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Larry described current situation:

In accordance with the mgmt plan 4 dewatering pumps stopped June 16th because exceeded 30 day limit.

June 17th results showed difference in TSS from turbidity wider than expected (6 ppm vs 30 NTU).

Remaining 2 pumps turbidity rising but below limit of 30 NTU. Visual observations in 2PL water within 10 m of discharge is quite clear, no discoloration.

Stephane added went with canoe to test outlets; at 10 m was 4 NTU at 2PL (was discharging), at 3PL was 0-1 NTU at discharge points (not pumping). Did depth profiles.

Kevin confirmed whether meters were good; Stephane said lab will be also doing turbidity as well as TSS.

Larry:

The relationship not consistent; plotted saw ratio of 2 at start of June, now 5:1 and as high as 12. Also engineering team looked at Diavik values and there saw the values were consistent with turbidity lower than TSS. Seeing opposite here. Have quantity of about 1 million cubic meters to dewater left. Need to discharge prior to ice going off lake.

Turbidity will affect mostly phytoplankton because of light penetration. Going into 400 million cubic meters. NTUs much lower than those seen during East Dike construction.

Mitigation measures looked at:

Source of turbidity is 2 causes: slopes of dewatered portion having runoff under snow and ice which is adding fine particles.

Now exposed divide between N and S lobes; difference in elevation of 1 m and seeing flow between causing erosion between N lobe and main basin.

Can't address slopes due to safety, can do something about the elevation difference. Installing pump in N lobe and will pump across divide to equilibrate and prevent flow eroding sediments. Not safe access to install lining material. Still ice and snow. Pumping should help flows.

Turnaround on TSS – have set up onsite laboratory so can improve response time. Still use Maxxim to confirm results.

Also looking at changes to dike construction method so don't have to dewater fully. Engineering team working on ideas but may be things can do. Put dewatering dike in in the wet, then build dam one thing being looked at.

Proposing to restart 4 pumps, and to transfer water between lobes. Don't believe will see significant impacts on 3PL. Will continue to measure turbidity in 3PL and

influence cone around point of discharge. See not spreading. Will halt if see at licence limits.

Asking NWB for temporary suspension of turbidity requirement, variance on monthly mean for 1 million cubic meter discharge period. Going in today or tomorrow.

Kevin: Variance limit?

Larry: moving to 50 NTUs contemplated

Stephane: Will not affect respecting TSS limits.

Kevin: effects of turbidity significant?

Larry will measure effects in lake in diffusion cone

Kevin: 4 NTU in discharge area; has problem with discharge criteria being in turbidity.

Measured at 10m, 60m and 100 m away from discharge point in 2PL; saw 6.32 NTU max at 60 m out, (averaged 4 NTU over profile). Spreading out, not settling. Stephane will circulate these results.

Kevin: NTU in receiving environment support application. Could include effect follow-up plan.

Amy: Phytoplankton impacts from East Dike construction – would monitor plankton now?

Stephane: last year was in the lake; now not seeing plume in lake at this point. Just have discharge.

Kevin: will be much different dispersion; may not see with ice cover but should be some readings at 100 m mark that would correlate.

Stephane: noted large receiving water volume at 0 NTU.
Last year began study after release.

Larry: Concern to move forward before ice off when situation will get worse.

Anne: Suggestion of higher intake limit plus trigger in environment (15 – 25 NTU) near edge of diffusion cone. Discussed distance of 15-25 m as trigger closer to discharge point; monitor farther out.

Stephane noted difficulties with boat access, but increasing as ice goes out.

Mitigation of pumping between lobes may help. Has 160 NTU in area of divide; significant contributor. Will take time for pumping to help.

Stephane: can't stop flow with small dam, difficult due to ice. Don't want to create more problems than have.

Kevin: and engineering possibilities may help.

Larry: may be able to install base then build dam on top of cutoff trench. Just through channel points where deep water flows are.

Larry: will implement mitigation measures, will resume pumping and continue monitoring.

Steve: clarify pumping sequence?

Larry: looking at pumping from N lobe either to central or directly to 3PL. Stephane confirmed not enough pipe, so would have to pump to central lobe then to 3PL. Would measure and see if exceed, turn pumps off again.

Will continue with current licence limits, awaiting NWB variance.

Stephane noted may be already more than 30 NTU, but waiting for NWB variance may be too late if take a month. Yesterday's late readings were around 32 NTU. Will send letter to NWB and cc all of us; this week.

Next call Monday?