To: lily tavassoli (tavassoli.lily@epa.gov)[tavassoli.lily@epa.gov]; Dana Barton[Barton.Dana@epa.gov]
Cc: Greg Reller[gr@burlesonconsulting.com]; Doug Carey[douglas.carey@waterboards.ca.gov]; Cory Koger[Cory.S.Koger@usace.army.mil]; Brown, Anthony R (RM)[anthony.brown@bp.com]; Wirtschafter, Joshua[Wirtschafter.Joshua@epa.gov]; Harris-Bishop, Rusty[Harris-Bishop.Rusty@epa.gov]; Yogi, David[Yogi.David@epa.gov]
From: Deschambault, Lynda
Sent: Wed 4/12/2017 8:40:48 PM
Subject: FW: the Leviathan Mine Superfund Site Update

Lily/ Dana Here is an update for the weekly today and for you and Dana.

Copying both ARC and Waterboard.

I'll leave it to you if you want to send out today ---as a reply all to Dana' s Friday April 7th email below----

---or we may want to wait until tomorrow when I might have more details from ARC on laboratory results.

1) Waterboard Pond 1, 2N and 2S: Nearly 6 and a half million gallons of water have been treated since early spring treatment began on March 3, 2017. Less than 1 inch of freeboard remains in Pond 1 --and in Ponds 2 North and 2 South. The combined flow of AMD from the Adit and Pit Underdrain (PUD) has increased to 107 gallons per minute which is an increase of approximately 22 gallons per minute from the combined flow observed one week ago. There is still a possibility of any overflow within days or weeks. Any overflow from the Upper Ponds would pass through Pond 3 and be partially treated before discharge to Leviathan Creek. In the event of an overflow, samples would be taken and analyzed. To date, laboratory analysis of the treated water discharges shows that all discharge criteria were met except for one release that had a minor exceedance of copper values. EPA is receiving weekly reports and daily updates from the Water Board and will be notified of any changes. As the case was when we first reached out to you, we will provide notification in the event of an overflow.

2) Atlantic Richfield Aspen Seep Bioreactor (ASBR) : Beginning on April 5th ARC noted that the Aspen Seep Bioreactor was experiencing historical high flow rates. ARC maintenance and increased pipe size is ensuring that the flow thru continues without episodic releases or sudden erosion. EPA is waiting to receive results of the rush turnaround time laboratory discharge samples requestedon 4/7 to assess if the ASBR is fully functioning at the current high flow rates and continues to meet the discharge criteria. In addition, EPA has asked ARC to

provide a full assessment of long term impacts of the increased influent flows on the functionality of the bioreactor, and the ability of the ASBR to successfully treat sustained increased flows anticipated to occur through this Spring and to ensure monitoring to assess the ASBR meets all discharge criteria.

3) Atlantic Richfield Pond 4 near the HDS plant. On April 6th EPA received notification that approximately 40 to 50 gpm of discharge was occurring through a broken standpipe (near the HDS plant) to Leviathan Creek. ARC partially repaired the pipe on April 7th and returned to complete the repair on Monday April 10th. ARC will provide an update this evening with more details including an estimate of the quantity of water discharged and flow rates. EPA is waiting to receive results of the rush turnaround time laboratory discharge samples that EPA directed ARC to take on 4/7 to provide a direct measurement of metal contents in the pond water being discharged.

EPA maintains data sondes at the confluence of 4L Creek with Leviathan Creek and at Station 15 in Leviathan Creek. Sonde measurements occur every 15 minutes and are accessible online at https://stormcentral.waterlog.com/SiteDetails.php?a=116&site=351&pa=usepar9, Both locations are downstream from where the Pond 4 discharge enters Leviathan Creek. EPA will continue to monitor the situation remotely, ARC is to provide daily updates, and EPA will share data as it becomes available.

From: Barton, Dana
Sent: Friday, April 07, 2017 1:30 PM
To: Michelle Hochrein <michelle.hochrein@washoetribe.us>; Doug Carey <douglas.carey@waterboards.ca.gov>; David.Coupe@waterboards.ca.gov; David Friedman <dfriedman@ndep.nv.gov>; Rebecca Bodnar <rebecca.bodnar@ndep.nv.gov>; Ken Maas <kmaas@fs.fed.us>; Thomas Maurer <thomas_maurer@fws.gov>; Toby McBride <toby_mcbride@fws.gov>; Steve Hampton <Steve.Hampton@wildlife.ca.gov>; 'Ed James' <edjames@cwsd.org>; Anthony.brown@bp.com; Noah Perch-Ahern <nperchahern@glaserweil.com>; david@parklivestock.com; Jeff Dagdigian, <jdagdigian@waterstone-env.com>; Jane Long <Jane.Long@washoetribe.us>
Cc: tavassoli, lily <tavassoli.lily@epa.gov>; Deschambault, Lynda

<Deschambault.Lynda@epa.gov>; Black, Ned <Black.Ned@epa.gov>; Adan.cohen@dgslaw.com; Greg Reller <gr@burlesonconsulting.com>; Cory.S.Koger@usace.army.mil; Darrel.Cruz@washoetribe.us; fredk@aeseinc.com; Wirtschafter, Joshua <Wirtschafter.Joshua@epa.gov>; marc.lombardi@amecfw.com; pc@burlesonconsulting.com; Serda, Sophia <Serda.Sophia@epa.gov>; Yogi, David <Yogi.David@epa.gov>; Harris-Bishop, Rusty <Harris-Bishop.Rusty@epa.gov>; Sarah Green <awg.sarah@gmail.com>
Subject: the Leviathan Mine Superfund Site Update

Dear Colleagues,

I'm writing to provide an update on winter operations at the Leviathan Mine Superfund Site. The early spring treatment area continues to keep up with the flows, however there is now one other area of possible concern, and a separate discharge has occurred relative to broken equipment. Please find an update on all activities below:

1) On March 3rd, early spring treatment began in Pond 1, 2 North and 2 South (Upper Ponds) in order to treat and discharge water accumulated in the three on-site holding ponds (a total of 13 million gallons of capacity) using a Rotating Cylinder Lime Treatment System. Despite the Water Board treating more than 5 million gallons of water to date, less than 1 inch of freeboard remains in Pond 1 and less than 4 inches of freeboard still remain in Ponds 2 North and 2 South. Any overflow from the Upper Ponds would pass through Pond 3 and be partially treated before discharge to Leviathan Creek. In the event of an overflow, samples would be taken and analyzed. To date, laboratory analysis of the treated water discharges shows that all discharge criteria were met except for one release that had a minor exceedance of copper values. EPA is receiving weekly reports and daily updates from the W ater Board and will be notified of any changes. As the case was when we first reached out to you, we will provide notification in the event of an overflow.

2) On April 5th EPA received notification of an issue at the Aspen Seep Bioreactor (ASBR). Atlantic Richfield's (ARC's) remote monitoring at the ASBR showed a slight increase in the water elevation in the 4th pond, indicating that the Aspen Seep influent flow rate was outpacing the treated effluent flow rate. ARC accessed the site on April 6th and the Aspen Seep 4th Pond outlet was cleared of debris, the 1-inch diameter outlet pipe was replaced with a 2-inch diameter pipe, and the pond water level was lowered by pumping treated water to the discharge aeration channel. EPA has requested that ARC take samples of the ASBR discharge in order to assess if the ASBR is fully functioning at the high flow rates and continues to meet the discharge criteria. Since this 4th pond is a settling pond to remove solids from the ASBR treated water, EPA does not anticipate significant impacts to the water quality. While a discharge of untreated Aspen Seep acid mine drainage has not occurred to date, EPA is communicating with ARC and

monitoring the situation. EPA has asked ARC to provide a full assessment of long term impacts of the increased influent flows on the functionality of the bioreactor, and the ability of the ASBR to successfully treat increased flows anticipated to occur through this Spring and meet all discharge criteria.

3) On April 6th EPA received notification of an issue at Pond 4 near the High Density Sludge Treatment system (HDS Plant). At Pond 4, the overflow standpipe is broken and a discharge is currently taking place through the Pond 4 overflow standpipe (near the HDS plant) to Leviathan Creek. Approximately 40-50 gpm is flowing through the 4-inch PVC Pond 4 overflow pipe (Pond 4 near the HDS plant) into Leviathan creek. Today, April 7, 2017, Atlantic Richfield has accessed the site and contractors are repairing the broken overflow pipe. However, a significant winter storm is forecast at the Site and ARC cannot ensure that work crews will be able to complete the repair. ARC will provide an update this evening with more details including an estimate of the quantity of water discharged and flow rates. EPA has requested that ARC also collect samples for laboratory analysis to provide a direct measurement of metal contents in the pond water being discharged. The water in Pond 4 consists mostly of melted snow and is believed to be dilute, though likely acidic.

EPA maintains data sondes at the confluence of 4L Creek with Leviathan Creek and at Station 15 in Leviathan Creek. Sonde measurements occur every 15 minutes and are accessible online at https://stormcentral.waterlog.com/SiteDetails.php?a=116&site=351&pa=usepar9, Both locations are downstream from where the Pond 4 discharge enters Leviathan Creek. . EPA is monitoring the water quality parameters measured by these sondes including pH and specific conductance. The data over the last seven days at both stations do not show impacts of a release from Pond 4. EPA will continue to monitor the situation remotely, ARC is to provide daily updates, and EPA will share data as it becomes available.

If you have any questions, or would like additional details, please feel free to contact me or Lynda Deschambault, who can be reached via phone at (415) 947-4183 or email at Deschambault.lynda@epa.gov.

Sincerely,

Dana Barton

Dana Barton

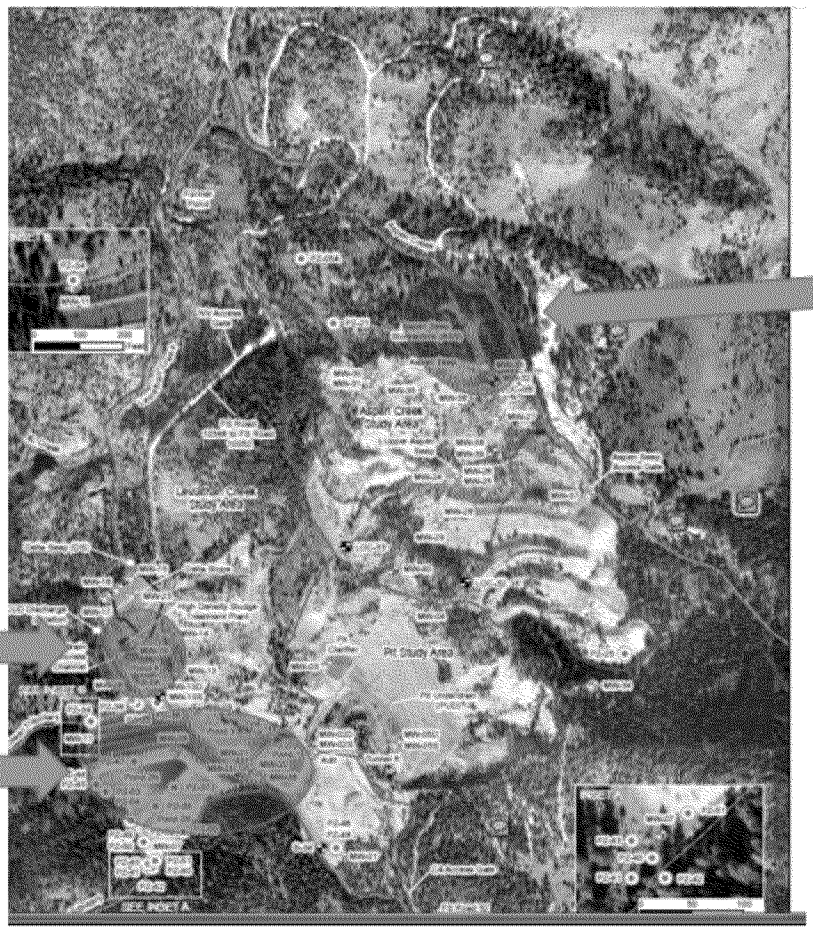
Acting Assistant Director

California Site Cleanup and Enforcement Branch (SFD 7)

Superfund Division

U.S. EPA, Region 9

415.972.3087



Aspen Seep
4th pond is

Pond 4
Discharge detected
April 6, 2017 broken standpipe

Upper Ponds
Ponds 1, 2N, 2S, 3
Early Spring treatment
Since March 3rd;
nearing capacity