



TETRA TECH

Appendix 1

Exhibit 6

September 19, 2023

PA Department of Environmental Protection
Bureau of District Mining Operations – Pottsville DMO
2nd Floor, 5 West Laurel Blvd
Pottsville, PA 17901
ATTN: Michael Kutney

Subject: **Quarry Pit Discharge Level**
NEW HOPE CRUSHED STONE & LIME COMPANY, INC. (NHCS)

Mr. Kutney,

I am writing on behalf of Solebury School with respect to the quarry discharge level indicated by the data collected in the recent test pits excavated at New Hope Crushed Stone & Lime Co., Inc. (NHCS) quarry in Solebury Township, Bucks County. The data was presented in the Tetra Tech Letter of August 3, 2023. Based on our recent discussion, I believe the Department may be misinterpreting the data, leading to an overly conservative discharge level. While the letter did not specify a specific discharge level, a profile of the native ground level was provided that should form the basis for the Department's decision in setting the discharge level. In my view, the data collected, as presented in the August 3rd letter, and as discussed in the field, unambiguously indicates that the discharge level should be set at elevation 98 feet.

The field exploration included 6 test pits, designated TP-1 through TP-6, and 6 supplemental test pits, designated TP-A1 through TPA-6. The test pits were excavated to identify the boundary between the overlying fill and native ground. Native ground was identified based on soil texture, absence of disturbance, and presence of roots. The findings of the investigation were presented in the above referenced letter. [Do we need a transition to this?]

In addition to the field data, previous surveys and aerial imagery inform the location of the historic stream and limits of mining. Specifically, aerial imagery indicating the presence of a bench that was later backfilled in the area of TP-6 was presented in the meeting between Solebury School and DEP representatives on March 3, 2023. The aerial survey was flown for Solebury School, by Tetra Tech on September 26, 2014 (copy attached). The former alignment of Primrose Creek and locations of watercress farming based on earlier aerial photos were also provided in that meeting.

Figure 1 attached to this letter presents a topographic depiction of the native surface elevations based on the test pit data. It clearly demonstrates that the native surface elevations encountered in the test pits are consistent with the record of mining indicated by the aerial images. Test Pit A3 encountered a buried culvert. The location and elevation of this culvert is consistent with the alignment of the stream and roadway that would have crossed it (Figure 2). All of the data are consistent with the topographic contours indicated in Figure 1. The original natural ground, and stream channel slope downward from the west to

east, the original direction of flow in Primrose Creek. It is clear that there had been excavations and fill placement west of the line toward the present apparent rim of the quarry pit, however, those areas should be considered part of the pit and levels determined there should not be used in setting the discharge level. The only levels that would control are those that form the natural rim, which are at or near elevation 98' NGVD88 as depicted by Profile B.

Accordingly, the native surface line shown on Profile B represents an accurate depiction of the native ground surface that should be used for setting the minimum elevation based on the regulatory dam classification criterion. The Profile B location shown in Figure 1 should be taken as the hypothetical dam alignment and Profile B should be taken as the stream valley cross section for the purposes of setting the invert elevation for the quarry discharge to avoid the need for a dam. This is a conservative representation of the native ground elevation that would limit water flowing from the quarry pit. This profile is annotated and included here as Figure 3.

The unmistakable conclusion from the additional test pits and the August 3rd letter, is that the discharge level should be set at elevation 98 feet. However, based on the previous assessment, it was indicated that the elevation could be as much as 1 foot above this level.

As you know, the discharge level is critically important to safeguard Solebury School and the surrounding community from the threat of future sinkholes. Both the safety of the upstream and downstream properties must be considered, and excessive conservatism should not be applied to either evaluation. The assessment presented above represents a level that would enhance the safety of the Solebury School against collapse sinkholes and is consistent with the regulatory requirements to achieve safe conditions against potential dam failure, since no dam would be present. Solebury School cannot accept an overly conservative interpretation of data from the test pits leading to a decision by the Department to set the discharge level below elevation 98 feet. I'd be happy to discuss this with you further before the Department makes any final decision with respect to the discharge level.

Sincerely,

Michael J. Byle, P.E., D.GE (ret), LM ASCE
Senior Consultant
TETRA TECH, INC.

Enclosures

Figures

Figure 1 – Interpretation of Native Ground

Figure 2 – Test Pits and Culvert relative to 2014 Aerial

Figure 3 – Annotated Profile B

2014 Aerial Photograph

c: Steven Miano, HASPS
Alicia Dukes, PADEP

Figures

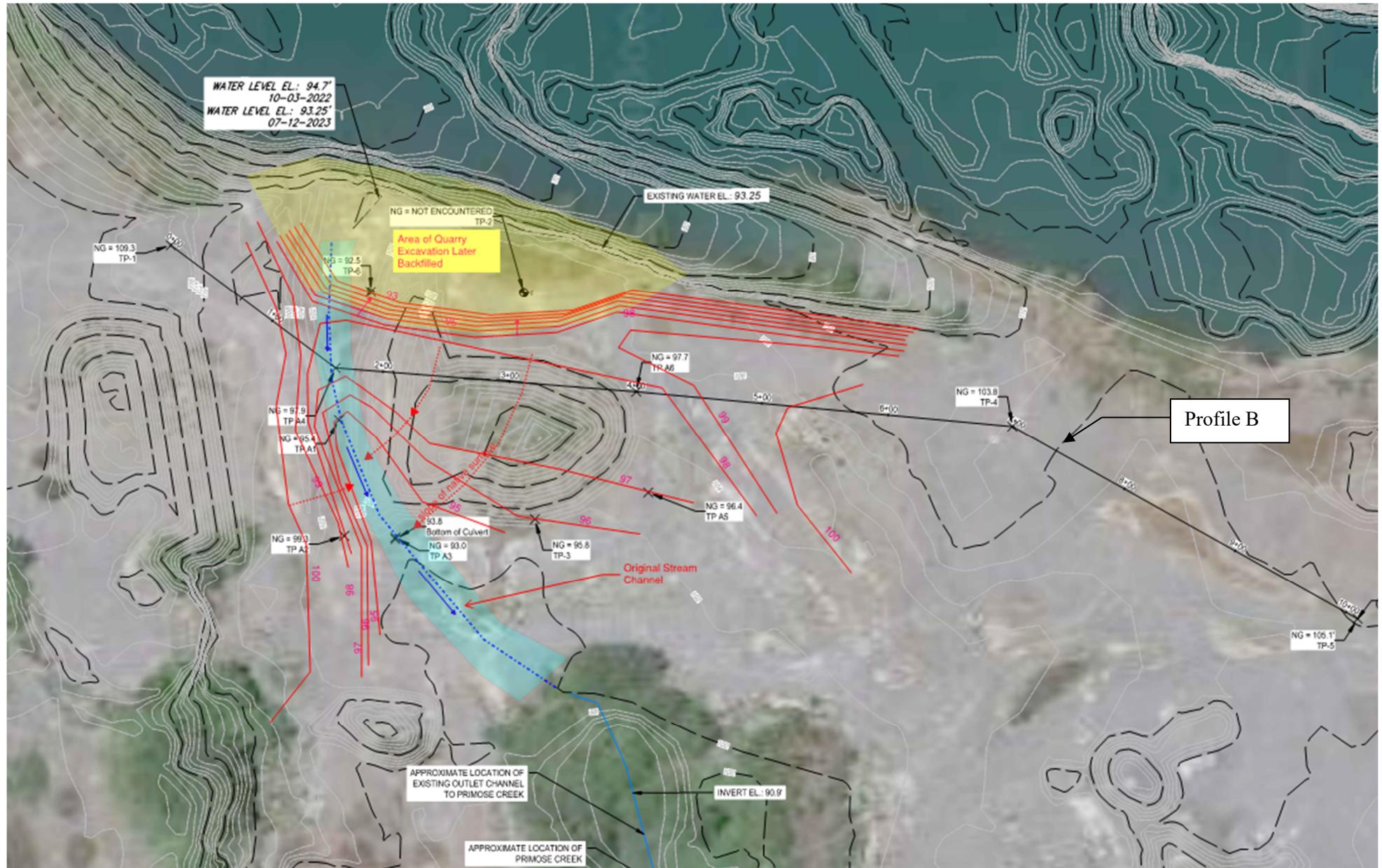


Figure 1 – Topographic Interpretation of Native Surface

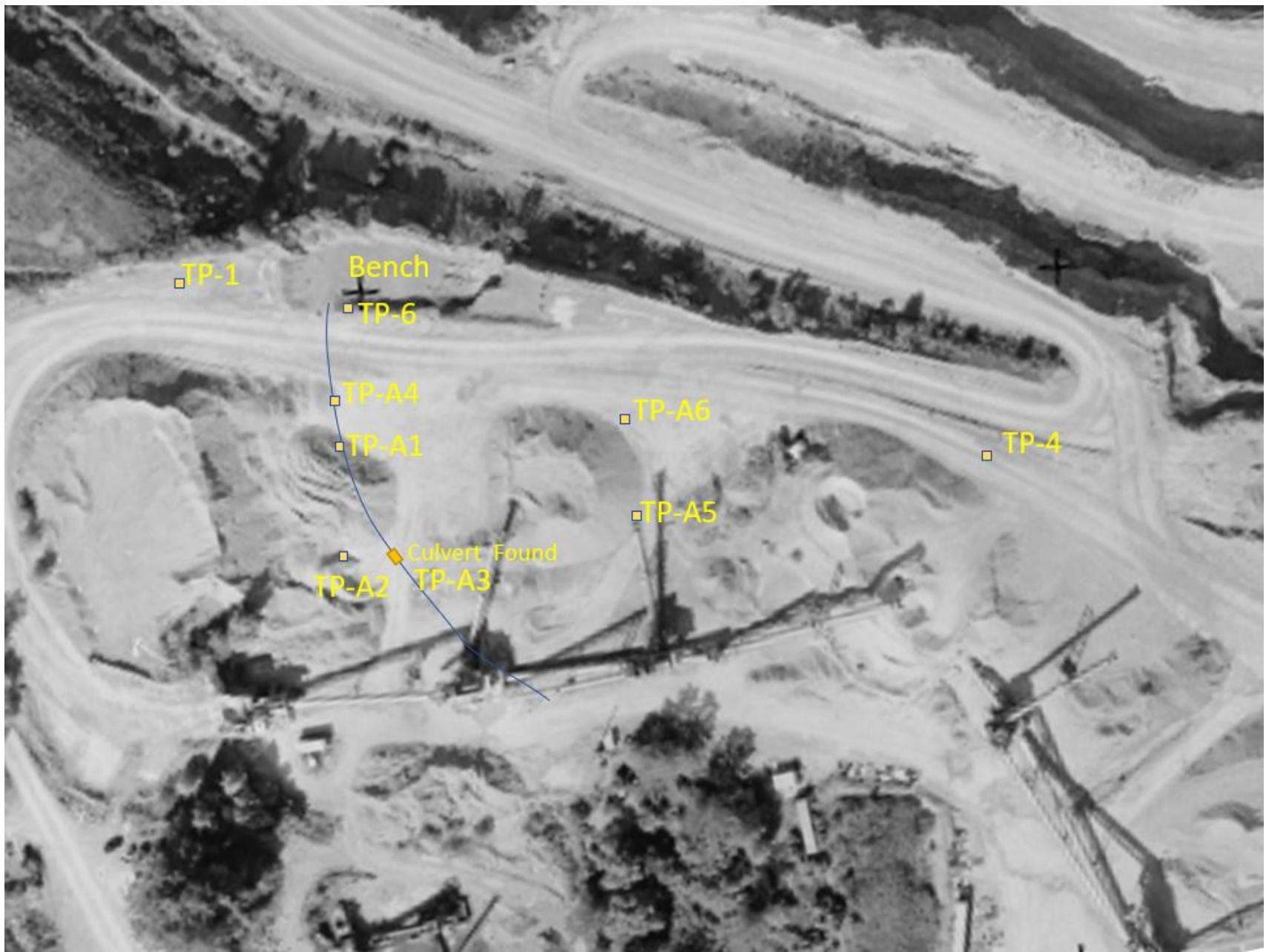


Figure 2 – Test Pits and Culvert on 2014 Aerial Image (9-26-2014)

