

**From:** [Hamlet, Robert, EMNRD](#)  
**To:** "Liz Klein"  
**Cc:** [Bratcher, Mike, EMNRD](#); [Eads, Cristina, EMNRD](#)  
**Subject:** RE: 3Bear Expedited Liner Variance Request - Dark Canyon Spill NRM2034257903  
**Date:** Monday, December 21, 2020 2:03:00 PM

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Liz,

When nearby wells are used to determine depth to groundwater, the wells should be no further than ½ mile away from the site, and data should be no more than 25 years old, and well construction information should be provided. In the pasture area, 4 feet below the ground surface, soil contamination limits revert back to Table 1 "Closure Criteria for Soils Impacted by a Release" included in the spill rule.

A borehole will need to be completed down to 51' below ground surface to make a groundwater determination. If no groundwater is found, the release would need to be delineated/excavated to 10,000 mg/kg for chlorides. It looks like you have delineated/excavated the release for chlorides to 10,000 mg/kg.

After the borehole has been completed, upload the newly updated remediation plan to the payment portal including the 2 variance requests and the borehole drillers log. If the borehole doesn't show groundwater in the top 50' and the site characterization is complete, we can review the two variances in the remediation plan and finalize a decision.

I understand this is a deep excavation and will need to be expedited. Please, send me the P.O. Number of the remediation plan once it's been uploaded to the payment portal and I will try to review it as quickly as possible.

Please let me know if you have any further questions.

Regards,

**Robert Hamlet** • Environmental Eng. Tech. III  
Environmental Bureau  
EMNRD - Oil Conservation Division  
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**From:** Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>

**Sent:** Monday, December 21, 2020 9:55 AM

**To:** Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>

**Subject:** FW: 3Bear Expedited Liner Variance Request - Dark Canyon Spill NRM2034257903

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**From:** Liz Klein <[lklein@3bearllc.com](mailto:lklein@3bearllc.com)>

**Sent:** Friday, December 18, 2020 3:41 PM

**To:** Bratcher, Mike, EMNRD <[mike.bratcher@state.nm.us](mailto:mike.bratcher@state.nm.us)>

**Subject:** [EXT] 3Bear Expedited Liner Variance Request - Dark Canyon Spill NRM2034257903

3Bear Energy requests review and approval of a liner variance for the Dark Canyon Produced Water Spill (NRM2034257903) that occurred on November 20<sup>th</sup>, 2020. After characterization of the area, 3Bear proposes to leave soils in place that have chloride concentrations of greater than 600 mg/kg chloride. As outlined in the example in OCD guidance dated September 6, 2019 Section V Liners Require a Variance; *After removal of contaminated soils from the uppermost four feet in an area where the depth to groundwater is between 51 and 100 feet the responsible party wishes to install a synthetic liner atop soils with a chloride concentration greater than 10,000 mg/kg and then backfill.* 3Bear has excavated all saturated soils which varied in depth from 6' to 24' and requests approval to install a synthetic liner. The soils that will be left in place below the liner have chloride concentrations between 0 and 7,200 mg/kg based on sampling to date (see attached Data Table Site Boring Results). The sampling by Talon has indicated that TPH, and BTEX are not analytes of concern for this event (please see attached laboratory report). The groundwater research indicates that the depth to groundwater in the near vicinity is 210', see attached reference groundwater information provided.

As discussed, due to boring refusals encountered at 18 to 24' bgs because of the presence of a cobble layer and attempts to test trench the impacted area to depths greater than 24' bgs no additional samples could be taken. Due to the cobble encountered and the "cave-in" of the trenches due to soil instability the area became too unstable to trench safely at greater depths. Additionally, as the trenching moved to the south a hardpan layer was encountered which indicates that vertical migration should not occur past that depth.

Based on the site characterization; we are respectfully requesting a variance to install and seat a liner at a depth of 6' bgs. which would be at a depth below the existing infrastructure to prevent any leaching. We will collect composite confirmation soil samples of the current bottom of the excavated area to document chloride levels left in place, as well as sidewall samples in conformance with the NMOCD sampling guidance in Section VII Closure Sampling Plans (September 6, 2019 Guidance). The characteristics of the site indicate that groundwater has not been impacted and the placement of a liner will prevent any potential surface water from reaching the soils greater than 600 mg/kg so no leaching will occur.

We are also requesting permission for these composite samples to only be analyzed for chlorides. The sampling by Talon has indicated that TPH, and BTEX are not analytes of concern for this event.

Due to the depth of the excavation we are concerned with both potential safety and environmental impacts of leaving the excavation open and would like to place the liner as soon as possible to reduce the safety and environmental risks associated with an open excavation. The approval of the variance will provide equal or better protection of groundwater, public health and the environment.

Please let me know if you have any questions or need additional information. 3Bear appreciates the NMOCD's continued coordination and communication on this remediation.

Thank you.

**Liz Klein**

Director, EHS Regulatory Compliance

3Bear Energy, LLC

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