

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

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

Monday, October 25, 2021 WELL WORK PLUGGING PERMIT Vertical Plugging

BERRY ENERGY, INC. 310 STILES ST CLARKSBURG, WV 263012252

Re: Permit approval for B-704 47-091-00927-00-00

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. Marti Chiel

10/29/2021

Operator's Well Number: B-704 Farm Name: AUSTIN, DANIEL N. U.S. WELL NUMBER: 47-091-00927-00-00 Vertical Plugging Date Issued: 10/25/2021

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. <u>Failure to adhere to the specified</u> permit conditions may result in enforcement action.

CONDITIONS

1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.

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- 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.

-				4709100927f
WW-4E Rev.			2)C V	Date September 20 , 20 21 Decrator's Well No. B-704 API Well No. <u>47-91</u> - 00927
		DEPARTMENT OF	OF WEST VIRGINIA ENVIRONMENTAL PROTECT E OF OIL AND GAS	CION
	(If "Gas,	/ Gas/ I Production 0	or Underground storage	/ Waste disposal/ e) Deep/ Shallow <mark>X</mark>
5)		Lot Knottsville		Quadrangle Thomton (638)
6)		rry Energy, Inc. 0 Stiles Street arksburg, WV 26301		gent David B. Berry Cess 310 Stiles Street Clarksburg, WV 26301
8)	Oil and Gas Inspe Name Bryan Harr i Address P.O. Bo	5		tractor stal Drilling East, LLC 130 Meadows Ridge Road
	Volga, V	₩ 26238		Mt. Morris, PA 15349

10) Work Order: The work order for the manner of plugging this well is as follows: See Exhibit Nos. 1 and 2 and MSHA 101-C Exemption

NOTE: Berry Energy, Inc. plans to plug this gas well to meet the MSHA requirements (the 101-C Exemption) for the Leer Mine.

Appropriate coal seam top = 562.81' Approximate coal seam bottom = 567.63'

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

Work	order	approved	by	inspector	Bryan Harri	L	Date	

10/29/2021

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EXHIBIT NO. 1

From the experience and technology developed since 1970 in plugging oil and gas wells for mining through, Berry Energy, Inc. will utilize the following method to plug all future wells.

SOLID PLUG METHOD

- a) If active well: clean out to total depth and plug back according to state regulations to a minimum of 200 feet below lowest minable coal seam.
 - b) If abandoned well: clean out to first plug 200 feet below lowest minable coal seam.
 - c) Circulate through tubing or drill steel an expanding cement plug from a minimum of 200 feet below minable coal seam to a point 100 feet above minable coal.

Circulate through tubing or drill steel from 100 feet above coal seam to surface.

A monument will be installed with API No. and stating "solid plug".

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EXHIBIT No. 2

Coastal Drilling East LLC • 130 Meadow Ridge Road, Mt. Morris, PA 15349 Phone 304-296-1120 Fax 304-413-0061

"A Shaft Drillers International Company"

05/26/2016

Mr. Chuck Duckworth Gas Well & Property Manager Arch Coal, Inc. – Leer Mine Complex 100 Tygart Drive Grafton, WV 26354

Mr. Duckworth,

Below is the proposed plugging plan we discussed that can be used on wells similar to the wells we have been plugging for the last few years.

Plugging Plan

- Move to site, rig up, mix mud, drill rathole
- Attempt to clean out well to original total depth (TD).
- Run cement bond log on 4 1/2" casing to determine top of cement
- Set bottom hole cement plug as required by the WV DEP from TD to top of cement determined by the bond log.
- Tag top of bottom hole plug to insure plug is at correct depth. Re-cement fice of Ok and Gass necessary.
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- Cut and pull 4 1/2" casing from the free point determined by the bond log.
- Clean out wellbore to top of remaining 4 1/2" casing
- Run suite of logs to determine casing size, bottom of casing, depth of coal
 Beams, deviation of wellbore and cement bond to casing.
- Cement hole from top of bottom hole plug to a depth within 25' of the bottom of the 8 5/8" casing.
- If necessary cut and pull any free casing.
- Perforate, cut, rip or mill any remaining casing at depths determined by MSHA's 101C Petition.

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- Cement hole from top of intermediate plug to surface using cement required by MSHA's 101C Petition.
- Rig down and set monument as required by WV DEP.

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Federal Register/Vol. 77, No. 89/Tuesday, May 8, 2012/Notices

face area will be available. The fire hose will be located near the working face.

(5) Sufficient supplies of roof support and ventilation materials will be available and located near the working face. In addition, an emergency plug and/or plugs will be available within the immediate area of the well intersection.

(6) Equipment involved in mining through the well will be checked for permissibility and serviced on the maintenance shift prior to mining through the well. The methane monitor on the continuous mining machine involved in mining through the well will also be calibrated on the maintenance shift prior to mining through the well. (7) When mining is in progress, tests

(7) When mining is in progress, tests for methane will be made with a handheld methane detector at least every 10 minutes, from the time that mining with the continuous mining machine is within 30 feet of the well until the well is intersected, and immediately prior to mining through. During the actual cutting-through process, no individual will be allowed on the return side until mining-through has been comploted and the area has been examined and declared safe.

(3) The working area will be free from accumulations of coal dust and coal spillages, and rock dust will be placed on the roof, rib, and floor to within 20 feet of the face when mining through the well.

(9) When the well is intersected, all squipment will be deenergized and the place thoroughly examined and determined safe before mining is resumed.

(10) Any casing will be removed and no open flame will be permitted in the area until adequate ventilation has been established around the well.

(11) After a well has been intersected and the working place determined safe, mining will continue inby the well at a distance sufficient to permit adequate ventilation around the area of the well.

(12) No person will be permitted in the area of the mining-through operation except those actually engaged in the operation, company personnel, personnel from MSHA, and personnel from the Kentucky OMSL.

(13) The mining-through operation will be under the direct supervision of a certified individual. Instructions concerning the mining-through operation will be issued only by the certified individual in charge. MSHA personnel may interrupt or halt the mining through operation when necessary for the safety of the minare

necessary for the safety of the miners. (14) Within 30 days after this Order becomes final, the petitioner will submit proposed revisions for its approved mine emergency evscuation and firefighting plan required by 30 CFR 75.1501. The politioner will revise the plans to include the hazards and evacuation procedures to be used for well intersections.

The petitioner further states that this petition will apply to all types of mining (conventional, continuous, and longwall) and asserts that the proposed alternative method will at all times provide a measure of protection no less than that of the existing standard.

Docket Number: M-2012-064-C.

Petitioner: Lone Mountain Processing, Inc., Drawer C, St. Charles, Virginia 24282.

Mine: Mine No. 1, MSHA I.D. No. 15-18734, Route 536 Benedict Road, St. Charles, Virginia 24282, located in Harlan County, Kentucky.

Regulation Affected: 30 CFR 75.208 (Warning devices).

Modification Request: The petitioner requests a modification of the existing standard to permit a readily visible warning to be posted at the second row of permanent roof support outby unsupported roof or a physical barrier to be installed to impede travel beyond permanent support, except during the installation of roof supports. The petitioner states that:

 The Kentucky Office of Mine Safety and Licensing requires "a warning device to be installed on the second row of permanent roof support outby unsupported roof."
 MSHA's approved Precautions for

(2) MSHA's approved Precautions for Remote Control Operation of Continuous Mining Machines states that "While using remote controls, the continuous mining machine operator and all other persons will position themselves no closer than the second 'full row' of installed roof bolts outby the face."

(3) This petition is necessary to improve safety and to attain commonality between State and Føderal regulations.

(4) Safety increases when the distance an employee keeps from unsupported roof increases.

The petitioner asserts that the proposed alternative method will at all times guarantee no less than the same measure of protection afforded by the existing standard.

Docket Number: M-2012-065-C.

Petitioner: ICG Tygart Valley, LLC, 1200 Tygart Drive, Graiton, West Virginia 26354.

Mine: Tygart #1 Mine, MSHA I.D. No. 46–09192, located in Taylor County. West Virginia.

Regulation Affected: 30 CFR 75, 1700 (Oil and gas wells). Modification Request: The petitionar requests a modification of the existing standard requiring that barriers be established and maintained around oil and gas wells penetrating coalbeds or underground areas of coal mines to permit an alternative method of compliance. The petitioner states that:

(1) The mine is projected to encounter vertical in-seam boreholes, typical to cil and natural gas wells, as mine development progresses.

(2) The active development section is approaching these boreholes, and is projected to encounter additional boreholes in the future as mining operations continue.

(3) The procedure presented in this petition will be used to ensure that mining through these boreholes is accomplished safely and, as an alternative to compliance with 30 CFR 75.1700, will provide no less than the same measure of protection to the miners, as required by the MSHA standard.

The petitioner proposes to use the following procedures when plugging oil or gas walls:

(1) Prior to plugging an oil or gas well, a diligent effort will be made to clean the borehole to the original total depth. If this depth cannot be reached, tha borehole will be cleaned out to a depth that would permit the placement of at least 200 feet of expanding cement balow the base of the lowest minable coal bed.

(2) When cleaning the borehole, a diligent effort will be made to remove all of the casing in the borehole. If it is not possible to remove all of the casing, the casing that remains will be perforated or ripped at intervals spaced close enough to permit expanding cement shurry to infiltrate the annulus between the casing and the borehole wall for a distance of at least 200 feet below the base of the lowest minable coal bed.

(3) If the cleaned-out borehole produces gas, a mechanical bridge plug will be placed in the borehole in a competent stratum at least 200 feet below the base of the lowest minable coal bed, but above the top of the uppermost hydrocarbon-producing stratum. If it is not possible to set a mechanical bridge plug, a substantial brush olug may be used in its place

brush plug may be used in its place. The District Manager may allow the use of other effective methods of stopping any and all gas flow emitting from the wellbore before placement of cament through the minable coal seam(s). Such approval will be documented in a written response to the operators' submittal of a detailed explanation of the method to be used

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SEP 2 9 7077 10/29/2021 and an engineering evaluation of the relative effectiveness of the alternative.

(4) A suite of logs will be made, consisting of a caliper survey, directional deviation survey, and log(s) suitable for determining the top and bottom of the lowest minable coal bed and potential hydrocarbon-producing similar and the location for the bridge plug.

(5) If the uppermost hydrocarbonproducing stratum is within 200 feet of the base of the lowest minable coal bad, properly placed mechanical bridge plugs or a suitable brush plug described in paragraph (3) above will be used to isolate the hydrocarbon-producing stratum from the expanding cement plug. Nevertheless, a minimum of 200 feet of expanding cement will be placed below the lowest minable coal bed.

(6) The wellbore will be completely filled and circulated with a gel that inhibits any flow of gas, supports the walls of the borehole, and increases the density of the expanding cement. This gel will be pumped through open-end tubing run to a point approximately 20 feet shove the bottom of the cleaned out area of the borehole or bridge plug.

The petitioner proposes to use the following procedures when plugging gas and oil wells to the surface:

(1) A cement plug will be set in the wellbore by pumping expanding cement slurry down the tubing to displace the get and fill the borehole to the surface. As an alternative, the cement slurry may be pumped down the tubing so that the borehole is filled. There will be at least 200 feet of expanding cement below the base of the lowest minable coal bed.

(2) A marker conforming to the requirements of the state regulatory authority will be installed at the borehole, or a small quantity of steel turnings or other small megnetic particles will be embedded in the top of the cement near the surface. The method used will be suitable to serve as a permanent megnetic monument of the borehole.

The following procedures will be used for the vent pipe method for plugging oil and gas wells:

(1) A 1/2-inch or larger pipe will be run into the wellbors to a depth of 100 feet below the lowest minable coal bed and wedged to a smaller diameter pipe that, if desired, will extend to a point approximately 20 feet above the bottom of the cleaned-out area of the borehole or bridge plug.

(2) A coment plug will be set in the wellbore by pumping expanding coment slurry, Portland cement, or a Portland coment-fly ash mixture down the tubing to displace the gel so that the borehole is filled with coment. The borehole and the vent pipe will be filled with expanding coment for a minimum of 200 feet below the base of the lowest minable coal bed. The top of the expanding coment will extend upward to a point approximately 100 feet above the top of the lowest minable coal bed.

(3) All fluid will be evacuated from the vant pipe to facilitate testing for gases. During the evacuation of fluid, the expanding cament will not be disturbed.

(4) The top of the vent pipe will be protected to prevent liquids or solids from entering the wellbore, but permit ready access to the full internal diameter of the vent pipe when necessary.

The petitioner proposes to use the following procedures when plugging oil or gas wells for subsequent use as degasification boreholes:

(1) A cement plug will be set in the wellbore by pumping expanding cement slurry down the tabing to displace the gel and provide at least 200 feet of expanding cement below the lowest minable coal bed. The top of the expanding cement will extend upward to a point above the top of the coal bed being mined. This distance will be based on the average height of the roof strata breakage for the mine.

(2) To facilitate methane drainage, degesification casing of suitable diameter, slotted or perforated throughout its lower 150 to 200 feet, will be set in the borshole to a point 10 to 30 feet above the top of the expanding cement.

(3) The annulus between the degasification casing and the borehole wall will be cemented from a point immediately above the slots or perforations to the surface.

(4) The degasification casing will be cleaned out for its total length.

(5) The top of the degasification casing will be fitted with a wellhead equipped as required by the District Manager. Such equipment may include check valves, shut-in valves, sampling port, flame arrestor equipment, and security fencing.

The following alternative procedures for preparing and plugging oil and gas wells will apply to wells that the petitioner and the District Manager agree cannot be completely cleaned out due to damage to the well caused by subsidence, caving, or other factors; as determined by the petitioner and agreed to by the District Manager. These provisions will apply unless alternative measures are agreed upon and based upon a plan submitted to the District Manager:

Manager: (1) The petitioner will drill a hole adjacent and parallel to the well to a depth of at least 200 feet below the lowest minable coal seam.

(2) The petitioner will use a geophysical sensing device to locate any casing that may ramain in the well.

(3) If the well contains casing(s), the petitioner will drill into the well from the parallel hole. From 10 feet below the coal seam to 10 feet above the coal seam, the petitioner will perforate or rip all casings at intervals of at least 5 feet. Beyond this distance, the petitioner will perforate or rip at least every 50 feet from at least 200 feet below the base of the lowest minable coal seam up to 100 feet above the seam being mined. The petitioner will fill the annulus between the casing, and between the casings and the well wall with expanding cement (minimum 0.5 percent expansion upon setting), and will ensure that these areas contain no voids. If the petitioner, using a casing bond log, can demonstrate to the satisfaction of the District Manager that the annulus of the well is adequately sealed with cement, then the petitioner will not be required to perforate or rip the casing for that particular well or fill these areas with cement. When multiple casing and tubing strings are present in the coal horizon(s), any casing that remains will be ripped or perforated and filled with expanding cement as indicated above. An acceptable casing bond log for each casing and tubing string is needed if used in lieu of ripping or perforating multiple strings. (4) Where the petitioner determines

and the District Manager agrees that there is insufficient casing in the well to allow the method outlined in paragraph (3) above to be used, then the petitioner will use a horizontal hydraulic fracturing technique to intercept the original well. From at least 200 fast below the base of the lowest minable coal seam to a point at least 50 feet above the seam being mined, the petitioner will fracture at least six places at intervals to be agreed upon by the petitioner and the District Manager after considering the geological strata and the pressure within the well. The petitioner will then pump expanding cement into the fractured wall in sufficient quantities and in a menner that fills all intercepted voids.

(5) The petitioner will prepare downhole logs for each well. The logs will consist of a caliper survey and log(s) suitable for determining the top, bottom, and thickness of all coal seams and potential hydrocarbon-producing strata and the location for the bridge plug. The petitioner may obtain the logs from the adjacent hole rather than the well if the condition of the well makes it impractical to insert the equipment

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necessary to obtain the log. The District Manager may approve the use of a down-hole cameral survey in lieu of down-hole logs if, in his or her judgment, such logs would not be suitable for obtaining the data or are impractical to obtain due to the condition of the drill hole. A journal will be maintained describing the length and type material used to plug the well; the length of casing(s) removed, perforated, or ripped or left in place; and other pertinent information concurning sealing the well.

concorning sealing the well. (6) After the petitioner has plugged the well, the petitioner will plug the open portions of both holes from the bottom to the surface with Portland cement or a lightweight cament mixture. The petitioner will embed steel turnings or other small magnetic particles in the top of the cament near the surface to serve as a permanent magnetic monument of the well. In the alternative, a 41/2-inch or larger casing set in cament will extend at least 36 inches above the ground level. A combination of the methods outlined in paragraph (3) and (4) above may have to be used in a single well, depending upon the conditions of the hole and the presence of casings. The petitioner and the District Manager may discuss the nature of each hole and the District Manager may require the use of more than one method.

The petitioner proposes to use the following cut-through procedures whenever the safety barrier diameter is reduced to a distance less than the District Manager would approve pursuant to § 75.1700 or the petitioner proceeds with an intent to cut through a plugged well: (1) Prior to reducing the safety barrier

(1) Prior to reducing the safety barrier to a distance less than the District Manager would approve or proceeding with intent to cut through a plugged well, the petitioner will notify the District Manager.

(2) Mining in close proximity to or through a plugged well will be done on a shift approved by the District Manager.

(3) The District Manager, a representative of the miners, and the appropriate States agency will be notified by the operator in sufficient time prior to the mining-through operation to provide an opportunity for them to have a representative present.

(4) When using continuous mining equipment, drivage sights will be installed at the last open crosscut near the place to be mined to ensure intersection of the well. The drivage sights will not be more that 50 fast from the well. When using longwall mining methods, drivage sights will be installed on 10-foot centers for a distance of 50 feet in advance of the well bore. The drivage sights will be installed in the headgate and tailgate.

(5) Firefighting equipment, including fire extinguishers, rock dust, and sufficient fire hose to reach the working face area of the mining-through will be available when either the conventional or continuous mining method is used. The fire hose will be located in the last open crosscut of the entry or room. All fire hoses will be ready for operation during the mining-through.

(5) Sufficient supplies of roof support and ventilation materials will be available and located at the last open crosscut. In addition, an emergency plug and/or plugs will be available in the immediate area of the cut-through.

(7) The quantity of air required by the approved mine ventilation plan, but not less than 6,000 cubic feet per minute (cfm) of air for scrubber-equipped continuous miners or not less than 9,000 cfm for continuous miner sections using auxiliary fans or line brattice only, will be used to ventilate the working face during the mining-through operation. The quantity of air required by the ventilation plan, but not less than 30,000 cfm, will reach the working face of each longwall during the miningthrough operation.

(8) Equipment will be checked for permissibility and serviced on the shift prior to mining-through the well. The methane monitors on the continuous mining machine or the longwall shear and face will be calibrated on the shift prior to mining through the well.

(9) When mining is in progress, lests for methane will be made with a handheld methane detector at least every 10 minutes from the time that mining with the continuous mining machine is within 30 feet of the well until the well is intersected and immediately prior to mining through. When mining with longwall mining equipment, tests for methane will be made at least every 10 minutes when the longwall face is within 10 feet of the well. During the actual cutting-through process, no individual will be allowed on the return side until mining through has been completed and the area has been examined and declared safe.

(10) When using continuous mining methods, the working area will be free from accumulations of coal dust and coal spillages, and rock dust will be placed on the roof, rib, and floor to within 20 fest of the face when mining through or near the well on the shift or shifts during which the cut-through will occur. On longwall sections, rockdusting will be conducted and placed on the roof, rib, and floor up to both headgate and tailgate gob.

(11) When the wellbore is intersected, all equipment will be deenergized and the area thoroughly examined and determined safe before mining is resumed. Any well casing will be removed and no open flame will be permitted in the area until adequate ventilation has been established around the wellbore.

(12) After a well has been intersected and the working area determined safe, mining will continue inby the well at a distance sufficient to permit adequate ventilation around the area of the wellbore.

(13) No person will be permitted in the area of the mining-through operation except those actually engaged in the operation, company personnel, representatives of the miners, personnel from MSHA, and personnel from the appropriate State agency.

(14) The mining-through operation will be under the direct supervision of a certified official. Instructions concerning the mining-through operation will be issued only by the certified official in charge. MSHA personnel may interrupt or halt the mining-through operation when necessary for the safety of the miners.

(15) The petitioner will file a plugging affidavit setting forth the persons who participated in the work, a description of the plugging work, and a certification by the petitioner that the well has been plugged as described.

(16) Within 60 days after the Proposed Decision and Order (PDO) becomes final, the petitioner will submit proposed revisions for its approved 30 CFR Part 48 training plan to the District Manager. The provisions will include initial and refresher training regarding compliance with the terms and conditions stated in the PDO.

The petitioner asserts that the proposed alternative method will at all times guarantee miners no less than the same measure of protection as afforded by the existing standard.

Docket Number: M-2012-002-M. Petitioner: Hecla Greens Creek Mining Company, P.O. Box 32199, Juneau. Alaska 99803.

Mine: Greens Creek Mine, MSHA I.D. No. 50–01267, located in Juneau County, Alaska.

Regulation Affected: 30 CFR 57.14130 (Roll-over protective structures (RCJPS) and seat belts for surface equipment).

Modification Request: The petitioner requests a modification of the existing standard to permit employees to be transported 1,600 feet to and from the surface dry facility to work sites, EVED underground using underground mine-

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	Division of Envi	West Virgin ronmental P Oil and Ga	ia rotection	¥ 47- 91	-00927
	Well Operator's	Report of	Well Work		
Farm name:	AUSTIN, DANIEL N.	Operator	Well No.:	B-704	
LOCATION:	Elevation: 1,515.00 Qua	adrangle: T	HORNTON		
	District: XNOTTSVILLE Latitude: 125 Feet So Longitude 8800 Feet We	outh of 39	ounty: TAYL Deg. 20Min Deg. 55 Mi	. 0 Sec.	•
310	RY ENERGY, CONSULTANTS STILES ST., P.O. BOX 5 RKSBURG, WV 26302-0005	6	Used in Drilling	ļ	Cement Fill Up
Agent: DAV	ID B. BERRY				
Inspector: Permit Issu Well work C		8 5/8	972	972'_	314 CuFt
Well work C Verbal Plug	ompleted: 09/20/94	4 1/2	5367'	 5367'	994 Curt
Rotary <u>x</u> Total Depth	CableRig(feet)5465depths (ft)77*	 	RE	EVED	}
Salt water	depths (ft)		Ernitza	Larsten of Texts Projection	
Is cual bein Coal Depths	ng mined in area (Y/N)? <u>N</u> (ft): <u>Coal - 573'</u>	_	Ì		
OPEN FLOW D. Product	ATA ing formation Haverty, 4th (Elk. Biloy	Pay zone	deoth (ft	Sce perforat

Gas: Initial open flow 14 MCF/d Oil: Initial open flow BDI/d R/Λ Final open flow 1100 MCE/d Final open flow N/A B21/d Time of open flow between initial and final tests N/AHours Static rock Pressure 1430 psig (surface pressure) after 72 Hours See performed Second producing formation Speechly Second producing formation of Sand, 50 foot Pay zone depth (ft) interval Gas: Initial open flow she able MCF/d Oil: Initial open flow N/A BD BP1/q Final open flow see above MCF/d Final open flow 861/d N/A Time of open flow between initial and final tests Hours N/A Static rock Pressure Sne above psig (surface pressure) after son above Hours

NOTE: ON BACK OF THIS FORM PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE.

For: BERRY ENERGY, CONSULTANTS & MGRS INC. 0 52 By: 1-6212 Date: 1995 of Oil and Gas

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DETAI	LS OF PERFORMED INTERVALS, FRACTURING OR STIMULAT	ATO A TAG 270
lst Stage:	Haverty and 4th Elk - 5046-5276 - 16 noies	ZI V AT V V A PIL
	797 barrels H ₂ 0 130,000 SCF N ₂ 50,0001 20/40	
0 . 1 6 h h h h h h h		RECEIVED WY Division of Environmental Protection
2nd Stage:	Riley - 4103-4107 14 holes 379 barrels H ₂ 0 473,000 SCF N ₂ 46,500# 20/40	environmental Protectica
3rd Stage:	Speechly - 3171-3179 14 holes	OCT 1 1 1994
	352 barrels H ₂ 0 400,000 SCF N ₂ 40,000# 20/40	Permitting
4th Stage:	4th Sand - 2384-2388 14 holes	Olico of Oil & Gas
Aut Stage.	428 barrels H_0 416,000 SCF N_ 50,000 \$ 20/40	
	4 6	
Sth Stage:	50 Poot - 1843-1847 - 14 holes - 361 barrels H_2 0	328,000 SCF N ₂ 40,000# 20/40
	WELL LOG	

FORMIICN COLOR	IVJD OR	SOFT	TOP FEET	BOTTCH FEET	REPAIRS Including indication of all f and salt water, coal, oil and
Sandy Shale	Rrown	Med	0'	37'	
Sandy Shale	Gray	Med	37'	181'	77 Feet 1's stream H_O
Red Rock	Red	Soft	101'	187'	4
Sandy Shale	Gray	Med	187'	573'	
Coal	Black	Soft	573'	577'	
Sandy Shale	Gray	Med	577'	8391	
Sand	Gray	Hard	839'	897'	
Sandv Shale	Gray	Mod	897 '	958*	
Red Rock	Red	Soft	9581	10951	
Sandy_Shale	Gray	Mod	1,0951	12951	Gag Check 1304! No Show
Little Line	L. Gray	Hard	129.11	1307	
Sandy Shale	Gray	Mod	17071	1335'	Gas Check 1398' No Show
Big Line	L. Gray	Hard	1335'	1442'	Gas Check 1552' No Show
Big Iniun	L. Grown	Hard	1442'	1524'	Gas Check 2018' 10/10 5" 4/4
Sandy Shale	Gray	Soft	1524'	2043*	Gas Check 2262' 4/10 5".
Red Rock	Red	Soft	2013	2232'	Gas Check 2325' 2/10 k"
Sand	Gray	Hed	2232'	2245'	Cas Check 2418' 4/10 5" v/v
Red Rock	Red	Soft	2245'	2318'	Gas Check 2792' 6/10 3" w/w
Sand Shale	Gray	Med	2318'	4360'	Gas Check 3008' No Show
Sandy Shale	Gray	Hard	4360'	5465'	Gas Check 3133 10/10 1" w/w
					Gas Check 4005' 8/10 5" v/v
LOG TO	PS .				Gas Check 4195' 8/10 3" v/v
			1	1	Gas Check 4811' 2/10 5" w/w
Big Lime			1336'		Cos Check 4998' 2/10 5" 4/4
Big Injun			1416'		Gas Check 5122' 30/10 3" w/w
50 Foot			1623*		Gas Check 5185' 40/10 * v/v
Fourth Sand			1 2360'		Gas Check 5278" 9/10 5" w/w
Fifth Sand			2451'		Gas Check 5432' 2/10 1" w/w
Speechly			3174.	1	
Riley			4000'	1	
Benson			4310'		
4th Elk			5024	1	
Haverty			5250'	1	
			1	t	
			1		DECEWED
					Office of Oil and Gas
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WV Department of Environmental Protection

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10/29/2021

WW-4A		1) Dat	e: September 2	0, 2021_		
Revised 6-07		2) Op 8-704	erator's Well Num	ber		
		3) API	Well No.: 47 -	91	- 00927	
D	EPARTMENT OF ENVIRO NOTICE OF APPLI	STATE OF WEST VIRGIN NMENTAL PROTECT ICATION TO PLUG AN	ION, OFFICE OF		GAS	
1) Surface Ow	mer(s) to be served:	5) (a) Coal Operator		-		
	Marvin B Austin	Nama	CostDuest Development	t.11C		
(a) Name	Marvin R. Austin P.O. Box 31	Name Address	CoalQuest Developmen	nt, LLC		
	ties and the second	Name Address	100 Tygart Drive			
(a) Name	P.O. Box 31	Address		26354		
(a) Name Address (b) Name	P.O. Box 31	(b) Coal Ow Name	100 Tygart Drive Grafton, West Virginia 2	26354		
 (a) Name Address (b) Name Address (c) Name Address (c) Inspector 	P.O. Box 31 Thornton, West Virginia 26440 Bryan Harris	Address (b) Coal Ow Name Address Name Address (c) Coal Les	100 Tygart Drive Grafton, West Virginia 2	26354 ation		
(a) Name Address (b) Name Address (c) Name	P.O. Box 31 Thornton, West Virginia 26440	Address (b) Coal Ow Name Address Name Address Name Address	100 Tygart Drive Gratton, West Virginia 2 ner(s) with Declar	26354 ation		

(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 Otl 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 nave 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.

MOTANY PUBLIC OFFICIAL SEAL	Well Operator	Berry Energy, Inc.	
State of West Virginia	By:	David B. Berry & aund S Serve	
October 17, 2021	Its:	President	
3438 Pearliner Ang Clarkslaurg, WV 26303	Address	310 Stiles Street	
		Clarksburg, West Virginia 26301	
	Telephone	(304) 265-9704	Office of Oil and Ses
Subscribed and sworn before me thi	215r de	av of September, 2021	SEP 2 9 2021
Subscribed and sworn before me thi	RESIDENT	Notary Public Way	me for itemles
My Commission Expires	08ER 17,	2021	Environmental Protection

Oil and Gas Privacy Notice

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>depprivacyofficr@wv.gov</u>.



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SEP 2 9 2021

WV Department of Environmental Protection

10/29/2021

4709100927P

A Subsidiary of



ICG TYGART VALLEY, LLC

100 Tygart Drive, Grafton, West Virginia 26354

September 27, 2021

Marvin R. Austin P.O. Box 31 Thornton, West Virginia 26440

Re: Plugging Permit - API # 47-91-00927 - Well No. B-704

Dear Mr. Austin:

As required by the permit process of the WV Department of Environmental Protection – Office of Oil and Gas enclosed please find a copy of the plugging permit application for the above referenced well that ICG Tygart Valley, LLC plans to submit on behalf of Berry Energy, Inc. to the WV Department of Environmental Protection, Office of Oil and Gas.

If you have no objection to the plugging, permit application, please sign the page, titled Surface Owner Waiver and return in the enclosed self-addressed stamped envelope.

If you should have any questions concerning this application, please feel free to contact Charles Duckworth at (304) 265-9704 or me at (304) 265-9778 or via email at <u>gnair@archrsc.com</u>.

Sincerely,

Greg Nair ' Manager Surface Mine Planning

Enclosures

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SEP 2 9 2021

WV Department of Environmental Protection

CERTIFIED MAIL NO. 7020 1290 0001 2014 2506 RETURN RECEIPT REQUESTED

Operator's Well Number

B-704

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW4-A

The well operator named on page WW-4A is applying for a permit from the State to plug and abandon a well. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT. WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:

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

<u>Time Limits and methods for filing comments.</u> The law requires these materials to be served on or before the date the operator files his Application. You have **FIVE (5)** 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.

<u>Comments must be in writing.</u> Your comments must 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.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

- 1) The proposed well work will constitute a hazard to the safety of persons.
- 2) The soil erosion and sediment control plan is not adequate or effective;
- 3) Damage would occur to publicly owned lands or resources;
- 4) The proposed well work fails to protect fresh water sources or supplies;
- 5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation...".

If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.

VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application For A Permit To Plug And Abandon on Forms WW-4A and WW-4B, and a survey plat.

RECEIVED

I further state that I have no objection to the planned work described in these matificals Qind I Chave no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON ETC.

FOR EXECUTION BE PORATION,

			WV Department of
	Date	Name	Environmental Protection
Signature		By	
		Its	Date

Signature



API No.	47-91-00927	_
Farm Name	Daniel N. Austin	
Well No.	B-704	

INSTRUCTIONS TO COAL OPERATORS OWNERS AND LESSEE

The well operator named on the obverse side of WW-4 (B) is about to abandon the well described in the enclosed materials and will commence the work of plugging and abandoning said well on the date the inspector is notified. Which date shall not be less then five days after the day on which this notice and application so mailed is received, or in due course should be received by the Department of Environmental Protection Office of Oil & Gas.

This notice and application is given to you in order that your respective representatives may be present at the plugging and filling of said well. You are further notified that whether you are represented or not the operator will proceed to plug and fill said well in the manner required by Section 24, Article 6, Chapter 22 of the Code and given in detail on obverse side of this application.

NOTE: If you wish this well to be plugged according to 22-6-24(d) then as per Regulation 35CSR4-13.9 you must complete and return to this office on form OB-16 "Request by Coal Operator, Owner, or Lessee for plugging" prior to the issuance of this plugging permit.

WAIVER

The undersigned coal operator $X_{\rm owner}_{\rm owner}$ / lessee ___/ of the coal under this well location has examined this proposed plugging work order. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date:	9	20	2021	
Diato.	-		1	

CoalQuest Development, LLC	٨
By: Greg Nair Aug/	RECEIVED
Its Power of Attorney ()	Office of Oil and Gas
	SEP 2 9 2021
	WV Department of Environmental Protection

WW-4B

*)		21 V	aT00a51b
WW-9			
(5/16)		API Number 47 - 091	
		Operator's Well No. B-704	
	STATE OF WEST	and the second	
	DEPARTMENT OF ENVIRONM OFFICE OF OIL		
	FLUIDS/ CUTTINGS DISPOSAL		
Operator Name Berry Energy, In	ur.	OP Code	
Watershed (HUC 10) Three F	0. a	141	
		uadrangle Thornton (638)	
Will a pit be used? Yes	than 5,000 bbls of water to complete the	proposed well work? Yes	No 🔽
If so, please describe	anticipated pit waste: N/A		
Will a synthetic liner	be used in the pit? Yes No	If so, what ml.?	6.36.1
Proposed Disposal M	ethod For Treated Pit Wastes:		
Lan	d Application (if selected provide a com	pleted form WW-9-GPP)	
	derground Injection (UIC Permit Number)
Reu	ise (at API Number		1
	Site Disposal (Supply form WW-9 for o	iisposal location)	
Oth	er (Explain Tanks - See attached letter		
Will closed loop system be us	ed? If so, describe: Yes, Gel circulated fr	om tank thru well bore ad returned to ta	nk.
Drilling medium anticipated for	or this well (vertical and horizontal)? Ai	r, frosh water, oil based, etc. freshwater	r
-If oil based, what typ	pe? Synthetic, petroleum, etc.		
	medium? Bentonite, Bicarbonate or Soda		
	? Leave in pit, landfill, removed offsite,	ata removed officite	
	and a second a second se		
	to solidify what medium will be used?		
-Landfill or offsite na	me/permit number? ICG Tygart Valley, LLC	: - Permit No. O-2017-06	
	notice to the Office of Oil and Gas of a lity. The notice shall be provided within d.		
on A pril 1, 2016, by the Office provisions of the permit are en or regulation can lead to enfor I certify under penal application form and all attach the information, I believe that	tand and agree to the terms and conditions of Oil and Cas of the West Virginia D forceable by law. Violations of any term cement action. ty of law that I have personally examini- iments thereto and that, based on my inqui- t the information is true, accurate, and on ncluding the possibility of time or imprise	Repartment of Environmental Protection or condition of the general permit and ned and am familiar with the inform nity of those individuals immediately of complete. I am aware that there are complete.	n. I understand that the d/orother applicable law ation submitted on this responsible for obtaining significant penalties for
Company Official Signature	Almonth's beau	A J T Bred & MAY	UBLIC OFFICIAL SEAL
Company Official (Typed Nat	me) David B. Berry	V V	West Virginia REVED wission Expressice or Oil and Ga
		1418 Peariman	ober 17, 2021 we Clarisburg, WV 26301
Company Official Title Pres	oon the second s		SEN 2 9 2021
Subscribed and sworn before r	ne this 2/St day of September	. 20 21	WV Department of Environmental Protect
	RRY PRESIDENT	Notes Builds 14	ayne W. Hamlos
		notary Public Cre	- A
My commission expires	CTOBER 17, 2021		
			10/29/2021

47091009278



Berry Energy, Inc. Proudly Serving the Appalachian Basin

Berry Energy, Inc., 310 Stiles Street, Clarksburg, WV 26301

September 20, 2021

WV Department of Environmental Protection Office of Oil and Gas 601 – 57th Street, S.E. Charleston, West Virginia 25304

To Whom It May Concern:

As per the WV Department of Environmental Protection, Office of Oil and Gas request, Berry Energy, Inc., submits the following procedures utilizing pit waste.

Upon submitting a well work application (without a general permit for Oil and Gas Pit Waste Discharge Application), Berry Energy, Inc., will construct no pits, but instead will use mud tanks to contain all drilling muds.

Once the well is completed, that material (minus the cave material) will be trucked to the next well to be plugged or to ICG Tygart Valley, LLC WVDEP impoundment facilities O-2017-06 or to an approved facility that can handle the material.

Sincerely,

David B. Deny David B. Berry

President

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SEP 2 9 2021

WV Department of Environmental Protection



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Form WW-9

Operator's Well No. B-704

Proposed Revegetation Treatment: Acres Disturbed 1.50 / 2.0		1.50 / 2.0 Preveg etation pl	Preveg etation pH	
Lime <u>3</u>	Tons/acre or to corr	ect to pH <u>6.5</u>		
Fertilizer type 10-20	-20 or equivalent			
Fertilizer amount 50	0	lbs/acre		
Mulch Hay Bales	Tons/acre			
		Seed Mixtures		
Temporary		Perma	Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre	
Orchard Grass	12	Orchard Grass	12	
Landino Clover	3	Landino Clover	3	

Attach:

1.....

Timothy

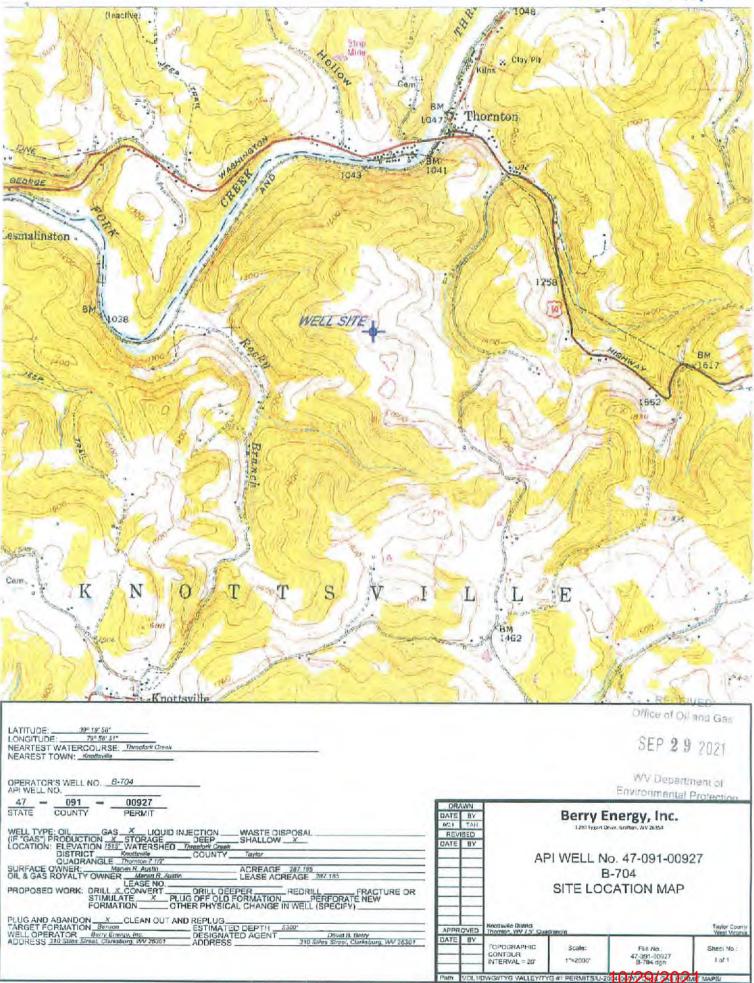
Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, provide water volume, include dimensions (L, W, D) of the pit, and dimensions (L, W), and area in acres, of the land application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

Timothy

Photocopied section of involved 7.5' topographic sheet.

10

Plan Approved by: Bryan Harris Comments:	
	RECEIVED Office of Oil and Gas
	SEP 2 9 2021
Title: Date: 9/27/21	WV Department of Environmental Protection



WW-7 8-30-06



West Virginia Department of Environmental Protection Office of Oil and Gas WELL LOCATION FORM, CDS

API: 47-091-00927		WELL NO.:	
FARM NAME: Daniel N.			
RESPONSIBLE PARTY	NAME: Berry E	nergy, Inc.	
		DISTRICT: Knottsville	
QUADRANGLE: Thor	nton		
SURFACE OWNER: Ma	arvin R. Austin		
OYALTY OWNER: Marvin R. Austin			
UTM GPS NORTHING:	4354275.815		
UTM GPS EASTING: 59	0719.797	GPS ELEVATION: 1519.56'	

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:

L. 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 X : Post Processed Differential	Wag of the off	
Real-Time Differential	SEP 2 9 2021	
Mapping Grade GPS: Post Processed Differential		
Real-Time Differential	VVV Copulation of	

Real-Time Differential

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.

Karro B. Som	President	September 20, 2021
Signature	Title	Date

10/29/2021

Say ronmantal Protection

POWER OF ATTORNEY

COALOUEST DEVELOPMENT LLC TO **GREG NAIR**

Dated: January 1, 2021

Expires: December 31, 2021

KNOW ALL MEN BY THESE PRESENTS: That CoalQuest Development LLC. a limited liability company formed under the laws of the State of Delaware (the "Company"). acting by and through Rosemary L. Klein, its duly authorized Vice President, has and does hereby appoint Greg Nair its true and lawful Attorney-in-Fact with power and authority, for and on behalf, and in the name of the Company, during the period herein specified, and subject to the restrictions and limitations set forth in this Power, to execute, acknowledge and deliver in the ordinary and regular course of the Company's business, applications for mining, environmental, safety, and health permits, permit transfers, or permit bond releases or bond adjustments, amendments, supplements or modifications to such permits, certificates, gas well plugging applications, shallow well drilling permit applications, or other instruments directly related to such amendments, supplements or modifications, monthly production reports, air quality, water quality or other environmental reports, quarterly discharge monitoring reports and any other like or similar reports required to be filed with any local, state or federal governmental agency.

The Attorney herein appointed shall be authorized to act pursuant to this Power from the date hereof only so long as such Attorney shall remain an employee of Arch Resources. Inc. or any subsidiary thereof, or until December 31, 2021, or until such earlier time as this instrument has been revoked, annulled, rescinded or set aside by an instrument of revocation filed with the Secretary of the Company, whichever first occurs.

IN WITNESS WHEREOF, the Company has caused this Power of Attorney to be executed on its behalf, and its seal to be hereunto affixed as of the day and year first above written, by the undersigned, Rosemary L. Klein, duly authorized Vice President of the Company.

COALQUEST DEVELOPMENT LLC

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Vice President

Office of Oil and Gas

SEP 2 9 2021

WV Department of Environmental Protection

10/29/2021

STATE OF MISSOURI)) ss COUNTY OF ST. LOUIS)

On this $2 \mid day$ of December, 2020, before me, the undersigned notary public, personally appeared Rosemary L. Klein, known to me to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Notary Public

My Commission Expires: 11/8/2024



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SEP 2 9 2021

WV Department of Environmental Protection





Stansberry, Wade A <wade.a.stansberry@wv.gov>

Plugging Vertical Well Work Permit (API: 47-091-00927 & 47-091-01127)

1 message

 Stansberry, Wade A <wade.a.stansberry@wv.gov>
 Mon, Oct 25, 2021 at 2:44 PM

 To: David Berry <dberry@berryenergy.com>, "Harris, Bryan O" <bryan.o.harris@wv.gov>, ckinsey@wvassessor.com

I have attached a copy of the newly issued well permit(s). This will serve as your copies.

If you have any questions, then please contact us here at the Office of Oil and Gas.

Thank you,

Wade A. Stansberry

Environmental Resource Specialist 3

West Virginia Department of Environmental Protection

Office of Oil & Gas

601 57th St. SE

Charleston, WV 25304

(304) 926-0499 ext. 41115

(304) 926-0452 fax

Wade.A.Stansberry@wv.gov

4 attachments

₱ 47-091-01127 - Copy.pdf 1590K

₱ 47-091-00927 - Copy.pdf 1846K

Pariable IR-8 Blank.pdf

Bink.pdf 179K