HECLA LUCKY FRIDAY

March 26, 2019

BY EMAIL

Regional Administrator
Idaho Department of Environmental Quality
Coeur d'Alene Regional Office
2110 Ironwood Parkway
Coeur d'Alene ID 83814

RE: Comments on Public-Noticed Draft 401 Certification (NPDES Permit No. ID00000175) for Hecla Limited Lucky Friday Mine

To whom it may concern:

Hecla Limited appreciates the opportunity to comment on the Draft 401 Certification (NPDES No. ID00000175) for the Hecla Lucky Friday Unit. Please find enclosed technical comments on the Draft 401 Certification, which was public noticed on February 25, 2019. Hecla Limited is open to the opportunity to discuss the comments with Idaho Department of Environmental Quality, should it be requested.

If you have any questions, please contact me at 208-744-1833.

Sincerely,

Digitally signed by Lance Boylan
Date: 2019.03.27 07:40:47 -07'00'

Lance Boylan

Acting Heath, Safety, and Environmental Manager

Encls.

HECLA LUCKY FRIDAY

March 26, 2019

Ms. June Bergquist
Idaho Department of Environmental Quality
Coeur d'Alene Regional Office
2110 Ironwood Parkway
Coeur d'Alene ID 83814

US EPA Region 10
1200 Sixth Avenue, Suite 155, OWW-191
Seattle, Washington 98101

RE: Comments on Public-Noticed Draft 401 Certification for the Draft Permit (No. ID00000175) for Hecla Limited Lucky Friday Mine

Dear Ms. Bergquist,

Hecla Limited Lucky Friday Unit (LFU) appreciates the opportunity to provide comments on the draft 401 Certification for NPDES Permit (No. ID00000175), which was public-noticed on February 25, 2019. Please consider this letter and LFU's letter of the same date to EPA (see Attachment A) on the subject Permit in issuing your final 401 certification.

Comment #1 Discharge Information (page 3) – Flow-tiered Limits
The current Permit provides flow-tiered effluent limits for copper and mercury and WET. As per Idaho Administrative Rule IDAPA 58.01.02.400.05, tiered effluent limitations can be incorporated in NPDES Permits for point sources discharging to waters exhibiting unidirectional flow, such as the South Fork Coeur d'Alene River (SFCdAR). Idaho Guidance (Idaho Effluent Limit Development Guidance, 2017) indicates "in some instances a discharger may request DEQ consider alternative streamflow estimates in calculating the RPTE and any associated mixing zone authorization. DEQ would consider these requests in cases where it is clear that differing sets of circumstances exist that should be considered when developing effluent limits (e.g., different effluent flows, receiving water flows, or hydrologic or climatic conditions)".

The draft 401 Certification states that seasonal dilution and flow-tiered effluent limits are no longer needed due to the installation of water treatment. Although water treatment facilities have been installed and effluent quality has improved, LFU believes that it is still appropriate to provide flow-tiered effluent limits for copper, mercury and WET, considering the variable and seasonal river flow and the infrequent occurrence of actual critical low flows (i.e., 7Q10 and 1Q10), for which the draft permit limits are based. Attachment A of the 2002 Fact Sheet acknowledged that flow in the SFCdAR varies with precipitation and snow melt and flow-tiered limits were calculated accordingly. SFCdAR river flow characteristics and variability due to precipitation and snow melt is not significantly different since 2002 and regulations allowing for flow-tiered limits haven not changed. Therefore, LFU requests flow-tiered limits be applied for copper, mercury and WET in the draft Permit. Use of flow-tiered effluent limits provides compliance with water quality standards while providing LFU operational flexibility and control over discharges based on actual in-stream flow conditions, particularly in spring run-off and periods of excess precipitation.

Comment #2 Discharge Information (page 3) - Outfall 001 Limits
The Draft 401 certification indicates that "separate effluent limits for Outfalls 001 and 002 are no longer necessary due to consistent effluent quality from WTP2. The extra dilution offered by diverting Outfall 002 effluent to Outfall 001 is no longer necessary." The consistency of effluent quality and the need or

lack of need for additional dilution is not an appropriate basis for applying Outfall 002 limits at the Outfall 001 location. The effluent limits calculated for the Draft Permit (provided in Table 2 of the Draft Permit) applicable to Outfalls 001 and 002 are based on river flow and hardness conditions at or just above Outfall 002. Due to the distance of approximately one mile between the outfalls and different receiving water flow characteristics, application of Outfall 002 effluent limits at the Outfall 001 location is not appropriate. River flow data collected upstream of Outfall 001 and upstream Outfall 002 for the 2007-2017 time period indicates flow statistics are different at each location, as indicated in Table 1 below.

Table 1. Upstream Outfall 001 and 002 Flow Comparison

Flow Statistic	Upstream Outfall 001	Upstream Outfall 002
1Q10	12.3	11.7
7Q10	14.2	11.8
30Q5	22.7	13.3
Harmonic Mean	38.9	27.4
Average	95.5	55.2

Since site-specific receiving water information is available at Outfall 001, LFU suggests that effluent limits applied at Outfall 001 be based on such conditions rather than conditions one mile upstream. Therefore, although the same treated water can be discharged to the same receiving stream, effluent limits at Outfall 001 should be based on receiving stream characteristics at or above Outfall 001.

Comment #3 Discharge Information (page 3) – Hardness

The draft 401 Certification indicates that while effluent hardness was used to calculate effluent limits for cadmium, lead and zinc in the 2003 Permit, a mixed hardness was used in the draft Permit for all hardness-based metals. LFU believes that the effluent hardness can be protective of water quality and should be used to calculate criteria for cadmium, lead, and zinc, as done in the 2003 Permit. The August 12, 2003 NPDES Response to Comments (page 106) provides the following rationale for why using effluent hardness is protective and can be used to calculate metals criteria:

> "While using receiving water hardness to calculate criteria end-of-pipe effluent limits, as suggested in the comment, is certainly protective, in some situations the use of effluent hardness can also be protective. That is because as the effluent mixes with the receiving water two things happen: the hardness of the receiving water in the area of mixing increases (and therefore the hardness-based water quality criteria increases) and, the concentration of the mixture decreases from the effluent concentration to the point where it is fully mixed at the receiving water concentration. In some situations, the decrease in the mixed effluent and receiving water concentration occurs at a faster rate than the decrease in hardness (and therefore the decrease in the criteria) such that the concentration in the receiving water never exceeds the criteria. The figures in Appendix C [of the Response to Comments] demonstrates that this is the case for cadmium, lead, and zinc in the Lucky Friday discharges."

Using the database provided in the draft Fact Sheet, the fifth percentile hardness of Outfall 002 and 003 effluents are 121 and 74 mg/L, respectively. Upstream hardness for Outfall 002 and 003 is 22.9 and 17.9 mg/L, respectively.

The use of effluent hardness for end-of-pipe limits is consistent with the approach applied to municipal discharges to Spokane River. As described in the 2007 City of Coeur D'Alene Fact Sheet (NPDES #ID-002285-3) (page 14), since effluent hardness is higher than the receiving stream, discharge of the effluent actually raises the hardness of the receiving water, effectively creating a loading capacity for the metals. Therefore, it was appropriate to use effluent hardness to calculate metals criteria for that discharge.

IDAPA Administrative rules have not changed since current Permit issuance in 2003 and the basis for using effluent hardness have not changed. Based on the above discussion, LFU requests effluent hardness be used for cadmium, lead, and zinc criteria calculation in the renewed LFU Permit or that IDEQ authorize a mixing zone for cadmium, lead and zinc as set forth in comments 6 and 9 below.

Comment #4 Discharge Information (page 3) – Mixing Zone Policy

The current Idaho Mixing Zone Policy was effective in 2014. LFU understands that IDEQ has a proposed revised mixing zone policy, but has not yet been approved by EPA. Therefore, the proposed mixing zone policy should not be used for application of mixing zone provisions in the Draft Permit. Until the revised rule is approved by EPA, it is not enforceable and should not be used to dictate NPDES Permit effluent limits or requirements.

Comment #5 Discharge Information (page 4) – Copper Criteria

LFU has concerns with the approach for calculating the copper BLM-based effluent limits, as presented in the Draft 401 Certification and Permit and Fact Sheet. LFU understands the BLM-based copper effluent limits were developed using a regional classification system, as described in *Statewide Monitoring for Inputs to the Copper Biotic Ligand Model* (2017). However, LFU has the following concerns with the approach:

- LFU does not believe BLM-based copper limits should be included in the Permit at this time. The BLM rule is not effective for Clean Water Act purposes and therefore should not be part of IDEQ's certification conditions. Moreover, there is inadequate data upon which to base a valid BLM limit at this time. LFU is concerned that in the unlikely event[1] EPA approves the BLM rule prior to reissuance of the subject permit, LFU will need to overcome anti-backsliding and anti-degradation limitations no matter how much site-specific data is collected. Therefore, the better approach would be for IDEQ to require collection of the data necessary to establish site-specific BLM criteria and reopen the Permit once that data is collected and the BLM rule is approved. In light of IDEQ taking over the LFU Permit (and any related permit modifications), LFU believes this is a much more efficient approach. Until a defensible BLM limit is put in place in the Permit, the copper limits in the existing permit should remain in effect.
- EPA guidance suggests that the BLM should not be used for calculating effluent limits if data are not available. As per Section 1.5 of EPA *Training Materials on Copper BLM: Data Requirements*, a minimum of one sample for each season should be collected to support site-specific BLM input values. As per IDEQ, adequate site-specific data consists of 24 samples over a two year period to capture seasonal variability of each BLM input parameter. This data should be collected prior to site-specific BLM criteria development.
- DEQ regional default values are likely not representative of site-specific conditions at LFU. Only one data point from each state-wide sample location was collected in support of the IDEQ study, used to develop the regional input values. Collection of one data point in one season is not adequate for estimating a two year dataset and the potential variability of each of the BLM input parameters exhibited in state-wide waters over an annual period. As noted in the *Statewide Monitoring for Inputs to the Copper Biotic Ligand Model* (2017) on page 28, additional BLM input sampling conducted at select sites in spring confirmed "high spatial and temporal variability" of BLM input parameters, which further supports that one data point in time is not adequate for estimating regional BLM input data.
- The draft copper BLM-based effluent limits are based on the BLM criteria for the "Mountain Stream" classification. As per the *Statewide Monitoring for Inputs to the Copper Biotic Ligand Model* (2017), instream data collected from a total of 31 sampling locations classified as Mountain Stream, were used to determine the 10^{th} percentile for each input value. These sample locations are throughout the state and not limited to just the local SFCdAR watershed. Additionally, the coefficient of variation (CV) of chronic copper criteria for the Mountain Stream classification was the highest at 106%, indicating much variability between sampling sites within the Mountain Stream classification. To illustrate, the table below presents the Mountain Stream criteria compared to BLM criteria utilizing the site-specific data collected near Outfall 001 at LFU. As an example, comparison of the criteria in the table indicates that the Mountain Stream classification criteria are overly conservative as applied to the LFU site.

[1] IDEQ submitted the BLM rule to EPA for approval in January, 2019. We note IDEQ has compiled a list of water quality standards that have been submitted to EPA but have not yet been approved. See "EPA Actions on Proposed Standards." Many of the proposed standards have been under review by EPA for many years and in some instances, over a decade. Accordingly, we believe it is improbable that EPA will approve the BLM rule prior to issuance of the LFU Permit and therefore IDEQ should not recommend a speculative limit based on inadequate data at this time.

Table 2. BLM-based Criteria Comparison

	CMC (ug/L)	CCC (ug/L)
Mountain Stream class (basis for draft limits)	1.0	0.6
Downstream 001 (ID0021296D)	1.6	1.0
Upstream 001 (ID0021296U)	1.93	1.2

- The Mountain Stream class criteria are overly conservative for the SFCdAR near LFU. The Draft Fact sheet (pg. 71) notes that background concentrations of Cu are higher than the BLM criteria, with the average dissolved copper concentration of 1.21 ug/L above Outfall 002 and 0.69 ug/L above Outfall 003 over the monitoring period from 2012-2016. However, 10 years of site-specific bioassessment data show stream aquatic community equal to regional reference streams, indicating the Mountain Stream criteria are likely overly conservative.

Based on the above discussion, LFU requests that the approach to use default regional input values for calculating the copper BLM-based effluent limits be reconsidered. LFU requests that the hardness-based copper effluent limits remain effective until after adequate site-specific data can be collected and site-specific BLM criteria can be calculated during the five year compliance schedule period.

Additionally, as per the Implementation Guidance for the Idaho Copper Criteria for Aquatic Life (2017), flow-tiered NPDES permit limitations are an acceptable implementation tool for copper Biotic Ligand Model (BLM)-based limits. Due to the extremely low BLM-based criteria and potential variability of BLM input parameters, LFU request that flow-tiered limits be considered for the site-specific BLM-based effluent limits once a robust data-set is available upon which a defensible BLM-based limit can be established.

Comment #6 Receiving Water Body Level of Protection (page 4-5) – Impairment

LFU Outfalls 001, 002, and 003 discharge to the SFCdAR, in river segment assessment unit ID17010302PN011_03, which is the segment between Daisy Gulch and Canyon Creek. While the segment is 9.5 miles long, LFU outfalls are located within the upper three miles of the segment. The 2014 EPA approved 303(d) list indicates that this segment is not meeting cold aquatic life designated use, but the cause of impairment is unknown. No specific metals are listed, particularly, cadmium, lead or zinc, as cause of impairment in this segment near LFU. Although the draft 401 certification indicates "metals are suspected" as cause of impairment, no data or rationale is provided for such conclusion. The 2014 Integrated Assessment Report also does not provide rationale for suspected metals impairment. LFU understands that the 2014 Integrated Report lists the downstream assessment unit, from Canyon Creek to Pine Creek as impaired for cadmium, lead, and zinc. However, this assessment unit begins approximately six miles downstream of LFU Outfall 001 and has other hydraulic inputs into the SFCdAR between the LFU Outfall 001 and beginning of the next assessment unit as well as other NPDES discharges within the Canyon to Pine Creek assessment units.

As per the 2014 Integrated Assessment Report, the Daily Gulch to Canyon Creek (ID17010302PN011_03) assessment unit has not been evaluated since 2003. However, as per the current Permit, LFU has been collecting in-stream SFCdAR data, specifically metals and hardness data, upstream of each LFU outfall for over 10 years. This data can be used to update the segment assessment for determining if cadmium, lead and zinc exceed site-specific criteria. Attachment A provides a summary of the SFCdAR data collected by LFU since 2012, when the LFU wastewater treatment upgrades were completed. This is the same data submitted annually to EPA as per the current Permit and also provided in the draft Fact Sheet. Site-specific chronic criteria (the chronic criterion only was used as it is most stringent and conservative) were calculated using the corresponding hardness for the date of sample collection. As shown in Attachment B, the metals results do not indicate exceedance of the site-specific criteria which would indicate this segment does not warrant a conclusion that suspected impairment is caused by cadmium, lead, and zinc.

The draft 401 certification states that a mixing zone is not authorized for cadmium, lead, and zinc because IDEQ believes metals "are not pollutants that dissipate; nor are metals assimilated into other

processes that render them less harmful; and, because the SFCdAR has pronounced seasonal high flow, settling of particulate bound metals and retention at the point of outfall is unlikely." However, the 401 certification does not provide and LFU is unaware of scientific basis for the conclusion of metals-bound particulate movement in the SFCdAR. LFU does not agree with the approach for not allowing a mixing zone for cadmium, lead, and zinc based on suspected cause of impairment, the impairment listing of an assessment unit that begins six miles downstream and because of seasonal high flow which may or may not impact a river segment that begins six miles downstream. As indicated in Attachment B, concentrations of cadmium, lead and zinc in the SFCdAR near the LFU outfalls do not exceed site-specific water quality criteria. Therefore, LFU requests that consideration be given to authorize a mixing zone for cadmium, lead, and zinc at Outfalls 001, 002 and 003. In lieu of authorizing a mixing zone for lead, zinc and cadmium, LFU would not object to keeping the existing limits in place for lead, zinc and cadmium. As pointed out in Comment #3, above, this is also a defensible approach.

Comment #7 Compliance Schedule (page 10)
As per Comment #5 above, LFU does not believe BLM-based copper limits should be included in the Permit at this time. The BLM rule is not effective for Clean Water Act purposes and therefore should not be part of IDEQ's certification conditions. Moreover, there is inadequate data upon which to base a valid BLM limit at this time. However, a compliance schedule is provided in the event the copper BLM-based criteria are adopted and BLM-based effluent limits are effective. LFU appreciates the time period of the compliance schedule. However, once BLM-based limits are included in the Permit, any compliance schedule should be applied to all outfalls, not just Outfall 001/002.

Comment #8 Compliance Schedule (page 10-11)
On page 10, it is noted that "due to limited space at that location and the need to add filters or other upgrades, time is necessary to design, install and test the equipment and process." LFU suggests this sentence be revised to indicate that LFU will need time to determine best approach, whether engineering or non-engineering, for meeting new copper BLM limits. LFU does not yet know if adding filters specifically will provide adequate treatment and therefore, specifics on how LFU will achieve compliance with the new copper BLM limits should not be dictated in the 401 certification.

The sentence should be revised as follows: "~~due to limited space at that location and the need to add filters or other upgrades~~, LFU requires time to evaluate engineering and non-engineering options for achieving compliance with copper BLM limits as well as to design, install and test the equipment and process, if engineering solutions are chosen."

The compliance schedule Interim requirement #3 requires that three years from the permit effective date, a preliminary engineering report must be submitted to EPA and DEQ outlining estimated costs and schedules for completing treatment upgrades to achieve final effluent limits. LFU has not yet explored compliance options for the new copper BLM-based effluent limits and would like the flexibility to evaluate all available options, which may include treatment upgrades but also other engineering and/or non-engineering options. LFU request that the language specifically requiring treatment upgrades be revised to state the following:

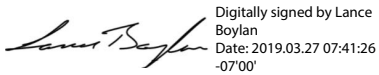
"By three years from effective date of the final permit, the permittee must provide to EPA and DEQ a report outlining preliminary plan for compliance, which may include engineering or non-engineering options. If treatment upgrades are chosen as the proposed method for achieving compliance with final effluent limits, the permittee is to provide estimated schedule for completing treatment upgrades and pilot testing."

Comment #9 Mixing Zone (page 11)
A mixing zone of 25% of the critical low flow was authorized for copper, mercury, and WET in the draft 401 Certification. However, in the current Permit and previous 401 Certification, 50% mixing allowance was provided for certain flow tiers at Outfall 003 for copper and up to 75% mixing allowance was provided for mercury. The rationale for allowing the increased mixing was based on modeling that indicated that adequate fish passage remained available in the receiving stream and the larger mixing zones would not impair beneficial uses, due to discharge configuration, mixing in the stream and plume width (see March 23, 2005 letter from IDEQ to EPA, attached for reference). Also included in the referenced letter, IDEQ

found that current concentrations of mercury and copper in the SFCdAR were very low with most data at the time indicating non-detect values. IDEQ concluded that “mercury and copper are not significant factors affecting beneficial use support in SFCdAR.” Since the 2005 evaluation, receiving water quality has only improved, as indicated in the monitoring data provided by LFU and presented in the Fact Sheet. As per IDAPA 58.01.02.060, the current mixing zone policy, the 25% mixing allowance is one of many items that IDEQ must consider when authorizing a mixing zone. However, but if a larger mixing zone will still be protective of beneficial uses, IDEQ may authorize a larger mixing zone. Since issuance the LFU 2006 Permit, outfall configuration has not changed nor has the regulations that dictate mixing zone authorization. Therefore, LFU requests that the authorization for the increased mixing zone allowance be carried forward with the renewed Permit

LFU appreciates the opportunity to submit these comments on the draft 401 Certification. Please do not hesitate to call me if you would like to discuss any of the comments.

Sincerely,



Lance Boylan

Acting Heath, Safety, and Environmental Manager

Attachment A
Copy of Comments on the Draft NPDES Permit and Fact Sheet

HECLA LUCKY FRIDAY

March 26, 2019

Cindi Godsey
US EPA Region 10
1200 Sixth Avenue, Suite 155, OWW-191
Seattle, Washington 98101

RE: Comments on Public-Noticed Draft NPDES Permit (No. ID00000175) for Hecla Limited Lucky Friday Mine

Dear Ms. Godsey,

Hecla Limited Lucky Friday Unit (LFU) appreciates the opportunity to provide the comments included in this letter, on the draft NPDES Permit (No. ID00000175), which was public-noticed on February 25, 2019. Please consider this letter and LFU's letter of the same date to Idaho Department of Environmental Quality (see Attachment A) on the subject 401 Certification in issuing the final Permit.

Comments on the Draft Permit

Comment #1, Part I.B (page 4): In the current Permit, LFU is subject to separate effluent limits at Outfalls 001, 002, and 003, which are based on receiving water conditions at each Outfall. However, Table 2 of the draft Permit presents effluent limits applicable at Outfall 002, which are based on receiving water conditions at Outfall 002, but are also to be applied to Outfall 001. Outfall specific limits at Outfall 001 have been removed in the draft Permit. While the Water Plant #2 (WTP2) typically discharges via Outfall 002, LFU has the option to discharge treated effluent via Outfall 001. The effluent limits calculated in Table 2 applicable to Outfalls 001 and 002 are based on river flow and hardness conditions at or just above Outfall 002. Due to the distance of approximately one mile between the outfalls and different receiving water flow characteristics, application of Outfall 002 effluent limits at the Outfall 001 location is not appropriate and not representative of conditions at Outfall 001. River flow data collected upstream of Outfall 001 and upstream Outfall 002 for the 2007-2017 time period indicates flow statistics are different at each location, as indicated in Table 1 below.

Table 1. Upstream Outfall 001 and 002 Flow Comparison

Flow Statistic	Upstream Outfall 001	Upstream Outfall 002
1Q10	12.3	11.7
7Q10	14.2	11.8
30Q5	22.7	13.3
Harmonic Mean	38.9	27.4
Average	95.5	55.2

The Draft 401 certification indicates (page 3) that "separate effluent limits for Outfalls 001 and 002 are no longer necessary due to consistent effluent quality from WTP2. The extra dilution offered by diverting Outfall 002 effluent to Outfall 001 is no longer necessary." As pointed out by LFU in our comments to the draft 401 certification, the consistency of effluent quality and the need or lack of need for additional dilution is not an appropriate basis for applying Outfall 002 limits at the Outfall 001 location. Since site-specific receiving water information is available at Outfall 001, LFU suggests that effluent limits applied at Outfall 001 be based on such conditions rather than conditions one mile upstream. Therefore, although the same treated water can be discharged to the same receiving stream, effluent limits at Outfall 001 should be based on receiving stream characteristics at or above Outfall 001.

Comment #2, Part I.B.1 (page 4): The text of this part references the Tables incorrectly. The first sentence should read "The permittee must limit and monitor discharges from Outfall 001 or 002 as specified in Table 2 and from Outfall 003 as specified in Table 3, below."

Comment #3, Part I.B (page 4): The current Permit provides flow-tiered effluent limits for copper and mercury and WET. As per Idaho Administrative Rule IDAPA 58.01.02.400.05, tiered effluent limitations can be incorporated in NPDES Permits for point sources discharging to waters exhibited unidirectional flow, such as the South Fork Coeur d'Alene River (SFCdAR). Idaho Guidance (*Idaho Effluent Limit Development Guidance*, 2017) indicates "in some instances a discharger may request DEQ consider alternative streamflow estimates in calculating the RPTE and any associated mixing zone authorization. DEQ would consider these requests in cases where it is clear that differing sets of circumstances exist that should be considered when developing effluent limits (e.g., different effluent flows, receiving water flows, or hydrologic or climatic conditions)".

The Draft Fact Sheet (pg. 13) indicates that the flow-tiered limits were included in the current Permit because LFU did not have more than basic treatment facilities. LFU does not agree that flow-tiered limits were included in the existing permit based on existing treatment in 2003. Rather, such limits were included based in IDAPA 58.01.02.400.05 and site-specific conditions. That rule is still in place and therefore flow-tiered limits should remain in the Permit. Although water treatment facilities have been installed and effluent quality has improved, LFU believes that it is still appropriate to provide flow-tiered effluent limits for copper, mercury and WET, considering the variable and seasonal river flow and the infrequent occurrence of actual critical low flows (i.e., 7Q10 and 1Q10), for which the draft permit limits are based. Attachment A of the 2002 Fact Sheet acknowledged that flow in the SFCdAR varies with precipitation and snow melt and flow-tiered limits were calculated accordingly. SFCdAR river flow characteristics and variability due to precipitation and snow melt is not significantly different since 2002 and regulations allowing for flow-tiered limits haven't changed. Therefore, LFU requests flow-tiered limits be applied for copper, mercury and WET in the draft Permit. Use of flow-tiered effluent limits provides compliance with water quality standards while providing LFU operational flexibility and control over discharges based on actual in-stream flow conditions, particularly in spring run-off and periods of excessive precipitation.

Comment #4, Part I.B (page 4): LFU has concerns with the approach for calculating the copper BLM-based effluent limits, as presented in the Draft Permit and Fact Sheet. LFU understands the BLM-based copper effluent limits were developed using a regional classification system, as described in *Statewide Monitoring for Inputs to the Copper Biotic Ligand Model* (2017). However, LFU has the following concerns with the approach:

- LFU does not believe BLM-based copper limits should be included in the Permit at this time. The BLM rule is not effective for Clean Water Act purposes and therefore should not be included in the Permit. Moreover, there is inadequate data upon which to base a valid BLM limit at this time. LFU is concerned that in the unlikely event[1] EPA approves the BLM rule prior to reissuance of the subject permit, LFU will need to overcome anti-backsliding and anti-degradation limitations no matter how much site-specific data is collected. Therefore, we believe the more efficient approach would be to require collection of the data necessary to establish site-specific BLM criteria and reopen the Permit once that data is collected and the BLM rule is approved. The copper limits in the existing permit should therefore remain in effect.
- Alternatively, EPA guidance suggests that the BLM should not be used for calculating effluent limits if data are not available. As per Section 1.5 of EPA *Training Materials on Copper BLM: Data Requirements*, a minimum of one sample for each season should be collected to support site-specific BLM input values. As per IDEQ, adequate site-specific data consists of 24 samples over a two year

[1] IDEQ submitted the BLM rule to EPA for approval in January, 2019. We note IDEQ has compiled a list of water quality standards that have been submitted to EPA but have not yet been approved. See "EPA Actions on Proposed Standards." Many of the proposed standards have been under review by EPA for many years and in some instances, over a decade. Accordingly, we believe it is improbable that EPA will approve the BLM rule prior to issuance of the LFU Permit and therefore IDEQ should not recommend a speculative limit at this time.

period to capture seasonal variability of each BLM input parameter. This data should be collected prior to site-specific BLM criteria development.

- DEQ regional default values are likely not representative of site-specific conditions at LFU. Only one data point from each state-wide sample location was collected in support of the IDEQ study, used to develop the regional input values. Collection of one data point in one season is not adequate for estimating a two year dataset and the potential variability of each of the BLM input parameters exhibited in state-wide waters over an annual period. As noted in the *Statewide Monitoring for Inputs to the Copper Biotic Ligand Model* (2017) on page 28, additional BLM input sampling conducted at select sites in spring confirmed "high spatial and temporal variability" of BLM input parameters, which further supports that one data point in time is not adequate for estimating regional BLM input data.
- The draft copper BLM-based effluent limits are based on the BLM criteria for the "Mountain Stream" classification. As per the *Statewide Monitoring for Inputs to the Copper Biotic Ligand Model* (2017), instream data collected from a total of 31 sampling locations classified as Mountain Stream, were used to determine the 10^{th} percentile for each input value. These sample locations are throughout the state and not limited to just the local SFCdAR watershed. Additionally, the coefficient of variation (CV) of chronic copper criteria for the Mountain Stream classification was the highest at 106%, indicating much variability between sampling sites within the Mountain Stream classification. To illustrate, the table below presents the Mountain Stream criteria compared to BLM criteria utilizing the site-specific data collected near Outfall 001 at LFU. As an example, comparison of the criteria in the table indicates that the Mountain Stream classification criteria are overly conservative as applied to the LFU site.

Table 2. BLM-based Criteria Comparison

	CMC (ug/L)	CCC (ug/L)
Mountain Stream class (basis for draft limits)	1.0	0.6
Downstream 001 (ID0021296D)	1.6	1.0
Upstream 001 (ID0021296U)	1.93	1.2

- The Mountain Stream class criteria are overly conservative for the SFCdAR near LFU. The Draft Fact sheet (pg. 71) notes that background concentrations of Cu are higher than the BLM criteria, with the average dissolved copper concentration of 1.21 ug/L above Outfall 002 and 0.69 ug/L above Outfall 003 over the monitoring period from 2012-2016. However, 10 years of site-specific bioassessment data show stream aquatic community equal to regional reference streams, indicating the Mountain Stream criteria are likely overly conservative.

Based on the above discussion, LFU requests that the approach to use default regional input values for calculating the copper BLM-based effluent limits be reconsidered. LFU requests that the hardness-based copper effluent limits remain effective until after adequate site-specific data can be collected and site-specific BLM criteria can be calculated during the five year compliance schedule period.

Additionally, as per the *Implementation Guidance for the Idaho Copper Criteria for Aquatic Life* (2017), flow-tiered NPDES permit limitations are an acceptable implementation tool for copper Biotic Ligand Model (BLM)-based limits. Due to the extremely low BLM-based criteria and potential variability of BLM input parameters, LFU requests that flow-tiered limits be considered when defensible site-specific BLM-based effluent limits are established in the Permit.

Comment #5, PartI.B.1. Table 3 (page 5): As discussed in Comment #35, in detail, the effluent limits for copper are incorrectly calculated. The daily maximum and monthly average hardness-based limits should be 8.8 and 5.4 ug/L, respectively.

Comment #6, Part I.B.6 and 7 (page 7): The draft Permit does not provide direction on how compliance with the copper BLM-based effluent limits is to be assessed, given the difficulties in achieving analytical detection limits lower than the proposed BLM-based effluent limits. Below is a summary of required or recommended analytical limits compared to the proposed effluent limits.

Table 3. Summary of Copper Analytical Limits

Analytical Requirement or Recommendation	Value (ug/L)	Outfall 001/002 Cu BLM Limits	Outfall 003 Cu BLM Limits
Minimum Level (Draft Permit Appendix A)	2 ug/L	1.0 (daily max) 0.4 (monthly avg)	0.9 (daily max) 0.5 (monthly avg)
Minimum Level (Implementation Guidance for Idaho Copper Criteria for Aquatic Life 2017)	1 ug/L		
EPA Method 200.8 common Reporting Level (same as ML)	1 ug/L		
EPA Method 200.8 common Method Detection Limit	0.4 – 0.8 ug/L		

The draft Permit indicates that analytical methods used for effluent monitoring must use a method that achieves the Minimal Level (ML) as specified in Appendix A of the Permit and that parameters with an effluent limit must use a method that achieves an ML less than the effluent limit, unless otherwise specified. Part I.B.7 states that if the value is less than the ML, the permittee is to report "less than" the ML. As shown in the table above, the proposed BLM-based copper effluent limits, which are based on the Idaho default regional input values, are either at or below the MLs. While some analytical laboratories are able to provide an ML of 1.0 ug/L, the achievable Method Detection Limit (MDL) is in the range of 0.4 – 0.8 ug/L. Laboratories will likely find it difficult to achieve an ML less than 0.4 ug/L, the lowest effluent limit, particularly if sample dilutions are required for analysis. In addition, analytical results that are between the ML and MDL are considered "estimated" due to typical instrument variability and may not be reliably quantified. Therefore, determining compliance on an "estimated" analytical result is problematic.

Effluent limits based on site-specific BLM inputs, will be assessed after adequate site-specific data collection, as required in the proposed Permit. Therefore, there may not be an ML/MDL issue after calculation of site-specific BLM effluent limits. However, to clarify how compliance with BLM-based effluent limits will be assessed when limits are lower than the ML, LFU suggests language be added to Part I.B of the Permit which states the effluent is in compliance with the BLM-based copper limits if results are less than the ML of 1 ug/L. This is a common approach for instances when effluent limits are less than detection limits. For example, as per in IDAPA 58.01.02.210 the total residual chlorine (TRC) acute and chronic criteria are 19 and 11 ug/L, respectively. However, the ML is 50 ug/L which is higher than the criteria. Therefore, a compliance evaluation limit is typically applied at 50 ug/L for NPDES Permit compliance assessment[2].

Comment #7, Part I.B (pages 4-6): LFU requested monitoring frequency reduction in the application for Outfalls 001, 002, and 003 for Total Suspended Solids (TSS), and total recoverable metals for cadmium, copper, zinc and mercury. The draft Permit requires monitoring for TSS, cadmium, copper, and zinc on a once per week basis and monitoring for total mercury on a twice per month frequency. According to EPA Guidance, *Interim Guidance for Performance-Based Reduction of NPDES Permit Monitoring Frequencies* (1996), the LFU is eligible for monitoring frequency reduction as a result of the sites consistent performance in the past 5 years. LFU has not had any significant noncompliance for the parameters under consideration or any effluent violations of current effluent limits for cadmium, copper, mercury or zinc in the last three years. A statistical analysis of DMR data (Jan 2014 – Dec 2018), using the EPA Guidance (1996) was conducted to demonstrate that the monitoring frequency requirements for mercury can be reduced from twice per month to once every quarter. The analysis also demonstrates that monitoring frequency for TSS, cadmium, copper, and zinc can be reduced from once per week to once every two months. Probability analysis, conducted considering mass-based and concentration-based effluent limits, shows there is zero percent probability that a permit violation will occur (See Tables 4 and 5, attached). Therefore, Hecla requests EPA consider monitoring frequencies for these parameters be reduced in the renewed Permit.

[2] See NPDES Permit (ID0022853) for City of Coeur D'Alene for example, where Footnote 7 of Table 1 indicates the permittee is in compliance with limitations if concentration is less than 50 ug/L.

Comment #8, Part I.C.2.b (page 8): The Draft Permit requires Whole Effluent Toxicity (WET) testing on a quarterly basis for all three outfalls using two test species; Fathead minnow and *Ceriodaphnia dubia*. After a screening period, the permittee is only required to test using the most sensitive species. Based on previous WET testing conducted during the current Permit term, LFU has already determined that *C. dubia* is the most sensitive test species and has been required to test only *C. dubia* for several years. Since the most sensitive species has already been determined, LFU request that the requirement to test fathead minnow be removed.

Comment #9, Part I.C (pg. 8): The summary table on page 8 of the Draft Permit indicates 96-hr renewal test for fathead minnow and 48 hr status test for Daphnid. LFU believes this is a typographical error and requests table correction to refer to a 7-day chronic renewal test for fathead minnow and a 7-day renewal test for *Ceriodaphnia dubia*.

Comment #10, Part I.C.3 (page 9): Table 4 should include separate Flow Tier, Chronic Toxicity Trigger and Receiving water concentration for Outfall 001, which reflects the receiving water flow upstream of Outfall 001. See Comment #1 regarding missing Outfall 001 limits.

Comment #11, Part I.C.3 (page 9): Table 4 provides Chronic Toxicity Triggers for WET testing. The triggers are based on 7Q10 flow, as provided in Table 6 of the Fact Sheet. However, LFU does not agree with the method used for calculating 7Q10 flow (see discussion in Comment #26). LFU requests that the Chronic Toxicity Triggers and Receiving Water Concentrations be revised to reflect values representative of 7Q10 flows determined by using the DFLOW program, as follows:

Table 6. Chronic Toxicity Triggers

Outfall	**Flow Tier (based on flow directly upstream of the outfall in cfs)**	**Chronic Toxicity Trigger, TU_C**	**Receiving Water Concentration (RWC), % effluent**
001/002 Effluent Flow of 0.87 cfs	at the 7Q10 of 11.8	4.38	23%
003 Effluent Flow of 1.66 cfs	at the 7Q10 of 6.23	1.94	52%

Comment #12, Part I.C.4-6 (page 9-10): Since only chronic testing is required, all references to acute testing should be removed.

Comment #13, Part I.C.7.b (page 11): The draft Permit states the following: "The permittee must submit the results of any accelerated testing, under Permit Part I.C.6., within 2 weeks of receipt of the results from the lab. The full report must be submitted within 4 weeks of receipt of the results from the lab." To simplify reporting requirements, LFU requests that the language be revised to indicate that the full report of accelerated testing must be submitted within four weeks of receipt of results from lab and remove requirement to submit any results within two weeks. LFU believes this will reduce confusion on what specifically is to be reported within two weeks versus the four week deadline and reduce opportunity for confusion regarding test reporting and receipt by IDEQ.

Comment #14, Part I.D.1 (page 12): Considering request for outfall-specific effluent limits at Outfall 001 presented in Comment #1, surface water monitoring should continue at the current monitoring locations upstream of Outfall 001 and upstream of Outfall 002, separately. Otherwise, based on current language in the draft permit, clarification is requested as to better define "directly upstream of Outfalls 001/002" and "below Outfalls 001/002…" LFU requests clarification if the "Outfall 001/002" notation is to indicate that upstream/downstream sampling at Outfall 001 is only required when Outfall 001 is discharging.

Comment #15, Part I.D (page 13): Table 5 indicates that continuous temperature monitoring is required upstream of the outfalls for a period of two years during the June through November time frame. LFU does not currently have continuous temperature monitoring devices in place. Currently, in-stream temperature measurements are collected manually. LFU does not believe that continuous temperature monitoring is necessary to assess upstream receiving water temperatures. Therefore, due to the short time period continuous in-stream monitoring is required and the cost of equipment monitoring devices and installation, LFU requests the monitoring frequency for upstream temperature be reduced to once per week instead of continuous during the June through November time frame for the two year period.

Comment #16, Part II.A (page 14): A compliance schedule is provided in the event the copper BLM-based criteria are adopted and BLM-based effluent limits are effective. LFU appreciates the time period of the compliance schedule. However, since BLM-based limits are proposed for Outfalls 001/002 and 003, the compliance schedule should be applied to all outfalls, not just Outfall 001/002. LFU requests that the same compliance schedule be provided at Outfall 003.

Comment #17, Part II.A (page14): Table 6 presents the interim requirements related to the copper schedule of compliance. Specifically, item number 3 requires that three years from the permit effective date, a preliminary engineering report must be submitted to EPA and DEQ outlining estimated costs and schedules for completing treatment upgrades to achieve final effluent limits. LFU has not yet explored compliance options for the new copper BLM-based effluent limits and would like the flexibility to evaluate all available options, which may include treatment upgrades but also other engineering and/or non-engineering options. LFU request that the language specifically requiring treatment upgrades be revised to state the following:

> "By three years from effective date of the final permit, the permittee must provide to EPA and DEQ a report outlining preliminary plan for compliance, which may include engineering or non-engineering options. If treatment upgrades are chosen as the proposed method for achieving compliance with final effluent limits, the permittee is to provide estimated schedule for completing treatment upgrades and pilot testing."

Comment #18, Part II.B (page 15): The draft permit indicates that the permittee must submit written notice to EPA and DEQ that the Best Management Practices Plan has been developed and implemented within 60 days of the permit effective date. As per the current Permit Condition II, LFU has already developed and implemented a BMP Plan. However, it will be updated to reflect any new requirements, as listed in the final renewed Permit. The draft Permit also states that the permittee must implement the provisions of the plan within 90 days of the permit effective date. LFU requests revision to the language so it is clear that the plan must be updated, if necessary, and implemented within 90 days of permit effective date. Suggested language revision is as follows:

> "The permittee must submit written notice to EPA and DEQ that the Plan has been updated and implemented within 90 days of the effective date of the permit."

Comment #19, Part II.B.4.b (page 17): Part II.B of the draft Permit addresses requirements related to Best Management Practices Plan. Part II.B.4.b lists the specific requirements that the BMP Plan must achieve and includes item (iv), which states "explore methods of reducing mercury emissions from the facility". LFU does not generate mercury or use products containing mercury. LFU is consistently in compliance with the mercury effluent limits. Therefore, LFU requests item (iv) of this section be removed.

Comment, #20, Part III. B. (page 19): Numbers 1 and 3 indicate that DMR data should be submitted to EPA as primary and DEQ secondarily. Due to the transfer of NPDES authority to Idaho, LFU requests clarification if DMR submittals should actually be submitted to IDEQ only.

Draft Fact Sheet Comments

Comment #21, Part III. (Page 8): Table 2 is missing Outfall 001 information. Although the footnote indicates WTP2 discharges through Outfalls 002 or 001, Outfall 001 should be included in the table to avoid confusion.

Comment #22, Part III. (page 9): Under Closure of Tailings Impoundments 1 and 2 section, the Fact Sheet states the following "Once closed, the impoundment will be capped and graded to prevent the infiltration of stormwater per IDWR rules at IDAPA 37.03.05." LFU would like to clarify that the cap and grading of the impoundment will be to prevent storage of stormwater as per the IDAPA 37.03.05, not to prevent infiltration. However, the cap and grading will be designed to minimize stormwater infiltration.

Comment #23, Part III. (page 11): In the Compliance History paragraph, the effluent quality values provided for zinc use the incorrect units. The values should read 299 ug/L and 260 ug/L.

Comment #24, Part IV.D (page 12): The draft Fact Sheets notes "The SFCdA River between Canyon and Pine creeks is listed as impaired by cadmium, lead, zinc and sedimentation. The SFCdA River between Daisy Gulch and Canyon is impaired by an unknown cause but metals are suspected."

LFU Outfalls 001, 002, and 003 discharge to the SFCdA River, in river segment assessment unit ID17010302PN011_03, which is the segment between Daisy Gulch and Canyon Creek. While the segment is 9.5 miles long[3], LFU outfalls are located within the upper three miles of the segment. The 2014 EPA approved 303(d) list indicates that this segment is not meeting cold aquatic life designated use, but the cause of impairment is unknown. No specific metals are listed, particularly, cadmium, lead or zinc, as cause of impairment in this segment near LFU. Although the fact sheet indicates "metals are suspected" as cause of impairment, no data or rationale is provided for such conclusion. The 2014 Integrated Assessment Report also does not provide rationale for suspected metals impairment. LFU understands that the 2014 Integrated Report lists the downstream assessment unit, from Canyon Creek to Pine Creek as impaired for cadmium, lead, and zinc. However, this assessment unit begins approximately 6 miles downstream of LFU Outfall 001 and has other hydraulic inputs into the SFCdAR between the LFU Outfall 001 and beginning of the next assessment unit as well as other NPDES discharges within the Canyon to Pine Creek assessment units.

As per the 2014 Integrated Assessment Report, the Daily Gulch to Canyon Creek (ID17010302PN011_03) assessment unit has not been evaluated since 2003. However, as per the current Permit, LFU has been collecting in-stream SFCdAR data, specifically metals and hardness data, upstream of each LFU outfall for over 10 years. This data can be used to update the segment assessment for determining if cadmium, lead and zinc exceed site-specific criteria. Attachment B provides a summary of the SFCdAR data collected by LFU since 2012, when the LFU wastewater treatment upgrades were completed. This is the same data submitted annually to EPA as per the current Permit and also provided in the draft Fact Sheet. Site-specific chronic criteria (the chronic criterion only was used as it is most stringent and conservative) were calculated using the corresponding hardness for the date of sample collection. As shown in Attachment B, the metals results do not indicate exceedance of the site-specific criteria which would indicate this segment does not warrant a conclusion that suspected impairment is caused by cadmium, lead, and zinc.

LFU does not agree with the approach for not allowing a mixing zone for cadmium, lead, and zinc based on suspected cause of impairment and the impairment listing of an assessment unit that begins six miles downstream as pointed out in our comments to IDEQ's draft 401 certification. As indicated in Attachment B, concentrations of cadmium, lead and zinc in the SFCdAR near the LFU outfalls meets site-specific water quality criteria. Therefore, LFU requests that consideration be given to authorize a mixing zone for cadmium, lead, and zinc at Outfalls 001, 002 and 003.

[3] According to IDEQ GIS tool; https://mapcase.deq.idaho.gov/wq2014/

Comment #25, Part IV.C Water Quality (page 12): Table 5 indicates that receiving water data collected from 2012 through 2016 was used to summarize receiving water quality. LFU requests clarification as to why the 2012-2016 date range was used instead of the 2013-2017 time frame, as done with effluent quality data. Additionally, since receiving stream data is collected upstream of Outfall 001, that data should be included in Table 5.

Comment #26, Part IV.E. Low Flow Conditions (page 13): As per the current Permit, stream flow is required to be collected daily, upstream of each outfall. Using the January 2007 – December 2017 database, as specified in the Draft Permit, LFU calculated receiving water low flow statistics for each outfall using the EPA-USGS streamflow model, DFLOW 3.1. Results of the DFLOW model calculations are provided in the table below.

Table 7. DFLOW vs Draft Permit Flow Comparison

Flow Statistic	LFU DFLOW Calculation			Draft Fact Sheet		
	001	002	003	001	002	003
1Q10	12.3	11.7	4.75	Not provided	10.9	3.7
7Q10	14.2	11.8	6.23	Not provided	11.46	5.3
30Q5	22.7	13.3	6.9	Not provided	13.2	5.7
Harmonic Mean	38.9	27.4	16.7	Not provided	27.0	16.7

As per the Idaho Effluent Limit Development Guidance (page 99), "to determine low-flow values where an extended record of flow data at or near the discharge point is available, the EPA Office of Research and Development's DFLOW program (free download) may be used. The USGS SWSTAT or Idaho StreamStats may also be used." While there are other methods for calculating low flow statistics, such as taking the lowest flow or calculating 7-day averages over a minimum 10 year period, using an EPA-approved statistical probabilistic program to calculate low flow statistics is more appropriate. Probabilistic programs, such as DFLOW, take into account the variability of the dataset and determine statistically and more precisely the flow values that may occur at the low flow occurrences (e.g., 1Q10, 7Q10). Use of simpler methods which do not account for flow variability may result in overly conservative flow statistics. The footnote in Table 6 of the Fact Sheet indicates that only data from 2013 through 2017 were used to calculate the 30Q5 flow. While a minimum of five years of data to calculate a 30Q5 flow is needed, it is more statistically robust to utilize the larger database from 2007-2017 in a probabilistic program to estimate the 30Q5 flow. Therefore, LFU requests that low flow statistics be determined by utilizing the EPA-approved DFLOW program, as provided in Table 6 above. Additionally, since receiving water flow has been consistently measured upstream of Outfall 001 and should be used to determine effluent limits at Outfall 001, low flow statistics for Outfall 001 should be included in the Fact Sheet, Table 6 (page 13).

Comment #27, Part IV.E. (page 13): The Fact Sheet states the following: "With the installation of wastewater treatment plants at both outfalls, it is expected that these treatment plants will be tuned to treat to the most stringent effluent limitations and, as such, tiered limitations are no longer necessary." As pointed out on Comment #3 above, flow-tiered limits were not, and should not be based on current treatment technology. To the extent that EPA is attempting to establish a de facto technology-based effluent limits at the LFU based on current treatment technology, we are unaware of any authority for EPA to do so. Also, LFU would like to clarify that LFU strives to operate the treatment plants such that optimal treatment is achieved and effluent quality is in compliance with effluent limits. Treatment plants do not operate in such a manner that they can be "tuned" to increase treatment efficiency. LFU effluent quality has drastically improved since installation of WTP2 and WTP3, not because a treatment system was "tuned". Treatment systems are designed for specific capacity and to meet certain design criteria and have limitations on what can be achieved. This is why EPA and IDEQ regulations and policy allow for options, such as flow-tiered effluent limits, for implementing and complying with water quality standards.

Comment #28, Water Quality-Based Effluent Limits Section, Cadmium, Lead, Zinc (page 27) and Appendix C (pages 68-69): The draft 401 Certification indicates and the Fact Sheet (page 77) indicate that while effluent hardness was used to calculate effluent limits for cadmium, lead and zinc in the 2003 Permit, a mixed hardness was used in the draft Permit for all hardness-based metals. LFU believes that the effluent hardness can be protective of water quality and should be used to calculate criteria for cadmium, lead, and zinc, as done in the 2003 Permit. The August 12, 2003 NPDES Response to

Comments (page 106) provides the following rationale for why using effluent hardness is protective and can be used to calculate metals criteria:

> "While using receiving water hardness to calculate criteria end-of-pipe effluent limits, as suggested in the comment, is certainly protective, in some situations the use of effluent hardness can also be protective. That is because as the effluent mixes with the receiving water two things happen: the hardness of the receiving water in the area of mixing increases (and therefore the hardness-based water quality criteria increases) and, the concentration of the mixture decreases from the effluent concentration to the point where it is fully mixed at the receiving water concentration. In some situations, the decrease in the mixed effluent and receiving water concentration occurs at a faster rate than the decrease in hardness (and therefore the decrease in the criteria) such that the concentration in the receiving water never exceeds the criteria. The figures in Appendix C [of the Response to Comments] demonstrates that this is the case for cadmium, lead, and zinc in the Lucky Friday discharges."

Using the database provided in the draft Fact Sheet, the fifth percentile hardness of Outfall 002 and 003 effluents are 121 and 74 mg/L, respectively. Upstream hardness for Outfall 002 and 003 is 22.9 and 17.9 mg/L, respectively.

The use of effluent hardness for end-of-pipe limits is consistent with the approach applied to municipal discharges to Spokane River. As described in the 2007 City of Coeur D'Alene Fact Sheet (NPDES #ID-002285-3) (page 14), since effluent hardness is higher than the receiving stream, discharge of the effluent actually raises the hardness of the receiving water, effectively creating a loading capacity for the metals. Therefore, it was appropriate to use effluent hardness to calculate metals criteria for that discharge.

Also, we note that IDEQ appears to rely upon IDAPA 58.01.210.03c to suggest that effluent hardness should not be used to calculate lead, zinc and cadmium limits. LFU is confused by this reference to this Rule because it was in place when the existing permit was last issued and when IDEQ provided numerous 401 certifications to the last permit which authorized the use of effluent hardness. LFU is concerned that IDEQ or EPA is reinterpreting this Rule and request that effluent hardness be again utilized to set limits for lead, zinc and cadmium.

Alternatively, it appears that a mixing zone for lead, zinc and cadmium is appropriate at this time. Since there is no information to suggest that the SFCdAR immediately below where the LFU discharges is not in compliance with the site-specific water quality criteria for lead, zinc and cadmium. See Comment #24 above. The wastewater treatment upgrades LFU has installed and implemented since the last Permit was issued, makes it highly likely that site-specific criteria in the SFCdAR have been achieved. Moreover, we are unaware of any exceedance of the site-specific criteria for lead, zinc and cadmium in the SFCdAR below the LFU discharges. LFU understands downstream river segments are listed as impaired, as per the 2014 303(d) List, but the LFU's discharges have no measurable impacts on water quality conditions in the impaired reach. Therefore, as pointed out in our comments to IDEQ's draft 401 certification, LFU does not believe it is appropriate to disallow a mixing zone for lead, zinc and cadmium any longer.

Based on the above discussion, LFU requests effluent hardness is used for cadmium, lead, and zinc criteria calculation in the renewed LFU Permit or that a mixing zone be authorized for lead, zinc and cadmium. In lieu of a mixing zone, LFU would not object to leaving the existing limits in place for lead, zinc and cadmium in any new permit.

Comment #29, Part VI.B. Effluent Monitoring (Page 30): The draft Fact Sheet indicates that monitoring frequencies are "based on nature and effect of the pollutant…" LFU requested and provided justification for reducing the monitoring frequencies for several parameters in the 2018 Renewal Application update. LFU requests that EPA consider this request and provide more information in this section as to the details for the rationale for the monitoring frequencies presented in the Draft Permit. See also comment #7.

Comment #30, Part VI.C. Surface Water Monitoring (Page 31): Part VI.C indicates the following "Table 2 presents the proposed surface water monitoring requirements upstream of Outfalls 001 and 002." LFU

requests the typographical errors be corrected such that the sentence actually read: “Table 16 of the Fact Sheet presents the proposed surface water monitoring requirements upstream of Outfalls 001, 002 and 003.”

Comment #31, Part VI.C.1.a (page 32): See comment #14. LFU requests clarification if the “Outfall 001/002” notation is to indicate that upstream/downstream sampling at Outfall 001 is only required when Outfall 001 is discharging.

Comment #32, Part VI.C.4. (page 32): Table 16 of the Draft Fact Sheet provides the required MDLs for surface water monitoring. After consultation with their contract laboratory LFU has determined that the MDLs for calcium, magnesium and sodium provided in Table 16, are not attainable. Therefore, LFU requests the following MDLs be substituted for those provided in Table 16:

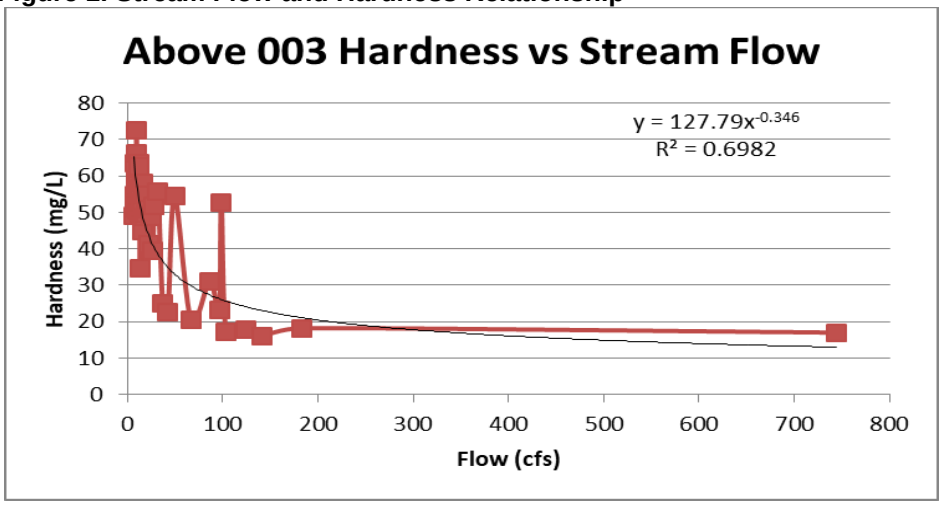
Table 8. Requested MDLs for Select Parameters

Parameter	Requested MDL (mg/L)
Calcium	0.07
Magnesium	0.32
Sodium	0.12

Comment #33, Part VI.C.4.b (page 33): See comment #15 regarding upstream continuous temperature monitoring.

Comment #34, Appendix C.Part A(Page 69): As per the draft Fact Sheet, receiving stream hardness occurring at low flow conditions (i.e, 1Q10, 7Q10) was estimated based by plotting flow versus hardness data, collected upstream of Outfall 002 and 003 and is shown in Figures C-1 and C-2 of the Fact Sheet. As discussed in the *Idaho Mixing Zone Implementation Guidance*, use of such method is acceptable for estimating hardness at low flow for hardness-based metals criteria calculations. However, the statistical relation between hardness and flow should be determined by a nonlinear regression, as noted in the Guidance. While for Figure C-1 (Upstream of Outfall 002), low flow hardness was estimated from a regression using a polynominal trend line, a linear regression was used for Figure C-2, which was used to estimate the hardness of 49.8 mg/L at the 1Q10 and 49.7 mg/L at the 7Q10, for upstream of Outfall 003. The R^2 value for this linear regression is only 0.2897, which indicate low relationship between the trend line and actual data. LFU suggests that for estimating low flow hardness upstream of 003, a non-linear regression should be used. Using upstream hardness and corresponding river flows for Outfall 003, Figure 1 below presents a more appropriate analysis of the relationship. Using a power regression type provides for a much higher R^2 value, indicating a more realistic estimate of hardness at low flow. Using the information in Figure 1 below results in estimated low flow hardness of 81 mg/L at the 1Q10 flow of 3.7 cfs and 72 mg/L at the 7Q10 of 10.9 cfs (low flows as per Fact Sheet). Therefore, LFU requests the Figure C-2 be revised to utilize the more appropriate regression type and resulting estimated hardness.

Figure 1. Stream Flow and Hardness Relationship



Comment #35, Part X.A (page 77) and Part XIII (page 85): A mixing zone where 25% of the critical low flow was authorized for copper, mercury and WET in the draft Permit. However, in the current Permit, 50% mixing allowance was provided for certain flow tiers at Outfall 003 for copper and up to 75% mixing allowance was provided for mercury. The rationale for allowing the increased mixing was based on modeling that indicated that adequate fish passage remained available in the receiving stream and the larger mixing zones would not impair beneficial uses, due to discharge configuration, mixing in the stream and plume width (see March 23, 2005 letter from IDEQ to EPA, attached for reference). Also included in the referenced letter, IDEQ found that current concentrations of mercury and copper in the SFCdAR were very low with most data at the time indicating non-detect values. IDEQ concluded that "mercury and copper are not significant factors affecting beneficial use support in SFCdAR." Since the 2005 evaluation, receiving water quality has only improved, as indicated in the monitoring data provided by LFU and presented in the draft Fact Sheet. As per IDAPA 58.01.02.060, the current mixing zone policy, the 25% mixing allowance is one of many items that IDEQ must consider when authorizing a mixing zone. However, but if a larger mixing zone will still be protective of beneficial uses, IDEQ may authorize a larger mixing zone[4]. Since issuance the LFU 2006 Permit, outfall configuration has not changed nor has the regulations that dictate mixing zone authorization. Therefore, LFU requests that the authorization for the increased mixing zone allowance be carried forward with the renewed Permit.

Comment #36, Appendix C (page 74): The acute and chronic criteria presented in Table C-5 and resulting calculations are incorrect for cadmium, lead, zinc, and copper. LFU assumes there are typographical errors related to the criteria for cadmium, lead and zinc. For example, for lead and zinc calculations, the acute and chronic criteria are the same value as the cv, sigma stats and wasteload allocations in the table. For copper, the criteria provided in the table are as dissolved but should be as total. Therefore, resulting AML should be 5.4 ug/L and the MDL should be 8.8 ug/L.

Comment #37, Appendix C: Footnote references the incorrect Permit number and facility.

LFU appreciates the opportunity to submit these comments on the draft Permit and Fact Sheet. Please do not hesitate to call me if you would like to discuss any of the comments.

Sincerely,

Lance Boylan
Acting Heath, Safety, and Environmental Manager

[4] Notation from June 2018 Response to Comments on the Re-Proposed Draft NPDES Permit for the City of Sandpoint.

Table 4. Monitoring Frequency Reduction Analysis: Mass-based Approach

	TSS	Cadmium	Copper	Mercury	Zinc
Outfall 002					
Current Permit Monitoring Frequency	1/wk	1/wk	1/wk	2/mo	1/wk
CV Used in Probability Analysis	0.6	0.2	0.4	0.8	0.2
Average of Monthly Averages[1] (lbs/day)	3.5	0.0003	0.0037	0.000001	0.035
Monthly Average Permit Limit[2] (lbs/day)	-	0.003	0.08	0.0001	0.304
LTA/MA Limit	NA	11%	4.6%	1.0%	12%
Reduce Monitoring to:	**1/ 2 mo**	**1/ 2 mo**	**1/ 2 mo**	**1/ qtr**	**1/ 2 mo**
Probability of Exceedence[3] (%)	**0**	**0**	**0**	**0**	**0**
Outfall 003					
Current Permit Monitoring Frequency	1/wk	1/wk	1/wk	2/mo	1/wk
CV Used in Probability Analysis	0.8	0.4	0.4	0.8	0.8
Average of Monthly Averages[1] (lbs/day)	1.16	0.0005	0.005	0.000001	0.074
Monthly Average Draft Permit Limit[2] (lbs/day)	-	0.013	0.04	0.0001	0.47
LTA/MA Limit	NA	4.2%	13%	0.8%	16%
Reduce Monitoring to:	**1/ 2 mo**	**1/ 2 mo**	**1/ 2 mo**	**1/ qtr**	**1/ 2 mo**
Probability of Exceedence[3] (%)	**0**	**0**	**0**	**0**	**0**

Table 5. Monitoring Frequency Reduction Analysis: Concentration-based Approach

	TSS	Cadmium	Copper	Mercury	Zinc
Outfall 002					
Current Permit Monitoring Frequency	1/wk	1/wk	1/wk	2/mo	1/wk
CV Used in Probability Analysis	0.4	0.2	0.2	0.8	0.4
Average of Monthly Averages[1] (mg/L (for TSS) or ug/L)	1.01	0.10	1.12	0.0003	10.6
Monthly Average Permit Limit[2] (mg/L (for TSS) or ug/L)	20	0.6	17.5	0.03	64.5
LTA/MA Limit	5.1%	17%	6.4%	1.0%	16%
Reduce Monitoring to:	**1/ 2 mo**	**1/ 2 mo**	**1/ 2 mo**	**1/ qtr**	**1/ 2 mo**
Probability of Exceedence[3] (%)	**0**	**0**	**0**	**0**	**0**
Outfall 003					
Current Permit Monitoring Frequency	1/wk	1/wk	1/wk	2/mo	1/wk
CV Used in Probability Analysis	0.8	0.2	0.2	0.6	0.8
Average of Monthly Averages[1] (mg/L (for TSS) or ug/L)	0.19	0.10	1.00	0.0002	13
Monthly Average Permit Limit[2] (mg/L (for TSS) or ug/L)	20	0.8	5.4	0.010	52
LTA/MA Limit	1.0%	13%	19%	1.5%	25%
Reduce Monitoring to:	**1/ 2 mo**	**1/ 2 mo**	**1/ 2 mo**	**1/ qtr**	**1/ 2 mo**
Probability of Exceedence[3] (%)	**0**	**0**	**0**	**0**	**0**

Notes:
1. DMR database from Jan 2014 - Dec 2018
2. Limits presented as per Draft Public-noticed Permit 27Feb19, no mass limits for TSS in draft Permit.
3. As a conservative approach, assumed sample size of 1/mo for determining % probability, as shown in Tables 3, 4, and 5 of EPA Guidance.
4. If sample results were non-detect, detection limit was used as conservative approach for average calculations

Reference: *Interim Guidance For Performance-Based Reduction of NPDES Permit Monitoring Frequencies* USEPA 1996

Attachment B
SFCdAR Impairment Analysis

Attachment B. SFCdAR Impairment Assessment
Upstream Outfall 001

Date	Receiving Stream Data Above 001				site specific chronic criteria			Is upstream conc > criteria?		
	Pb, Dissolved	Zn, Dissolved	Cd, Dissolved	Hardness (mg/l)	Pb	Zn	Cd	Pb	Zn	Cd
	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)			
2/23/2012	<5.0	33.3	0.14	62.5	18.2	143.0	0.73	no	no	no
5/24/2012	<5.0	<10.0	<0.1	23.3	7.2	74.4	0.35	no	no	no
9/20/2012	<5.0	17.8	<0.1	56.3	16.5	133.4	0.67	no	no	no
11/8/2012	<5.0	24.5	0.11	52.9	15.5	128.0	0.64	no	no	no
2/17/2013	<5.0	35.2	0.19	56.6	16.6	133.9	0.68	no	no	no
5/23/2013	<5.0	<10.0	<0.1	22.7	7.0	73.1	0.34	no	no	no
8/27/2013	<5.0	12.3	<0.1	65.7	19.1	147.8	0.76	no	no	no
11/14/2013	<5.0	18.0	<0.1	57.3	16.8	135.0	0.68	no	no	no
2/20/2014	<5.0	47.4	0.26	70.8	20.4	155.3	0.80	no	no	no
5/20/2014	<5.0	10.4	<0.1	24.6	7.6	77.1	0.36	no	no	no
9/11/2014	<5.0	16.1	<0.1	61	17.8	140.7	0.72	no	no	no
11/13/2014	<5.0	33.3	<0.1	61.8	18.0	141.9	0.72	no	no	no
2/5/2015	<5.0	21.6	0.11	46.6	13.8	117.7	0.59	no	no	no
5/5/2015	<5.0	<10.0	<0.1	32.5	9.8	92.7	0.45	no	no	no
8/6/2015	<5.0	18.4	0.1	69.9	20.2	154.0	0.79	no	no	no
11/13/2015	<5.0	28.7	0.1	69.9	20.2	154.0	0.79	no	no	no
2/4/2016	<5.0	46.2	0.25	72.2	20.8	157.3	0.81	no	no	no
5/12/2016	<5.0	<10.0	<0.1	26.8	8.2	81.6	0.39	no	no	no
8/18/2016	<5.0	20.0	<0.1	55.7	16.3	132.5	0.67	no	no	no
11/15/2016	<5.0	18.0	<0.1	43.3	12.9	112.1	0.55	no	no	no
2/14/2017	<5.0	47.2	0.34	56.8	16.6	134.2	0.68	no	no	no
5/16/2017	<5.0	17.1	<0.1	28.9	8.8	85.8	0.41	no	no	no
8/24/2017	<5.0	16.9	0.12	59.9	17.5	139.0	0.71	no	no	no
11/14/2017	<5.0	31.3	0.16	61.6	17.9	141.6	0.72	no	no	no
2/13/2018	<5.0	45.0	0.30	59.8	17.4	138.8	0.70	no	no	no
5/22/2018	<5.0	10.6	<0.1	22.2	6.9	72.0	0.34	no	no	no
8/14/2018	<5.0	20.0	0.11	55.3	16.2	131.8	0.67	no	no	no
9/18/2018	<5.0	22.0	0.15	66.9	19.4	149.6	0.77	no	no	no
11/6/2018	<5.0	33.4	0.18	62.6	18.2	143.1	0.73	no	no	no

Notes:
1. Chronic criteria used for comparision as most conservative

Attachment B. SFCdAR Impairment Assessment
Upstream Outfall 002

Date	Receiving Stream Data Above 002				site specific chronic criteria			Is upstream conc > criteria?		
	Pb, Dissolved	Zn, Dissolved	Cd, Dissolved	Hardness (mg/l)	Pb	Zn	Cd	Pb	Zn	Cd
	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)			
2/23/2012	<5.0	11.8	<0.1	61.6	17.9	141.6	0.72	no	no	no
5/24/2012	<5.0	<10.0	<0.1	23	7.1	73.7	0.35	no	no	no
9/20/2012	<5.0	<10.0	<0.1	51.9	15.3	126.4	0.63	no	no	no
11/8/2012	<5.0	10.3	<0.1	51.6	15.2	125.9	0.63	no	no	no
2/7/2013	<5.0	12.6	<0.1	55.8	16.3	132.6	0.67	no	no	no
5/23/2013	<5.0	<10.0	<0.1	21.3	6.6	70.1	0.33	no	no	no
8/27/2013	<5.0	<10.0	<0.1	62.2	18.1	142.5	0.73	no	no	no
11/14/2013	<5.0	<10.0	<0.1	58.1	17.0	136.2	0.69	no	no	no
2/20/2014	<5.0	22.0	0.11	70.3	20.3	154.6	0.79	no	no	no
5/20/2014	<5.0	<10.0	<0.1	23.9	7.4	75.6	0.36	no	no	no
9/11/2014	<5.0	<10.0	<0.1	58.2	17.0	136.4	0.69	no	no	no
11/13/2014	<5.0	14.1	<0.1	60.1	17.5	139.3	0.71	no	no	no
2/5/2015	<5.0	<10.0	<0.1	44.5	13.2	114.2	0.57	no	no	no
5/5/2015	<5.0	<10.0	<0.1	29.1	8.9	86.2	0.41	no	no	no
8/6/2015	<5.0	<10.0	<0.1	59.4	17.3	138.2	0.70	no	no	no
11/13/2015	<5.0	<10.0	<0.1	61.6	17.9	141.6	0.72	no	no	no
2/4/2016	<5.0	16.8	<0.1	65.6	19.0	147.6	0.75	no	no	no
5/12/2016	<5.0	<10.0	<0.1	29.1	8.9	86.2	0.41	no	no	no
8/18/2016	<5.0	<10.0	<0.1	52.9	15.5	128.0	0.64	no	no	no
11/15/2016	<5.0	<10.0	<0.1	40.6	12.1	107.4	0.53	no	no	no
2/14/2017	<5.0	22.3	0.24	53.9	15.8	129.6	0.65	no	no	no
5/16/2017	<5.0	<10.0	<0.1	27.7	8.5	83.4	0.40	no	no	no
8/24/2017	<5.0	<10.0	<0.1	52.5	15.4	127.4	0.64	no	no	no
11/14/2017	<5.0	15.0	0.1	59	17.2	137.6	0.70	no	no	no
2/13/2018	<5.0	27.6	0.16	61.0	17.8	140.7	0.72	no	no	no
5/22/2018	<5.0	<10.0	<0.1	21.0	6.5	69.4	0.32	no	no	no
8/14/2018	<5.0	<10.0	<0.1	55.4	16.2	132.0	0.67	no	no	no
9/18/2018	<5.0	<10.0	<0.1	61.7	18.0	141.8	0.72	no	no	no
11/6/2018	<5.0	14.4	<0.1	57.9	16.9	135.9	0.69	no	no	no

Notes:
1. Chronic criteria used for comparision as most conservative

Attachment B. SFCdAR Impairment Assessment
Upstream Outfall 003

Date	Receiving Stream Data Above 003				site specific chronic criteria			Is upstream conc > criteria?		
	Pb, Dissolved	Zn, Dissolved	Cd, Dissolved	Hardness (mg/l)	Pb	Zn	Cd	Pb	Zn	Cd
	(ug/L)	(ug/L)	(ug/L)	(mg/L)	(ug/L)	(ug/L)	(ug/L)			
2/23/2012	<5.0	12.7	<0.1	54.8	16.1	131.0	0.66	no	no	no
5/24/2012	<5.0	<10.0	<0.1	17.9	5.6	62.5	0.29	no	no	no
9/20/2012	<5.0	<10.0	<0.1	54.4	16.0	130.4	0.66	no	no	no
11/8/2012	<5.0	18.1	<0.1	50.7	14.9	124.5	0.62	no	no	no
2/7/2013	<5.0	12.9	<0.1	53.1	15.6	128.3	0.65	no	no	no
5/23/2013	<5.0	<10.0	<0.1	17.2	5.4	60.8	0.28	no	no	no
8/27/2013	<5.0	<10.0	<0.1	52.1	15.3	126.7	0.64	no	no	no
11/14/2013	<5.0	<10.0	<0.1	54.0	15.8	129.8	0.65	no	no	no
2/20/2014	<5.0	23.1	<0.1	66.3	19.2	148.7	0.76	no	no	no
5/20/2014	<5.0	<10.0	<0.1	18.2	5.7	63.1	0.29	no	no	no
9/11/2014	<5.0	<10.0	<0.1	49	14.5	121.7	0.61	no	no	no
11/13/2014	<5.0	15.4	<0.1	52.3	15.4	127.1	0.64	no	no	no
2/5/2015	<5.0	<10.0	<0.1	41.3	12.3	108.7	0.54	no	no	no
5/5/2015	<5.0	<10.0	<0.1	24.9	7.7	77.7	0.37	no	no	no
8/6/2015	<5.0	11.6	<0.1	54.9	16.1	131.2	0.66	no	no	no
11/13/2015	<5.0	10.4	<0.1	58.6	17.1	137.0	0.69	no	no	no
2/4/2016	<5.0	15.7	<0.1	63.4	18.4	144.3	0.74	no	no	no
5/12/2016	<5.0	<10.0	<0.1	20.6	6.4	68.5	0.32	no	no	no
8/18/2016	<5.0	<10.0	<0.1	54.9	16.1	131.2	0.66	no	no	no
11/15/2016	<5.0	12.9	<0.1	39.5	11.8	105.5	0.52	no	no	no
2/14/2017	<5.0	26.9	<0.1	51.7	15.2	126.1	0.63	no	no	no
5/16/2017	<5.0	<10.0	<0.1	23.1	7.1	73.9	0.35	no	no	no
8/24/2017	<5.0	11.7	0.11	54.7	16.0	130.9	0.66	no	no	no
11/14/2017	<5.0	23.7	0.13	58.2	17.0	136.4	0.69	no	no	no
2/13/2018	<5.0	29.4	0.19	55.7	16.3	132.5	0.67	no	no	no
5/22/2018	<5.0	<10.0	<0.1	16.1	5.1	58.2	0.27	no	no	no
8/14/2018	<5.0	<10.0	<0.1	56.5	16.5	133.7	0.68	no	no	no
9/18/2018	<5.0	<10.0	<0.1	63.4	18.4	144.3	0.74	no	no	no
11/6/2018	<5.0	22.7	0.12	56.6	16.6	133.9	0.68	no	no	no

Notes:
1. Chronic criteria used for comparision as most conservative