission Expires Feb. 10, 2020
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Subscribed and sworn before me this 30th day of September 2019
[Signature] Notary Public
My Commission Expires 2-10-2020

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 depprivacyofficer@wv.gov.

RECEIVED
Office of Oil and Gas

NOV 26 2019

WV Department of
Environmental Protection

Marshall County
Jan Pest, Clerk
Instrument 1459622
10/01/2019 @ 02:29:23 PM
MISCELLANEOUS
Book 40 @ Page 88
Pages Recorded 1
Recording Cost \$ 11.00

4705102283
API NO. 47-
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

WW-6RW
(1-12)

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

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WAIVER

I, Douglas L. DeMartino, Esq., 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:

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*Please check all that apply

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

FOR EXECUTION BY A NATURAL PERSON

Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC
By: Douglas L. DeMartino, Esq.
Its: Attorney-in-Fact
Signature: _____
Date: 9/20/2019

Well Operator: Tug Hill Operating, LLC
By: David G. DeLallo
Its: Land Team Lead

Signature: _____
Telephone: 724-749-8388

COMMONWEALTH OF PENNSYLVANIA

NOTARIAL SEAL

Chester Arthur West IV, Notary Public
Pine Twp., Allegheny County
My Commission Expires Feb. 10, 2020

Subscribed and sworn before me this 30th day of September 2019

Notary Public

My Commission Expires 2-10-2020

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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 depprivacyofficer@wv.gov.

RECEIVED
Office of Oil and Gas

NOV 26 2019

WV Department of
Environmental Protection

Marshall County
Jan Pest, Clerk
Instrument 1459623
10/01/2019 @ 02:29:24 PM
MISCELLANEOUS
Book 40 @ Page 89
Pages Recorded 1
Recording Cost \$ 11.00

4705102283

WW-6RW
(1-12)

API NO. 47- _____
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

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WAIVER

I, Paul G. Fox, by my Attorney-in-Fact, TH Exploration, LLC, 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:

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County: Marshall UTM NAD 83 Northing: 4,402,283.49
District: Meade Public Road Access: St. Joseph Road - County Route 21
Quadrangle: Glen Easton 7.5' Generally used farm name: David Lee Franklin
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WELL SITE RESTRICTIONS BEING WAIVED

*Please check all that apply

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

FOR EXECUTION BY A NATURAL PERSON

Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for Paul G. Fox
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: [Signature]
Date: 9/30/2019

Well Operator: Tug Hill Operating, LLC
By: David G. DeLallo
Its: Land Team Lead

Signature: [Signature]
Telephone: 724-749-0300

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Sean Cotter, Notary Public
City of Pittsburgh, Allegheny County
My Commission Expires Oct. 12, 2019

Subscribed and sworn before me this 30 day of September

Notary Public

My Commission Expires 10/12/2019

Oil and Gas Privacy Notice:

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

RECEIVED
Office of Oil and Gas
NOV 26 2019
WV Department of
Environmental Protection

Marshall County
Jan Pest, Clerk
Instrument 1459624
10/01/2019 @ 02:29:25 PM
MISCELLANEOUS
Book 40 @ Page 90
Pages Recorded 1
Recording Cost \$ 11.00

4705102283

WW-6RW
(1-12)

API NO. 47- _____ - _____
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

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WAIVER

I, Mark H. Fox, by my Attorney-in-Fact, TH Exploration, LLC, 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:

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District: Meade Public Road Access: St. Joseph Road - County Route 21
Quadrangle: Glen Easton 7.5' Generally used farm name: David Lee Franklin
Watershed: Fish Creek (HUC-10)

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WELL SITE RESTRICTIONS BEING WAIVED

*Please check all that apply

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

FOR EXECUTION BY A NATURAL PERSON

Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for Mark H. Fox
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: _____
Date: 9/30/2019

Well Operator: Tug Hill Operating, LLC
By: David G. DeLallo
Its: Land Team Lead

Signature: _____
Telephone: 724-749-8388

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
Sean Cotter, Notary Public
City of Pittsburgh, Allegheny County
My Commission Expires Oct. 12, 2019

Subscribed and sworn before me this 30 day of September

Notary Public

My Commission Expires 10/12/2019

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RECEIVED
Office of Oil and Gas
NOV 26 2019
WV Department of
Environmental Protection

Marshall County
Jan Pest, Clerk
Instrument 1459625
10/01/2019 @ 02:29:26 PM
MISCELLANEOUS
Book 40 @ Page 91
Pages Recorded 1
Recording Cost \$ 11.00

CONFIDENTIAL

MEMORANDUM FOR THE DIRECTOR

Reference is made to the report of the...

The information contained in this report...

It is recommended that...

Very truly yours,

RECEIVED
Office of Civil and
Criminal Justice

NOV 8 1970

To membership of
National Labor Relations Board

WW-6RW
(1-12)

API NO. 47- _____
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

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WAIVER

I, David E. Fox by my Attorney-in-Fact TH Exploration, LLC, 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:

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WELL SITE RESTRICTIONS BEING WAIVED

*Please check all that apply

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

FOR EXECUTION BY A NATURAL PERSON

Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for David E. Fox
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: _____
Date: 9/30/2019

Well Operator: Tug Hill Operating, LLC
By: David G. DeLallo
Its: Land Team Lead

Signature: _____
Telephone: 724-748-8388

Commonwealth of Pennsylvania - Notary Seal
MAUREEN A STEAD - Notary Public
Washington County
My Commission Expires Jan 28, 2023
Commission Number 1259926

Subscribed and sworn before me this 30 day of SEPTEMBER 2019
Maureen A Stead Notary Public
My Commission Expires 1/28/23

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 of your personal information, please contact DEP's Chief Privacy Officer at deprivacyofficer@wv.gov.

RECEIVED
Office of Oil and Gas

NOV 26 2019

WV Department of
Environmental Protection

Marshall County
Jan Pest, Clerk
Instrument 1459626
10/01/2019 @ 02:29:27 PM
MISCELLANEOUS
Book 40 @ Page 92
Pages Recorded 1
Recording Cost \$ 11.00

WW-6RW
(1-12)

API NO. 47- _____ - _____
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

I, Mary A. Fox, by my Attorney-in-Fact, TH Exploration, LLC, 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:

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WELL SITE RESTRICTIONS BEING WAIVED

*Please check all that apply

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

FOR EXECUTION BY A NATURAL PERSON

Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for Mary A. Fox
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: _____
Date: 9/30/2019

Well Operator: Tug Hill Operating, LLC
By: David G. DeLallo
Its: Land Team Lead

Signature: _____
Telephone: 724-749-8388

Commonwealth of Pennsylvania - Notary Seal
MAUREEN A STEAD - Notary Public
Washington County
My Commission Expires Jan 28, 2023
Commission Number 1259926

Subscribed and sworn before me this 30 day of SEPTEMBER 2019
Maureen A Stead Notary Public
My Commission Expires 1/28/23

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RECEIVED
Office of Oil and Gas

NOV 26 2019

WV Department of
Environmental Protection

Marshall County
Jan Pest, Clerk
Instrument 1459627
10/01/2019 @ 02:29:28 PM
MISCELLANEOUS
Book 40 @ Page 93
Pages Recorded 1
Recording Cost \$

11.00

WW-6RW
(1-12)

API NO. 47- _____ - _____
OPERATOR WELL NO. Knob Creek S-8HM
Well Pad Name: Knob Creek

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

I, Louis T. Fox, by my Attorney-in-Fact, TH Exploration, LLC, 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:

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Watershed: Fish Creek (HUC-10)

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials and I therefore waive all well site restrictions listed under West Virginia Code § 22-6A-12(a).

WELL SITE RESTRICTIONS BEING WAIVED

*Please check all that apply

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

FOR EXECUTION BY A NATURAL PERSON

Signature: _____
Print Name: _____
Date: _____

FOR EXECUTION BY A CORPORATION, ETC.

Company: TH Exploration, LLC as Attorney-in-Fact for Louis T. Fox
By: Douglas L. DeMartino
Its: Attorney-in-Fact
Signature: _____
Date: 9/30/2019

Well Operator: Tug Hill Operating, LLC
By: David G. DeLallo
Its: Land Team Lead

Signature: _____
Telephone: 724-749-8388

Commonwealth of West Virginia Notary Seal
MAUREEN A STEAD - Notary Public
Washington County
My Commission Expires Jan 28, 2023
Commission Number 1259926

Subscribed and sworn before me this 30 day of SEPTEMBER 2019
Maureen A Stead Notary Public
My Commission Expires 1/28/23

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 of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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Office of Oil and Gas

NOV 26 2019

WV Department of
Environmental Protection

Marshall County
Jan Pest, Clerk
Instrument 1459628
10/01/2019 @ 02:29:29 PM
MISCELLANEOUS
Book 40 @ Page 94
Pages Recorded 1
Recording Cost \$ 11.00

4705102283



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

Division of Highways

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

Byrd E. White, III
Secretary of Transportation/
Commissioner of Highways

October 1, 2019

Jimmy Wriston, P. E.
Deputy Secretary/
Deputy Commissioner

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 Knob Creek Pad, Marshall County

Knob Creek Unit N-1HM	Knob Creek Unit N-2HM	Knob Creek Unit N-3HM
Knob Creek Unit S-6HM	Knob Creek Unit S-7HM	Knob Creek Unit S-8HM ✓
Knob Creek Unit S-9HM	Knob Creek Unit S-10HM	Knob Creek Unit N-11HU
Knob Creek Unit S-14HU	Knob Creek Unit S-15HU	Knob Creek Unit S-16HU

Dear Mr. Martin,

This well site will be accessed from a DOH permit #06-2018-0224 which has been issued to Tug Hill Operating, LLC for access to the State Road for a well site located off of Marshall County Route 21 SLS.

This operator is in compliance with §22-6A-20 of the WV Code. Operator has signed a DISTRICT WIDE 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 October 1, 2018.

Very Truly Yours,

Gary K. Clayton, P.E.
Regional Maintenance Engineer
Central Office O&G Coordinator

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Office of Oil and Gas

OCT - 2 2019

WV Department of
Environmental Protection

Cc: Amy Miller
Tug Hill Operating, LLC
CH, OM, D-6
File



4705102283

PLANNED ADDITIVES TO BE USED IN FRACTURING OR STIMULATION

Well No. Knob Creek S-8HM

PRODUCT NAME:	CHEMICAL DESCRIPTION:	PRODUCT USE:	HAZARDOUS COMPONENT:
GBW-20C	Hemicellulase Breaker	Breaker - Water	None
ALPHA 1427		Biocide	Glutaraldehyde – CAS#000111-30-8 Quaternary ammonium chloride CAS# 007173-51-5 Alky dimethyl benzyl ammonium Chloride (C12-16) – CAS#068424-85-1 Ethanol – CAS# 000064-17-5 Water – CAS# 007732-18-5
FRAC SAND	Silica Sand (various Mesh sizes)	Proppant	Crystalline silica (quartz) CAS# 14808-60-7
S-8C, Sand	Silica Sand (100 mesh)	Sand	Silica – CAS# 14808-60-7
GW-3LDF		Gellant - Water	Petroleum Distillate Blend – Proprietary, (Not Associated with Diesel Fuel) Guar gum – CAS# 009000-30-0
FRW-18		Friction Reducer	Hydrotreated light distillate CAS# 064742-47-8
Scaletrol		Scale Inhibitor	Ethylene glycol – CAS# 000107-21-1 Diethylene glycol – CAS# 000111-46-6

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Environmental Protection

WEST VIRGINIA COUNTY MAP



WVDEP OOG
ACCEPTED AS-BUILT
10/8/2019

Knob Creek 1 Site
Site Design, Construction Plan, &
Erosion and Sediment Control Plans
Tug Hill Operating
Marshall County
Meade District
Latitude 39.77005962°
Longitude -80.70545789°
Middle Fish Creek Watershed

Pertinent Site Information
Knob Creek 1 Site
Emergency Number: 304-845-1920
Meade District, Marshall County, WV
Watershed: Middle Fish Creek Watershed
Tug Hill Contact Number: 1-817-632-3400

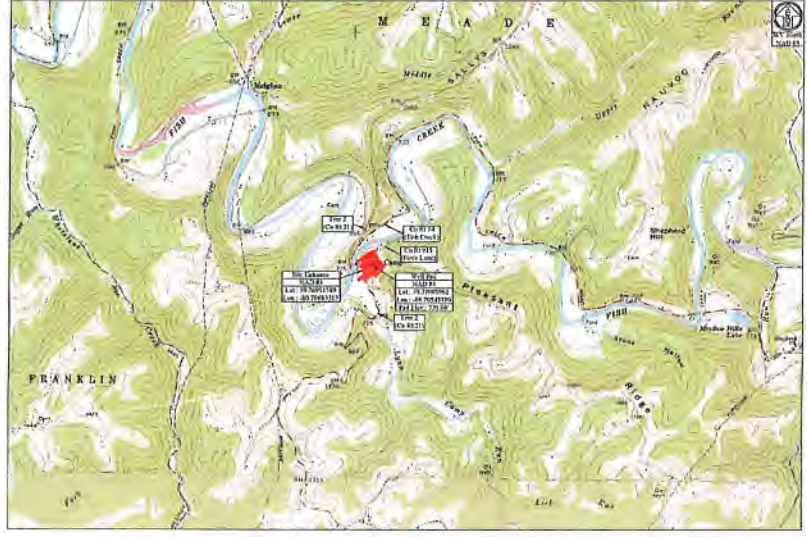
Property Owner Information - Knob Creek 1 Site

Owner	Acres	Parcel ID	County	State	APN	County	Parcel
David E. Hester	15.41	020	Marshall	WV	020	020	020
020 2000000	0.00	010	Marshall	WV	020	020	020

Exhibit A: Final Design: Issue for Permitting

Site Location (NAD 83) and USGS 7.5 Quadrangle (Old Emission Watershed: Middle Fish Creek)

Site Location (NAD 83)	USGS 7.5 Quadrangle (Old Emission Watershed: Middle Fish Creek)
Site 1: 39.77005962, -80.70545789	Site 1: 39.77005962, -80.70545789
Site 2: 39.77005962, -80.70545789	Site 2: 39.77005962, -80.70545789
Site 3: 39.77005962, -80.70545789	Site 3: 39.77005962, -80.70545789
Site 4: 39.77005962, -80.70545789	Site 4: 39.77005962, -80.70545789
Site 5: 39.77005962, -80.70545789	Site 5: 39.77005962, -80.70545789
Site 6: 39.77005962, -80.70545789	Site 6: 39.77005962, -80.70545789
Site 7: 39.77005962, -80.70545789	Site 7: 39.77005962, -80.70545789
Site 8: 39.77005962, -80.70545789	Site 8: 39.77005962, -80.70545789
Site 9: 39.77005962, -80.70545789	Site 9: 39.77005962, -80.70545789
Site 10: 39.77005962, -80.70545789	Site 10: 39.77005962, -80.70545789
Site 11: 39.77005962, -80.70545789	Site 11: 39.77005962, -80.70545789
Site 12: 39.77005962, -80.70545789	Site 12: 39.77005962, -80.70545789
Site 13: 39.77005962, -80.70545789	Site 13: 39.77005962, -80.70545789
Site 14: 39.77005962, -80.70545789	Site 14: 39.77005962, -80.70545789
Site 15: 39.77005962, -80.70545789	Site 15: 39.77005962, -80.70545789
Site 16: 39.77005962, -80.70545789	Site 16: 39.77005962, -80.70545789
Site 17: 39.77005962, -80.70545789	Site 17: 39.77005962, -80.70545789
Site 18: 39.77005962, -80.70545789	Site 18: 39.77005962, -80.70545789
Site 19: 39.77005962, -80.70545789	Site 19: 39.77005962, -80.70545789
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Site 47: 39.77005962, -80.70545789	Site 47: 39.77005962, -80.70545789
Site 48: 39.77005962, -80.70545789	Site 48: 39.77005962, -80.70545789
Site 49: 39.77005962, -80.70545789	Site 49: 39.77005962, -80.70545789
Site 50: 39.77005962, -80.70545789	Site 50: 39.77005962, -80.70545789



Disturbed Area

Disturbance Type	Area (Acres)
Grass	1.15
Forest	1.15
Other	1.15

Additional Information

Item	Value
Final Project Area (Acres)	1.15
Final Project Area (Square Feet)	49,600

Knob Creek 1 Site Quantities

Item	Quantity	Unit
Grass	1.15	Acres
Forest	1.15	Acres
Other	1.15	Acres

Existing API Numbers
47-051-02032

Project Contacts

Site Manager: [Name], [Phone]
Site Supervisor: [Name], [Phone]
Site Foreman: [Name], [Phone]

Site Location: [Address]
Site Coordinates: [Coordinates]

Approach Routes:

From the intersection of WV Rt 2 and Co Rd 17 (12th Street) in Meade, WV. Turn right 12th Street (one-way) following Co Rd 17 (12th Street) for 1.1 mi. Co Rd 17 (12th Street) becomes Co Rd 17 (12th Street) following Co Rd 17 (12th Street) for 0.2 mi. Turn Right onto Co Rd 17 (12th Street) following Co Rd 17 (12th Street) for 1.7 mi. Turn Right onto Co Rd 2 (Co Rd 2). Follow Co Rd 2 for 5.0 mi. The site entrance will be on the left (west) side of the road.

Site Locations (NAD 83)

Site No.	Latitude (NAD 83)	Longitude (NAD 83)
1	39.77005962	-80.70545789
2	39.77005962	-80.70545789
3	39.77005962	-80.70545789
4	39.77005962	-80.70545789
5	39.77005962	-80.70545789
6	39.77005962	-80.70545789
7	39.77005962	-80.70545789
8	39.77005962	-80.70545789
9	39.77005962	-80.70545789
10	39.77005962	-80.70545789
11	39.77005962	-80.70545789
12	39.77005962	-80.70545789
13	39.77005962	-80.70545789
14	39.77005962	-80.70545789
15	39.77005962	-80.70545789
16	39.77005962	-80.70545789
17	39.77005962	-80.70545789
18	39.77005962	-80.70545789
19	39.77005962	-80.70545789
20	39.77005962	-80.70545789
21	39.77005962	-80.70545789
22	39.77005962	-80.70545789
23	39.77005962	-80.70545789
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26	39.77005962	-80.70545789
27	39.77005962	-80.70545789
28	39.77005962	-80.70545789
29	39.77005962	-80.70545789
30	39.77005962	-80.70545789
31	39.77005962	-80.70545789
32	39.77005962	-80.70545789
33	39.77005962	-80.70545789
34	39.77005962	-80.70545789
35	39.77005962	-80.70545789
36	39.77005962	-80.70545789
37	39.77005962	-80.70545789
38	39.77005962	-80.70545789
39	39.77005962	-80.70545789
40	39.77005962	-80.70545789
41	39.77005962	-80.70545789
42	39.77005962	-80.70545789
43	39.77005962	-80.70545789
44	39.77005962	-80.70545789
45	39.77005962	-80.70545789
46	39.77005962	-80.70545789
47	39.77005962	-80.70545789
48	39.77005962	-80.70545789
49	39.77005962	-80.70545789
50	39.77005962	-80.70545789



Site Location Restrictions:

- *12" from any existing road or structure (except utility lines).
- *10" from any existing road or structure (except utility lines).
- *10" from any existing road or structure (except utility lines).

Sheet

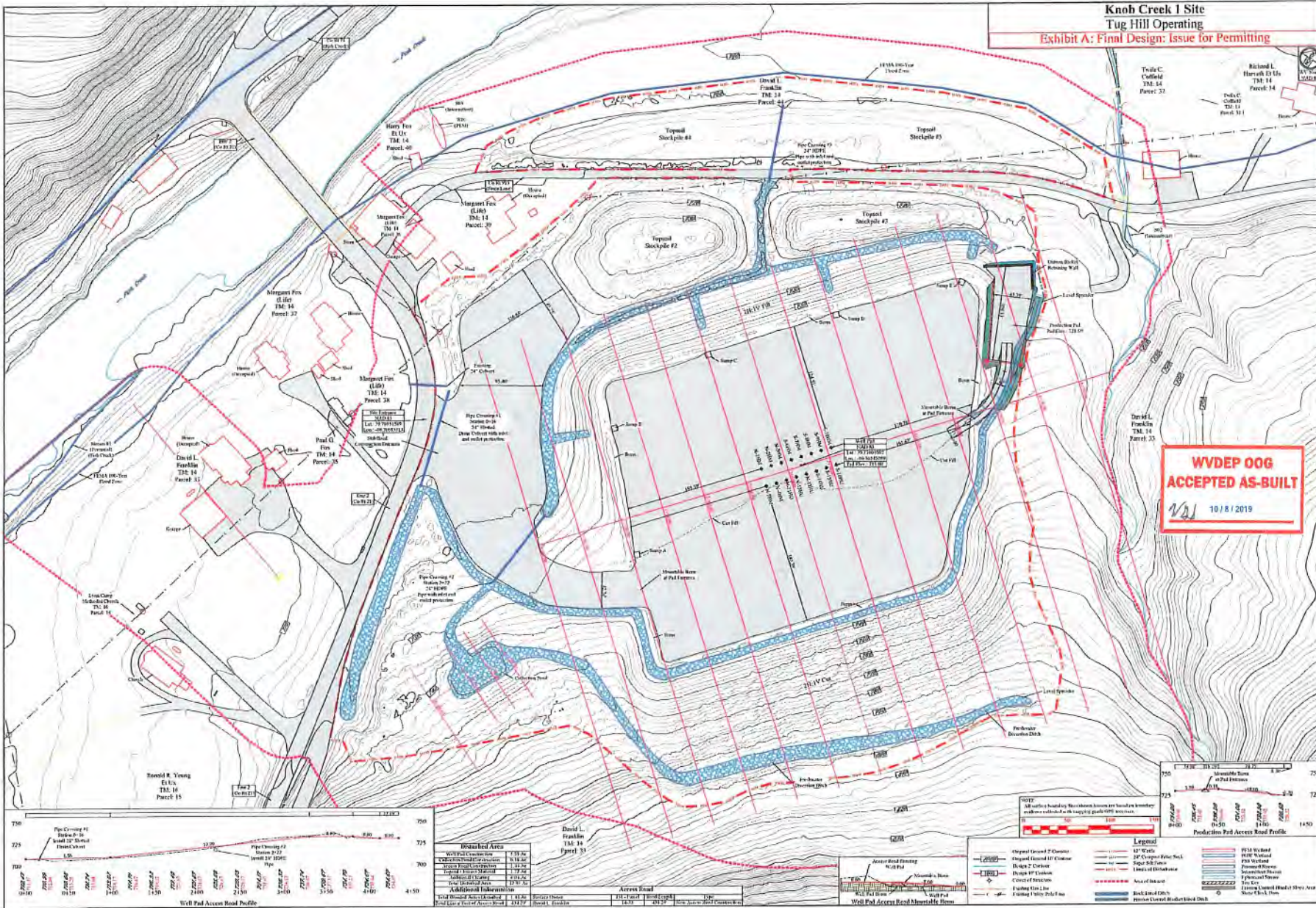
Sheet No.	Description
1	Cover Sheet
2	Schedule of Quantities
3	Site Notes
4	Pre-Construction Site Conditions
5	Site Map
6	Cleaning Exhibit
7	Overall Plan View
8	E&S Plan View
9	Key Exhibit
10	Plan View
11	Cross Sections - Well Pad
12	Cross Sections - Access Road
13	Site Performance
14	Location near Disturbed Area Exhibit
15	Production Exhibit
16	Erosion and Sediment Control Details
17	Access Road Details
18	Pad Details

811
Call before you dig.

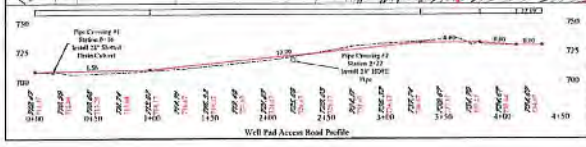
WEST VIRGINIA
1-800-245-4843

TUG HILL OPERATING
Knob Creek 1 Site
Meade District
Marshall County, WV

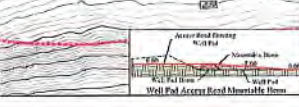
Knob Creek 1 Site
Tug Hill Operating
Exhibit A: Final Design: Issue for Permitting



WVDEP OOG
ACCEPTED AS-BUILT
WJ 10/8/2019



Dewatered Area	
Well Pad Construction	17.15 AC
Access Road Construction	16.15 AC
System Pad Construction	17.15 AC
Topsoil Stockpile	17.15 AC
Additional Information	17.15 AC
Total Dewatered Area	67.60 AC



Legend

- Original Ground 2' Contour
- Original Ground 10' Contour
- Block 2' Contour
- Block 10' Contour
- Center of Production
- Production Pad Line
- Existing 100' Right-of-Way
- 10' Slope
- 2% Compaction Filter Sock
- Edge of Production
- Line of Disturbance
- Area of Disturbance
- Block 2' Contour
- Block 10' Contour
- Proposed Well Pad
- Proposed System Pad
- Proposed Access Road
- Proposed 100' Right-of-Way
- Proposed 150' Right-of-Way
- Proposed 200' Right-of-Way
- Proposed 300' Right-of-Way
- Proposed 400' Right-of-Way
- Proposed 500' Right-of-Way
- Proposed 600' Right-of-Way
- Proposed 700' Right-of-Way
- Proposed 800' Right-of-Way
- Proposed 900' Right-of-Way
- Proposed 1000' Right-of-Way

TUG HILL OPERATING

WVDEP OOG ACCEPTED AS-BUILT

Knob Creek 1 Site
 Meigs District
 Marshall County, WV

Scale: As Shown
 Date: 02/28/2018
 Project: 25
 Sheet 8 of 11