

west virginia department of environmental protection

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

Harold D. Ward, Cabinet Secretary www.dep.wv.gov

Tuesday, June 29, 2021 WELL WORK PLUGGING PERMIT Vertical Plugging

VIKING INTERNATIONAL RESOURCES CO., INC. 1300 FORT PIERPONT DR., SUITE 201 MORGANTOWN, WV 26508

#### Re: Permit approval for J. L. MULLENAX 5 47-085-02134-00-00

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.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. Please be advised that form WR-38, Affidavit of Plugging and Filling Well, is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926-0450.

James A. Martin Chief

Operator's Well Number: J. L. MULLENAX 5 Farm Name: HEARTWOOD FORESTLANE U.S. WELL NUMBER: 47-085-02134-00-00 Vertical Plugging Date Issued: 6/29/2021

Promoting a healthy environment.

## **PERMIT CONDITIONS**

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

## CONDITIONS

- 1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
- 2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
- 3. Well work activities shall not constitute a hazard to the safety of persons.
- 4. This well is under a consent order and must be plugged under the terms of that agreement.

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF OIL AND GAS         APPLICATION FOR A PERMIT TO PLUG AND ABANDON         4)       Well Type: Oil/ Gas X _/ Liquid injection/ Waste disposal/ (If "Gas, Froduction X or Underground storage) Deep _/ Shallow         5)       Location: Elevation 886' District Grant       Watershed Gillespie Run County Ritchie         6)       Well Operator Virco Address 1300 Fort Pierpont Dr., Suite 201 Morgantown, WV 26508       7) Designated Agent Brittany Woody Address 1300 Fort Pierpont Dr., Suite 201 Morgantown, WV 26508         8)       Oil and Gas Inspector to be notified Name Derek Haught Address PO Box 85 Smithville, WV 26178       9) Plugging Contractor Name NA Address	WW-4 Rev.	B 2/01	We	4708502134 te 5/2021 perator's 11 No. JL. Mullenax#5 11 Well No. 47-005 -02134
<ul> <li>4) Well Type: Oil/ Gas X/ Liquid injection/ Waste disposal/ (if "Gas, Froduction x or Underground storage) Deep/ Shallow</li> <li>5) Location: Elevation 886' Watershed Gillespie Run District Grant County Ritchie Quadrangle Cairo</li> <li>6) Well Operator Virco 1300 Fort Pierpont Dr., Suite 201 Morgantown, WV 26508</li> <li>7) Designated Agent Brittany Woody Address 1300 Fort Pierpont Dr., Suite 201 Morgantown, WV 26508</li> <li>8) Oil and Gas Inspector to be notified Name Derek Haught Address PO Box 85</li> <li>9) Plugging Contractor Name NA Address</li></ul>		DEPARTMENT OF ENVI OFFICE OF	RONMENTAL PROTECTI OIL AND GAS	
<ul> <li>(if "Gas, Production × or Underground storage) Deep/ Shallow</li> <li>5) Location: Elevation 886' District Grant Ounty Ritchie Quadrangle Cairo Ounty Ritchie Quadrangle Cairo</li> <li>6) Well Operator Virco 1300 Fort Pierpont Dr., Suite 201 Address Morgantown, WV 26508 Address Morgantown, WV 26508</li> <li>8) Oil and Gas Inspector to be notified Name Derek Haught Address PO Box 85 PO Box 85 Address</li></ul>				
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District       Grant       County Ritchie       Quadrangle Cairo         6)       Well Operator       Virco       7) Designated Agent       Brittany Woody         Address       1300 Fort Pierpont Dr., Suite 201       Address       1300 Fort Pierpont Dr., Suite 201         Morgantown, WV 26508       Morgantown, WV 26508       7) Designated Agent       Morgantown, WV 26508         8)       Oil and Gas Inspector to be notified       9) Plugging Contractor       Morgan         Name       Derek Haught       Name       Name         Address       PO Box 85       Address       Address		(If "Gas, Froduction x or Une		
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Name     Derek Haught     Name     NA       Address     PO Box 85     Address				Morgantown, WV 26508
Address PO Box 85 Address	8)	Oil and Gas Inspector to be notified	9)Plugging Contr	ractor
Address PO Box 85 Address			Name NA	
			Address_	

10) Work Order: The work order for the manner of plugging this well is as follows:

## See Attachment

RECEIVED Office of Oil and Gas MAY 28 2021 WV Department of Environmental Protection

Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector

Derek M. Haught

Date 5/26/21

07/02/2021

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Well Name:	J.L. Mullenax #5	Casing	Depth	<u>он</u>	Comment	Shot interval
API # :	47-085-02134	Cond.	16'			1916' - 1923'
County/St.	Ritchie,WV	10"	121'	12"	Pulled	
Elev.	886 ft.	8 1/4"	960'	9 3/4"	Pulled	
TD	1980 ft.	6 5/8"	1386	8"	Left in well, Anchor Packer set @ 1236"	
		5 3/16"	140'	6"	Liner set thru shot interval	
					Hole in 6 5/8" csg, ran 4 7/8" in and set on	
					Hookwall packer @ 730'. Packer probably set	
					in compression ** Field site visit did not see	
		4 7/8"	730'		evidence that the 4 7/8" csg is still in the well	

Comments: Hole diameter sizes are assumptions. No record of hole sizes in well file Access road and location to be constructed per WVDEP Regs and pre-seeded All tubulars pulled from the well need to be NORM tested. Contractor gets all salvage pulled from the well All fluids circulated from the wellbore are to be disposed of properly and documentation provided Contractor will follow all SWN HSER requirements

#### Procedures

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- 1) MIRU all plugging equipment, install all sediment and erosion controls and secondary containment
- 2) Dig out around wellhead and set 4-5 ft. of 20" conductor. Hand cement outside of conductor with bag cement J.
  - (This is to control and capsure inadvertant returns from the backside of the 6 5/8" casing)
- ര 3) Check pressures and bleed off if present, RU and pull rods and tubing out of the well if present. Tally tubing if pulled and then NORM test
- 4) Check well TD with cable tools. Note : If TD is significantly different from the well record TD notify WVDEP Inspector -
- 5) TIH with workstring to TD. Pump 40 bbls. of 6% Gel, spot cement plug from 1950ft. 1750 ft. ( 33 sacks Class A ) 2
  - 6) TOOH with workstring to 1650 ft. Spot cement plug from 1450 ft. 1350 ft. (17 sacks Class A)
- 0 7) TOOH with workstring above cement plug, WOC, check TOC at 1350 ft, reset cement plug if needed, if not TOOH with workstring to 900 ft.
- 2 8) Pump 7 bbls. of 6% Gel ahead and spot cement plug from 900 ft. - 800 ft. ( 17 sacks - Class A ). TOOH with workstring
- 9) \*\* 4 7/8" csg may not be present in wellbore. If present RU and pull 4 7/8" csg and hookwall packer out of wellbore  $\infty$
- 10) RU and find free point on 6 5/8" casing (Estimate F.P. @ 500 ft. 600 ft.). CUT/RIP 6 5/8" casing@ F.P. (Est. 550 ft.) and pull several joints 0
  - 11) TIH with workstring to set cement plug across 6 5/8" casing cut to 600 ft. Pump 30 bbls of 6% Gel ahead and spot cement plug from 600 ft. 500 ft. ( 44 sacks Class A)
  - 12) TOOH with workstring, pull remaining 6 5/8" casing. NORM test 6 5/8" casing
  - 13) TIH with workstring to 150 ft. If wellbore has not circulated pump 6% Gel until wellbore circulates. Spot cement plug from 150 ft.- Surface. (100 sacks -Class A)
  - 14) TOOH with workstring, top off wellbore with cement if needed
  - 15) Erect monument per WVDEP Regs.
  - 16) RDMO equipment, dispose of circulated fluids properly
  - 17) Reclaim location and access road to WVDEP Regs.



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Districe of tract is owned in fee by Albert Millenner, The surface of tract is owned in fee by Albert Millenner, Baltinor, MG. Address. Denting completed	Distric Grant County Rife C. In Provide C. In Provide C. In Start of track is downed in fee by Althor C. Mini Linemark 10. Sing of Sin	Location (waters)	<u> </u>	pie Run				· · · ·		
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Baltimore, Ma.     Address     Part       Mineri tights are expected bill. II. 10 Mullennar, Reirs.     St.     St.       Drilling commenceQ-122-59     II. 4.50       Drilling commenceQ-122-59     II. 4.50       Drilling completed .11.4.50     II. 4.50       Drilling completed .11.4.50     II. 4.50       With     St.       Open Flow     /101k Water       Volume.     760,000       Port.     St.       Valume.     1.61       Valume.     1.61       Valume.     1.61       Valume.     1.62       Valume.     1.62       Valume.     1.62       Value.     1.64       Value.     1.64       Value.     1.64       Value.     1.64       Value.     1.64       Value.     1.64.51       Value.     <	Baltinore, Ma. Address Mineral tights are omnedword byll. III Odd. T. I. Mullennars, Mineral tights are omnedword byll. III Odd. T. I. Mullennars, Mineral tights are omnedword byll. III Odd. T. I. Mullennars, Said Break States, Said St					13			•	
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ROCK PRESSURE AFTER TREATMENT         Frank Water       Feet       Selt Water       Feet         Formation       Color       Hard or Soft       Top       Bottom       Oll, Gas or Water       Depth       Remark       Peet         Maxon       Hard       1645'       1722'       1797'       1015'       197'       1015'         Lime       Keener       1721'       1930'       Gas       1916-1923'       Internet       Internet <th>ROCK PRESSURE AFTER TREATMENT       Fresh Water     Feet     Selt Water     Feet       Formation     Color     Hard or Soft     Top     Bottom     Oll Gas or Water     Depth     Remark (F)       Maxon     Hard     1645'     1722'     1797!     18151       Lime     *     1797!     18151     1927!     1930'       Slate     Soft     1927'     1930'     Gas     1916-1923'       Total depth     1930'     Gas     1916-1923'     Formetral Frome       Maxon     Keener     1930'     Gas     1916-1923'</th> <th>RESULT AFTER</th> <th>TREATMEN</th> <th>tri</th> <th></th> <th></th> <th><u> </u></th> <th></th> <th></th>	ROCK PRESSURE AFTER TREATMENT       Fresh Water     Feet     Selt Water     Feet       Formation     Color     Hard or Soft     Top     Bottom     Oll Gas or Water     Depth     Remark (F)       Maxon     Hard     1645'     1722'     1797!     18151       Lime     *     1797!     18151     1927!     1930'       Slate     Soft     1927'     1930'     Gas     1916-1923'       Total depth     1930'     Gas     1916-1923'     Formetral Frome       Maxon     Keener     1930'     Gas     1916-1923'	RESULT AFTER	TREATMEN	tri			<u> </u>			
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WW-4A	
Revised	6-07

1) Date: 2) Operator's Well Number

J.L. Mullenax #5

3) API Well No.: 47 -

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085

02134

### STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS <u>NOTICE 0F APPLICATION TO PLUG AND ABANDON A WELL</u>

4)	Surface Ow	ner(s) to be served: 5) (a)	Coal Operator	
	(a) Name	Heartwood Forestland Fun IV Limited Partnership	Name	N/A
	Address	1512 East Franklin Street	Address	
		Chapel Hill, NC 27514		
	(b) Name		(b) Coal Ow	ner(s) with Declaration
	Address		Name	
			Address	
	(c) Name		Name	
	Address		Address	
6)	Inspector	Derek Haught	(c) Coal Less	see with Declaration
	Address	PO Box 85	Name	
		Smithville, WV 26178	Address	
	Telephone	304-206-7613		

TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.

1	Well Operator	Virco
INFD, Gas	By:	Brittany Woody
RECEIVAND	ts:	Senior Regulatory Analyst
MAY 28 2021	Address	1300 Fort Pierpont Dr., Suite 201
		Morgantown, WV 26508
wir artment of anti-	Felephone	304-884-1610
WV Departal Pro-		
MAY Department of ion	anth	12:1 2001
Subscribed and sworn before me this	a Dh de	NOPEDUI DORMANNI
Lint	U.Sto	Notary Britans Notary OFFICIAL SEAL
My Commission Expires	1005	Notary Public, State Of West Virginia ELIZABETH A DAY
Oil and Gas Privacy Notice	e1202	632 Winery Road Buckhannon, WV 26201 My Commission Expires May 06, 2022

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

07/02/2021



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07/02/2021

	RECEIVED Office of Oil and Gas	47-085-02134P
W W-9 (5/16)	JUN <b>3</b> 2021 WV Department of Environmental Protection	API Number 47 - 085 _ 02134 Operator's Well No
	DEPARTMENT OF E OFFICE	OF WEST VIRGINIA NVIRONMENTAL PROTECTION © OF OIL AND GAS ISPOSAL & RECLAMATION PLAN
Operator Name_V	Irco	OP Code 7434
Watershed (HUC	10) Gillespie Run	Quadrangle Cairo
Do you anticipate Will a pit be used	using more than 5,000 bbls of water to co ? Yes No Any well efflu	mplete the proposed well work? Yes No uent will be contained in tanks before disposing off-site
If so, ple	ase describe anticipated pit waste	
Will a sy	nthetic liner be used in the pit? Yes	No 🖌 If so, what ml.?
Proposed	d Disposal Method For Treated Pit Wastes	£
	Underground Injection (UIC Per Reuse (at API Number	vide a completed form WW-9-GPP) mit Number TBD pending selection of plugging contractor )
	Off Site Disposal (Supply form V	WW-9 for disposal location)
	Other (Explain	
Will closed loop s		
Contraction and a	Other (Explain	ontal)? Air. freshwater, oil based, etc. N/A
Drilling medium a	Other (Explain	
Drilling medium : -If oil ba	Other (Explain systembe used? If so, describe: N/A anticipated for this well (vertical and horiz	
Drilling medium : -If oil ba Additives to be us	Other (Explain	N/A
Drilling medium a -If oil ba Additives to be us Drill cuttings disp	Other (Explain	ed offsite, etc. N/A

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on April 1, 2016, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the

on April 1, 2016, 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 line or imprisonment.

Company Official Signature Company Official (Typed N				
	nior Regulatory Analyst			
Subscribed and swom before	e me this 25th day of 7	toxil	20 Bilanna	OFFICIAL SEAL
My commission expires 5	62033		Myc	OFFICIAL SEAL ary Public, State Of West Virginia ELIZABETH A DAY 632 Winery Road Buckhannon, WV 26201 ommission Expires May 06, 2023

# 4708502134P

Form WW-9		Operator's Well	No
Proposed Revegetation Treat	ment: Acres Disturbed ON	NE Prevegetation pH 5	.5
	Tons/acreor to correct		
Fertilizer type 10-2	20-20		
Fertilizer amount 5	00	lbs/acre	
Mulch 50 Bales		_Tons/acre	
		Seed Mixtures	
Te	emporar y	Permaner	nt
	lbs/acre	Seed Type	lbs/acre
Seed Type	103/2010	Orchard Grass	30%
		Rye (annual @BT)	35%
		Timothy (Climax)	25%
		Clover (Med Red)	10%

Form WW-9

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, provide water volume, include dimensions (L. W. D) of the pit, and dimensions (L, W), and area in acres, of the land application area.

Clover (Med.Red)

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Derek M. Haught	
Comments:	
6	
CENERI CAS	
MAN Department of the terminal	
MAY Protect	
Willmein	
£	
Title: Oil & Gas Inspector	Date: 5/26/21
Field Reviewed? (X)Yes (	)No

07/02/2021

WW-9- GPP Rev. 5/16

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Page \_\_\_\_\_ of \_\_\_\_ API Number 47 - 085 \_\_\_ 02134 Operator's Well No.\_\_\_\_\_

Quad: Cairo

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

Operator Name: Virco

Watershed (HUC 10): Gillespie Run

Farm Name:

1. List the procedures used for the treatment and discharge of fluids. Include a list of all operations that could contaminate the groundwater.

Plug to abandon operations.

2. Describe procedures and equipment used to protect groundwater quality from the list of potential contaminant sources above.

Containment will be in place around the well. A portable pit will be used for fluids.

 List the closest water body, distance to closest water body, and distance from closest Well Head Protection Area to the discharge area.

N/A Office of Oil and Gas MAY 2 8 2021 WV Department of Environmental Protection

4. Summarize all activities at your facility that are already regulated for groundwater protection.

N/A

5. Discuss any existing groundwater quality data for your facility or an adjacent property.

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N/A

6. Provide a statement that no waste material will be used for deicing or fill material on the property.

No waste materials will be used for the deicing of area or equipment. Waste materials, if any, will not be used for material fill on the property.

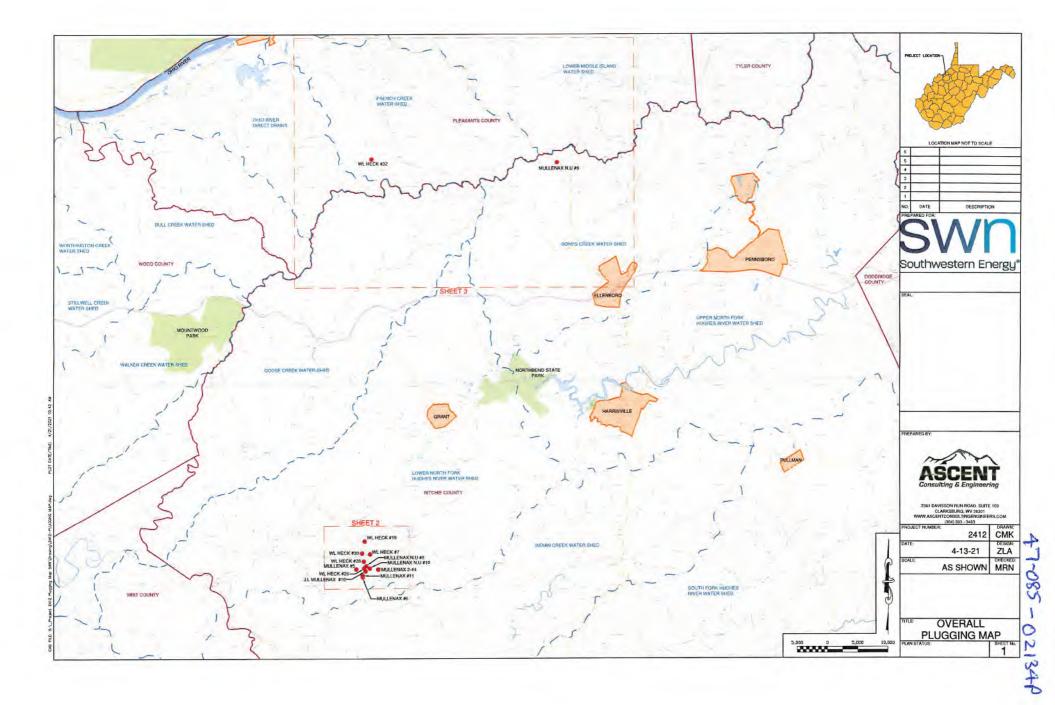
7. Describe the groundwater protection instruction and training to be provided to the employees. Job procedures shall provide direction on how to prevent groundwater contamination.

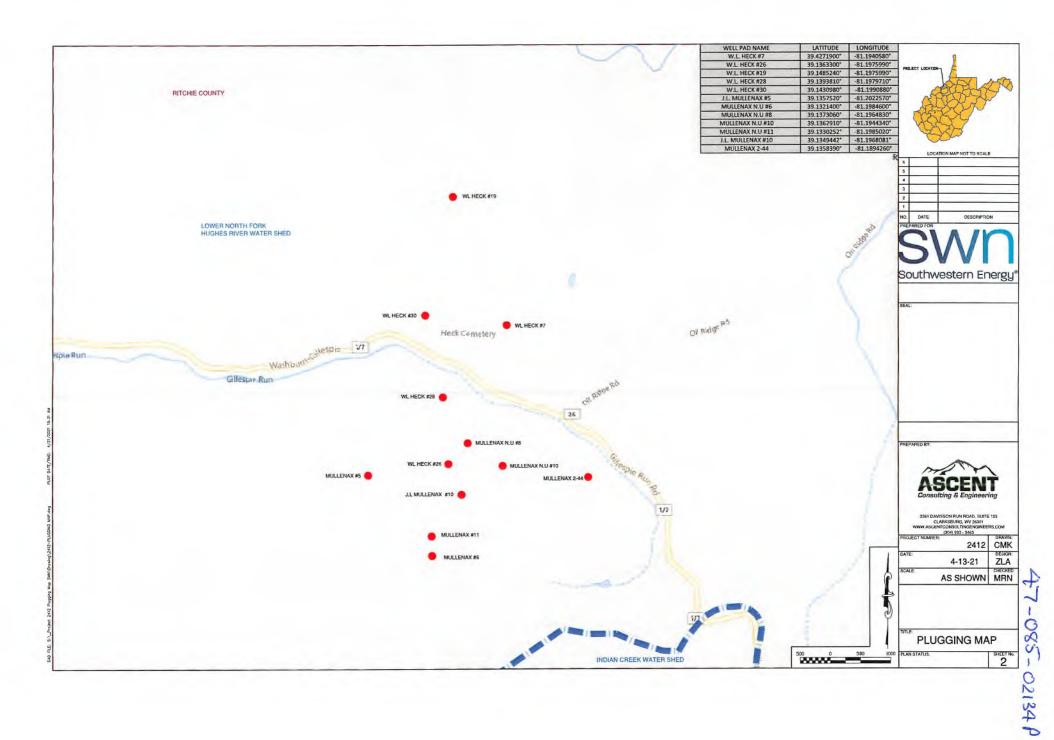
All employees are assigned spill protection trainin utilized on every work site.	g. Spill kits and containment are available and
	MAY 28 2021
	MAY 28 2021 MAY 28 2021 MAY 28 2021

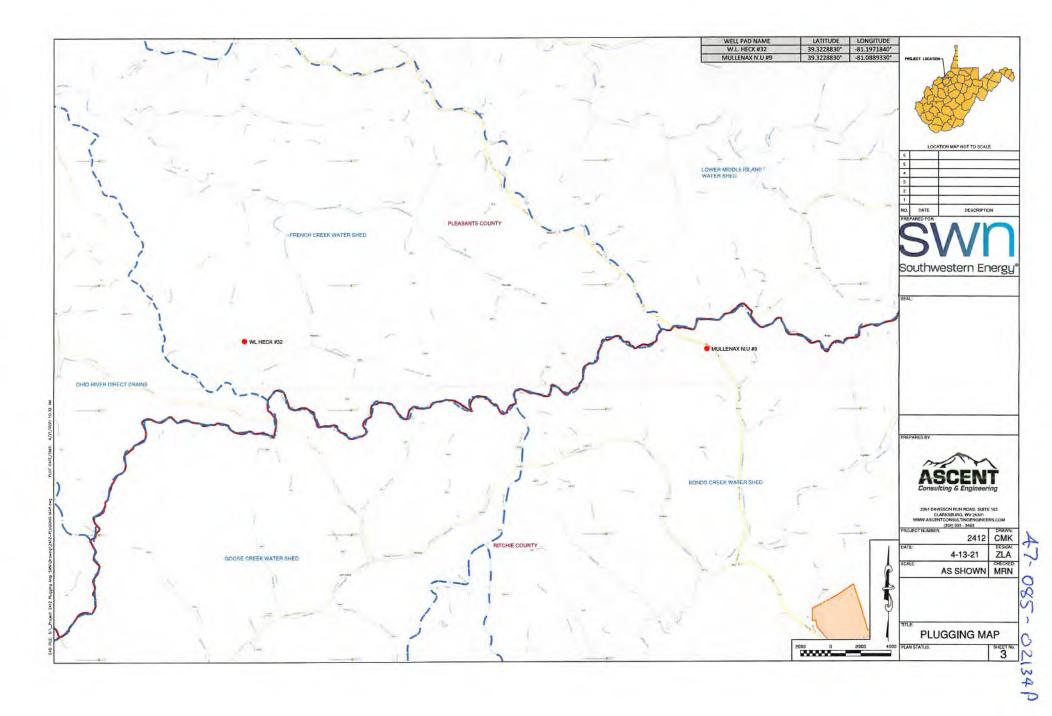
8. Provide provisions and frequency for inspections of all GPP elements and equipment.

Inspections will be done before and during operations by designated employees.
Signature: Mtthaty Modu
Date: 5777

07/02/2021







WW-7
8-30-06



West Virginia Department of E	Invironmental Protection
Office of Oil a	ind Gas
WELL LOCATION	FORM: GPS
API: 47-085-02134	WELL NO.: 5
FARM NAME: J.L. Mullenax	
RESPONSIBLE PARTY NAME: VIRCO	
	DISTRICT: Grant
QUADRANGLE: Cairo	
SURFACE OWNER: Heartwood Forestlan	nd Fund IV Limited Partnership
ROYALTY OWNER: Alvin Payne &	Carlin Lee
UTM GPS NORTHING: 4,331,869.50	
	GPS ELEVATION: 886'
The first second s	

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

- Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
- 2. Accuracy to Datum 3.05 meters
- 3. Data Collection Method:

Survey grade GPS ×\_\_\_: Post Processed Differential

Real-Time Differential X

Mapping Grade GPS \_\_\_\_: Post Processed Differential

Real-Time Differential

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4. Letter size copy of the topography map showing the well location. I the undersigned, hereby certify this data 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 Office of Oil and Gas.

Senior Regulatory Analyst Title Date 07/02/2021



11/10/2016

PLUGGING PERMIT CHECKLIST

**Plugging Permit** WW-4B WW-4B signed by inspector WW-4A SURFACE OWNER WAIVER OF PROOF THAT APPLICATION WAS SENT BY REGISTERED OR CERITFIED MAIL COAL OWNER/COAL OPERATOR/COAL LESSEE WAIVERS or PROOF THAT APPLICATION WAS SENT BY REGISTERED OR CERTIFIED MAIL WW-9 PAGE 1 (NOTARIZED) WW-9 PAGE 2 with attached drawing of road, location, pit and proposed area for land application WW-9 GPP PAGE 1 and 2 if well effluent will be land applied **RECENT MYLAR PLAT OR WW-7** WELL RECORDS/COMPLETION REPORT TOPOGRAPHIC MAP OF WELL, SHOWING PIT IF PIT IS USED MUST HAVE VALID BOND IN OPERATOR'S NAME CHECK FOR \$100 IF PIT IS USED

MAY 2.8 2021 WV Department of Environmental Protection