



Groundwater and Environmental Professionals Since 1891

March 9, 2023

Sent via e-mail

Samantha Lutz
Oil and Gas Operations District
Southwest Regional Office
Pennsylvania Department of Environmental Protection
400 Waterfront Dr
Pittsburgh, PA 15222

RE: PennEnergy Resources, LLC
Southwest Pennsylvania Water Management Plan
for Unconventional Shale Gas Well Development
Economy Borough, Beaver County

Ms. Lutz:

The attached information is being re-submitted on behalf of:

PennEnergy Resources, LLC
1000 Commerce Drive
Park Place One, Suite 400
Pittsburgh, PA 15275
Attn: Richard M. Watson

Please find attached a copy of the PennEnergy Resources, LLC Water Management Plan Application for Unconventional Shale Gas Well Development in the Pennsylvania Department of Environmental Protection (PADEP) Southwest Region: Big Sewickley Creek. This copy of the complete revised application is being submitted in response to the comments following the review provided by the PADEP on January 10, 2023 via email. The comments, with responses in italics, are provided below. The responses below are also reflected in the application.

Comment 1a: Provide the surveyed ground (stream bed bottom) elevation of Big Sewickley Creek at the proposed withdrawal location.

The surveyed stream bed bottom elevations are presented in cross-section in ATTACHMENT D of the application and discussed in ATTACHMENT J, item a.

Comment 1b: Provide a justification that the delineated max pool depth is an adequate representative of the normal pool depth of Big Sewickley Creek. The actual normal pool depth should be reflected.

The cross-sections reflecting normal pool depth are presented in ATTACHMENT D of the application and discussed in ATTACHMENT J, item a. Normal pool depth was calculated using the average daily flow from USGS StreamStats (21.6 cfs) and the stream height as determined from the stream gage calibration curve. The resulting pool depth reflects the actual normal pool depth.

Comment 1c: In addition to the normal pool depth, update cross-section A-A to show the water elevations associated with the required flow rates (i.e. 8.8 and 13.1 cfs) for the full withdrawal rate to occur.

The cross-sections have been updated and the elevations associated with the required flow rates are reflected on the table presented in ATTACHMENT D and discussed in ATTACHMENT J, item a.

Comment 1d: Show the actual dimensions of the dolphin intake(s) that will be utilized during withdrawals.

The actual dimensions of the dolphin intakes are presented in ATTACHMENT J. The dimensions associated with the 6-inch intake should be referenced (line diameter: 6 in.; total intake height: 19 in. [10 inches observed below surface during use]; intake length: 21 ⁷/₈ in.; intake diameter: 15 ³/₄ in.)

Comment 1e: Document that the water elevations at various flows is of sufficient depth for a withdrawal to occur without stream bed disturbance. Specifically, the location of the intake structure, normal pool depth at that location, 30% average daily flow passby, 50% intake average daily flow passby, and the depth of the intake structure should be evaluated so that stream bed disturbance is minimized. It is suggested that the PA Fish and Boat Commission's Recommendations Surface Water Intake Design Criteria to Reduce Aquatic Species Impacts be followed as it relates to habitat selection.

The location of the intake structure is within a pool of sufficient depth to avoid impacts to the stream bed habitat. The distances between the intake structures and the stream bed are presented in the table within ATTACHMENT D. PFBC reviewed the stream cross-sections and table presented within ATTACHMENT D and agreed that the proposed location and operation of the intake show sufficient separation between the intake structures and the stream bed to avoid impacts to the stream bed. The correspondence with PFBC is included in ATTACHMENT G.

Comment 1f: Provide a stream profile through each of the seven (7) intake structures locations clearly depicting that each individual intake structure is suspended at a sufficient depth for a withdrawal to occur and the no streambed impacts will occur.

ATTACHMENT D includes profiles through each of the seven intake structures showing distance above the streambed at normal pool depth and the associated table presents the distances above the streambed. This is also discussed in ATTACHMENT J, item a.

Comment 2: Provide the cross-section velocity and depth data for the ten days of measurements that were collected while calibrating the upstream gage.

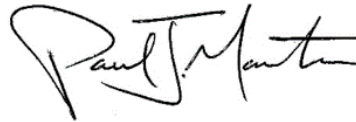
The data sheets for the upstream gage are included in the Stream Gage Calibration Report (ATTACHMENT B of the application).

Comment 3: Comment No. 6 of the August 24, 2022 WMP deficiency notice stated that evidence of the downstream staff gage calibrations be submitted. Provide all the cross-section velocity and depth data, and discharge and staff data, that has been collected to date for the downstream gage.

The data sheets for the downstream gage are included in the Stream Gage Calibration Report (ATTACHMENT B of the application).

Please feel free to contact me by email or phone at 814-724-4970 with any questions you may have.

Sincerely,
Moody and Associates, Inc.

A handwritten signature in black ink, appearing to read "Paul J. Martin". The signature is fluid and cursive, with the first name "Paul" being the most prominent.

Paul J. Martin, P.G.
PMartin@moody-s.com