To: Deschambault, Lynda[Deschambault.Lynda@epa.gov]
Cc: Dana Barton[Barton.Dana@epa.gov]; Lombardi, Marc (marc.lombardi@amecfw.com)[marc.lombardi@amecfw.com]; 'Jones, Britt'[britt.jones@amecfw.com]
From: Deschambault, Lynda
Sent: Wed 5/17/2017 6:37:19 PM
Subject: RE: Revised Leviathan Weekly Update for Lynda

Hello Michelle,

Our tour is 8:30 to noon tomorrow.

- 8:30 or before, Meet at the pull off of leviathan Road at 395.

- We will have one Van (Washoe provided) and one SUV (ARC provided). Michelle to confirm we have sufficient vehicle space for all.

- Marc/Britt/ARC will provide one page handout. Site map on one side. HDS diagram on Back

- Michelle to send a list of attendees email with cc to Lynda to clarify requirements to come on the tour: long pants, long sleeve shirt, sturdy toe covered shoes, sunscreen, sunglasses, own reusable water bottle.

- We will Head to the check in trailer near pond 4 for check in and get safety mtg

- Tour will then Review the HDS plant and overview of water collection and treatment

- Discuss and show the equipment problem area occurred week of April 4th.

- Next Walk and review / look down where CUD water collection and Delta Seep water collection occurs

- Then Walk and review/ look down where the early spring treatment is occurring

- Overview discussion of sampling underway on Friday: Surface water, revegetation test plots, upper pond sampling

- Wrap up and head back to the meeting location

From: Deschambault, Lynda
Sent: Wednesday, May 17, 2017 8:50 AM

To: 'Michelle Hochrein' <Michelle.Hochrein@washoetribe.us>
Cc: Jane Long <Jane.Long@washoetribe.us>; Darrel Cruz <Darrel.Cruz@washoetribe.us>; Barton, Dana <Barton.Dana@epa.gov>; Wirtschafter, Joshua <Wirtschafter.Joshua@epa.gov>
Subject: RE: Revised Leviathan Weekly Update for Lynda

Understood!

Could I please get the names of the BIA and AWG folks who are attending tomorrow's tour?

I left you a detailed message regarding the tour logistics given H&S issues;

let me know if those logistics all sound okay.

I will be on the road to the site, reception will be intermittent.

If We can talk around 4:30 that should be good.

Best Regards,

Lynda Deschambault

Environmental Scientist

USEPA Region 09

(415) 947-4183

Please be advised I may have limited access to email , therefore please be patient with any communication delays.

From: Michelle Hochrein [mailto:Michelle.Hochrein@washoetribe.us]
Sent: Wednesday, May 17, 2017 8:43 AM
To: Deschambault, Lynda <Deschambault.Lynda@epa.gov>
Cc: Jane Long <Jane.Long@washoetribe.us>; Darrel Cruz <Darrel.Cruz@washoetribe.us>; Barton, Dana <Barton.Dana@epa.gov>; Wirtschafter, Joshua <Wirtschafter.Joshua@epa.gov>
Subject: RE: Revised Leviathan Weekly Update for Lynda

Thanks for the reply, Lynda. I was away from my desk most of the day yesterday, and I am in meetings all morning. I will give you a call in the early afternoon.

Michelle Hochrein

Environmental Program Coordinator

Washoe Environmental Protection Department

919 US Hwy 395 South

Gardnerville, NV 89410

(office) 775.265.8689

(cell) 775.350.0495

(email) michelle.hochrein@washoetribe.us

From: Deschambault, Lynda [mailto:Deschambault.Lynda@epa.gov]
Sent: Tuesday, May 16, 2017 6:32 PM
To: Michelle Hochrein <Michelle.Hochrein@washoetribe.us>
Cc: Jane Long <Jane.Long@washoetribe.us>; Darrel Cruz <Darrel.Cruz@washoetribe.us>; Barton, Dana <Barton.Dana@epa.gov>; Wirtschafter, Joshua <Wirtschafter.Joshua@epa.gov>
Subject: FW: Revised Leviathan Weekly Update for Lynda
Importance: High

Hi Michelle,

I tried reaching you by phone a couple times today. Give me a call to discuss this email ---and also logistics for Thursday.

In the interim, Attached is the write up from ARC about the high storm events and impacts of the event you asked about during the week of April 5-12.

Not sure you've seen this report? it has some detail you will find helpful.

You are correct, that as discussed the ARC HDS system for CUD and Delta seep capture is not turned on during the winter months, and that the Delta Seep and CUD are not 100% captured all year round

On our tour on Thursday I've asked Marc to discuss that and show the CUD and Delta

Regarding terminology and what is considered a "release" under the AOC---

I am thinking a call with you and Jane and myself and Josh would be a good idea. do you two have time early tomorrow 8 am To do a call and to discuss?

Lynda

From: Michelle Hochrein [mailto:Michelle.Hochrein@washoetribe.us]
Sent: Tuesday, May 16, 2017 11:09 AM
To: Deschambault, Lynda <Deschambault.Lynda@epa.gov>
Cc: Jane Long <Jane.Long@washoetribe.us>; Darrel Cruz <Darrel.Cruz@washoetribe.us>
Subject: RE: Leviathan Mine Superfund Site Update

Hey Lynda –

I was hoping to get some additional information for a short write-up I am conducting on the spring treatments and incidents out at Leviathan (based on Dana's email below) – and I want to make sure I have the correct information (and that it is quantified information – i.e. I don't want to mention "some water was released" or "a lot of water was released".

1) Could I get some details on the overflow event from ARCO's broken equipment? Are there details on the various metal concentrations in the water that was released (such as measured levels of arsenic?) I understand the downstream monitoring sites do not show impacts of the release, however, we would like to make a note of the specific quality of the water released. As I understand, the release of water was at a variable rate between April 6th - April 11th, but overall approximately 200,000 gallons were released.

2) Can you clarify the Delta Seep operation for me? As I understand, the Delta Seep continually releases untreated AMD (of varying water quality) during the winter months (or is this year-round?). Do you have information on the last time the Delta treatment system was upgraded?

Thank you!

Michelle Hochrein

Environmental Program Coordinator

Washoe Environmental Protection Department

919 US Hwy 395 South

Gardnerville, NV 89410

(office) 775.265.8689

(cell) 775.350.0495

(email) michelle.hochrein@washoetribe.us

From: Barton, Dana [mailto:Barton.Dana@epa.gov]
Sent: Thursday, April 20, 2017 10:36 AM
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 <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: Leviathan Mine Superfund Site Update

Dear Colleagues:

I am writing to provide you an update on several ongoing issues at the Leviathan Mine Superfund Site. In addition to these summaries, please see the attached write-ups prepared by the Water Board and Atlantic Richfield Company (ARC) detailing the status of the following issues:

1) Equipment damage at Pond 4 resulted in discharge to Leviathan Creek: 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. It is likely the equipment was damaged by movement of an ice and snow raft. ARC partially repaired the pipe on April 7th. For a short period of time the discharge accelerated during the repair, and then the rate was decreased until ARC returned to complete the repair on Tuesday April 11h. ARC estimates that 200,000 gallons of untreated acidic water was released directly to Leviathan Creek. This water was acidic and contained metals. The discharge from the pipe had concentrations about 2 fold

higher than measured within the pond. This is being reviewed. Please know that this was a one-time discharge that has now been stopped by repairs to the overflow pipe. The repair was fully completed and on site monitoring continues. EPA will be notified of any additional problems.

2) High flow rates into the Aspen Seep Bioreactor result in exceedance of discharge levels: Beginning on April 5th ARC informed EPA that the ASBR was experiencing increasing influent flow rates from the Aspen Seep. ARC conducted maintenance, increased pipe size, and pumped some volume of treated water from the settling pond into the aeration channel to ensure that the flow through continued without episodic releases or pond overflow and associated erosion. EPA has received preliminary laboratory data showing that iron exceeded the discharge values. Similar iron exceedance was observed during prior years high flow events at the Aspen Seep. ARC is monitoring the situation and providing EPA with weekly reports. ARC has increased the feed rate for sodium hydroxide and ethanol to support the bioreactor in removing the increasing metal load (including iron) as the influent flow rate from Aspen Seep increases. In addition, EPA has asked ARC to provide a full assessment of the 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. EPA will be notified of any additional problems. Additional mitigation measures are being considered.

3) Water Board treatment of Pond 1, 2N and 2S continues with no discharges of partially-treated AMD: Over 8 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 122 gallons per minute which is an increase of approximately 36 gallons per minute from the combined flow observed one week ago. Overflow from Pond 2 is currently being treated to reduce metal concentrations below discharge criteria before the treated water is discharged to Leviathan Creek. The Water Board continues to monitor the situation and any changes from the current situation will be communicated to EPA as they are identified.

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 (Station 15 and 4L) are downstream from where the Pond 4 discharge enters Leviathan Creek, Station 15 is downstream from 4L. The data from the sondes (including pH and specific conductance) do not show impacts of the recent release from Pond 4. EPA will continue to monitor the situation remotely and work with ARC and the Water Board to monitor the situation. Additional rain and snow is predicted. Warm weather increases snowmelt and water flow rates.

EPA receives weekly reports and daily updates from Atlantic Richfield and the Water Board and will be notified of any changes. We will continue to provide notification in the event of additional information becoming available. If you have any questions, please feel free to contact me.

Regards,

Dana

Dana Barton

Acting Assistant Director

California Site Cleanup and Enforcement Branch (SFD 7)

Superfund Division

U.S. EPA, Region 9

415.972.3087

From: Barton, Dana
Sent: Friday, April 7, 2017 1:30 PM
To: 'Michelle Hochrein' <michelle.hochrein@washoetribe.us>; 'Doug Carey' <douglas.carey@waterboards.ca.gov>; 'David.Coupe@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' <Anthony.brown@bp.com>; 'Noah Perch-Ahern' <nperchahern@glaserweil.com>; 'david@parklivestock.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' <Adan.cohen@dgslaw.com>; 'Greg Reller'

<gr@burlesonconsulting.com>; 'Cory.S.Koger@usace.army.mil' <Cory.S.Koger@usace.army.mil>; 'Darrel.Cruz@washoetribe.us' <Darrel.Cruz@washoetribe.us>; 'fredk@aeseinc.com' <fredk@aeseinc.com>; Wirtschafter, Joshua <Wirtschafter.Joshua@epa.gov>; 'marc.lombardi@amecfw.com' <marc.lombardi@amecfw.com>; 'pc@burlesonconsulting.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

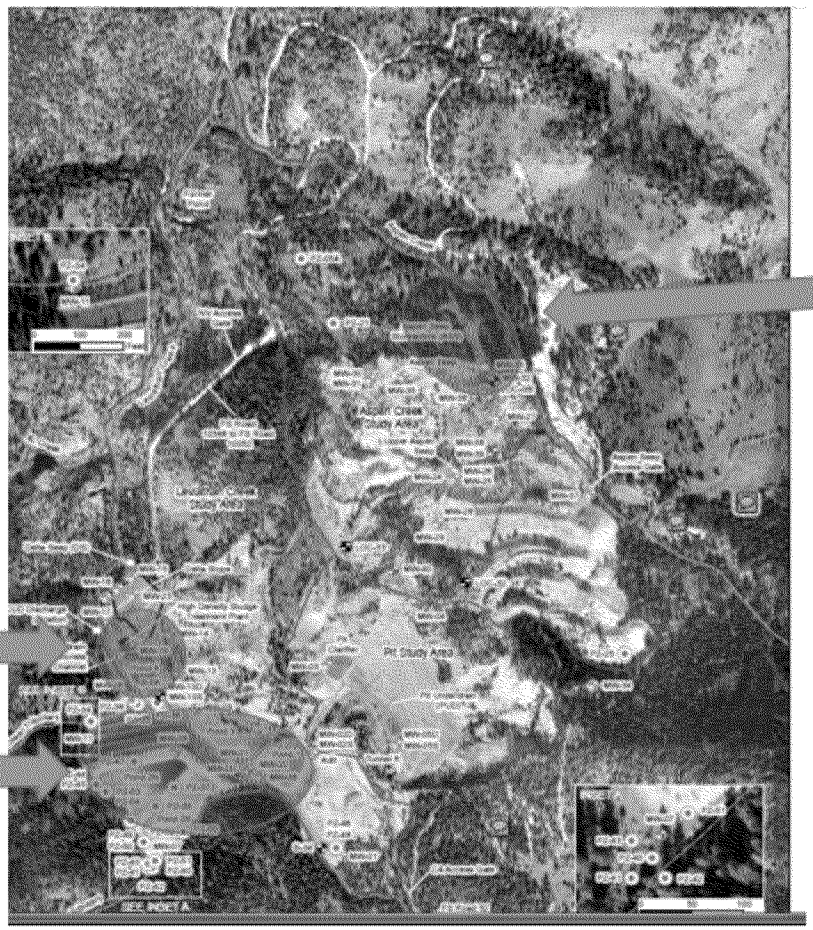
Acting Assistant Director

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

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