

APPENDIX K: Piezometer HMR Data

K.1 - Overview

This appendix contains time series plots of all HMR data regarding water level elevations in piezometers and wells. The data plotted here were chosen using the following criteria: 1) the monitoring point had to be undermined during the 5th assessment period and 2) the HMR record had to have more than 8 data points (i.e., 2 years). This scoped the data and illustrates the limited range of data available to describe groundwater impacts.

K.2 - Bailey

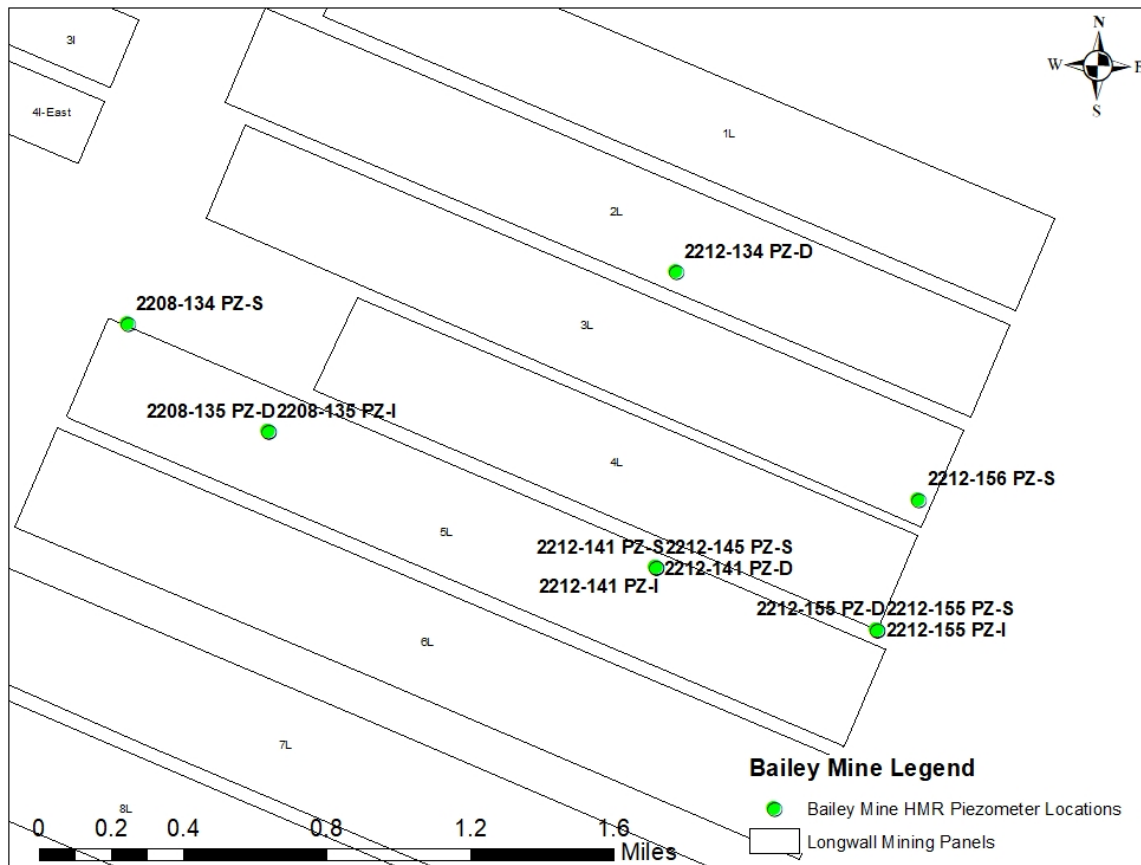


Figure K-1. Map of the piezometers and wells undermined by the Bailey Mine during the 5th assessment period.

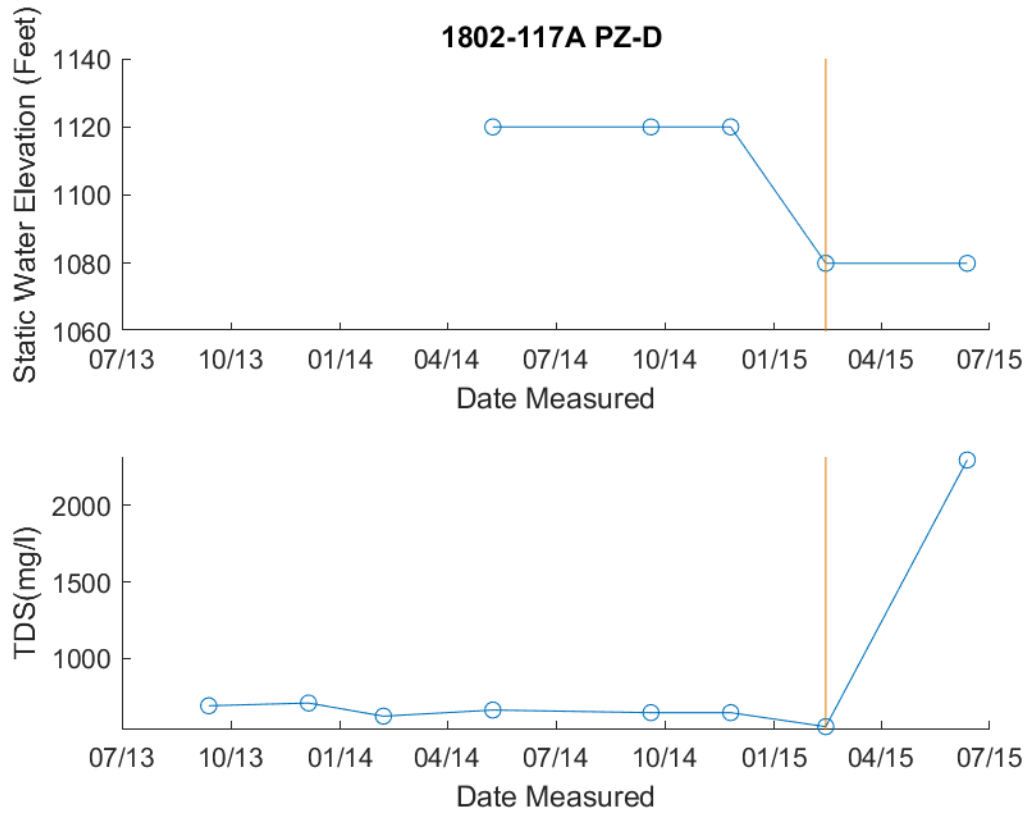


Figure K-2. Static water elevation and total dissolved solids (TDS) at Bailey Mine monitoring point 1802-117A PZ-D. The vertical line represents the approximate date when the monitoring point was undermined.

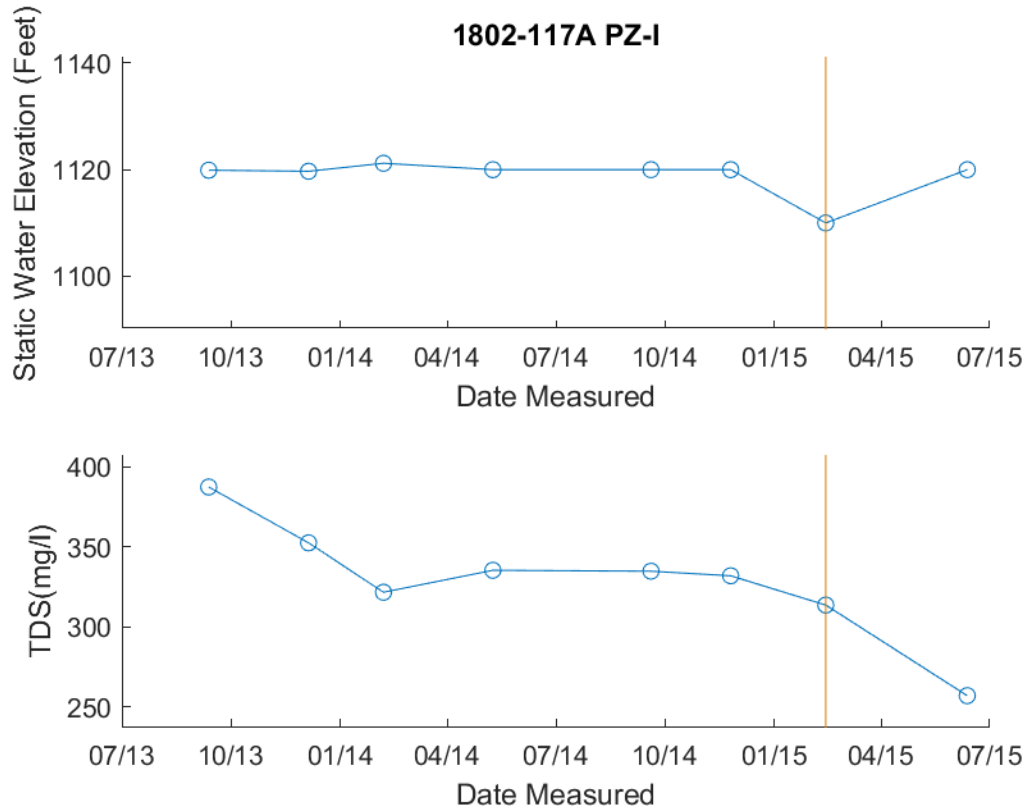


Figure K-3. Static water elevation and total dissolved solids (TDS) at Bailey Mine monitoring point 1802-117A PZ-I. The vertical line represents the approximate date when the monitoring point was undermined.

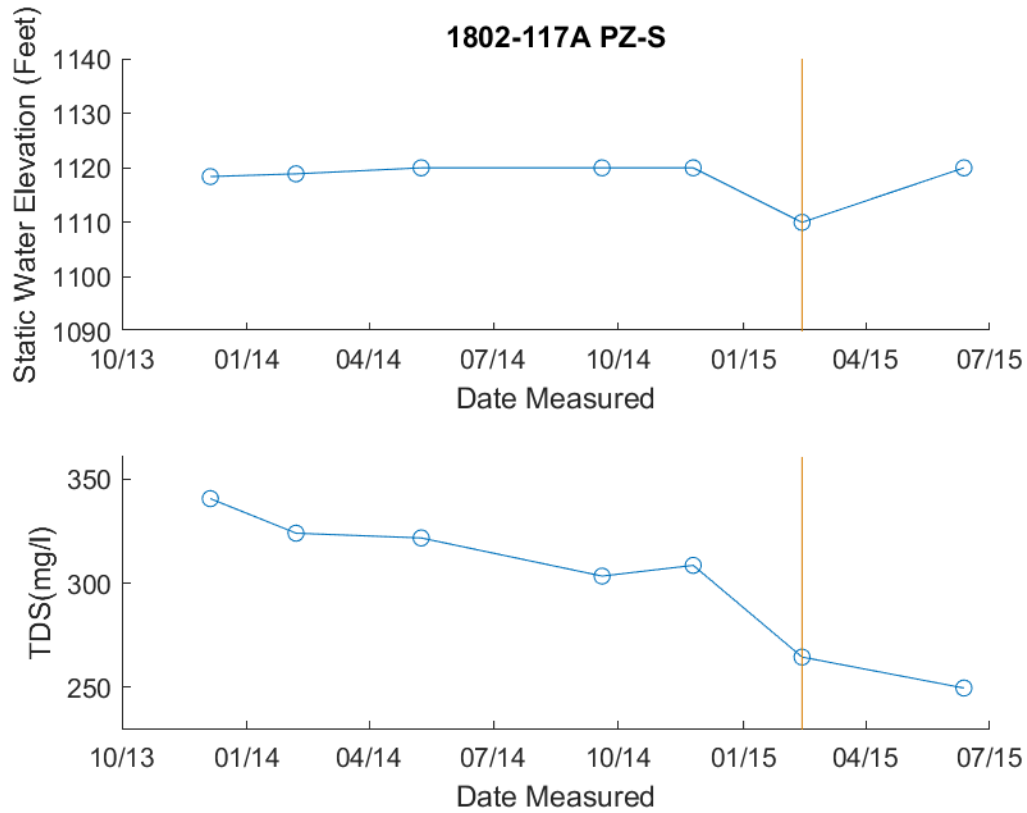


Figure K-4. Static water elevation and total dissolved solids (TDS) at Bailey Mine monitoring point 1802-117A PZ-S. The vertical line represents the approximate date when the monitoring point was undermined.

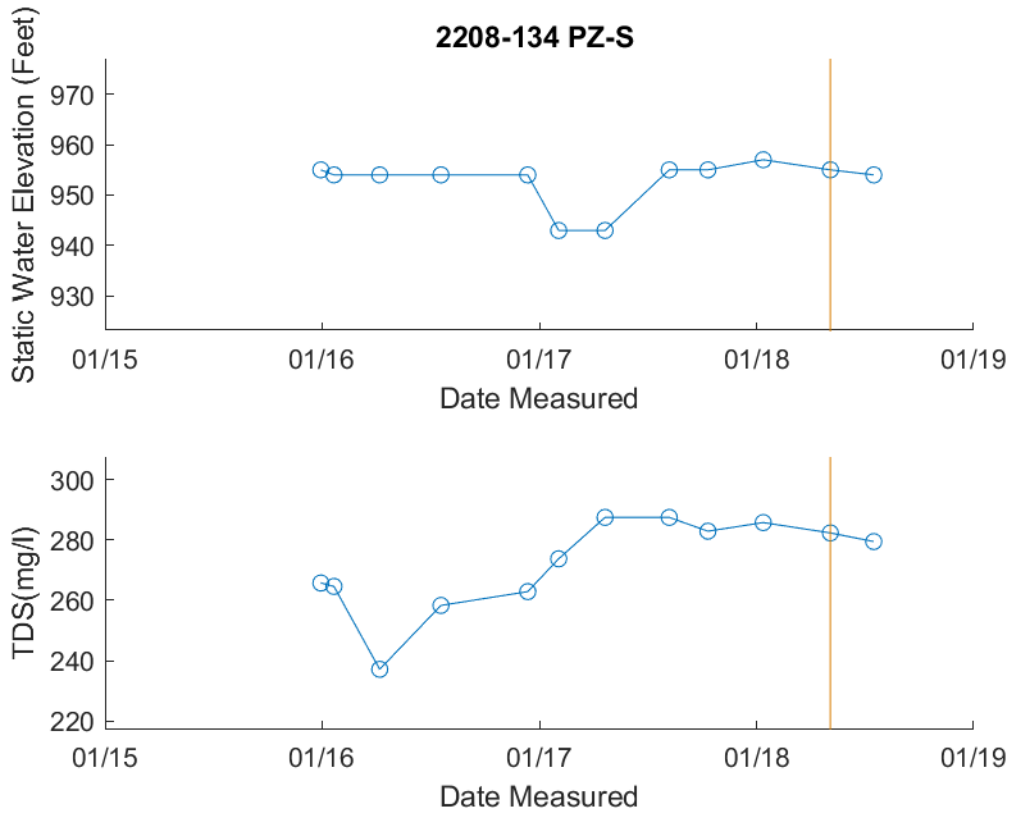


Figure K-5. Static water elevation and total dissolved solids (TDS) at Bailey Mine monitoring point 2208-134 PZ-S. The vertical line represents the approximate date when the monitoring point was undermined.

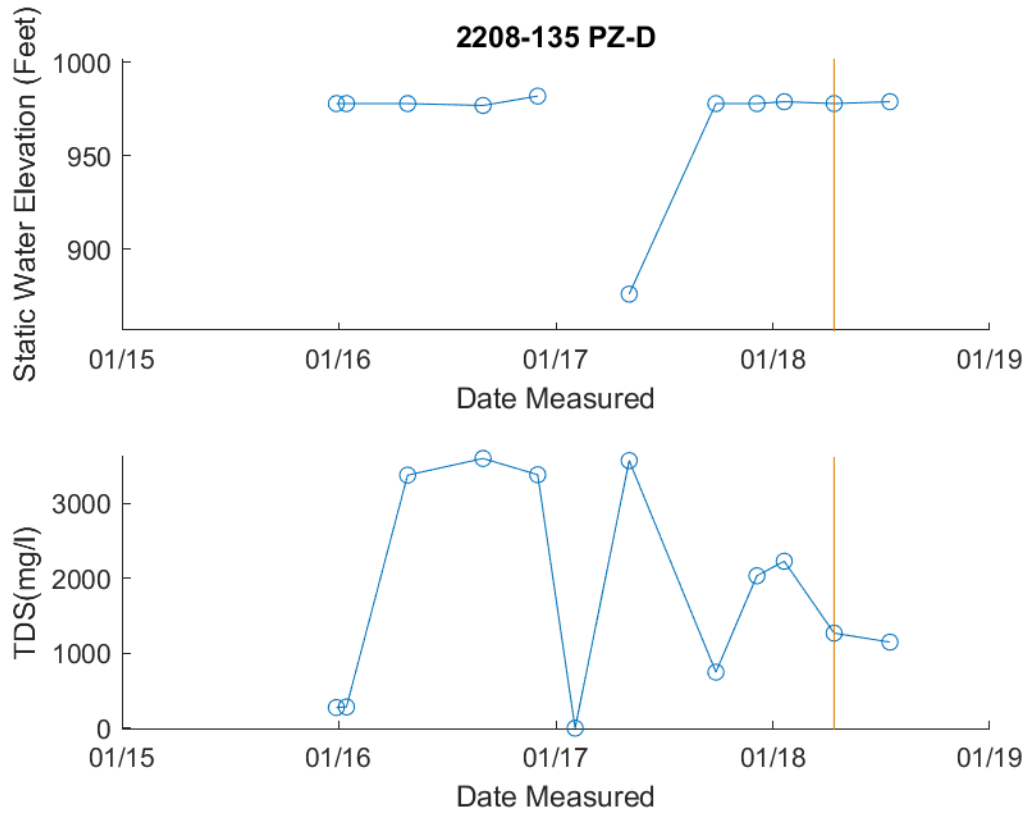


Figure K-6. Static water elevation and total dissolved solids (TDS) at Bailey Mine monitoring point 2208-135PZ-D. The vertical line represents the approximate date when the monitoring point was undermined.

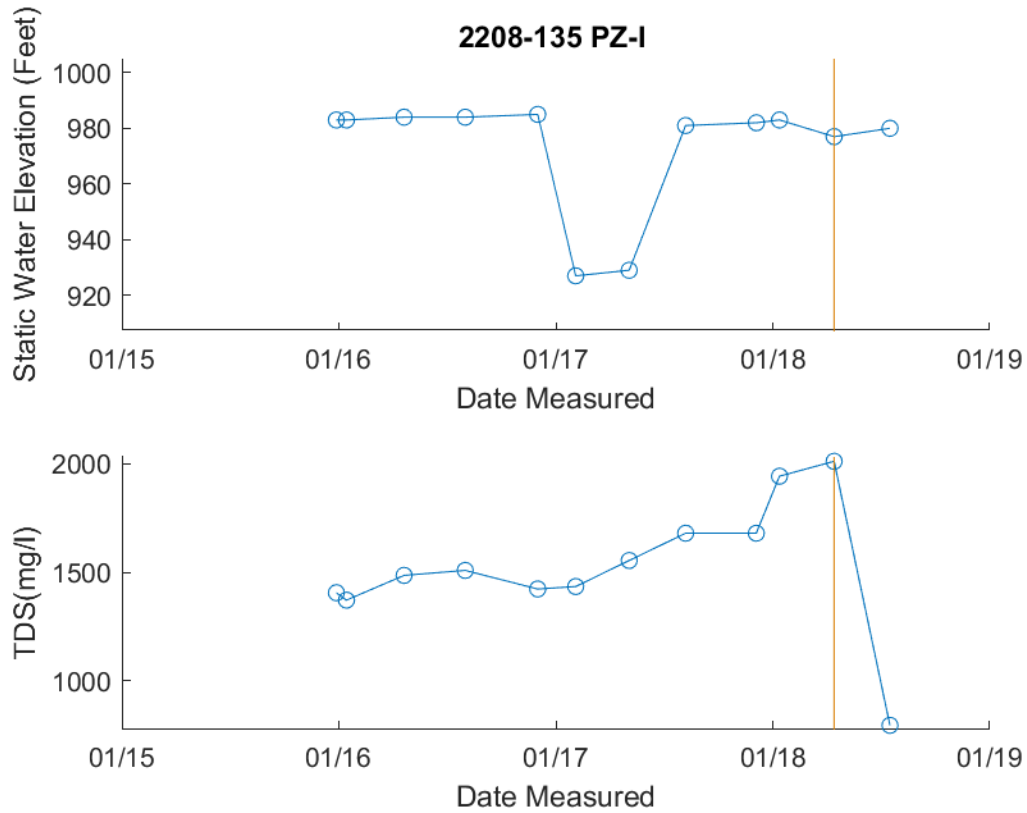


Figure K-7. Static water elevation and total dissolved solids (TDS) at Bailey Mine monitoring point 2208-135 PZ-I. The vertical line represents the approximate date when the monitoring point was undermined.

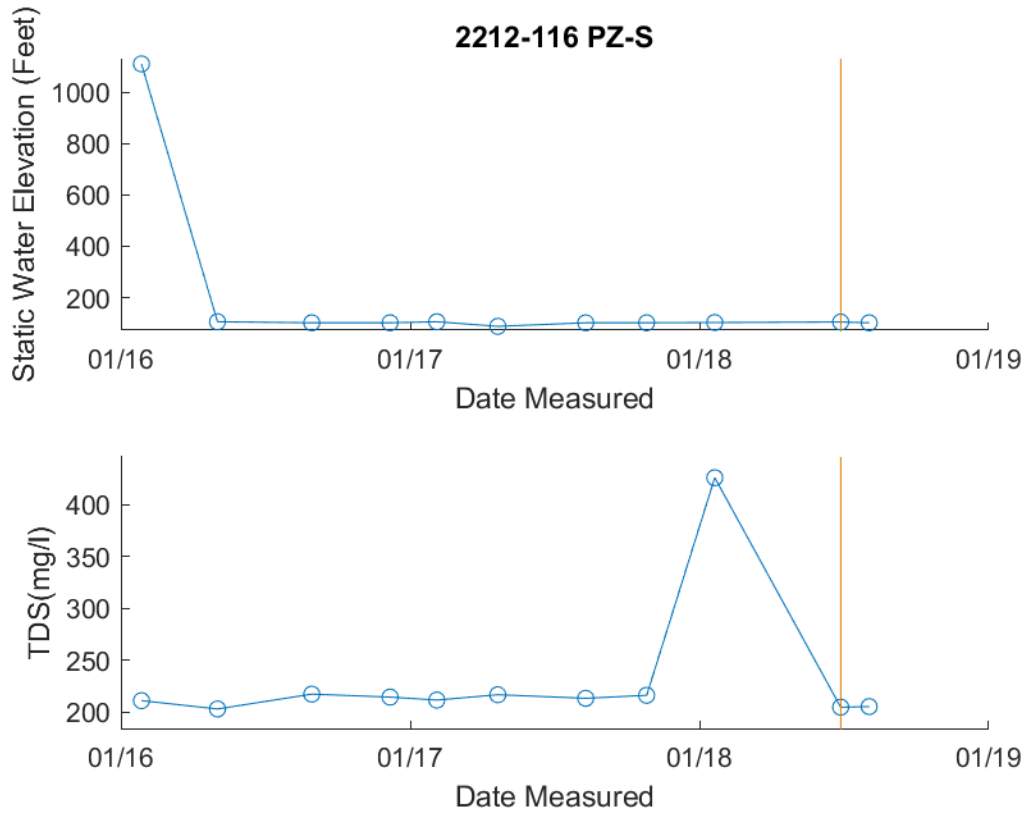


Figure K-8. Static water elevation and total dissolved solids (TDS) at Bailey Mine monitoring point 2212-116 PZ-S. The vertical line represents the approximate date when the monitoring point was undermined.

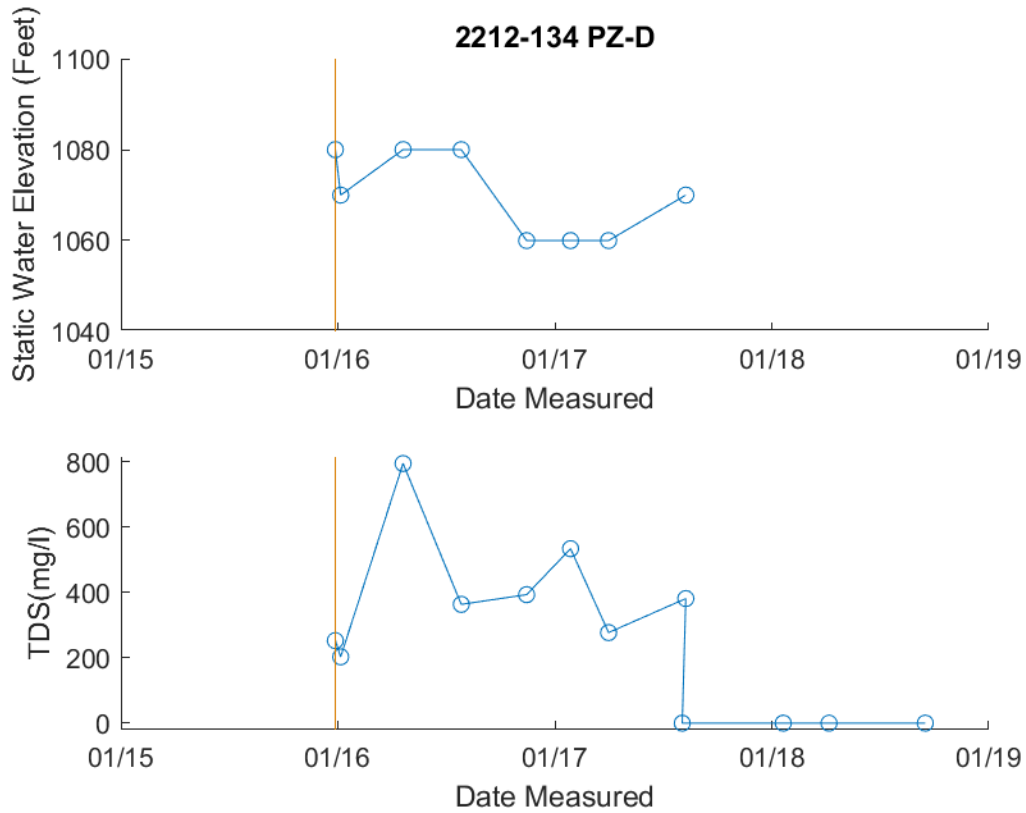


Figure K-9. Static water elevation and total dissolved solids (TDS) at Bailey Mine monitoring point 2212-134 PZ-D. The vertical line represents the approximate date when the monitoring point was undermined.

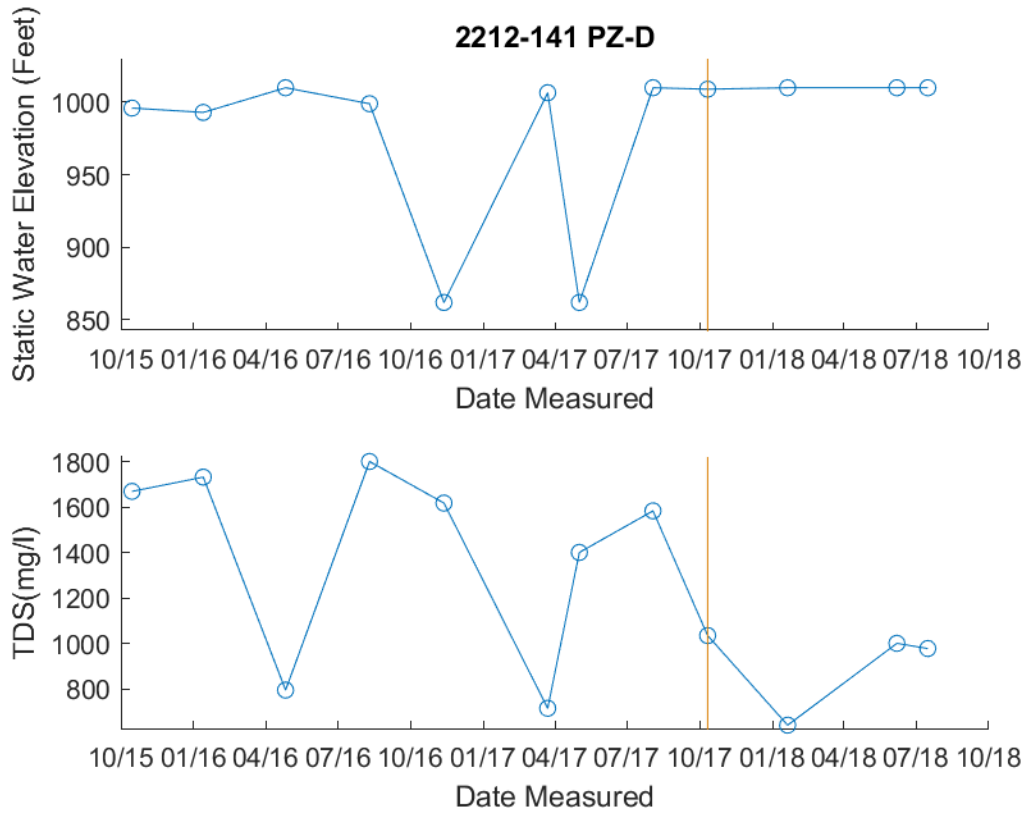


Figure K-10. Static water elevation and total dissolved solids (TDS) at Bailey Mine monitoring point 2212-141 PZ-D. The vertical line represents the approximate date when the monitoring point was undermined.

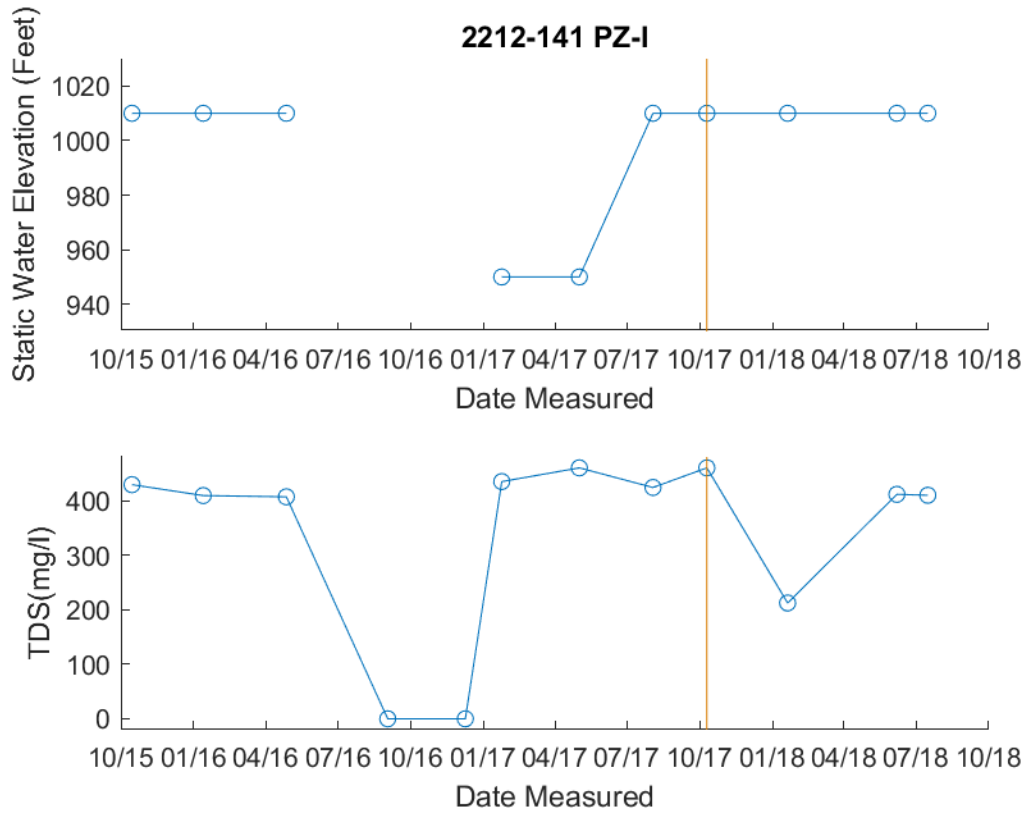


Figure K-11. Static water elevation and total dissolved solids (TDS) at Bailey Mine monitoring point 2212-141 PZ-I. The vertical line represents the approximate date when the monitoring point was undermined.

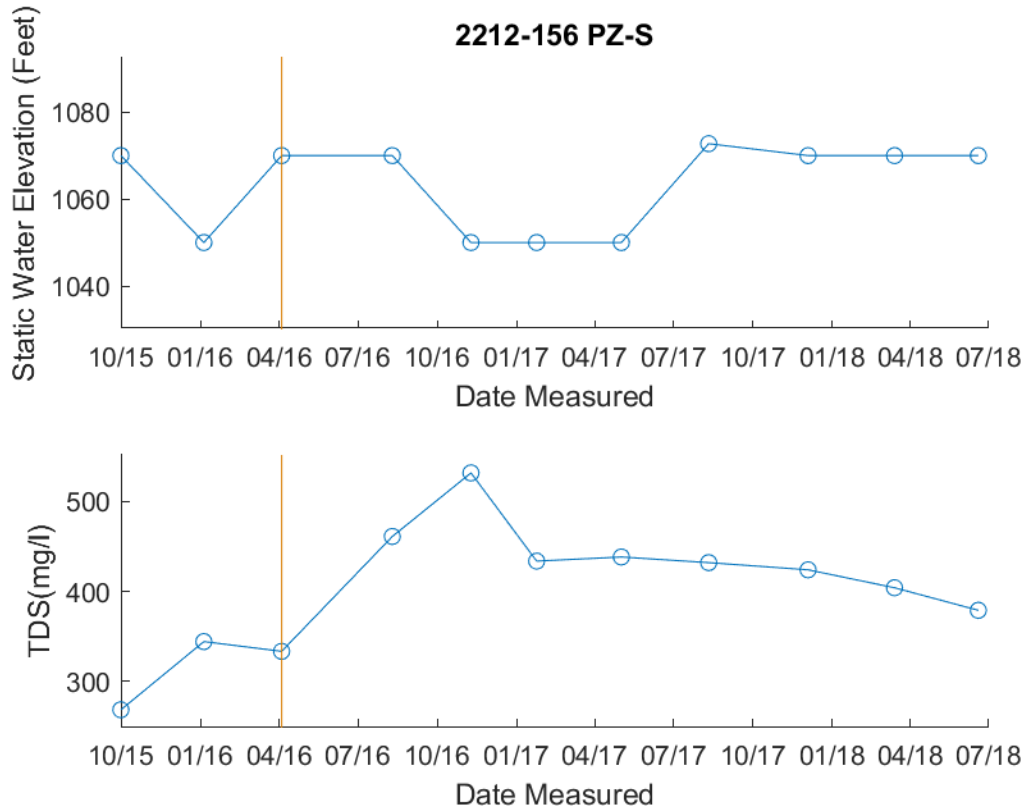


Figure K-12. Static water elevation and total dissolved solids (TDS) at Bailey Mine monitoring point 2212-156 PZ-S. The vertical line represents the approximate date when the monitoring point was undermined.

K.3 - Cumberland

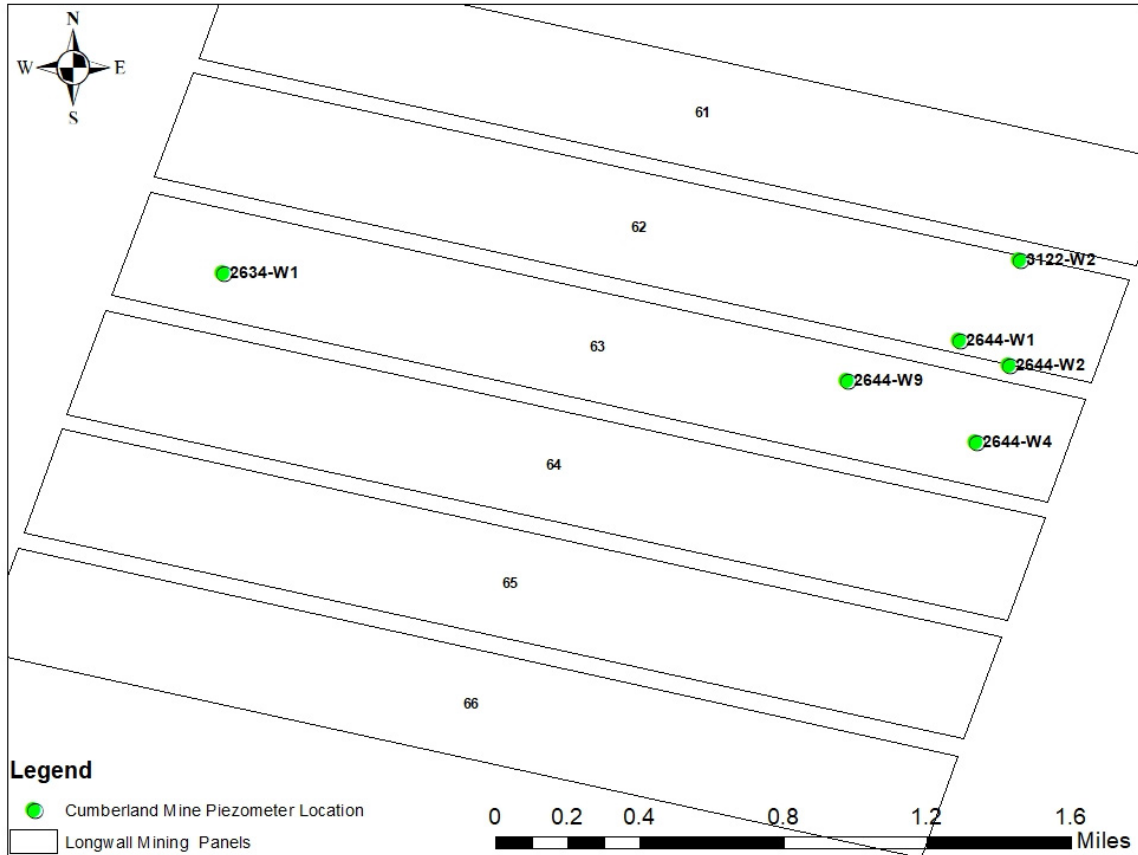


Figure K-13. Map of the piezometers and wells undermined by the Cumberland Mine during the 5th assessment period.

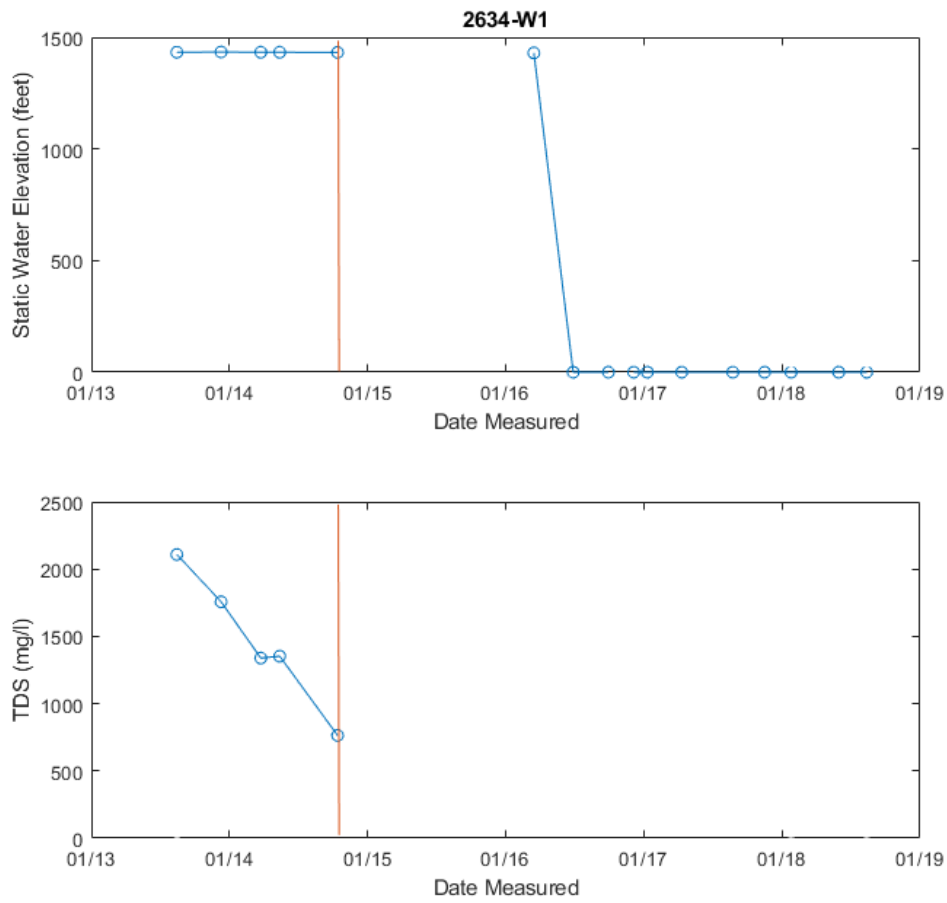


Figure K-14. Static water elevation and total dissolved solids (TDS) at Cumberland Mine monitoring point 2634-W1. The vertical line represents the approximate date when the monitoring point was undermined.

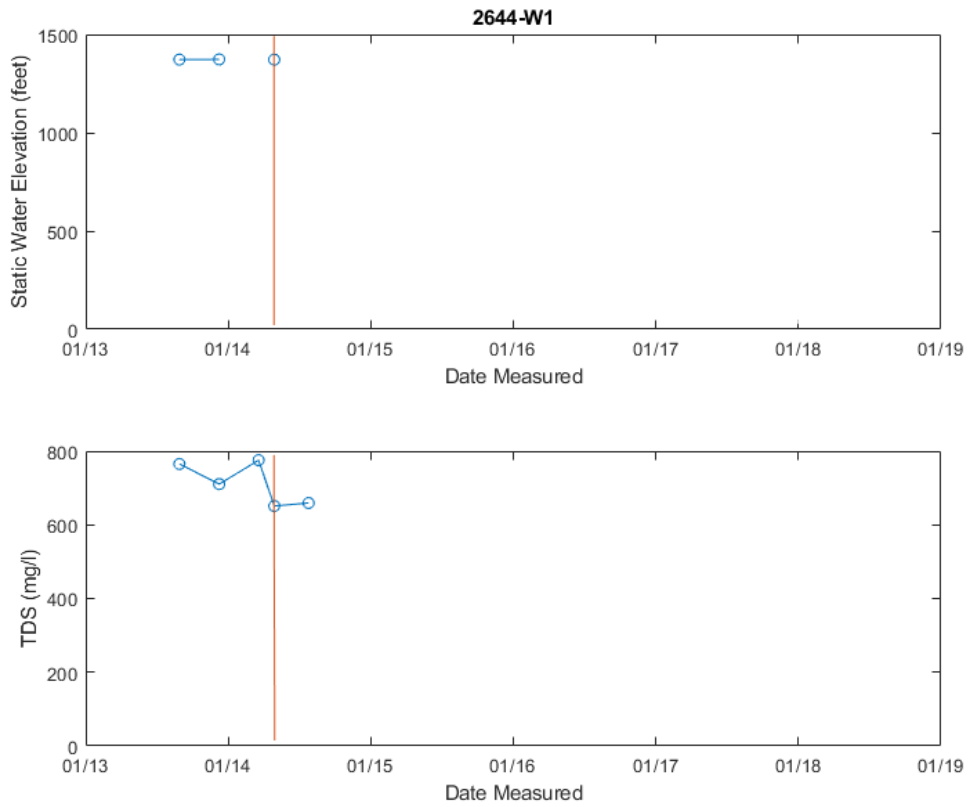


Figure K-15. Static water elevation and total dissolved solids (TDS) at Cumberland Mine monitoring point 2644-W1. The vertical line represents the approximate date when the monitoring point was undermined.

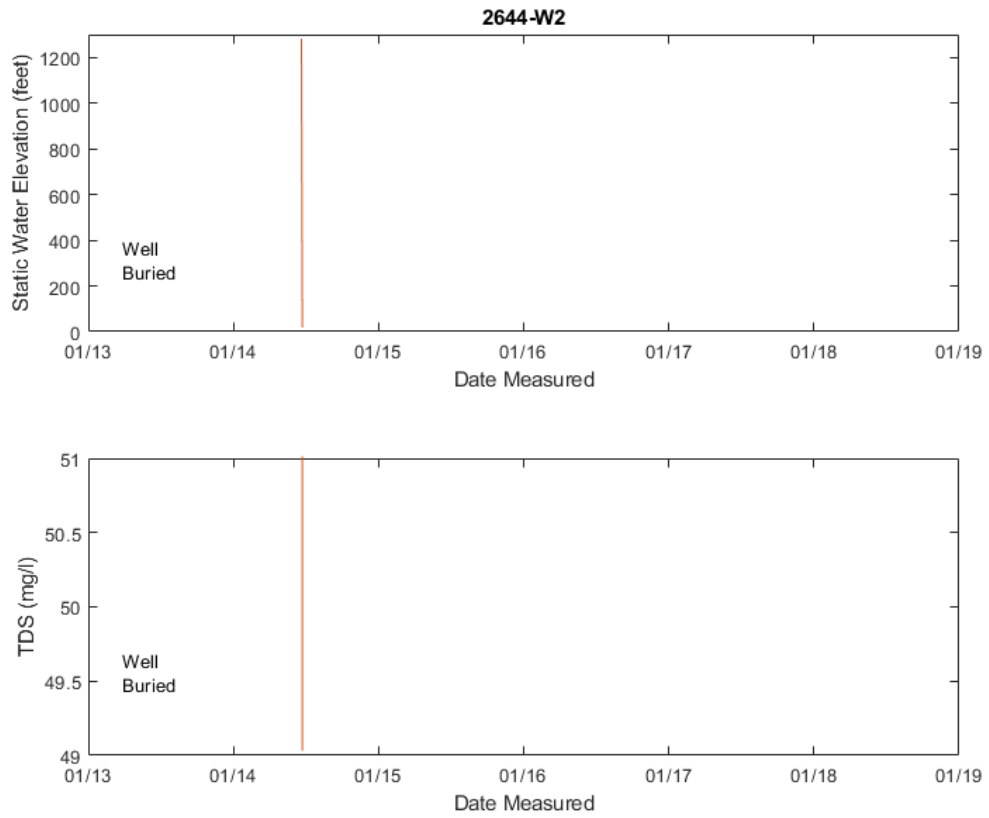


Figure K-16. Static water elevation and total dissolved solids (TDS) at Cumberland Mine monitoring point 2644-W2. The vertical line represents the approximate date when the monitoring point was undermined.

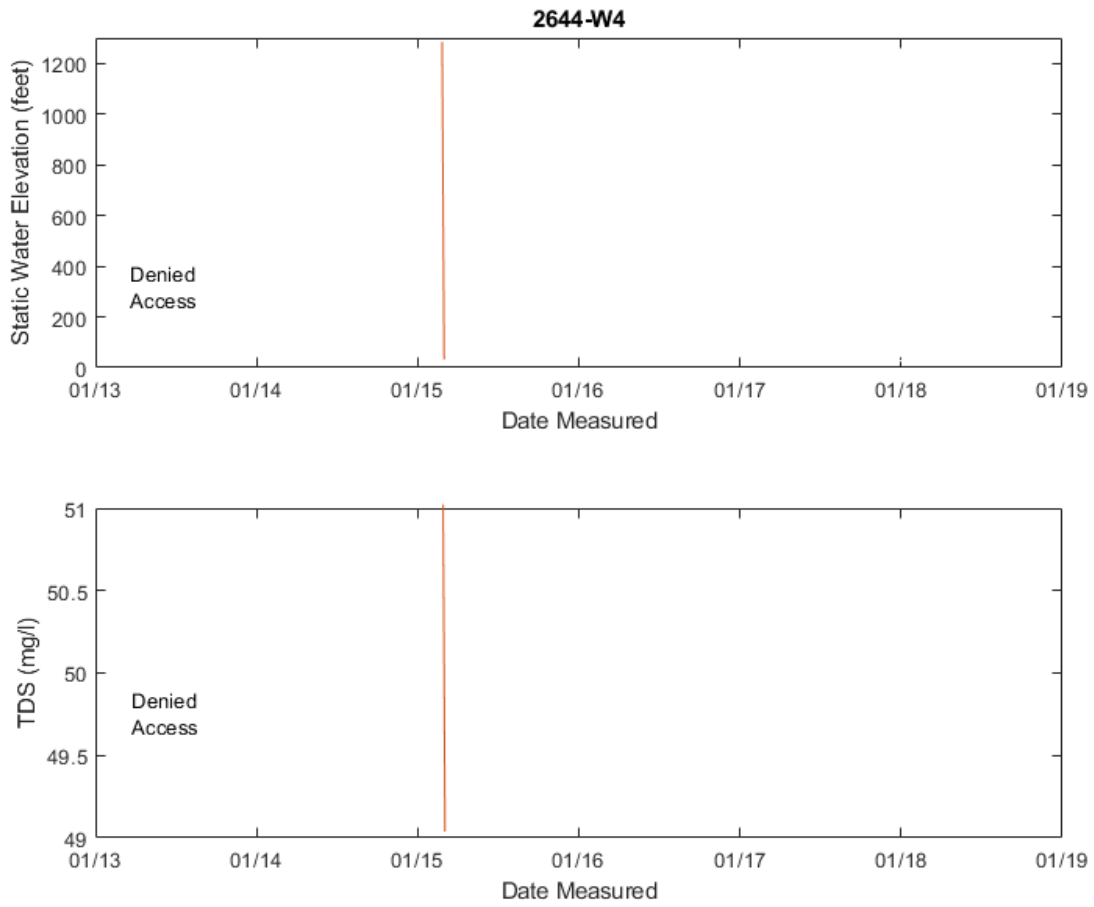


Figure K-1713. Static water elevation and total dissolved solids (TDS) at Cumberland Mine monitoring point 2644-W4. The vertical line represents the approximate date when the monitoring point was undermined.

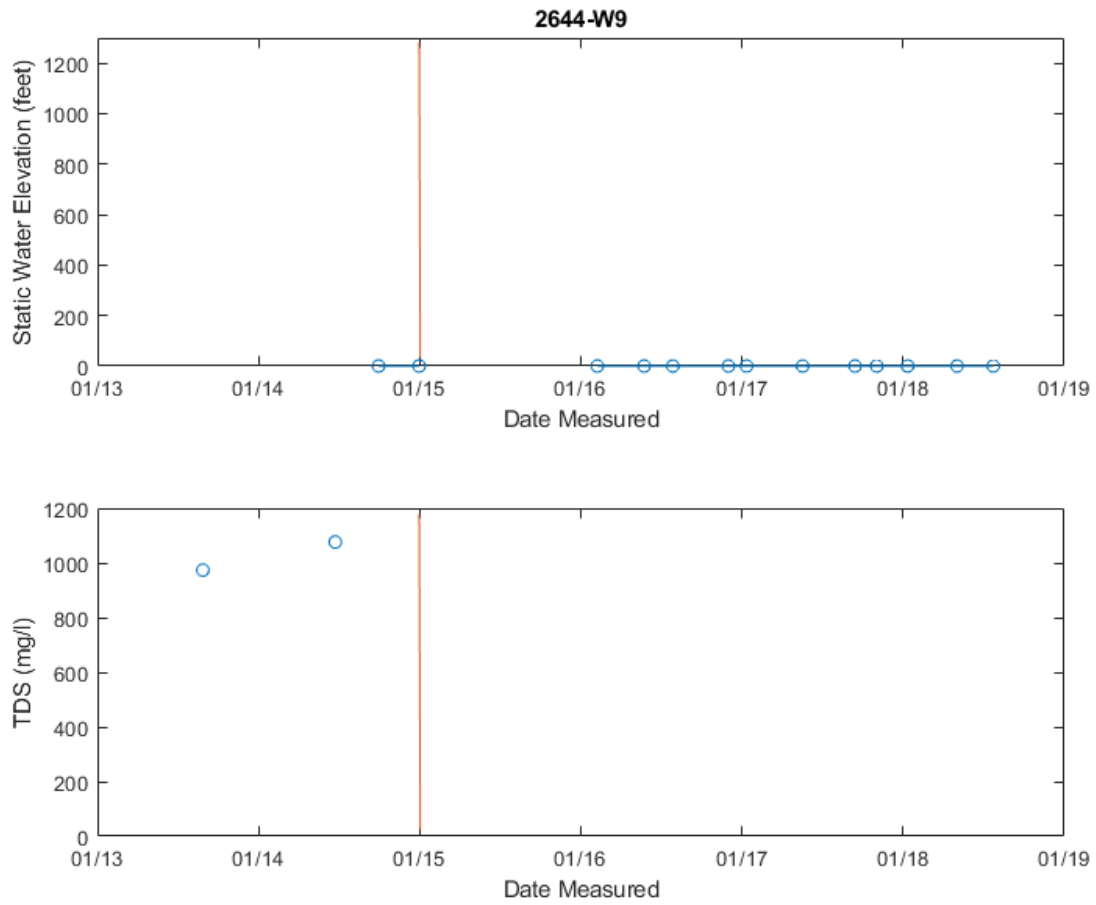


Figure K-18. Static water elevation and total dissolved solids (TDS) at Cumberland Mine monitoring point 2644-W9. The vertical line represents the approximate date when the monitoring point was undermined.

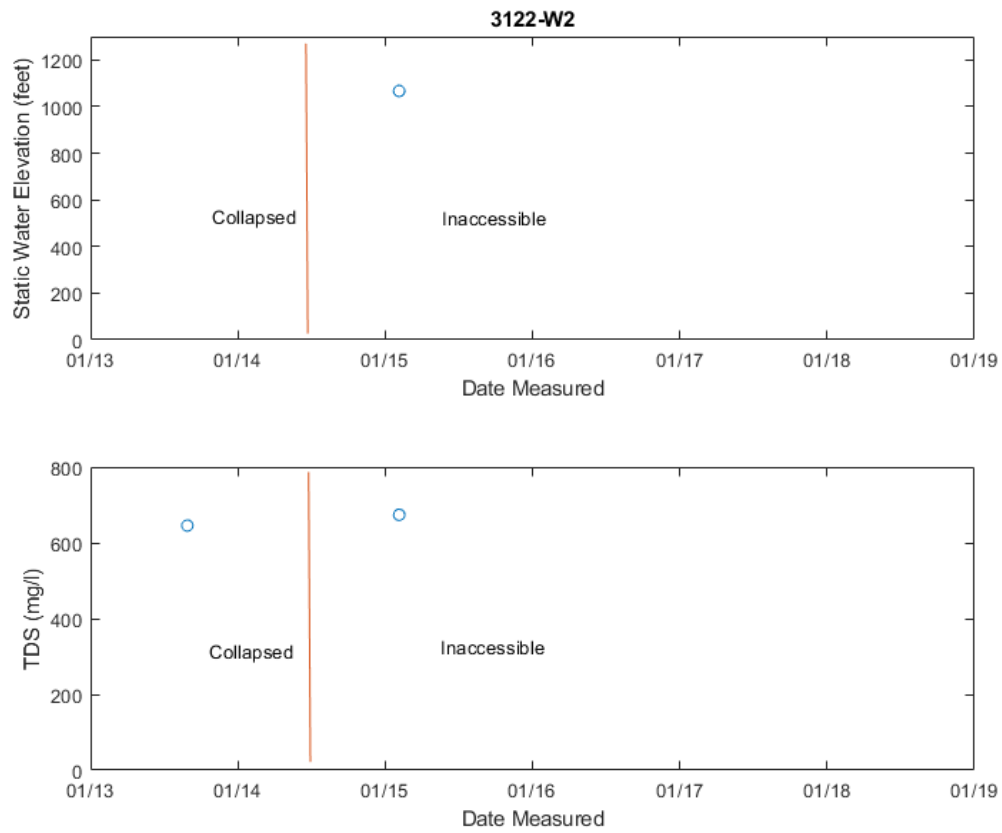


Figure K-19. Static water elevation and total dissolved solids (TDS) at Cumberland Mine monitoring point 2644-W1. The vertical line represents the approximate date when the monitoring point was undermined.

K.4 - Emerald

No Piezometer HMR points were undermined in Emerald during the 5th assessment.

K.5 - Enlow Fork

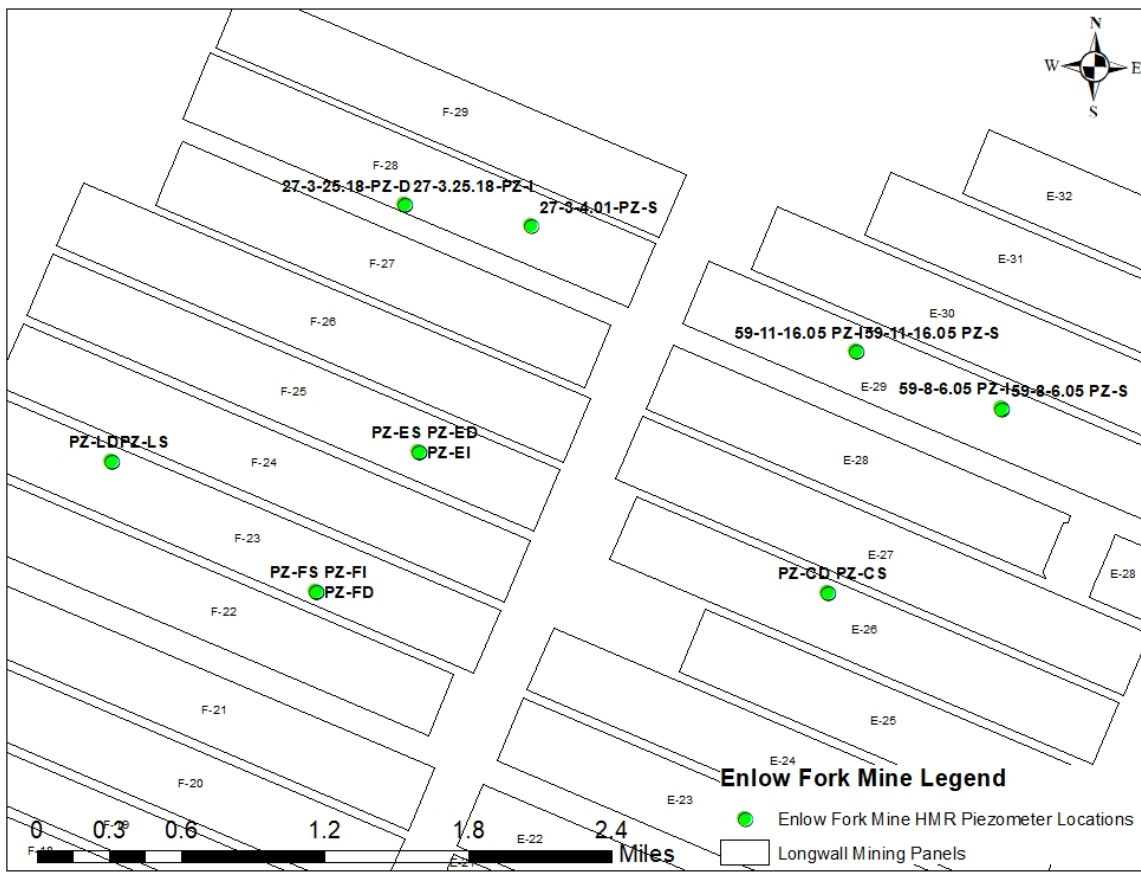


Figure K-20. Map of the piezometers and wells undermined by the Enlow Fork Mine during the 5th assessment period.

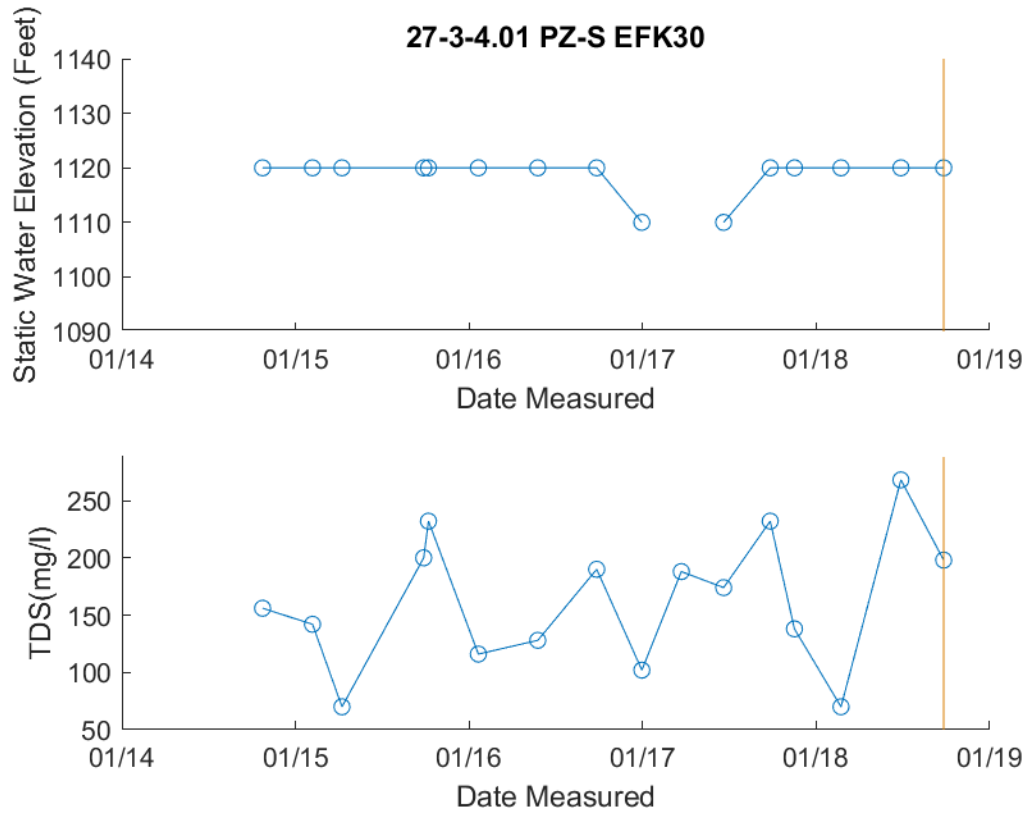


Figure K-21. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 27-3-4.01 PZ EFK30. The vertical line represents the approximate date when the monitoring point was undermined.

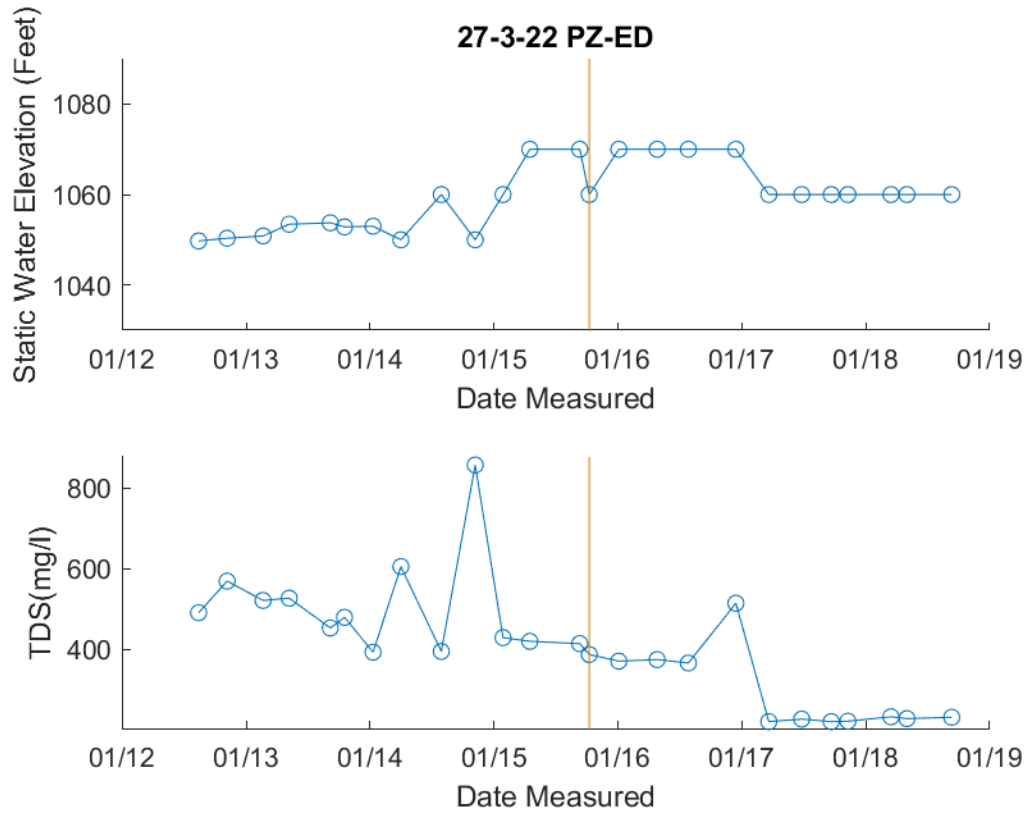


Figure K-22. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 27-3-22 PZ-ED. The vertical line represents the approximate date when the monitoring point was undermined.

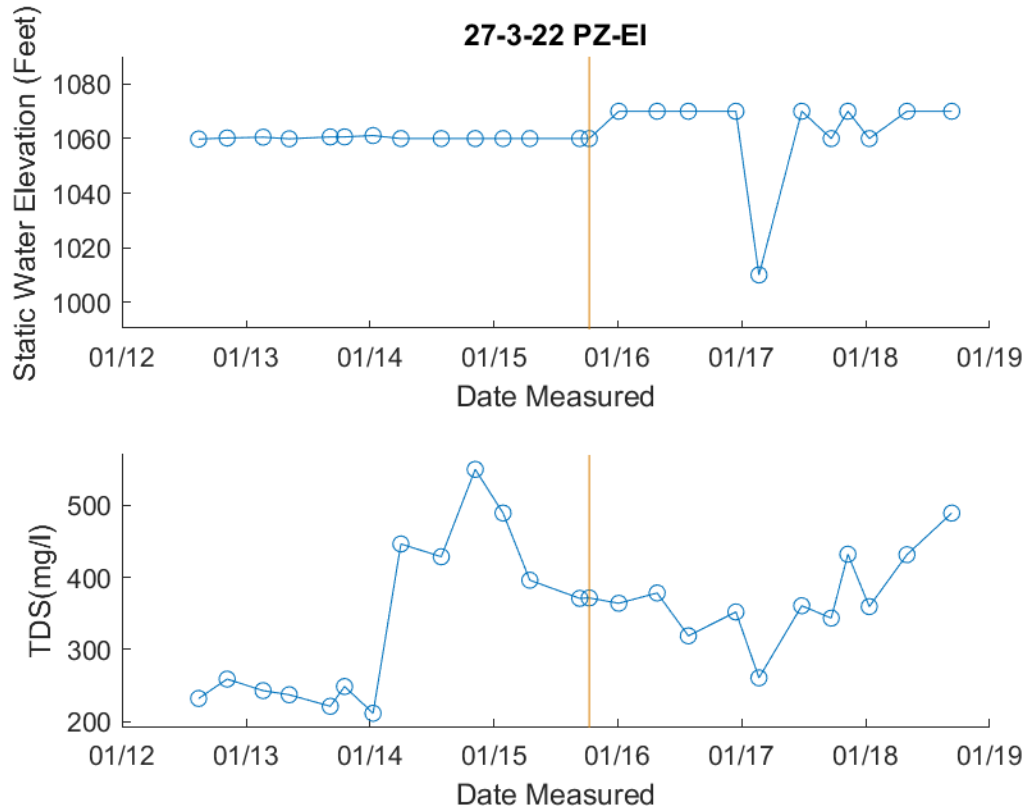


Figure K-23. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 27-3-22 PZ-EI. The vertical line represents the approximate date when the monitoring point was undermined.

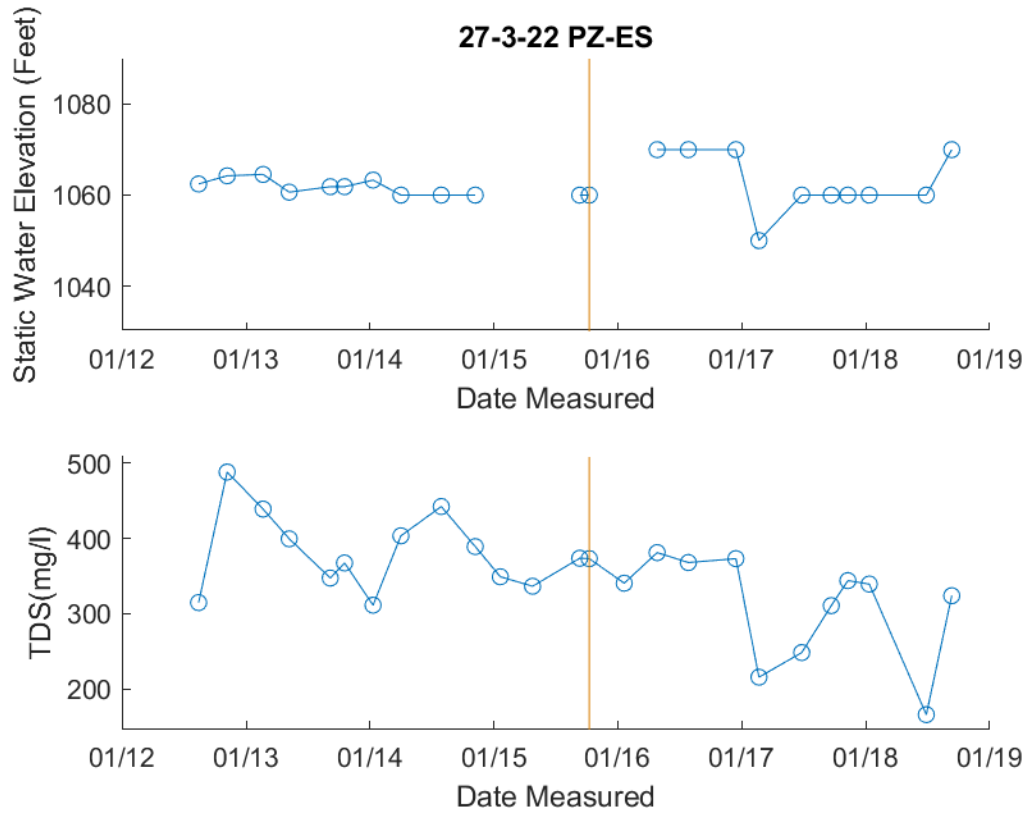


Figure K-24. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 27-3-22 PZ-ES. The vertical line represents the approximate date when the monitoring point was undermined.

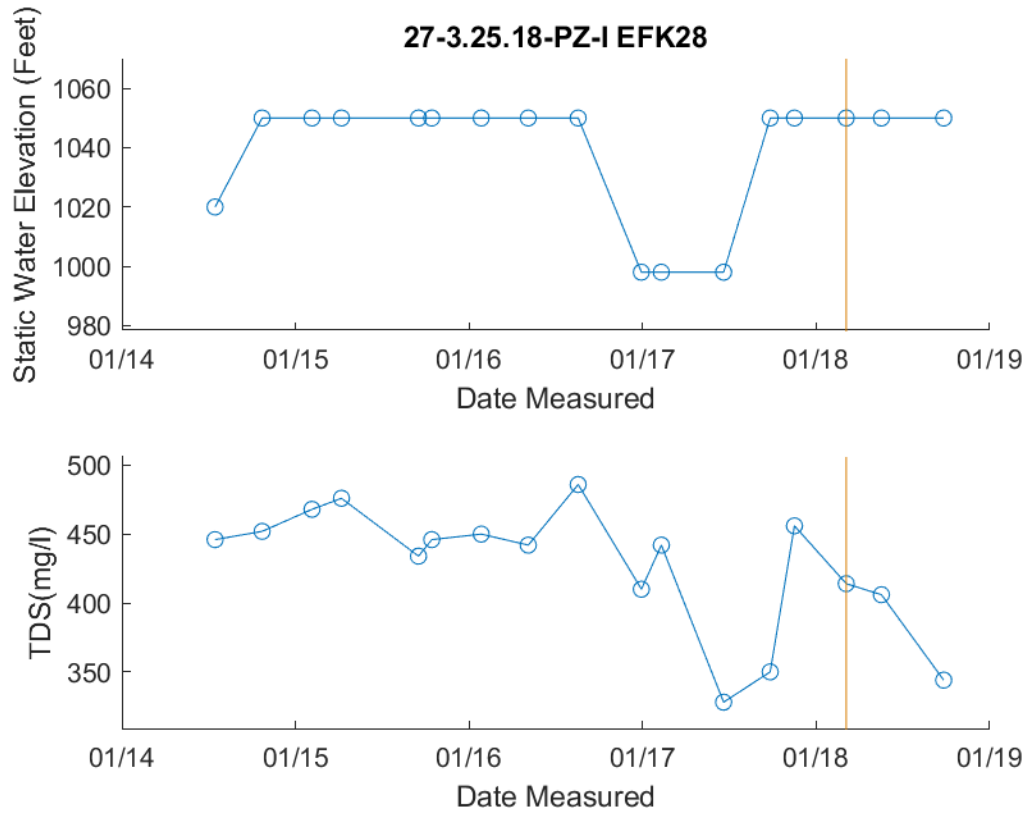


Figure K-25. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 27-3-25.18-7 PZ-I EFK28. The vertical line represents the approximate date when the monitoring point was undermined.

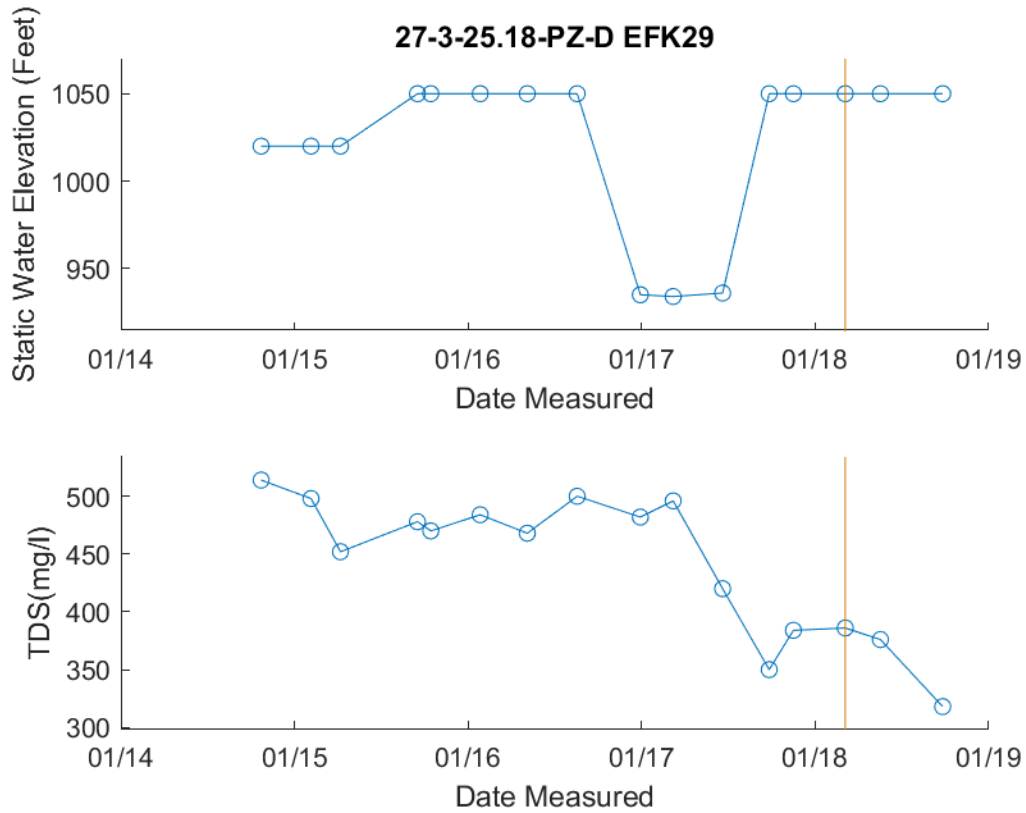


Figure K-26. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 27-3-25.18-7 PZ-I EFK29. The vertical line represents the approximate date when the monitoring point was undermined.

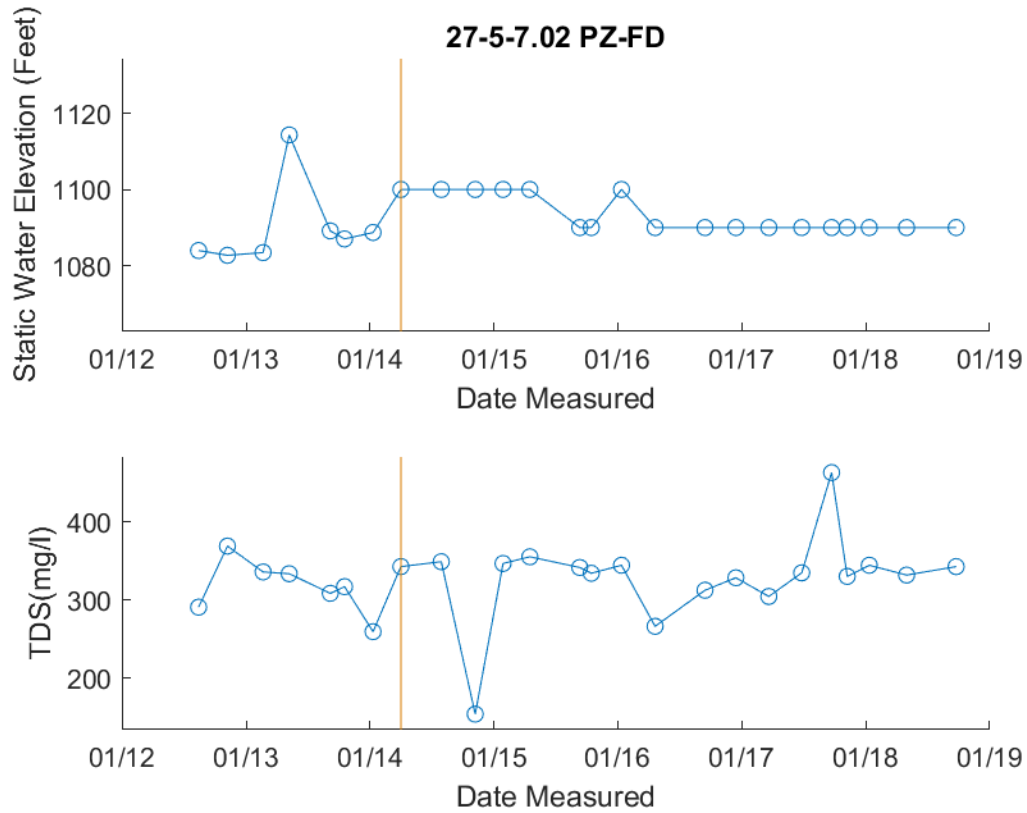


Figure K-27. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 27-5-7.02 PZ-FD. The vertical line represents the approximate date when the monitoring point was undermined.

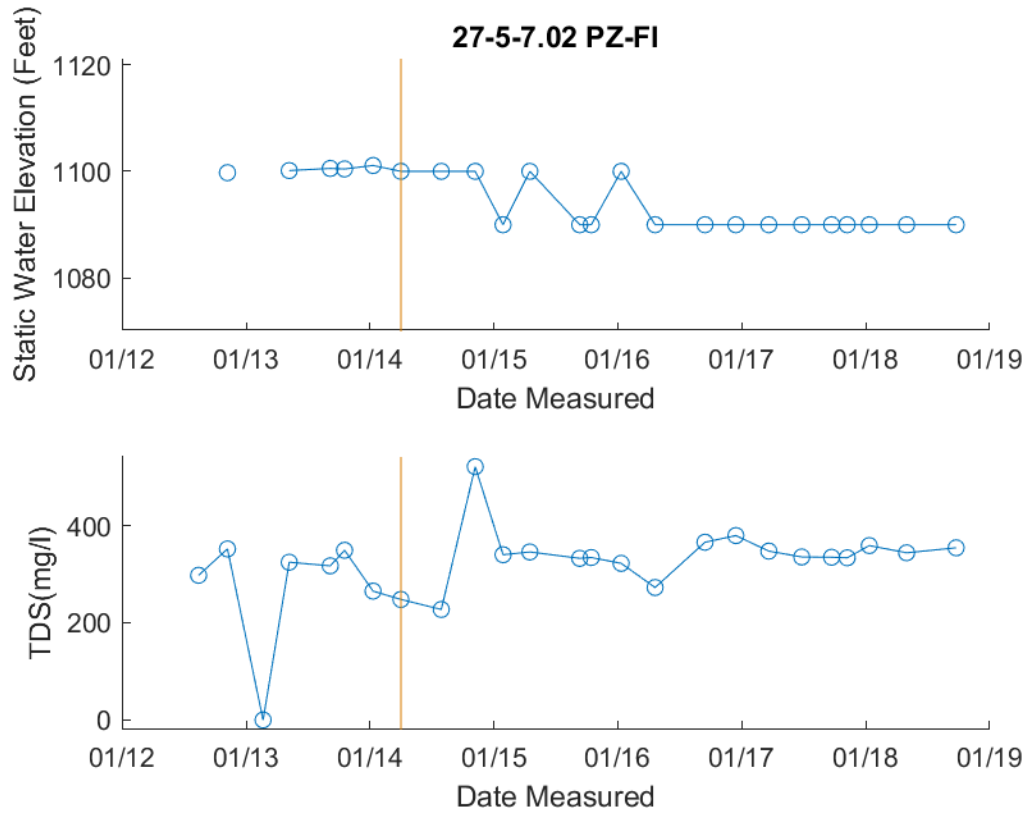


Figure K-148. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 27-5-7.02 PZ-FI. The vertical line represents the approximate date when the monitoring point was undermined.

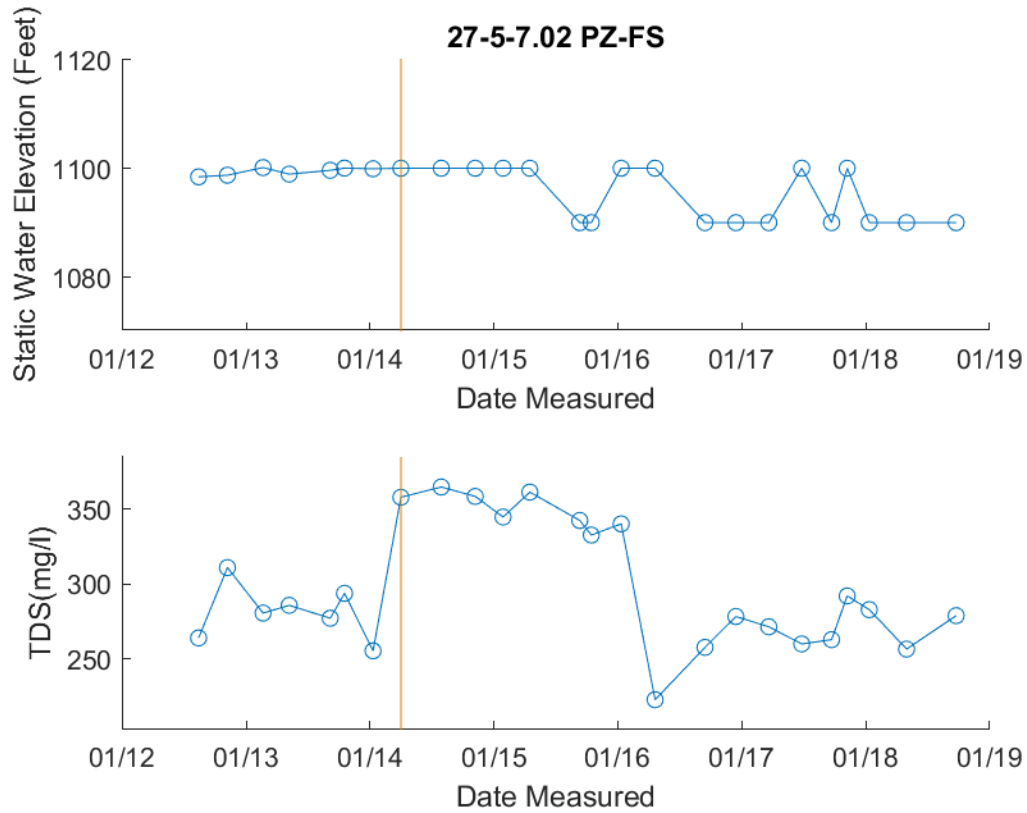


Figure K-159. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 27-5-7.02 PZ-FS. The vertical line represents the approximate date when the monitoring point was undermined.

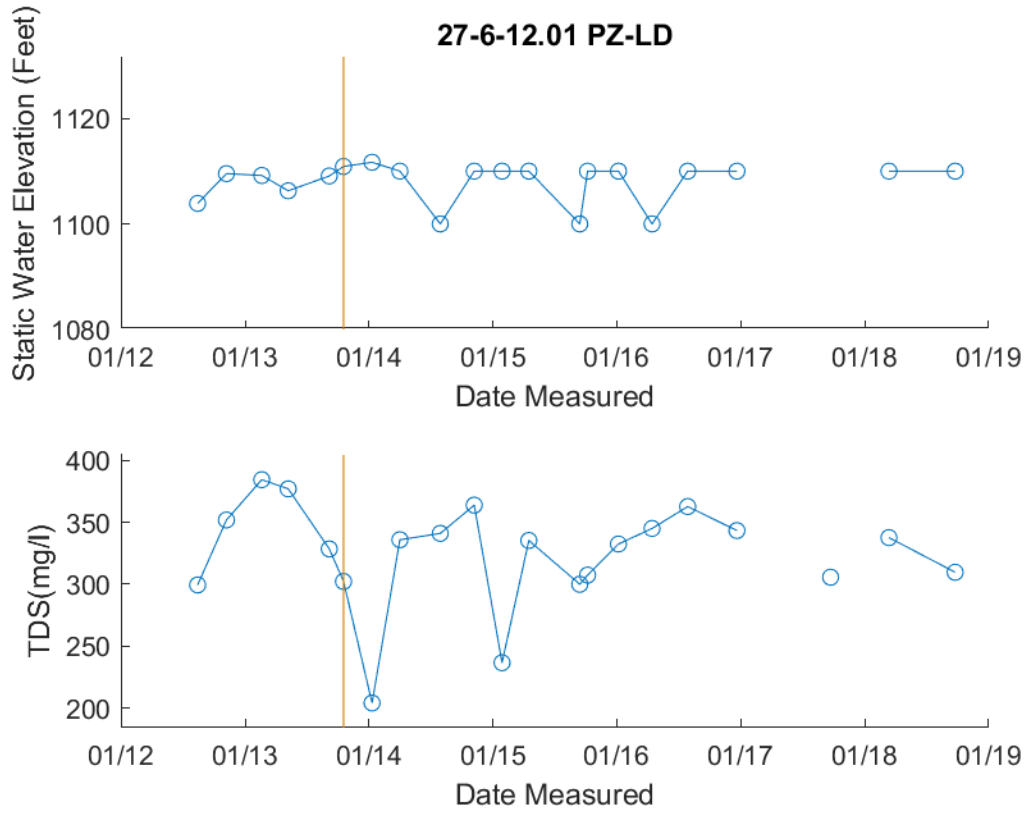


Figure K-30. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 27-6-12.01 PZ-LD. The vertical line represents the approximate date when the monitoring point was undermined.

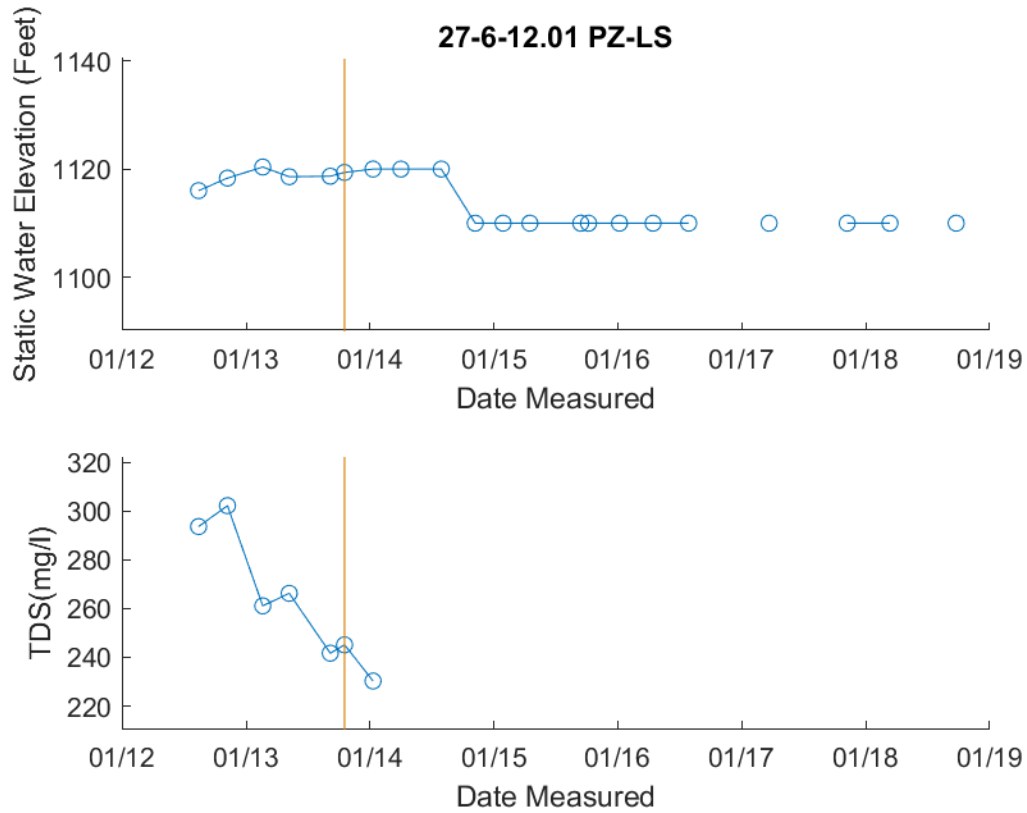


Figure K-31. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 27-6-12.01 PZ-LS. The vertical line represents the approximate date when the monitoring point was undermined.

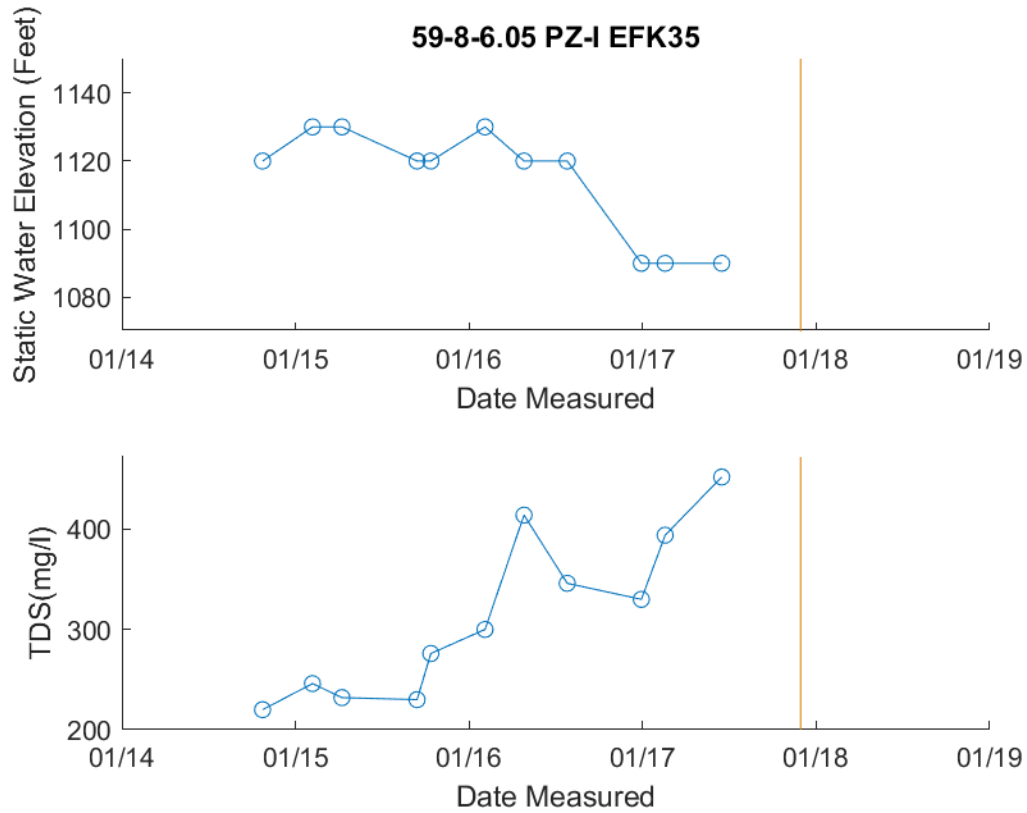


Figure K-32. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 59-8-6.05 PZ-I EFK35. The vertical line represents the approximate date when the monitoring point was undermined.

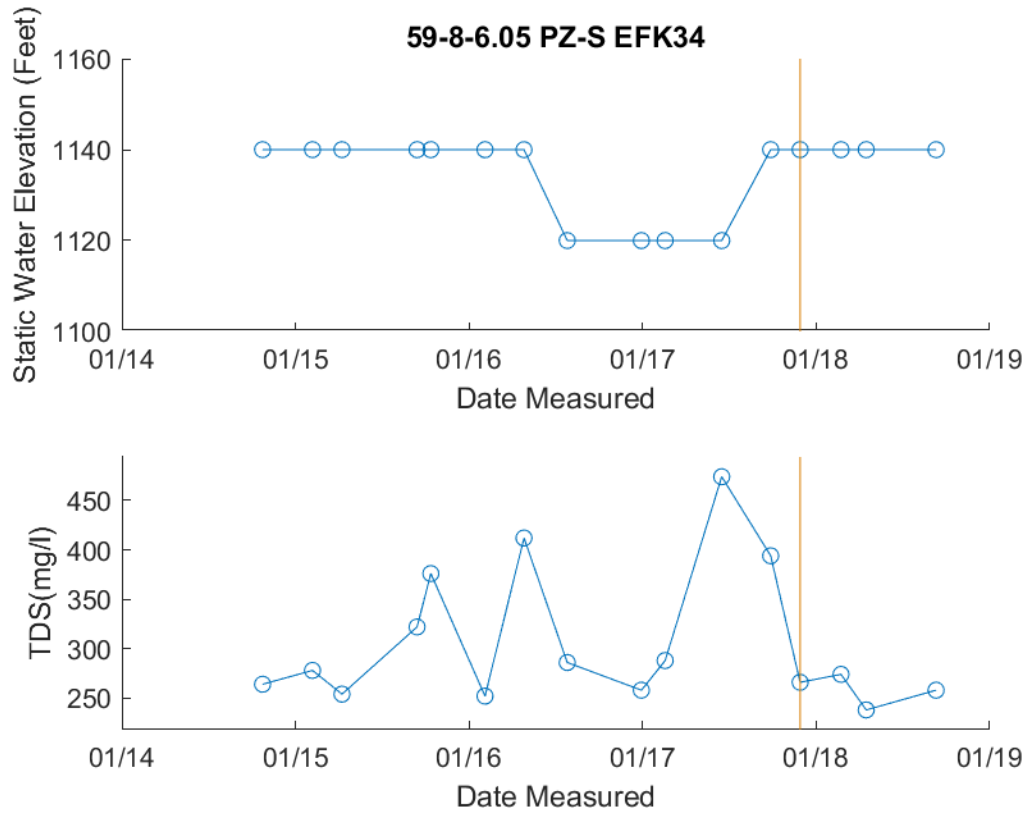


Figure K-33. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 59-8-6.05 PZ-S EFK34. The vertical line represents the approximate date when the monitoring point was undermined.

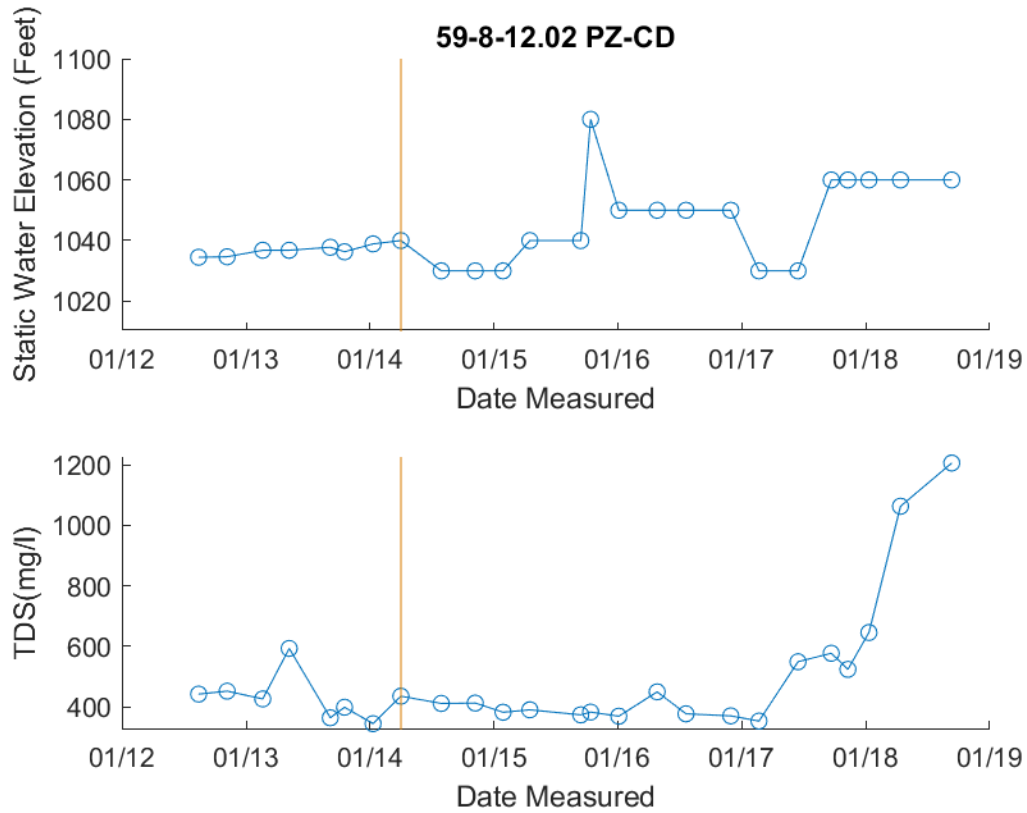


Figure K-34. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 59-8-12 PZ-CD. The vertical line represents the approximate date when the monitoring point was undermined.

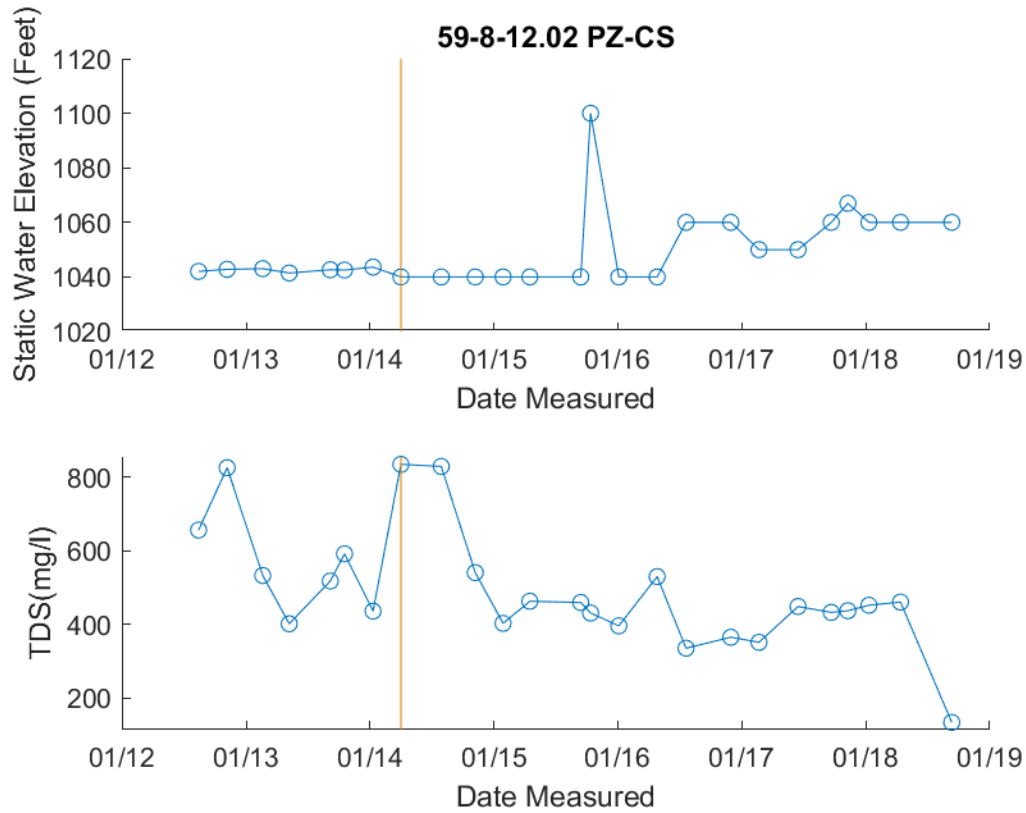


Figure K-35. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 59-8-12 PZ-CS. The vertical line represents the approximate date when the monitoring point was undermined.

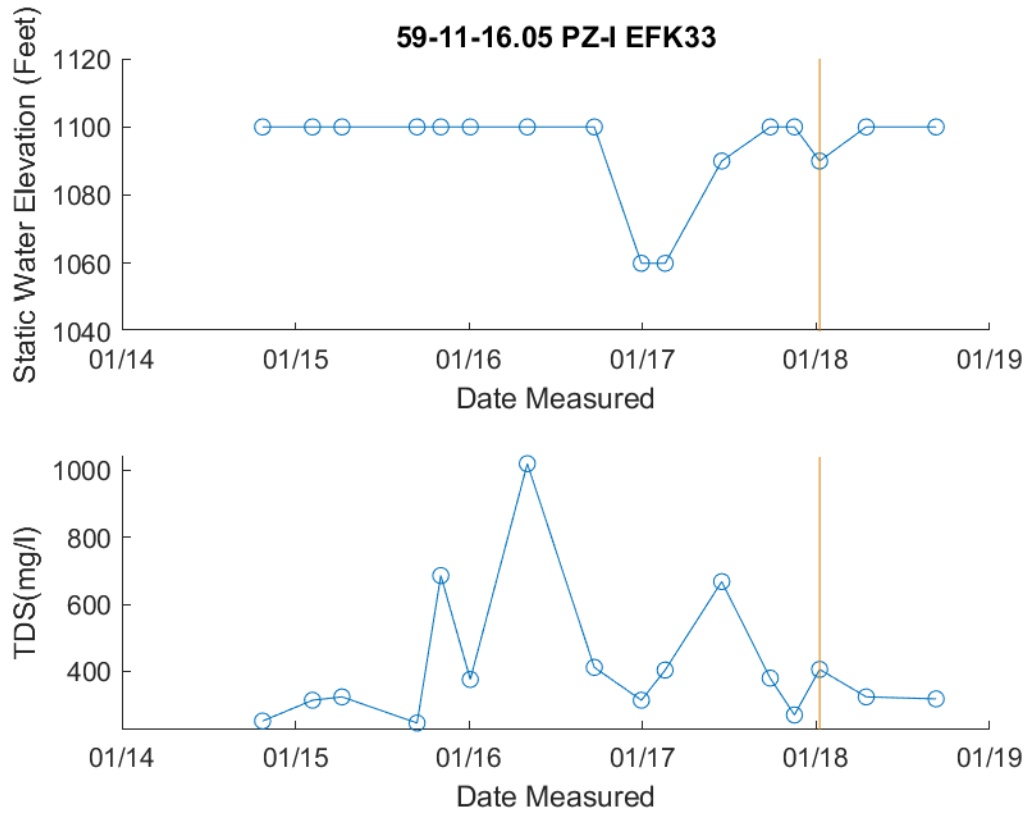


Figure K-36. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 59-11-16.05 PZ-I EFK33. The vertical line represents the approximate date when the monitoring point was undermined.

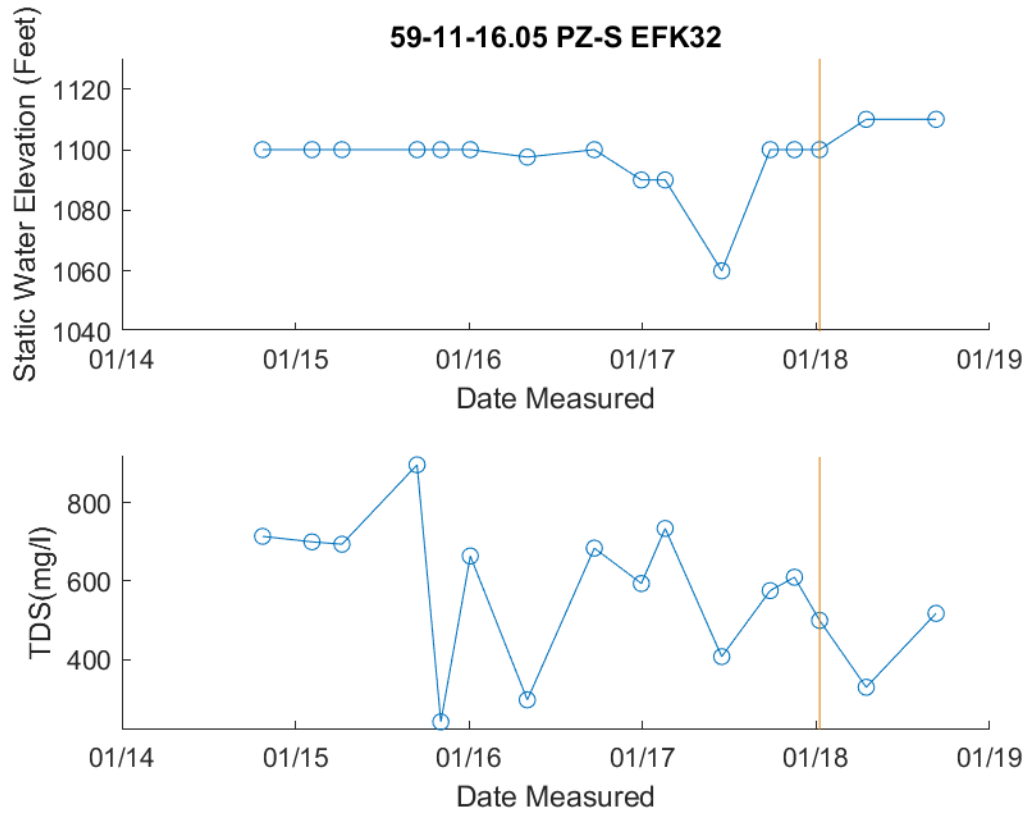


Figure K-37. Static water elevation and total dissolved solids (TDS) at Enlow Fork Mine monitoring point 59-11-16.05 PZ-I EFK32. The vertical line represents the approximate date when the monitoring point was undermined.

K.6 - Harvey

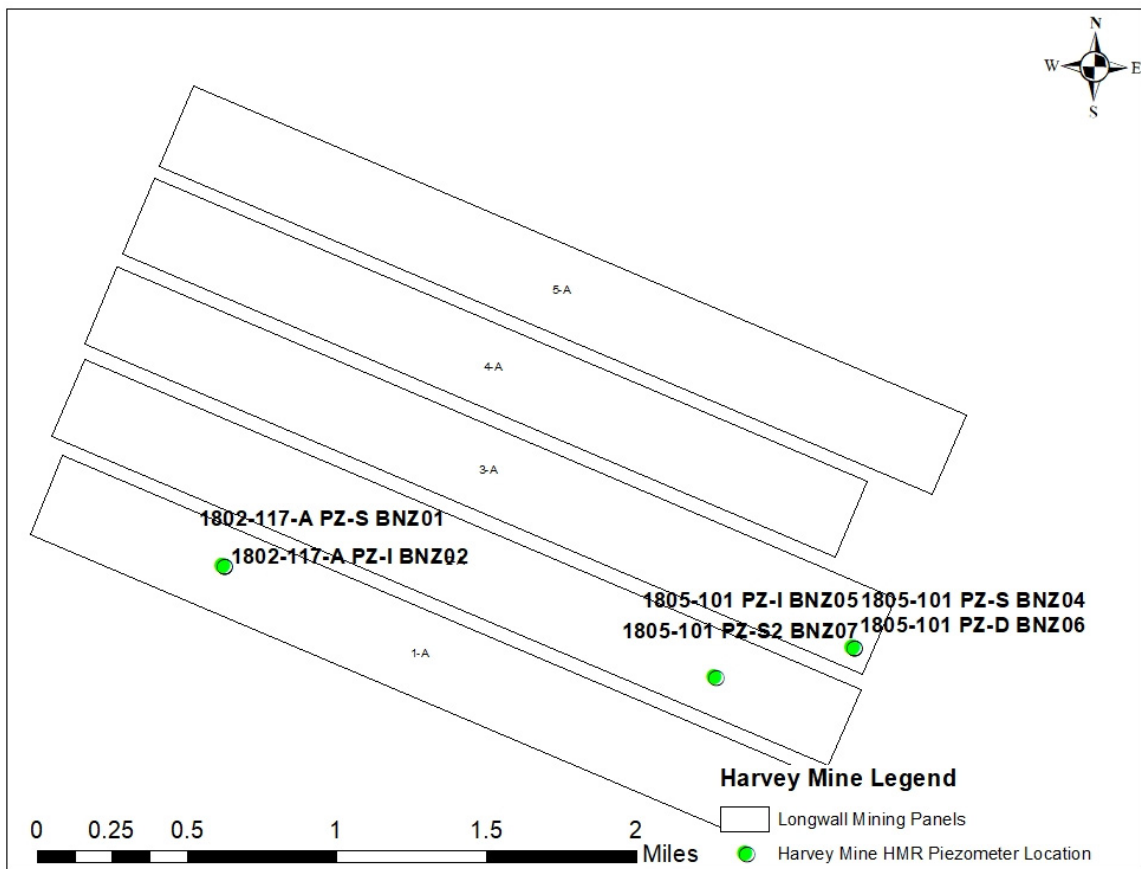


Figure K-168. Map of the piezometers and wells undermined by the Harvey Mine during the 5th assessment period.

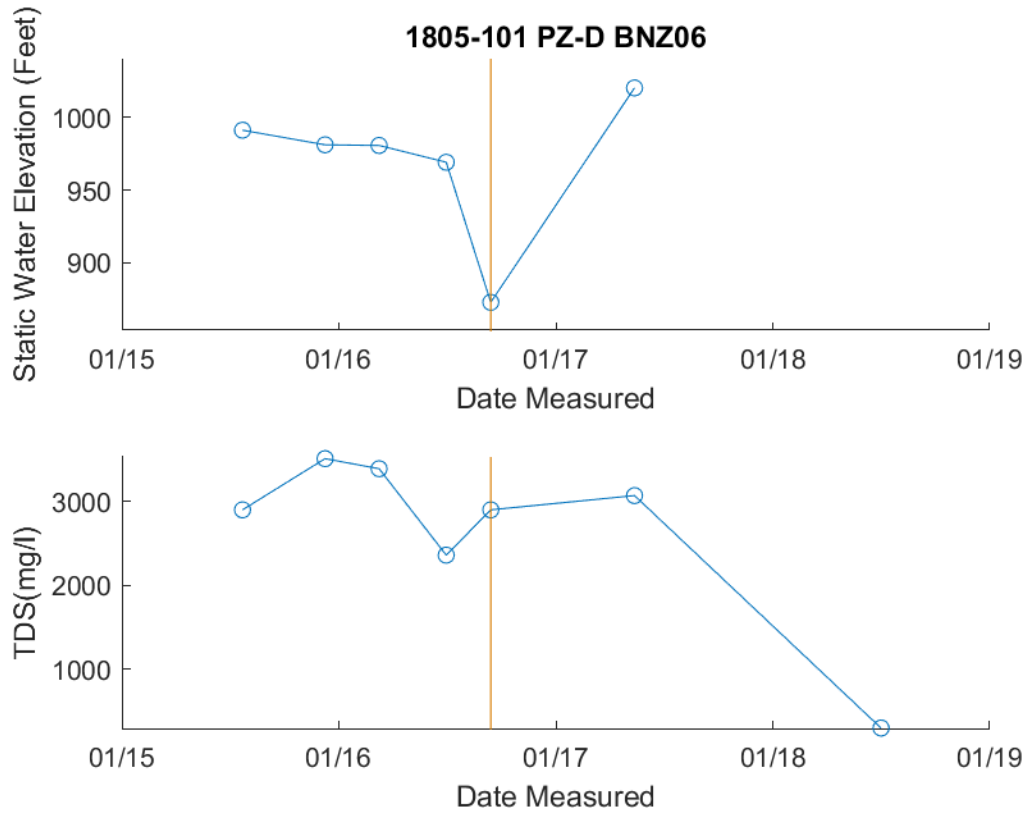


Figure K-179. Static water elevation and total dissolved solids (TDS) at Harvey Mine monitoring point 1805-101 PZ-D BNZ06. The vertical line represents the approximate date when the monitoring point was undermined.

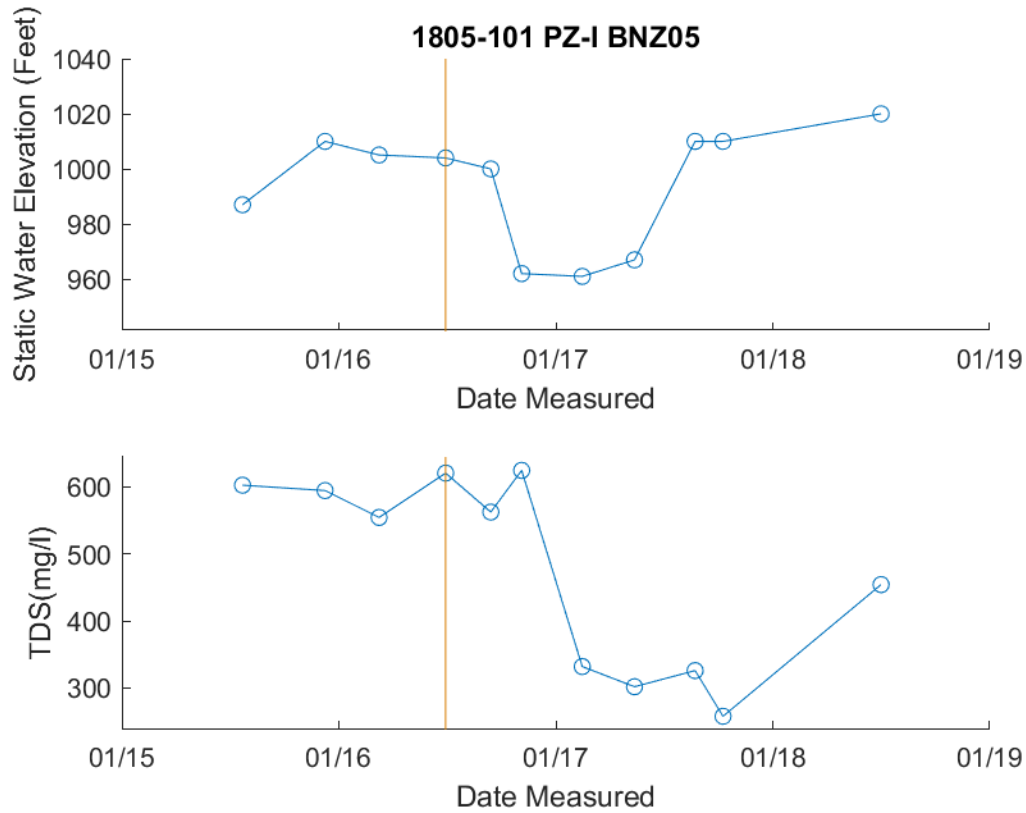


Figure K-40. Static water elevation and total dissolved solids (TDS) at Harvey Mine monitoring point 1805-101 PZ-I BNZ05. The vertical line represents the approximate date when the monitoring point was undermined.

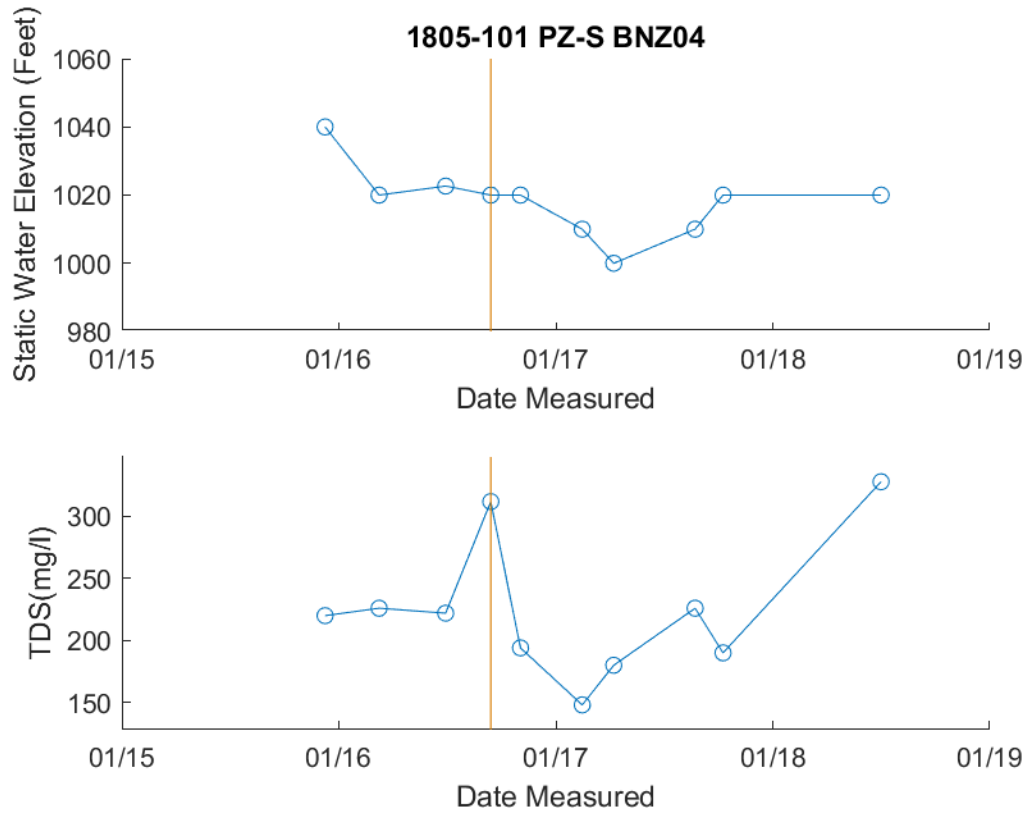


Figure K-41. Static water elevation and total dissolved solids (TDS) at Harvey Mine monitoring point 1805-101 PZ-S BNZ04. The vertical line represents the approximate date when the monitoring point was undermined.

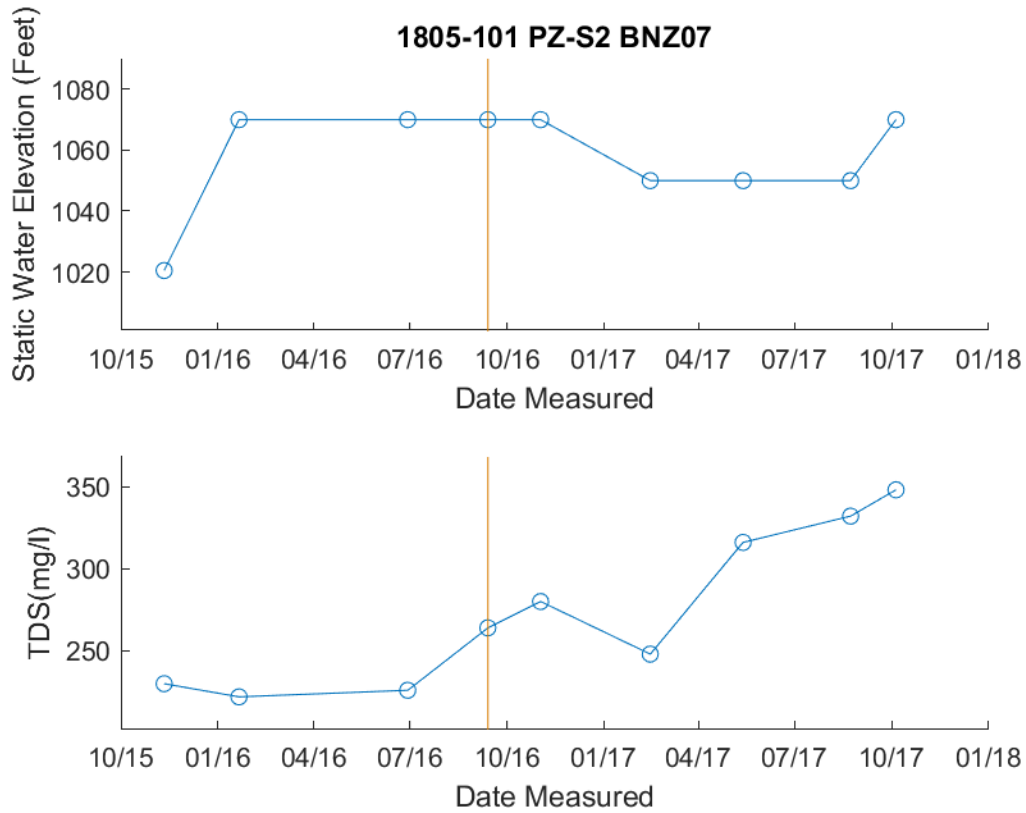


Figure K-42. Static water elevation and total dissolved solids (TDS) at Harvey Mine monitoring point 1805-101 PZ-S2 BNZ07. The vertical line represents the approximate date when the monitoring point was undermined.

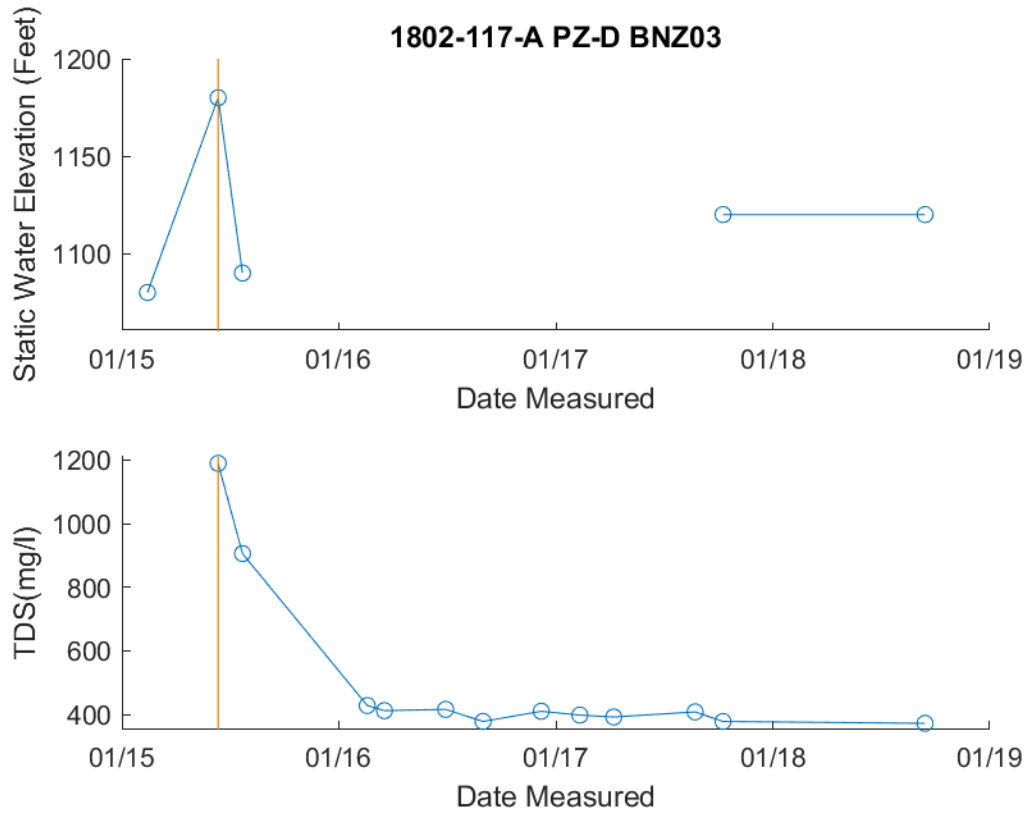


Figure K-43. Static water elevation and total dissolved solids (TDS) at Harvey Mine monitoring point 1802-117 PZ-D BNZ03. The vertical line represents the approximate date when the monitoring point was undermined.

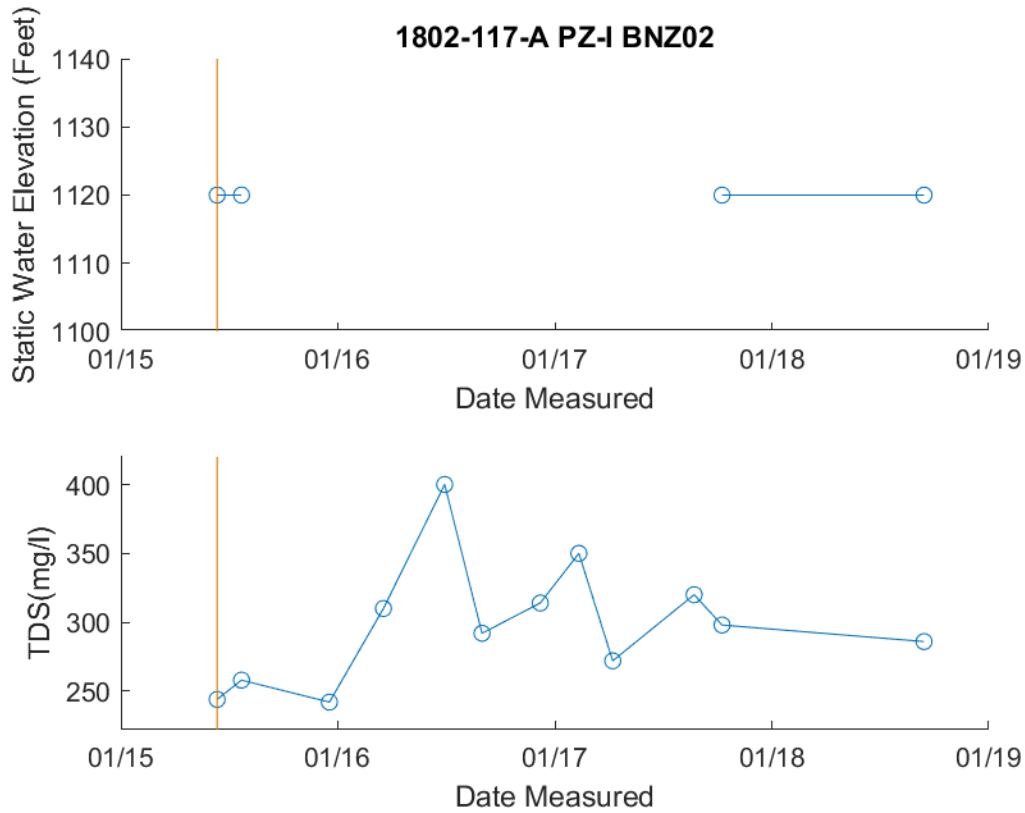


Figure K-44. Static water elevation and total dissolved solids (TDS) at Harvey Mine monitoring point 1802-117 PZ-I BNZ02. The vertical line represents the approximate date when the monitoring point was undermined.

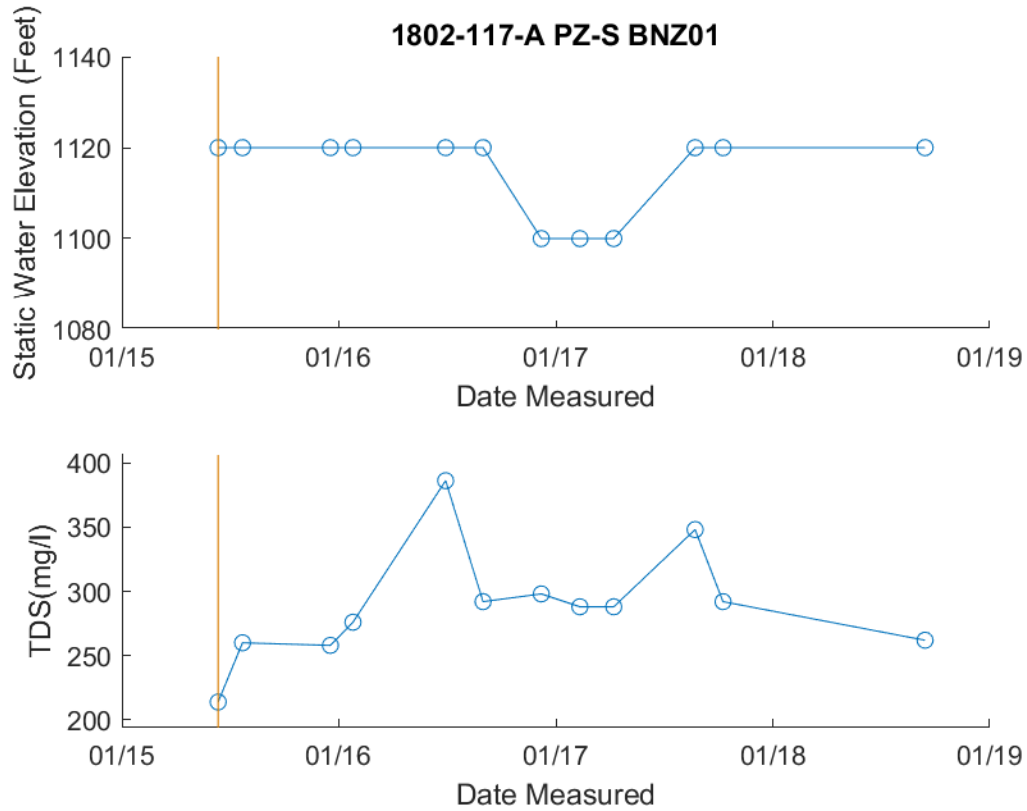


Figure K-45. Static water elevation and total dissolved solids (TDS) at Harvey Mine monitoring point 1802-117 PZ-S BNZ01. The vertical line represents the approximate date when the monitoring point was undermined.

K.7 – Monongalia County

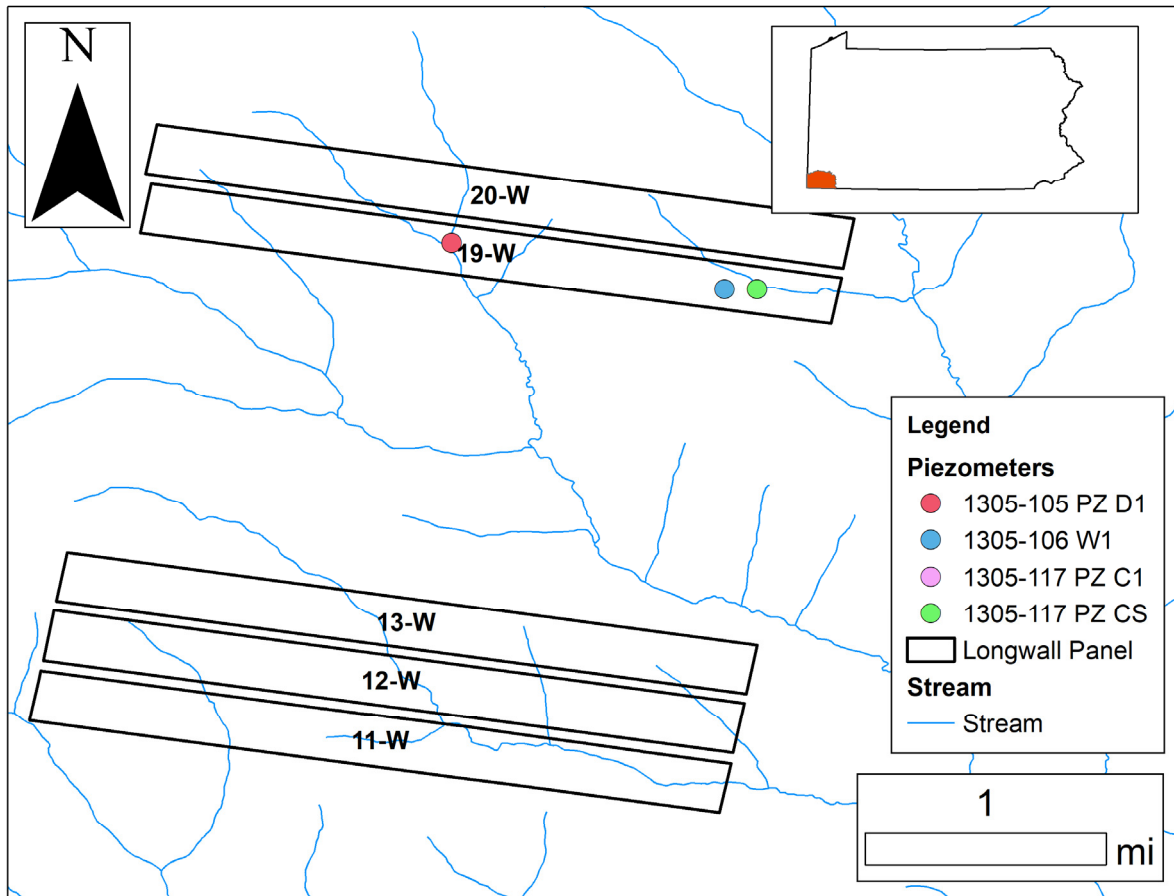


Figure K-46. Map of the piezometers and wells undermined by the Monongalia Mine during the 5th assessment period.

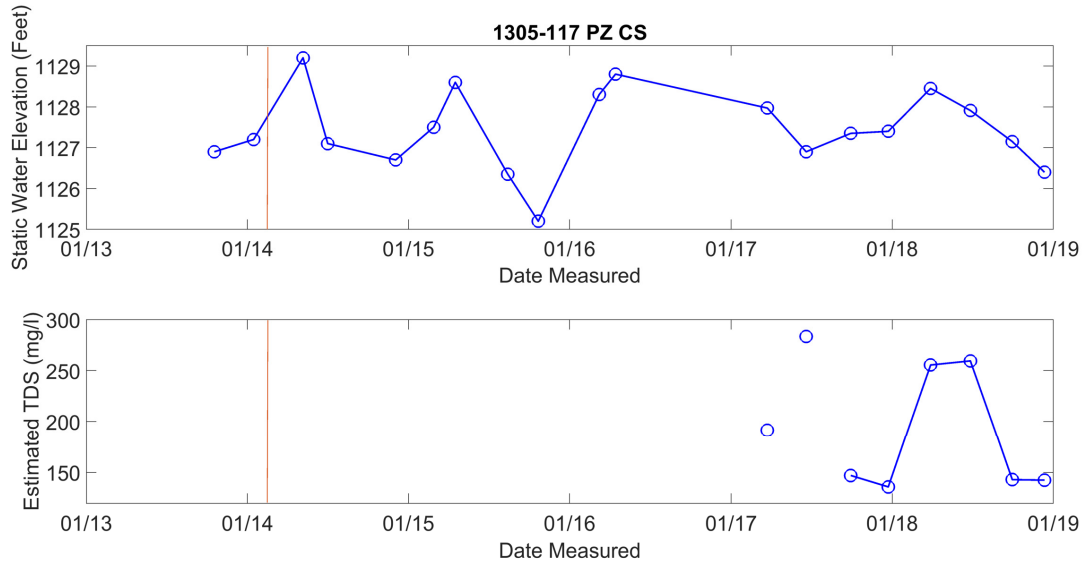


Figure K-187. Static water elevation and total dissolved solids (TDS) at Monongalia Mine monitoring point 1305-117 PZ CS. The vertical line represents the approximate date when the monitoring point was undermined.

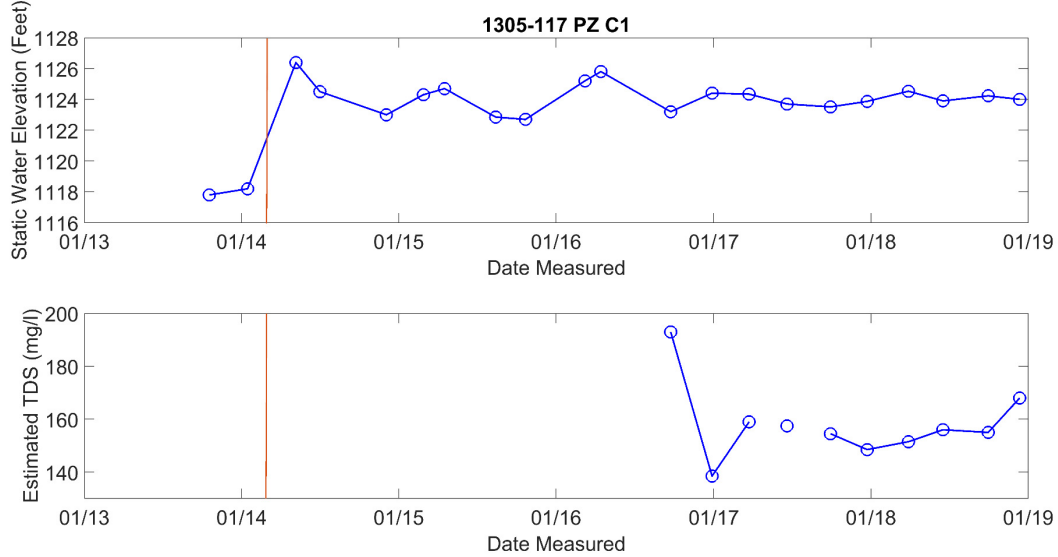


Figure K-48. Static water elevation and total dissolved solids (TDS) at Harvey Mine monitoring point 1305-117 PZ C1. The vertical line represents the approximate date when the monitoring point was undermined.

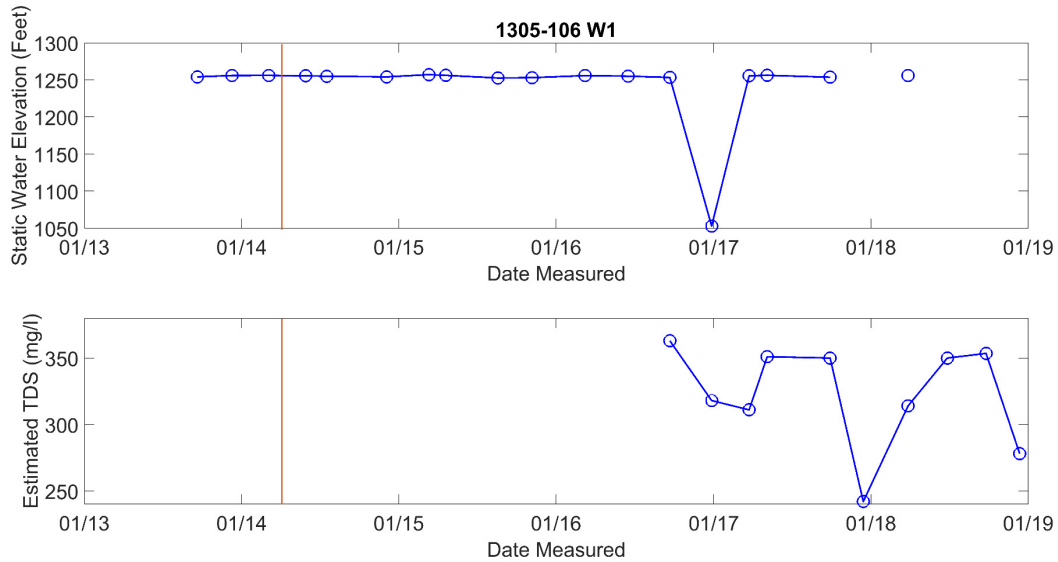


Figure K-199. Static water elevation and total dissolved solids (TDS) at Harvey Mine monitoring point 1305-106 W1. The vertical line represents the approximate date when the monitoring point was undermined.

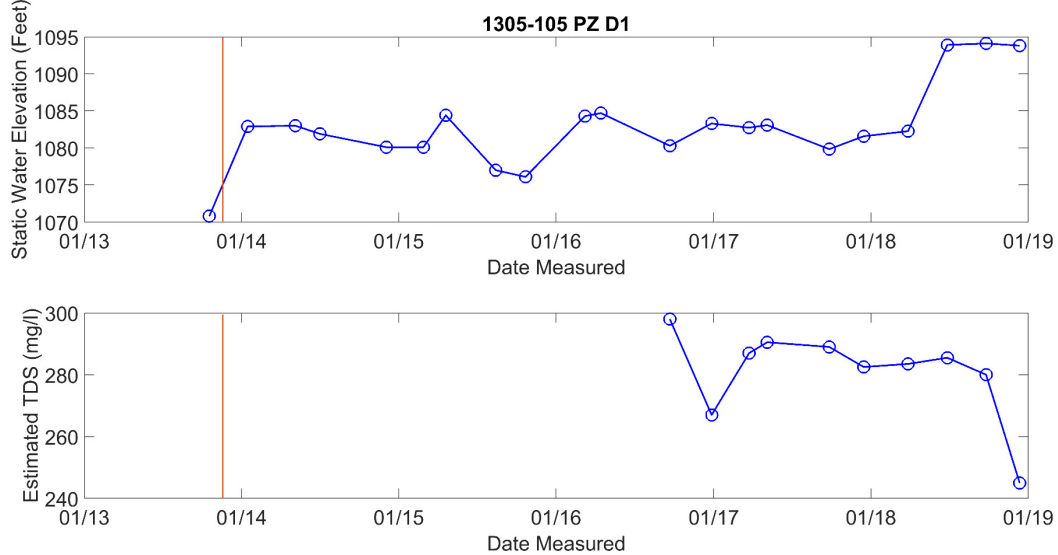


Figure K-50. Static water elevation and total dissolved solids (TDS) at Harvey Mine monitoring point 1305-105 PZ D1. The vertical line represents the approximate date when the monitoring point was undermined.

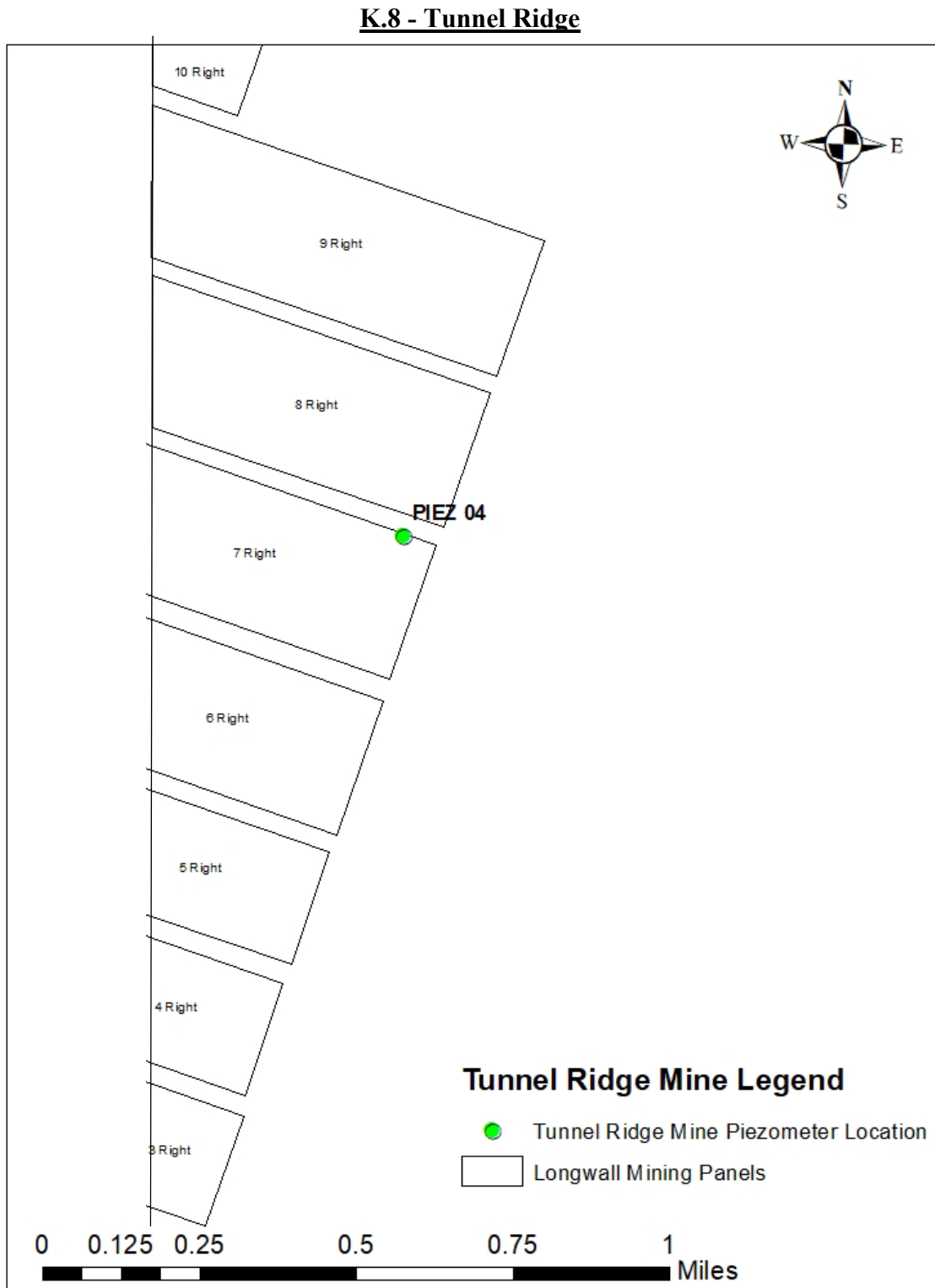


Figure K-51. Map of the piezometers and wells undermined by the Tunnel Ridge Mine during the 5th assessment period.

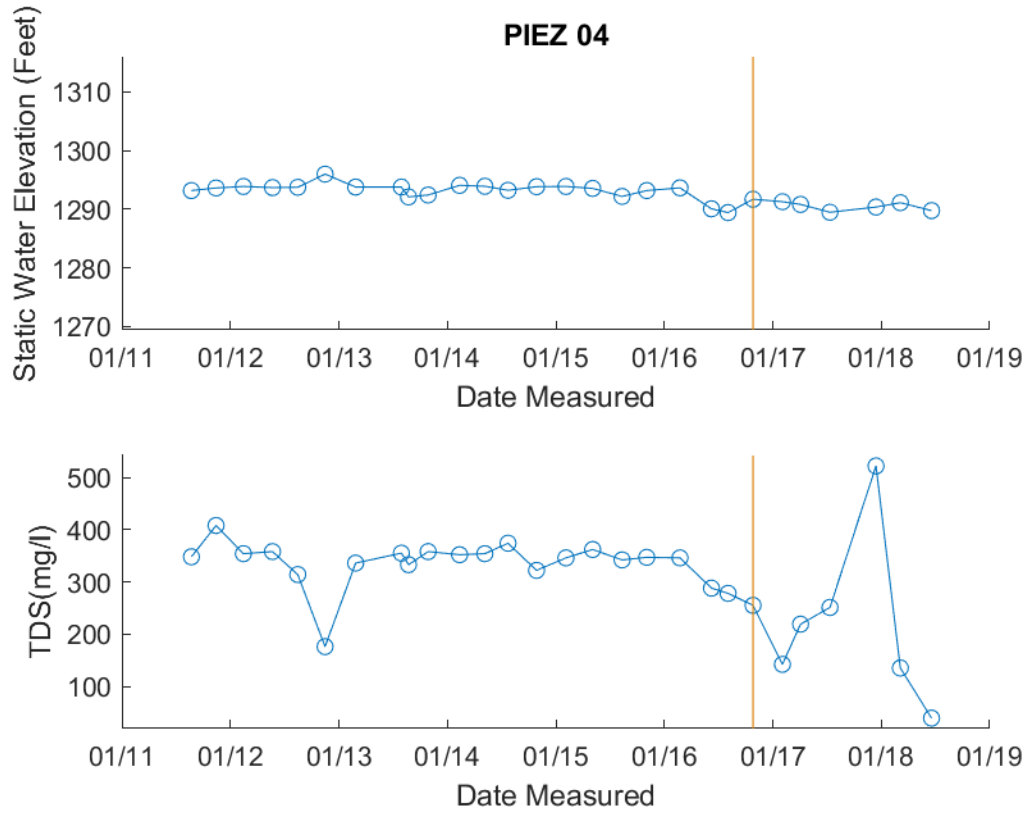


Figure K-52. Static water elevation and total dissolved solids (TDS) at Tunnel Ridge Mine monitoring point PIEZ 04. The vertical line represents the approximate date when the monitoring point was undermined.