TA 16

Dhawan, Neelam, NMENV

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Sent: Friday, October 20, 2006 3:28 PM
To: Dhawan, Neelam, NMENV; Young, John, NMENV
Cc: jmccann@lanl.gov; lfluk@TerranearPMC.com; gldover@lanl.gov; PGram@TerranearPMC.com
Subject: 90s Line Pond – SWMU 16-008(a)-99

Hi Neelam and John, I wanted to let you know that the 90s Line ponds is currently quite full of water. This is because (as you know) we had one of the wettest monsoon seasons in NM history - and the rains continued well into September. This will make it difficult to drill the boreholes required in the IWP in the Pond in the areas that are covered with water (at least
3-4 locations). We had planned on drilling the pond in the September/October timeframe - based on previous years it has been dry > 75% of the time during the fall for the past ten or so years.

Although we haven't measured the depth to water in the center, we would estimate that there are probably over 100,000 gallons of water in the Pond.
In the IWP we stated that if this situation arose we would talk to you about our path forward.

In talking within our team we see the following possibilities:

1) Pump the pond (either into tanks, a lined pit, or a drainage) and then discharge the water either back into the pond or into a drainage - or let it evaporate. Obviously we would need an NOI to do the former, and we would definitely need your help with that. As you know, the water in the Pond does contain HE and barium at levels of concern, as well as other constituents at lower levels (see the IWP), However the HE and barium levels are lower than in C de Valle.... We probably would also have to put down mats of some sort following pumping, since it would still be quite muddy and the drill rig would be prone to getting stuck unless it could drive out on mats.

2) Attempt to drill through the ice in the January/February time frame.
It's not clear how 'solid' the pond freezes, but my guess is that during a hard winter it could bear a drill rig. We would have to carefully measure ice-thickness and do some calculations before sending a rig out on the ice!

3) Hold off on drilling in the Pond until the water evaporates again - this would probably be in the May-June time frame, based on observations in previous years. It would also depend on the severity of the winter. Again, we would probably also need mats to ensure that the rig didn't get stuck.
Since the Report is due in June, this would mean that we would have to send you a report addendum to include the pond borehole data. We would need to get the OK from you guys to do this.

4) Use clean fill to build 'peninsulas' out to the drilling locations.
This might be somewhat complicated and might get us into wetland/NEPA issues (we'd probably have to talk to the Corps of Engineers about 401/404 issues). We'd have to compact the soil. This would potentially increase any waste volumes that might ultimately need to be cleaned up.

One can also envision scenarios that combine some of these options .....

My preference would be option 3 - but this would mean you would get an incomplete dataset in the initial report.

Any of these options that does not involve the Pond being empty means we would have significant head that might infiltrate along the borehole. We would try to set a good surface casing and otherwise isolate the pond water from the vadose zone, but it would be difficult to ensure that no water got into the borehole. We probably would not be able to determine if there was perched water directly beneath the pond in such a case (although it might be we could put a tracer in the Pond water to help resolve this).

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I'm actually out most of next week (at Philly GSA meeting). but thought I might raise the issue so you could begin thinking about it. Perhaps we could then meet some time the week of 10/30?

Thx in advance! Don