From: Paul Bruss
Sent: Wednesday, September 30, 2020 11:13 AM
To: Humphries
Cc: Jerald Schnabel; Chris Sanchez
Subject: RE: Pueb Phases 1 and 7 maps

Bruce,

Based on my review of the Mangini survey maps you provided, the pond survey data BBA collected on 4/29/20, and review of historical ground water level data from Castle's monitoring wells near Phase 7, we estimate that the average ground water elevation at Phase 7 when the pit is not dewatered is approximately 4,589 feet. Seasonal maximum ground water levels typically increase during runoff approximately 3 feet, or to an elevation 4,592 feet. We note that estimated seasonal maximum is consistent with our historical estimate of pre-mining ground water elevations determined using the ground water model developed for the Pueblo East Pit several years back.

The basis for my calculations are as follows:

- Phase 7 Pond Surface on 4/1/2020 (Mangini Survey): 4586.8 feet.
- Phase 7 Pond Surface on 4/29/2020 (BBA Pond Survey): 4589 feet.
    - The Phase 7 pond water surface boundary (ground water table) measured by BBA on 4/29/20 is consistent with the 4589 ft contour on the Mangini survey, or approximately 2.2 feet higher than the pond water surface elevation measured during the Mangini survey. Based on discussions with Castle, we assume that the pond water surface had reached equilibrium at the time of the BBA pond survey.
- Historical Ground Water Seasonal Changes: Approximately 3 feet
    - Based on review of historical water level data collected from Castle' monitoring wells near Phase 7, Apr/May water levels are consistent with non-runoff season water levels. During runoff season, influence from increased Arkansas River flows results in increased ground water levels of approximately 3 feet.

As always, please don't hesitate to let me know if you have any questions.
Thanks,

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