COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

Date: December 19, 2023

To: Hunter Ridely, DRMS

From: Patrick Lennberg, DRMS

RE: **Adequacy Review No. 3, TR-9, Water Level Change and Pit Drain Evaluation Report, Review Memo, NCCI Pit #1, File No. M2001-107**

On November 17, 2023, J & T Consulting, Inc. responded to the Division's Adequacy Review No. 2 dated October 31, 2023 for TR-9 at the NCCI Pit #1, permit no. M2001-107. Below is my review of the responses and additional questions/comments. The numbered items below correspond to the numbered items in the November 17th document.

1. Adequate.

2. The Operator provides an explanation for why the LBD may be responsible, in part, for the large seasonal fluctuation in Z1 and Z2 but does not provide an explanation for the fluctuations in other site wells that appear to be outside the influence of the LBD. Please provide the missing explanation.

   Leakage from the LBD would have to be significant to have such an influence over the wells. Wouldn't that amount of leakage decrease the efficiency of the ditch to convey water for irrigation thus necessitating repairs to the ditch or lining of the ditch? It is the Division's understanding that similar ditches do have the ability to self-seal themselves with fine sediments over time thus reduce leakage, please comment.

   Additional explanation is needed to account for the groundwater level fluctuations seen in other wells across the permit, e.g. MW-Z3, -Z4, and –Z5. These wells also have also large fluctuations of groundwater that cannot be solely attributed to LBD. As insufficient data was collected from the existing wells prior to dewatering a baseline condition does not exist that is not influenced by dewatering.

   It appears that MW-Z3 may be influenced by leakage from LDC more than other wells, please comment?

3. Adequate.

4. The Division needs additional information to demonstrate the modeled net effect is actually occurring. As mentioned in item #9 (Division Letter Dated October 31, 2023) the current model does not account for mitigation measures being implemented at those sites.

   Please outline the berm that was installed so it is clear to the Division.

   While there was ponding near and around the site that ponding has significantly increased over time. Please provide a map of the historical discharge points used during dewatering and the time frames when they were used. The Division's review of aerial imagery indicates two points were being used as discharge areas in 2011 south of the area in question (Attachment 1). In 2008, there appears to be a ditch that was installed to drain operations to the east along with direct discharge to LDC further south (Attachment 2). While ponding conditions may have existed prior to the initiation of mining operations those operations have negatively exacerbated the pre-existing conditions.

5. When did dewatering activities begin at the site? The historical water level (WL) data is very short and appears to overlap when dewatering activities had begun at the site. At MW-6 there appears to have been only 10 WL records, some of which overlap dewatering, which makes comparison of data difficult because the WLs are influenced by the effects of dewatering.

   What and when, was the highest WL in MW-6 measured compared to highest levels measured in Z1 and Z2? The graphs provided are missing approximately the most recent four months of data from the Z wells. Please update the graphs provided to show the most recent water level data.

   The graph that compares MW-4 and -5 to MW-Z5 and –Z6 should be updated to include the water levels from MW-Z7. From the map provided it appear -Z7 is closer to MW-5 and MW-4 is closest to MW-Z5 while MW-Z6 is between wells -Z4 and -Z5.

6. Adequate.

7. Pursuant to Rule 3.1.6 disturbances to the prevailing hydrologic balance of the affected land and of the surrounding area and to the quantity or quality of water in surface and groundwater systems both during and after the mining operation and during reclamation shall be minimized. Please provide a plan on how the Operator plans to minimize impacts to the hydrologic balance. An updated water level monitoring program needs to be submitted, through a Technical Revision, that includes monthly WL measurements submitted quarterly and no later than the end of each quarter.

8. The Division acknowledges the first half of 2023 was wetter than usual, however, it is still the Operators responsibility to minimize impacts to the hydrologic balance pursuant to Rule 3.1.6.

9. The site model needs to be updated to describe the mitigation measures being taken by the surrounding operations and the effect those measures have on the predicted water levels around the site.

10. Please update Figure 3B to show the most recent groundwater level data observed at the site.

11. Adequate.

12. Adequate.

13. Pursuant to Rule 3.1.6 disturbances to the prevailing hydrologic balance of the affected land and of the surrounding area and to the quantity or quality of water in surface and groundwater systems both during and after the mining operation and during reclamation shall be minimized. Please demonstrate, through an update groundwater model, how the Operator is or will minimize the affects of mining to the hydrologic balance.

If you need additional information or have any questions, please let me know.

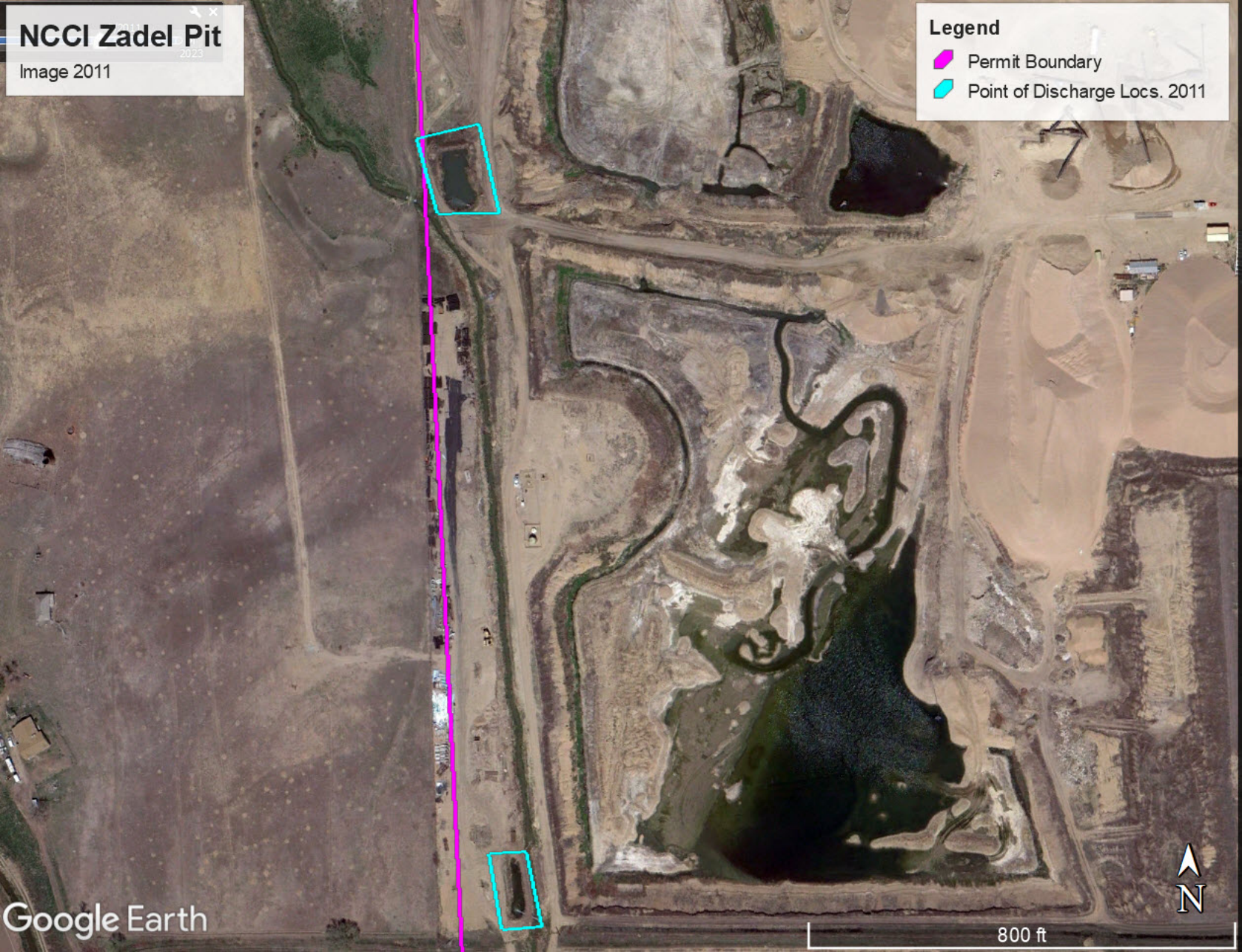
Sincerely,

Patrick Lennberg
Environmental Protection Specialist

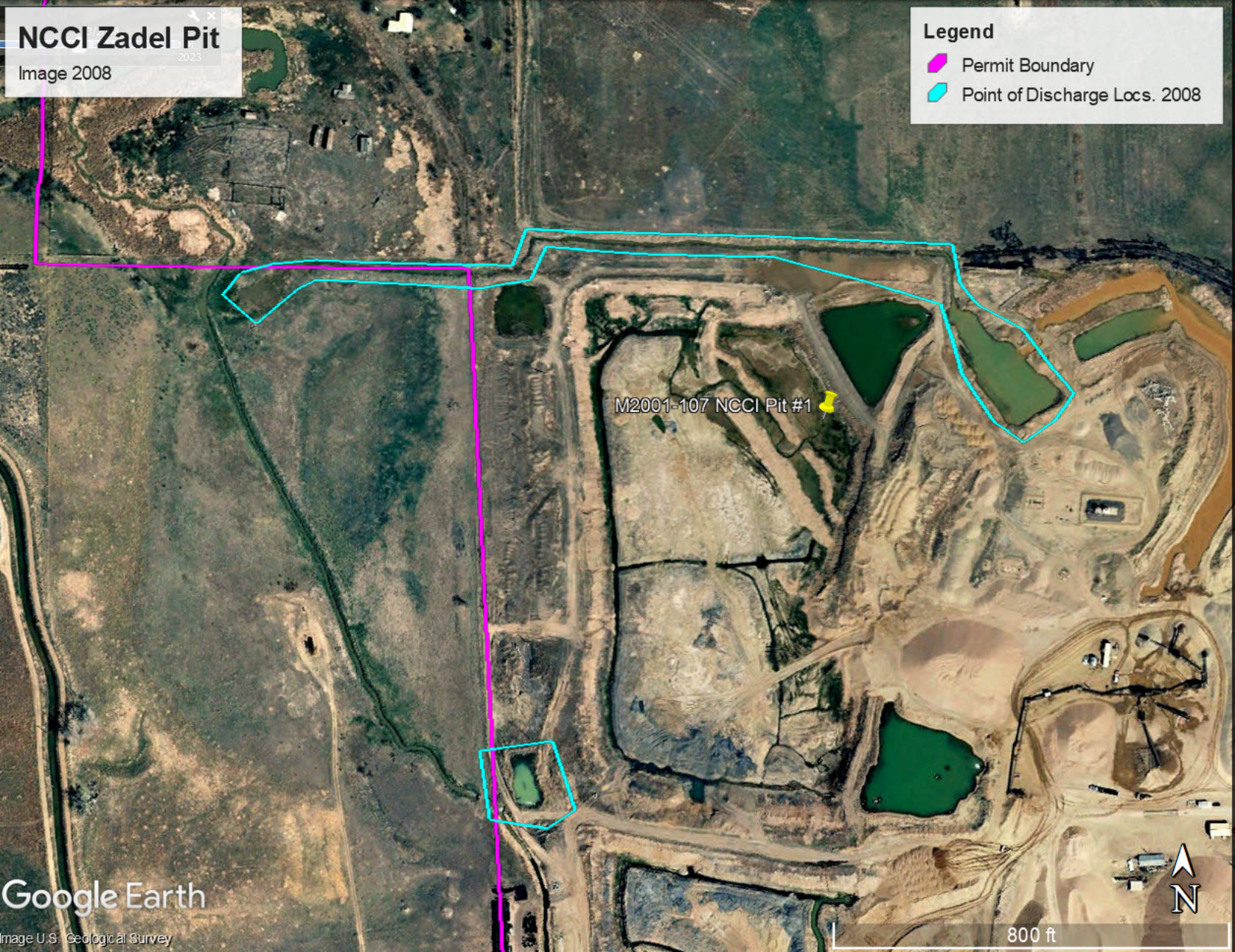
Attachments: 1. 2011 Aerial Map of Discharge Locations
2. 2008 Aerial Map of Discharge Locations

cc: Jared Ebert, DRMS

Attachment 1


NCCI Zadel Pit
Image 2011
Legend
Permit Boundary
Point of Discharge Locs. 2011
Google Earth
800 ft
N

Attachment 2


NCCI Zadel Pit
Image 2008
Legend
Permit Boundary
Point of Discharge Locs. 2008
M2001-107 NCCI Pit #1
Google Earth
Image U.S. Geological Survey
N
800 ft