



STATE OF
COLORADO

Czapla - DNR, Dustin <dustin.czapla@state.co.us>

Re: Trout Creek Pit, M-2001-035, Blasting Plan Revision (TR-1)

1 message

Perry - DNR, Mark <mark.perry@state.co.us>

Sat, Mar 5, 2016 at 9:50 AM

To: "Czapla - DNR, Dustin" <dustin.czapla@state.co.us>

Cc: Bill McCormick - DNR <bill.mccormick@state.co.us>

Hi Dustin,

Thank you for the opportunity to review the proposed Technical Revision to the approved blasting plan for Trout Creek Quarry. Blasting near the dam is definitely of interest to us.

Trout Creek Dam is classified by the SEO as a High Hazard structure, meaning that if it failed catastrophically we would expect loss of life due to the flood wave.

So as I told you, the Dam Safety Branch engineers are not blasting experts, certainly not me. But I am the dam inspector for Trout Creek Dam. The last blasting plan we received (for another dam) we reached out to DRMS to help us review it. So with that in mind -- I reviewed the proposed TR and the original (2001) blasting plan by Gordon Revey for Trout Creek, which you provided. I understand that Mr. Revey originally assumed blasting at a distance of 200-ft from the dam and thereby recommended a maximum charge weight of 166.5 lb with any 8-millisecond time period. The TR states that blasting is now occurring at a distance of approximately 600-ft from the dam, and by the Mr. Revey's equations this would allow an increase to 1498 lb/8 ms. However, ACA proposes limiting charge weight to 500 lb per delay (scaled distance 26.8). 500 lb/8ms delay would produce an estimated

PPV of 1.24 in/s at Trout Creek Dam. Based on our experience on similar projects 1.24 in/s is a conservative limit for a gravity dam.

I have the following comments for your consideration:

- 1) The 2001 Revey plan recommended monitoring PPV with a seismograph at the base of the dam. I think this is a reasonable precaution. Does DRMS receive and review this data?
- 2) The dam itself is a robust concrete gravity design. Probably my biggest concern with ground motion would be movement of rock in the abutments that could damage the dam. Are you aware of a reasonable analysis that could be performed to evaluate the stability of the abutment rock mass under the proposed PPV / ground motion?
- 3) Are blast distance (from the dam) and charge weight/8ms closely regulated by DRMS? Is any higher level of regulation warranted given the proximity to a High Hazard Dam?

I've attached several pictures of the dam and abutment rock for you in case you haven't been to the dam site.

Thank you again for the opportunity to review.

Mark

Mark A. Perry, P.E.
Dam Safety Engineer



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On Mon, Feb 29, 2016 at 2:54 PM, Czapla - DNR, Dustin <dustin.czapla@state.co.us> wrote:

Hello Mark,

I have attached ACA Products request to revise their blasting plan for the Trout Creek Pit. I have also attached the original 2001 blasting plan. Please let me know if you have any concerns regarding the proposed changes. Thank you.

Dustin Czapla
Environmental Protection Specialist



COLORADO

Division of Reclamation,
Mining and Safety

Department of Natural Resources

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2 attachments



IMG_2578.jpg
1324K



IMG_2579.jpg
1242K