COMMONWEALTH OF PENNSYLVANIA

BEFORE THE ENVIRONMENTAL HEARING BOARD

CENTER FOR COALFIELD JUSTICE and
SIERRA CLUB,

Appellants,

v.

COMMONWEALTH OF PENNSYLVANIA,
DEPARTMENT OF ENVIRONMENTAL
PROTECTION,

Appellee,

and

CONSOL PENNSYLVANIA COAL
COMPANY, LLC,

Permittee.

EHB Docket No. 2014-072-B
(Consolidated with 2014-083-B
and 2015-051-B)

PERMITTEE CONSOL PENNSYLVANIA
COAL COMPANY, LLC'S
POSTHEARING BRIEF

Filed on behalf of Permittee

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Permittee, Consol Pennsylvania Coal Company, LLC ("CPCC"), through its undersigned counsel, pursuant to 25 Pa. Code § 1021.131 and the Board's Order of September 20, 2016, hereby files the following Posthearing Brief, and states as follows:

I. INTRODUCTION

This case arises from the Center for Coalfield Justice ("CCJ") and the Sierra Club's (collectively, "Appellants") challenge to Permit Revisions 180 and 189 (collectively, "Permit Revisions") issued by the Pennsylvania Department of Environmental Protection (the "Department") to CPCC for CPCC's Bailey Mine coal mining activities permit ("CMAP") No. 30841316. Appellants challenge the issuance of the Permit Revisions, asserting that the Department violated the Pennsylvania Clean Streams Law, associated regulations, and Article I, Section 27 of the Pennsylvania Constitution. During a thorough, eight-day evidentiary hearing on the merits, the Board heard undisputed testimony establishing:

- The Permit Revisions at issue were the result of perhaps the most detailed, protracted review ever conducted by the California District Mining Office ("CDMO") and involved extensive "professional, but contentious" discussion between the Department and CPCC following appropriate opportunities for public comment and involvement.
- The Department applied independent professional judgment in evaluating the applications for the Permit Revisions ("Permit Revision Applications").
- The Department required numerous revisions and changes to both Permit Revision Applications.
- CPCC utilized defensible science in predicting possible subsidence-induced impacts to streams when preparing the Permit Revision Applications.
- The stream mitigation techniques utilized by CPCC have been overwhelmingly successful in the past and have been successful to date in restoring streams impacted by subsidence within the area of CPCC's operations permitted under the Permit Revisions ("Permit Area").
- In issuing the Permit Revisions, the Department only authorized longwall mining underneath streams it concluded CPCC had demonstrated could be successfully mitigated.
Stream impacts, including flow losses, resulting from CPCC's mining and operations will be temporary, are capable of mitigation, and have been or are being mitigated.

In summary, the record demonstrates that the Department appropriately evaluated the Permit Revision Applications, legally issued the Permit Revisions, and that CPCC carefully conducts its permitted operations under the Permit Revisions in a way that minimizes environmental incursions and, if necessary, restores streams.

Faced with this factual record, Appellants do not specifically attack the Permit Revisions, but instead attack the legality of longwall mining in Pennsylvania. Appellants make two (2) legal arguments in their posthearing briefing. First, Appellants request – yet again – that the Board adopt a zero-impact standard under the Clean Streams Law. This time, Appellants contend that any flow loss resulting in a non-flowing or dry stream segment, for even a limited amount of time, constitutes an impermissible loss of "use" prohibited by the Clean Streams Law and 25 Pa. Code Chapter 93. The Board rejected Appellants' prior, conceptually identical iteration of argument – that any impact to streams constitutes prohibited "pollution" – in rejecting Appellants' Motion for Summary Judgment. In rejecting Appellants' Motion for Summary Judgment, the Board noted, among other deficiencies, that Appellants' position would have it ignore other pertinent statutory and regulatory provisions that authorized the Department to issue permits. Opinion & Order on Appellants' Motion for Summary Judgment ("Summary Judgment Opinion"), p. 8. Appellants' posthearing position suffers from the very same flaws recognized by the Board and should be rejected for the same reasons.

Second, Appellants contend that the Department's issuances of the Permit Revisions fail all three prongs of the test established by Payne v. Kassab, 312 A.2d 86 (Pa. Commw. Ct. 1973), aff'd, 36 A.2d 236 (Pa. 1976) and therefore violate Article I, Section 27 of the Pennsylvania Constitution (the "Environmental Rights Amendment"). Appellants' position relies upon (1)
their legally meritless contentions the Clean Streams Law is violated by any flow loss, and (2) an incorrect assertion that the Department failed to adequately assess the environmental risks posed by the Permit Revisions.

II. PROPOSED FINDINGS OF FACT

A. The Parties


2. Appellant Sierra Club is an environmental conservation non-profit corporation formed under the laws of the State of California. Stip. ¶ 2.


4. Sierra Club has a "Beyond Coal Campaign" directed to ending coal mining in the United States. Tr. 68:1-69:19.

5. CPCC is a Delaware Limited Liability Company which, among other things, is engaged in business of the mining and extraction of coal within Pennsylvania. Stip. ¶ 4.
B. Background of the Appeals

6. In 2007, CPCC submitted an application to expand its Bailey CMAP ("2007 Application") to allow development and longwall mining within an area known as the Bailey Lower East Expansion Area ("LEEA"). Stip. ¶ 11, 16.

7. After years of Department review, revision and analysis, in March 2012, CPCC withdrew its request to longwall mine and instead requested authorization to development mine within the LEEA. Stip. ¶ 12; Transcript ("Tr.") 938:8-939:8.

8. Permit Revision 158 was issued on March 29, 2012, authorizing development mining in Panels 1L through 5L. Stip. ¶ 9, 13; CP Ex. 8; Tr. 931:24-932:26.

9. CPCC submitted certain limited additional materials, which the Department considered in combination with the 2007 Application as a request to longwall mine Panels 1L through 5L. Stip. ¶ 15; Tr. 939:23-940:5.

10. On May 1, 2014, the Department issued Permit Revision 180 to the Bailey CMAP ("Permit Revision 180"). Stip. ¶ 34; Stip. Ex. F; Tr. 943:7-12.

11. Permit Revision 180 authorized longwall mining within Panels 1L through 5L of the LEEA, but did not authorize longwall mining beneath Polen Run and Kent Run. Stip. ¶ 35; Stip. Ex. F; Tr. 943:7-12.

12. Appellants timely filed an appeal of Permit Revision 180. Stip. ¶ 34.

13. In or around May 2014, CPCC submitted an application requesting authorization to longwall mine Panels 1L and 2L beneath Polen Run and to implement a stream restoration plan including the installation of a geo-composite ("GCL") stream liner system ("Polen Run Liner System") in Polen Run above the 1L and 2L Panels. Stip. ¶ 54; Tr. 944:9-19; 119:8-10; 119:23-120:9; 944:11-19; 961:18-962:2.

15. Appellants timely filed an appeal of Permit Revision 189. Stip. ¶ 58.

C. The Bailey CMAP

16. The Bailey CMAP was originally issued by the Department on August 28, 1985. Stip. ¶ 5; Tr. 928:3-5.

17. The Bailey Mine is located in both West Virginia and Pennsylvania. Tr. 827:12-828:1.


19. The Bailey Mine has utilized longwall mining since the Bailey CMAP was issued in 1985. Stip. ¶¶ 7-8; Tr. 876:16-24; 928:3-5.


22. The LEEA refers to panels 1L to 5L of the Bailey Mine and includes approximately 3,100 acres. Stip. Ex. R; Tr. 927:8-19.

23. The LEEA is located primarily to the east of Ryerson Station State Park. Stip. ¶ 16; Stip. Ex. S.

24. The western most sections of proposed panels 4L and 5L and smaller portions of the 2L and 3L panels are beneath a portion of the eastern part of Ryerson Station State Park. Stip. ¶ 17; Stip. Ex. S.
D. CPCC's Operations Generally

25. Development mining refers to mining by conventional means to prepare an area for longwall mining and includes the use of continuous miners for the development of gate roads, which are necessary for ventilation, transportation of personnel, supplies and equipment, and coal conveyance required for longwall mining. Stip. ¶ 10; Tr. 831:18-837:10; CP Ex. 5.

26. Full extraction mining, also referred to as longwall mining, is a form of underground mining in which a long block of coal is mechanically removed in a single panel by a longwall mining machine. Stip. ¶ 9; Tr. 850:3-17; CP Ex. 5.

27. Longwall mining is different from room-and-pillar mining, which removes coal while leaving behind pillars of coal that support the surface. Tr. 849:9-850:2; 850:10-851:9; CP Exs. 3-6d.

28. Room-and-pillar mining may be differentiated from development mining, which is intended to prepare an area for longwall mining by constructing needed infrastructure within the mine. Tr. 849:9-850:2; 850:10-851:9.


30. The Bailey Mine's mine plan was not engineered to implement room-and-pillar mining. Tr. 1583:2-9; 894:9-895:8.

31. Longwall mining does not leave behind surface supports within the panels, which results in planned subsidence. Tr. 858:23-865:12; 995:22-996:3; CP Ex. 5.

32. Each panel of coal removed is planned to be 1,500 feet wide. Tr. 935:2-5.

1 Given the Appellants' groundless and general attack on CPCC's longwall mining operations in lieu of focusing on the Department's review and approval of the permits at issue, CPCC has addressed its operations generally before turning to the specific details of the Permit Revisions.
33. Planned subsidence is a localized lowering of the surface as the mining progresses through a panel of coal. Tr. 873:14-23; 874:11-17; 996:4-9.

34. When subsidence occurs within streambeds, it may cause pooling and other changes to the streambeds, which may result in diminution or loss of flow. Tr. 1003:5-21; Stip. Ex. M at p. 3.

35. Pooling may be caused by events other than subsidence. Tr. 1004:16-24.

36. There are considerable practical limitations on longwall mining. Tr. 877:25-880:3; 894:9-895:8.

37. It is not possible to mine by "curving" a longwall panel, nor is it possible to stop mining a panel at one location and restart the panel in a different location to avoid a particular surface feature or stream without significant changes to the mine design and lay-out, significant losses of mineable coal, exposing the miners to risks associated with the movement of the longwall machine, as well as the significant cost of physically revising the mine, the disassembly of the longwall machine, the movement of the machine and the reassembly of the machine. Tr. 850:10-17; 872:7-17; 877:25-880:3; 894:9-895:8; 898:6-11; 914:23-915:8.

38. If no subsidence-induced impacts to streams were allowed in Pennsylvania, it would be practically impossible to longwall mine in Pennsylvania. Tr. 877:25-878:4; 879:1-880:3; 894:9-895:8; 1492:10-20.


40. Unlike planned subsidence, unplanned subsidence is inconsistent, unpredictable and at times can result in collapses and/or sinkholes on the surface overlying the mines. Tr. 856:15-857:9.

42. Longwall mining is safer for miners and more economical than room-and-pillar mining. Tr. 840:8-10; 880:17-881:16.


44. CPCC continuously looks for opportunities to improve its operations and to minimize its environmental footprint. Tr. 1040:25-1041:6.

E. The Department's Standard Application for Revisions to a CMAP

45. The Department requires that applications for CMAPs and for Permit Revisions to CMAPs utilize form "modules." Stip. ¶ 18, 27; Stip. Exs. A-D; Tr. 1457:21-1458:6.

46. In reviewing, evaluating, and requiring revisions to applications for permit revisions, the Department relies upon Technical Guidance Document No. 563-2000-655 ("TGD"). Tr. 435:20-436:2; Stip. Ex M.

47. The TGD reflects the Department's interpretation of applicable provisions of the Clean Streams Law and Mine Subsidence Act and associated regulations as allowing for temporary impacts to streams that may result from planned subsidence and the subsequent mitigation work. Tr. 437:11-438:4; 1435:6-23; Stip. Ex. M at 6-7, 10-16.

48. The TGD is a policy document intended to assist Department personnel with interpretation of the regulations and is not a regulation itself. Tr. 473:14-17; 1438:5-20.

49. The Department will not issue a permit revision where the application predicts flow loss without a demonstration that the streams will recover within a certain period of time. Tr. 454:22-455:9; 486:16-489:16; 1437:19-1438:4.
50. In reviewing applications for CMAP revisions, the Department anticipates that temporary impacts to some streams will occur. Tr. 438:5-23.

51. The Department's extensive sampling and monitoring requirements for CMAPs and revisions to CMAPs are found in the TGD and are not located in either statutes or regulations. Tr. 1587:4-19.

52. The Department interprets the Clean Streams Law and associated regulations to allow for temporary impacts to streams so long as they are mitigated. Tr. 453:6-21; Stip. Ex. M.

53. In reviewing applications for permit revisions and evaluating possible subsidence-induced impacts, the Department errs on the side of being "conservative." Tr. 466:14-467:5.

54. Appendix A of the TGD provides the method to identify portions of a stream which are biological diverse and portions which are biologically variable. Stip. Ex. M. at Appendix A; Tr. 1448:15-22.

55. Biologically variable refers to a stream segment which supports at least (2) benthic macroinvertebrate taxa. Stip. Ex. M. at Appendix A; Tr. 1332:24-1333:4.

56. "The biologically diverse stream segment is the segment where, under the normal range of conditions, a diverse community of uni / semivoltine taxa and other macroinvertebrates, that are building blocks of aquatic ecologic systems, can exist." Stip. Ex. M. at Appendix A; Tr. 1332:24-1333:4; 1376:14-1377:9.

57. TGD does not provide a specific definition of the term "biologically diverse." Stip. Ex. M at Appendix A; Tr. 1376:14-1377:9.

58. Appendix B of the TGD provides a methodology for scoring the benthic macroinvertebrates within a biologically diverse stream segment. Stip. M. at Appendix B; Tr. 1695:11-17; 1698:22-1699:6.
59. Appendix B scoring is referred to as a Total Biological Score ("TBS"). *Id.*

60. Extensive amounts of data and information are required as part of the Modules constituting a permit revision application. Tr. 455:24-456:16.

61. The Department obtains public input regarding CMAP revision applications through public notice and hearings. Tr. 1516:7-10.

62. Review and approval of a permit revision application relies upon the professional judgment of Department permit reviewers. Tr. 1458:11-1459:11.


64. The Department interprets the Chapter 93 requirement that uses be protected and maintained to preclude permanent elimination of a stream's uses. Tr. 450:7-18.

**F. LEEA Stream Characteristics**


66. Each of the LEEA Streams has a designated use of Trout Stocking Fisheries ("TSF") pursuant to Chapter 93 and was attaining that use as of the time Permit Revision 180 was issued. Stip. ¶ 32; Tr. 484:22-485:13.

67. Module 8 includes information regarding the characteristics of the LEEA Streams. Stip. ¶¶ 19-21; Stip. Ex. B.
68. The LEEA Streams were classified as "perennial" in Form 8.3B/Stream Inventory in Module 8 to the application for Permit Revision 180 ("180 Application"). Tr. 1071:21-1072:16; 1267:1-1269:1; 1324:21-1329:4; Stip. Ex. B at CPCC_EHB072_00001023-1035.

69. As part of its permitting and operations in the LEEA, CPCC collected and continues to collect vast amounts of stream monitoring data. Tr. 1047:18-1050:25.

70. The classification of the streams as "perennial" in Module 8 utilized the definition of "perennial" located in 25 Pa. Code § 89.5 and the TGD. Tr. 1071:21-1072:16; 1267:1-1269:1; 1324:21-1329:4.

71. 25 Pa. Code § 89.5 and the TGD definition of "perennial stream" incorporates a biological component, specifically the presence of a minimum of two (2) macroinvertebrate taxa. Tr. 1072:17-1037:7; 1267:1-1269:1.

72. The U.S. Geological Survey ("USGS") defines "perennial stream" as referring to "a stream that flows throughout the year." Tr. 1074:4-8; 1266:19-25.

73. USGS defines an "intermittent stream" as referring to a "stream that holds water during wet portions of the year." Tr. 1074:14-18; 1265:24-1266:14.

74. With the exception of North Fork Dunkard Fork, each of the LEEA Streams was classified as "perennial" on the basis of the biological component, specifically the presence of at least two (2) macroinvertebrate taxa. Tr. 1065:20-1066:4; 1324:21-1329:4.

75. The LEEA Streams, with the exception of North Fork Dunkard Fork, do not have continuous, year-round flow under normal conditions. Tr. 1063:11-1067:6; 1073:14-22; 1114:23-1115:2; 1270:2-10; 1324:21-1329:4; Stip. Ex. B at Table 8.4A; Ex. A28.

76. The streams do not lose their uses because they do not flow year-round. Tr. 1074:19-24; 1300:5-19.
77. The rate and volume of flow in the LEEA streams is highly variable and influenced by precipitation. Tr. 567:23-570:5; 1075:13-21.

78. Taxa present in the LEEA Streams do not prove that the LEEA Streams have continuous, perennial flow. Tr. 1324:21-1329:4; 1358:19-23; CP Ex. 26.

79. The TGD specifies that biological sampling must be completed between October and May, recognizing that there may be periods of low or no-flow during the drier summer months which might interfere with sampling. Stip. Ex. M at p. 31; Tr. 1329:14-23.

80. Stream flow monitoring data was collected by Moody & Associates for purposes of meeting permit application requirements. Tr. 1049:1-21.

81. Long term monitoring data was collected by Mott McDonald in accordance with required monitoring frequencies for purposes of demonstrating stream recovery under the TGD. Tr. 1050:1-25.

82. Civil & Environmental Consultants ("CEC") collected biological data from the LEEA streams as required for the permit application and TGD monitoring. Tr. 1051:4-14.

83. Pre-mining data collected by CPCC indicates that biologically variable reaches (i.e. those with at least two (2) macroinvertebrate taxa) can experience dry periods pre-mining and that the presence of long-lived taxa is not indicative of continuous, perennial flow. Tr. 1331:17-21; 1337:3-1338:10; CP Ex. 26.

84. Pre-mining data collected by CPCC indicates that even certain biologically diverse stream reaches may have dry periods pre-mining. Tr. 1332:22-1333:10; CP Ex. 26.

85. Joe Laslo is a Department Surface Conservation Inspector and is responsible for Bailey Mine surface inspections. Tr. 175:5-13
86. Mr. Laslo completed three (3) to six (6) pre-mining observations of each of the streams within the Permit Area. Tr. 385:13-24.

87. Mr. Laslo specifically recalled seeing dry reaches of Polen Run, Kent Run, 32618, and 32620 prior to mining. Tr. 385:25-386:17.


89. CPCC's expert hydrogeologist and hydrologist, Burt Waite, P.G., testified that he had located photographs in Moody & Associates files depicting dry reaches of Whitethorn Run and Polen Run in 2006, prior to mining. Tr. 1275:18-1280:12; CP Ex. 23 & 24.

90. CPCC's expert stream ecologist, Dr. Timothy Nuttle, testified to, inter alia, the biological conditions of the LEEA streams and other streams within the Bailey Mine area. Tr. 1322:15-16.

91. Testimony by Appellants' expert Dr. Benjamin Stout, III asserting that the LEEA Streams are perennial based upon flow criteria is not credible nor is it supported by the weight of the evidence. Tr. 716:9-720:12; 1063:11-1067:6; 1073:14-22; 1114:23-1115:2; 1270:2-10; 1324:21-1329:4; Stip. Ex. B at Table 8.4A; Ex. A28.

92. Dr. Stout was not qualified as an expert hydrogeologist nor did Dr. Stout have degrees in sciences pertinent to subsidence. Tr. 656:18; 658:6; 660:11-19.

93. Dr. Stout's experience with CPCC's operations and the LEEA streams at issue was limited to sporadic sampling of Polen Run, possibly Kent Run, and 32621. Tr. 770:16-23; 772:23-773:13.
Dr. Stout admitted mere moisture within the stream channel or interstitial zone below the stream bed was all that was required to sustain biology within the LEEA Streams and that active flow was not necessary. Tr. 720:13-721:10; 739:14-19; 773:15-774:1.

Both Dr. Stout and Dr. Nuttle testified that stream biology has various adaptations to withstand low or no-flow conditions. Tr. 721:5-10; 1328:12-16.

Dr. Stout and Dr. Nuttle agreed that streams are dynamic and can adapt or change frequently in response to natural conditions. Tr. 763:14-764:2; 1328:12-16.

Dr. Stout admitted that augmentation would keep biology within streams alive and would protect stream uses. Tr. 740:13-23; 783:7-784:1.

Dr. Stout admitted that his concerns regarding the impacts to biology from CPCC’s mitigation work were the same as the concerns he had regarding any in-stream construction work unrelated to mining. Tr. 802:5-803:2; 804:14-805:17.

Dr. Stout could not offer testimony regarding the time period for biology to recover from flow loss but testified it would occur. Tr. 684:12-22.

Dr. Stout is an activist who opposes coal mining. Tr. 808:15-811:22.

The LEEA Streams in the LEAA contained over 200 pools prior to CPCC’s mining authorized by the Permit Revisions. Tr. 1005:4-8.

G. Stream Mitigation and Restoration Measures

CPCC utilizes a variety of streambed mitigation techniques to improve the conveyance of water across streams which may be impacted by subsidence. Tr. 1133:2-1134:6.

The Department encourages mitigation as quickly as possible after stream impacts occur. Tr. 444:6-11.

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See Proposed Finding of Fact ¶¶ 109-119, infra, for a description of the temporary augmentation mitigation method.
104. Certain standard techniques are commonly utilized and authorized similarly to a general permit issued pursuant to 25 Pa. Code Chapter 105 through their inclusion in, and the Department's approval of, Module 15 of a CMAP revision application. Tr. 1133:2-9; 1133:24-1134:6; 1133:24-1134:1.

105. These standard mitigation techniques include stream flow augmentation, removal of up to 12 inches of streambed alluvial materials, heave removal, surface fracture sealing, and consolidation grouting. Tr. 1133:10-17.

106. These techniques are typical of CPCC's operations and used regardless of permit revision. Tr. 1134:2-6.

107. The Department regards these activities as "minor forms" of restoration that are not significantly impactful to the stream and can be implemented quickly. Tr. 98:15-99:1; 509:11-510:10.

108. The selection of a particular streambed mitigation technique is based on streambed conditions and equipment accessibility. Tr. 1133:10-23; 1136:1417; 1142:25-1143:8; 1145:18-1146:3.

1. Temporary Augmentation


110. Augmentation is temporary and is implemented prior to other mitigation measures. Tr. 1136:16-1137:3.


112. Temporary augmentation is implemented within 24 hours or 15 days, depending upon whether the flow loss was predicted. Tr. 1136:24-1137:9.
113. Temporary augmentation can be used to protect and maintain the existing and designated uses of streams. Tr. 1139:1-6; 1198:17-25; 740:13-23; 1351:9-1352:7.


115. The Department requires that augmentation be used to maintain flow across a panel and reflect the normal range of conditions. Tr. 415:20-25.

116. Augmentation is not necessary or used when flow conditions or losses are identified as a natural condition by the Department. Tr. 1137:10-21; 284:8-285:6.

117. That determination of whether flow loss is naturally occurring is made utilizing pre-mine flow data. Tr. 1137:22-1138:2.

118. Natural and non-augmented pre-mining stream flow volumes are highly variable. Tr. 1075:13-21.

119. In determining the normal range of conditions, including whether flow loss is naturally occurring, the Department considers at least two (2) years' worth of pre-mining data. Tr. 419:8-11; 444:17-445:12.

120. In determining whether subsidence-induced flow loss has occurred and whether natural and non-augmented stream flow has recovered, it is inappropriate to compare stream flow observations or volumes of a month in one year to the same month in another year (e.g., July 2015 to July 2016). Tr. 1061:3-1070:9.

121. Temporary flow losses do not create the loss of streams' uses. Tr. 1289:2-1290:9; 451:7-16; 578:4-18; 1074:19-24; 1162:12-20.

2. **Heave Removal**

122. Heaves are elevated portions of streambed. Ex. A14; Tr. 1142:18-24.
123. Heaves sometimes occur in streambeds as a result of planned subsidence, but heaves do not necessarily cause flow loss. Tr. 1142:18-1143:8.

124. Heaves may be removed if deemed to impact flow. Tr. 1142:1143:11.

125. Heave removal takes approximately a day or two (2), during which time erosion and sedimentation controls are used and flow is diverted. Tr. 1143:9-14.

126. Erosion and sedimentation controls are utilized during heave removal. Tr. 1143:9-11.

3. Fracture Mitigation

127. Fractures sometimes occur in streambeds as a result of planned subsidence. Tr. 1144:4-7.

128. Some fractures in streambeds are naturally occurring and are not caused by subsidence. Tr. 1144:4-7.

129. Surface fracture sealing is the hand placement of bentonite clay into fractures to improve flow conveyance. Tr. 1143:15-1144:3.

130. Consolidation grouting is used to seal subsurface fractures by injecting a cement mixed with bentonite through boreholes drilled approximately six (6) feet below surface. Tr. 115:6-9; 116:18-117:2; 1144:6-22; 1146:4-1149:20; CP Exs. 14-16.

131. The determination of where to employ consolidation grouting is made using flow conveyance testing. Tr. 1145:18-1146:3.

132. Baseline flow conveyance testing is done to establish post-mining, pre-mitigation conveyance properties of the stream. Tr. 1150:16-1151:3.

133. Flow conveyance testing is again undertaken after grout injection to confirm stream flow conveyance has been improved and to identify areas, if any, where additional grouting may be necessary. Tr. 1151:6-1154:14; CP Ex. 17.
134. The grout is quality control tested prior to use. Tr. 1147:22-1148:14.

135. Grouting is completed in 100-foot sections, averaging 35 feet of advancement per day. Tr. 1156:13-1157:2.

136. During grouting, stream flow is bypassed around each 100-foot section. Tr. 1156:13-1157:2.

137. Bedrock grouting is not unique to CPCC’s mitigation techniques and is widely used for other civil engineering applications. Tr. 1155:7-18.

138. CPCC’s data indicates that biology has been successfully restored in stream locations where grouting has occurred. Tr. 1353:1-1354:6; CP Ex. 30.

4. **Gate Cutting**

139. Gate cutting is a mitigation technique used by CPCC to alleviate pooling and restore a stream to its natural gradient. Tr. 103:10-104:4; 1005:13-24; 1139:1-19; CP Ex. 13.

140. Pooling occurs in naturally low-gradient stream areas where the change in stream gradient is greater than the natural gradient of the stream. Tr. 1003:5-1005:3; 1139:13-19.

141. The location of potential pooling, and thus planned gate-cutting, can be accurately predicted using the Surface Displacement Prediction System ("SDPS") model. Tr. 996:17-23; 1002:9-20; 1008:2-22.

142. Specific locations of gate cutting where gate cuts are predicted to be necessary are identified as part of Module 15. Tr. 103:10-104:4.

143. A post-mining survey is utilized to confirm where gate cutting is needed after pooling has developed. Tr. 1140:22-1141:5; 1139:13-19.
144. Gate cutting involves the removal of the high ground in the streambed located over longwall gate roads. Tr. 1139:1-19.

145. Gate cutting entails excavation, bank installation, and revegetation. Tr. 1140:2-21.

146. Gate cutting at an identified location takes between two (2) and eight (8) weeks to complete. Tr. 1141:15-19.

147. Gate cutting is typically conducted during dry season and never during trout stocking season. Tr. 1142:4-13.

148. TBS scores collected after gate-cutting show no statistically significant difference from pre-mining scores. Tr. 1350:7-1351:8; CP Ex. 27.

149. There are no alternatives to gate cutting to restore the natural gradient of the stream. Tr. 1142:14-17.

5. Erosion and Sedimentation Controls for Mitigation Techniques

150. Erosion and sedimentation controls for CPCC's mitigation techniques are standard, apply to any work in a stream, and are identified in Module 15 to include, *inter alia*, silt fence installation, temporary stream crossings, the use of hay bales, construction of stockpiles, and rock entrances. Tr. 408:5-20; 1157:8-20.

151. A stream bypass is routine and used for *any* kind of in-stream construction or mitigation work, including work unrelated to mining, to avoid sedimentation problems that could be caused by such work. Tr. 408:15-20; 116:8-17; 1645:1-12.

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3 See Proposed Finding of Fact ¶ 25, supra, for additional discussion of the utility of gate roads.

4 See Proposed Finding of Fact ¶ 59, supra, for definition and prior discussion of TBS.
6. **Maintaining Designated and/or Existing Uses**

152. Stream uses are not tied to a specific flow rate. Tr. 1452:11-20.

153. The Department requires that any subsidence-induced loss of stream flow, regardless of whether the stream is intermittent or perennial, be restored to pre-mining conditions. Tr. 1500:16-19; Stip. Ex. M.

154. Following the adoption of the TGD, CPCC completed a study of data available for streams in the "Bailey South" H & I Panels of the Bailey Mine ("Bailey South Study"). Tr. 1078:7-13; CP Ex. 10, 27, & 28.

155. The H & I Panels within the Bailey South Study area were mined prior to commencement of operations under Permit Revisions 180 or 189 and are not part of the LEEA. Tr. 969:7-13; 1102:12-1103:1; 1104:10-13.

156. The Bailey South Study area included 59 biological monitoring points. Tr. 1342:21-23.

157. The biological monitoring data for the 59 monitoring points showed no statistically significant difference between pre-mining TBS scores and post-mitigation TBS scores. Tr. 1343:10-1345:5; 1348:18-23; CP Ex. 27 and 28.

158. Dr. Nuttle testified that biological recovery and recolonization post-mining occurs rapidly. Tr. 1348:24-1349:18; CP Exs. 27, 28, 30 and 31.

159. Data collected by CPCC and its consultants shows a 90 to 95 percent recovery of the streams within the Bailey South Study area. Tr. 1080:6-13; CP Ex. 10, 27 & 28.

160. The Department has released 60 to 70 percent of the streams within the Bailey South Study area from further mitigation or monitoring obligations. Tr. 1080:14-21; CP Ex. 10.
161. The stream mitigation and restoration methods employed by CPCC are successful in maintaining and restoring stream flow. Tr. 1291:16-1292:2; 1293:8-18; 1479:2-23; 1163:3-10; 402:17-404:7; CP Ex. 10.

162. The stream mitigation and restoration methods employed by CPCC are successful in maintaining and restoring stream biology. Tr. 1479:2-23; 1342:6-1348:23.

163. CPCC's techniques are successful in maintaining the hydrologic balance after mining. Tr. 1292:3-11.

164. CPCC's mitigation techniques have aesthetically-pleasing results and are not discernible from streams that did not need to be mitigated. Tr. 1141:20-1142:3.

165. There are no alternatives to the mitigation measures used by CPCC. Tr. 1162:1-5.

166. CPCC utilizes the least invasive mitigation approach available to it and mitigation techniques may be used progressively. Tr. 509:11-519:7; 1162:6-11.

167. CPCC's mitigation techniques do not negatively impact someone's ability to use and enjoy a stream. Tr. 1162:1-20.

168. Dr. Stout has not conducted or reviewed any studies of the effectiveness of CPCC's stream mitigation techniques. Tr. 802:5-803:2.

H. Permit Revision 180 Application & Issuance

169. In 2007, CPCC submitted its initial 2007 Application seeking to development and longwall mine in the 1L through 5L panels, also known as the LEEA. Stip. ¶¶ 11, 16.

170. Over the course of approximately five (5) years, CPCC and the Department engaged in discussions regarding the Department's concerns regarding the 2007 Application. Tr. 931:24-932:1; 932:7-9.

171. CPCC and the Department engaged in numerous meetings to discuss the Department's concerns and revisions to the 2007 Application. Tr. 936:17-21.
172. After several years of discussion with the Department, CPCC, in or around early March 2012, revised the scope of the 2007 Longwall Application to seek approval to development mine only. Stip.¶ 12; Tr. 938:8-939:8.

173. The decision to seek a permit revision for development mining only was necessary because the Department did not yet believe that CPCC could restore the LEEA streams post-mining. Tr. 938:8-20; 479:5-480:3.


175. On or about April 2, 2012, CPCC submitted certain limited additional documents, which the Department considered in tandem with the 2007 Application as a permit revision application ("180 Application"). Stip. ¶ 15; Tr. 939:23-940:5.

176. The 180 Application sought authorization to longwall mine within the LEEA and for a subsidence control plan covering 3,175 acres. Stip. ¶ 15; Tr. 927:18-19.

177. The 180 Application included Modules 8 and 15, which relate to hydrology and streams and wetlands, respectively. Stip. ¶¶ 18, 27.

1. Module 8

178. Module 8 to the 180 Application identified a number of hydrogeological variables used to evaluate and predict "potential mining-induced stream flow impacts." Stip. ¶¶ 22, 23; Tr. 949:2-4; 952:10-953:4; 954:2-955:5; Stip. Ex B.

179. Hydrogeological variables identified in Module 8 include: drainage/watershed area, streambed lithology, depth of cover, overburden geology, percent of watershed mined, stream orientation, presence of natural fracture zones, stream gradient, and mining height. Stip. ¶ 23; Stip. Ex. B at 8-14 and 8-20.
180. The identification of these hydrogeological variables came from literature review, research and experience. Tr. 1456:13-1457:12.


2. **Module 15**

182. The 180 Application at Module 15 included various stream mitigation and restoration plans and techniques, including stream augmentation, gate cutting, removal of heaved bedrock, surface fracture sealing and consolidation grouting, to be implemented as necessary during CPCC's operations associated with Permit Revision 180. Stip. ¶¶ 30-31; Tr. 98:22-99:18.

183. Module 15 contained standard erosion and sedimentation controls used by CPCC in its operations generally, regularly authorized by the Department, and found in Department and the Pennsylvania Department of Transportation manuals for work in and around streams. Tr. 965:10-966:5.

184. The stream mitigation and restoration plans included in Module 15 are standard and typical plans implemented by CPCC. Tr. 966:6-19.

185. The 180 Application predicted four (4) locations in which pooling would occur and gate cutting would be necessary. Tr. 1007:2-11; 1003:5-1004:3; 1006:3-7.

186. The pooling predictions were completed relying upon the SDPS model, the output of which is used to prepare drawings showing the locations of predicted pooling. Tr. 996:17-23; 1002:9-20.

187. CPCC's expert in the field of subsidence prediction, Greg Hasenfus, opined that the SDPS accurately predicts pooling locations. Tr. 1008:8-11.
3. **Department Review of the 180 Application**

188. Discussions between DEP and CPCC were "contentious but cordial" and an unusually lengthy process. Tr. 936:22-937:19.

189. The Department and CPCC engaged in numerous meetings and correspondence regarding the 2007 and 180 Applications, which resulted in CPCC making numerous revisions to the 180 Application at the Department's behest. Tr. 480:7-18; 943:13-15.

190. CPCC responded to approximately eight (8) technical deficiency letters prior to the issuance of Permit Revision 180. Tr. 933:20-25.


192. CPCC believed that all of the LEEA streams including Kent and Polen Run could be safely undermined. Tr. 940:18-941:2.

193. Many of the Department's concerns related to CPCC's evaluation of its ability to restore the LEEA streams. Tr. 940:13-17.

194. The Department was initially concerned regarding comparisons of the LEEA Streams to certain specific streams over the H and I Panels, which the Department believed took extended periods to recover. Tr. 940:11-17; 971:3-16.

195. The Department required CPCC to demonstrate that the LEEA Streams would recover. Tr. 971:3-16.

196. The Department required CPCC to revise the 180 Application to include a more thorough analysis of the hydrogeologic variables and better data to support CPCC's conclusion that the LEEA Streams would recover. Tr. 1569:4-1570:17.
197. The Department considered not allowing longwall mining underneath the LEEA Streams. Tr. 1573:8-21.

198. Prior to issuing Permit Revision 180, the Department determined that the LEEA Streams other than Kent Run and Polen Run would maintain their uses, that flow would be returned to normal range of conditions and their biology would recover. Tr. 489:8-16.

199. The Department evaluated possible flow losses, eventually determining that flow losses would be temporary utilizing a weighing of hydrogeologic variables. Tr. 488:17-489:7; 560:22-562:3.

200. Prior to the issuance of Permit Revision 180, CPCC agreed to remove plans to longwall mine underneath Kent Run and Polen Run from the 180 Application after the Department advised CPCC during meetings and correspondence that it would not authorize longwall mining underneath those streams in Permit Revision 180. Tr. 941:7-17.

201. CPCC revised its mine plan to stop the longwall mining 1L and 2L panels underneath Kent Run short to allow installation of a coal pillar or barrier to protect its main entries. CP Ex. 2; Tr. 838:20-839:17; 928:22-929:4; 941:7-21.

202. In reviewing the 180 Application, the Department prepared a Cumulative Hydrologic Impacts Assessment and written findings and made a finding that there were no probable cumulative hydrologic impacts to the Streams within the Permit Area. Stip. ¶¶ 46-47; Stip. Exs. O, N.

203. The Department specifically evaluated possible impacts to Ryerson Station State Park from CPCC's proposed operations under the 180 Application. Tr. 104:16-105:16.
204. The final version of the 180 Application predicted some likely or possible temporary impacts to stream flow for some of the LEEA Streams. Stip. Ex. B at pp. 8-14 to 8-20; Tr. 1290:10-1291:5.

205. The final version of the 180 Application predicted that any stream flow losses or diminution would be temporary. Stip. Ex. B at pp. 8-14 to 8-20.

206. The final version of the 180 Application did not indicate or predict any threats or losses of stream existing or designated uses. Stip. Ex. B at pp. 8-14 to 8-20.

207. The predictions contained in the final version of the 180 Application are scientifically defensible, supported, and reasonable. Tr. 958:7-20; 1288:14-1289:1.

208. The Department appropriately considered the recovery status of certain previously-undermined streams in the Bailey Mine area, including, *inter alia*, UT-32596 (a/k/a the Kim Jones Stream) and other streams overlying the I and H panels of the Bailey Mine and distinguished them from the LEEA Streams. Tr. 1592:23-1595:22.

209. Gate cutting authorized by Permit Revision 180 will eliminate adverse gradients and resolve temporary impacts caused by pooling. Tr. 1643:9-21.

210. The Department reviewed and scrutinized the 180 Application, applying independent judgment and analysis to its contents. Tr. 478:7-479:4; 481:7-21.

211. The Department applied its best professional judgment in reviewing the 180 Application and issuing Permit Revision 180. Tr. 563:7-11.

212. The Department issued Permit Revision 180 to the Bailey Mine CMAP on May 1, 2014. Stip. Ex. F; Tr. 943:7-12.

213. Permit Revision 180 did not authorize longwall mining underneath Kent Run or Polen Run. Tr. 928:23-25; 941:12-17.
214. Permit Revision 180 contained Special Condition 83A, which stated "If full extraction mining beneath Polen Run is not approved after permit revision No. 180, CPCC shall employ the mining cessation plan in Module 22 such that no effects from full extraction mining occur to Polen Run." Stip. Ex F at CPCC_EHB072_00003650; Tr. 973:15-974:3.

215. Special Condition 83A required CPCC obtain a separate permit revision for authorization to longwall mine underneath Polen Run, which CPCC later submitted as an application for Permit Revision 189 ("189 Application"). Tr. 117:22-118:8; 973:3-974:3.

I. **Mining and Operations under Permit Revision 180**

216. CPCC began longwall mining the 1L Panel on August 4, 2014. Tr. 179:8-14.

217. After the issuance of Permit Revision 189\(^5\), CPCC completed longwall mining the 1L Panel on June 29, 2015. Tr. 179:15-18.


1. **Monitoring the Permit Area**

220. Mr. Laslo is responsible for monitoring the effects of subsidence which occur in the course of CPCC's operations under the Permit Revisions. Tr. 175:10-13; 175:24-176:12.

221. Mr. Laslo inputs his Bailey Mine observations into a Department database referred to by the acronym BUMIS. Tr. 180:22-181:22.

222. Mr. Laslo estimated that, as of the time of the hearing, that he had completed approximately 1,000 inspections of the Permit Area since the commencement of operations under the Permit Revisions. Tr. 386:18-25.

\(^5\) See Proposed Finding of Facts ¶¶ 236-237 et. seq., infra, for a discussion of the issuance Permit Revision 189.
223. During the hearing, Appellants' counsel questioned Mr. Laslo regarding only approximately 25 of his BUMIS inspection reports. Tr. 387:1-7.

224. Mr. Laslo testified that during his large number of inspections and observations, he had observed heaves, fractures, pooling and flow loss in the LEEA Streams. Tr. 402:7-13.

2. Maintaining Designated and/or Existing Uses

225. To the extent subsidence-induced flow loss, heaves, fractures and pooling have been observed in the LEEA Streams, CPCC implemented mitigation measures to address those subsidence-induced impacts pursuant to Permit Revision 180, as well as regulatory and/or Department requirements. Tr. 402:17-23; 1158:14-1161:25.

226. The Department regards it as both a permit and a regulatory requirement to mitigate subsidence-induced stream impacts. Tr. 403:5-7.

227. Mr. Laslo testified that he had personally observed that CPCC's mitigation efforts in the Permit Area were, as of the time of the hearing, successful. Tr. 403:8-27.

228. Areas of observed no-flow are reported to the Department. Tr. 1057:5-23.

229. Drought conditions were recognized by the Department in late September and early October 2015, during which time the Department declared a global augmentation reprieve because of those conditions. Tr. 1138:6-16.

230. Some flow loss or diminution observed post-mining in the LEAA was not attributable to CPCC. Tr. 1161:7-12.

231. Augmentation mimics natural conditions and has been used to maintain existing and designated stream uses within the LEEA. Tr. 1161:20-25.

232. Grouting was applied by CPCC, as necessary, to certain streambeds within the LEAA to successfully seal fractures and to permit the segments of the stream to successfully convey and maintain flow. Tr. 1160:2-1161:6.
233. The biology has and/or will recover to the extent it has or will be impacted by pooling and/or gate cutting implemented to address pooling within the LEEA. Tr. 1348:24-1350:6; 1358:24-1359:6; 1359:7-12.

234. The biology has and/or will recover to the extent it has or will be impacted by mitigation measures applied to the LEEA Streams. Tr. 1358:24-1359:6; 1359:7-12.


J. Permit Revision 189 Application and Issuance

236. In or around early May 2014 CPCC submitted the 189 Application for longwall mining in 1L and 2L Panels under Polen Run and for approval to install a GCL system. Stip. ¶ 54.

237. Based upon studies completed prior to mining, Polen Run has intermittent flow characteristics and has an existing and designated use of TSF pursuant to 25 Pa. Code Chapter 93. Stip. ¶ 32; Tr. 1066:5-1068:4; 1276:5-1277:9; CP Ex. 23.

1. Department Review of the 189 Application

238. The Department evaluated, using its own independent engineering judgment, the possible impacts to Polen Run from longwall mining underneath it. Tr. 117:3-12; 119:9-12; 1639:18-23.

239. During the course of the Department's review of the 189 Application, the Department and CPCC engaged in meetings and correspondence, and the Department required numerous changes to the 189 Application prior to issuing Permit Revision 189. Tr. 945:6-18; 946:5-20.

240. The Department determined that Kent Run, and to a lesser extent Polen Run, were different from other LEEA Streams because of various factors, including, depth of cover, stream
bed lithology, and proximity to a limited number of streams which the Department believed had required extended time periods to recover post-mining. Tr. 117:13-21; 1592:1-1592:22; see also Stip. ¶ 32.

241. The Department concluded that grouting Polen Run above the 1L and 2L Panels that would not be an adequate restoration technique and required a restoration plan which called for more aggressive mitigation measures than grouting. Tr. 117:9-21; 119:9-15; 520:5-21; 1639:18-23.

242. The Department determined that other streambed liners, including one in UT-32596 and one in Crafts Creek, had been successful in conveying flow. Tr. 1640:9-18; 1663:4-15.

243. The Department would not authorize longwall mining underneath Polen Run without the installation of streambed lining in Polen Run above the 1L and 2L Panels. Id.

244. Therefore, the 189 Application sought authorization to conduct longwall mining below Polen Run in the 1L and 2L Panels and to conduct mitigation activities, including installing the Polen Run Liner System, in Polen Run above the 1L and 2L Panels. Stip. Exs. A, C; Tr. 944:7-14.

2. **Polen Run Liner System**

245. The 189 Application included Module 15, which called for the installation of the Polen Run Liner System. Tr. 119:23-120:9; 121:1-6; 944:11-19; Stip. Ex C.

246. The purpose of the Polen Run Liner System was to ensure the conveyance of stream flow. Tr. 120:20-24.

247. DEP required the Polen Run Liner System design to meet criteria for a 100-year storm event so as to be permanent. Tr. 945:20-946:4; 1640:19-1641:4; 1641:15-1642:5.
248. The Polen Run Liner System consisted of (1) stream channel excavation; (2) installation of a GCL; (3) construction of a new and stable stream channel geometry; and (4) placement of in-stream habitat enhancement structures, flow monitoring stations, riparian buffer vegetation and tree planting along the banks of the stream. Tr. 1170:19-1172:9 1172:18-1173:25; 1638:12-1639:17; Stip. Ex. C at CPCC_EHB072_00004735; CP Ex. 18.

249. The Polen Run Liner System also included installation of underdrain components which serve to maintain groundwater connectivity with the streambed. Tr. 122:17-123:9; 124:6-9; 1170:19-1172:9; Stip. Ex. C at CPCC_EHB072_00004735.

250. The Department evaluated and approved the underdrain design. Tr. 124:6-9, 21-25.

3. **Performance Criteria**

251. Permit Revision 189 incorporates certain stream flow and biological recovery or performance success criteria ("Performance Criteria") to be used to evaluate the success of the Polen Run Liner System and mitigation measures authorized and required by Permit Revision 189. Stip. Ex. F; Stip. Ex. C at CPCC_EHB072_00004210-4211; Tr. 946:5-14; 961:18-962:2; 127:25-128:2, 6-10; 1182:1-9.

252. Permit Revision 189 also included the requirement that Polen Run meet certain specific Performance Criteria after the completion of longwall mining. Tr. 1181:23-1182:9; 527:12-528:2; Stip. Ex. C at CPCC_EHB072_00004210-4212.

253. The Performance Criteria specified within Permit Revision 189 is in excess of any applicable regulatory criteria. Stip. Ex. C at CPCC_EHB072_00004210-4212.

254. Section 15.6.c.ii.(1) of the 189 Application provides the following Performance Criteria:
• Flow performance will be evaluated when flow rates at the upstream Automated Flow Monitoring Stations ("AMS") station are > 10 gpm and <300 gpm.

• "Achievement of the Flow Performance Criterion will be judged on an average basis over the entire 6 month evaluation period following the installation of the liner system."

• The permissible range of flows at the downstream AMS station for the 1L liner installation is AMS-05 ≥ AMS-07-14 gpm.

• "The Biological Performance Criterion will be defined as the average post-stream mitigation score being within 12% of the average pre-stream mitigation score for the same BSW point." In other words, the post-restoration biological score will be no less than 88% of the pre-mine score.

Stip. Ex. C at CPCC_EHB072_00004210-4211.


256. CPCC and the Department had many discussions regarding the Performance Criteria and CPCC made revisions at the Department's behest prior to the Department's issuance of Permit Revision 189. Tr. 946:5-14.

257. The Performance Criteria is designed to demonstrate that the mitigation measures protect and maintain the existing and designated uses of Polen Run. Tr. 1642:21-1643:8; 1186:9-14; 11:87:24-1188:3; Stip. Ex. Q; CP Ex. 20.

258. The flow criteria was developed to evaluate stream flow conveyance of the liner and relied upon data CPCC had collected from UT32596. Tr. 127:25-128:2, 128:6-10; 1225:15-22.

259. The flow criteria allowed for a negligible .005 gallon per minute loss per linear foot over the lined length of Polen Run based upon the data CPCC collected. Tr. 132:15-18; 129:5-17.
260. The Department determined that the flow criteria would ensure flow conveyance adequate to maintain Polen Run's use. Tr. 135:3-11.

261. The flow performance criteria evaluate the success of stream flow conveyance which is necessary to protect biology in Polen Run. Tr. 1183:20-1184:7.

262. The flow criteria excluded outlier data, which the Department determined to be insufficiently reliable. Tr. 143:8-15; 130:15-131:3; 146:12-19.

263. The flow performance criteria did not require CPCC to match pre-mine flow rates because flow rates are highly variable and contingent upon precipitation. Tr. 1182:22-1183:12.

264. The Department specifically evaluated the possible impacts to biology which could be caused by the changes in width and linear footage to Polen Run authorized by Permit Revision 189. Tr. 126:12-15.

265. The Department applied its own independent judgment and evaluated hydraulics, stability of the liner system, permanence, and engineering principals in evaluating the Polen Run Liner System and issuing Permit Revision 189. Tr. 1674:22-1675:11.


K. Mining and Operations under Permit Revision 189

1. Liner System Components

269. Before mining and the installation of the liner system, Polen Run in the area of the 1L and 2L Panels had areas of instability along the stream banks and visible erosion. Tr. 1170:4-18; Stip. Ex. C at CPCC_EHB072_00004236, Photograph 14.

270. In-stream enhancement structures installed in Polen Run above the 1L and 2L Panels provide habitat for benthic macroinvertebrates and prevent erosion. Tr. 1176:3-1177:3.

271. As part of the installation of the liner system, portions of Polen Run above the 1L and 2L Panels were recontoured to eliminate stream instability in the stream channel. Tr. 125:1-7; 1176:3-11.

272. The Polen Run Liner System was installed in segments. Tr. 1179:13-23.

273. Aquatic life in Polen Run was protected during the construction of the liner system through the use of various measures, including, *inter alia*, augmentation and check dams to prevent fish, if present, from traveling into areas where mitigation measures were being employed. Tr. 1178:20-1179:12.

274. During the installation of the Polen Run Liner System, stream flow was bypassed and erosion and sedimentation controls used. Tr. 1178:20-1179:12.

275. Flow monitoring stations were installed for the purpose of determining compliance with flow Performance Criteria. Tr. 1177:18-21.

276. CPCC completed longwall mining underneath Polen Run in the 1L Panel on or about March 30, 2015. Stip. ¶ 59.

277. CPCC completed installing the GCL in Polen Run above the 1L Panel on December 1, 2015. Tr. 1180:7-13.
278. CPCC completed longwall mining underneath Polen Run in the 2L Panel on or about March 21, 2016. Stip. ¶ 62.

279. The installation of the Polen Run Liner System above the 2L Panel was complete by the time of hearing. Tr. 1180:14-17.

280. Following the installation of the Polen Run Liner System above the 1L Panel, CPCC collected data in accordance with the collection methods prescribed by Module 15 of the 189 Application and approved by the Department in Permit Revision 189. Tr. 1184:8-24.

281. Both the flow and biological data collected for the 1L Panel shows that the Performance Criteria requirements specified in Permit Revision 189 are being met. Stip. Ex. Q; CP Ex. 20; Tr. 167:17-23; 167:24-168:5; 1184:25-1185:11; 1186:9-14; 1186:25-1187:3.

2. Post-mining Biological Recovery

282. Biological scoring for the monitoring station associated with Polen Run above the 1L Panel indicates that post-mining TBS scores increased from 47.1 to 67.6. Tr. 1184:25-1185:11; Stip. Ex. Q.

283. The data was collected utilizing TGD Appendix B methodologies. Tr. 1185:14-17.

284. The biological monitoring station for the 1L Panel is identified as BSW-06 and is located above the upper portion of the 2L Panel. Tr. 151:20-152:21.

285. The biological monitoring station for the 2L Panel is identified as BSW14 and is located above the 3L Panel. Tr. 153:18-21.

286. The portion of Polen Run located above the 1L Panel was biologically variable prior to mining and, therefore, a TBS score could not be calculated in that segment of Polen Run. Tr. 153:22-154:8.
287. The Department determined the location of the biological monitoring stations for Panels 1L and 2L was appropriate because the downstream location was indicative of successful flow conveyance and protection of downstream uses. Tr. 157:12-20; 529:23-536:6.

288. For the purposes of the six-month biological performance criteria, the Department determined that utilizing biological sampling locations in disturbed portions of Polen Run was inappropriate because it would not be representative of long-term conditions. Tr. 158:1-9; 529:23-536:6.

289. Biological sampling locations were chosen to be representative of some degree of upstream reach. Tr. 1356:19-1357:17.

290. Permit Revision 189 requires CPCC to conduct TGD Appendix A biological sampling, also referred to as bio-density sampling, to show biological recovery above the 1L Panel within the timeframe allowed by the TGD. Tr. 154:9-155:10; 550:4-8.

291. During a June 2016 site visit, Dr. Nuttle personally observed minnows and macroinvertebrates above the 1L Panel in Polen Run. Tr. 1357:18-1358:10.

3. **Post-mining Flow Recovery**

292. Flow monitoring was collected every 15 minutes and showed an average increase of 45 gallons per minute across the 1L Panel. Tr. 1186:9-24.

293. The liner installed in Polen Run pursuant to Permit Revision 189 is successful in conveying flow. Tr. 1293:19-1295:4; 1186:9-14; 1187:24-1188:3; Stip. Ex. Q; CP Ex. 20.

294. The portions of Polen Run where the Polen Run Liner System was installed are more stable and provide a better habitat for benthic community than pre-mining conditions. Tr. 1642:11-20; 1170:4-18; 1176:3-1177:3; 1181:19-22; 1184:25-1185:11; Stip. Ex. Q.

295. The installation of the Polen Run Liner System increased stream stability. Tr. 1181:19-22; CP Ex. 19.
296. CPCC anticipates meeting Performance Criteria for the 2L Panel with biological and flow outcomes similar to that seen for the 1L Panel. Tr. 1187:4-6; see also 1359:7-12.

297. Mr. Laslo testified that he was not aware of any notices of violation being issued for CPCC's activities within the Permit Area as of the time of the hearing. Tr. 408:21-409:3.

III. STANDARD OF REVIEW AND BURDEN OF PROOF

Appellants Sierra Club and CCJ have the burden of proof as they are contesting the issuance of Permit Revisions 180 and 189. 25 Pa. Code § 1021.122(c)(2). They also have the burden of proceeding as they are "asserting the affirmative of an issue" — that is, they are asserting that Permit Revisions 180 and 189 were improperly issued by the Department. 25 Pa. Code § 1021.122(a); Pa. Trout v. DEP, 863 A.2d 93, 105 (Pa. Commw. Ct. 2004).

The Board's standard of review of the Department's actions in issuing Permit Revisions 180 and 189 is whether the Department abused its discretion or committed an error of law. Warren Sand and Gravel v. DEP, 341 A.2d 556, 565 (Pa. Commw. Ct. 1975). Appellants must prove by a preponderance of the evidence that the Permit Revisions should not have been issued. United Refining Co. v. DEP, EHB Docket No. 2014-174-R, slip. op. at 8 (July 7, 2016). Preponderance of the evidence means that the evidence in favor of the proposition is greater than the evidence opposed to it. Id. The Board's review is de novo, which means that the Board decides the case anew on the record before it. Warren Sand and Gravel, 341 A.2d at 565; Brockway Boro. Municipal Auth. v. DEP, 2015 EHB 221, 236, aff'd, 131A.3d 578 (Pa. Commw. Ct. 2016).

To meet this burden, Appellants must do more than identify possible technical problems with the permit or the Department's review of the associated permit applications. Boro. of St. Clair v. DEP, 2015 EHB 290, 313-14; Brockway Boro. Municipal Auth., 2015 EHB at 237; Shuey v. DEP, 2005 EHB 657, 712. "An Appellant cannot simply come forth with a laundry list
of potential problems and then rest its case. It must prove by a preponderance of the evidence that these problems have occurred or are likely to occur." Shuey, 2005 EHB at 712; 25 Pa. Code §1021.122. Simply raising concerns is insufficient. Id.

IV. ARGUMENT


Appellants' posthearing Clean Streams Law argument asserts, for all intents and purposes, the same zero-impact standard the Appellants argued for with their Motion for Summary Judgment. See Appellants' Brief in Support Motion for Summary Judgment, pp. 3-12; Appellants' Posthearing Brief, pp. 72-92. In their Motion for Summary Judgment, Appellants argued that any flow loss or pooling constituted "pollution" as the term is defined by Section 601 of the Clean Streams Law, 35 P.S. § 691.601, and is prohibited by Section 611 of the Clean Streams Law, 35 P.S. § 691.611.

In their Posthearing Brief, Appellants advance essentially the same argument that stream flow loss, even temporary, constitutes the illegal loss of a stream's use prohibited by the Clean Streams Law and 25 Pa. Code Chapter 93 ("Chapter 93"). See Appellants' Posthearing Brief, pp. 6.

6 Appellants expend considerable effort attempting to convince the Board that the Department and CPCC take the position that Section 5(e) of the Mine Subsidence Act abrogates the Department's responsibilities and authorities under the Clean Streams Law. See Appellants' Posthearing Brief, pp. 74-77. Similarly, Appellants suggest that the Department and CPCC take an incorrect position regarding the meaning and applicability of Section 9.1(d) of the Mine Subsidence Act. See Appellants' Posthearing Brief, pp. 77-80. Appellants' arguments are misguided because CPCC has never adopted the positions ascribed to it by Appellants. Rather, CPCC has always taken the position that the Clean Streams Law is properly construed to allow CPCC's operations and cannot be read without giving effect to the purposes of the Mine Subsidence Act, which, inter alia, expressly authorizes longwall mining. 52 Pa. Stat. § 1406.2, 1406.5(e); CPCC's Brief in Opposition to Appellants' Motion for Summary Judgment ("SJ Opposition Brief"), pp. 7-12. CPCC has consistently stated that the Mine Subsidence Act and Clean Streams Law can and should be read together to give effect to each. SJ Opposition Brief, pp. 7-12; CPCC's Prehearing Memorandum, pp. 24-25.
Specifically, Appellants contend that "[w]hen a stream suffers a mining-induced flow loss, its existing and designated uses are eliminated. Moreover, the existing and designated uses of a stream will be eliminated during mitigation work…" Appellants' Posthearing Brief, p. 2.

In its Summary Judgment Opinion, Board rejected Appellants' similar argument and should also reject it here. In its earlier opinion, the Court rebuffed Appellants' argument as follows:

[Appellants'] principal legal argument on this point appears to be that any disruption to the existing stream uses, even a temporary one resulting from stream restoration, is contrary to law…. The language of the regulation does not provide any specific indication regarding whether the uses must be maintained at all times, or whether the uses may be disrupted on a temporary basis. CCJ/SC does not point to any case law that clearly supports, under the facts of this case, the interpretation they are urging the Board to adopt.

We are aware that the Department routinely issues permits under the Clean Streams Law allowing persons to conduct stream restoration activities that, at minimum, temporarily disrupt water flow and existing uses. We understand that these stream restoration permits are distinct from the Permit Revisions at issue in this case but, in light of the overall regulatory scheme and in the absence of specific case law to the contrary, we are not prepared to say at this point on the record before us that any disruption, regardless of the purpose of or the duration of the disruption, is a violation of the Chapter 93 regulations.

Summary Judgment Opinion, pp. 10-11 (emphasis added) (citations omitted); see also Pine Creek Valley Watershed Ass'n v. DEP, EHB Docket No. 2014-154-L, slip op. at 8-9 (October 21, 2016).

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7 Despite this argument, Appellants yet again assert they have not argued for a zero-impact standard. See Appellants' Posthearing Brief, p. 2. Nevertheless, by arguing that any flow loss for any duration is impermissible, they have done exactly that. Accord Summary Judgment Opinion, p. 8 (recognizing that Appellants' summary judgment arguments sought a zero-impact standard).

8 In essence, and without meaningfully explaining the basis for doing so, Appellants use Chapter 93’s stream protection requirements as a proxy for the Clean Streams Law's prohibition on "pollution." In their Posthearing Brief, Appellants largely assume the two concepts – loss of use and pollution – are the same and advance virtually identical arguments to those found in their Motion for Summary Judgment without accounting in any significant fashion for the Board's Summary Judgment Opinion. Appellants' Posthearing Brief, pp. 72-92.
2016) (discussing how a permit is "at its most basic" authorization to undertake activities which may otherwise constitute illegal environmental impacts and pollution) (citations omitted). As Appellants have offered absolutely no further evidence or legal authority in support of this construction, the Board should again reject Appellants' meritless, unduly narrow construction of the Clean Streams Law and Chapter 93.

I. There Is No Authority Supporting Appellants' Position that Chapter 93 Precludes Temporary Disruption

Through a number of iterations, Appellants contend that subsidence-induced flow loss and flow diversion associated with mitigation work violate Chapter 93's requirements that "uses" be "protected" and "maintained." Appellants' Posthearing Brief, pp. 1-4, 72-92. While Appellants occasionally cite to 25 Pa. Code §§ 93.3, 93.4, and 93.4a(b), Appellants fail to

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9 The Board's Summary Judgment Opinion made clear that Appellants would need to establish facts during the evidentiary hearing that the stream impacts to be caused by the Permit Revisions were so severe as to be impermissible. Summary Judgment Opinion, p. 11 ("Furthermore, the impact on the existing and designated uses of the stream as a result of the Permit Revisions is clearly a disputed fact… Looking at the arguments and exhibits addressing this issue and resolving the dispute over the existence of material facts in favor of the nonmoving party as we are required to do, we think that the issue of the impact on the streams and their existing uses is best resolved after all of the facts are presented at a full hearing.") (emphasis added). Nevertheless, Appellants continue to assert that the Permit Revisions were improperly issued "matter of law" (see Appellants' Posthearing Brief, p. 3) and failed to present the facts necessary to create a record before the Board that any of the possible stream impacts resulting from the Permit Revisions were of any substantial duration and or incapable of timely mitigation. To the contrary, Appellants did not contest the Department and CPCC's assertions that the mitigation techniques approved and required by the Permit Revisions would be successful. See, CPCC's Proposed Findings of Fact, supra.

10 In a tangential argument, Appellants once again contend that any prediction of flow loss constitutes "presumptive evidence of pollution." See Appellants' Posthearing Brief, pp. 82-83. While Appellants do not expressly state so, Appellants appear to be referencing 25 Pa. Code 86.37(a)(3)'s permitting requirement that CPCC demonstrate "no presumptive evidence of pollution." Appellants provide very little analysis to support their apparent position that predicted flow loss is "presumptive evidence of pollution" prohibited by 25 Pa. Code 86.37(a)(3), aside from their bald-faced assertion. As discussed extensively in CPCC's SJ Opposition Brief, such a reading would render superfluous various permitting provisions within the Clean Streams Law, such as Sections 5, 315 and 402, as well as Mine Subsidence Act regulations, such as 25 Pa. Code §§ 89.52(a), 86.37(a)(4). 35 Pa. Stat. § 691.5, .315, .402; 25 Pa. Code §§ 89.52(a), 86.37(a)(4). Further the Board found this argument to be unpersuasive in its Summary Judgment Opinion. Summary Judgment Opinion, pp. 9-10.

11 Appellants now also cite to 25 Pa. Code §96.3(a), as well as 40 C.F.R. 131.2 & .12. These are novel arguments waived by, inter alia, Appellants' failure to include them in their Prehearing Memorandum. Blumenthal v. DEP, 1993 EHB 1552, 1566-68.
define the term "use" or to explain the basis of their conclusion that to "protect" and "maintain" a stream's use precludes temporary disruptions. Appellants cite no authority for this construction of the regulations, which conflicts with the Department's interpretation in this context and in others as allowing temporary flow loss. Stip. Ex. M.; 25 Pa Code Ch. 105 (authorizing dam and stream encroachment permitting which often entails temporary flow loss).

CDMO Manager Joel Koricich repeatedly testified that the Department's interpretation of Chapter 93's requirements to protect and maintain stream uses did not preclude temporary flow losses or flow diversion for the purposes of stream mitigation. Tr. 488:17-489:16; 560:22-562:3. This position is reflected throughout the TGD, wherein the Department states that certain subsidence-induced impacts to streams, including pooling and temporary flow loss, will be predicted in permit applications and may be authorized by CMAPs. See, e.g., Stip. Ex. M. at p. 13 (discussing mitigation plan measure to be performed where mining induced flow loss "may occur" and different time frames for response where the loss is "likely" to occur as opposed to "not highly probable").

Nevertheless, in assuming their construction of the term "use" is indisputable – notwithstanding the Board's Summary Judgment Opinion noting the contrary – Appellants assert that CPCC and the Department have somehow conceded that the operations authorized by the Permit Revisions cause the loss of stream uses. Appellants assert "[t]he Department and CPCC do not genuinely dispute the fact that without water in a stream or stream segment, there are and can be no uses." Appellants' Posthearing Brief, p. 73. This assertion borders on absurd. The majority of CPCC's witness testimony went to this issue — that CPCC's operations are permitted and conducted in a fashion to protect and maintain streams and their uses. See, Proposed Findings of Fact, supra. As discussed herein, the term "use" cannot be construed to preclude temporary stream disruption.

In their Posthearing Brief, Appellants insist that there is a substantial and legally-recognized difference between the mitigation of predicted impacts and the prevention of any impacts in the first place. Appellants' Posthearing Brief, p. 79. They claim that the Department has a duty to prevent impacts in the first place and may not issue a permit authorizing mitigation of predicted potential impacts to streams. Id. Appellants offer no substantive analysis as to why this argument is correct and offer a string cite of statutory, regulatory and case cite citations which offer absolutely no authority for the position. Id. citing 35 P.S. §§ 691.5 (powers and duties of the Department under the Clean Streams Law), 691.402 (allowing the Department to create permitting requirements for potential pollution); 691.611 (prohibiting conduct in violation of the Clean Streams Law or regulations promulgated thereunder); 25 Pa. Code §§ 86.37(a)(3) (requiring a demonstration of no presumptive evidence of pollution by permittee), 93.4(a)(b) (stream uses to be protected and maintained), 96.3(a) (not applicable, but requiring protection of water uses), 93.4e(a)(1)(iv) (not applicable, but requiring protection of water quality); UMCO Energy, Inc. v. DEP ("UMCO"), 2006 EHB 489, 569-70 (finding that the Department acted within its discretion to refuse to issue a
Furthermore, Appellants' position entirely fails to account for streams with natural intermittent flow characteristics. Appellants espouse the position that a dry stream – regardless of the cause – has lost its use. The record establishes that the LEEA Streams, except for North Fork Dunkard Fork, have intermittent flow characteristics for at least segments of the Permit Area. Tr. 1063:11-1067:6; 1073:14-22; 1114:23-1115:2; 1270:2-10; 1324:21-1329:4; Stip. Ex. B at Table 8.4A; Ex. A28. Under the Appellants' logic, such dry periods would preclude the "use" of the stream. Nevertheless, the streams were maintaining their designated TSF Chapter 93 use prior to mining. Stip. ¶ 32; Tr. 484:22-485:13. Periods of low or no-flow occur without the loss of that use. Consequently, additional temporary disruptions should not necessarily result in the loss of the stream's uses.

The Appellants bear the burden to demonstrate that the Department's interpretation of the regulations is erroneous. *Warren Sand and Gravel*, 341 A.2d at 565; *Pa. Trout*, 863 A.2d at 105. They have not undertaken to meet that burden and have failed to provide the Board with any analysis of what the term "use" means in the Appellants' interpretation and why it prevents the Department from allowing temporary disruptions.14

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14 Appellants' Posthearing Brief repeatedly utilizes a string cite of cases for a number of propositions related to the Clean Streams Law as they did in their Brief in Support of Summary Judgment. Appellants' Posthearing Brief, pp. 72, 73, 77, 78, 79, 80, 82, 87, 89. None of those cases actually stand for any proposition which would preclude the issuance of the Permit Revisions. *Consol Pennsylvania Coal Company, LLC v. DEP* ("Consol I"), 2002 EHB 1038, 1042 ("subsidence can certainly result in pollution, and it is also true that the Clean Streams Law authorizes the Department by rule or regulation to require permits for activities that have the potential to cause pollution...") (internal citations omitted) (emphasis added); *Consol Pennsylvania Coal Company, LLC v. DEP* ("Consol II") 2003 EHB 239, 243 (noting that subsidence impacts were regulated under the Clean Streams Law and Chapters 86 and 89); *Consol Pennsylvania Coal Company, LLC v. DEP* ("Consol III"), 2003 EHB 792, 795 ("subsidence impacts can constitute pollution") (emphasis added); *Tinicum Twp. v. DEP*, 2002 EHB 822, 832 (discussing water loss and pollution generally); *Oley*, 2002 EHB at 1121-1122 (noting that expert testimony raised the possibility that pumping would have an adverse quantity impact on adjacent wetlands); *UMCO*, 2006 EHB at 555 ("Subsidence impacts can clearly cause pollution") (emphasis added); *Crum Creek*, 2009 EHB at 567 (physical
2. **The Clean Streams Law Cannot Be Read to Require a Zero-Impact Standard and Must be Read Together With Mine Subsidence Act.**

As Appellants argued in their Motion for Summary Judgment, Appellants again argue for an interpretation of the Clean Streams Law, 35 Pa. Stat. § 691.1 et seq., which would effectively preempt the provisions of the Mine Subsidence Act.

The Mine Subsidence Act and its associated regulations specifically allow planned subsidence. 52 Pa. Stat. § 1406.2 provides the Act's purpose:

This act shall be deemed to be an exercise of the police powers of the Commonwealth for the protection of the health, safety and general welfare of the people of the Commonwealth, by providing for the conservation of surface land areas which may be affected in the mining of bituminous coal by methods other than "open pit" or "strip" mining, to aid in the protection of the safety of the public, to enhance the value of such lands for taxation, to aid in the preservation of surface water drainage and public and private water supplies, to provide for the restoration or replacement of water supplies affected by underground mining, to provide for the restoration or replacement of or compensation for surface structures damaged by underground mining and generally to improve the use and enjoyment of such lands and to maintain primary jurisdiction over surface coal mining in Pennsylvania.

52 Pa. Stat. § 1406.2. Further, 52 Pa. Stat. § 1406.5(e) specifically provides:

An operator of a coal mine subject to the provisions of this act shall adopt measures and shall describe to the department in his permit application measures that he will adopt to prevent subsidence causing material damage to the extent technologically and economically feasible, to maximize mine stability, and to maintain the value and reasonable foreseeable use of such surface land: Provided, however, That nothing in this subsection shall be construed to prohibit planned subsidence in a predictable and controlled manner or the standard method of room and pillar mining.

and biological changes to waters of the Commonwealth subject to the same scrutiny as direct discharges). Notably, Appellants' arguments entirely ignore the Board's Summary Judgment Opinion. Summary Judgment Opinion, pp. 10-11. Additionally, they fail to account in any way for the Board's rational in *Pine Creek Valley Watershed Ass'n*, wherein the Board emphasized that the position that the Department must simply "prevent pollution" is an oversimplification of the Department's role. *Pine Creek Valley Watershed Ass'n*, slip op. at 8.
52 Pa. Stat. § 1406.5(e) (emphasis added).

Nevertheless, contrary to the Mine Subsidence Act's express statutory language and purpose and the fact that planned subsidence can result in temporary flow loss, Appellants nonetheless advance the position that even temporary stream flow loss violates the Clean Streams Law.


As part of this argument, Appellants once again mistakenly contend that UMCO, 2006 EHB 489, supports their reading of the Clean Streams Law and Chapter 93. Contrary to Appellants' assertions, the Board in UMCO very clearly recognized that, while the Mine Subsidence Act had to be read in concert with the Clean Streams Law, Pennsylvania law authorizes full extraction mining: "Longwall mining is permitted in Pennsylvania, but not without condition." Id. at 560. The Board also stated that "[i]t is much more likely that the Legislature intended a reasonable accommodation between the rights of mining companies and the protection of the waters of the Commonwealth." Id. at 565 (rejecting the idea that the Mine

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15 The General Assembly was aware of the Clean Streams Law, which had been enacted in 1937, when it passed the Mine Subsidence Act in 1966 and amended it in 1994. Section 9.1(d) of the Mine Subsidence Act states that the Act was not intended to amend, modify or supersede the Clean Streams Law. 52 Pa. Stat. § 1406.9a(d). That provision was necessary because, to the extent that the Mine Subsidence Act was read to conflict with the Clean Streams Law, the Mine Subsidence Act would control and effectively preempt the Clean Streams Law as the Mine Subsidence Act was the later-enacted statute. Jametta v. Knoll, 566 A.2d 330, 334 (Pa. Commw. Ct. 1989) ("where two statutes enacted by different General Assemblies are irreconcilable, the later-enacted statute shall prevail."). The clear legislative intention of the provision was to require that the two statutes be read together — not, as Appellants suggest, that the Clean Streams Law should be read to functionally nullify the Mine Subsidence Act. Accord 1 Pa. Con. Stat. § 1932(b).
Subsidence Act overrode Clean Streams Law provisions) (emphasis added). Further, as one of its conclusions of law, the Board stated "Longwall mining is an acceptable mining method in Pennsylvania and cannot be prohibited simply because it causes subsidence resulting in material damage. 52 Pa. Stat. § 1406.5(e)." Id. at 585 (emphasis added); see also People United to Save Homes v. DEP ("PUSH"), 789 A.2d 319, 323 (Pa. Commw. Ct. 2001) ("Moreover, longwall mining is an accepted method of underground mining which was contemplated by both federal and state mining regulations.") (citations omitted). Over and over again, the Board's decision in UMCO recognizes that longwall mining and associated subsidence-impacts are authorized by Pennsylvania law.

Appellants attempt to obfuscate the conflict between the Clean Streams Law and the Mine Subsidence Act created by their position by arguing that it is possible to authorize longwall mining without authorizing even temporary impacts to streams as a result of planned subsidence and associated mitigation work. Appellants' Posthearing Brief, p. 89-92. Appellants advance two arguments in support of this position.

First, Appellants argue that the record proves that at least some streams do not require mitigation post-mining and, therefore, CPCC can longwall mine in a regulatory environment with a no-flow loss standard. Appellants' Posthearing Brief, p. 90. This contention contradicts the record regarding the feasibility of longwall mining with a zero-impact standard. CPCC introduced the testimony of Chuck Shaynak, CPCC Senior Vice President, who is responsible, inter alia, for CPCC's underground mining operations. Tr. 818:4-21. Mr. Shaynak offered undisputed testimony that it would be infeasible to longwall mine without mining under streams in southwestern Pennsylvania. Tr. 877:25-878:4; 879:1-880:3; 894:9-895:8.; accord 1492:10-20. Moreover, Mr. Shaynak testified that it is not possible to "curve" a panel to avoid streams and
that it poses unnecessary safety risks to workers and other practical problems starting and
stopping longwall panels to avoid streams. Tr. 850:10-17; 872:7-17; 877:25-880:3; 894:9-895:8;
898:6-11; 914:23-915:8; accord PUSH, 1999 EHB at 467-70 (discussing longwall mining
technologies and how it is infeasible to "bend a panel"). Additionally, Mr. Shaynak testified
regarding the mine plan and development mining which are necessary prerequisites for longwall
mining. Tr. 831:18-837:10; 877:25-880:3; 894:9-895:8; CP Ex. 5. The Department's Joel
Koricich similarly testified that it was not feasible to longwall mine in Pennsylvania without
mining under streams. Tr. 1492:10-20.

It is also undisputed that flow loss may result from planned subsidence under streams.
Tr. 873:14-23; 874:11-17; 996:4-9; 003:5-21; Stip. Ex. M at p. 3; Consol I, 2002 EHB at 1038,
1039 ("subsidence can alter the beds of streams or decrease stream flow"). The fact that some
portion of streams does not require mitigation does not refute the fact that longwall mining is
neither feasible nor economic without mining under streams and without allowance for
mitigation. Tr. 877:25-878:4; 879:1-880:3; 894:9-895:8; 1492:10-20. There is simply no
evidence in the record that longwall mining under streams can be conducted feasibly to preclude
all impacts and to prevent associated in-stream mitigation work. Pennsylvania law allows such
impacts. Accordingly, the necessary implication of Appellants' no-flow loss standard would be
to prevent longwall mining underneath streams in Pennsylvania and, therefore, longwall mining
entirely.

Appellants' second argument is that room-and-pillar mining can be used and barriers of
ccoal left to protect streams. Appellants' Posthearing Brief, pp. 90-92. This argument fails for
two (2) reasons. First, as Appellants admit, room-and-pillar mining is a wholly different form of
coal mining from longwall mining. Appellants' Posthearing Brief, p. 90; accord tr. 1582:18--
1583:10; 894:9-895:8. Room-and-pillar mining leaves pillars of support for the surface, which longwall mining does not. Tr. 858:23-865:12; 995:22-996:3. The existence of room-and-pillar mining\textsuperscript{16} does not in any way support Appellants' contention that longwall mining would be permissible if the Board adopts their zero-impact interpretation of the Clean Streams Law.\textsuperscript{17}

Second, Appellants' suggestion that leaving barriers of coal can be used simultaneously with longwall mining misrepresents the evidence of record and fundamentally ignores the reality of longwall operations in Pennsylvania. If a barrier of coal is left, longwall mining is not being used. Tr. 858:23-865:12; 995:22-996:3; CP Ex. 5. It is that simple. Further, the record shows this proffered solution to implement its zero-impact standard would effectively suppress longwall mining operations in Pennsylvania. The Pennsylvania mine fields are replete with streams; for instance, in the LEEA alone, 14 streams cross Panels 1L through 5L. CP Ex. 2; accord CP Ex. 10 (showing numerous streams within the Bailey CMAP). Requiring barriers under each stream would necessitate too many longwall panel interruptions. Tr. 850:10-17; 872:7-17; 877:25-880:3; 894:9-895:8; 898:6-11; 914:23-915:8; CP Ex. 5. Moving the longwall equipment in the fashion suggested by Appellants would be uneconomical and potentially risky, as testified to by Mr. Shaynak. Tr. 877:25-880:3; 894:9-895:8; 856:15-857:9; 873:24-874:10; 893:19-21; 855:9-13; 898:6-11; 914:23-915:8. Further, as Mr. Shaynak testified, leaving a barrier requires changes to CPCC's mine plan. Tr. 1583:2-9; 894:9-895:8. Contrary to

\textsuperscript{16} The record also demonstrates that room-and-pillar mining can lead to eventual unplanned subsidence as the result of the failure of pillars under the weight of the surface over time. Tr. 856:15-857:9; 873: 24-874:10; 892:21-893:3; 893:19-21.

\textsuperscript{17} In suggesting that the Board should find that the Department cannot authorize longwall mining but instead should permit room-and-pillar mining under streams, Appellants are asking the Board to make a public policy determination already made by the General Assembly in enacting the Mine Subsidence Act. The Board should decline this invitation. See Pine Creek Valley Watershed Ass'n, slip op. at 9-10 ("In carrying out our responsibility to ensure the Department has acted consistently with its constitutional responsibilities, we must recognize and respect basic policy choices expressed by the Legislature.") (citations omitted).
Appellants' example, the barriers used by CPCC for Kent Run in the 1L and 2L Panels are the end of the longwall panel and were incorporated by CPCC in its mine plan. CP Ex. 2; Tr. 941:7-21. Therefore, the planned barriers shorten the longwall panel rather than, for example, disrupting the mining in the middle of a panel. Tr. 838:20-839:17.

3. Appellants' Proposed Reading of the Clean Streams Law Would Preclude the Issuance of Permits Authorizing Any In-Stream Construction Work

The Department issued the Permit Revisions pursuant to its authority under the Mine Subsidence Act, the Surface Mining Act, the DSEA, the Air Pollution Control Act, 35 Pa. Stat. § 4001 et seq., and the Solid Waste Management Act, 35 Pa. Stat. § 6018.101 et seq. Stip. Ex. F.

Permits issued pursuant to the Clean Streams Law, as well as the Department's other cited authorities, particularly the DSEA, routinely authorizes in-stream construction work. If a municipality wishes to install a culvert as part of a road construction project, the municipality would be required to obtain a stream encroachment permit pursuant to the DSEA under 25 Pa. Code Ch. 105. During the construction of the culvert, the stream might need to be redirected and its stream bed would become dry for some temporary period during the culvert installation. However, once the permit is obtained, assuming the permittee complied with the pertinent permit, the construction activities would not be considered to have caused the loss of the "use" of a stream under Chapter 93 nor would those activities be considered to cause prohibited "pollution" under the Clean Streams Law.

Nevertheless, that is exactly the position Appellants advance in this matter. Taken to its logical conclusion, Appellants' position that any temporary disruption to stream flow is a prohibited loss of the stream's use would preclude the issuance of many permits the Department

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18 Chapter 105 was adopted by the Environmental Quality Board pursuant to, inter alia, both the DSEA and the Clean Streams Law. See 25 Pa. Code §105.1.
issues, particularly under the DSEA, on a regular basis. See Summary Judgment Opinion, pp. 10-11. Virtually any form of Chapter 105 permitting would be illegal as it requires the diversion of a stream or some other stream impact for in-stream work. See, e.g., 25 Pa. Code § 105.81 (authorizing dam permitting); see also Summary Judgment Opinion at pp. 10-11. DSEA permitting would be largely superfluous. See, e.g., 32 Pa. Stat. § 693.6 ("No person shall construct, operate, maintain, modify, enlarge or abandon any dam, water obstruction or encroachment without the prior written permit of the department.").

There is no basis to differentiate the in-stream mitigation work or the temporary flow losses which may be caused by CPCC's operations from any other in-stream construction activity, including the diversion of stream flow necessary to accomplish the construction activity. CPCC's mitigation work utilizes the same erosion and sedimentation controls and practices used by other industries. Tr. 408:5-20; 1157:8-20; 25 Pa. Code Ch. 102. They are standardized methods. Id. Moreover, CPCC's grouting mitigation method is not unique to longwall mining, but is a common civil engineering method for stabilizing bedrock. Tr. 1155:7-18.

Appellants' position is clearly contrary to how the Clean Streams Law and other environmental statutes are applied on a daily basis by the Department, the Board and Pennsylvania's courts. The Board should decline Appellants' invitation to adopt a new, unworkably strict interpretation of Chapter 93's requirement for the protection of stream uses from temporary stream impacts.

B. The Record Demonstrates that CPCC Accurately Predicts Possible Impacts Resulting from Its Longwall Mining Operations and Will Be Able to Mitigate Any Stream Impacts Authorized by the Permit Revisions

At the evidentiary hearing, CPCC called seven (7) witnesses who thoroughly described CPCC's longwall mining operations, the contents of the Permit Revision Applications, the
revisions made to the Permit Revision Applications at the Departments' behest, the operations authorized by the Permit Revisions, CPCC's mitigation techniques, and CPCC's experiences to date in conducting the operations authorized and required by the CMAP and the Permit Revisions. See, Proposed Findings of Fact, supra. In sum, the Appellants failed to provide any evidence that the LEEA Streams will not recover in conformity with the Department's TGD requirements.

Chuck Shaynak, CPCC's first witness, began by explaining longwall mining and CPCC's operations generally. See, e.g., Proposed Findings of Fact, supra, ¶¶ 25-43. Kerry Goodballet then described the contents of the 180 and 189 Applications. Id. at ¶¶ 169-184, 237-238. Ms. Goodballet described the intense scrutiny applied by the Department to the Permit Revision Applications. Tr. 931:24-932:1; 932:7-9; 933:20-25; 936:17-21; 938:8-939:8; 940:13-17; 945:6-18; 946:5-20. Joel Koricich testified that the Department required that CPCC demonstrate that the mitigation techniques proposed would be successful for restoring the LEEA Streams post-mining. Tr. 1500:16-19. While reviewing the 180 Application, the Department rejected mining under Kent Run and Polen Run because it was not satisfied that its requirements for stream recovery could be met. Tr. 117:13-21; 1592:1-1592:22. In reviewing the 189 Application, the Department also rejected grouting Polen Run because the Department, applying its own independent engineering judgment, concluded grouting might not be adequate to restore Polen Run above the 1L and 2L Panels. Tr. 117:9-21; 119:9-15; 520:5-21; 1639:18-23.

Josh Silvis and CPCC's hydrology expert, Burt Waite, P.G., described the hydrologic conditions of the LEEA Streams and CPCC's past experiences with stream flow recovery post-mining. See, e.g. Proposed Findings of Fact, supra. ¶¶ 154-155, 159-161, 163. Mr. Silvis testified that data collected by CPCC's consultants demonstrated a 90 to 95 percent recovery rate
in the Bailey South Study area adjacent to the LEEA Streams. Tr. 1080:6-13; CP Ex. 10 and 27. Brian Benson, who is responsible for CPCC's mitigation work and was qualified as an expert, testified regarding the mitigation techniques CPCC uses, their implementation in the Permit Area, and the fact that these techniques have worked historically and specifically within the Permit Area. See e.g. Proposed Findings of Fact, supra, ¶¶ 102, 104-106, 108, 114, 138, 148, 164, 166-167, 268-295. Mr. Benson also testified regarding installation of the Polen Run Liner System and the data collected showing that CPCC has met the Performance Criteria required under Permit Revision 189 for Panel 1L. Tr. 1184:25-1185:11; 1186:9-14; 1186:25-1187:3; accord tr. 167:17-23; CP Ex. 20. Joe Laslo similarly testified that CPCC's mitigation efforts have been timely implemented and successful within the Permit Area. Tr. 402:17-404:7.

Appellants do not seriously dispute any of these facts. In fact, there is no credible evidence of record that CPCC will be unsuccessful in returning the streams to their pre-mining normal range of conditions.19

C. Appellants Have Provided No Evidence that the Department Failed to Act in Compliance With Its Obligations Under Article I, Section 27 of the Pennsylvania Constitution.

After 20 pages of argument contending that CPCC violated the Clean Streams Law and Chapter 93, Appellants turn to assert that the issuance of the Permit Revisions violates the Environmental Rights Amendment. In a mere five (5) pages, Appellants argue that all three (3) prongs of the test established by Payne, 312 A.2d 86, were violated by the Department's issuance of the Permit Revisions. Appellants' Posthearing Brief, pp. 92-96. In those five (5) pages,

19 At best, Appellants' expert, Dr. Stout, offered testimony that he was uncertain of when stream biology would recover from stream mitigation and longwall mining operations and offered no testimony that these streams would not recover at all. Tr. 802:5-803:2. He did not affirmatively state how long this recovery would take. Id. His testimony does not refute the specific, concrete testimony offered by CPCC and Department witnesses that the CPCC's mitigation techniques have an overwhelming success rate, are predicted to be successful within the Permit Area, and have been successful in the Permit Area.
Appellants make scant reference to the record, instead offering a rather generalized conclusion, which, if accepted, would preclude the issuance of permits to conduct longwall mining.


1. "Was there compliance with all applicable statutes and regulations relevant to the protection of the Commonwealth's environment?"
2. "Does the record demonstrate a reasonable effort to reduce the environmental incursion to a minimum?"
3. "Does the environmental harm which will result from the challenged decision or action so clearly outweigh the benefits to be derived therefrom that to proceed further would be an abuse of discretion?"

*Payne*, 312 A.2d at 94.

There are at least two overarching problems with Appellants' suggestion that the Department failed to satisfy its obligations under the Environmental Rights Amendment. First, Appellants' position would have the Board construe the Payne test as requiring it to undertake a policy making role not delegated to the Board. Rather, the determination of policy – that is whether longwall mining and planned subsidence are appropriate activities in Pennsylvania – has been made by the General Assembly. 52 Pa. Stat. § 1406.2; *Friends of Lackawanna v. DEP*, EHB Docket No. 2015-063-L, slip op. at 10-12 (Sept. 2, 2016) (Opinion & Order on Motion for Summary Judgment); *UMCO*, 2006 EHB at 560. Appellants' construction of the Payne test is nothing short of an attack on CPCC's operations – not just under the Permit Revisions, but generally. Tr. 1155:7-18; 408:5-20; 1157:8-20; 805:2-17. Appellants ask the Board to play super-General Assembly, a role the Commonwealth Court has expressly stated the Board (and

The Supreme Court plurality in *Robinson Township v. Com.* recognized that the Environmental Rights Amendment does not require that an agency preclude all impacts at the expense of all development. *Robinson Twp. v. Com.*, 83 A.3d 901, 952 (Pa. 2013). The amendment "requires each branch of government to consider in advance of proceeding the environmental effect" of its actions. *Robinson Twp.*, 83 A.3d at 952 (plurality). It does not serve to "deprive persons of the use of their property or to derail development leading to an increase in the general welfare, convenience, and prosperity of the people." *Id.* at 954. Further, the Environmental Rights Amendment does not expand the powers of any statutory agency, including the Department. *Funk*, 144 A.3d at 235.

As the Board recognized in *Friends of Lackawanna*:

Our role under the first prong of *Payne* is essentially to ensure that the Department has acted lawfully. Our role under the second and third prongs is to ensure that the Department has not otherwise abused its discretion. Thus, there is very little difference between our analysis under the [Environmental Rights Amendment] and the standard of review that this Board has employed for decades… *The Payne test simply adds some details regarding how we review the Department's exercise of discretion.*

*Friends of Lackawanna*, slip op. at 13, 2016 WL 5001388, at *8 (emphasis added); see also *Pine Creek Valley Watershed Ass'n*, slip op. at 9-10.

The Board's decision in *Brockway Boro. Mun. Auth.*, 2015 EHB 221, is also instructive. There the Brockway Borough Municipal Authority ("Authority") challenged the issuance of a natural gas well permit. *Id.* The Authority contended that the well would negatively impact one of its primary water supply wells, including, *inter alia*, by causing temporary flow loss. *Id.*
237. In holding that the permit violated neither the Oil and Gas Act nor the Clean Streams Law, the Board stated:

It is a fact of life that normal development cannot be accomplished without some environmental incursion. **Payne v. Kassab**, 312 A.2d 86 (Pa. Cmwlth. 1973), **aff'd**, 361 A.2d 263 (Pa. 1976). One cannot walk across a stream without stirring up some sedimentation, which might constitute a discharge of pollutants in some pedantic sense. The point of the environmental laws is not to prohibit the discharge of all pollutants, but to intelligently regulate such activity so that regulatory standards are met, environmental incursions are minimized, and any remaining harms are justified. **Id.**

Permits exist to provide a limited allowance of what might otherwise constitute an unlawful activity. **Casey v. DEP**, 2014 EHB 439, 449. The majority of environmental permitting regimes contemplate some amount of environmental impact, whether it be a discharge to waters of the Commonwealth, or the surface and subsurface disturbances associated with oil and gas development. See, e.g., 35 P.S. §§ 691.202, 307, & 402; 58 Pa.C.S. § 3211. The permitting regimes require that the proposed environmental impact be carefully vetted through an application process and a review of that application by the Department. The question then becomes whether the Department's decision to permit the discharge of pollutants or temporary diminution in flow was unreasonable. Here, we find the Department's decision to be reasonable and in accordance with the law.


The Board's reasoning in **Brockway Boro. Mun. Auth.** is equally applicable to dispel Appellants' logic here. The Environmental Rights Amendment establishes a process to ensure the vetting of the environmental impacts that may result from government action. It is not, as Appellants contend, to impose a zero-impact standard which precludes otherwise legal and appropriate business activities.

Second, Appellants' position is largely devoid of the facts necessary to meet their burden. Appellants generally assert that the Department failed to meet each prong of the test, but fail to make more than scant reference to the record. Plainly, the **Payne** test is a fact-intensive analysis.
for the Board to consider whether the Department met its obligations. In the absence of supporting facts, Appellants cannot prevail. *Brockway Boro. Mun. Auth.*, 2015 EHB at 250 ("The burden is on the party challenging the Department's action to show that the Department acted unconstitutionally.") (citations omitted).

1. **First Prong – Was there compliance with all applicable statutes and regulations relevant to the protection of the Commonwealth's environment?**

   Relying upon their argument that the Department's issuance of the Permit Revisions violated the Clean Streams Law and Chapter 93, Appellants assert that there was not compliance with all applicable statutes and regulations. Appellants' Posthearing Brief, p. 93. As discussed thoroughly herein, Appellants' proposed construction of the Clean Streams Law and 25 Pa. Code Ch. 93 is both unprecedented and meritless. The Department reasonably construes Pennsylvania law to allow for temporary stream disruption. The Permit Revisions were issued in full compliance with applicable law.

2. **Second Prong – Does the record demonstrate a reasonable effort to reduce the environmental incursion to a minimum?**

   Appellants then turn to the second prong of the *Payne* test. They argue that in order to demonstrate a reasonable effort to reduce the environmental incursion to a minimum, the Department was required to explicitly consider alternatives. Appellants' Posthearing Brief, pp. 94-95. Appellants contend that the Department failed to consider alternatives and, therefore, violated the Environmental Rights Amendment. *Id.* at 95.

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20 Appellants also reference alleged violations of the Mine Subsidence Act. However, Appellants' arguments in the prior sections of their Posthearing Brief do not assert any violations of the Mine Subsidence Act. Appellants do make some limited reference to 25 Pa. Code Chapters 86 and 87, but as previously discussed, fail to provide any meaningful analysis of how those provisions were allegedly violated separate from their interpretation of 25 Pa. Code Ch. 93.

21 As part of this argument, Appellants contend that the Department "unceremoniously amended" its definition of the TGD term "normal range of conditions". Appellants' Posthearing Brief, pp. 95-96. Appellants then
Appellants' interpretation of the second prong of the *Payne* test relies upon the Board's decision in *Mrs. Cyril G. Fox and Natural Lands Trust, Inc. v. Central Del. County Auth.*, 1974 EHB 167. However, the Commonwealth Court overturned the Board's decision in that case upon appeal. *Com. College of Del. Cty. v. Fox*, 342 A.2d 468 (Pa. Commw. Ct. 1975) (the "Fox" decision). In its decision, the Commonwealth Court declined to consider the additional tests not included in either the *Payne* test or the underlying statutory scheme, including consideration of alternatives. *Id.* at 481.

Moreover, even if the alternatives test is applied, the Department considered alternatives as appropriate. The record is replete with testimony demonstrating that the Department carefully scrutinized the 180 and 189 Applications. See, e.g. Proposed Findings of Fact, *supra* ¶¶ 62-63, 170-174, 188-191, 193-203, 238-244, 258, 264-265; Stip. ¶¶ 46-47; Stip. Ex. O.; Stip. Ex. N. The Department expressly considered the environmental impacts, specifically the possible harms to streams. See Proposed Findings of Fact, *supra* ¶¶ 49, 173, 238-244, 258, 264. It carefully considered whether those impacts precluded the issuance of any permitting authorizing CPCC to longwall mine underneath any of the LEEA Streams. Tr. 1573:8-21. When it issued Permit Revision 180, it determined that longwall mining could occur in Panels 1L through 5L, except

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22 The plurality decision in *Robinson Twp.*, 83 A3d at 967 n.53, discussed the *Fox* decision and certain concerns the plurality had regarding it. However, as noted by the Board and the Commonwealth Court, the plurality *Robinson Twp.* opinion is a nonbinding decision. *PEDF*, 108 A.3d 140; *Brockway Boro. Mun. Auth.*, 2015 EHB at 249. Moreover, the expressed concern, specifically that the later-issued case decisions determined that the first prong of the test could subsume the second and third prongs of the test, is not pertinent here. *Robinson Twp.*, 83 A.3d at 967 n. 53. While refusing to consider various additional tests beyond those imposed by the *Payne* test, the Commonwealth Court in *Fox* clearly applied all three prongs of the *Payne* test. *Fox*, 342 A.2d at 476-482.
underneath Kent Run and Polen Run. Tr. 489:8-16; 928:23-25; 941:12-17. The Department then evaluated CPCC's request to longwall mine under Polen Run in the 1L and 2L Panels if a liner system was utilized. Tr. 119:19-120:8; 1639:18-1640:18; 1663:4-15. After considering the extent of environmental impacts, the Department determined that the impacts to Polen Run could be sufficiently minimized and issued Permit Revision 189 after requiring various revisions to the 189 Application. Tr. 126:12-15; 135:3-11; 1642:21-1643:8; 1674:22-1675:11; 946:5-14.23

Additionally, Appellants' position ignores the limited availability of alternatives to CPCC's plans. Contrary to Appellants' assertions, the options with regard to longwall mining are either to allow it or to preclude it. Tr. 877:25-880:3; 894:9-895:8; 856:15-857:9; 855:9-13; 898:6-11. Room-and-pillar mining is a wholly different form of mining. Tr. 849:9-850:2; 850:10-851:9; CP Exs. 3-6d. There are no preferable, less environmentally-impactful alternatives to mitigate streams than the ones CPCC uses. Tr. 1142:14-17; 1162:1-5.

Further, Appellants' interpretation of the second prong of the Payne test appears to require the Department to invent alternatives not presented by the pertinent application. As the Board knows, it is not the Department's responsibility to design or revise the plans proposed by an applicant. Hence, any weighing of alternatives to be done by the Department must be viewed in the context of the Department's permitting role.

As previously noted, the standard presented by the second prong of the Payne test is not a prohibition on environmental incursion nor a preclusion of construction within Pennsylvania. Feudale v. Aqua Pa., Inc., 122 A.3d 462, 467-68 (Pa. Commw. Ct. 2015) (citations omitted)

23 Appellants also suggest that the Department somehow failed to minimize environmental incursions by failing to consider requiring mitigation during the drier months. Appellants' Posthearing Brief, p. 95. Appellants' position misrepresents the record. As Mr. Bodnar testified, the Department requires mitigation as quickly as possible. Tr. 121:17-122:7. The very reason for this requirement is to minimize the duration and extent of environmental incursions. Id. Depending upon when an impact began, Appellants' argument could maximize the nature or duration of an impact.
(Environmental Rights Amendment does not preclude development and does not act to deprive people of their property rights); *Brockway Boro. Mun. Auth.*, 2015 EHB at 250. Rather, it is a question of whether the Department considered the possible impacts and acted with reference to its evaluation of those impacts.\(^{24}\) *Id.* Such an evaluation was clearly done here and clearly informed the Department's process in issuing the Permit Revisions by requiring CPCC to undertake, as necessary, mitigation measures to reduce the environmental incursion to a minimum.

3. **Third Prong – Does the environmental harm which will result from the challenged decision or action so clearly outweigh the benefits to be derived therefrom that to proceed further would be an abuse of discretion?**

Appellants suggest that all three prongs of the *Payne* test were violated by the issuance of the Permit Revisions. Appellants' Posthearing Brief, p. 93. However, Appellants offer no analysis of any facts or law to support the proposition that the third prong – whether the environmental harms resulting from the issuance of the Permit Revisions clearly outweigh the benefits derived therefrom – was not met. *Id.* at 92-96.

Nevertheless, the record amply demonstrates that the environmental impacts from CPCC's operations are temporary and capable of being mitigated. See Proposed Findings of Fact, *supra* ¶¶ 121, 159-162, 260, 281, 292-297; CP Ex. 10 and 27; Stip. Ex. B at pp. 8-14 to 8-20; Stip. Ex. Q; CP Ex. 20. Conversely, CPCC's operations provide employment to hundreds of people and considerable economic benefits to the region. Tr. 840:8-10; 880:17-881:16. The temporary, mitigable impacts associated with CPCC's operations certainly do not "so clearly

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\(^{24}\) As the Board noted in *Pine Creek Valley Watershed Ass'n*, the proper question is not whether the Department could have done more, but rather whether there has been a reasonable effort to reduce environmental incursion. *Pine Creek Valley Watershed Ass'n*, slip op. at 10.
"outweigh" the benefits associated with the activities authorized by the Permit Revisions. *Payne*, 312 A.2d at 94.

D. Appellants Have Failed to Carry Their Burden To Establish the Permit Revisions Were Improperly Issued

As discussed in the Standard of Review and Burden of Proof Section, *supra*, Appellants bear the burden of proof in their Appeals. Appellants acknowledge this fact. Appellants’ Posthearing Brief, pp. 64-66. Nevertheless, in their Proposed Findings of Fact, Appellants improperly rely upon a "cherry-picking" of the facts in order to make the impacts of CPCC's operations seem more considerable than they actually are. Appellants provide the Board with approximately 13 pages of "facts" regarding observed stream impacts within the Permit Area. Appellants' Posthearing Brief, pp. 34-47. However, even assuming these "facts" are accurate representations of the record (CPCC disputes many of them), they rely upon only 25 DEP inspections of the Permit Area conducted by Mr. Laslo. Tr. 387:1-7. Considering that Mr. Laslo conducted approximately 1,000 inspections of the Permit Area, the presentation of a mere 25 inspection reports can hardly be said to be fully representative. Tr. 386:18-25. Furthermore, Appellants entirely fail to acknowledge the consistent testimony of record that any impacts observed by Mr. Laslo were mitigated in a timely fashion and addressed successfully by CPCC. Tr. 402:17-23; 1158:14-1161:25.

The Board's precedent makes clear that Appellants cannot carry their burden through these methods. A "laundry list" of possible problems is insufficient, as are mere possibilities and concerns. *Shuey v. DEP*, 2005 EHB at 712; *Boro. of St. Clair*, 2015 EHB at 314; *Brockway Boro. Mun. Auth.*, 2015 EHB at 237-239.
E. Appellants' Attack on Dr. Nuttle's Credibility Relies upon a Mischaracterization of His Testimony and The Record and Should be Rejected

Notwithstanding their argument that the loss of biology within a dry stream reach for any duration of time is illegal under any circumstance, Appellants nonetheless baselessly attack the scientific conclusions and expert opinions offered by CPCC's stream ecology expert Dr. Timothy Nuttle. There is simply no merit to Appellants' litany of criticisms of Dr. Nuttle's testimony, which was primarily consistent with the vague testimony offered by Appellants' expert, Dr. Stout. 25

First, Appellants suggest that Dr. Nuttle's testimony was internally inconsistent. See Appellants' Posthearing Brief, pp. 97-99. Appellants' argument relies upon their question-begging interpretation of the word "use." Appellants again assume that any flow loss causing the loss of stream biology for any duration of time is a prohibited loss of use. Id. at p. 99. This assumption is fundamentally flawed for the reasons discussed herein, supra. Because Chapter 93 cannot be construed to preclude temporary stream impacts, Appellants' argument here fails. Dr. Nuttle testified that, although CPCC's operations could result in temporary impacts to stream biology, he testified that stream uses would be maintained through the use of augmentation and the implementation of mitigation techniques which have previously been demonstrated to be successful. Tr. 1342:6-1348:23; accord tr. 1479:2-23. There is simply nothing inconsistent about this testimony. 26

25 A careful review of the transcript reveals that at no time did Dr. Stout offer a clear opinion that the biology within the LEEA Streams would be negatively impacted for any extended duration of time, but rather testified that duration of impacts would "depend" upon the length of the stream which experienced the flow loss and the duration of the flow loss. Tr. 684:12-22.

26 Similarly, Appellants suggest that because approximately five (5) percent of the Bailey South Study area had not yet recovered, Dr. Nuttle's testimony that biology within undermined streams recovers is somehow improper or unsupported. Appellants' Posthearing Brief, pp. 100-101. A 90 to 95 percent recovery rate is certainly a reasonable basis to suggest that, in the vast majority of cases, recovery occurs. Tr. 1080:6-13; CP Ex. 10 and 27.
Second, Appellants offer a muddled argument that the Board should reject certain testimony provided by Dr. Nuttle that it is possible to have a stream be identified as perennial for purposes of the TGD and 25 Pa. Code § 89.5 – specifically, through the identification of two (2) macroinvertebrate taxa within the stream reach – even though the stream reach may also exhibit intermittent flow characteristics. Appellants' Posthearing Brief, pp. 99-100. Appellants contend that Dr. Nuttle's testimony was inconsistent, not supported by the evidence, and relied upon data not introduced at the hearing. *Id.* at 99-100. These assertions rely upon a mischaracterization of the record.

First, Appellants' complaints ignore that Dr. Nuttle was not offered to testify regarding the flow data collected by CPCC. Tr. 1322:15-16. Rather, Dr. Nuttle was offered and testified solely regarding stream ecology and the biological conditions of the LEEA Streams and other streams within CPCC's Bailey South Study. *Id.*

The Pennsylvania Rules of Evidence make clear that Dr. Nuttle could reasonably rely upon facts and data provided to him by others. "An expert may base an opinion on facts or data in the case that the expert has been made aware of or personally observed. If experts in the particular field would reasonably rely upon those kinds of facts or data in forming an opinion on the subject, they need not be admissible for the opinion to be admitted." Pa. R. E. 703; see also *Kelly v. Martino*, 99 A.2d 902, 902 (Pa. 1953) (expert opinions may be based upon facts made known to the expert); *Maravich v. Aetna Life and Cas. Co.*, 504 A.2d 896, 900 (Pa. Super. Ct. 1986) (fire marshal's opinion based upon hearsay declarations of firemen were admissible).

Dr. Nuttle's testimony regarding the flow data and conditions relied upon testimony provided at hearing by Messrs. Silvis and Waite, as well as limited additional data made available by Mr. Silvis. Tr. 1332:2-13; 1337:3-15; 1338:22-1339:18. Such reliance is entirely
appropriate and does not implicate any credibility problem. Notably, Appellants made no effort to question or impeach the credibility of Dr. Nuttle's testimony at the time it was given during the hearing. See Sunoco, Inc. (R&M) v. Com., 2003 EHB 482, 484 (concerns regarding alleged inconsistencies and reliance upon hearsay were "a script for cross-examination" not grounds for exclusion of expert testimony).

Moreover, the flow conditions referenced in Dr. Nuttle's testimony and the exhibits used during that testimony are entirely consistent with the other evidence of record. Messrs. Silvis, Waite and Laslo testified to firsthand knowledge of pre-mining no-flow conditions in the LEEA Streams. Tr. 1070:5-9; 1275:18-1280:12; 385:25-386:17. Further, Appellants' own expert, Dr. Stout, opined that actual flow was not necessary to maintain biology, but rather moisture within the streambed channel or water within the interstitial zone beneath the streambed channel would suffice. Tr. 720:13-721:10; 739:14-19; 773:15-774:1.

In their Posthearing Brief, Appellants attempt – for the very first time – to characterize flow data contained within the 180 Application as demonstrating that the LEEA Streams do in fact flow continuously, year-round. Appellants' Prehearing Brief, p. 101-102. While it is somewhat unclear what benefit Appellants derive from this argument since their primary legal contention would find any flow loss to be illegal as a matter of law, it is abundantly clear that the Board should disregard Appellants' arguments. First, the undisputed testimony at the hearing, relying upon firsthand knowledge of the data collected from the LEEA Streams and personal observations, demonstrated that the LEEA Streams, except for North Fork Dunkard Fork, have intermittent flow characteristics. Tr. 1063:11-1067:6; 1073:14-22; 1114:23-1115:2; 1270:2-10; 1324:21-1329:4.; Stip. Ex. B at Table 8.4A; Ex. A28. Second, it is thoroughly improper for Appellants to advance this novel argument for the first time in their Posthearing Briefing. See, e.g., Al Hamilton Contracting Co. v. DER, 1995 EHB 1179, 1244 (refusing to consider a novel posthearing brief argument of allegedly "incomplete" sampling); Blumenthal, 1993 EHB at 1566-68 (arguments not included in a prehearing memorandum are waived). To the extent Appellants intended to attempt to prove the flow data contained within the 180 Application demonstrated that the LEEA Streams have continuous, year-round flow, they should have elicited testimony to that effect during the hearing. Finally, even Appellants' statements in their Posthearing Brief admit that the data reflects that "portions" may have exhibited continuous flow during 2006-2007 timeframe. See Appellants' Posthearing Brief, pp. 101-102.

Similarly, Appellants complain that CPCC did not produce all of the flow data collected for the LEEA Streams. Appellants' Posthearing Brief, p. 26 n. 5. This belated complaint is not appropriate at this stage in the proceeding. CPCC produced documents and record which CPCC understood to be relevant to Appellants' claims and to be requested by Appellants. CPCC lodged appropriate objections to overly broad and unduly burdensome requests. To the extent that Appellants felt that CPCC's responses were incomplete, it was incumbent upon them to assert that position before the close of discovery.

Appellants also attack Dr. Nuttle's credibility on the basis that his understanding of the term "biologically diverse" varied slightly from the definition offered by the Department's expert witness, Gary Walters. Appellants'
The *Al Hamilton Contracting Co. v. DER*, 659 A.2d 31 (Pa. Commw. Ct. 1995) decision is instructive. There, DER's expert witness relied in part upon a report provided by Al Hamilton Contracting Co., which was initially not introduced as evidence. *Id.* at 34. After determining the Board properly reopened DER's case to allow it to introduce the report, the Commonwealth Court continued on to find that DER's expert could rely upon information found in the report even if the report itself had not been introduced into evidence. *Id.* at 36. "[E]xperts by necessity may rely upon the reports of others not admitted into evidence." *Id.* (citations omitted).

Here, Dr. Nuttle offered testimony based upon facts of which he had personal knowledge, facts of record, and limited amounts of additional information provided by CPCC. It was entirely appropriate for him to do so. *Id.* Dr. Nuttle's testimony was entirely consistent with and based upon testimony offered by CPCC and Department witnesses.

Furthermore, the testimonies offered by Dr. Nuttle and Dr. Stout were often consistent. For example, they agreed that streams are dynamic, that stream biology recovers, that augmentation would serve to preserve biology within streams, and that stream biology has survival mechanisms and adaptations to migrate and recolonize. *See* Proposed Findings of Fact, *supra*, ¶¶ 96-97, 99, 113-114, 233-234 To the extent that their testimony was inconsistent, any weighing of credibility must side with Dr. Nuttle's testimony. Dr. Stout admitted that he had not conducted or reviewed any studies of CPCC's mitigation techniques. Tr. 802:5-803:2. Unlike Dr. Nuttle, Dr. Stout did not have years of experience studying data specifically related to CPCC's operations and the streamsoverlaying the Bailey Mine. Tr. 772:23-773:13. Rather, Dr.

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*Posthearing Brief, pp. 102-103. It is unclear why Appellants believe the slight difference interpretation creates a credibility issue related to Dr. Nuttle's testimony. Dr. Nuttle testified that he had conferred with the Department regarding CEC's understanding and use of the term. Tr.1376:14-1377:9. The TGD does not define the term using specific criteria and, consequently, interpretation is required. Stip. Ex. M. at Appendix A. Appellants' criticisms are misplaced.*
Stout offered opinions which were not supported by any specifically-referenced studies and were based upon his admitted concerns that any in-stream construction project would negatively impact stream biology. Tr. 804:14-805:17.

In *UMCO*, the Board described weighing expert credibility as follows:

> The weight to be given to an expert's opinion depends upon such factors as the expert's qualifications, presentation and demeanor, preparation, knowledge of the field in general and the facts and circumstances of the case in particular, and the quality of the expert's data and other sources. Perhaps more fundamentally, we look to the opinion itself assess the extent to which it is coherent, cohesive, objective, persuasive, and well grounded in the relevant facts of the case.

*UMCO*, 2006 EHB at 544-45. In weighing these factors, the Board found the Department's expert most credible as he had "lived" with the facts of the case "for years." *Id. at 546. By the same token, the Board found UMCO's experts to be less credible as "[n]either had anything approaching the site-specific background of [the Department's expert]." *Id.*

It cannot be disputed that Dr. Nuttle has site-specific background and has "lived" with the pertinent facts of the case "for years". In contrast, Dr. Stout has minimal experience with the LEEA Streams and no specific knowledge or information regarding CPCC's mitigation work. Tr. 8770:16-23; 02:5-803:2. As the Board said of UMCO's experts "we found [their testimony] to be somewhat generic and based in some cases on inadequate study." *UMCO*, 2006 EHB at 546. The same is true of Dr. Stout's testimony regarding the possible biological impacts from the Permit Revisions.

**V. PROPOSED CONCLUSIONS OF LAW**

1. The Board has jurisdiction over this matter. 35 P.S. § 7514.
2. Appellants Sierra Club and CCJ have the burden of proof as they are contesting the issuance of Bailey Mine CMAP Permit Revisions 180 and 189. 25 Pa. Code § 1021.122(c)(2).

3. The Appellants have the burden of proceeding as they have are "asserting the affirmative of an issue", that is they are asserting that Permit Revisions 180 and 189 were improperly issued by the Department. 25 Pa. Code § 1021.122(a).

4. The applicable standard of review of the Department's actions in issuing Permit Revisions 180 and 189 is that Appellants must establish by a preponderance of the evidence the Department abused its discretion or committed an error of law. 25 Pa. Code §1021.122; Warren Sand and Gravel, 341 A.2d at 565. In order to overturn the Department's actions in issuing Permit Revisions 180 and 189, the Board must find that the Department abused its discretion or acted contrary to law. Id.


6. The Department's actions in the issuance of Permit Revisions 180 and 189 did not constitute an abuse of discretion nor were such actions contrary to law under, inter alia, the Surface Mining Act, the Mine Subsidence Act, the Clean Streams Law, and the Dam Safety and Encroachments Act, and regulations promulgated pursuant to those acts (collectively, "Environmental Protection Acts").

8. The "Clean Streams Law authorizes the Department by rule or regulation to require permits for activities that have the potential to cause pollution, 35 P.S. § 691.402…"

Consol I, 2002 EHB at 1042.

9. "[L]ongwall mining is an accepted method of underground mining which was contemplated by both federal and state mining regulations." PUSH, 789 A.2d at 323 (citations omitted); see also UMCO, 2006 EHB at 560 ("Longwall mining is permitted in Pennsylvania…"); 565 ("[i]t is much more likely that the Legislature intended a reasonable accommodation between the rights of mining companies and the protection of the waters of the Commonwealth."); and 585 ("[l]ongwall mining is an acceptable mining method in Pennsylvania and cannot be prohibited simply because it causes subsidence resulting in material damage. 52 Pa. Stat. § 1406.5(e).").

10. While the Board has stated that flow loss or other physical changes to waters of the Commonwealth may constitute pollution, the Board has never held that such changes were pollution when those changes were temporary, capable of mitigation, fully considered by the Department, and authorized by Department permits. Consol I, 2002 EHB at 1042 ("subsidence can certainly result in pollution, and it is also true that the Clean Streams Law authorizes the Department by rule or regulation to require permits for activities that have the potential to cause pollution...") (internal citations omitted) (emphasis added); Consol II, 2003 EHB at 795 ("subsidence impacts can constitute pollution") (emphasis added); Tincum Twp., 2002 EHB at 832 (discussing water loss and pollution generally); Oley, 2002 EHB at 1121-1122 (noting that expert testimony raised possibility that pumping would have an adverse quantity impact on adjacent wetlands); UMCO, 2006 EHB at 555 ("Subsidence impacts can clearly cause
pollution") (emphasis added); *Crun Creek*, 2009 EHB at 567 (physical and biological changes to waters of the Commonwealth subject to same scrutiny as direct discharges).


12. Temporary changes to streams caused by mitigation activities authorized by, *inter alia*, the Environmental Protection Acts, such as grouting, gate cutting, or stream lining with appropriate stream flow augmentation, do not constitute a loss of the streams' existing or designated use. 25 Pa. Code Ch. 93; Summary Judgment Opinion at pp. 10-12 (rejecting Appellants' contention that any disruption to stream flow is a loss of the existing and/or designated stream use).

13. The possible subsidence-induced impacts to streams which are predicted in the Permit Revision Applications do not constitute "presumptive evidence of pollution" where such impacts are predicted to be temporary and stream mitigation measures are proposed to address any impacts to streams that may arise during the course of longwall mining. 25 Pa. Code § 86.37(a)(3); the Summary Judgment Opinion at pp. 9-10 (rejecting Appellants' argument that "presumptive evidence of pollution" should be read to preclude the issuance of a permit where there are predictions of possible, temporary pooling and/or flow loss).

14. The Department ensured that the LEEA Streams' designated and existing stream uses would be in issuing Permit Revision 180. 25 Pa. Code §§ 93.4a, 93.4c.
15. The Department ensured that Polen Run's designated and existing stream uses would be protected in establishing flow and biological recovery Performance Criteria in Permit Revision 189. 25 Pa. Code §§ 93.4a, 93.4c.


17. The three-prong test established by the Commonwealth Court in Payne, 312 S.2d 86, is the standard to determine whether the Department has complied with its obligations under the Environmental Rights Amendment. Brockway Boro. Mun. Auth., 2015 EHB at 243; Pine Creek Valley Watershed Ass'n, slip op. at 14.

18. The Board is required to "respect basic policy choices expressed by the Legislature" in evaluating whether the Department acted consistently with its obligations under the Environmental Rights Amendment. Pine Creek Valley Watershed Ass'n, slip op. at 13; see also Friends of Lackawanna, slip op. at 11.

19. The Department's actions in issuing the Permit Revisions 180 and 189 were in accordance with its obligations under Article I Section 27 of the Pennsylvania. Pa. Const. Art I, § 27; Payne, 312 A.2d 86; PEDF, 108 A.3d 140; Brockway Boro. Mun. Auth., 2015 EHB 221; Snyder, 2015 EHB at 881-82.
VI. CONCLUSION

For the foregoing reasons, Appellants' Notices of Appeal of Permit Revisions 180 and 189 should be dismissed.

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November 21, 2016
CERTIFICATE OF SERVICE

The undersigned hereby certifies that a true and correct copy of the foregoing document has been served on this 21st day of November 2016, via e-filing, which service satisfies the requirements of 25 Pa. Code § 1021.34, to the following counsel of record:

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