8000-PM-OOGM0024 4/2012

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS MANAGEMENT

DEP USE ONLY
Application Tracking #

Proposed Alternate Method or Material for Casing, Plugging, Venting or Equipping a Well

received 01/28/2025

Well Operator	DEP ID#	Well Permit or Registration Number
Range Resources Appalachia, LLC	141142	37-125-29187

Address	Well Farm Name
3000 Town Center Blvd.	BIRD RUN 10938

City	State	Zip Code	Well #	Serial #
Canonsburg	PA	15317	1H	

Phone	Fax	County	Municipality
724-743-6700		Washington	Chartiers Twp

A proposed alternate method is subject to provisions in §3221 of the 2012 Oil and Gas Act, 58 Pa. C.S. §3221 Section 13 of the Coal and Gas Resource Coordination Act, 58 P.S. §513 and 25 PA Code §§78.75-78.75a (relating to Alternate Methods.) ***Attach proof of notification of coal operator(s).***

Describe in reasonable detail using a written description and / or diagram:

1. **the proposed alternate method or materials, and**
2. **the manner in which the alternative will satisfy the goals of the laws and regulations.**

The BIRD RUN 10938 pad is in a known area of mining. The top of the mined-out Pittsburgh coal is estimated to be around 250'GL (no other workable coal seams), and the deepest reported fresh groundwater (DFGW) within a 2,500' radius of the BIRD RUN 10938 pad is estimated at a preliminary depth of roughly 347'GL for planning purposes which is approximately 97' below the top of the coal mine. However, during prior operations on the pad fresh water was not observed below the coal seam after monitoring for influx. Since the BIRD RUN 10938 pad location is within a mine boundary, a mine balance cement job is required on the 13-3/8" mine string. As a result, it is not possible to set a water string at least 50' below DFGW, as well as provide enough space to effectively place mine baskets between the surface casing shoe and the top of the mine providing ample cement coverage and isolation between DFGW and the mined coal. (per Chapter §78a.83(c) & §78a.83(h) as shown below). With this alternate method, we are requesting to set a water casing string less than 50' below the DFGW due to the proximity of DFGW and the estimated top of the mine void.

§78a.83. Surface and coal protective casing and cementing procedures.

(c.) The operator shall drill to approximately 50 feet below the deepest fresh groundwater or at least 50 feet into consolidated rock, whichever is deeper, and immediately set and permanently cement a string of surface casing to that depth.

(h) Unless an alternative method has been approved by the Department in accordance with § 78a.75 (relating to alternative methods), when a well is drilled through a coal seam at a location where the coal has been removed or when a well is drilled through a coal pillar, the operator shall drill to a depth of at least 30 feet but no more than 50 feet deeper than the bottom of the coal seam. The operator shall set and cement a coal protection string of casing to this depth. The operator shall equip the casing with a cement basket or other similar device above and as close to the top of the coal seam as practical.

Optional: Approval by Coal Owner or Operator		Signature of Applicant / Well Operator	
Signature	Date	Signature	Date
			1/28/2024
Print or Type Signer's Name and Title		Print or Type Signer's Name and Title	
		Jon Hinson - Sr. Drilling Engineer	

If optional approval is signed by coal owner or operator, the 15-day objection period may be waived.

DEP USE ONLY

Approved by (DEP Manager)	Conditions	Date
	☐ YES, See Attached ☐ NO	

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DEP USE ONLY
Application Tracking #
1512958

Master Auth 1511838
UDOW still pending

Proposed Alternate Method or Material for Casing, Plugging, Venting or Equipping a Well

received 01/16/2025

Well Operator	DEP ID#	Well Permit or Registration Number
Range Resources Appalachia, LLC	141142	125-29187

Address	Well Farm Name
3000 Town Center Blvd.	BIRD RUN 10938

Alt Site Id: BIRD RUN

City	State	Zip Code	Well #	Serial #
Canonsburg	PA	15317	1H	

Phone	Fax	County	Municipality
724-743-6700		Washington	Chartiers Twp

A proposed alternate method is subject to provisions in §3221 of the 2012 Oil and Gas Act, 58 Pa. C.S. §3221 Section 13 of the Coal and Gas Resource Coordination Act, 58 P.S. §513 and 25 PA Code §§78.75-78.75a (relating to Alternate Methods.) ***Attach proof of notification of coal operator(s).***

Describe in reasonable detail using a written description and / or diagram:

1. **the proposed alternate method or materials, and**
2. **the manner in which the alternative will satisfy the goals of the laws and regulations.**

25 PA Code Chapter 78a.84(f) requires that Casing which is attached to a blow-out preventer with a pressure rating of greater than 3,000 psi shall be pressure tested after cementing. A passing pressure test must be holding the anticipated maximum pressure to which the casing will be exposed for 30 minutes with not more than a 10% decrease. Certification of the pressure test shall be confirmed by entry and signature of the person performing the test on the driller's log. Range is requesting to perform a Casing Integrity Test (CIT) immediately following cementing operations and verifying the plug bumped and reducing the test from 30 minutes to 10 minutes. This will be done per API Standard 65 - Part 2, Second Edition - 12/2010 Section 5.10.2 "Regulations may require casing to be pressure tested.

Preferably, pressure testing casing should be done before significant gel strength has developed. However, such pressure testing will be limited by the pressure ratings of plugs, floats, cementing heads and other equipment. Pressure testing can be done after the cement has set but this can result in micro-annulus formation or damage to the cement sheath. The pressure should be held on the casing for the shortest length of time required to accomplish the test." Reducing the test duration to 10 minutes ensures the cement is still in its liquid phase when the pressure test is completed. Performing the test for the full 30 minutes could allow the cement to enter the critical gel phase where it transitions from a liquid to a solid. While in this critical gel phase, any disturbance of the cement could create an opportunity of microannuli to form which could affect the cement bond. In the event the plug does not bump, the cement head will be shut in to maintain final pressure balance until a minimum compressive strength of 350 psi is achieved and the CIT would then be performed per requirements in applicable statutes and regulations.

Optional: Approval by Coal Owner or Operator		Signature of Applicant / Well Operator	
Signature	Date	Signature	Date
		Randi Robertson	1/16/2025
Print or Type Signer's Name and Title		Print or Type Signer's Name and Title	
		Randi Robertson Drilling Engineer	

If optional approval is signed by coal owner or operator, the 15-day objection period may be waived.

DEP USE ONLY

Approved by (DEP Manager)	Conditions	Date
	☐ YES, See Attached ☒ NO	1/29/25