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Attorneys for Hecla Limited Lucky Friday Mine

BEFORE THE BOARD OF ENVIRONMENTAL QUALITY

IN THE MATTER OF:)
)
HECLA LIMITED LUCKY FRIDAY UNIT) CASE NO. _____
NPDES PERMIT NO. ID0000175; IDEQ 401)
CERTIFICATION (June 3, 2019)) PETITION TO INITIATE CONTESTED
) CASE AND REQUEST TO STAY 401
) CERTIFICATION
)
_____)

**PETITION TO INITIATE CONTESTED CASE AND
REQUEST TO STAY 401 CERTIFICATION**

Pursuant to IDAPA 58.01.23.211 and 58.01.23.101, Hecla Limited (Hecla) petitions for administrative review and an adjudicatory hearing on certain limitations and conditions in the Idaho Department of Environmental Quality’s (IDEQ’s) 401 water quality certification (401 Certification) issued on June 3, 2019 for the Hecla Limited Lucky Friday Unit (LFU) NPDES Permit No. ID0000175 (Permit). Copies of the 401 Certification and the Permit are attached as Exhibits A and B, respectively. The Permit authorizes Hecla to discharge wastewater from its LFU operations through Outfalls 001, 002 and 003 into the South Fork of the Coeur d’Alene River (SFCDAR).

As the Permittee for Permit No. ID0000175, Hecla has standing to file this petition to initiate a contested case. Moreover, Hecla submitted comments to the draft Permit and draft 401 Certification (*see* Exhibit C) and IDEQ responded to Hecla’s comments (*see* Exhibit D).

IDEQ did not serve a copy of the 401 Certification on Hecla. Hecla first became aware of the 401 Certification when it received the final NPDES Permit from EPA on June 21, 2019.¹

LEGAL AND FACTUAL BASIS FOR CHALLENGE

The Permit establishes new effluent limits for copper, based on a recently adopted methodology known as the Biotic Ligand Model (BLM). *See* IDAPA 58.01.02.210.03.c.v. In setting the copper limits, EPA, with IDEQ concurring in the 401 Certification, determined that the BLM-derived effluent limits would be based on data that are not representative of water quality in the SFC DAR, but based on criteria estimated from other water bodies. Hecla believes such an estimated criteria is contrary to state law as more particularly described herein. Further, should the new copper effluent limits remain in place, IDEQ erroneously denied Hecla's request for a compliance schedule for Outfall 003.

Hecla requests that the BLM-derived copper limits in Section I.B., Tables 2 and 3 of the Permit not go into effect until adequate data are collected by Hecla for IDEQ to set an appropriate BLM criteria in a Permit modification.² An interim performance-based limit, based on historical discharges from Outfalls 001, 002 and 003, that is protective of existing aquatic life can be established. After adequate data are collected (over the first 24 months of the Permit), IDEQ can reopen the Permit and establish an appropriate copper limit (if necessary) based on actual water quality conditions in the SFC DAR.

¹ EPA did not provide a copy of IDEQ's 401 Certification when the agency transmitted the NPDES Permit to Hecla on June 21, 2019. Thereafter, Hecla had to obtain a copy of the 401 Certification from IDEQ's website. IDEQ agreed that the timeline to appeal the 401 Certification began on June 21, 2019, and as such, this petition is timely filed.

² On July 1, 2019, IDEQ became legally authorized to administer the NPDES Permit program and any Permit modification would be carried out by IDEQ.

Further, IDEQ's 401 Certification was erroneous because it refused to authorize flow-tiered effluent limits for copper, WET and mercury and because it refused to set separate effluent limits for Outfall 001 on the grounds that Hecla did not need such limits, even though such limits were authorized in the previous Permit. This was not a permissible justification to deny flow-tiered limits and separate effluent limits for Outfall 001. IDEQ's only consideration should be whether Hecla's discharges comply with water quality criteria. Accordingly, Hecla requests that IDEQ authorize flow-tier-based effluent limits for copper, WET and mercury at all Outfalls and set separate effluent limits for all pollutants at Outfall 001.

I. Contested 401 Certification Conditions, Legal and Factual Basis for Challenge, and Relief Sought

EPA incorporated IDEQ's 401 Certification conditions into the final Permit. Hecla provided comments to IDEQ's draft 401 Certification regarding the establishment of copper limits, establishment of flow-tiered limits, use of appropriate instream data to establish limits and the need for a compliance schedule at Outfall 003 for copper limits. EPA's and IDEQ's Response to Comments are set forth in Exhibit D. The final 401 Certification fails to resolve significant issues as set forth below:

A. Final Permit Condition Section I.B., Tables 2 and 3, Effluent Limits for Copper

The copper limits are new limits in Hecla's NPDES Permit. These limits are purportedly based on a new water quality criteria approved by EPA after the close of public comments.³ Overall, the new copper criteria are based on various instream surface water quality data points that are then evaluated in a BLM which then calculates the criteria. *See* IDAPA

³ EPA's draft Permit envisioned the possibility that the new copper criteria could be approved before the NPDES Permit became final. EPA approved IDEQ's copper criteria after the close of public comments on the Permit.

58.01.02.210.03.c.v. In the absence of adequate data, the BLM Rule directs IDEQ to derive the criteria based on a “scientifically sound method.” IDAPA 58.01.02.210.03.c.v.(1)(b). Rather than utilize sound scientific methods, EPA, with IDEQ’s concurrence, implemented select portions of IDEQ’s *Statewide Monitoring for Impacts to the Copper Biotic Ligand Model* (IDEQ 2017B) (hereinafter “IDEQ Guidance”) to establish overly conservative criteria for the SFCDAR in reliance on data from other waterbodies.

The estimated derived criteria relied upon by IDEQ in the 401 Certification erroneously used data from non-representative streams and ignored BLM data collected immediately downstream in the SFCDAR at Locations ID0021296D and ID0021296U that are two times higher than the estimated criteria. *See IDEQ Guidance.*

Moreover, during development of site-specific criteria for the SFCDAR above the mine, BLM data collected in the SFCDAR during the criteria setting process are higher than the estimated BLM-derived criteria utilized by IDEQ in the 401 Certification. Also, IDEQ and EPA failed to consider instream biological data collected by Hecla for the past 10 years below the permitted Outfalls, which demonstrate that aquatic life is fully supported and not impaired by copper. Finally, the estimated BLM-derived criteria do not take into consideration the actual species found in the SFCDAR. Based on the actual species found in the SFCDAR, LFU’s consultant has preliminarily estimated that an appropriate BLM-derived criteria for the SFCDAR could be three to nine times higher than the inappropriate IDEQ-estimated criteria.

IDEQ’s failure to consider actual BLM data in SFCDAR, its failure to consider species sensitivity to copper in the SFCDAR and its failure to consider actual biological data below LFU’s Outfalls in setting BLM-derived water quality criteria are not based on sound scientific methods. IDEQ acknowledged that the estimated BLM-derived criteria were overly

conservative, thus violating Idaho Code § 39-3601, which directs that IDEQ water quality standards not impose requirements beyond the minimum requirements of the Clean Water Act. The Clean Water Act does not require the imposition of effluent limits based upon overly conservative criteria that are not representative of receiving water conditions.

To the extent IDEQ and EPA believe they are required to default to IDEQ Guidance to establish an estimated criteria, such an approach is impermissible under Idaho law as it constitutes use of the IDEQ Guidance as a Rule, in violation of *Asarco Inc. v. State*, 138 Idaho 719, 69 P.3d 139 (2003) (TMDL for SFC DAR that did not go through rule-making could not be used to establish NPDES permit limits). The same principles apply to IDEQ's reliance of its Guidance to establish effluent limits in the 401 Certification and associated Permit.

IDEQ also determined in the 401 Certification that the SFC DAR exceeds the estimated derived copper criteria and therefore Hecla was precluded from discharging above the estimated derived criteria (that is, Hecla was denied a mixing zone for copper). Such a conclusion is contrary to IDEQ's obligation under the water quality standards to evaluate the effect of a discharge based on actual instream conditions and not hypothetical conditions. Moreover, over a decade of biological data taken by Hecla were ignored. These data demonstrate that aquatic life is fully supported and therefore discharges at current copper levels are not impairing aquatic life. It was therefore erroneous for IDEQ to conclude that the SFC DAR currently exceeds copper criteria. *See* Idaho Code § 39-3607 (beneficial support status shall be determined based on water quality criteria and biological or habitat measures).

To the extent that IDEQ Guidance can shed light on what may be sound scientific methods under the BLM copper rule, EPA and IDEQ did not even apply the IDEQ Guidance correctly. While the IDEQ Guidance counsels that estimated BLM-derived criteria can be used

to make an overall assessment of a watershed, such estimated BLM-derived criteria should not be used to establish Permit limits. *See* Section 5.3.2 (IDEQ Guidance). However, that is precisely what IDEQ and EPA did here.

As recognized by the IDEQ Guidance, the appropriate approach in setting Permit limits based on BLM-derived criteria is to first collect 24 months of paired BLM data to establish appropriate criteria, taking into consideration seasonal variability and other site-specific factors, including site-specific species. Hecla is required to collect such data over the next 24 months under the Permit with the goal of establishing a scientifically defensible BLM criteria. *See* Permit Condition I.D., Table 5. Rather than allow Hecla to collect the data first and set a copper effluent limit after adequate data are collected, EPA and IDEQ set an overly conservative criteria and associated Permit limits first. This approach puts LFU at risk of non-compliance (particularly at Outfall 003) and potentially at risk of being unable to revise the copper limits based on anti-backsliding limitations. *See* Exhibit C; Exhibit D; 33 U.S.C. § 1342(o).

IDEQ cannot legitimately claim that the estimated BLM-derived copper effluent limits were set by EPA and IDEQ is powerless to reverse the limits in its 401 Certification. EPA relied upon IDEQ's adopted water quality standards for copper and IDEQ Guidance to establish copper effluent limits. IDEQ is authorized to specify in its 401 Certification that the copper effluent limits can be made less stringent without violating state law, including water quality standards. *See* 40 C.F.R. § 124.53(e)(3). Here IDEQ had an obligation to ensure that EPA-estimated BLM-derived criteria were based on sound scientific methods, that IDEQ Guidance was not selectively applied as a Rule, that actual BLM data and biological data in the SFC DAR were considered before setting criteria and that the water quality standards not be implemented in a way that is more stringent than the requirements of the Clean Water Act. IDEQ erroneously authorized the

imposition of overly conservative and inappropriate copper effluent limits in its 401 Certification. Hecla therefore requests that IDEQ revise its 401 Certification to authorize copper limits consistent with the existing Permit conditions for copper until adequate BLM data are obtained. Thereafter, IDEQ can modify the Permit to require BLM-derived copper limits based on actual BLM data collected in the SFC DAR.

B. Compliance Schedule Assuming the Estimated BLM-Derived Criteria Flow-Tiered Limits, Section I, Tables 2 and 3

To the extent the estimated BLM copper limits remain in place, pending collection of data, Hecla requested a compliance schedule for all Outfalls. IDEQ authorized a compliance schedule for Outfalls 001 and 002. *See* Permit Condition II.A. However, IDEQ rejected Hecla's request for a compliance schedule for Outfall 003 on the basis that discharges from Outfall 003 did not need a compliance schedule. *See* Exhibit D. This conclusion was erroneous.

There are two wastewater treatment plants at the LFU, WTP 2 and WTP 3. All of the wastewater generated at the mine is directed to either WTP 2 or WTP 3. WTP 2 and WTP 3 have near identical designs and water treatment capabilities. Discharges from both Outfalls 002 and 003 over the past few years indicate that both Outfalls exceed the estimated BLM-derived criteria. There is no reasonable explanation for IDEQ to authorize a compliance schedule for Outfalls 001 and 002, but to deny one for Outfall 003. Accordingly, Hecla requests that IDEQ authorize a compliance schedule for copper limits for Outfall 003 in an amended 401 Certification consistent with the compliance schedules for Outfalls 001 and 002.

C. Flow-Tiered Effluent Limits for Copper, Mercury and WET

Hecla requested that IDEQ incorporate flow-tiered effluent limits in the final NPDES Permit consistent with the flow-tiered limits in Hecla's existing (prior) NPDES Permit. IDEQ

declined Hecla's request because wastewater treatment upgrades at the LFU supposedly demonstrated that flow-tiered limits were no longer necessary. *See* Exhibit D.

IDAPA 58.01.02.400.05 authorizes flow-tiered effluent limits. The Rule does not state that a permittee must demonstrate necessity for flow-tiered effluent limits. Flow-tiered effluent limits recognize that water quality conditions change in the receiving water depending upon flows so that effluent limits can also change during such flow changes. Hecla requires the operational flexibility that the prior flow-tiered limits provided, even with its wastewater treatment upgrades.

Hecla requests that IDEQ establish flow-tiered limits for mercury, copper and WET, in a revised 401 Certification, consistent with the flow-tiered limits in Hecla's existing Permit.

D. Different Effluent Limits for Outfalls 001 and 002

Hecla requested that different effluent limits be set for Outfalls 001 and 002 because the water quality conditions in the SFC DAR are much different at Outfall 001 (higher hardness and higher flows) than the water quality conditions in the SFC DAR at Outfall 002. IDEQ erroneously rejected this request despite the fact that different effluent limits for Outfalls 002 and 001 were established in LFU's prior Permit. Similar to the erroneous justification provided by IDEQ to deny flow-tiered effluent limits, IDEQ decided Hecla did not need different effluent limits at Outfalls 001 and 002 because of improvements to wastewater treatment.

Again, the need for different effluent limits at Outfalls 001 and 002 is not an appropriate consideration for IDEQ to deny such different limits. The only consideration by IDEQ should be whether the effluent limits at Outfalls 001 and 002 will meet water quality standards. Since water quality conditions in the SFC DAR are significantly different at Outfall 001 from Outfall 002, IDEQ should have authorized different limits for both Outfalls. Accordingly, Hecla

requests IDEQ authorize different limits at Outfall 001 in an amended 401 Certification based on actual water quality conditions in the SFC DAR at Outfall 001.

REQUEST FOR STAY

Hecla timely filed a Petition for Review of the Permit before EPA's Environmental Appeals Board on July 22, 2019, pursuant to 40 C.F.R. part 124. *See* Exhibit E (EPA Appeal).⁴ Hecla raised the same issues in the EPA Appeal as are raised in this petition. Pursuant to 40 C.F.R. § 124.16, the Permit does not yet go into effect until further notice from EPA and the challenged Permit conditions are stayed pending the outcome of the EPA Appeal.

To the extent Hecla is required to request a stay of the challenged 401 Certification conditions, Hecla requests a stay of such challenged conditions. *See* IDAPA 58.01.23.101.⁵ The necessity for such a stay request is that if the challenged 401 Certification conditions do go into effect, they will place Hecla at risk of non-compliance at some point in the future (once the EPA Appeal is resolved). Also, if the challenged 401 Certification conditions are not stayed, Hecla faces the risk of being unable to subsequently revise the applicable effluent limits based on anti-backsliding limitations under the Clean Water Act. *See* 33 U.S.C. § 1342(o).

⁴ Since EPA issued the Permit before authorizing IDEQ to administer the NPDES Permit program on July 1, 2019, EPA asserts jurisdiction over the Permit appeal which obligated Hecla to file an appeal with EPA.

⁵ IDEQ's Rules of Administrative Procedure stipulate that IDEQ actions challenged in a contested case are not stayed except for actions governed by Idaho Code § 67-5254(1). Hecla believes IDEQ's 401 Certification is governed by Idaho Code § 67-5254(1) but in the abundance of caution is requesting this stay.

CONCLUSION

For the foregoing reasons, Hecla requests administrative review and an adjudicatory hearing of the 401 Certification.

Respectfully submitted,



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Attorneys for Hecla Limited Lucky Friday Mine

CERTIFICATE OF SERVICE

I hereby certify that on this 26thnd day of July 2019, a true and correct copy of the foregoing **Petition to Initiate Contested Case and Request to Stay 401 Certification** was served on the following as indicated below:

Via Electronic Filing:

paula.wilson@deq.idaho.gov
Paula Wilson, Hearing Coordinator
Board of Environmental Quality
1410 North Hilton
Boise, ID 83706
(208) 373-0418



Kevin J. Beaton



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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Brad Little, Governor
John H. Tippetts, Director

June 3, 2019

Ms. Susan Poulsom
U.S. EPA, Region 10
Office of Water and Watersheds
NPDES Permits Unit (OWW-191)
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101

Subject: FINAL §401 Water Quality Certifications: Hecla Limited Lucky Friday Mine (NPDES Permit No. ID0000175) & U.S. Silver Coeur Galena Mines (Permit No. ID0000027)

Dear Ms. Poulsom:

The Idaho Department of Environmental Quality (DEQ) has reviewed the final permit and fact sheet for each of the above referenced U.S. EPA proposed final permits for mining facilities in Idaho. Section 401 of the Clean Water Act requires that states issue certifications for activities which are authorized by a federal permit and which may result in the discharge to surface waters. In Idaho, DEQ is responsible for reviewing permit activities and evaluating whether the activity will comply with Idaho's Water Quality Standards, including any applicable water quality management plans (e.g., total maximum daily loads). A federal discharge permit cannot be issued until DEQ has provided certification or waived certification either expressly, or by taking no action.

This letter is to inform you that DEQ is issuing the attached final §401 certifications subject to the terms and conditions contained therein.

If you have any questions or concerns, please feel free to contact Thomas Herron (208) 666-4631 or via email at Thomas.herron@deq.idaho.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Daniel Redline".

Daniel Redline
Coeur d'Alene Regional Administrator

Cc: Cindi Godsey, U.S. EPA
Loren Moore, DEQ State Office



Idaho Department of Environmental Quality Final §401 Water Quality Certification

June 3, 2019

NPDES Permit Number(s): ID0000175 Hecla Limited Lucky Friday Unit

Receiving Water Body: South Fork Coeur d'Alene River

Pursuant to the provisions of Section 401(a)(1) of the Federal Water Pollution Control Act (Clean Water Act), as amended; 33 U.S.C. Section 1341(a)(1); and Idaho Code §§ 39-101 et seq. and 39-3601 et seq., the Idaho Department of Environmental Quality (DEQ) has authority to review National Pollutant Discharge Elimination System (NPDES) permits and issue water quality certification decisions.

Based upon our review of the above-referenced permit and associated fact sheet, DEQ certifies that if the permittee complies with the terms and conditions imposed by the permit along with the conditions set forth in this water quality certification, then there is reasonable assurance the discharge will comply with the applicable requirements of Sections 301, 302, 303, 306, and 307 of the Clean Water Act, the Idaho Water Quality Standards (WQS) (IDAPA 58.01.02), and other appropriate water quality requirements of state law.

This certification does not constitute authorization of the permitted activities by any other state or federal agency or private person or entity. This certification does not excuse the permit holder from the obligation to obtain any other necessary approvals, authorizations, or permits.

Antidegradation Review

The WQS contain an antidegradation policy providing three levels of protection to water bodies in Idaho (IDAPA 58.01.02.051).

- Tier I Protection. The first level of protection applies to all water bodies subject to Clean Water Act jurisdiction and ensures that existing uses of a water body and the level of water quality necessary to protect those existing uses will be maintained and protected (IDAPA 58.01.02.051.01; 58.01.02.052.01). Additionally, a Tier I review is performed for all new or reissued permits or licenses (IDAPA 58.01.02.052.07).
- Tier II Protection. The second level of protection applies to those water bodies considered high quality and ensures that no lowering of water quality will be allowed unless deemed necessary to accommodate important economic or social development (IDAPA 58.01.02.051.02; 58.01.02.052.08).
- Tier III Protection. The third level of protection applies to water bodies that have been designated outstanding resource waters and requires that activities not cause a lowering of water quality (IDAPA 58.01.02.051.03; 58.01.02.052.09).

DEQ is employing a water body by water body approach to implementing Idaho's antidegradation policy. This approach means that any water body fully supporting its beneficial uses will be considered high quality (IDAPA 58.01.02.052.05.a). Any water body not fully supporting its beneficial uses will be provided Tier I protection for that use, unless specific circumstances warranting Tier II protection are met (IDAPA 58.01.02.052.05.c). The most recent federally approved Integrated Report and supporting data are used to determine support status and the tier of protection (IDAPA 58.01.02.052.05).

Pollutants of Concern

The Lucky Friday Unit discharges the following pollutants of concern: cadmium, lead, silver, zinc, copper, mercury, total suspended solids (TSS), pH, temperature, and whole effluent toxicity (WET). Effluent limits have been developed for cadmium, lead, zinc, copper, mercury, TSS, and pH. No effluent limits are proposed for temperature, silver, or WET.

Permit History

The most recent NDPEs permit for the Lucky Friday Unit was first issued in 2003 but was modified twice, once in 2006 and again in 2008. This permit will be referenced in this certification as the 2003 permit to reflect the start date of the permit cycle but reviewers should be sure they look at the 2006 and 2008 modifications also.

Discharge Information

Lucky Friday Unit has a surface mill, two water treatment facilities, four tailings impoundments, and three outfalls. Currently, Tailings Impoundment Nos. 1 and 2 are closed, and a third, Tailings Impoundment No. 3, is in the process of closure. A fourth tailings impoundment, Tailings Impoundment No. 4, has been constructed and has operated since the fourth quarter of 2010. Tailings Impoundment No. 3 is only used for storm surge storage and storage of water treatment residuals from water treatment plant 3 (WTP3).

Although two of the impoundments are closed, outfalls associated with those impoundments are still active. Water treatment plant 2 (WTP2) primarily discharges through Outfall 002 but can also be diverted to Outfall 001. WTP2 collects and treats mine water, mill water, ground water and captured storm water. WTP3 discharges through Outfall 003 and also collects and treats mine water, mill water, ground water and captured storm water.

Since the last permit was issued, Hecla's construction of the two water treatment facilities has resulted in dramatic improvements to discharge water (effluent) quality. To achieve this high level of metals removal, pH must be elevated. DEQ modeled a proposed effluent discharge at pH10 and determined that a mixing zone of 25% of the critical low flow for Outfall 001/002 will provide for safe fish passage but that Outfall 003 must be limited to a maximum pH of 9.9 to provide for safe fish passage (see Mixing Zone section and Fact Sheet V.C). Acidification of the discharge is not required, which has the added benefits of avoiding hazards associated with the transport, handling, mixing, and discharge of an acid.

Improvements will continue with the proposal to relocate Outfall 003 to the north side of the South Fork Coeur d'Alene River which will result in improved mixing. Associated with the relocation, all equipment will be moved to the north side of the river and the foot bridge will be

removed. The closure of TP3 will also allow removal of the vehicle bridge that crosses the river along with the associated tailings pipeline and restoration of the riverbank. An alternative access road to TP3 for closure maintenance is being constructed that uses improved public roads to cross the river. Closure plans also include riparian vegetation planting to provide shade along the river and a culvert removal in Harris Creek. Flow from the Lindroos Draw will be day-lighted (removed from its pipe) and will continue to flow into Harris Creek. The Lucky Friday Unit also redirected their domestic wastewater to South Fork Sewer District rather than through their treatment process. These improvements all benefit water quality of the South Fork Coeur d'Alene River by reducing nutrients, reducing sedimentation, improving shade, and stabilizing banks.

There is no longer a need for seasonal dilution (the 2003 permit allowed five flow tiers for copper, mercury, and silver) because the facility now utilizes mechanical water treatment. The water treatment plants should provide a consistent quality of treated effluent irrespective of season or variability in wastewater quality. The proposed permit limits mixing to 25% of the critical low flow for mercury. See page 11 of this certification for more discussion on mixing zones. There are no effluent limits for silver in the proposed permit.

Water treatment plant improvements have resulted in simplified effluent limits for the three mine outfalls, from the three sets in the previous permit, to two sets in the proposed permit. Separate effluent limits for Outfalls 001 and 002 are no longer necessary due to the consistent effluent quality from WTP2. The extra dilution offered by diverting Outfall 002 effluent to Outfall 001 is no longer necessary. Outfall 002 can still be diverted to Outfall 001 but now only one set of effluent limits apply.

Additional data collected during the 2003 permit cycle indicates that effluent flow from Outfall 003 has increased from 0.56 cfs to 1.66 cfs. Critical low flow of the South Fork Coeur d'Alene River has also increased from 7.3 cfs to 12.1 cfs at Outfall 001 or 002 and from 1.4 cfs to 6.2 cfs at Outfall 003.

The 2003 permit used effluent hardness to calculate criteria (standards) for cadmium, lead and zinc. Those criteria were then used to calculate effluent limits for these three metals. Effluent limits for other hardness based metals in the 2003 permit were calculated using the hardness of the river below the outfall (mixed hardness). The WQS at IDAPA 58.01.02.210.03.c.ii require that ambient hardness of the receiving water be used to calculate the criteria. Hardness data collected during the 2003 permit cycle provides the in-stream hardness data for calculating all hardness-based criteria and subsequent use of those criteria in developing effluent limits. Consequently, all effluent limits for hardness based metals in the proposed permit are calculated using the mixed hardness of the river below the outfall consistent with the WQS.

The mixing zone policy in the current WQS has not yet been approved by EPA. As noted in the current WQS, the mixing zone rules in the 2014 WQS are approved and must be used for all Clean Water Act purposes. However, the new mixing zone policy provisions, while not effective for CWA purposes, assist in DEQ's interpretation and application of the mixing zone provisions that have been approved by EPA.

Site specific criteria have been developed for the South Fork Coeur d'Alene Subbasin for cadmium, lead, and zinc (IDAPA 58.01.02.284). These site specific criteria were used to

calculate effluent limits for cadmium, lead, and zinc and the assimilative capacity analyses for both outfalls. The location specific criteria also were used to calculate limits in the 2003 permit.

DEQ has adopted a new method for calculating copper criteria using the biotic ligand model (BLM). EPA approved the BLM-based method on May 2, 2019. Therefore, the new method is applicable for Clean Water Act purposes and is used as the basis for effluent limitations in the permit. The new method derives copper criteria based on 11 different in-river water quality parameters and the collection of 24 consecutive monthly river samples to populate the BLM. Monitoring for these parameters has been added to the permit along with copper BLM-based effluent limits that were developed using conservative estimates as a substitute for measured in-stream parameters. The new copper BLM-based effluent limits also have a compliance schedule to allow time to meet these new effluent limits.

Receiving Water Body Level of Protection

The Lucky Friday Unit discharges to the South Fork Coeur d'Alene River within the South Fork Coeur d'Alene Subbasin assessment unit (AU) 17010302PN011_03 (South Fork Coeur d'Alene River between Daisy Gulch and Canyon Creek). This AU has the following designated beneficial uses: cold water aquatic life and secondary contact recreation. Salmonid spawning is an existing use as documented by DEQ's Beneficial Use Reconnaissance Monitoring in 2014 and DEQ's Summary of Hecla Lucky Friday Bioassessment Salmonids Data (2007-2018). Temperature monitoring has been added to the permit for both outfalls to assess compliance with this beneficial use. In addition to these uses, all waters of the state are protected for agricultural and industrial water supply, wildlife habitat, and aesthetics (IDAPA 58.01.02.100).

According to DEQ's 2014 Integrated Report, this AU is not fully supporting its aquatic life use. Causes of impairment include unknown pollutants (metals are the suspected cause). As such, DEQ will provide Tier I protection (IDAPA 58.01.02.051.01) for the aquatic life use. The contact recreation beneficial use is unassessed. DEQ must provide an appropriate level of protection for the contact recreation use using information available at this time (IDAPA 58.01.02.052.05.b). Based on *E. coli* data collected in 2017 and instream metals monitoring (metals significant to human health IDAPA 58.01.02.210.01.b) conducted by the permittee, the recreational use for South Fork Coeur d'Alene River is determined to be fully supported for the purposes of this certification. Tier I and Tier II protection will be provided for the recreation use.

Protection and Maintenance of Existing Uses (Tier I Protection)

A Tier I review is performed for all new or reissued permits or licenses, applies to all waters subject to the jurisdiction of the Clean Water Act, and requires demonstration that existing and designated uses and the level of water quality necessary to protect existing and designated uses shall be maintained and protected. In order to protect and maintain existing and designated beneficial uses, a permitted discharge must comply with narrative and numeric criteria of the Idaho WQS, as well as other provisions of the WQS such as Section 055, which addresses water quality limited waters. The numeric and narrative criteria in the WQS are set at levels that ensure protection of existing and designated beneficial uses.

During the 2003 permit cycle, the permittee increased their effluent flow from Outfall 003. To prevent further degradation of downstream cadmium, lead and zinc impairment of South Fork

Coeur d'Alene River, these metals were not allowed to increase beyond the limits in the 2003 permit. Unlike nutrients, metals are not pollutants that dissipate; nor are metals assimilated into other processes that render them less harmful; and, because the South Fork Coeur d'Alene River has a pronounced seasonal high flow, settling of particulate bound metals and retention at the point of outfall is unlikely. For these reasons, no mixing zone will be authorized for cadmium, lead, and zinc until authorized by a future Subbasin Assessment/Total Maximum Daily Load (SBA/TMDL). A TMDL sets wasteload allocations for causative pollutants for all point source discharges in the watershed. A benefit of a TMDL wasteload allocation is that it is generally not subject to change unless the TMDL is reopened for that purpose.

The proposed permit includes new copper and mercury effluent limits that ensure WQS will not be exceeded due to the increased effluent flow. The 2003 permit included effluent limits for silver. However, due to improved water treatment, the proposed permit does not include effluent limitations for silver, as it no longer has reasonable potential to exceed the silver aquatic life criterion. Because there is no reasonable potential to exceed the criterion, removal of the silver limits is consistent with the Tier I provisions of the antidegradation policy. Additional temperature monitoring has been added to the permit for both outfalls. DEQ will use this data to assess compliance with temperature criteria. The resulting effluent limitations and associated requirements contained in the Lucky Friday Unit permit are set at levels that ensure compliance with narrative and numeric criteria in the WQS.

The 2003 permit required yearly bioassessment monitoring below Outfalls 001/002 and 003. Data collected will assist with future development of TMDLs. DEQ has determined that an adequate amount of bioassessment data has been collected and there is no need for continuing this requirement in the proposed permit. Other instream monitoring requirements have been added to the proposed permit for use in determining location specific inputs for the copper BLM. Water bodies not supporting existing or designated beneficial uses must be identified as water quality limited, and a total maximum daily load (TMDL) must be prepared for those pollutants causing impairment. A central purpose of TMDLs is to establish wasteload allocations for point source discharges, which are set at levels designed to help restore the water body to a condition that supports existing and designated beneficial uses. Discharge permits must contain limitations that are consistent with wasteload allocations in the approved TMDL.

Prior to the development of the TMDL, the WQS require the application of the antidegradation policy and implementation provisions to maintain and protect uses (IDAPA 58.01.02.055.04). Currently, there has not been a comprehensive subbasin assessment and TMDLs developed for the South Fork Coeur d'Alene watershed for metals pollutants.

The EPA-approved *South Fork Coeur d'Alene River Sediment Subbasin Assessment and Total Maximum Daily Load* (May 17, 2002) establishes wasteload allocations for sediment. Sediment wasteload allocations in the TMDL for Outfall 001 are 45.1 tons/year and for Outfall 003 is 34.4 tons/year. These values translate into 247 lbs/day for Outfall 001 (when Outfall 002 is diverted to Outfall 001) or 002 and 188.5 lbs/day for Outfall 003. These wasteload allocations are designed to ensure the South Fork Coeur d'Alene River will achieve the water quality necessary to support its existing and designated aquatic life beneficial uses and comply with the applicable numeric and narrative criteria. The effluent limitations and associated requirements contained in the Lucky Friday Unit permit for sediment are set at levels that comply with these wasteload allocations.

In summary, the effluent limitations and associated requirements contained in the Lucky Friday Unit permit are set at levels that ensure compliance with the narrative and numeric criteria in the WQS and the wasteload allocations established in the *South Fork Coeur d'Alene River Sediment Subbasin Assessment and Total Maximum Daily Load*. Therefore, DEQ has determined the permit will protect and maintain existing and designated beneficial uses in the South Fork Coeur d'Alene River in compliance with the Tier I provisions of Idaho's WQS (IDAPA 58.01.02.051.01 and 58.01.02.052.07).

High-Quality Waters (Tier II Protection)

The South Fork Coeur d'Alene River is considered high quality for secondary contact recreation. As such, the water quality relevant to secondary contact recreation uses of the South Fork Coeur d'Alene River must be maintained and protected, unless a lowering of water quality is deemed necessary to accommodate important social or economic development.

To determine whether degradation will occur, DEQ must evaluate how the permit issuance will affect water quality for each pollutant that is relevant to secondary contact recreation uses of the South Fork Coeur d'Alene River (IDAPA 58.01.02.052.05). These include the following: cadmium, lead, zinc, copper, and mercury. Effluent limits are set in the proposed permit for these pollutants.

For a reissued permit or license, the effect on water quality is determined by looking at the difference in water quality that would result from the activity or discharge as authorized in the current permit and the water quality that would result from the activity or discharge as proposed in the reissued permit or license (IDAPA 58.01.02.052.06.a). For a new permit or license, the effect on water quality is determined by reviewing the difference between the existing receiving water quality and the water quality that would result from the activity or discharge as proposed in the new permit or license (IDAPA 58.01.02.052.06.a).

Pollutants with Limits in the Current and Proposed Permit - Cadmium, Copper, Lead, Mercury, and Zinc

For pollutants significant to secondary contact recreation that are currently limited and will have limits under the reissued permit, the current discharge quality is based on the limits in the current permit or license (IDAPA 58.01.02.052.06.a.i), and the future discharge quality is based on the proposed permit limits (IDAPA 58.01.02.052.06.a.ii). For the Lucky Friday Unit permit, this means determining the permit's effect on water quality based upon the limits for mercury at Outfall 003 in the current and proposed permits. Tables 2 and 3 provide a summary of the current permit limits and the proposed or reissued permit limits.

Due to an increase in effluent flow from Outfall 003 over the last permit cycle, DEQ must determine if the increase will result in significant degradation. Significant degradation occurs when the discharge of the pollutant will cumulatively decrease the remaining assimilative capacity by more than 10% percent or, if less than 10%, when determined by the Department to be significant (IDAPA 58.01.02.052.08.a). Generally, this analysis entails a comparison of the pollutant concentration in the discharge against the concentration in the receiving water relative to the applicable numeric water quality criterion for the pollutant under analysis. The Idaho WQS include numeric "fish only" criteria that are designed to be protective of recreational uses (IDAPA 58.01.02.210.b). Mercury, however, does not have numeric "fish only" criteria in the

Idaho WQS. To conduct an assimilative capacity analysis, DEQ must therefore, determine appropriate values to use in place of numeric criteria for mercury.

DEQ has determined it is reasonable and appropriate to use the Safe Drinking Water Act maximum contaminant level goal (MCLG) as the basis for evaluating the assimilative capacity of mercury in the South Fork Coeur d'Alene River. MCLGs represent the maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur, allowing for an adequate margin of safety. They differ from the more commonly known Maximum Contaminant Levels (MCLs) because the MCLGs do not take into consideration treatment limitations or other implementation factors that modify MCLs. MCLGs are always either equal to or more conservative than MCLs. By contrast, Idaho's secondary contact recreation use is intended to protect activities in and on the water where ingestion of raw water is unlikely to occur (IDAPA 58.01.02.100.02.b). Using MCLGs to evaluate pollutants significant to secondary contact recreation is thus a conservative and protective approach.

DEQ compared the MCLG for mercury with the 2004 Idaho WQS numeric "fish only" criteria for mercury. The 2004 WQS mercury criteria were removed from the rules not because they were flawed but rather Idaho DEQ was moving towards adopting fish tissue based criteria. After comparing the two criteria, we found that the 2004 WQS criterion was more protective than the MCLG and selected it for use in the mercury assimilative capacity analyses for Outfall 003 (Table 1).

The discharge of cadmium, lead, copper and zinc will not result in degradation because the proposed permit decreases both the concentration and mass effluent limitations for these pollutants.

Table 1. Assimilative Capacity Analysis for Outfall 003¹.

Pollutant	Units	2003 Permit	Draft Permit	% Change in Assimilative Capacity ¹	Human Health Criteria/MCLG ²
Mercury AML	µg/L	0.021	0.0135	0.6	0.15
Mercury MDL	µg/L	0.042	0.041	3.4	0.15

¹ Upstream critical flow is 6.2 cfs; Upstream pollutant concentration was the 95th percentile of quarterly instream monitoring; Mercury mixing zones used to calculate the proposed effluent limits were 25% of the critical low flow; 2003 effluent flow rate was 0.56 cfs and the proposed permit effluent flow rate is 1.66 cfs.

² See discussion under *Pollutants with Limits in the Current and Proposed Permit - Cadmium, Copper, Lead, Mercury, and Zinc*.

The results of the assimilative capacity analyses for Outfall 003 show less than a 10% reduction in assimilative capacity and DEQ has determined that the calculated increases are insignificant (IDAPA 58.01.02.052.08). Therefore, no further Tier II analysis is required for this pollutant.

Table 2. Comparison of current and proposed permit limits at Outfall 002 when 001 discharges to 002 (2003 permit) and the proposed Outfall 001 or 002 limits.^{bc}

Parameter	Units	2003 Permit			Proposed Permit			Change ^a
		Flow Tier (cfs)	Average Monthly Limit	Maximum Daily	Flow Tier (cfs)	Average Monthly Limit	Maximum Daily	
Pollutants with limits in both the current and proposed permit								
Cadmium	µg/L	n/a	0.70	1.8	n/a	0.5	1.4	D
	lb/day	n/a	0.0098	0.025	n/a	0.002	0.006	
Lead	µg/L	n/a	30	50	n/a	12.8	34.4	D
	lb/day	n/a	0.42	0.70	n/a	0.060	0.162	
Zinc	µg/L	n/a	71	190	n/a	57.6	145.5	D
	lb/day	n/a	0.99	2.66	n/a	0.271	0.686	
Copper BLM	µg/L	-	-	-	n/a	0.4	1.0	D
	lb/day	-	-	-	n/a	0.002	0.005	D
Mercury	µg/L	<8.6 cfs	0.026	0.052	n/a	0.036	0.099	I
	lb/day	<8.6 cfs	0.00036	0.00072	n/a	0.0002	0.0005	D
Silver	µg/L	<8.6 cfs	1.6	2.7	-	-	-	D
	lbs/day	<8.6cfs	0.022	0.38	-	-	-	D
TSS	mg/L	-	20	30	-	20	30	NC
	lbs/day	annual average not to exceed 247 lbs/day			annual average not to exceed 247 lbs/day			NC
pH	s.u.	6.5–10.0 all times			6.0–10.0 all times			NC
<i>E. coli</i>	no./100 mL	-	report	-	-	-	-	D
Pollutants with first time limits in the proposed permit - none								
Pollutants with no limits in either the current and proposed permit								
Temperature	°C	—	—	Report	—	—	Report	NC
Whole Effluent Toxicity	TUc	-	-	Report	-	-	Report	NC

^a NC = no change in effluent limit from current permit; I = increased effluent limit from current permit; D = decreased effluent limit from current permit

^b When comparing current permit limits to proposed permit limits please read the *Discharge Information* section of this certification to learn about variables that affect effluent limits.

^c This Table is for comparative purposes only.

Table 3. Comparison of current and proposed permit limits at Outfall 003.^{bc}

Parameter	Units	2003 Permit			Proposed Permit			Change ^a
		Flow Tier (cfs)	Average Monthly Limit	Maximum Daily	Flow Tier (cfs)	Average Monthly Limit	Maximum Daily	
Pollutants with limits in both the current and proposed permit								
Cadmium	µg/L	n/a	1.1	2.1	n/a	0.8	1.5	D
	lb/day	n/a	0.21	0.040	n/a	0.007	0.013	
Lead	µg/L	n/a	45	75	n/a	18.6	24.9	D
	lb/day	n/a	0.85	1.4	n/a	0.17	0.22	
Zinc	µg/L	n/a	150	260	n/a	52.9	164.6	D
	lb/day	n/a	2.8	4.9	n/a	0.47	1.47	
Copper BLM	µg/L	-	-	-	n/a	0.5	0.9	D
	lb/day	-	-	-	n/a	0.005	0.008	D
Mercury	µg/L	<8.0 cfs	0.021	0.042	n/a	0.01	0.04	D
	lb/day	<8.0 cfs	0.00040	0.00079	n/a	0.0001	0.0004	D
Silver	µg/L	<8.0 cfs	1.9	3.2	-	-	-	D
	lbs/day	<8.0cfs	0.036	0.060	-	-	-	D
TSS	mg/L	-	20	30	-	20	30	NC
	lbs/day	annual average not to exceed 188 lbs/day			annual average not to exceed 188.5 lbs/day			NC
pH	s.u.	6.5–10.0 all times			6.0–9.9 all times			NC
<i>E. coli</i>	no./100 mL	-	report	-	-	-	-	NC
Pollutants with first time limits in the proposed permit - none								
Pollutants with no limits in either the current and proposed permit								
Temperature	°C	—	—	Report	—	—	Report	NC
Whole Effluent Toxicity	TUc	-	-	Report	-	-	Report	NC

^a NC = no change in effluent limit from current permit; I = increased effluent limit from current permit; D = decreased effluent limit from current permit

^b When comparing current permit limits to proposed permit limits please read the *Discharge Information* section of this certification to learn about variables that affect effluent limits.

^c This Table is for comparative purposes only.

The 2003 permit included effluent limits for silver. However, due to improved water treatment, the proposed permit does not include effluent limitations for silver, as it no longer has reasonable potential to exceed the silver aquatic life criterion. This reduction in the discharge of silver has improved water quality and is consistent with the Tier II provisions of the antidegradation policy.

In summary, DEQ concludes that this discharge permit complies with the Tier II provisions of Idaho's WQS (IDAPA 58.01.02.051.02 and IDAPA 58.01.02.052.06).

Conditions Necessary to Ensure Compliance with Water Quality Standards or Other Appropriate Water Quality Requirements of State Law

Compliance Schedule

Pursuant to IDAPA 58.01.02.400.03, DEQ may authorize compliance schedules for water quality-based effluent limits issued in a permit for the first time. The Lucky Friday Unit cannot immediately achieve compliance with the BLM-based effluent limits for copper; therefore, DEQ authorizes a compliance schedule and interim requirements as set forth below. The copper BLM effluent limits are based on conservative estimates of water quality, not actual water quality data. To obtain the actual copper criteria that future copper effluent limits will be based on, the first two years of this compliance schedule allows time for the permittee to collect in-stream monitoring data to determine their BLM based copper effluent limits. In this way, the mine can most effectively design a copper removal system that assures final limits can be met.

Table 4. Interim Limits Outfall 001 or 002.

Parameter	Units	Average Monthly Limit	Maximum Daily Limit
Copper	µg/L	17.5	48.7
	lb/day	0.08	0.23

The Lucky Friday Unit WTP2 does not currently have the capability to treat water to the levels required to meet the new copper BLM limits. The permittee 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. DEQ authorizes a period of five (5) years from the effective date of the final permit to meet final effluent limits as specified in the final permit. This compliance schedule provides the permittee a reasonable amount of time to achieve the final effluent limits as specified in the permit. At the same time, the schedule ensures that compliance with the final effluent limits is accomplished as soon as possible.

- The permittee must comply with all effluent limitations and monitoring requirements in Part I of the final permit beginning on the effective date of the permit, except those for which a compliance schedule is specified.
- The permittee must achieve compliance with the final effluent limitations for copper as set forth in Part I.B. (Table 2) of the permit, not later than five (5) years after the effective date of the final permit.
- While the schedules of compliance specified in Part II.A. are in effect, the permittee must complete interim requirements and meet interim effluent limits and monitoring requirements as specified in Part II.A. of the permit.
- All other provisions of the permit, except the final effluent limits for copper as described in Table 2 of this certification, must be met after the effective date of the final permit.

Interim Requirements

1. By one year from the effective date of the final permit, the permittee must provide to EPA and DEQ a summary of the first year of copper BLM monitoring data as specified in Part I.D. of the permit.
2. By two years from the effective date of the final permit, the permittee must provide to EPA and DEQ a summary of the second year of copper BLM monitoring data as specified in Part I.D. of the permit.
3. By three years from the effective date of the final permit, the permittee must provide to EPA and DEQ a report outlining preliminary plans for compliance with final effluent limits, 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 a schedule for completing treatment upgrades and pilot testing.
4. By four years from the effective date of the final permit, the permittee must provide written notice to EPA and DEQ that pilot testing of the technology that will be employed to achieve the final limits has been completed and must submit a summary report of results and plan for implementation. If pilot testing is determined to be unnecessary by the permittee, the summary report shall include the reasons for this decision. The written notice shall also include the selected upgrades and a construction schedule that ensures that final effluent limit can be achieved by year five (5).
5. By five years from the effective date of the final permit, the permittee must submit to EPA and DEQ a written report providing details of a completed start up and optimization phase of the upgrades and must achieve compliance with the final effluent limitations of Part I.B. of the final permit.

Mixing Zones

Pursuant to IDAPA 58.01.02.060, DEQ authorizes a mixing zone that utilizes 25% of the critical low flow volumes of South Fork Coeur d'Alene River for mercury and WET. Additionally, DEQ authorizes a mixing zone that utilizes up to 25% of the critical low flow volumes of South Fork Coeur d'Alene River to accommodate an effluent pH of up to 10s.u. for Outfall 001 or 002 and an effluent pH up to 9.9s.u. for Outfall 003. This elevated pH is necessary to remove metals from the effluent and comply with limits (see Fact Sheet V.C. for details). Therefore, with a mixing zone, there is a reasonable assurance that a discharge of pH 10 s.u. for Outfall 002 and a pH of 9.9 s.u. for Outfall 003 will comply with the applicable provisions of the CWA and the WQS. These mixing zones are also consistent with the current but yet unapproved mixing zone policy. No mixing zone is authorized for the copper BLM-based effluent limits. Using conservative BLM model inputs in lieu of in-stream data, there is no remaining assimilative capacity in this water body for dilution.

Pollutant Trading

Pursuant to IDAPA 58.01.02.055.06, DEQ authorizes pollutant trading for cadmium, lead, and zinc. Trading must be conducted in a manner that is consistent with the most recent version of

DEQ's *Water Quality Pollutant Trading Guidance*, available at:
<http://www.deq.idaho.gov/water-quality/surface-water/pollutant-trading/>

Alternative Limitations

The following subsection(s) discuss how the permit can be made less stringent and still comply with Idaho WQS.

Methylmercury Fish Tissue Monitoring

DEQ has determined that methylmercury monitoring is not necessary to meet WQS because fish tissue sampling for methylmercury has already been completed. In 2016, fish in the South Fork Coeur d'Alene River were collected by DEQ at various locations including below the Lucky Friday Unit outfalls to determine concentrations of methylmercury in their tissue. The purpose of this monitoring was to determine if there are human health risks from the consumption of fish in the South Fork Coeur d'Alene River. Data indicated that methylmercury in the South Fork Coeur d'Alene River fish tissue does not result in elevated human health risks from consumption [*Draft Letter Health Consultation Coeur d'Alene Basin Fish Tissue Analysis and Consumption Advisory, Coeur d'Alene Idaho* (November, 2018)]. Results of this monitoring effort will be reported by the Idaho Department of Health and Welfare in 2019. DEQ has determined that this monitoring data meets sufficient rigor, quality and relevance to determine if an impairment of a beneficial use exists, to update the Integrated Report, and inform future permits (IDAPA 58.01.02.054.05). No additional monitoring is required to accomplish these tasks. In addition, fish populations in the South Fork Coeur d'Alene River are depressed and additional lethal sampling of these populations is unwarranted.

Other Conditions

1. The permittee shall consult with and obtain approval from DEQ for all in-stream monitoring locations.
2. Water chemistry data collected for use in the biotic ligand model shall follow the *Implementation Guidance for the Idaho Copper Criteria for Aquatic Life* (August, 2017) to guide this sampling effort.
3. A Monitoring Plan and Quality Assurance Plan shall be developed for the BLM water chemistry data collection and submitted to DEQ for review and approval. The permittee shall consult with DEQ during the development of the Monitoring Plan for determination of the need for upstream monitoring in addition to the required downstream monitoring. Continuous pH monitoring shall be included in the Monitoring Plan. The Monitoring Plan shall include the collection of at least 24 consecutive monthly samples.
4. After 24 consecutive monthly samples for the copper BLM have been collected, DEQ shall review and provide approval for its use as the revised copper criteria if conditions of the Quality Assurance Plan have been met.
5. After DEQ approval of the 24 month BLM data collection, the permittee may request that BLM instream monitoring be decreased to quarterly.

6. Upon DEQ approval of the 24 consecutive monthly instream samples for the copper BLM criteria, the permittee may request reopening of the permit to recalculate the copper BLM effluent limits using the updated copper BLM criteria.
7. Part I.D. of the draft permit requires quarterly surface water temperature monitoring for Outfall 002 and Outfall 003. This monitoring requirement must be changed so that the data is useful to DEQ in determining compliance with temperature criteria. Temperature shall be sampled upstream and downstream of each Outfall for at least two consecutive years during the June through November timeframe. Temperature monitoring shall begin after the effective date of the permit on June 1 and ending November 30. After two consecutive years of data, no surface water temperature monitoring is required other than necessary for the copper BLM. The permittee shall prepare a Monitoring Plan and Quality Assurance Plan for the temperature monitoring for DEQ review and approval. The Monitoring Plan shall include effluent temperature monitoring concurrent with the instream continuous temperature monitoring. The permittee shall consult with DEQ Coeur d'Alene Regional Office prior to the development of the Monitoring Plan to obtain the frequency and location of instream temperature monitoring.
8. The permittee shall prepare a mixing zone analysis of their proposed location for Outfall 003. The analysis shall utilize Cormix modeling and provide a summary of the findings as they relate to the WQS. DEQ must review and approve of the Cormix analysis before the permittee can relocate Outfall 003.
9. This certification is conditioned upon the requirement that any material modification of the permit or the permitted activities—including without limitation, any modifications of the permit to reflect new or modified TMDLs, wasteload allocations, site-specific criteria, variances, or other new information—shall first be provided to DEQ for review to determine compliance with Idaho WQS and to provide additional certification pursuant to Section 401.

Right to Appeal Final Certification

The final Section 401 Water Quality Certification may be appealed by submitting a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5) and the “Rules of Administrative Procedure before the Board of Environmental Quality” (IDAPA 58.01.23), within 35 days of the date of the final certification.

Questions or comments regarding the actions taken in this certification should be directed to Thomas Herron, Coeur d'Alene Regional Office at (208) 666-4605 or by email at Thomas.herron@deq.idaho.gov.



Daniel Redline

Regional Administrator

Coeur d'Alene Regional Office

United States Environmental Protection Agency
 Region 10
 1200 Sixth Avenue, Suite 155
 Seattle, Washington 98101-3188

Authorization to Discharge under the National Pollutant Discharge Elimination System

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 *et seq.*, as amended by the Water Quality Act of 1987, P.L. 100-4, the "Act",

Hecla Limited Lucky Friday Mine
 397 Friday Avenue
 Mullan, Idaho 83846

is authorized to discharge from the Lucky Friday Unit located near Mullan, Idaho, at the following locations:

Outfall	Receiving Water	Latitude	Longitude
001	South Fork Coeur d'Alene River	47.4636°N	115.8053°W
002		47.4689°N	115.7897°W
003		47.4714°N	115.7614°W

in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective August 1, 2019.

This permit and the authorization to discharge shall expire at midnight, July 31, 2024.

The permittee shall reapply for a permit reissuance on or before February 2, 2024, 180 days before the expiration of this permit if the permittee intends to continue operations and discharges at the facility beyond the term of this permit.

Signed this 21st day of June 2019



Daniel D. Opalski, Director
 Water Division

Schedule of Submissions

Table 1	
Item/Permit Part	Due Date
1. Discharge Monitoring Reports (DMR)/III.B.	Monitoring data must be submitted electronically to EPA no later than the 20th of the month following the completed reporting period
2. Compliance Schedule/II.A.	A Compliance Schedule with interim copper effluent limitations and interim requirements must be met. See Permit Part II.A. for the various due dates.
3. Quality Assurance Plan (QAP)/II.B.	The permittee must provide EPA and DEQ with written notification that the Plan has been developed and implemented within 60 days after the effective date of the final permit. The Plan must be kept on site and made available to EPA and DEQ upon request.
4. Best Management Practices (BMP) Plan/II.C.	The permittee must provide EPA and DEQ with written notification that the Plan has been developed and implemented within 60 days after the effective date of the final permit. The Plan must be kept on site and made available to EPA and DEQ upon request.
5. NPDES Application Renewal/V.B.	The application must be submitted at least 180 days before the expiration date of the permit.
6. Surface Water Monitoring Results	The Results must be submitted on the DMR for the appropriate reporting period.
7. Twenty-Four Hour Notice of Noncompliance Reporting/III.G. and I.B.	The permittee must report certain occurrences of noncompliance by telephone within 24 hours from the time the permittee becomes aware of the circumstances. (See Permit Parts III.G. and I.B.2.)

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I. Limitations and Monitoring Requirements

A. Discharge Authorization

During the effective period of this permit, the permittee is authorized to discharge pollutants from either Outfall 001 or 002 and Outfall 003 to the South Fork Coeur d'Alene (SFCdA) River, within the limits and subject to the conditions set forth herein. This permit authorizes the discharge of only those pollutants resulting from facility processes, waste streams, and operations that have been clearly identified in the permit application process.

B. Effluent Limitations and Monitoring

- 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. All figures represent maximum effluent limitations unless otherwise indicated. The permittee must comply with the effluent limitations in the tables at all times unless otherwise indicated, regardless of the frequency of monitoring or reporting required by other provisions of this permit.

Table 2 - Effluent Limitations and Monitoring Requirements for Outfall 001 or 002 (001/002)						
Parameter	Effluent Limitations				Monitoring Requirements	
	Maximum Daily ¹		Average Monthly ¹		Sample Frequency	Sample Type ⁶
	ug/l	lb/day	ug/l	lb/day		
Cadmium ²	1.4	0.006	0.5	0.002	Monthly ⁵	24-hour composite
Zinc ²	145.5	0.686	57.6	0.271		
Lead ²	34.4	0.162	12.8	0.060	Weekly	24-hour composite
Copper ^{2, 8}	1.0	0.005	0.4	0.002		
Mercury ³	0.099	0.0005	0.036	0.0002	Monthly ⁵	Grab
Total Suspended Solids (TSS)	30 mg/L	--	20 mg/L	--	Monthly ⁵	24-hour composite
TSS, loading ⁷	Annual Average not to exceed 247 lbs/day				Annual	Calculation
pH	within the range of 6.5 – 10.0 standard units				Weekly	Grab
Outfall Flow	Report in cfs		Report in cfs		Daily	Recording
Hardness, as CaCO ₃	--		Report in mg/l		Monthly	Grab
Temperature ⁹	Report in °C		Report in °C		Continuous	Meter
WET ⁴	Report in TUc		--		Quarterly	24-hour composite

Table 2 - Effluent Limitations and Monitoring Requirements for Outfall 001 or 002 (001/002)						
Parameter	Effluent Limitations				Monitoring Requirements	
	Maximum Daily ¹		Average Monthly ¹		Sample Frequency	Sample Type ⁶
	ug/l	lb/day	ug/l	lb/day		
SFCdA River flow directly upstream of the outfall	Report in cfs		Report in cfs		Daily	Measure
Footnotes: 1- Values are ug/l and lb/day unless otherwise noted. 2- These parameters must be reported and analyzed as total recoverable. 3- Mercury must be analyzed and reported as total. 4- See Part I.C. for WET testing requirements. 5- The permittee may request a further reduction in monitoring to once every 2 months from DEQ for cadmium, zinc, mercury and TSS after two years from the effective date of the permit. Any other reduction is considered a modification and cannot be changed without a formal modification process. 6- The 24-hour composite samples must be flow proportional. See Permit Part VI.26. 7- See paragraph 4, below. 8- See paragraph 9, below, for compliance level requirements. 9- See paragraph 10, below, for temperature requirements						

Table 3 - Effluent Limitations and Monitoring Requirements for Outfall 003						
Parameter	Effluent Limitations				Monitoring Requirements	
	Maximum Daily ¹		Average Monthly ¹		Sample Frequency	Sample Type ⁶
	ug/l	lb/day	ug/l	lb/day		
Cadmium ²	1.5	0.013	0.8	0.007	Monthly ⁵	24-hour composite
Zinc ²	164.6	1.47	52.9	0.47		
Lead ²	24.9	0.22	18.6	0.17	Weekly	24-hour composite
Copper ^{2, 8}	0.9	0.008	0.5	0.005		
Mercury ³	0.04	0.0004	0.01	0.0001	Monthly ⁵	Grab
Total Suspended Solids (TSS)	30 mg/L	--	20 mg/L	--	Monthly ⁵	24-hour composite
TSS, loading ⁷	Annual Average not to exceed 188.5 lbs/day				Annual	Calculation
pH	within the range of 6.5 – 9.9 standard units				Weekly	Grab
Outfall Flow	Report in cfs		Report in cfs		Daily	Recording

Table 3 - Effluent Limitations and Monitoring Requirements for Outfall 003						
Parameter	Effluent Limitations				Monitoring Requirements	
	Maximum Daily ¹		Average Monthly ¹		Sample Frequency	Sample Type ⁶
	ug/l	lb/day	ug/l	lb/day		
Hardness, as CaCO ₃	--		Report in mg/l		Monthly	Grab
Temperature ⁹	Report in °C		Report in °C		Continuous	Meter
WET ⁴	Report in TU _c		--		Quarterly	24-hour composite
SFCdA River flow directly upstream of the outfall	Report in cfs		Report in cfs		Daily	Measure

Footnotes:
1- Values are ug/l and lb/day unless otherwise noted.
2- These parameters must be reported and analyzed as total recoverable.
3- Mercury must be analyzed and reported as total.
4- See Part I.C. for WET testing requirements.
5- The permittee may request a further reduction in monitoring to once every 2 months from DEQ for cadmium, zinc, mercury and TSS after two years from the effective date of the permit. Any other reduction is considered a modification and cannot be changed without a formal modification process.
6- The 24-hour composite samples must be flow proportional. See Permit Part VI.26.
7- See paragraph 4, below.
8- See paragraph 9, below, for compliance level requirements.
9- See paragraph 10, below, for temperature requirements

2. The permittee must report within 24 hours any violation of the maximum daily limits for the following pollutants: cadmium, lead, zinc, copper, mercury and TSS. Violations of all other effluent limits are to be reported at the time that discharge monitoring reports are submitted (See Permit Parts III.B. and III.H.).
3. The permittee must not discharge any floating, suspended, or submerged matter of any kind in concentrations causing a nuisance or objectionable condition or that may impair the designated beneficial uses of the receiving water.
4. The annual average limit for Total Suspended Solids (TSS) from the SFCdA River TMDL is 45.1 tons/year (247 lbs/day) for Outfall 001/002 and 34.4 tons/year (188.5 lbs/day) for Outfall 003.
 - a) The annual average TSS load must not exceed the values above.
 - b) The annual average TSS load must be calculated as the sum of all daily loads calculated for TSS during a calendar year, divided by the number of days sampled for TSS during that year. The daily loads must be calculated using the concentration and the effluent flow

measured on the day the TSS sample was collected.

- (c) The annual average TSS load must be reported on the December DMR (due in January).
5. The permittee must collect effluent samples from the effluent stream after the last treatment unit prior to discharge into the receiving waters.
6. For all effluent monitoring, the permittee must use sufficiently sensitive analytical methods which meet the following:
 - a) Parameters with an effluent limit. The method must achieve a minimum level (ML) less than the effluent limitation unless otherwise specified.
 - b) Parameters that do not have effluent limitations.
 - (i) The permittee must use a method that detects and quantifies the level of the pollutant, or
 - (ii) The permittee must use a method that can achieve a maximum ML less than or equal to those specified in Appendix A;
 - c) For parameters that do not have an effluent limit, the permittee may request different MLs. The request must be in writing and must be approved by EPA.
 - d) See also Permit Part III.C.
7. For purposes of reporting on the DMR for a single sample, if a value is less than the MDL, the permittee must report "less than {numeric value of the MDL}" and if a value is less than the ML, the permittee must report "less than {numeric value of the ML}."
8. For purposes of calculating monthly averages, zero may be assigned for values less than the MDL and the numeric value of the MDL may be assigned for values between the MDL and the ML. If the average value is less than the MDL, the permittee must report "less than {numeric value of the MDL}" and if the average value is less than the ML, the permittee must report "less than {numeric value of the ML}." If a value is equal to or greater than the ML, the permittee must report and use the actual value. The resulting average value must be compared to the compliance level, the ML, in assessing compliance.
9. The effluent limitations for copper are not quantifiable using EPA-approved analytical methods. The minimum level (ML) is 1.0 ug/L and the EPA will use this ML as the compliance evaluation level for this parameter. The permittee will be compliance with the copper effluent limitations if the average monthly and maximum daily concentrations are less than 1.0 ug/L and the loading limitations are less than 0.025 lbs/day.
10. Starting 6 months from the effective date of the permit, temperature data must be recorded using a micro-recording temperature devices known as thermistors. Set the recording device to record at one-hour intervals.

Report the following temperature monitoring data on the DMR: monthly instantaneous maximum and maximum daily average.

Use the temperature device manufacturer's software to generate (export) an Excel text or electronic ASCII text file. The file must be submitted annually to the EPA and IDEQ by January 31 for the previous monitoring year along with the placement log. The placement logs should include the following information for both thermistor deployment and retrieval: date, time, temperature device manufacturer ID, location, depth, whether it measured air or water temperature, and any other details that may explain data anomalies.

11. The permittee must prepare a mixing zone analysis of their proposed relocation for Outfall 003. The analysis shall utilize Cormix modeling and provide a summary of the findings as they relate to the WQS. DEQ must review and approve of the Cormix analysis before Outfall 003 can be relocated.

C. Whole Effluent Toxicity Testing Requirements

The permittee must conduct chronic toxicity tests on effluent samples from Outfalls 002 and 003. A chronic toxicity test will be conducted on an effluent sample from Outfall 001 during any quarter when discharge occurs through Outfall 001 (in addition to the quarterly test on Outfall 002). Testing must be conducted in accordance with subsections 1 through 8, below.

1. Toxicity testing must be conducted on 24-hour composite samples of effluent. In addition, a split of each sample collected must be analyzed for the chemical and physical parameters required in Permit Part I.B. above. When the timing of sample collection coincides with that of the sampling required in Permit Part I.B, analysis of the split sample will fulfill the requirements of Permit Part I.B. as well.
2. Chronic Test Species and Methods
 - a) For Outfalls 001/002 and 003, short-term chronic toxicity tests must be conducted quarterly during the months of February, May, August and November. For all outfalls, the effluent collected for toxicity testing must be collected at the same time as the receiving water surface water monitoring (see Permit Part I.D.).
 - b) The permittee must conduct the following chronic toxicity tests on each sample for the first three suites of test, using the following specie and protocol:

Freshwater Chronic Toxicity Tests	Species	Method
Daphnid Survival and Reproduction Test	<i>Ceriodaphnia dubia</i>	EPA-821-R-02-013

- c) The presence of chronic toxicity must be determined as specified in the respective methods manuals corresponding to the required test method.
 - d) Results must be reported in TU_c (chronic toxic units), which is defined as follows:
 - (i) For survival endpoints, $TU_c = 100/NOEC$.
 - (ii) For all other test endpoints, $TU_c = 100/IC_{25}$
 - (iii) IC₂₅ means “25% inhibition concentration.” The IC₂₅ is a point estimate of the toxicant concentration, expressed in percent effluent, that causes a 25% reduction in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (e.g., Interpolation Method).
 - (iv) NOEC means “no observed effect concentration.” The NOEC is the highest concentration of toxicant, expressed in percent effluent, to which organisms are exposed in a chronic toxicity test [full life-cycle or partial life-cycle (short term) test], that causes no observable adverse effects on the test organisms (i.e., the highest concentration of effluent in which the values for the observed responses are not statistically significantly different from the controls).
3. Toxicity Triggers. For the purposes of determining compliance with paragraphs C.6. and C.7. The chronic toxicity trigger is defined as toxicity exceeding the trigger values in Table 4.

Table 4: Chronic Toxicity Triggers and Receiving Water Concentrations			
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 12.1	4.5	22%
003 Effluent Flow of 1.66 cfs	at the 7Q10 of 6.2	1.90	52%

4. Quality Assurance
- a) The toxicity testing on each organism must include a series of at least five test dilutions and a control as follows:

the RWC, which is the dilution associated with the chronic toxicity trigger; two dilutions above the RWC, and; two dilutions below the RWC. The RWCs for each outfall are provided in Table 4, above.

- b) All quality assurance criteria and statistical analyses used for chronic tests and reference toxicant tests must be in accordance with Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002, and individual test protocols.
- c) In addition to those quality assurance measures specified in the methodology, the following quality assurance procedures must be followed:
 - (i) If organisms are not cultured in-house, concurrent testing with reference toxicants must be conducted. If organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests must be conducted using the same test conditions as the effluent toxicity tests.
 - (ii) If either of the reference toxicant tests or the effluent tests do not meet all test acceptability criteria as specified in the test methods manual, the permittee must re-sample and re-test within 14 days of receipt of the test results.
 - (iii) Control and dilution water must be receiving water or lab water, as appropriate, as described in the manual. If the dilution water used is different from the culture water, a second control, using culture water must also be used. Receiving water may be used as control and dilution water upon notification of EPA and DEQ. In no case shall water that has not met test acceptability criteria be used for either dilution or control.

5. Accelerated Testing.

- a) If chronic toxicity is detected above the triggers specified in Table 4., the permittee must conduct four (see also paragraph C.5.d., below) more biweekly tests over an eight-week period. This accelerated testing must be initiated within two weeks of receipt of the test results that indicate an exceedance.
- b) The permittee must notify EPA of the exceedance in writing within two weeks of receipt of the test results. The notification must include the following information:
 - (i) A status report on any actions required by the permit, with a schedule for actions not yet completed.
 - (ii) A description of any additional actions the permittee has taken or will take to investigate and correct the cause(s) of the toxicity.
 - (iii) Where no actions have been taken, a discussion of the reasons for not taking action.

- c) If none of the four accelerated tests exceed the toxicity trigger, the permittee may return to the normal testing frequency. If any of the four tests exceed the trigger, then the TRE requirements in paragraph C.7., shall apply.
 - d) Initial Investigation. If the permittee demonstrates through an evaluation of facility operations that the cause of the exceedance is known and corrective actions have been implemented, only one accelerated test is necessary. If toxicity exceeding the trigger is detected in this test, then the TRE requirements in Permit Part I.C.6. shall apply.
6. Toxicity Reduction Evaluation (TRE) and Toxicity Identification Evaluation (TIE):
- a) If chronic toxicity triggers are exceeded during accelerated testing under Permit Part I.C.5., the permittee must initiate a toxicity reduction evaluation (TRE) in accordance with Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (EPA/600/2-88/070) within two weeks of the exceedance. At a minimum, the TRE must include:
 - (i) Further actions to investigate and identify the cause of toxicity;
 - (ii) Actions the permittee will take to mitigate the impact of the discharge and to prevent the recurrence of toxicity; and
 - (iii) A schedule for these actions.
 - b) If a TRE is initiated prior to completion of the accelerated testing, the accelerated testing schedule may be terminated, or used as necessary in performing the TRE.
 - c) The permittee may initiate a Toxicity Identification Evaluation (TIE) as part of the TRE process. Any TIE must be performed in accordance with EPA guidance manuals, Toxicity Identification Evaluation; Characterization of Chronically Toxic Effluents, Phase I (EPA/600/6-91/005F), Methods for Aquatic Toxicity Identification Evaluations, Phase II: Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/080), and Methods for Aquatic Toxicity Identification Evaluations, Phase III: Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA-600/R-92/081).
7. Reporting
- a) The permittee must submit the results of the toxicity tests with the discharge monitoring reports (DMR) for the month following sample collection. The full report must be made available to EPA or DEQ on request.
 - b) The permittee must submit the results of any accelerated testing, under paragraph C.5., 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. In an initial investigation indicates the source of toxicity and accelerated testing is unnecessary, the result of the investigation must be submitted with the DMR for the month following completion of the investigation.

- c) The report of toxicity test results must include all relevant information outlined in Section 10, Report Preparation, of Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition, EPA/821-R-02-013, October 2002. In addition to toxicity test results, the permittee must report: dates of sample collection and initiation of each test; the toxicity triggers as defined in Table 4; flow rate at the time of sample collection; and the results of the monitoring required in Permit Part I.B.
- d) The permittee may submit the toxicity testing as an electronic attachment to NetDMR. The file name of the electronic attachment must be as follows:

YYYY_MM_DD_ID0000027_Bioassay_02610

where YYYY_MM_DD is the date that the permittee submits the report. All WET test results must also be resubmitted with the next permit application.

D. Surface Water Monitoring

1. Monitoring stations must be established at the following locations:
 - a. in the SFCdA River directly upstream of Outfalls 001, 002 and 003, and
 - b. below Outfalls 001, 002 and 003, at a point where the effluent and the SFCdA River are completely mixed.Sampling locations must be approved by DEQ.
2. The monitoring stations upstream and downstream of Outfalls 002 and 003 must be monitored according to the sampling frequency in Table 5. If discharge from Outfall 001 occurs during a time interval, the monitoring stations upstream and downstream of Outfall 001 must also be monitored during that time interval.
3. To the extent practicable, surface water sample collection must occur on the same day as effluent sample collection.
4. All ambient samples, except continuous temperature and pH monitoring, must be grab samples.
5. Cadmium, copper, lead, nickel, and zinc must be analyzed as dissolved. Mercury must be analyzed as total recoverable.

6. Samples must be analyzed for the parameters listed in Table 5, and must achieve method detection limits (MDLs) that are equivalent to or less than those listed. The permittee may request different MDLs. The request must be in writing and must be approved by EPA and DEQ.

Table 5: Surface Water Monitoring Requirements					
Parameter	Units	Upstream Sampling Frequency	Downstream Sampling Frequency	Method Detection Limit (MDL)	Reporting Limit
Flow	cfs	See Tables 2 & 3	Monthly	NA	---
Cadmium, dissolved	ug/L	Quarterly	Quarterly	0.1	---
Copper, dissolved	ug/L	Quarterly	Monthly	1	---
Lead, dissolved	ug/L	Quarterly	Quarterly	5.0	---
Mercury, total	ug/L	Quarterly	Quarterly	0.001	---
Zinc, dissolved	ug/L	Quarterly	Quarterly	10	---
pH	standard units	Quarterly	Continuous ¹	NA	---
Temperature	°C	Continuous ²	Continuous ^{1, 2}	± 2	---
Hardness (as CaCO ₃)	mg/l	Quarterly	Monthly ¹	0.2	---
Dissolved Organic Carbon	mg/L	--- ³	Monthly ¹	---	0.2
Calcium	mg/L	--- ³	Monthly ¹	---	0.1
Magnesium	mg/L	--- ³	Monthly ¹	---	0.1
Sodium	mg/L	--- ³	Monthly ¹	---	0.1
Potassium	mg/L	--- ³	Monthly ¹	---	0.1
Sulfate (as SO ₄)	mg/L	--- ³	Monthly ¹	---	10
Chloride	mg/L	--- ³	Monthly ¹	---	0.1
Alkalinity (as CaCO ₃)	mg/L Ca	--- ³	Monthly ¹	---	10

1 - Water chemistry data collected for use in the biotic ligand model shall follow the *Implementation Guidance for the Idaho Copper Criteria for Aquatic Life*. August 2017.
After 24 consecutive monthly samples for the copper BLM have been collected, instream monitoring may be decreased to quarterly after DEQ review and approval of data quality.
Upon DEQ approval of the 24 consecutive monthly instream samples for the copper BLM criteria, the permittee may request reopening of the permit to recalculate the copper BLM effluent limits using the updated copper BLM criteria.

2 - See 7., below.

3 - Sampling not required.

7. Temperature shall be sampled during the June through November timeframe. Temperature monitoring shall begin after the effective date of the permit on June 1 and end November 30 of each year. The Permittee shall contact the DEQ Coeur d'Alene Regional Office prior to initiating temperature monitoring to obtain frequency of data collection and location of the monitoring.
8. Quality assurance/quality control plans for all the monitoring must be documented in the Quality Assurance Plan required under Permit Part II.B. *Quality Assurance Plan*.

A Monitoring Plan and Quality Assurance Plan shall be developed for the BLM water chemistry data collection and submitted to DEQ for review and approval. The permittee shall consult with DEQ during the development of the Monitoring Plan for determination of the need for upstream monitoring in addition to the required downstream monitoring. Continuous pH monitoring shall be included in the Monitoring Plan. The Monitoring Plan shall include the collection of at least 24 consecutive monthly samples.

9. Submission of SW Monitoring

The results of quarterly sampling must be submitted with the DMRs for March, June, September and December.

Other surface water monitoring results must be reported on the DMR for the month monitoring occurs.

The continuous temperature data must be submitted in electronic format with the permit reapplication required in Permit Part V.B. and be made available upon request to DEQ.

II. Special Conditions

A. Copper Schedule of Compliance

The permittee must achieve compliance with the copper effluent limitations of Permit Part I.B. (Table 2), not later than 5 years from the effective date of the permit.

Until compliance with the effluent limits is achieved, at a minimum, the permittee must meet the interim effluent limitations and complete the tasks and reports listed in Table 6, below.

Table 6. Compliance Schedule Outfall 001 or 002			
INTERIM EFFLUENT LIMITATIONS			
Parameter	Units	Average Monthly Limit	Maximum Daily Limit
Copper	µg/L	17.5	48.7
	lb/day	0.08	0.23

INTERIM REQUIREMENTS
1. By one year from the effective date of the final permit, the permittee must provide to EPA and DEQ a summary of the first year of copper BLM monitoring data as specified in Permit Part I.D.
2. By two years from the effective date of the final permit, the permittee must provide to EPA and DEQ a summary of the second year of copper BLM monitoring data as specified in Permit Part I.D.
3. By three years from the effective date of the final permit, the permittee must provide to EPA and DEQ a report outlining preliminary plans for compliance with final effluent limits, 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 and schedule for completing treatment upgrades and pilot testing.
4. By four years from the effective date of the final permit, the permittee must provide written notice to EPA and DEQ that pilot testing of the technology that will be employed to achieve the final limits has been completed and must submit a summary report of results and plan for implementation. If pilot testing is determined to be unnecessary by the permittee, the summary report shall include the reasons for this decision. The written notice shall also include the selected upgrades and a construction schedule that ensures that final effluent limit can be achieved by year five (5).
5. By five years from the effective date of the final permit, the permittee must submit to EPA and DEQ a written report providing details of a completed start up and optimization phase of the upgrades and must achieve compliance with the final effluent limitations of Permit Part I.B.

B. Quality Assurance Plan (QAP)

The permittee must develop a quality assurance plan (QAP) for all monitoring required by this permit. Any existing QAP should be utilized until the new QAP is implemented and may be modified for compliance with this section.

Within 60 days of the effective date of this permit, the permittee must submit written notice to EPA and DEQ that the QAP has been developed and implemented. The permittee may submit written notification as an electronic attachment to the DMR. The file name of the electronic attachment must be as follows:

YYYY_MM_DD_ID0000027_QAP_55099

where YYYY_MM_DD is the date that the permittee submits the written notification. The plan must be retained on site and made available to EPA and/or DEQ upon request.

1. The QAP must be designed to assist in planning for the collection and analysis of effluent and receiving water samples in support of the permit and in explaining data anomalies when they occur.
2. Throughout all sample collection and analysis activities, the permittee must use the EPA-approved QA/QC and chain-of-custody procedures described in *EPA Requirements for Quality Assurance Project Plans*

(EPA/QA/R-5) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5). The QAP must be prepared in the format that is specified in these documents.

3. At a minimum, the QAP must include the following:
 - a) Details on the number of samples, type of sample containers, calibration schedules for field equipment, preservation of samples, holding times, analytical methods, analytical detection and quantitation limits for each target compound, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements.
 - b) Map(s) indicating the location of each sampling point.
 - c) Qualification and training of personnel.
 - d) Name(s), address(es) and telephone number(s) of the laboratories used by or proposed to be used by the permittee.
4. The permittee must amend the QAP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAP.
5. Copies of the QAP must be kept on site and made available to EPA and/or DEQ upon request.

C. Best Management Practices Plan

1. Purpose

Through implementation of the best management practices (BMP) plan the permittee must prevent or minimize the generation and the potential for the release of pollutants from the facility to the waters of the United States through normal and ancillary activities.

2. Development and Implementation Schedule

The permittee must develop and implement a BMP Plan which achieves the objectives and the specific requirements listed below. Any existing BMP Plan should be utilized until the new BMP Plan is implemented and may be modified for compliance with this section.

The permittee must submit written notice to EPA and DEQ that the Plan has been developed and implemented within 60 days of the effective date of the permit. The permittee may submit written notification as an electronic attachment to the DMR.

The file name of the electronic attachment must be as follows:

YYYY_MM_DD_ID0000027_BMP_05899

where YYYY_MM_DD is the date that the permittee submits the written notification. Any existing BMP plans may be modified for compliance with this

section. The plan must be retained on site and made available to EPA and/or DEQ upon request. The permittee must implement the provisions of the plan as conditions of this permit within 60 days of the effective date of this permit.

3. Objectives

The permittee must develop and amend the BMP Plan consistent with the following objectives for the control of pollutants.

- a) The number and quantity of pollutants and the toxicity of effluent generated, discharged or potentially discharged at the facility must be minimized by the permittee to the extent feasible by managing each waste stream in the most appropriate manner.
- b) Under the BMP Plan and any Standard Operating Procedures included in the BMP Plan, the permittee must ensure proper operation and maintenance of water management and wastewater treatment systems. BMP Plan elements must be developed in accordance with good engineering practices.
- c) Each facility component or system must be examined for its waste minimization opportunities and its potential for causing a release of significant amounts of pollutants to waters of the United States due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc. The examination must include all normal operations and ancillary activities including material storage areas, storm water, in-plant transfer, material handling and process handling areas, loading or unloading operations, spillage or leaks, sludge and waste disposal, or drainage from raw material storage.

4. Elements of the BMP Plan

The BMP Plan must be consistent with the objectives above and the general guidance contained in Guidance Manual for Developing Best Management Practices (EPA 833-B-93-004, October 1993) and Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices (EPA 832-R-92-006) or any subsequent revision to these guidance documents. The BMP Plan must include, at a minimum, the following items:

- a) Plan Components.
 - (i) Statement of BMP policy. The BMP Plan must include a statement of management commitment to provide the necessary financial, staff, equipment, and training resources to develop and implement the BMP Plan on a continuing basis.
 - (ii) Structure, functions, and procedures of the BMP Committee. The BMP Plan must establish a BMP Committee responsible for developing, implementing, and maintaining the BMP Plan.
 - (iii) Description of potential pollutant sources.

- (iv) Risk identification and assessment.
 - (v) Standard operating procedures to achieve the above objectives and specific best management practices (see below).
 - (vi) Reporting of BMP incidents. The reports must include a description of the circumstances leading to the incident, corrective actions taken and recommended changes to operating and maintenance practices to prevent recurrence.
 - (vii) Materials compatibility.
 - (viii) Good housekeeping.
 - (ix) Inspections.
 - (x) Preventative maintenance and repair.
 - (xi) Security.
 - (xii) Employee training.
 - (xiii) Recordkeeping and reporting.
 - (xiv) Prior evaluation of any planned modifications to the facility to ensure that the requirements of the BMP plan are considered as part of the modifications.
 - (xv) Final constructed site plans, drawings and maps (including detailed storm water outfall/culvert configurations).
- b) Specific Best Management Practices. The BMP Plan must establish specific BMPs or other measures to achieve the objectives under Permit Part II.B. and which ensure that the following specific requirements are met:
- (i) Solids, sludges, or other pollutants removed in the course of treatment or control of water and wastewaters must be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.
 - (ii) Ensure proper management of solid and hazardous waste in accordance with regulations promulgated under the Resource Conservation and Recovery Act (RCRA). Management practices required under RCRA regulations must be referenced in the BMP Plan.
 - (iii) Ensure proper management of materials in accordance with Spill Prevention, Control, and Countermeasure (SPCC) plans under CWA § 311 and 40 CFR Part 112. The BMP Plan may incorporate any part of such plans into the BMP Plan by reference.
 - (iv) Document that no mercury is generated or used at the facility.
5. Review and Certification.

The BMP Plan must be reviewed and certified as follows:

- a) Annual review by the plant manager and BMP Committee.
- b) Certified statement that the above reviews have been completed and that the BMP Plan fulfills the requirements set forth in this permit. The statement must be certified by the dated signatures of each BMP Committee member. The statement must be submitted to EPA on or before January 31st of each year of operation under this permit after the initial BMP submittal (the initial statement must be submitted to EPA six months after submittal of the BMP Plan).

6. Documentation

The permittee must maintain a copy of the BMP Plan at the facility and make it available to EPA or an authorized representative upon request.

7. BMP Plan Modification

- a) The permittee must amend the BMP Plan whenever there is a change in the facility or in the operation of the facility which materially increases the generation of pollutants or their release or potential release to surface waters.
- b) The permittee must amend the BMP Plan whenever it is found to be ineffective in achieving the general objective of preventing and minimizing the generation and the potential for the release of pollutants from the facility to the waters of the United States and/or the specific requirements above.
- c) Any changes to the BMP Plan must be consistent with the objectives and specific requirements listed above. All changes in the BMP Plan must be reported to EPA with the annual certification required under part B.5., above.

III. General Monitoring, Recording and Reporting Requirements

A. Representative Sampling (Routine and Non-Routine Discharges)

Samples and measurements taken for the purpose of monitoring must be representative of the monitored activity.

In order to ensure that the effluent limits set forth in this permit are not violated at times other than when routine samples are taken, the permittee must collect additional samples at the appropriate outfall whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation that is unlikely to be detected by a routine sample. The permittee must analyze the additional samples for those parameters limited in Permit Part I.B. that are likely to be affected by the discharge.

The permittee must collect such additional samples as soon as the spill, discharge, or bypassed effluent reaches the outfall. The samples must be analyzed in accordance with paragraph III.C (“Monitoring Procedures”). The

permittee must report all additional monitoring in accordance with paragraph III.D (“Additional Monitoring by Permittee”).

B. Reporting of Monitoring Results

The permittee must submit monitoring data and other reports electronically using NetDMR.

1. Monitoring data must be submitted electronically to EPA no later than the 20th of the month following the completed reporting period.
2. The permittee must sign and certify all DMRs, and all other reports, in accordance with the requirements of Permit Part V.E.
3. The permittee must submit copies of the DMRs and other reports to DEQ.
4. Submittal of Reports as NetDMR Attachments. Unless otherwise specified in this permit, the permittee may submit all reports to EPA and DEQ as NetDMR attachments rather than as hard copies. The file name of the electronic attachment must be as follows:

YYYY_MM_DD_ID0000027_Report Type Name_Identifying Code

where YYYY_MM_DD is the date that the permittee submits the attachment.

5. The permittee may use NetDMR after requesting and receiving permission from US EPA Region 10. NetDMR is accessed from:
<https://netdmr.epa.gov>
6. Unless identified elsewhere in the permit, hardcopy reports may be submitted to:

U.S. Environmental Protection Agency, R10
1200 Sixth Avenue, Suite 155, ECAD-20-C04
Seattle, Washington 98101

Idaho Department of Environmental Quality
Coeur d’Alene Regional Office
2110 Ironwood Parkway
Coeur d’Alene, Idaho 83814

C. Monitoring Procedures

Monitoring must be conducted according to test procedures approved under 40 CFR 136, unless another method is required under 40 CFR subchapters N or O, or other test procedures have been specified in this permit or approved by EPA as an alternate test procedure under 40 CFR 136.5.

D. Additional Monitoring by Permittee

If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR 136 or as specified in

this permit, the permittee must include the results of this monitoring in the calculation and reporting of the data submitted in the DMR. Upon request by EPA, the permittee must submit results of any other sampling, regardless of the test method used.

E. Records Contents

Records of monitoring information must include:

1. the date, exact place, and time of sampling and measurements;
2. the name(s) of the individual(s) who performed the sampling and measurements;
3. the date(s) analyses were performed;
4. the names of the individual(s) who performed the analyses;
5. the analytical techniques or methods used; and
6. the results of such analyses.

F. Retention of Records

The permittee must retain records of all monitoring information, including, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, copies of DMRs, a copy of the NPDES permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application. This period may be extended by request of EPA or DEQ at any time.

G. Twenty-four Hour Notice of Noncompliance Reporting

1. The permittee must report the following occurrences of noncompliance by telephone within 24 hours from the time the permittee becomes aware of the circumstances:
 - a) any noncompliance that may endanger health or the environment;
 - b) any unanticipated bypass that exceeds any effluent limitation in the permit (See Permit Part IV.F. *Bypass of Treatment Facilities*);
 - c) any upset that exceeds any effluent limitation in the permit (See Permit Part IV.G. *Upset Conditions*); or
 - d) any violation of a maximum daily discharge limitation for applicable pollutants identified in Tables 2 and 3.
2. The permittee must also provide a written submission within five days of the time that the permittee becomes aware of any event required to be reported under subpart 1 above. The written submission must contain:
 - a) a description of the noncompliance and its cause;
 - b) the period of noncompliance, including exact dates and times;

- c) the estimated time noncompliance is expected to continue if it has not been corrected; and
 - d) steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.
3. The Director of the Enforcement & Compliance Assurance Division may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the NPDES Compliance Hotline in Seattle, Washington, by telephone, (206) 553-1846.
 4. Reports must be submitted to the addresses in Permit Part III.B. *Reporting of Monitoring Results*.

H. Other Noncompliance Reporting

The permittee must report all instances of noncompliance, not required to be reported within 24 hours, at the time that monitoring reports for Permit Part III.B. *Reporting of Monitoring Results* are submitted. The reports must contain the information listed in Permit Part III.G.2. *Twenty-four Hour Notice of Noncompliance Reporting*.

I. Changes in Discharge of Toxic Pollutants

The permittee must notify the Director of the Water Division and DEQ as soon as it knows, or has reason to believe:

1. That any activity has occurred or will occur that would result in the discharge, on a **routine or frequent** basis, of any toxic pollutant that is not limited in the permit, if that discharge may reasonably be expected to exceed the highest of the following “notification levels”:
 - a) One hundred micrograms per liter (100 ug/l);
 - b) Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
 - c) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - d) The level established by EPA in accordance with 40 CFR 122.44(f).
2. That any activity has occurred or will occur that would result in any discharge, on a **non-routine or infrequent** basis, of any toxic pollutant that is not limited in the permit, if that discharge may reasonably be expected to exceed the highest of the following “notification levels”:
 - a) Five hundred micrograms per liter (500 ug/l);
 - b) One milligram per liter (1 mg/l) for antimony;

- c) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR 122.21(g)(7); or
 - d) The level established by EPA in accordance with 40 CFR 122.44(f).
3. The permittee must submit the notification to Water Division at the following address:

US EPA Region 10
Attn: NPDES Permitting Section Manager
1200 Sixth Avenue
Suite 155, WD-19-H16
Seattle, Washington 98101-3188

IV. Compliance Responsibilities

A. Duty to Comply

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification, or for denial of a permit renewal application.

B. Penalties for Violations of Permit Conditions

1. **Civil and Administrative Penalties.** Pursuant to 40 CFR Part 19 and the Act, any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$53,484 per day for each violation).
2. **Administrative Penalties.** Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Pursuant to 40 CFR 19 and the Act, administrative penalties for Class I violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$21,393 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$53,484). Pursuant to 40 CFR 19 and the Act, penalties for Class II violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection

Improvement Act (31 U.S.C. § 3701 note) (currently \$21,393 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$267,415).

3. Criminal Penalties:

- a) Negligent Violations. The Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than 2 years, or both.
- b) Knowing Violations. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both.
- c) Knowing Endangerment. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.
- d) False Statements. The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4

years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

C. Need To Halt or Reduce Activity not a Defense

It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit.

D. Duty to Mitigate

The permittee must take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance

The permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Bypass of Treatment Facilities

1. Bypass not exceeding limitations. The permittee may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2 and 3 of this Part.
2. Notice.
 - a) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it must submit prior written notice, if possible at least 10 days before the date of the bypass.
 - b) Unanticipated bypass. The permittee must submit notice of an unanticipated bypass as required under Permit Part III.G. *Twenty-four Hour Notice of Noncompliance Reporting*.

3. Prohibition of bypass.
 - a) Bypass is prohibited, and the Director of the Enforcement & Compliance Assurance Division may take enforcement action against the permittee for a bypass, unless:
 - (i) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
 - (ii) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and
 - (iii) The permittee submitted notices as required under paragraph 2 of this Part.
 - b) The Director of the Enforcement & Compliance Assurance Division may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph 3.a. of this Part.

G. Upset Conditions

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the permittee meets the requirements of paragraph 2 of this Part. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
2. Conditions necessary for a demonstration of upset. To establish the affirmative defense of upset, the permittee must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a) An upset occurred and that the permittee can identify the cause(s) of the upset;
 - b) The permitted facility was at the time being properly operated;
 - c) The permittee submitted notice of the upset as required under Permit Part III.G. *Twenty-four Hour Notice of Noncompliance Reporting*; and
 - d) The permittee complied with any remedial measures required under Permit Part IV.D. *Duty to Mitigate*.
3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

H. Toxic Pollutants

The permittee must comply with effluent standards or prohibitions established under Section 307(a) of the Act for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the Act within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

I. Planned Changes

The permittee must give written notice to the Director of the Water Division as specified in Permit Part III.I.3. and DEQ as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR 122.29(b); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements under Permit Part III.I. *Changes in Discharge of Toxic Substances*.

J. Anticipated Noncompliance

The permittee must give written advance notice to the Director of the Enforcement & Compliance Assurance Division and DEQ of any planned changes in the permitted facility or activity that may result in noncompliance with this permit.

V. General Provisions

A. Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 122.62, 122.64, or 124.5. The filing of a request by the permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

B. Duty to Reapply

If the permittee intends to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. In accordance with 40 CFR 122.21(d), and unless permission for the application to be submitted at a later date has been granted by the Regional Administrator, the permittee must submit a new application at least 180 days before the expiration date of this permit.

C. Duty to Provide Information

The permittee must furnish to EPA and DEQ, within the time specified in the request, any information that EPA or DEQ may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee must also furnish to EPA or DEQ, upon request, copies of records required to be kept by this permit.

D. Other Information

When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or that it submitted incorrect information in a permit application or any report to EPA or DEQ, it must promptly submit the omitted facts or corrected information in writing.

E. Signatory Requirements

All applications, reports or information submitted to EPA and DEQ must be signed and certified as follows.

1. All permit applications must be signed as follows:
 - a) For a corporation: by a responsible corporate officer.
 - b) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
 - c) For a municipality, state, federal, Indian tribe, or other public agency: by either a principal executive officer or ranking elected official.
2. All reports required by the permit and other information requested by EPA or DEQ must be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a) The authorization is made in writing by a person described above;
 - b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company; and
 - c) The written authorization is submitted to the Director of the Enforcement & Compliance Assurance Division and DEQ.
3. Changes to authorization. If an authorization under Permit Part V.E.2 is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Permit Part V.E.2. must be submitted to the Director of the Enforcement & Compliance Assurance Division and DEQ prior to or

together with any reports, information, or applications to be signed by an authorized representative.

4. Certification. Any person signing a document under this Part must make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

F. Availability of Reports

In accordance with 40 CFR 2, information submitted to EPA pursuant to this permit may be claimed as confidential by the permittee. In accordance with the Act, permit applications, permits and effluent data are not considered confidential. Any confidentiality claim must be asserted at the time of submission by stamping the words “confidential business information” on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice to the permittee. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR 2, Subpart B (Public Information) and 41 Fed. Reg. 36902 through 36924 (September 1, 1976), as amended.

G. Inspection and Entry

The permittee must allow the Director of the Enforcement & Compliance Assurance Division, EPA Region 10; DEQ; or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

H. Property Rights

The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to persons or property or invasion of other private rights, nor any infringement of federal, tribal, state or local laws or regulations.

I. Transfers

This permit is not transferable to any person except after written notice to the Director of the Water Division as specified in Permit Part III.I.3. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Act. (See 40 CFR 122.61; in some cases, modification or revocation and reissuance is mandatory).

J. State Laws

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Act.

VI. Definitions

1. "Act" or "CWA" means the Clean Water Act.
2. "Administrator" means the Administrator of the EPA, or an authorized representative.
3. "Average monthly discharge limitation" means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.
4. "Best Management Practices" (BMPs) means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage areas.
5. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
6. "Chronic toxic unit" ("TUc") is a measure of chronic toxicity. TUc is the reciprocal of the effluent concentration that causes no observable effect on the test organisms by the end of the chronic exposure period (i.e., 100/NOEC).

7. "Composite" -- see "24-hour composite".
8. "Daily discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.
9. "Director of the Enforcement & Compliance Assurance Division" means the Director of the Enforcement & Compliance Assurance Division, EPA Region 10, or an authorized representative.
10. "Director of the Water Division" means the Director of the Water Division, EPA Region 10, or an authorized representative.
11. "DMR" means discharge monitoring report.
12. "EPA" means the United States Environmental Protection Agency.
13. "Grab" sample is an individual sample collected over a period of time not exceeding 15 minutes.
14. "DEQ" means the Idaho Department of Environmental Quality.
15. "Inhibition concentration", IC, is a point estimate of the toxicant concentration that causes a given percent reduction (p) in a non-quantal biological measurement (e.g., reproduction or growth) calculated from a continuous model (e.g., Interpolation Method).
16. "LC₅₀" means the concentration of toxicant (e.g., effluent) which is lethal to 50 percent of the test organisms exposed in the time period prescribed by the test.
17. "Maximum daily discharge limitation" means the highest allowable "daily discharge."
18. "Method Detection Limit (MDL)" means the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration is distinguishable from method blank results.
19. "Minimum Level (ML)" means either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL). Minimum levels may be obtained in several ways: They may be published in a method; they may be sample concentrations equivalent to the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a lab, by a factor.
20. "NOEC" means no observed effect concentration. The NOEC is the highest concentration of toxicant (e.g., effluent) to which organisms are exposed in a chronic toxicity test [full life-cycle or partial life-cycle (short

term) test], that causes no observable adverse effects on the test organisms (i.e., the highest concentration of effluent in which the values for the observed responses are not statistically significantly different from the controls).

21. "NPDES" means National Pollutant Discharge Elimination System, the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits . . . under sections 307, 402, 318, and 405 of the CWA.
22. "QA/QC" means quality assurance/quality control.
23. "Regional Administrator" means the Regional Administrator of Region 10 of the EPA, or the authorized representative of the Regional Administrator.
24. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
25. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
26. "24-hour composite" sample means a combination of at least 8 discrete sample aliquots of at least 100 milliliters, collected over periodic intervals from the same location, during the operating hours of a facility over a 24-hour period. The composite must be flow proportional. The sample aliquots must be collected and stored in accordance with procedures prescribed in the most recent edition of Standard Methods for the Examination of Water and Wastewater.

Appendix A

Minimum Levels

The Table below lists the maximum Minimum Level (ML) for pollutants that may have monitoring requirements in the permit. The permittee may request different MLs. The request must be in writing and must be approved by EPA. If the Permittee is unable to obtain the required ML in its effluent due to matrix effects, the Permittee must submit a matrix-specific detection limit (MDL) and a ML to EPA with appropriate laboratory documentation.

CONVENTIONAL PARAMETERS

Pollutant & CAS No. (if available)	Minimum Level (ML) µg/L unless specified
Biochemical Oxygen Demand	2 mg/L
Soluble Biochemical Oxygen Demand	2 mg/L
Chemical Oxygen Demand	10 mg/L
Dissolved Organic Carbon	1 mg/L
Total Organic Carbon	1 mg/L
Total Suspended Solids	5 mg/L
Total Ammonia (as N)	50
Dissolved oxygen	+/- 0.2 mg/L
Temperature	+/- 0.2° C
pH	N/A

NONCONVENTIONAL PARAMETERS

Pollutant & CAS No. (if available)	Minimum Level (ML) µg/L unless specified
Total Alkalinity	5 mg/L as CaCO ₃
Chlorine, Total Residual	50.0
Color	10 color units
Fluoride (16984-48-8)	100
Nitrate + Nitrite Nitrogen (as N)	100
Nitrogen, Total Kjeldahl (as N)	300
Soluble Reactive Phosphorus (as P)	10
Phosphorus, Total (as P)	10
Oil and Grease (HEM) (Hexane Extractable Material)	5,000
Salinity	3 practical salinity units or scale (PSU or PSS)
Settleable Solids	500 (or 0.1 mL/L)
Sulfate (as mg/L SO ₄)	0.2 mg/L

Pollutant & CAS No. (if available)	Minimum Level (ML) µg/L unless specified
Sulfide (as mg/L S)	0.2 mg/L
Sulfite (as mg/L SO ₃)	2 mg/L
Total dissolved solids	20 mg/L
Total Hardness	200 as CaCO ₃
Aluminum, Total (7429-90-5)	10
Barium Total (7440-39-3)	2.0
BTEX (benzene +toluene + ethylbenzene + m,o,p xylenes)	2
Boron Total (7440-42-8)	10.0
Cobalt, Total (7440-48-4)	0.25
Iron, Total (7439-89-6)	50
Magnesium, Total (7439-95-4)	50
Molybdenum, Total (7439-98-7)	0.5
Manganese, Total (7439-96-5)	0.5
Tin, Total (7440-31-5)	1.5
Titanium, Total (7440-32-6)	2.5

PRIORITY POLLUTANTS

Pollutant & CAS No. (if available)	Minimum Level (ML) µg/L unless specified
METALS, CYANIDE & TOTAL PHENOLS	
Antimony, Total (7440-36-0)	1.0
Arsenic, Total (7440-38-2)	0.5
Beryllium, Total (7440-41-7)	0.5
Cadmium, Total (7440-43-9)	0.1
Chromium (hex) dissolved (18540-29-9)	1.2
Chromium, Total (7440-47-3)	1.0
Copper, Total (7440-50-8)	2.0
Lead, Total (7439-92-1)	0.16
Mercury, Total (7439-97-6)	0.0005
Nickel, Total (7440-02-0)	0.5
Selenium, Total (7782-49-2)	1.0
Silver, Total (7440-22-4)	0.2
Thallium, Total (7440-28-0)	0.36
Zinc, Total (7440-66-6)	2.5

Pollutant & CAS No. (if available)	Minimum Level (ML) µg/L unless specified
Cyanide, Total (57-12-5)	10
Cyanide, Weak Acid Dissociable	10
Cyanide, Free Amenable to Chlorination (Available Cyanide)	10
Phenols, Total	50
2-Chlorophenol (95-57-8)	2.0
2,4-Dichlorophenol (120-83-2)	1.0
2,4-Dimethylphenol (105-67-9)	1.0
4,6-dinitro-o-cresol (534-52-1) (2-methyl-4,6,-dinitrophenol)	2.0
2,4 dinitrophenol (51-28-5)	2.0
2-Nitrophenol (88-75-5)	1.0
4-nitrophenol (100-02-7)	1.0
Parachlorometa cresol (59-50-7) (4-chloro-3-methylphenol)	2.0
Pentachlorophenol (87-86-5)	1.0
Phenol (108-95-2)	4.0
2,4,6-Trichlorophenol (88-06-2)	4.0
VOLATILE COMPOUNDS	
Acrolein (107-02-8)	10
Acrylonitrile (107-13-1)	2.0
Benzene (71-43-2)	2.0
Bromoform (75-25-2)	2.0
Carbon tetrachloride (56-23-5)	2.0
Chlorobenzene (108-90-7)	2.0
Chloroethane (75-00-3)	2.0
2-Chloroethylvinyl Ether (110-75-8)	2.0
Chloroform (67-66-3)	2.0
Dibromochloromethane (124-48-1)	2.0
1,2-Dichlorobenzene (95-50-1)	7.6
1,3-Dichlorobenzene (541-73-1)	7.6
1,4-Dichlorobenzene (106-46-7)	17.6
Dichlorobromomethane (75-27-4)	2.0

Pollutant & CAS No. (if available)	Minimum Level (ML) µg/L unless specified
1,1-Dichloroethane (75-34-3)	2.0
1,2-Dichloroethane (107-06-2)	2.0
1,1-Dichloroethylene (75-35-4)	2.0
1,2-Dichloropropane (78-87-5)	2.0
1,3-dichloropropene (mixed isomers) (1,2-dichloropropylene) (542-75-6) 6	2.0
Ethylbenzene (100-41-4)	2.0
Methyl bromide (74-83-9) (Bromomethane)	10.0
Methyl chloride (74-87-3) (Chloromethane)	2.0
Methylene chloride (75-09-2)	10.0
1,1,1,2-Tetrachloroethane (79-34-5)	2.0
Tetrachloroethylene (127-18-4)	2.0
Toluene (108-88-3)	2.0
1,2-Trans-Dichloroethylene (156-60-5) (Ethylene dichloride)	2.0
1,1,1-Trichloroethane (71-55-6)	2.0
1,1,2-Trichloroethane (79-00-5)	2.0
Trichloroethylene (79-01-6)	2.0
Vinyl chloride (75-01-4)	2.0
BASE/NEUTRAL COMPOUNDS	
Acenaphthene (83-32-9)	0.4
Acenaphthylene (208-96-8)	0.6
Anthracene (120-12-7)	0.6
Benzidine (92-87-5)	24
Benzyl butyl phthalate (85-68-7)	0.6
Benzo(a)anthracene (56-55-3)	0.6
Benzo(b)fluoranthene (3,4-benzofluoranthene) (205-99-2) 7	1.6
Benzo(j)fluoranthene (205-82-3) 7	1.0
Benzo(k)fluoranthene (11,12-benzofluoranthene) (207-08-9) 7	1.6
Benzo(r,s,t)pentaphene (189-55-9)	1.0

Pollutant & CAS No. (if available)	Minimum Level (ML) µg/L unless specified
Benzo(a)pyrene (50-32-8)	1.0
Benzo(ghi)Perylene (191-24-2)	1.0
Bis(2-chloroethoxy)methane (111-91-1)	21.2
Bis(2-chloroethyl)ether (111-44-4)	1.0
Bis(2-chloroisopropyl)ether (39638-32-9)	0.6
Bis(2-ethylhexyl)phthalate (117-81-7)	0.5
4-Bromophenyl phenyl ether (101-55-3)	0.4
2-Chloronaphthalene (91-58-7)	0.6
4-Chlorophenyl phenyl ether (7005-72-3)	0.5
Chrysene (218-01-9)	0.6
Dibenzo (a,h)acridine (226-36-8)	10.0
Dibenzo (a,j)acridine (224-42-0)	10.0
Dibenzo(a-h)anthracene (53-70-3)(1,2,5,6-dibenzanthracene)	1.6
Dibenzo(a,e)pyrene (192-65-4)	10.0
Dibenzo(a,h)pyrene (189-64-0)	10.0
3,3-Dichlorobenzidine (91-94-1)	1.0
Diethyl phthalate (84-66-2)	7.6
Dimethyl phthalate (131-11-3)	6.4
Di-n-butyl phthalate (84-74-2)	1.0
2,4-dinitrotoluene (121-14-2)	0.4
2,6-dinitrotoluene (606-20-2)	0.4
Di-n-octyl phthalate (117-84-0)	0.6
1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)	20
Fluoranthene (206-44-0)	0.6
Fluorene (86-73-7)	0.6
Hexachlorobenzene (118-74-1)	0.6
Hexachlorobutadiene (87-68-3)	1.0
Hexachlorocyclopentadiene (77-47-4)	1.0
Hexachloroethane (67-72-1)	1.0
Indeno(1,2,3-cd)Pyrene (193-39-5)	1.0

Pollutant & CAS No. (if available)	Minimum Level (ML) µg/L unless specified
Isophorone (78-59-1)	1.0
3-Methyl cholanthrene (56-49-5)	8.0
Naphthalene (91-20-3)	0.6
Nitrobenzene (98-95-3)	1.0
N-Nitrosodimethylamine (62-75-9)	4.0
N-Nitrosodi-n-propylamine (621-64-7)	1.0
N-Nitrosodiphenylamine (86-30-6)	1.0
Perylene (198-55-0)	7.6
Phenanthrene (85-01-8)	0.6
Pyrene (129-00-0)	0.6
1,2,4-Trichlorobenzene (120-82-1)	0.6
DIOXIN	
2,3,7,8-Tetra-Chlorodibenzo-P-Dioxin (176-40-16) (2,3,7,8 TCDD)	5 pg/L
PESTICIDES/PCBs	
Aldrin (309-00-2)	0.05
alpha-BHC (319-84-6)	0.05
beta-BHC (319-85-7)	0.05
gamma-BHC (58-89-9)	0.05
delta-BHC (319-86-8)	0.05
Chlordane (57-74-9)	0.05
4,4'-DDT (50-29-3)	0.05
4,4'-DDE (72-55-9)	0.05
4,4' DDD (72-54-8)	0.05
Dieldrin (60-57-1)	0.05
alpha-Endosulfan (959-98-8)	0.05
beta-Endosulfan (33213-65-9)	0.05
Endosulfan Sulfate (1031-07-8)	0.05
Endrin (72-20-8)	0.05
Endrin Aldehyde (7421-93-4)	0.05
Heptachlor (76-44-8)	0.05
Heptachlor Epoxide (1024-57-3)	0.05

Pollutant & CAS No. (if available)	Minimum Level (ML) µg/L unless specified
PCB-1242 (53469-21-9)	0.5
PCB-1254 (11097-69-1)	0.5
PCB-1221 (11104-28-2)	0.5
PCB-1232 (11141-16-5)	0.5
PCB-1248 (12672-29-6)	0.5
PCB-1260 (11096-82-5)	0.5
PCB-1016 (12674-11-2)	0.5
Toxaphene (8001-35-2)	0.5



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,

Lance Boylan

Acting Health, Safety, and Environmental Manager

Encls.



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'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 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 event¹ 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 10th 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 Health, Safety, and Environmental Manager

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



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 event¹ 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 10th 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, Part I.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 assessment².

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, TUc	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 long³, 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:

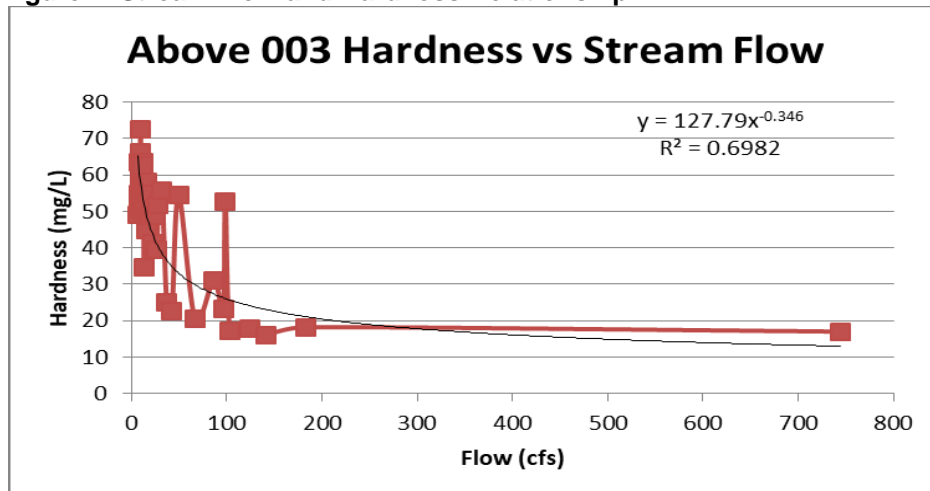
Table 8. Requested MDLs for Select Parameters

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 R² 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 R² 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 zone⁴. 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 Health, 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 Exceedence³ (%)	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 Exceedence³ (%)	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 Exceedence³ (%)	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 Exceedence³ (%)	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 (ug/L)	Zn, Dissolved (ug/L)	Cd, Dissolved (ug/L)	Hardness (mg/l) (mg/L)	Pb (ug/L)	Zn (ug/L)	Cd (ug/L)	Pb	Zn	Cd
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 comparison 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 (ug/L)	Zn, Dissolved (ug/L)	Cd, Dissolved (ug/L)	Hardness (mg/l) (mg/L)	Pb (ug/L)	Zn (ug/L)	Cd (ug/L)	Pb	Zn	Cd
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 comparison 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 (ug/L)	Zn, Dissolved (ug/L)	Cd, Dissolved (ug/L)	Hardness (mg/l) (mg/L)	Pb (ug/L)	Zn (ug/L)	Cd (ug/L)	Pb	Zn	Cd
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 comparison as most conservative



March 26, 2019

BY EMAIL

Cindi Godsey
US EPA Region 10
Attn: Director, Office of Water and Watersheds
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

Ms. Godsey:

Hecla Limited appreciates the opportunity to comment on the Draft NPDES Permit (No. ID00000175) for the Hecla Lucky Friday Unit. Please find enclosed technical comments on the draft NPDES Permit and Fact Sheet, which was public noticed on February 25, 2019. Hecla Limited is open to the opportunity to discuss the comments with US EPA Region 10, should it be requested.

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

Sincerely,

Lance Boylan
Acting Health, Safety, and Environmental Manager

Encls.



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 event¹ 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 10th 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, Part I.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 assessment².

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, TUc	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 long³, 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:

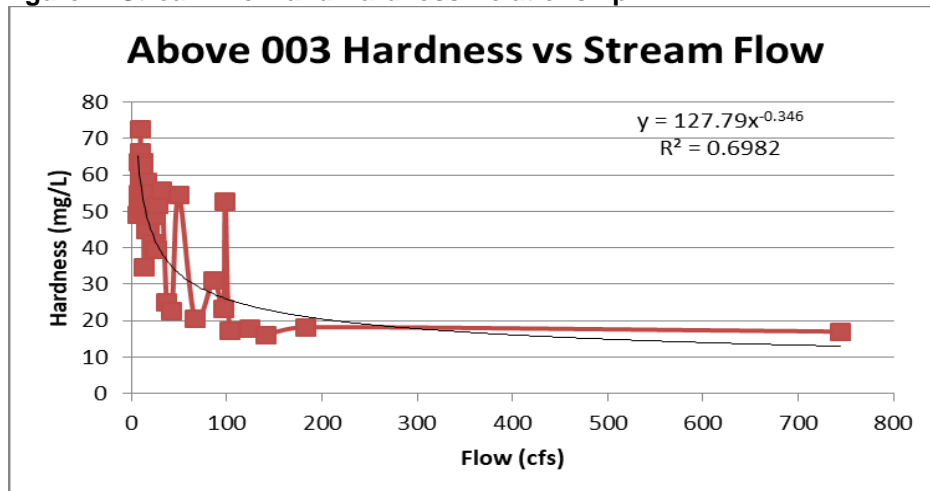
Table 8. Requested MDLs for Select Parameters

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 R² 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 R² 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 zone⁴. 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 Health, 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 Exceedence³ (%)	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 Exceedence³ (%)	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 Exceedence³ (%)	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 Exceedence³ (%)	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 A

Copy of Comments Submitted to IDEQ on the Draft 401 Certification



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'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 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 event¹ 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 10th 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 Health, Safety, and Environmental Manager

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 (ug/L)	Zn, Dissolved (ug/L)	Cd, Dissolved (ug/L)	Hardness (mg/l) (mg/L)	Pb (ug/L)	Zn (ug/L)	Cd (ug/L)	Pb	Zn	Cd
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 comparison 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 (ug/L)	Zn, Dissolved (ug/L)	Cd, Dissolved (ug/L)	Hardness (mg/l) (mg/L)	Pb (ug/L)	Zn (ug/L)	Cd (ug/L)	Pb	Zn	Cd
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 comparison 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 (ug/L)	Zn, Dissolved (ug/L)	Cd, Dissolved (ug/L)	Hardness (mg/l) (mg/L)	Pb (ug/L)	Zn (ug/L)	Cd (ug/L)	Pb	Zn	Cd
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 comparison as most conservative

ID0000175
Response to Comments
Hecla
Lucky Friday Mine

EPA, Region 10
June 2019

Prepared by:
Cindi Godsey, EPA

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General Information

EPA public noticed the draft permit with the draft Clean Water Act (CWA) § 401 Certification on February 25, 2019. The comment period was scheduled to end on March 28, 2019. The Idaho Conservation League (ICL) requested a 30-day extension of the comment period EPA did not grant an extension to the comment period; however, EPA did accept comments from ICL after the close of the comment period. Comments were received from Hecla and ICL.

EPA Region 10 has undergone an organizational realignment since the Draft Permit was issued. This has caused some name changes to groups within the organization, title changes and changes to mailstops within addresses. These updates have been made in the Final Permit.

On June 3, 2019, the Idaho Department of Environmental Quality (DEQ) provided a final CWA § 401 Certification for this permit.

Permit Comments

- Comment:** Part I.B (page 4): In the current Permit, the Lucky Friday Unit (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.

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.

Response: As described in the Fact Sheet, the effluent that is discharged from Outfall 001 is the same as the effluent discharged from Outfall 002, both coming from Water Treatment Plant 2. See also page 3 of DEQ's Draft CWA § 401 Certification. DEQ provided the same size mixing zone at Outfalls 001 and 002. See DEQ Responses to Comments #1 and #4 in Attachment B. As a result, both outfalls have the same effluent limits.

2. **Comment:** 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."

Response: EPA regrets this typographical error and it is corrected in the final permit.

3. **Comment:** 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.

Response: In establishing flow-tiered limits, EPA relies upon DEQ to implement IDAPA 58.01.02.400.05 which states that discharge permits for point sources discharging to waters exhibiting unidirectional flow *may* incorporate tiered limitations for conventional and toxic constituents *at the discretion of the department (emphasis added)*. Here, DEQ did not include flow tiered effluent limitations in the CWA § 401 Certification. Since DEQ did not include flow-tiered limits in the CWA § 401 Certification, EPA did not include flow-tiered limits in the permit. See DEQ Response to Comment # 1 in Attachment B.

4. **Comment:** 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 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 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

10th 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.

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

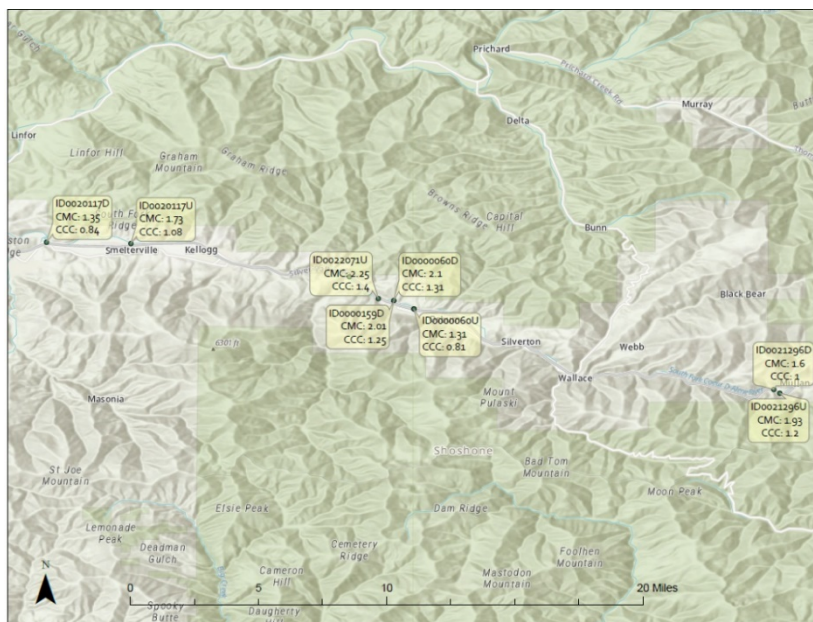
- The Mountain Stream class criteria are overly conservative for the SFCdAR near LFU. The Draft Fact sheet (pg. 71) notes that background concentrations of Cu are higher than the BLM criteria, with the average dissolved copper concentration of 1.21 ug/L above Outfall 002 and 0.69 ug/L above Outfall 003 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.

Response: The Fact Sheet specified that the BLM based effluent limitations would only be included in the final permit if EPA approved DEQ’s submission of the new WQS prior to EPA finalizing the permit. This approval occurred on May 2, 2019. Therefore, the applicable WQS in place for CWA purposes is the copper BLM WQS. The Fact Sheet also stated that since the ambient background concentration of copper exceeded the BLM criteria, no mixing zone could be authorized for copper.

EPA utilized the Idaho DEQ BLM Guidance rather than the EPA Guidance. The DEQ BLM guidance states that “when no data are available, DOC or pH data are absent, or available data are determined not to adequately characterize critical conditions, conservative criteria estimates should be used to estimate critical conditions of a water body or AU and ensure estimated criteria are protective of aquatic life.” Section 6 of the DEQ Guidance is titled “Estimating Criteria When Data Are Absent.”

It is expected that the “regional” or “site class with stream” conservative criteria estimates would not reflect any particular site specific condition in the watershed but

they are, by definition, conservative criteria which are protective and are to be used until site specific conditions can be determined. EPA extracted the data used in the BLM Guidance from the *Statewide Monitoring for Inputs to the Copper Biotic Ligand Model* prepared by DEQ (Aug. 2017).



The map depicts some of the stations in the SFCdA River that were used in developing the criteria for the Panhandle Region and the Mountain Streams site class. EPA utilized the conservative criteria estimates for Mountain Streams to develop the permit effluent limitations. It is appropriate to use the Mountain Stream characterization because the Guidance also states: “Site class combined with stream size, where rivers are any water with stream order ≥ 5 and streams are any water

with stream order < 5 . According to the report cited above, the SFCdA River in the vicinity of the mine has a stream order of 4 (sites further downstream are classified as stream order 5).

As explained above, the copper BLM WQS has been approved by EPA and, thus, is the applicable WQS for CWA purposes. The use of flow tier effluent limitations can only be determined when site-specific BLM effluent limits can be calculated. Since there is not site-specific information, EPA, per DEQ guidance, used conservative criteria estimates to calculate the BLM-based effluent limits. When site-specific BLM criteria are calculated, the permitting authority can then determine whether flow tiers should be utilized. If the background water quality exceeds site-specific BLM criteria then no mixing would be allowed and flow tiers would not be an option.

See DEQ Response to Comment #5 in Attachment B.

5. **Comment:** Part I.B.1. Table 3 (page 5): As discussed in Comment [#52, below], 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.

Response: EPA acknowledges that the dissolved copper criteria values were utilized rather than the total values as were used for other metals. Since the copper BLM criteria were approved by EPA on May 2, 2019, the hardness-based criteria no longer apply. See the Response to Comment # 4. Therefore, this comment is moot.

6. **Comment:** 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.

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.

Response: Since the effluent limitations for copper are below the detection level, a compliance level should have been included in the draft permit. A Minimum Level of 1 ug/L is included as the compliance level for copper. Any concentration value reported as less than 1 ug/L and any loading value reported as less than 0.025 lbs/day will be deemed in compliance with the effluent limitations. This change has been made to the final permit.

- Comment:** 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. Therefore, Hecla requests EPA consider monitoring frequencies for these parameters be reduced in the renewed Permit.

Response: EPA, utilizing the *Interim Guidance for Performance-Based Reduction of NPDES Permit Monitoring Frequencies* (EPA 1996), has included a two-step process to reduce the monitoring frequencies for the parameters in the Tables in Attachment A except for copper. The Tables show the long-term average for copper at both Outfalls 002 and 003 exceeds the monthly average copper effluent limitation in the new permit so no reduction in monitoring can be given. Also, a reduction for lead was not requested therefore weekly monitoring will remain in the final permit for copper and lead.

Monitoring will be reduced to monthly for TSS, cadmium, mercury and zinc in the final permit. In addition, EPA has added further language that states that after 2 years, LFU may request further reductions from the permitting authority. After an evaluation of the effluent data, the final permit allows a reduction in monitoring frequency to once every 2 months (1/ 2 months). If a different frequency is determined or another parameter is evaluated, this would be considered new information and any changes would have to be done through a formal modification process.

8. **Comment:** 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.

Response: EPA agrees and has made the requested change to the final permit.

9. **Comment:** 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.

Response: The permittee is correct that the test in the cited Method Document is the Survival and Reproduction Test for *C. dubia*. The test timeframe is specified in the Method Document so it is not included in the permit. This change has been made to the final permit. See the Response to Comment #8 regarding the fathead minnow.

10. **Comment:** 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.

Response: As explained in the Response to Comment # 1, there are no separate requirements for Outfall 001.

11. **Comment:** 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 [#43, below]). 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:

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%

Response: EPA has re-evaluated the flow data (see Response to Comment #43) and the Table below contains the WET triggers based on the re-evaluation. These changes have been made to the final permit.

WET Trigger Comparison

Trigger	Outfall 002		Outfall 003	
	Draft Permit	Final Permit	Draft Permit	Final Permit
% effluent	23%	22%	56%	52%
TU _c	4.29	4.5	1.8	1.8

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

Response: EPA agrees and has removed any reference to acute testing from the final permit except where documents reference both acute and chronic testing information.

13. **Comment:** 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.

Response: Permit Part I.C.5.b) contains the information required for the 2 week report. Since any exceedance of the WET triggers during accelerated testing requires the initiation of a TRE within 2 weeks of receiving the results, this information needs to be reported prior to receipt and submission of the full report. No change has been made to this requirement.

14. **Comment:** 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.

Response: EPA has modified the permit requirement to require monitoring during the time interval upstream and downstream of Outfall 001 if discharge from Outfall 001 occurs during the time interval. Surface water monitoring will be required at Outfall 002 during every time interval (e.g. monthly, quarterly) as to avoid a break in the dataset for Outfall 002.

15. **Comment:** 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.

Response: The CWA § 401 Certification requires continuous monitoring. Since it is a condition of the CWA § 401 certification, EPA is required to include it in the final permit pursuant to CWA Section 401(d).

16. **Comment:** 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.

Response: DEQ did not change this requirement in the final CWA § 401 Certification therefore, EPA cannot include a Compliance Schedule for Outfall 003. See DEQ Response to Comment #7 in Attachment B.

17. **Comment:** 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.”

Response: The final permit reflects changes made by DEQ in the CWA § 401 Certification. See DEQ Response to Comment #8 in Attachment B.

18. **Comment:** 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.”

Response: Since LFU is an existing facility with a current BMP Plan (as required by the permit and stated in the comment), EPA intended that notice of Development and Implementation be submitted within 60 days.

19. **Comment:** 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.

Response: The final permit has been changed to require that LFU document in the BMP Plan that no mercury is generated or used at the facility. This will reflect LFU’s method of reducing mercury emissions.

20. **Comment:** 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.

Response: Since EPA is the permitting authority and there are scenarios under which EPA would retain authority over this permit (e.g., in the event of an appeal), EPA has not made the requested change. The Fact Sheet describes what will be required of a Permittee when the authority to administer a permit transfers to the State of Idaho.

21. **Comment:** EPA and DEQ should also designate specific upstream and downstream monitoring locations for copper BLM inputs. It is important for the sampling to capture the conditions in the receiving waters where copper is the most bioavailable, both upstream and downstream of each outfall. At the downstream location, sampling should occur outside of the chronic mixing zone with conditions representatives of complete mixing. Sufficient sampling locations should be used in order to adequately characterize the spatial variability of the BLM input parameters within the receiving waters. EPA guidance suggests that the “collection of data outside of the chronic mixing zone both upstream and outside of the influence of the effluent discharge, and downstream of the discharge would best characterize the spatial variability of the site.” The more parameter data that can be collected, the more accurately the water chemistry of the site can be characterized, which will ultimately result in the development of more accurate criteria. EPA and DEQ should require sampling for the relevant parameters upstream of all outfalls in addition to the proposed downstream sampling. DEQ’s copper criteria guidance states: “In some instances, it may be necessary or advisable to collect samples upstream of points of discharge to capture baseline conditions.” Since the goal of the copper BLM is to protect water quality based on the bioavailability of copper in specific receiving waters, it follows that upstream sampling could help set a baseline. The baseline conditions established by upstream sampling would allow DEQ to determine if/how the effluent affects the copper bioavailability, which is an important question to answer when developing copper criteria for this facility. Additionally, the copper bioavailability of the effluent may vary on a different timeframe than that of the receiving water.

Response: The CWA § 401 Certification conditions that address BLM water chemistry data collection effort have been revised. The revised conditions specify that the permittee shall consult with DEQ who will determine the need for upstream sampling for BLM water chemistry. Additionally, DEQ will review and approve of the BLM monitoring plan and quality assurance plan prior to data collection. After the 24 months of data collection, DEQ will review and provide approval if conditions of the quality assurance plan have been met prior to the data’s use for calculating the revised copper criteria. See DEQ Response to Comment # 10 in Attachment B.

22. **Comment:** ICL requests EPA and DEQ provide the models and any other basis for establishing and justifying the BLM monitoring locations.

Response: The final permit does not specify where the monitoring locations are but requires DEQ approval for the final locations. As such, no models currently exist for establishing the monitoring locations. See DEQ Response to Comment # 11 in Attachment B.

23. **Comment:** ICL requests EPA and DEQ require continuous pH monitoring for all sampling locations rather than weekly sampling. The implementation guidance

provides that pH may have significant diurnal variability that affects metal concentrations. Weekly grab sampling is insufficient to capture the effects of this short-term variance, and as the guidance notes, it is important to “properly capture the temporal variability of the physical and chemical parameters that are used as inputs for the BLM.” Given the diurnal variability of pH, and that the BLM is most sensitive to pH and DOC, continuous monitoring of pH would provide the best possible input parameters for the BLM.

Response: The CWA § 401 Certification contains a requirement for continuous pH monitoring downstream of the Outfalls. The final permit reflects this requirement.

24. **Comment:** Please discuss the status and seepage rates of the tailings ponds associated with the Lucky Friday facility. According to the 2001 EPA Fact Sheet, Hecla’s tailings ponds are unlined, and the current NPDES permit required Hecla to conduct a seepage study to determine if there are discharges of pollutants from the tailings ponds to the SFCDA River. EPA’s ongoing struggles to treat seepage draining out of the bottom of the unlined Central Impoundment Area in Smelterville, Idaho and into the SFCDA River makes us concerned that similar seepage and groundwater/surface water interaction may be contributing additional pollution to the SFCDA River from Hecla’s tailings ponds. Please provide and discuss the results of the seepage study. We reserve the right to provide further comment based on the contents of this study, once it is released. In addition, it is general practice that the fact sheet for a draft NPDES permit includes a table summarizing the previous seepage test dates for lagoons and ponds and indicates the deadline for the next round of seepage testing for each one. We request EPA and DEQ provide this information.

Response: A seepage study for tailings impoundments 1 and 3 was conducted under the 2003 permit. These impoundments are either closed or in the process of being closed so seepage will not be an ongoing issue. Hecla did not apply for permit coverage for any seepage discharges; therefore, the draft permit does not apply to discharges other than those from the designated outfalls. Please see DEQ Response to Comment # 13 in Attachment B.

25. **Comment:** Since at least 1998 the stretch of the SFCDA River that receives Hecla’s effluent discharges has been identified on Idaho’s 303(d) list as an impaired water body, likely due to metals contamination. And, since that time, over twenty years have passed, and the State of Idaho has been both unable and unwilling to secure approval of a metals TMDL for the SFCDA River, despite the fact that the river continues to exceed metal pollution limits. We are concerned that the SFCDA River has very little assimilative capacity for the metals pollution Hecla’s facility discharges into the river. And, although we are encouraged to see more stringent effluent limits in the draft NPDES permit, it remains concerning that the effluent limits proposed in 2019 continue to be less stringent than effluent limits proposed in 2001, according to the metals TMDL that existed at that time. See 2001 NPDES Permit Fact Sheet, Hecla Lucky Friday Mine. Despite the risks to human health from metals pollution from Hecla’s facility and others along the SFCDA River, this river and its surrounding community continue to be the victims of regulatory capture. DEQ currently labels the development of a metals TMDL for the Coeur d’Alene River Basin as a low priority, in part, because DEQ does not believe such a TMDL has the support of mining interests. See Attachment 1. This is truly a depressing state of affairs, and we

encourage EPA to utilize the full extent of its discretionary authority to revise the draft permit with the most protective effluent limits and monitoring requirements available. To be sure, further restricting Hecla's metals effluent limits will not solve the metals contamination issues in the Coeur d'Alene Basin or even the SFCDA River, but that should not be basis for allowing existing point sources to continue to discharge beyond the assimilative capacity of the river. Restoring the SFCDA River calls for an "all hands on deck" approach and attitude, and every reduction in the metals loading to the river counts.

Response: The comment is noted. However, effluent limitations in the final permit must ensure that EPA approved WQS are met. The basis for the effluent limitations are set forth in the Fact Sheet. The new metals TMDL has not been submitted to, and thus has not been approved by EPA; therefore, EPA has no basis to implement the WLAs set forth in the previous TMDL. With the removal of flow tiered effluent limitations and the use of receiving water hardness, the majority of the effluent limitations in the final permit are more stringent than those included in the previous permit. The exception is the mercury concentration effluent limitations for Outfall 002 although the loading requirements are more stringent than the previous permit. See DEQ Response to Comment # 14 in Attachment B.

26. **Comment:** The EPA should not grant the use of mixing zones to dilute waste. DEQ may authorize the use of a mixing zone. But, the EPA does not need to approve of the use of a mixing zone should DEQ recommend or authorize them. We believe that the use of mixing zones causes harm by facilitating the release of additional pollutants and creating a potential barrier to fish movement. Accordingly, we request EPA deny DEQ's proposed mixing zones and revise the draft permit with end-of-pipe limits for mercury, copper, WET, and pH. If the mixing zones proposed in the draft permit are maintained, we request DEQ provide a more detailed discussion of the analysis it used to justify its decision to permit mixing zones for mercury, copper, WET, and pH. As currently drafted, DEQ's 401 certification merely authorizes the mixing zones for mercury, copper, and WET in a single sentence, without providing any analysis or explanation showing that the mixing zones will comply with the principles of Idaho's Mixing Zone Policy. In particular, it is unclear from DEQ's analysis whether the proposed mixing zones will ensure the following:

- The mixing zone is to be located so it does not cause unreasonable interference with or danger to existing beneficial uses;
- When two (2) or more individual mixing zones are needed for a single activity, the sum of the areas and volumes of the several mixing zones is not to exceed the area and volume which would be allowed for a single zone; and
- The mixing zone is to be no closer to the ten (10) year, seven (7) day low-flow shoreline than fifteen percent (15%) of the stream width. See IDAPA 58.01.02.060.01.b, c., and e.iii. (2014).

Response: A mixing zone of 25% of the critical low flows has been authorized by DEQ for mercury and WET in the permit. As stated in the Response to Comment # 4, there is no longer a mixing zone for copper. In the 2003 Permit, a 50% mixing allowance was provided for certain flow tiers at Outfall 003 for copper and up to a 75% mixing allowance was provided for mercury. The rationale for these increased mixing zones 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. This information indicates that the new, smaller mixing zone configurations provide adequate fish passage and that beneficial uses will be not impaired. Also, it should be noted that with the installation of water treatment plants at the LFU, the water quality has improved significantly so flow tiers are not a provision in the final permit. See DEQ Response to Comment #1 in Attachment B.

27. **Comment:** We are particularly concerned that relocating Outfall 003 to the north side of the SFCDA River may cause the plume created by the mixing zones for mercury, copper, WET, and pH to create a barrier to fish passage. Placing Outfall 003 on the north side of the SFCDA River puts this outfall near the inside edge of a bend in the SFCDA River, which may cause the mixing zones to extend diagonally across the width of the river, as the plume approaches the downstream bend.

Response: The CWA § 401 Certification requires LFU to complete a mixing zone analysis using Cormix for DEQ review and approval prior to moving Outfall 003. See DEQ Response to Comment # 15 in Attachment B. Since this is a condition of the CWA § 401 Certification, this provision has been added to the final permit pursuant to CWA Section 401(d).

28. **Comment:** We request DEQ further analyze the potential impacts of the proposed mixing zones and provide this analysis for public review. And, please explain why CORMIX modeling is appropriate, or not, for evaluating the impacts of authorizing a mixing zone for discharges of pollutants at the new location for Outfall 003.

Response: See DEQ's Response to Comments in Attachment B.

29. **Comment:** We request EPA explain how it concluded Hecla's discharge does not have a reasonable potential to cause or contribute to an exceedance of the water quality criteria for cold water aquatic life and salmonid spawning. Hecla discharges to a stretch of the SFCDA River that is designated for cold water aquatic life and has an existing use for salmonid spawning. At Table C-1, it appears EPA only analyzed the temperature criteria for cold water aquatic life instead of also analyzing the criteria for salmonid spawning – during times of spawning, water temperatures are not to exceed thirteen degrees C or less with a maximum daily average no greater than nine degrees C. IDAPA 58.01.02.250.02.f.ii. This is a critical oversight given that Hecla's effluent is discharged at temperatures well above these criteria, especially during the summer months. See Appendix B in EPA's Fact Sheet. Moreover, Hecla's receiving water monitoring reveals that the SFCDA River above Outfalls 002 and 003 already flows at temperatures that exceed, or nearly exceed, the temperature criteria for salmonid spawning. All this makes the receiving water in the SFCDA River vulnerable to temperature exceedances. We request the EPA and DEQ please explain why it is not appropriate to establish temperature effluent limits in Hecla's new permit.

If effluent limits for temperature are not included in Hecla's new permit, we request EPA and DEQ specifically explain what Hecla's monitoring requirements entail. DEQ's 401 certification provides that the temperature monitoring requirements for Outfall 002 and 003 must be changed so that the data is useful to DEQ in determining compliance with temperature criteria. But, DEQ fails to provide or explain the necessary monitoring frequency that would make the data analytically useful.

Furthermore, DEQ limits the temperature monitoring requirements to two years from the effective date of the permit. But, if DEQ waits another fifteen years to update Hecla's permit, that temperature data will be neither current nor useful for DEQ to determine compliance with temperature criteria. Accordingly, we request EPA and DEQ provide precise requirements for temperature monitoring and require Hecla to continue this monitoring through the life of the renewed permit.

Response: EPA regrets this oversight in using only the designated uses listed in the Idaho Water Quality Standards and agrees the recently established existing use (identified in DEQ studies) should have been considered. The salmonid spawning use contains more stringent requirements (IDAPA 58.01.02.250.01(f)) for dissolved oxygen which is not a pollutant of concern and for temperature which is addressed below.

To date only quarterly temperature data is available upstream of the outfalls and only weekly effluent monitoring of the discharge is available. Since the reissuance of the 2003 Permit, EPA decided that continuous effluent data is necessary to determine compliance with the temperature criteria. Without a more complete dataset to conduct a mixing zone analysis and a corresponding analysis under IDAPA 58.01.02.080.03 Temperature Exemption, EPA cannot determine whether there is reasonable potential to violate the temperature standard. EPA has added continuous effluent temperature monitoring to the final permit and requires continuous ambient monitoring for the full permit term. This is to ensure that the permittee is collecting adequate data to assess compliance with the temperature water quality standards. The data may also be used for development of WLAs in the TMDL. After any assessment is complete, DEQ will determine the appropriate monitoring frequency in a modified or reissued permit. See DEQ Response to Comment #16 in Attachment B.

While DEQ would like to use the collected data as soon as possible to determine a wasteload allocation, EPA has determined that ambient monitoring should continue until the next reissuance of the permit. As stated in the Response to Comment # 2, this permit will transfer to the state of Idaho in July 2019. It is the goal of the newly authorized IPDES program to reissue permits in a timely manner so it is not expected that this permit would be administratively extended in 5 years.

30. **Comment:** We also request DEQ explain, in detail, how the proposed mixing zones comply with the mixing zone principles stated above.

Response: See DEQ's Response to Comments in Attachment B.

31. **Comment:** EPA's draft fact sheet identifies temperature as a pollutant of concern. However, no temperature effluent limitations are proposed in the draft permit. We request EPA explain how it concluded Hecla's discharge does not have a reasonable potential to cause or contribute to an exceedance of the water quality criteria for cold water aquatic life and salmonid spawning.

Hecla discharges to a stretch of the SFCDA River that is designated for cold water aquatic life and has an existing use for salmonid spawning. At Table C-1, it appears EPA only analyzed the temperature criteria for cold water aquatic life instead of also analyzing the criteria for salmonid spawning – during times of spawning, water temperatures are not to exceed thirteen degrees C or less with a maximum daily average no greater than nine degrees C. IDAPA 58.01.02.250.02.f.ii. This is a critical

oversight given that Hecla's effluent is discharged at temperatures well above these criteria, especially during the summer months. See Appendix B in EPA's Fact Sheet. Moreover, Hecla's receiving water monitoring reveals that the SFCDA River above Outfalls 002 and 003 already flows at temperatures that exceed, or nearly exceed, the temperature criteria for salmonid spawning. All this makes the receiving water in the SFCDA River vulnerable to temperature exceedances. We request the EPA and DEQ please explain why it is not appropriate to establish temperature effluent limits in Hecla's new permit.

Response: See Response to Comment # 29.

32. **Comment:** ICL strongly urged the EPA delay issuing Hecla's NPDES permit until after EPA issues a decision on Idaho's copper BLM criteria. The proposed BLM-based effluent limits for copper would be much more protective of the receiving waters than the limits derived from the outdated copper hardness criteria. The South Fork of the Coeur d'Alene River's is already exceedingly impaired by cadmium, lead, and zinc, and EPA should not subject this vulnerable water body to copper loading at rates orders of magnitude greater than what the BLM model prescribes solely due to an administrative approval issue.

Given that EPA approval of the BLM criteria may be imminent (as DEQ's 401 Certification suggests), it would be reasonable for EPA to wait for a decision on Idaho's copper BLM criteria before reissuing Hecla's permit. The South Fork of the Coeur d'Alene River and the communities that live near and rely on this river should receive the benefits of the most up-to-date water quality science and research. And, we feel prioritizing science and public/environmental health by pausing the issuance of this NPDES permit until there's a final decision on the BLM criteria would align with Hecla's interest to be a good corporate neighbor and member of the Silver Valley community.

Response: EPA approved the BLM criteria on May 2, 2019, so no delay is warranted. This comment is moot.

33. **Comment:** In the event that the BLM criteria is not approved prior to the issuance of this permit, we request that EPA include a reopener clause in Hecla's NPDES permit, authorizing EPA to reopen and modify the permit to include effluent limits and monitoring requirements based on the BLM criteria, if EPA approves them.

Response: EPA has approved the BLM criteria; therefore, this comment is moot. It should be noted that permitting authority will transfer to DEQ on July 1, 2019.

34. **Comment:** We request EPA require continuous pH monitoring for all sampling locations rather than a 1/month grab sample. The proposed surface water monitoring requirements for pH in the draft NPDES permit include quarterly sampling at the upstream location and monthly sampling at the downstream location (Table 5 of Draft Permit). As noted in section 5.2 of DEQ's implementation guidance and the references cited within, the copper BLM is highly sensitive to changes in pH, and pH has significant diurnal variability:

"It is well known that pH and temperature vary cyclically throughout a single day, and these cycles can be dramatic. The BLM is highly sensitive to pH, and daily pH cycles could result in dramatic changes in the BLM-derived criteria.

Therefore, when designing monitoring programs or assessing data for derivation of BLM criteria, users should consider using continuous pH data to capture the

daily variability of pH at a given site or collecting samples early in the day when temperatures and pH are generally at their lowest. When continuous data are available, the timing of sampling should coincide with minimum daily pH values” (pg. 16, emphasis added).

EPA’s own materials regarding the copper BLM criteria also highlight the dramatic effects of pH on BLM-derived WQC (EPA Publication #820Q16001, pg. 12). EPA’s Metals Translator Guidance states:

“pH may vary over several units as a result of acidic precipitation in the watershed, photosynthetic activity in the water body (lowest pH at dawn and highest pH in early afternoon coincident with peak photosynthetic activity of phytoplankton and other aquatic vegetation), or effluent discharge to the water body.”

Moreover, the diurnal variability has been shown to impact the concentrations of metals in freshwater streams.

A 1/quarter or 1/month grab sample is insufficient to capture the effects of this short-term variance. Given the diurnal variability of pH, and the BLM’s sensitivity to pH, continuous monitoring of pH would provide the best possible input parameters for the BLM, ultimately leading to the most accurate permit limits. This monitoring can be done relatively simply and inexpensively by probe measurement.

Response: The final permit contains a requirement for continuous pH monitoring downstream of the Outfalls with the other BLM parameters. A Monitoring Plan will be developed and DEQ may require continuous pH monitoring in other locations if it deems it necessary. See Response to Comment # 23.

35. **Comment:** Please explain why EPA declined to analyze the full record of monitoring data for receiving water quality, outfall flow rate, effluent characterization, and critical low flow. EPA's Fact Sheet indicates the following analyses were based off varying date ranges of monitoring data Hecla collected pursuant to its current NPDES permit:

Receiving water quality: (2012-2016)
Outfall flow rate: (2013-2017)
Effluent characterization: (2013-2017)
Critical low flow: (2007-2017)

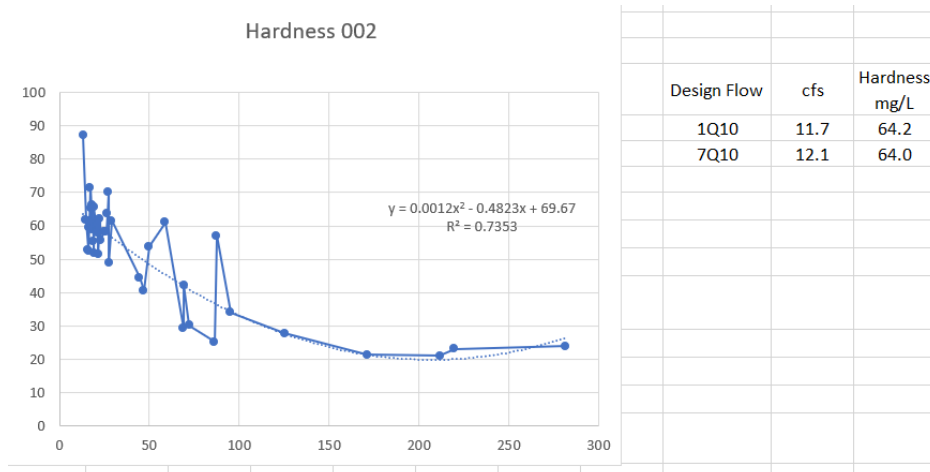
Hecla's current NPDES permit was issued in 2003. So, EPA has the benefit of well over a decade of monitoring data that should inform the development of Hecla's updated permit. For example, analyzing another year's worth of data (or more) could change EPA's calculation of the 99th percentile outfall flow rate. Similarly, another year's worth of data (or more) could reveal higher or lower potential maximum and minimum constituent levels in Hecla's effluent. And, changes to either or both of these variables could significantly affect EPA's determination of effluent limits and monitoring requirements. But rather than analyze all the data, EPA chose to limit its analysis to 4 years of data in some cases, without providing a reasonable basis for this decision.

We request EPA re-analyze receiving water quality, outfall flow rate, effluent characterization, and critical low flow based on the complete record of Hecla's monitoring data recorded since its current permit became effective.

Response: It is true that EPA did not utilize all the data from the latest permit term for the four categories listed above but there are valid reasons why this occurred. As the Fact Sheet contained the justification for several including the use of effluent data and outfall flow only since 2013 since the facility installed treatment just prior to a shutdown in 2012. EPA agreed with LFU that the data during 2012 may not be representative of the current operations and used only data after that point. Critical flows are based on 10 years (a 1Q10 being the lowest flow in a 10 year period while a 7Q10 is the lowest running 7 day average flow during a 10 year period) so using the most recent 10 years (at the time the Fact Sheet was being developed) is reasonable. As for receiving water quality, that information was required to be submitted on an annual basis and EPA did not have anything more current at the time that the Fact Sheet was being developed.

EPA has included the ambient data from 2017 and 2018. No parameter except mercury has a mixing zone so the ambient levels only affect the assimilative capacity for that parameter. The 95th percentile value that is utilized by EPA did not increase or decrease significantly enough to affect the final effluent limitations at either outfall.

EPA previously utilized the ambient hardness data for Outfall 002 from 2007 through 2017 and for Outfall 003 from late 2008 through 2017. The data from 2018 were included with the rest of the data to develop the effluent limitations in the final permit. The information for hardness changes and subsequent changes to the effluent limitations for Outfall 002 are shown below.



See Response to Comment # 51 for other changes to the hardness used for Outfall 003.

Fact Sheet Comments

NOTE: According to 40 CFR 124.8, the Fact Sheet sets forth the principal facts and the significant factual, legal, methodological and policy questions considered in preparing the draft permit. Since the Fact Sheet provides the technical basis for the draft permit, it is a final document when it is released. Therefore, any errors are acknowledged but the document will not be changed.

36. **Comment:** 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.

Response: Hecla has proposed to only discharge Water Treatment Plant (WTP) 2 wastewater through Outfall 001. This wastewater is routinely discharged through Outfall 002 so the discharge history of Outfall 001 is not pertinent to the conditions of the new permit. See Response to Comment #1.

37. **Comment:** 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.

Response: EPA acknowledges that the information contained in the Fact Sheet was not entirely correct.

38. **Comment:** 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.

Response: EPA acknowledges that the units provided in this section for zinc were incorrect.

39. **Comment:** 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 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. According to IDEQ GIS tool; <https://mapcase.deq.idaho.gov/wq2014/>

Response: DEQ did not authorize a mixing zone for cadmium, lead and zinc so the effluent limitations in the final permit do not reflect any dilution. See DEQ Response to Comment #6 in Attachment B.

40. **Comment:** 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.

Response: LFU requested that EPA use effluent data from 2013-2017 as representative of the discharge because it was collected after the site closure in 2012. The receiving water data is reported annually so in 2017, EPA did not have the 2017 data to utilize because it would not have been submitted until 2018. Also, the conditions in the receiving water would not have been affected by the site closure in the same manner as the effluent could have been. As explained in Response to Comment #37, EPA has utilized data from 2017 in determining the final effluent limits in the final permit.

41. **Comment:** 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.

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)

Response: USGS now manages DFlow as a rebranded product called SWToolbox. SWToolbox is built on the EPA BASINS system. The primary function of SWToolbox is to conduct n-day frequency analysis (most commonly used for computation of 7Q10) and to compute biologically-based design flows. Flow duration curves can also be computed. The software is designed to facilitate easy import of USGS NWIS streamflow data as well as user-defined data files.

EPA determined that the values calculated from SWToolbox were appropriate to use. These values are shown in the Table below:

Design Flow Comparison				
Design Flow	Outfall 002		Outfall 003	
	Draft Permit	SW Toolbox	Draft Permit	SW Toolbox
1Q10*	10.9	11.7	3.7	4.5
7Q10*	11.46	12.1	5.3	6.2
30Q5	13.3	13.9	6.9	7.8
Harmonic Mean	27.4	27.6	16.7	16.4

* The data set for Outfall 002 was not complete enough to determine a 10 year design flow so a 9 year is utilized.

Stream design flows were used in developing effluent limitations in three ways. The first is in the mixing zone authorized for mercury utilizing these flows to determine the allowable dilution. The Table below shows the difference in the effluent limitations from the Draft Permit along with those calculated using the SW Toolbox flows and contained in the final permit:

Mercury Effluent Limitation Comparison		
Limitation (units)	Outfall 002	Outfall 003

	Draft Permit	Final Permit	Draft Permit	Final Permit
AML (ug/L)	0.0342	0.0357	0.0125	0.0135
AML (lbs/day)	0.00016	0.00017	0.00011	0.00012
MDL (ug/L)	0.0949	0.0990	0.0380	0.0411
MDL (lbs/day)	0.00045	0.00047	0.00034	/.00037

The second is a change in the WET trigger levels. See the Response to Comment #11.

The third is in the hardness calculated at the design flow for use to determine the hardness-based metals criteria. The hardness for Outfall 002 was recalculated using the design flows developed in SWToolbox and the regression equation from the Fact Sheet see the Response to Comment # 37. See the Response to Comment # 51 regarding the recalculated hardness for Outfall 003.

42. **Comment:** 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.

Response: Outfalls 001 and 002 discharge the same effluent, as explained in the fact sheet. Since the effluent is identical, the same effluent limits have been applied to Outfall 001 and 002. See Response to Comment # 1 and DEQ Response to Comment #1 in Attachment B.

43. **Comment:** 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 9 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 [#41 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

Response: The use of effluent hardness does not comport with the requirements of the Idaho WQS. The WQS at IDAPA 58.01.02.210.03(c)(ii) state: “The hardness values used for calculating aquatic life criteria for metals at design discharge conditions shall be representative of the ambient hardnesses for a receiving water that occur at the design discharge conditions given in Subsection 210.03.b.” This requirement has been interpreted as applying the hardness at the design discharge conditions to a criterion (1Q10 for an acute criterion and the 7Q10 for the chronic) to calculate an end-of-pipe criterion and applying a mixed hardness to calculate a criterion for a parameter with an authorized mixing zone. NPDES permits

must ensure that EPA-approved WQS are met. There is no basis to continue to use the existing limits for lead, zinc and cadmium. See Responses to Comments # 37 and # 51 as well as DEQ Response to Comment #3 in Attachment B.

44. **Comment:** 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.

Response: See Response to Comment # 7.

45. **Comment:** 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.”

Response: EPA regrets this typographical error. The final permit contains the required Surface Water Monitoring for all outfalls.

46. **Comment:** 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.

Response: See Response to Comment # 14.

47. **Comment:** 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:

Requested MDLs for Select Parameters

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

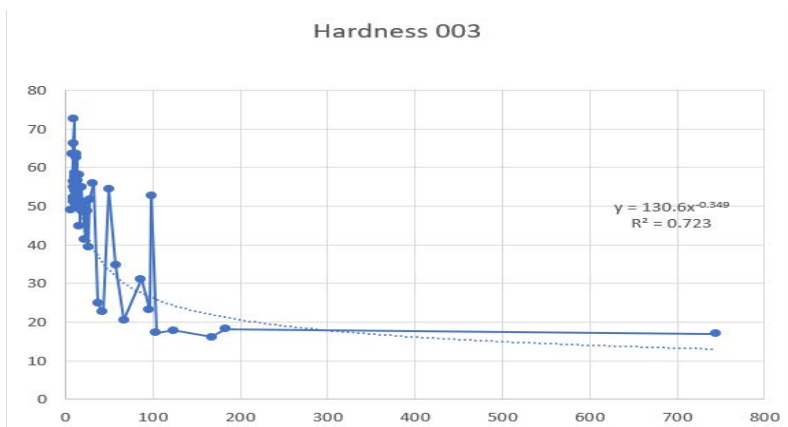
Response: EPA consulted the DEQ BLM Guidance for the required detection values necessary to determine site-specific BLM criteria since monitoring for several parameters is included specifically for criteria development. The BLM Guidance includes Reporting Limits and, these are comparable to a Minimum Level rather than an MDL. EPA has revised Table 5 in the final permit to contain a column of Reporting Limits for the parameters necessary to derive the BLM criteria.

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

Response: See Response to Comment # 15.

49. **Comment:** 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 R2 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 R2 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.

Response: LFU is correct that a more appropriate regression type should have been used. EPA took LFU’s suggestion of using a power regression and came up with the graph and equation, below.



Design Flow	cfs	Hardness mg/L
1Q10	4.5	77.3
7Q10	6.2	69.1

Based on the regression equation shown, EPA recalculated the hardness for the 1Q10 and 7Q10. During this exercise, it was discovered that the hardness used to calculate

the limits for Outfall 003 in the draft permit was the hardness for Outfall 002. Because the new hardnesses determined for Outfall 003 are close to those used for the draft effluent limitations for Outfall 002, the resulting effluent limitations for Outfall 003 do not vary much from those proposed in the draft permit.

50. **Comment:** 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. 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.

Response: EPA calculated the final effluent limitations based on 25% of the critical flows. Because DEQ has not authorized an increase in the percent mixing from the 25% included in the draft CWA § 401 Certification, the final permit does not contain changes based on this request. See DEQ Response to Comment #9 in Attachment B.

51. **Comment:** 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.

Response: EPA regrets any errors in translating the table from an excel spreadsheet into the Word file which ultimately became the Adobe Acrobat file available on the EPA website. As for the discrepancy in the copper values, EPA acknowledges that the dissolved copper criteria values were utilized rather than the total values as were used for other metals. Since the copper BLM criteria were approved by EPA on May 2, 2019, the hardness-based criteria no longer apply.

52. **Comment:** Appendix C: Footnote references the incorrect Permit number and facility.

Response: EPA regrets this typographical error.

Attachment A – Tables referenced in Comment # 7

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 Exceedence³ (%)	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 Exceedence³ (%)	0	0	0	0	0

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 Exceedence³ (%)	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 Exceedence³ (%)	0	0	0	0	0

Attachment B - Idaho DEQ Response to Comments on the Draft CWA § 401 Certification

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Public Comment Period:

February 25, 2019 through April 12, 2019 for Draft Certification dated February 20, 2019

The draft 401 certification and the draft NPDES permit were advertised for public comment at the same time since one is a subset of the other. As a result, comments are received that address both permit topics and certification topics. DEQ has selected comments from the respondents that relate to 401 certification topics. EPA also develops a response to comments addressing comments specific to their permit.

1. Hecla Limited Comment 1

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'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 excess precipitation.

DEQ Response to Comment 1

IDAPA 58.01.02.400.05 provides that a NPDES permit “may” incorporate flow-tiered limits at DEQ’s discretion; it does not require flow-tiered limits. The Lucky Friday Unit’s (LFU’s) ability to treat its effluent has improved dramatically. Today, the LFU’s water treatment plants are capable of treating the effluent to a consistent quality regardless of flow in the South Fork Coeur d’Alene River.

Because the effluent can be treated to a level that meets final effluent limitations at times when the South Fork Coeur d’Alene River provides minimal dilution, DEQ has determined that flow-tiered limits are no longer necessary for this permit. Removal of the flow-tiered limits also simplifies the permit.

DEQ has authorized mixing zones for mercury and WET. DEQ’s decision to authorize these mixing zones for LFU discharges was guided by several factors. First, DEQ authorized the mixing zones under the currently applicable mixing zone policy, found in the 2014 version of the WQS. However, the new but as yet unapproved mixing zone policy in the current WQS, while not effective for CWA purposes, assist in DEQ’s interpretation and application of the applicable mixing zone policy. Provisions of IDAPA 58.01.02.060.e.iv in the 2014 WQS, IDAPA 58.01.02.060.c. in the current WQS, section 4.3.2 in the Technical Support Document for Water Quality Based Toxics Control (EPA, 1991), and the impaired status of the river at this location for unknown pollutants, were considered to guide and inform DEQ’s decision to authorize the minimum size mixing zone necessary for the LFU that allows the facility to meet the effluent limits in the permit.

This analysis resulted in mixing zones for WET and mercury equal to 25% of the critical low flow volume. However, installation of water treatment plants and the resultant improvement in effluent quality have made it unnecessary to authorize additional dilution for these pollutants in the form of either flow tiers or excess mixing zone size. DEQ did not authorize a mixing zone for copper BLM-based effluent limits. Using conservative BLM inputs in lieu of in-stream data, there is no remaining assimilative capacity for dilution.

2. Hecla Limited Comment 2

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.

DEQ Response to Comment 2

See DEQ Response #1 for information related to need for dilution. Additionally, Outfall 002 is upstream of Outfall 001 with less dilution available at critical flows. Therefore, Outfall 002 is the most limiting location for a discharge. Given that effluent from WTP2 directs water of the same quality and quantity to either Outfall 001 or Outfall 002 pollutant load and concentration will be the same at either Outfall. LFU can meet effluent limits using dilution available at the most limiting location (Outfall 002) therefore, additional dilution is unnecessary.

3. Hecla Limited Comment 3

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.

DEQ Response to Comment 3

The WQS at IDAPA 58.01.02.210.03.c.ii require that ambient hardness of the receiving water be used to calculate the criteria. DEQ will be consistent with this rule. The commenter notes that effluent hardness was used for end of pipe limits for three municipal dischargers in the Spokane River. This error is in the process of being corrected. A TMDL for cadmium, lead, and zinc impairments is under development for the Spokane River which will likely result in wasteload allocations (WLAs) for these metals for each of the three dischargers. If a WLA for a metal is not authorized by the TMDL, the next permit renewal will contain effluent limits that are consistent with the WQS. Additionally, water quality criteria are evaluated for compliance in the fully mixed portion of the river, not within a zone of initial dilution (acute mixing zone) or the chronic mixing zone.

4. Hecla Limited Comment 4

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.

DEQ Response to Comment 4

DEQ is authorizing mixing zones for this permit under the version of the mixing zone policy in the 2014 WQS, which is applicable for Clean Water Act purposes. See Response #1 for additional details.

5. Hecla Limited Comment 5

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 event¹ EPA approves the BLM rule prior to reissuance of the subject permit, LFU will need to overcome anti-backsliding and antidegradation 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 10th 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.

Hecla Comment 5 Footnote 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.

A. 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.

DEQ Response to Comment 5

The permit appropriately includes effluent limitations for copper designed to meet Idaho's new BLM-based aquatic life criteria for copper. EPA approved the BLM-based copper criteria on May 2, 2019 making those criteria applicable for Clean Water Act purposes, including the permit and section 401 water quality certification for the LFU. In addition, DEQ has adopted *Implementation Guidance for the Idaho Copper Criteria for Aquatic Life (2017)* ("*Copper Guidance*") to guide implementation of the new criteria. Because the old hardness-based criteria have been superseded and do not apply to this permit or certification, those criteria cannot be used as a basis for copper effluent limits in the reissued permit for the LFU.

IDAPA 58.01.02.210.03.c.v(1) provides two options for deriving BLM-based copper criteria. The first option for deriving BLM-based copper criteria is to calculate the criteria using BLM software consistent with EPA guidance. As discussed in section 5 of the *Copper Guidance*, this option requires site-specific data sufficient to characterize spatial and temporal variability of the BLM inputs and the most bioavailable conditions for copper. In the absence of sufficient site-specific data, the second option is to use an estimate derived from BLM outputs. Under IDAPA 58.01.02.210.03.c.v(4), site-specific criteria derived using the first option supersede estimated criteria derived using the second option.

DEQ agrees there is insufficient site-specific data to use the first option for developing effluent limits for the LFU at this time. DEQ's final certification includes conditions requiring a monitoring plan and a quality assurance plan for collecting the data necessary to derive site-specific criteria using the BLM. Until sufficient site-specific data are available, IDAPA 58.01.02.210.03.c.v(1) requires the use of an estimate derived from BLM outputs. Under IDAPA 58.01.02.210.03.c.v(1)(b), the estimate must be based on a scientifically sound method and protective of the designated aquatic life use. Section 6.1 of the *Copper Guidance* identifies several potential criteria estimates but emphasizes "conservative criteria estimates should be used to estimate critical conditions of a water body or AU and ensure estimated criteria are protective of aquatic life."

To develop copper effluent limits, EPA used criteria estimates from Table 2 of the *Copper Guidance*. As discussed in Section V.C of EPA's Fact Sheet, EPA considered two sets of estimated

copper criteria in Table 2—i.e., the estimates Panhandle Basin and Mountains Stream. The LFU is located in the Panhandle Basin and the South Fork Coeur d’Alene River in the vicinity of the LFU outfalls is classified as a mountain stream. Section 6.1 of the *Copper Guidance* indicates that stream orders that are less than 5 are to be considered streams for the purposes of estimating conservative criteria. The South Fork Coeur d’Alene River in the vicinity of Outfalls 001/002 and 003 is a 4th order stream. Therefore, the site class+ river/stream regional classification for the South Fork Coeur d’Alene River is a Mountains Stream until it reaches the Pinehurst area where it becomes a 5th order stream and classified under the Guidance as a Mountains River. Ultimately, EPA selected the Mountains Stream estimate as the more conservative of the two options considered. This was appropriate, as it reasonably assures the estimated criteria are protective of aquatic life in the South Fork Coeur d’Alene River.

Once sufficient data are available to derive site-specific copper criteria under IDAPA 58.01.02.210.03.c.v(1)(a), the site-specific criteria would, as noted above, supersede the estimated criteria used to develop the copper limits for this permit. Thus, it is expected that future copper effluent limits will be based on the location specific criteria. The comment indicates that this change could raise anti-backsliding and antidegradation concerns. These concerns are unfounded.

Fact Sheet section V.D addresses anti-backsliding. EPA determined that copper effluent limitations based on the estimated BLM criteria are more stringent than the copper limits in the previous permit for all outfalls. Therefore, as the Fact Sheet explains, including copper limits based on the estimated BLM criteria does not create a backsliding issue. However, future copper effluent limits based on site-specific BLM results may be somewhat less stringent than those based on EPA’s conservative criteria estimates.¹

The Fact Sheet addresses this situation as well, noting that Clean Water Act section 303(d)(4)(B), 33 U.S.C. § 1313(d)(4)(B), provides an exception to the general anti-backsliding rule. Under this exception, when water quality meets or exceeds applicable water quality standards for a specific parameter, a permit can contain less stringent effluent limits than the previous permit if the revision is consistent with the State’s approved antidegradation policy. In the section 401 certification, DEQ determined that the change from hardness-based copper limits to limits based on conservative BLM criteria estimates in this permit is consistent with the antidegradation policy. At this time, DEQ anticipates that a transition from copper limits based on conservative BLM criteria estimates to limits based on location specific BLM criteria would require an antidegradation review similar to the review for mercury. Under IDAPA 58.01.02.051.04, the antidegradation review for such a transition would be triggered by an application to reissue the permit with copper limits based on the site-specific BLM results.

6. Hecla Limited Comment 6

¹ Appendix A to DEQ’s *Statewide Monitoring for Inputs to the Copper Biotic Ligand Model* (2017) presents five paired data sets collected along the SFCdA River where copper BLM site-specific data was collected in 2016. Criteria calculated from each set of data indicate that there is little variation in criteria by location from Pinehurst to Mullan (DEQ 2017, Appendix B). These data were collected in early October, a timeframe near low flow conditions. Although this study was a preliminary investigation, the resulting copper BLM criteria are revealing. The average chronic and acute criteria for these five paired data sets are 1.11µg/L and 1.78µg/L, respectively. In contrast, the permit’s copper effluent limitations are based on conservative estimates for the chronic and acute criteria of 0.6µg/L and 1.0µg/L, respectively.

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.

DEQ Response to Comment 6

The 2014 Integrated Report indicates that the South Fork Coeur d'Alene River in the vicinity of LFU Outfalls (between Daisy Gulch and Canyon Creek) is impaired for unknown causes and that metals are a suspected cause of that impairment. DEQ's analysis of LFU's bioassessment data and bioassessment data that DEQ collected in 2013 and 2014, indicate that this segment continues to be impaired and will remain on the 2016 Integrated Report (not yet approved by EPA) as not fully supporting beneficial uses (April 8, 2019 Summary from Kajsa Van de Riet, Water Quality Analyst, DEQ Coeur d'Alene Regional Office). Similarly, DEQ's March 23, 2008 letter to EPA regarding mixing zones for LFU also indicate that an impairment of beneficial uses exist immediately downstream of the LFU. The path to determining what pollutants are causing the impairment is to conduct a Subbasin Assessment/Total Maximum Daily Load and develop wasteload allocations and load allocations that will, when achieved, recover beneficial uses. See Response 14 for additional information.

A Draft Technical Memorandum D-1 titled, *Enhanced Conceptual Site Model (ECSM) – Hydraulics and Sediment Transport of the Lower Basin of the Coeur d'Alene River (OU3)*, (CH2MHill, April 17, 2009) among other studies related to the Bunker Hill Superfund site describes principles of sediment transport in the Coeur d'Alene River and its tributaries. Metals bound to sediment particles were just one example provided in the Draft 401 Certification to describe the various ways metals from LFU Outfalls might be transported downstream. The point is that once the metals are in the water they are carried downstream, possibly bound to sediment particles or dissolved in the water column to the next segment of the South Fork Coeur d'Alene River (Canyon Creek to Placer Creek). This downstream segment is listed in the 2014 Integrated Report as impaired due to cadmium, lead, and zinc.

Under IDAPA 58.01.02.070.08, all waters shall maintain a level of water quality at their pour point into downstream waters that provides for the attainment and maintenance of the water quality of those downstream waters. In addition, the WQS require the protection and maintenance of existing uses and thus prohibit degradation or lowering of water quality that would cause or contribute to a violation of water quality criteria (IDAPA 58.01.02.051.01, 58.01.02.052.07, 58.01.02.055.04). The increased load of cadmium, lead, and zinc due to LFU's increased effluent flow over the current permit cycle, is, at a minimum, contributing to the existing violation of WQS in the downstream assessment unit. Therefore, LFU was limited to their current permit limits for these three metals to prohibit further impairment of the downstream segment. No mixing zone was authorized for these three metals in the existing permit and the 401 Certification for this permit likewise does not authorize a mixing zone for these three metals. Further, as explained in Response #1, dilution is not necessary for LFU to meet the effluent limits for cadmium, lead, and zinc.

7. Hecla Limited Comment 7

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.

DEQ Response to Comment 7

Effluent data for copper from Outfall 003 (Fact Sheet Appendix B) was examined to determine if a compliance schedule for copper BLM effluent limits was required. Data from January 2, 2013 through April 4, 2015 had nine samples that were above detection and, of these nine, only one value exceeded $2\mu\text{g/L}$. More recent data from April 15, 2015 through February 28, 2019, show no detection of copper, reported by LFU as $-1.00\mu\text{g/L}$, <1 , or NODI 9. Thus, LFU's optimization of WTP3 and subsequent monitoring has demonstrated that WTP3 is very efficient at removing copper and that the need for a compliance schedule for Outfall 003 for further improvements is unnecessary. Also see Response #1 and #5.

8. Hecla Limited Comment 8

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 nonengineering 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."

DEQ Response to Comment 8

The 401 Certification has been modified to include LFU's suggested language.

9. Hecla Limited Comment 9

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.

DEQ Response to Comment 9

See Response #1.

ICL Comment 10

Copper BLM Monitoring

EPA and DEQ should require sampling for the relevant parameters upstream of all outfalls in addition to the proposed downstream sampling. DEQ's copper criteria guidance states: "In some instances, it may be necessary or advisable to collect samples upstream of points of discharge to capture baseline conditions."¹ Since the goal of the copper BLM is to protect water quality based on the bioavailability of copper in specific receiving waters, it follows that upstream sampling could help set a baseline. The baseline conditions established by upstream sampling would allow DEQ to determine if/how the effluent affects the copper bioavailability, which is an important question to answer when developing copper criteria for this facility.

Additionally, the copper bioavailability of the effluent may vary on a different timeframe than that of the receiving water.

EPA and DEQ should also designate specific upstream and downstream monitoring locations for copper BLM inputs. It is important for the sampling to capture the conditions in the receiving waters where copper is the most bioavailable, both upstream and downstream of each outfall. At the downstream location, sampling should occur outside of the chronic mixing zone with conditions representatives of complete mixing. Sufficient sampling locations should be used in order to adequately characterize the spatial variability of the BLM input parameters within the

receiving waters. EPA guidance suggests that the “collection of data outside of the chronic mixing zone both upstream and outside of the influence of the effluent discharge, and downstream of the discharge would best characterize the spatial variability of the site.”² The more parameter data that can be collected, the more accurately the water chemistry of the site can be characterized, which will ultimately result in the development of more accurate criteria.

¹ DEQ. 2017. Implementation Guidance for the Idaho Copper Criteria for Aquatic Life Using the Biotic Ligand Model at 19, *available at* <http://www.deq.idaho.gov/media/60180840/58-0102-1502-implementation-guidance->

² EPA. June 2018. Questions and Answers on the Establishment of Site-Specific Freshwater Criteria using the Copper Biotic Ligand Model.

DEQ Response to Comment 10

The Final 401 Certification conditions that address BLM water chemistry data collection effort have been revised. The revised conditions specify that the permittee shall consult with DEQ who will determine the need for upstream sampling for BLM water chemistry. Additionally, DEQ will review and approve of the BLM monitoring plan and quality assurance plan prior to data collection. After the 24 months of data collection, DEQ will review and provide approval if conditions of the quality assurance plan have been met prior to the data’s use for calculating the revised copper criteria.

ICL Comment 11

In addition, we request EPA and DEQ provide the models and any other basis for establishing and justifying the BLM monitoring locations.

DEQ Response to Comment 11

DEQ will determine details of the BLM monitoring locations based on analysis of existing data, knowledge of the site, DEQ rules and guidance, and any other studies or information that can assist with the BLM water chemistry data collection. See revised conditions in the 401 Certification.

ICL Comment 12

Finally, we request EPA and DEQ require continuous pH monitoring for all sampling locations rather than weekly sampling. The implementation guidance provides that pH may have significant diurnal variability that affects metal concentrations. Weekly grab sampling is insufficient to capture the effects of this short-term variance, and as the guidance notes, it is important to “properly capture the temporal variability of the physical and chemical parameters that are used as inputs for the BLM.” Given the diurnal variability of pH, and that the BLM is most sensitive to pH and DOC, continuous monitoring of pH would provide the best possible input parameters for the BLM.

DEQ Response to Comment 12

Provisions for DEQ to consider requiring continuous instream pH monitoring for BLM water chemistry data collection has been added to the 401 Certification.

ICL Comment 13

Please discuss the status and seepage rates of the tailings ponds associated with the Lucky Friday facility. According to the 2001 EPA Fact Sheet, Hecla's tailings ponds are unlined, and the current NPDES permit required Hecla to conduct a seepage study to determine if there are discharges of pollutants from the tailings ponds to the SFCDA River. EPA's ongoing struggles to treat seepage draining out of the bottom of the unlined Central Impoundment Area in Smelterville, Idaho and into the SFCDA River makes us concerned that similar seepage and groundwater/surface water interaction may be contributing additional pollution to the SFCDA River from Hecla's tailings ponds. Please provide and discuss the results of the seepage study. We reserve the right to provide further comment based on the contents of this study, once it is released.

In addition, it is general practice that the fact sheet for a draft NPDES permit includes a table summarizing the previous seepage test dates for lagoons and ponds and indicates the deadline for the next round of seepage testing for each one. We request EPA and DEQ provide this information.

DEQ Response to Comment 13

LFU's current NPDES permit required a seepage study and hydrological analysis of tailings pond 1 and 3 and if there was a discharge from Outfall 002 for more than 6 months, it was to be included in the study. The *Seepage Study and Hydrological Analysis* (Water & Natural Resource Group, Inc. dated March 14, 2008) was submitted to EPA and DEQ as fulfillment of the permit requirement. It is available from DEQ by request. Briefly, the study concluded that "Seepage from the tailings impoundments appears to be minimal." Subsequent to this study and as a result of investigations by EPA, a Stipulation of Settlement and Judgment regarding *United States of America v. Hecla Limited* (U.S. District Court for the District of Idaho, 2015) was finalized, for in part, diversion of seepage water from Tailing Pond No. 3 to Harris Creek. Also in 2015, DEQ entered into a Voluntary Consent Order (VCO) with Hecla Limited to implement Hecla's Closure Plan for Tailings Pond No. 3 (also known as TP3). The Closure Plan was to assess whether TP3 contributes to any exceedances of a ground water or surface water standard that would impair existing beneficial uses and to remediate any release of contaminants from the tailings impoundment to ground water. DEQ continues to work with Hecla Limited on details of the Closure Plan and has made significant progress towards a final plan.

DEQ is not aware of a general practice for NPDES permits of providing seepage test dates and scheduling. You might be referring to DEQ's Wastewater Rules IDAPA 58.01.16.493 which is specific to municipal wastewater treatment or disposal facilities.

ICL Comment 14

Since at least 1998 the stretch of the SFCDA River that receives Hecla's effluent discharges has been identified on Idaho's 303(d) list as an impaired water body, likely due to metals contamination. And, since that time, over twenty years have passed, and the State of Idaho has been both unable and unwilling to secure approval of a metals TMDL for the SFCDA River, despite the fact that the river continues to exceed metal pollution limits.

We are concerned that the SFCDA River has very little assimilative capacity for the metals pollution Hecla's facility discharges into the river. And, although we are encouraged to see more

stringent effluent limits in the draft NPDES permit, it remains concerning that the effluent limits proposed in 2019 continue to be less stringent than effluent limits proposed in 2001, according to the metals TMDL that existed at that time. *See* 2001 NPDES Permit Fact Sheet, Hecla Lucky Friday Mine.

Despite the risks to human health from metals pollution from Hecla's facility and others along the SFCDA River, this river and its surrounding community continue to be the victims of regulatory capture. DEQ currently labels the development of a metals TMDL for the Coeur d'Alene River Basin as a low priority, in part, because DEQ does not believe such a TMDL has the support of mining interests. *See* Attachment 1.

This is truly a depressing state of affairs, and we encourage EPA to utilize the full extent of its discretionary authority to revise the draft permit with the most protective effluent limits and monitoring requirements available. To be sure, further restricting Hecla's metals effluent limits will not solve the metals contamination issues in the Coeur d'Alene Basin or even the SFCDA River, but that should not be basis for allowing existing point sources to continue to discharge beyond the assimilative capacity of the river. Restoring the SFCDA River calls for an "all hands on deck" approach and attitude, and every reduction in the metals loading to the river counts.

DEQ Response to Comment 14

In 2000, DEQ completed a metals TMDL for the South Fork Coeur d'Alene River, which EPA approved. However, in the case *Asarco v. State*, 69 P.3d 139 (Idaho 2003), the Idaho Supreme Court later declared that TMDL void because it was not developed using rulemaking procedures. As ICL identifies in the September 28, 2018 letter from DEQ to ICL, Idaho Code § 39-3611(4) now requires that any development of TMDLs for metals in the Coeur d'Alene River Basin must go through the rulemaking process. Such a TMDL would therefore need to be approved by the Idaho Board of Environmental Quality and the Idaho Legislature, in addition to the EPA, before it could take effect. As ICL is aware, this rulemaking requirement is unique to metals TMDLs in the Coeur d'Alene River Basin; rulemaking is not required for development of any other TMDL in the state. DEQ believes that without the support of the community and mining interests in the Coeur d'Alene River Basin, a metals TMDL rule for the South Fork Coeur d'Alene River is not likely to garner the necessary approvals at this time. DEQ is therefore dedicating its limited resources to other priorities.

ICL Comment 15

The EPA should not grant the use of mixing zones to dilute waste.

DEQ may authorize the use of a mixing zone. But, the EPA does not need to approve of the use of a mixing zone should DEQ recommend or authorize them. We believe that the use of mixing zones causes harm by facilitating the release of additional pollutants and creating a potential barrier to fish movement. Accordingly, we request EPA deny DEQ's proposed mixing zones and revise the draft permit with end-of-pipe limits for mercury, copper, WET, and pH.

If the mixing zones proposed in the draft permit are maintained, we request DEQ provide a more detailed discussion of the analysis it used to justify its decision to permit mixing zones for mercury, copper, WET, and pH. As currently drafted, DEQ's 401 certification merely authorizes the mixing zones for mercury, copper, and WET in a single sentence, without providing any analysis or

explanation showing that the mixing zones will comply with the principles of Idaho's Mixing Zone Policy. In particular, it is unclear from DEQ's analysis whether the proposed mixing zones will ensure the following:

- The mixing zone is to be located so it does not cause unreasonable interference with or danger to existing beneficial uses;
- When two (2) or more individual mixing zones are needed for a single activity, the sum of the areas and volumes of the several mixing zones is not to exceed the area and volume which would be allowed for a single zone; and
- The mixing zone is to be no closer to the ten (10) year, seven (7) day low-flow shoreline than fifteen percent (15%) of the stream width.

See IDAPA 58.01.02.060.01.b, c., and e.iii. (2014).

We are particularly concerned that relocating Outfall 003 to the north side of the SFCDA River may cause the plume created by the mixing zones for mercury, copper, WET, and pH to create a barrier to fish passage. Placing Outfall 003 on the north side of the SFCDA River puts this outfall near the inside edge of a bend in the SFCDA River, which may cause the mixing zones to extend diagonally across the width of the river, as the plume approaches the downstream bend. We request DEQ further analyze the potential impacts of the proposed mixing zones and provide this analysis for public review. And, please explain why CORMIX modeling is appropriate, or not, for evaluating the impacts of authorizing a mixing zone for discharges of pollutants at the new location for Outfall 003. We also request DEQ explain, in detail, how the proposed mixing zones comply with the mixing zone principles stated above.

DEQ Response to Comment 15

The final permit will require LFU to complete for DEQ review and approval, a mixing zone analysis using Cormix prior to moving Outfall 003. DEQ supports the relocation of Outfall 003 to improve mixing. Currently, there is not enough information regarding the design and location of the proposed outfall to model the discharge. As part of the modeling effort, deficiencies in the proposed location of the outfall will be revealed and corrected if needed to comply with the DEQ mixing zone rules.

DEQ authorized a 25% critical flow mixing zone for Outfall 001/002 for WET which is the same as the current permit. WET testing results have consistently shown no toxicity to test species. DEQ significantly reduced the mixing zone size for mercury at all Outfalls from 75% to 25% for each flow tier and final effluent limits allow no mixing for copper.

Outfalls 001 and 002 are side bank discharges. Flows from these Outfalls have not significantly increased from the current permit. In weighing the value of requiring the side discharges to be moved to the thalweg of the river, DEQ must consider the benefits versus the long term negative consequences of the change. In examining the location at each of these Outfalls, considering the width of the river, channel alignment, bottom configuration, results of WET testing, lower effluent limits for some metals, and the value of a mature riparian zone, DEQ determined that movement of the Outfalls would permanently degrade the river at these locations and that the small benefit gained in relocating the discharge to minimize shore hugging plumes would not outweigh the negative effects of moving the pipes.

ICL Comment 16

EPA's draft fact sheet identifies temperature as a pollutant of concern. However, no temperature effluent limitations are proposed in the draft permit. We request EPA explain how it concluded Hecla's discharge does not have a reasonable potential to cause or contribute to an exceedance of the water quality criteria for cold water aquatic life and salmonid spawning.

Hecla discharges to a stretch of the SFCDA River that is designated for cold water aquatic life and has an existing use for salmonid spawning. At Table C-1, it appears EPA only analyzed the temperature criteria for cold water aquatic life instead of also analyzing the criteria for salmonid spawning – during times of spawning, water temperatures are not to exceed thirteen degrees C or less with a maximum daily average no greater than nine degrees C. IDAPA

58.01.02.250.02.f.ii. This is a critical oversight given that Hecla's effluent is discharged at temperatures well above these criteria, especially during the summer months. *See* Appendix B in EPA's Fact Sheet. Moreover, Hecla's receiving water monitoring reveals that the SFCDA River above Outfalls 002 and 003 already flows at temperatures that exceed, or nearly exceed, the temperature criteria for salmonid spawning. All this makes the receiving water in the SFCDA River vulnerable to temperature exceedances. We request the EPA and DEQ please explain why it is not appropriate to establish temperature effluent limits in Hecla's new permit.

If effluent limits for temperature are not included in Hecla's new permit, we request EPA and DEQ specifically explain what Hecla's monitoring requirements entail. DEQ's 401 certification provides that the temperature monitoring requirements for Outfall 002 and 003 must be changed so that the data is useful to DEQ in determining compliance with temperature criteria. But, DEQ fails to provide or explain the necessary monitoring frequency that would make the data analytically useful.

DEQ Response to Comment 16

DEQ specifically conditioned the 401 Certification so that we are able to work directly with the permittee to achieve the quality of data necessary for the assessment of temperature in this segment of the South Fork Coeur d'Alene River. To date we only have quarterly temperature data upstream of the outfalls and weekly effluent monitoring. DEQ is working on a temperature Subbasin Assessment/Total Maximum Daily Load for the South Fork Coeur d'Alene River and this effort requires high quality instream continuous temperature data and daily effluent temperature. Rather than develop effluent limits on inadequate data, it is prudent to use this opportunity to have LFU collect continuous data so we can prepare a comprehensive accounting of temperature sources and develop meaningful wasteload allocations for point source dischargers, as necessary.

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**BEFORE THE ENVIRONMENTAL APPEALS BOARD
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C.**

_____)
IN THE MATTER OF)
)
HECLA LIMITED LUCKY FRIDAY))
MINE, LUCKY FRIDAY UNIT)
)
NPDES Permit No. ID0000175)
)
_____)

PETITION FOR REVIEW

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I. INTRODUCTION

Pursuant to 40 C.F.R. § 124.19(a), Hecla Limited Lucky Friday Mine (“Hecla”) petitions for review of the conditions of final National Pollutant Discharge Elimination System (“NPDES”) Permit No. ID0000175 (the “Lucky Friday Permit” or “Permit”) issued by the United States Environmental Protection Agency (“EPA”), Region X (the “Region”) on June 21, 2019. Hecla received the Lucky Friday Permit on June 21, 2019. The Lucky Friday Permit was issued pursuant to EPA’s authority under the federal Clean Water Act (the “CWA”).¹ *See* 33 U.S.C. §§ 1311 and 1342. A copy of the Lucky Friday Permit is attached hereto as Exhibit A. The Lucky Friday Permit authorizes Hecla to discharge from the Lucky Friday Unit located near Mullan, Idaho (“Lucky Friday Unit”) at the locations and in accordance with the conditions set forth in the Permit. Hecla contends that certain conditions are based on clearly erroneous findings of fact and conclusions of law. Specifically, Hecla challenges the following Permit conditions:

- (1) I.B (1), as to the effluent limitations and monitoring requirements pertaining to WET, copper, cadmium, lead, mercury, and zinc
- (2) I.B (1), as to the effluent limitations pertaining to Outfall 001
- (3) I.B (9)
- (4) I.C.3, WET chronic Toxicity Triggers and receiving water concentrations
- (5) I.D.6, as to the Surface Water Monitoring Requirements pertaining to copper
- (4) II.A.

II. FACTUAL BACKGROUND

The Lucky Friday Unit is a deep, hard rock underground mine located immediately east of Mullan, Idaho in Shoshone County. Ore has been mined from the Lucky Friday since 1942. The mill began operation in 1959. Currently, operations consist of two underground accesses, support facilities, a surface mill, a lined tailings impoundment, and two water treatment facilities: Water Treatment Plant 2 (“WTP 2”) and Water Treatment Plant 3 (“WTP 3”).

At the site, several components of the Lucky Friday Unit generate wastewater, which can be combined and routed for discharge, after treatment, through three outfalls to the South Fork Coeur d’Alene River (“SFCDAR”): Outfalls 001, 002, and 003. Approximately six miles downriver from the outfalls, both Canyon Creek and Ninemile Creek flow into the SFCDAR.

A NPDES Permit was first issued to Hecla for the Lucky Friday Unit in 1973. In 1976, Hecla timely applied to the Region for reissuance of its Permit. This timely application ensured that the 1973 Permit remained in effect after its expiration date of June 30, 1977. On September 28, 1990 a draft Permit for the Lucky Friday Unit was issued for public notice, but was never finalized. Hecla submitted applications to discharge from Outfalls 001, 002, and 003 and additional information related to the applications over the intervening years.

On August 12, 2003, the currently active Permit was issued to Hecla (i.e., the reissued Permit becomes effective August 1, 2019). The Permit was subsequently modified in February 1, 2006 and August 1, 2008. The Permit expired on September 14, 2008 but, pursuant to 40

(...continued)

¹ Because the State of Idaho had yet to receive authorization to implement its own NPDES permit program at the time of the Lucky Friday Permit issuance, EPA issued permits in Idaho, in lieu of the federal program.

C.F.R. § 122.6, the Permit has been administratively extended and remains in effect. Hecla has submitted numerous updates to the application since 2008 and as recently as March 29, 2018. During the current Permit term, Hecla installed additional water treatment facilities (WTP 2 and WTP 3), which substantially reduced metals concentrations and metal loading. Additional water treatment was necessary due to the phaseout of the 2003 Permit interim effluent limitations, with final Permit effluent limitations taking effect in September 2008. Instream chemical monitoring and biological monitoring taken from both upstream and downstream of the outfalls pursuant to the existing Permit demonstrates that water quality criteria are being met, aquatic life is being protected, and beneficial uses are supported.

The Region issued a draft permit (“Draft Permit”) and supporting Fact Sheet, Exhibit B, for public notice on February 25, 2019. Hecla timely submitted written comments on the Draft Permit on March 26, 2019, attached hereto as Exhibit C. The State of Idaho issued its draft 401 Certification of the Lucky Friday Permit (“Draft 401 Certification”) for public notice on February 25, 2019, attached hereto as Exhibit D. Hecla timely submitted written comments on the Draft 401 Certification on March 26, 2019, attached hereto as Exhibit E.

On June 3, 2019, the State of Idaho issued its final 401 Certification of the Lucky Friday Permit, attached hereto as Exhibit F. Hecla intends to timely appeal certain conditions in the state 401 Certification.

The Region issued its “Response to Comments,” attached hereto as Exhibit G, and issued the Lucky Friday Permit, Exhibit A, on June 21, 2019.

III. THRESHOLD PROCEDURAL REQUIREMENTS

Hecla satisfies the threshold requirements for filing a petition for review under 40 C.F.R. part 124, to wit:

1. As the holder of the Permit, Hecla is an interested party entitled to file an appeal under 40 C.F.R. § 124.19(a)(2). In addition, Hecla has standing to petition for review because it submitted written comments on the Draft Permit. *See* Hecla's Comments March 26, 2019, Exhibit C.

2. The issues raised by Hecla in its petition were raised during the public comment period and therefore were preserved for review.

IV. STANDARD OF REVIEW

Under 40 C.F.R. § 124.19(a)(4), the Environmental Review Board (“EAB” or the “Board”) should grant review of a permitting decision when it is based on clearly erroneous findings of fact or conclusions of law or involves an exercise of discretion or an important policy matter that warrants EAB review. *See In re City of Marlborough, Mass. Easterly Wastewater Treatment Facility*, 12 E.A.D. 235, 239 (E.A.B. 2005). The Board’s “power of review (under 40 C.F.R. § 124.19) should only be sparingly exercised and most permit conditions should be finally determined at the Regional level.” *Id.* (citing 45 Fed. Reg. 33,290, 33,412 (May 19, 1980)). To preserve an issue for appeal, the regulations require “any petitioner who believes that a permit condition is inappropriate to have first raised ‘all reasonably ascertainable issues and . . . all reasonably available arguments supporting [that petitioner’s] position’ during the public comment period on the draft permit.” *In re Westborough & Westborough Treatment Plan Bd.*, 10 E.A.D. 297, 304 (E.A.B. 2002) (quoting 40 C.F.R. § 124.13). The burden of demonstrating

that review is warranted rests with the petitioner, “who must state any objections to the permit and explain why the permit issuer’s previous response to the objection is clearly erroneous, an abuse of discretion, or otherwise warrants review.” 40 C.F.R. § 124.19(a); *see In re City of Marlborough*, 12 E.A.D. at 240.

V. ARGUMENT

A. The Region Arbitrarily Set BLM-Based Copper Effluent Standards.²

The Region failed to rely on any biotic ligand model (“BLM”) based data for the receiving water, the SFCDAR, in setting the copper effluent limits in the Permit. The Region instead relied on data that lacked the necessary site-specific and temporal data set, identified as required methods of setting BLM-based effluent limits in the Idaho Department of Environmental Quality (“IDEQ”) guidelines. Exhibit A, Lucky Friday Permit, p. 4; Exhibit G, Region’s Response to Comments, pp. 6-7. *But see* Exhibit H, IDEQ Implementation Guidance for the Idaho Copper Criteria for Aquatic Life (Nov. 2017) (“IDEQ BLM Guidance”) §§ 5.3,

² The Region took the unusual step of proposing BLM-based copper limits in the Draft Permit based on a state water quality standard that had not been approved by EPA, contrary to 40 C.F.R. § 131.21 (Alaska Rule), *see* 40 C.F.R. § 131.21(c), although EPA subsequently approved the state copper standards (in record time) after the public comment period and before final issuance of the Permit. This placed Hecla at a disadvantage to develop comments based on a standard that may have not come into effect by the time the final Permit was issued. This fact provides an independent reason to remand the copper limits to the Region for reconsideration. The Region improperly sought comments on a state standard and associated permit limits that were not yet effective under the CWA. Accordingly, Hecla reserves the right to provide additional information and raise additional issues during this appeal that were not submitted during the public comment period regarding the legitimacy of EPA’s estimated BLM derived criteria. This is necessary because the BLM-derived criteria did not apply during the public comment period and Hecla focused its comments on rules and law that were in effect when the Draft Permit was subject to public comment. Also, for the same reason, Hecla intends to present additional information regarding the legitimacy of the estimated BLM-derived criteria during its challenge to Idaho’s 401 Certification.

5.3.2, 5.4. The Region’s decision to rely on overly conservative estimates for the BLM-based effluent limits without considering any data in the SFCDAR, including biological data which demonstrated that aquatic life uses were fully supported, was arbitrary.

The Region developed the conservative copper criteria using data extracted from IDEQ’s³ *Statewide Monitoring for Inputs to the Copper Biotic Ligand Model* (Aug. 2017) (“IDEQ Statewide Monitoring Inputs”), hereto attached as Exhibit I. See Exhibit G, Region’s Response to Comments, pp. 6-7. The Region, however, erred in its application of the IDEQ BLM Guidance. In the IDEQ BLM Guidance, BLM specifically cautions against using assessment unit (“AU”) level data for effluent limit development:

While it is appropriate to sample at locations representative of an AU for [integrated report] and [total maximum daily load] purposes, this is generally not acceptable for determining applicable criteria for effluent limit development. For effluent limit development, it is instead necessary to characterize site specific conditions within the effluents receiving water.

Exhibit H, IDEQ BLM Guidance § 5.3.2.

IDEQ BLM Guidance is corroborated by EPA’s own guidance. In its Technical Support Document for Water Quality-Based Standards, EPA instructs permitting authorities to require permittees to collect site-specific monitoring data. See “Technical Support Document for Water Quality-Based Toxics Control,” EPA (Mar. 1991), p. 52 (emphasis in original) (“EPA recommends monitoring data be generated on effluent toxicity prior to permit limit development for the following reasons: (1) the presence or absence of effluent toxicity can be more clearly established or refuted and (2) where toxicity is shown, effluent variability can be more clearly

³ Biological data collected by Hecla as required in the existing NPDES Permit demonstrated that aquatic life beneficial uses in the SFCDAR directly below Hecla’s outfalls (continued...)

defined.”). Rather than rely on estimates at the outset, EPA recommends including a permit reopener to impose appropriate site-specific effluent limits once site-specific monitoring data has been collected noting that “the more information the authority can acquire to support the limit, the better a position the authority will be in to defend the limit if necessary.” *Id.* at 51.

The conservative effluent limitations calculated by the Region are based on the data inputs that are not representative of site-specific conditions in the SFCDAR. Rather than following IDEQ and EPA guidance, the Region arbitrarily applied parameters from a limited sample data set that contained only one sample per location and represents less than 5% of an appropriate two-year data set, when state guidance stipulates that 24 sample series are needed to set an appropriate baseline. These sample data were collected over only two months in September and October 2016, in an attempt to define a baseline for various BLM parameters for several Idaho ecoregions. Despite being appropriate for some purposes, these data ignore the temporal variability and site specificity required of a data set to implement the BLM for effluent limits.

The IDEQ BLM Guidance further states that spatial coverage is essential to setting appropriate BLM-based effluent limits and recommends that “[m]onitoring locations should represent the conditions for the receiving water as affected by the specific discharge being considered . . . [and] it may be necessary or advisable to collect samples upstream of points of discharge to capture baseline conditions.” Exhibit H, IDEQ BLM Guidance § 5.3.2.

(...continued)

were fully supported. The Region arbitrarily did not consider this information in estimating a BLM-derived criteria for the SFCDAR.

The Region’s “conservative criteria” data set also ignores IDEQ BLM Guidance recommendation with respect to temporal variability in setting appropriate BLM parameters. IDEQ guidance suggests 24 consecutive months of instantaneous water quality criteria is appropriate to characterize seasonable variability at any single location. *See id.* § 5.4.1

To further illustrate that the data relied upon by the Region was arbitrary and not representative of conditions in the SFC DAR, the Region included two samples from Canyon Creek, a third-order stream. *See* Exhibit I, IDEQ Statewide Monitoring Inputs, p. 37; *cf. id.* at p. 40. Canyon Creek is significantly different from the upper reaches of the SFC DAR, and has very different water quality, including lower concentrations of dissolved organic carbon (DOC), cations, and anions. *See* Exhibit I, IDEQ Statewide Monitoring Inputs, pp. 14, 30.

Notwithstanding the variability of limits caused by the data set’s failure to account for spatial differences, the Permit also ignores two data set locations—ID0021296D and ID0021296U—in the SFC DAR. These samples are the most representative spatial samples and are 1.7 to 2 times the Permit-proposed 10th percentile criterion continuous concentrations (CCC) (1.0 and 1.2 µg/L respectively). *See* Exhibit I, IDEQ Statewide Monitoring Inputs, p. 53.

Not only was the Region’s decision arbitrary, the inclusion of overly conservative estimates for the BLM-based effluent limits in the Permit exposes Hecla to significant challenges in establishing site-specific effluent limitations after adequate data are collected. Based on the Permit’s current BLM-based effluent limitations, Hecla will be required to overcome anti-backsliding and anti-degradation limitations, even as site-specific data are collected. In its Response to Comments, however, the Region failed to address how anti-backsliding requirements may apply to any attempt by Hecla to seek modification of the Permit once

adequate data are collected. *See* Exhibit G, Region’s Response to Comments, p. 7; *see also* Exhibit G, IDEQ’s Response to Comments p. 36. The Region’s approach of setting effluent limits first (absent any site-specific data) and placing the burden on Hecla to undo the limits based on actual data arbitrarily places Hecla at risk and raises important policy considerations warranting review.

B. The Region Erred by Adopting IDEQ’s Conflated Effluent Limits for Outfalls 001 and 002.

The Lucky Friday Unit’s prior Permit prescribed separate effluent limits at Lucky Friday Unit Outfalls 001, 002, and 003 that both EPA and IDEQ previously authorized as compliant with the Clean Water Act. Each limit was based on and carefully tailored to the specific receiving water conditions at each outfall. Permit Part I.B removes the outfall-specific limits for Outfall 001. *See* Exhibit A, Lucky Friday NPDES Permit, Part I.B, Effluent Limitations and Monitoring, Table 2, pp. 4-5. Hecla objects to the Region’s failure to provide effluent limits tailored to site-specific conditions at Outfall 001 as existed in the prior Permit.⁴

⁴ The Permit’s Outfall 001 effluent limits derive from IDEQ’s erroneous conclusion in the 401 Certification. The Outfall 001 effluent limits are not attributable to State certification and therefore can be contested at the federal level. A permit condition that is “attributable to State certification” may not be contested at the federal level. *See* 40 C.F.R. § 124.55(e) (“Review and appeals of limitations and conditions attributable to State certification shall be made through the applicable procedures of the State and may not be made through the procedures in this part.”). On the other hand, if a State certification leaves open the possibility that the permit condition could be made less stringent and still comply with the State water quality standard, the permit condition is not “attributable to State certification” and is subject to further challenge within the agency pursuant to the procedures in 40 C.F.R. part 124. *See In re Boise Cascade Corp.*, 4 E.A.D. 474, 483 n.7 (E.A.B. 1993).

Here, IDEQ does not contend that the effluent limits for Outfall 001 must be the same as the Outfall 002 limits to comply with state water quality standards. Rather, IDEQ simply concludes the identical limits are appropriate “[g]iven that effluent from Water Treatment Plant 2
(continued...)

Table 2 of the Permit presents effluent limits calculated based on river flow and hardness conditions at or just above Outfall 002. The outfall-specific data clearly demonstrate that the receiving water conditions are different at each outfall. Relevant here, the receiving water data demonstrate that low flow statistics are higher at Outfall 001. *See* Exhibit G, Region Response to Comments, p. 3 (presenting Table 1 from Exhibit C, Hecla’s Comments to the Draft NPDES Permit, p. 1). Further, it is undisputed that the receiving water at Outfall 001 also has higher hardness than that of Outfall 002. However, rather than calculate corresponding limits for those conditions just above Outfall 001, the Permit simply imposes the Outfall 002 limits to both Outfalls 001 and 002, effectively conflating what should be two distinct, site-specific effluent limits into one. *See* Exhibit A, Lucky Friday Permit, at Part I.B; Exhibit G, Region’s Response to Comments, p. 4.

That conflation is contrary to established EPA guidance. EPA’s Technical Support Document for Water Quality-Based Standards is clear that the primary operative consideration in establishing effluent limits to implement water quality criteria is “receiving water concentration,” or “RWC.” *See* “Technical Support Document for Water Quality-Based Toxics Control, p. 48 (“A fundamental principle in the development of water quality based controls is that the RWC must be less than the criteria that comprise or characterize the water quality standards.”).

Moreover, effluent characterization should be based on “toxicity testing *in accordance with site-*

(...continued)

directs water of the same quality and quantity to either Outfall 001 or Outfall 002.” Exhibit G, IDEQ’s Response to Comments, p. 38. Because IDEQ certification does not posit that a permit requirement cannot be made less stringent and still comply with the State water quality standard, the requirement is not “attributable to State certification” and can be challenged at the federal level.

specific considerations,” to determine whether “an effluent will cause toxic effects *in the receiving water.*” *Id.* at 53 (emphasis added).

According to the Region, the “simplified” effluent limits in the Permit are appropriate due to “[w]ater treatment plant improvements.” Exhibit B, NPDES Fact Sheet, p. 77. The separate limits, the Region explained, “are no longer necessary due to the consistent effluent quality from Water Treatment Plant 2,” because “[t]he extra dilution offered by diverting Outfall 002 effluent to Outfall 001 is no longer necessary.” *Id.* Thus, “Outfall 002 can still be diverted to Outfall 001 but now only one set of effluent limits apply.” *Id.*

Thus, ignoring its own directive, the Region neglected to set appropriate, site-specific effluent limits, based on little more than what appears to be the administrative convenience of one overarching, and overbroad, standard. Therefore, the Region’s failure to independently adopt effluent limits for Outfall 001 in Permit Part I.B is clearly erroneous.

C. The Region Erroneously Rescinded Applicable and Authorized Flow-Tiered Limits in the Prior Permit.

In accordance with Idaho regulations, Lucky Friday Unit’s prior Permit provided flow-tiered effluent limits for copper, silver, mercury, and WET, with silver being removed from the renewed Permit due to lack of reasonable potential to exceed instream criteria. The omission of pre-existing flow-tiered limits from the Permit is erroneous because it is inconsistent with authorizing regulations and unsupported by any regulatory and factual change.⁵

⁵ The removal of flow-tiered limits for mercury and WET in the Permit is not attributable to State certification and therefore is subject to federal review. IDEQ’s 401 Certification does not conclude that these flow-tiered limits must be removed in order to comply with state water quality standards. Rather, IDEQ concluded flow-tiered limits were not necessary because
(continued...)

IDAPA 58.01.02.400.05 prescribes tiered effluent limitations for NPDES Permits authorizing discharges to waters exhibiting unidirectional flow, including the SFCDAR. As IDEQ explains in its water quality implementation guidance, alternative streamflow estimates like tiered effluent limits are to be employed “in cases where it is clear that [there exist] differing sets of circumstances . . . (e.g., different effluent flows, receiving water flows, or hydrologic or climatic conditions).” Exhibit J, IDEQ Idaho Pollutant Discharge Elimination System Effluent Development Guidance (Dec. 2017), p. 83. Tiered limits are particularly appropriate where there is “significant variability both in the receiving water body and effluent flow,” *id.* at 84, e.g., those due to changing “production rates” or “special processes . . . that operate during certain times,” *id.* at 37-38.

Despite that regulatory authority, the tiered-flow effluent limits are noticeably absent from Part I.B of the Permit. Initially, the Region attempted to justify the departure by stating that tiered-flow limits were

appropriate for permitting facilities that do not have more than basic treatment facilities (e.g. simple settling) and depend on increased dilution to achieve compliance with WQS. 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.

(...continued)

Hecla’s “ability to treat its effluent has improved dramatically.” Exhibit G, IDEQ’s Response to Comments, p. 30.

IDEQ concluded that flow-tiered limits for copper were not appropriate since the SFCDAR does not have any assimilative capacity for additional copper. IDEQ’s method for reaching this conclusion is flawed. As discussed in Section V.A, no site-specific SFCDAR copper data have been collected and, therefore, IDEQ cannot validly make a determination that the assimilative capacity for copper is exceeded in the SFCDAR for purpose of establishing Permit limits.

Exhibit B, NPDES Fact Sheet, p. 13.

Hecla challenged that premise in its response to the Draft Permit, establishing that the tiered limits were included in the prior Permit based not on the simplicity of wastewater treatment but on IDAPA 58.01.02.400.05 and the variable site-specific conditions. Indeed, in Attachment A of the 2002 Fact Sheet for the prior Lucky Friday Permit, EPA acknowledged that flow in the SFC DAR varies with precipitation and snow melt and flow-tiered limits were calculated accordingly. *See* Exhibit K, Fact Sheet for Lucky Friday NPDES Permit No. ID0000175 (Dec. 2002), p. A-23. SFC DAR flow characteristics and variability due to precipitation and snow melt are not significantly different since 2002. Nor has the authorizing regulation allowing flow-tiered limits changed. Thus, the Region's proffered reason provided no justification for the change in the Permit treatment.

Implementation of flow-tiered effluent limits in the Permit would ensure compliance with water quality standards while providing the Lucky Friday Unit operational flexibility and control over discharges based on actual instream flow conditions, particularly in spring run-off and periods of excessive precipitation. Importantly, there has occurred no change in either rule or fact that justifies the departure from the flow-tiered limits. IDAPA 58.01.02.400.05 remains in effect. Consistent with that rule, tiered effluent limitations should be employed in NPDES Permits authorizing discharges to unidirectional waters, including the SFC DAR. Further, the significant fluctuations in the current variable and seasonal river flow and the infrequent occurrence of actual critical low flows (i.e., 7Q10 and 1Q10), coupled with changing production

rates,⁶ support the continued implementation of the same tiered approach deemed appropriate by both EPA and IDEQ in 2002.

Flow-tiered limits should not be based on current treatment technology. The Region has exceeded the scope of its authority by omitting the carefully crafted tiered limits, thereby erroneously imposing de facto *technology*-based effluent limits at the Lucky Friday Unit based on current treatment technology. That the Lucky Friday Unit operates its treatment plants to achieve optimal treatment, and effluent quality is in compliance with effluent limits is not reason enough to rescind the valuable tool of tiered limits. Treatment plants do not operate in such a manner that they can be “tuned” to increase treatment efficiency. Lucky Friday Unit’s effluent quality has improved since installation of WTPs 2 and 3, 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 precisely why applicable regulations and policy allow for options like flow-tiered effluent limits—to implement and facilitate compliance with water quality standards. This is witnessed by the fact that quarterly instream monitoring since 2012, at three locations in the SFC DAR, shows attainment of applicable water quality criteria.

Thus, the Region’s erroneous rescission of the flow-tiered limits in Permit Part I.B, which is inconsistent with authorizing regulations and unsupported by any regulatory and factual change, should be reviewed and modified or remanded.

⁶ Hecla’s operations for the past few years have been limited due to labor disputes. Once those disputes are resolved, Hecla anticipates additional production at the mine and thus the need for additional flexibility under the Permit (while still complying with water quality standards).

VI. CONCLUSION

For the reasons stated herein, the EAB should grant review of Hecla's petition for review of the Lucky Friday Permit and set aside, modify, and/or remand the unlawful conditions established by the Region in the Permit.

Dated this 22nd day of July, 2019.

Respectfully submitted,

STOEL RIVES LLP



Kevin J. Beaton

Attorneys for Hecla Limited Lucky Friday Mine

CERTIFICATE OF COMPLIANCE WITH WORD LIMITS

I hereby certify that the foregoing Petition for Review contains 4,166 words, including footnotes, and therefore, complies with the word limits set forth in 40 C.F.R. § 124.19(d)(3).



Kevin J. Beaton
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LIST OF EXHIBITS

- Exhibit A** NPDES Permit No. ID0000175 (issued June 21, 2019)
- Exhibit B** Excerpts from Fact Sheet for Lucky Friday NPDES Permit No. ID0000175 (Feb. 25, 2019)
- Exhibit C** Hecla Comments to Draft Lucky Friday NPDES Permit (Mar. 26, 2019)
- Exhibit D** Draft 401 Certification of the Lucky Friday NPDES Permit (Feb. 25, 2019)
- Exhibit E** Hecla Comments to Draft 401 Certification of the Lucky Friday NPDES Permit (Mar. 26, 2019)
- Exhibit F** Final 401 Certification of the Lucky Friday NPDES Permit (June 3, 2019)
- Exhibit G** EPA and IDEQ Responses to Comments (June 2019)
- Exhibit H** IDEQ Implementation Guidance for the Idaho Copper Criteria for Aquatic Life (Nov. 2017)
- Exhibit I** IDEQ Statewide Monitoring for Inputs to the Copper Biotic Ligand Model (Aug. 2017)
- Exhibit J** Excerpts from IDEQ Idaho Pollutant Discharge Elimination System Effluent Development Guidance (Dec. 2017)
- Exhibit K** Excerpts from Fact Sheet for Lucky Friday NPDES Permit No. ID0000175 (Dec. 2002)

CERTIFICATE OF SERVICE

I hereby certify that on this 22nd day of July 2019, that a true and correct copy of the foregoing Petition for Review was served as follows:

By EAB eFiling System and overnight delivery to:

Clerk of the Board
U.S. Environmental Protection Agency
Environmental Appeals Board
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