



United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

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 Mining Company, Lucky Friday Mine
P.O. Box 31, Mullan, Idaho 83846

is authorized to discharge from the Lucky Friday Mine and Mill facility located near Mullan, Idaho, to the South Fork Coeur d'Alene River at the following locations:

<u>Outfall</u>	<u>Latitude</u>	<u>Longitude</u>
001	47° 27' 49" N	115° 48' 21" W
002	47° 28' 06" N	115° 47' 09" W
003	47° 28' 13" N	115° 45' 50" W

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

This permit shall become effective September 14, 2003.

This permit and the authorization to discharge shall expire at midnight, September 14, 2008.

Signed this 12th day of August 2003.

/s/ Randall F. Smith
Randall F. Smith
Director, Office of Water, Region 10
U.S. Environmental Protection Agency

This permit modification shall become effective February 1, 2006.

Signed this 28th day of December 2005.

/s/ Michael F. Gearheard
Michael F. Gearheard
Director, Office of Water and Wastewater, Region 10
U.S. Environmental Protection Agency

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I. LIMITATIONS AND MONITORING REQUIREMENTS

During the effective period of this permit, the permittee is authorized to discharge pollutants from outfalls 001, 002, and 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.

A. Effluent Limitations and Monitoring

- The permittee must limit and monitor discharges from outfalls 001, 002, and 003, as specified in Tables 1, 2, 3, and 4, below. All figures represent maximum effluent limits unless otherwise indicated. The permittee must comply with the effluent limits 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 1 - Effluent Limitations and Monitoring Requirements for Outfall 001							
Parameter	Upstream River Flow Tier ¹	Effluent Limitations				Monitoring Requirements	
		Maximum Daily		Average Monthly			
		ug/l	lb/day	ug/l	lb/day	Sample Frequency	Sample Type
Cadmium ² , total recoverable	not dependent upon river flow	1.8 ^d	0.025 ^d	0.70 ^d	0.0098 ^d	weekly	24-hour composite
Lead ² , total recoverable	not dependent upon river flow	50 ^d	0.70 ^d	30 ^d	0.42 ^d	weekly	24-hour composite
Zinc ² , total recoverable	not dependent upon river flow	190 ^d	2.68 ^d	71 ^d	0.99 ^d	weekly	24-hour composite
Copper ² , total recoverable	< 14 cfs	28	0.39	12	0.17	weekly	24-hour composite
	≥ 14 to < 32 cfs	26	0.36	11	0.15		
	≥ 32 to < 113 cfs	38	0.53	17	0.24		
	≥ 113 to < 194 cfs	73	1.0	32	0.45		

Table 1 - Effluent Limitations and Monitoring Requirements for Outfall 001							
Parameter	Upstream River Flow Tier ¹	Effluent Limitations				Monitoring Requirements	
		Maximum Daily		Average Monthly		Sample Frequency	Sample Type
		ug/l	lb/day	ug/l	lb/day		
	≥ 194 cfs	63	0.88	28	0.39		
Mercury ² , total	< 14 cfs	0.073 ⁴	0.0010 ⁴	0.036 ⁴	0.00050 ⁴	2/month ³	grab
	≥ 14 to < 32 cfs	0.099 ⁴	0.0014 ⁴	0.050 ⁴	0.00070 ⁴		
	≥ 32 to < 113 cfs	0.20	0.0028	0.10 ⁴	0.0014 ⁴		
	≥ 113 to < 194 cfs	0.66	0.0092	0.32	0.0046		
	≥ 194 cfs	1.1	0.015	0.56	0.0078		
Silver ² , total recoverable	< 14 cfs	3.7	0.052	2.2	0.031	weekly	24-hour composite
	≥ 14 cfs	--	--	--	--	monthly	24-hour composite
Total Suspended Solids (TSS)	not dependent upon river flow	30 mg/l	see footnote 6	20 mg/l	see footnote 6	weekly	24-hour composite
pH, s.u.	not dependant upon river flow	see Part I.A.3.		see Part I.A.3.		weekly	grab
Outfall Flow, cfs	--	--	--	--	--	continuous	recording
Temperature, °C	--	--	--	--	--	weekly	grab
E. coli, #/100 ml.	--	--	--	--	--	monthly	grab
Hardness, as CaCO ₃ , mg/l	--	--	--	--	--	monthly	24-hour composite
Whole Effluent Toxicity (WET) ³ , TU _c	--	--	--	--	--	quarterly	24-hour composite
SFCdA River flow directly upstream of the outfall, cfs	--	--	--	--	--	daily	recording
Footnotes:							
1 - The effluent limits for copper, silver, and mercury will be determined by the monthly average of the daily flows measured in the SFCdA River directly upstream of outfall 001. The permittee must report the average monthly flow on the DMR.							
2 - Reporting is required within 24 hours of a maximum daily violation. See Part III.G.							
3 - See Part I.B. for whole effluent toxicity testing requirements.							
4 - See Part I.A.4. for the cadmium, lead, mercury, and zinc compliance schedule.							

Table 1 - Effluent Limitations and Monitoring Requirements for Outfall 001							
Parameter	Upstream River Flow Tier ¹	Effluent Limitations				Monitoring Requirements	
		Maximum Daily		Average Monthly			
		ug/l	lb/day	ug/l	lb/day	Sample Frequency	Sample Type
5 - Monitoring for mercury is required twice per month. The monitoring must not occur on consecutive days or weeks.							
Footnotes, cont.:							
6 - The following TSS limits apply:							
when no portion of outfall 001 is discharged through outfall 002: maximum daily limit = 469 lbs/day							
average monthly limit = 247 lbs/day							
when all or a portion of the outfall 001 waste stream is discharged through outfall 002:							
maximum daily limit = lbs/day from outfall 001 + lbs/day from outfall 002 must not exceed 469 lbs/day							
average monthly limit = lbs/day from outfall 001 + lbs/day from outfall 002 must not exceed 247 lbs/day							

Table 2 - Effluent Limitations and Monitoring Requirements for Outfall 002 When the Outfall 001 Waste Stream Is Discharged Through Outfall 002							
Parameter	Upstream River Flow Tier ¹	Effluent Limitations				Monitoring Requirements	
		Maximum Daily		Average Monthly			
		ug/l	lb/day	ug/l	lb/day	Sample Frequency	Sample Type
Cadmium ² , total recoverable	not dependent upon river flow	1.8 ⁴	0.025 ⁴	0.70 ⁴	0.0098 ⁴	weekly	24-hour composite
Lead ² , total recoverable	not dependent upon river flow	50 ⁴	0.70 ⁴	30 ⁴	0.42 ⁴	weekly	24-hour composite
Zinc ² , total recoverable	not dependent upon river flow	190 ⁴	2.66 ⁴	71 ⁴	0.99 ⁴	weekly	24-hour composite
Copper ² , total recoverable	< 8.6 cfs	20	0.28	8.6	0.12	weekly	24-hour composite
	≥ 8.6 to < 20 cfs	26	0.36	11	0.15		
	≥ 20 to < 69 cfs	28	0.39	12	0.17		
	≥ 69 to < 117 cfs	49	0.68	22	0.31		
	≥ 117 cfs	46	0.64	20	0.28		
Mercury ² , total	< 8.6 cfs	0.052 ⁴	0.00072 ⁴	0.026 ⁴	0.00036 ⁴	2/month ⁶	grab
	≥ 8.6 to < 20 cfs	0.069 ⁴	0.00096 ⁴	0.034 ⁴	0.00048 ⁴		
	≥ 20 to < 69 cfs	0.13 ⁴	0.0018 ⁴	0.067 ⁴	0.00094 ⁴		
	≥ 69 to < 117 cfs	0.41	0.0057	0.21	0.0029		

Table 2 - Effluent Limitations and Monitoring Requirements for Outfall 002 When the Outfall 001 Waste Stream Is Discharged Through Outfall 002							
Parameter	Upstream River Flow Tier ¹	Effluent Limitations				Monitoring Requirements	
		Maximum Daily		Average Monthly			
		ug/l	lb/day	ug/l	lb/day	Sample Frequency	Sample Type
	≥ 117 cfs	0.68	0.0095	0.34	0.0048		
Silver ² , total recoverable	< 8.6 cfs	2.7	0.038	1.6	0.022	weekly	24-hour composite
	≥ 8.6 to < 20 cfs	3.2	0.045	1.9	0.027		
	≥ 20 cfs	--	--	--	--	monthly	24-hour composite
Total Suspended Solids (TSS)	not dependent upon river flow	30 mg/l	see footnote 6	20 mg/l	see footnote 6	weekly	24-hour composite
pH, s.u.	not dependent upon river flow	see Part I.A.3.		see Part I.A.3.		weekly	grab
Outfall Flow, cfs	--	--	--	--	--	continuous	recording
Temperature, °C	--	--	--	--	--	weekly	grab
E. coli, #/100 ml.	--	--	--	--	--	monthly	grab
Hardness, as CaCO ₃ , mg/l	--	--	--	--	--	monthly	24-hour composite
Whole Effluent Toxicity (WET) ³ , TU _c	--	--	--	--	--	quarterly	24-hour composite
SFCdA River flow directly upstream of the outfall, cfs	--	--	--	--	--	daily	recording
Footnotes:							
1 - The effluent limits for copper, silver, and mercury will be determined by the monthly average of the daily flows measured in the SFCdA River directly upstream of outfall 002. The permittee must report the average monthly flow on the DMR.							
2 - Reporting is required within 24 hours of a maximum daily violation. See Part III.G.							
3 - See Part I.B. for whole effluent toxicity testing requirements.							
4 - See Part I.A.4. for the cadmium, lead, mercury, and zinc compliance schedule.							
5 - Monitoring for mercury is required twice per month. The monitoring must not occur on consecutive days or weeks.							
6 - The following TSS limits apply: maximum daily limit = lbs/day from outfall 001 + lbs/day from outfall 002 must not exceed 469 lbs/day average monthly limit = lbs/day from outfall 001 + lbs/day from outfall 002 must not exceed 247 lbs/day							

Table 3 - Effluent Limitations and Monitoring Requirements for Outfall 002 When the Outfall 003 Waste Stream is Discharged Through Outfall 002							
Parameter	Upstream River Flow Tier ¹	Effluent Limitations				Monitoring Requirements	
		Maximum Daily		Average Monthly			
		ug/l	lb/day	ug/l	lb/day	Sample Frequency	Sample Type
Cadmium ² , total recoverable	not dependent upon river flow	2.1 ⁴	0.040 ⁴	1.1 ⁴	0.021 ⁴	weekly	24-hour composite
Lead ² , total recoverable	not dependent upon river flow	75 ⁴	1.4 ⁴	45 ⁴	0.85 ⁴	weekly	24-hour composite
Zinc ² , total recoverable	not dependent upon river flow	260 ⁴	4.9 ⁴	150 ⁴	2.8 ⁴	weekly	24-hour composite
Copper ² , total recoverable	< 8.6 cfs	20	0.38	7.4	0.14	weekly	24-hour composite
	≥ 8.6 to < 20 cfs	23	0.43	8.6	0.16		
	≥ 20 to < 69 cfs	25	0.47	9.3	0.18		
	≥ 69 to < 117 cfs	39	0.73	15	0.28		
	≥ 117 cfs	35	0.66	13	0.24		
Mercury ² , total	< 8.6 cfs	0.043 ⁴	0.00081 ⁴	0.022 ⁴	0.00041 ⁴	2/month ⁶	grab
	≥ 8.6 to < 20 cfs	0.056 ⁴	0.0011 ⁴	0.028 ⁴	0.00053 ⁴		
	≥ 20 to < 69 cfs	0.10 ⁴	0.0019 ⁴	0.052 ⁴	0.00098 ⁴		
	≥ 69 to < 117 cfs	0.31	0.0058	0.16 ⁴	0.030 ⁴		
	≥ 117 cfs	0.51	0.0096	0.26	0.0049		
Silver ² , total recoverable	< 8.6 cfs	3.2	0.060	1.9	0.036	weekly	24-hour composite
	≥ 8.6 to < 20 cfs	3.4	0.064	2.0	0.038		
	≥ 20 to < 69 cfs	4.3	0.081	2.6	0.049		
	≥ 69 to < 117 cfs	5.6	0.11	3.3	0.062		
	≥ 117 cfs	4.0	0.075	2.4	0.045		
Total Suspended Solids (TSS)	not dependent upon river flow	30 mg/l	see footnote 6	20 mg/l	see footnote 6	weekly	24-hour composite

Table 3 - Effluent Limitations and Monitoring Requirements for Outfall 002 When the Outfall 003 Waste Stream is Discharged Through Outfall 002							
Parameter	Upstream River Flow Tier ¹	Effluent Limitations				Monitoring Requirements	
		Maximum Daily		Average Monthly			
		ug/l	lb/day	ug/l	lb/day	Sample Frequency	Sample Type
pH, s.u.	not dependent upon river flow	see Part I.A.3.		see Part I.A.3.		weekly	grab
Outfall Flow, cfs	--	--	--	--	--	continuous	recording
Temperature, °C	--	--	--	--	--	weekly	grab
E. coli, #/100 ml.	--	--	--	--	--	monthly	grab
Hardness, as CaCO ₃ , mg/l	--	--	--	--	--	monthly	24-hour composite
Whole Effluent Toxicity (WET) ³ , TU _c	--	--	--	--	--	quarterly	24-hour composite
SFCdA River flow directly upstream of the outfall, cfs	--	--	--	--	--	daily	recording

Footnotes:

1 - The effluent limits for copper, silver, and mercury will be determined by the monthly average of the daily flows measured in the SFCdA River directly upstream of outfall 002. The permittee must report the average monthly flow on the DMR.

2 - Reporting is required within 24 hours of a maximum daily violation. See Part III.G.

3 - See Part I.B. for whole effluent toxicity testing requirements.

4 - See Part I.A.4. for the cadmium, lead, mercury, and zinc compliance schedule.

5 - Monitoring for mercury is required twice per month. The monitoring must not occur on consecutive days or weeks.

6 - The following TSS limits apply:
 maximum daily limit = lbs/day from outfall 003 + lbs/day from outfall 002 must not exceed 346 lbs/day
 average monthly limit = lbs/day from outfall 003 + lbs/day from outfall 002 must not exceed 188 lbs/day

Table 4 - Effluent Limitations and Monitoring Requirements for Outfall 003							
Parameter	Upstream River Flow Tier ¹	Effluent Limitations				Monitoring Requirements	
		Maximum Daily		Average Monthly			
		ug/l	lb/day	ug/l	lb/day	Sample Frequency	Sample Type
Cadmium ² , total recoverable	not dependent upon river flow	2.1 ⁴	0.040 ⁴	1.1 ⁴	0.021 ⁴	weekly	24-hour composite

Table 4 - Effluent Limitations and Monitoring Requirements for Outfall 003							
Parameter	Upstream River Flow Tier ¹	Effluent Limitations				Monitoring Requirements	
		Maximum Daily		Average Monthly			
		ug/l	lb/day	ug/l	lb/day	Sample Frequency	Sample Type
Lead ² , total recoverable	not dependent upon river flow	75 ⁴	1.4 ⁴	45 ⁴	0.85 ⁴	weekly	24-hour composite
Zinc ² , total recoverable	not dependent upon river flow	260 ⁴	4.9 ⁴	150 ⁴	2.8 ⁴	weekly	24-hour composite
Copper ² , total recoverable	< 8.0 cfs	20	0.38	7.4	0.14	weekly	24-hour composite
	≥ 8.0 to < 18 cfs	23	0.43	8.4	0.16		
	≥ 18 to < 63 cfs	29	0.55	11	0.21		
	≥ 63 cfs	30	0.56	11	0.21		
Mercury ² , total	< 8.0 cfs	0.042 ⁴	0.00079 ⁴	0.021 ⁴	0.00040 ⁴	2/month ⁵	grab
	≥ 8.0 to < 18cfs	0.054 ⁴	0.0010 ⁴	0.027 ⁴	0.00051 ⁴		
	≥ 18 to < 63 cfs	0.096 ⁴	0.0018 ⁴	0.048 ⁴	0.00090 ⁴		
	≥ 63 to < 108 cfs	0.29	0.0055	0.14 ⁴	0.0026 ⁴		
	≥ 108 cfs	0.48	0.0090	0.24	0.0045		
Silver ² , total recoverable	< 8.0 cfs	3.2	0.060	1.9	0.036	weekly	24-hour composite
	≥ 8.0 to < 18 cfs	3.3	0.062	2.0	0.038		
	≥ 18 to < 63 cfs	3.2	0.060	1.9	0.036		
	≥ 63 to < 108 cfs	3.9	0.073	2.3	0.043		
	≥ 108 cfs	3.3	0.062	2.0	0.038		
Total Suspended Solids (TSS)	not dependent upon river flow	30 mg/l	see footnote 6	20 mg/l	see footnote 6	weekly	24-hour composite
pH, s.u.	not dependent upon river flow	see Part I.A.3.		see Part I.A.3.		weekly	grab
Outfall Flow, cfs	--	--	--	--	--	continuous	recording
Temperature, °C	--	--	--	--	--	weekly	grab
E. coli, #/100 ml.	--	--	--	--	--	monthly	grab
Hardness, as CaCO ₃ , mg/l	--	--	--	--	--	monthly	24-hour composite

Parameter	Upstream River Flow Tier ¹	Effluent Limitations				Monitoring Requirements	
		Maximum Daily		Average Monthly			
		ug/l	lb/day	ug/l	lb/day	Sample Frequency	Sample Type
Whole Effluent Toxicity (WET) ³ , TU _c	--	--	--	--	--	quarterly	24-hour composite
SFCdA River flow directly upstream of the outfall, cfs	--	--	--	--	--	daily	recording

Footnotes:

1 - The effluent limits for copper, silver, and mercury will be determined by the monthly average of the daily flows measured in the SFCdA River directly upstream of outfall 003. The permittee must report the average monthly flow on the DMR.

2 - Reporting is required within 24 hours of a maximum daily violation. See Part III.G.

3 - See Part I.B. for whole effluent toxicity testing requirements.

4 - See Part I.A.4. for the cadmium, lead, mercury, and zinc compliance schedule.

5 - Monitoring for mercury is required twice per month. The monitoring must not occur on consecutive days or weeks.

6 - The following TSS limits apply:
 when no portion of outfall 003 is discharged through outfall 002:
 maximum daily limit = 346 lbs/day
 average monthly limit = 188 lbs/day
 when all or a portion of the outfall 003 waste stream is discharged through outfall 002:
 maximum daily limit = lbs/day from outfall 001 + lbs/day from outfall 002 must not exceed 346 lbs/day
 average monthly limit = lbs/day from outfall 001 + lbs/day from outfall 002 must not exceed 188 lbs/day

2. 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.
3. The pH must not be less than 6.5 standard units (s.u.) nor greater than 9.0 s.u.
4. Cadmium, Lead, Mercury, and Zinc Compliance Schedule.
 - a. The permittee must comply with the cadmium, lead, mercury, and zinc effluent limitations in Tables 1, 2, 3, and 4 on or before September 13, 2008.
 - b. The permittee shall design and implement a water recycling system on or before August 12, 2005. The permittee shall provide the design of

the water recycling system to IDEQ for comment and to EPA prior to implementing the system.

- c. The permittee shall have at the end of August 12, 2005, an additional 12 months for testing and analysis.
- d. If it is determined that a water treatment system is needed to comply with the effluent limits, the permittee shall design, build, and implement a water treatment system and comply with the effluent limits on or before September 13, 2008.
- e. During the period that the compliance schedule is in effect, the permittee shall comply with the interim limits in Table 5.

Table 5 - Interim Effluent Limitations					
Outfall	Parameter	Maximum Daily Limit		Average Monthly Limit	
		ug/l	lb/day	ug/l	lb/day
Outfall 001 and Outfall 002 when the outfall 001 waste stream is discharged through outfall 002	Cadmium ¹ , total recoverable	6.0	0.046	2.0	0.023
	Lead ¹ , total recoverable	600	5.96	300	3.10
	Mercury ¹ , total	0.2 ²	0.0028 ²	0.2	0.0028
	Zinc ¹ , total recoverable	880	6.53	469	2.54
Outfall 003 and Outfall 002 when the outfall 003 waste stream is discharged through outfall 002	Cadmium ¹ , total recoverable	3	0.043	2	0.022
	Lead ¹ , total recoverable	321	2.76	265	1.43
	Mercury ¹ , total	0.2 ³	0.0038 ³	0.2 ³	0.0038 ³
	Zinc ¹ , total recoverable	670	6.29	480	4.28
Footnotes:					
1 - Reporting is required within 24 hours of a maximum daily violation. See Part III.G.					
2 - This interim limit applies to the first three flow tiers for outfall 001 [< 14 cfs, 14-32 cfs, and 32-113 cfs (average monthly limit only)] and the first three flow tiers for outfall 002 when the outfall 001 waste stream is discharged through outfall 002 [< 8.6 cfs, 8.6-20 cfs, and 20 - 69 cfs (average monthly limit only)].					
3 - This interim limit applies to the first four flow tiers for outfall 002 when the outfall 003 waste stream is discharged through outfall 002 [< 8.6 cfs, 8.6-20 cfs, 20-69 cfs, and 69-117 cfs (average monthly limit only)] and the first four flow tiers for outfall 003 [< 8 cfs, 8-18 cfs, 18 - 63 cfs, and 63-108 cfs (average monthly limit only)].					

- f. Until compliance with the effluent limits is achieved, the permittee must submit an annual Report of Progress to EPA and IDEQ which

outlines the progress made towards achieving compliance. The report must be submitted by January 31st of each year. At a minimum the annual report must include:

- i) An assessment of the previous years cadmium, lead, mercury, and zinc data and comparison to the final effluent limitations.
 - ii) A report on progress made toward meeting the final effluent limitations.
 - iii) Further actions and milestones targeted for the upcoming year.
5. The permittee must collect effluent samples from the effluent stream after the last treatment unit prior to discharge into the receiving waters.
 6. Method Detection Limits. For all effluent monitoring, the permittee must use methods that can achieve a method detection limit (MDL) less than the effluent limitation.

For purposes of reporting on the DMR, if a value is greater than the MDL, the permittee must report the actual value. If a value is less than the MDL, the permittee must report "less than {numeric MDL}" on the DMR.

For purposes of calculating monthly averages, zero may be used for values less than the MDL.

B. Whole Effluent Toxicity Testing Requirements. The permittee must conduct chronic toxicity tests on effluent samples from outfalls 001, 002, and 003. Testing must be conducted in accordance with subsections 1 through 6, below.

1. Test Species and Methods

- a. Tests must be run four times per year, during the months of February, May, August, and November.
- b. 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 Part LA above. When the timing of sample collection coincides with that of the sampling required in

Part I.A, analysis of the split sample will fulfill the requirements of Part I.A. as well.

- c. The permittee must conduct tests with the water flea, *Ceriodaphnia dubia* (survival and reproduction test) and the fathead minnow, *Pimephales promelas* (larval survival and growth test) for the first three suites of tests. After this screening period, monitoring shall be conducted using the most sensitive species.
 - d. The presence of chronic toxicity must be determined as specified in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, EPA-821-R-02-213, October 2002.
 - e. Results must be reported in TU_c (chronic toxic units), where $TU_c = 100/IC_{25}$. See Part VI. for a definition of IC_{25} .
2. Toxicity Triggers. For the purposes of determining compliance with paragraphs I.B.4. and I.B.5., the chronic toxicity trigger is defined as toxicity exceeding the trigger values in Table 6.

Outfall	Flow Tier ¹	Chronic Toxicity Trigger, TU_c	Receiving Water Concentration (RWC), % effluent
001	< 14 cfs	1.9	53
	≥ 14 to < 32 cfs	2.3	43
	≥ 32 to < 113 cfs	4.1	24
	≥ 113 to < 194 cfs	12	8.3
	≥ 194 cfs	20	5
002 - when the outfall 001 waste stream is discharged through outfall 002	< 8.6 cfs	1.5	68
	≥ 8.6 to < 20 cfs	1.8	56
	≥ 20 to < 69 cfs	2.9	34
	≥ 69 to < 117 cfs	7.6	13
	≥ 117 cfs	12	8.3

Table 6: Chronic Toxicity Triggers and Receiving Water Concentrations			
Outfall	Flow Tier ¹	Chronic Toxicity Trigger, TU _c	Receiving Water Concentration (RWC), % effluent
002 - when the outfall 003 waste stream is discharged through outfall 002	< 8.6 cfs	1.4	71
	≥ 8.6 to < 20 cfs	1.6	63
	≥ 20 to < 69 cfs	2.4	42
	≥ 69 to < 117 cfs	5.9	17
	≥ 117 cfs	9.4	11
003	< 8.0 cfs	1.4	71
	≥ 8.0 to < 18 cfs	1.6	63
	≥ 18 to < 63 cfs	2.3	43
	≥ 63 to < 108 cfs	5.5	18
	≥ 108 cfs	8.7	11

footnote 1: The trigger values shall be determined by the average monthly flow directly upstream of the outfall for the testing month.

3. Quality Assurance

- a. The toxicity testing on each organism must include a series of five test dilutions and a control. The series must include the receiving water concentration (RWC), which is the dilution associated with the chronic toxicity trigger, and test dilutions which bracket the RWC. The RWCs for each outfall are provided in Table 6, 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-02-213, 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. In no case shall water that has not met test acceptability criteria be used for either dilution or control.

4. Accelerated Testing.

- a. If chronic toxicity is detected above a trigger specified in paragraph B.2., the permittee must conduct six more tests, bi-weekly, over a twelve week period. This accelerated testing must be initiated within two weeks of receipt of the test results that indicate an exceedence. Part I.B.4.d., below, allows for the permittee to conduct only one accelerated test if the conditions under that part are met.
- b. If none of the six accelerated tests exceed the trigger, then the permittee may return to the normal testing frequency.
- c. If any of the six tests exceed the trigger, then the permittee shall initiate a Toxicity Reduction Evaluation (TRE) in accordance with Part I.B.5.
- d. Initial Investigation. If the permittee demonstrates through an evaluation of facility operations that the cause of the exceedence 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 Part I.B.5. shall apply. If toxicity does not exceed the trigger, then the permittee may return to the normal quarterly testing frequency.

5. Toxicity Reduction Evaluation and Toxicity Identification Evaluation:
- a. If a toxicity trigger is exceeded during accelerated testing under Part I.B.4.c. or d., the permittee must initiate a TRE in accordance with *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA/600/2-88/070) within fifteen (15) days of the exceedence. 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 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).
6. Reporting
- a. The permittee must submit a full report of the results of the toxicity tests with the DMR for the month following sample collection.
 - b. The permittee must submit the results of any accelerated testing, under Part I.B.4., within two weeks of receipt of the results from the lab. The full report must be submitted within four weeks of receipt of the results from the lab. If an initial investigation, under Part I.B.4.d. indicates the source of toxicity and accelerated testing is unnecessary, the result of the investigation must be submitted with the full report.

- c. The report of toxicity test results must include all relevant information outlined in Section 10.1, Report Preparation, of *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, EPA-821-R-02-213, October 2002. The full report must include: toxicity test results, dates of sample collection and initiation of each test, the toxicity triggers as defined in paragraph B.2., flow rate at the time of sample collection, and the results of the monitoring required in Part I.A.

C. Seepage Study and Hydrological Analysis. The permittee must conduct a seepage study and hydrological analysis to determine if there are unmonitored discharges of pollutants from the Lucky Friday facility tailings pond no. 1 and tailings pond no. 3 into the SFCdA River. If there is a discharge from outfall 002 for more than 6 months, then a seepage study must also be conducted for tailings pond no. 2.

1. The seepage study and hydrological analysis must begin in 2007 after implementation of the water recycling program.
2. The permittee must quantify seepage by performing a water balance analysis for each tailings pond based on monitoring and evaluation of inflows, outflows, and estimated losses (e.g., evaporation). Seasonal variation must be addressed in each water balance analysis.
3. The permittee must perform a hydrological analysis to determine if seepage from the ponds enters the SFCdA River and to estimate the amount of this seepage. Seasonal variation must be addressed in the hydrological analysis.
4. Results of the seepage study and hydrological analysis must be submitted to EPA and IDEQ in a Seepage Study and Hydrological Analysis Report. The report must include a description of the methodology and data used to determine if seepage is occurring and the extent that seepage enters the SFCdA River and the results of the study.
 - a. The Seepage Study and Hydrological Analysis Report for tailings pond no. 1 and tailings pond no. 3 must be submitted to EPA and IDEQ 6 months prior to the expiration date of the permit (by March 14, 2008).
 - b. If a discharge occurs through outfall 002 for more than 6 months, then a seepage study and hydrological analysis must be performed for tailings pond no. 2. The Seepage Study and Hydrological Analysis Report for tailings pond no. 2 must be submitted to EPA and IDEQ 6 months prior to the expiration date of the permit (by March 14, 2008).

- D. Ambient Water Monitoring.** The permittee must perform the following receiving water monitoring program.
1. **River Flow Monitoring.** River flow of the South Fork Coeur d'Alene (SFCdA) River directly upstream of each outfall must be determined daily according to requirements in Section I.A. (Tables 1, 2, 3, and 4).
 2. **Water Quality Monitoring**
 - a. The permittee must monitor the SFCdA River directly upstream of outfall 001 and directly upstream of outfall 003. If outfall 002 is being utilized, then the permittee must monitor directly upstream of outfall 002.
 - b. All locations must be monitored four times per year during February, May, August, and November.
 - c. All ambient samples must be grab samples.
 - d. Samples must be analyzed for the parameters listed in Table 7 to achieve method detection limits (MDLs) that are equivalent to or less than those listed in Table 7. The permittee may request different MDLs. Such a request must be in writing and must be approved by EPA.

Table 7: Receiving Water Monitoring Parameters and MDLs		
Parameter	Units	Method Detection Limit (MDL)
Cadmium, dissolved	ug/l	0.1
Copper, dissolved	ug/l	1
Lead, dissolved	ug/l	5
Mercury, total	ug/l	0.001
Silver, dissolved	ug/l	0.1
Zinc, dissolved	ug/l	10
Total Suspended Solids (TSS)	mg/l	--
pH	standard units	--
Temperature	°C	--
Hardness ¹	mg/l CaCO ₃	--

Table 7: Receiving Water Monitoring Parameters and MDLs		
Parameter	Units	Method Detection Limit (MDL)
footnote 1: Hardness shall be monitored upstream and downstream of the outfall.		

3. **Bioassessment Monitoring.** The permittee must annually conduct instream bioassessment monitoring to ensure compliance with the Idaho Water Quality Standards.
 - a. Beginning in 2007, the permittee shall conduct annual instream bioassessment monitoring using a sample design that will allow IDEQ to make a determination as to the impact of the discharges to the beneficial use. The permittee must coordinate the sample design with the Coeur d'Alene office of IDEQ.
 - b. Monitoring shall occur for outfalls 001 and 003. If effluent is discharged from outfall 002 for six months or longer, monitoring shall be required directly downstream of outfall 002.
 - c. In the event that discharge effluent is combined to one outfall, annual monitoring is required directly downstream of the combined outfall and the abandoned outfall for comparison.
 - d. Bioassessment monitoring shall be consistent with the most recent IDEQ Beneficial Use Reconnaissance Project workplan for wadeable streams.
4. Quality assurance/quality control plans for all the monitoring must be documented in the Quality Assurance Plan required under Part I.E.
5. The permittee must submit an annual report summarizing the results of the ambient water monitoring to EPA and IDEQ by January 31st of the next year. At a minimum, the report must include: the sample locations; dates of sample collection and analyses; analytical and bioassessment results; a discussion of field sampling and laboratory methods, including quality assurance/quality control; data handling; and, in addition for the bioassessment monitoring, copies of the field forms, macroinvertebrate identification and enumeration, fish taxa and abundance.

- E. Quality Assurance Plan.** The permittee must develop a quality assurance plan (QAP) for all monitoring required by this permit. The plan must be submitted to EPA for review within 60 days of the effective date of this permit and implemented within 120 days of the effective date of this permit. Any existing QAPs may be modified for submittal under this section.
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 the most recent editions of *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 which is specified in these documents. These documents can be found at the following EPA websites:
www.epa.gov/Region10/offices/oea/epaqar5.pdf and
www.epa.gov/swerust1/cat/epaqag5.pdf
 3. The permittee must amend the QAP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAP.
 4. Copies of the QAP must be kept on site and made available to EPA and/or IDEQ upon request.

II. BEST MANAGEMENT PRACTICES PLAN

- A. 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.
- B. Development and Implementation Schedule.** The permittee must develop and implement a BMP Plan which achieves the objectives and the specific requirements listed below. A copy of the BMP Plan must be submitted to EPA within 120 days of the effective date of the permit. Any existing BMP plans may be modified for submittal and approval under this section. The permittee must implement the provisions of the plan as conditions of this permit within 180 days of the effective date of this permit.

- C. Objectives.** The permittee must develop and amend the BMP Plan consistent with the following objectives for the control of pollutants.
1. The number and quantity of pollutants and the toxicity of effluent generated, discharged or potentially discharges at the facility must be minimized by the permittee to the extent feasible by managing each waste stream in the most appropriate manner.
 2. 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.
 3. 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.
- D. Elements of the BMP Plan.** The BMP Plan must be consistent with the objectives above. The BMP Plan should be consistent with the general guidance contained in *Guidance Manual for Developing Best Management Practices* (EPA 833-B-93-004, October 1993) or any subsequent revisions to this guidance document. The BMP Plan must include, at a minimum, the following items:
1. 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.
 2. 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.
 3. Release Identification and Assessment. A release identification is the systematic cataloging of areas at a facility with ongoing or potential releases to the environment. A release assessment is used to determine the impact on human health and the environment of any on-going or potential release

identified. The identification and assessment process involves the evaluation of both current discharges and potential discharges.

4. **Measures and Controls.** The permittee must develop a description of pollution prevention controls, BMPs, and other measures appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in the BMP Plan must reflect identified potential sources of pollutants at the facility. The description of management controls must address the following minimum components:
 - a. **Good Housekeeping.** A program by which the facility is kept in a clean and orderly fashion to prevent releases to the environment.
 - b. **Preventative Maintenance.** A program focused on preventing releases caused by equipment problems, rather than repair of equipment after problems occur.
 - c. **Inspections.** A program established to oversee facility operations and identify actual or potential environmental releases and to ensure that BMPs are being implemented.
 - d. **Security.** A program designed to avoid releases due to accidental or intentional entry.
 - e. **Employee Training.** A program developed to instill in employees an understanding of the BMP Plan.
 - f. **Recordkeeping and Reporting.** A program designed to maintain relevant information and foster communication.
5. **Specific Best Management Practices.** The BMP Plan must establish specific BMPs or other measures which ensure that the following specific requirements are met:
 - a. **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.**
 - b. **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.

- c. Ensure proper management of materials in accordance with Spill Prevention, Control, and Countermeasure (SPCC) plans under Section 311 of the Act and 40 CFR Part 112. The BMP Plan may incorporate any part of such plans into the BMP Plan by reference.

E. Annual Review and Certification.

1. **Annual Review.** An annual review of the BMP Plan must be conducted by the responsible manager and BMP committee.
2. **Annual Certification.** The permittee must prepare a certified statement that the above reviews have been completed and that the BMP Plan fulfills the requirements set forth in the permit. This statement must be signed in accordance with Part V.E. (Signatory Requirements) of this permit. This statement must be submitted to EPA on or before January 31st of each year of operation under this permit.

F. 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.

G. BMP Plan Modification.

1. 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.
2. 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.
3. 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 in writing.

III. MONITORING, RECORDING AND REPORTING REQUIREMENTS

- A. **Representative Sampling (Routine and Non-Routine Discharges).** Samples and measurements taken for the purpose of monitoring shall 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 Part I.A. of this permit 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 summarize monitoring results each month on the Discharge Monitoring Report (DMR) form (EPA No. 3320-1) or equivalent. The permittee must submit reports monthly, postmarked by the 20th day of the following month. The permittee must sign and certify all DMRs, and all other reports, in accordance with the requirements of Part V.E. of this permit ("Signatory Requirements"). The permittee must submit the legible originals of these documents to the Director, Office of Compliance and Enforcement, with copies to IDEQ at the following addresses:

United States Environmental Protection Agency, Region 10
1200 Sixth Avenue, OCE-133
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 other test procedures have been specified in this permit.

- 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 the Director, 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 or measurements;
2. the name(s) of the individual(s) who performed the sampling or measurements;
3. the date(s) analyses were performed;
4. the name(s) 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 the Director or IDEQ 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 Part IV.F., "Bypass of Treatment Facilities");
 - c. any upset that exceeds any effluent limitation in the permit (See Part IV.G., "Upset Conditions"); or
 - d. any violation of a maximum daily discharge limitation for any of the pollutants listed in Tables 1, 2, 3, 4, and 5 of Part I.A. of the permit requiring 24-hour reporting.

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 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 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 Part III.B ("Reporting of Monitoring Results") are submitted. The reports must contain the information listed in Part III.G.2 of this permit ("Twenty-four Hour Notice of Noncompliance Reporting").
- I. Changes in Discharge of Toxic Substances.** The permittee must notify the Director and IDEQ 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 will 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 the Director 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 will 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 the Director in accordance with 40 CFR 122.44(f).

- J. **Compliance Schedules.** Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than 14 days following each schedule date.

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 Penalties.** Pursuant to 40 CFR 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 \$27,500 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 \$11,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$27,500). 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 \$11,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$137,500).
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 the conditions of 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 notice to the Director and IDEQ, 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 Part III.G ("Twenty-four Hour Notice of Noncompliance Reporting").
 3. Prohibition of bypass.
 - a. Bypass is prohibited, and the Director 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 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 Part III.G, "Twenty-four Hour Notice of Noncompliance Reporting;" and
 - d. The permittee complied with any remedial measures required under 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 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 notice to the Director and IDEQ 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 Part III.I ("Changes in Discharge of Toxic Substances").
- J. **Anticipated Noncompliance.** The permittee must give advance notice to the Director and IDEQ 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 the Director and IDEQ, within a reasonable time, any information that the Director or IDEQ 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 the Director or IDEQ, 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 the Director or IDEQ, it must promptly submit the omitted facts or corrected information.
- E. Signatory Requirements.** All applications, reports or information submitted to the Director and IDEQ 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, 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 the Director or IDEQ 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 and IDEQ.
 3. Changes to authorization. If an authorization under 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 Part V.E.2. must be submitted to the Director and IDEQ 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, IDEQ, 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 state or local laws or regulations.

I. Transfers. This permit is not transferable to any person except after notice to the Director. 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" 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.
5. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

6. "CWA" means the Clean Water Act.
7. "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.
8. "Director" means the Director of the Office of Water, EPA, or an authorized representative.
9. "DMR" means discharge monitoring report.
10. "EPA" means the United States Environmental Protection Agency.
11. "Grab" sample is an individual sample collected over a period of time not exceeding 15 minutes.
12. "IC₂₅" means inhibition concentration 25. The IC₂₅ is a point estimate of the toxicant concentration that would cause a 25% reduction in a nonlethal biological measurement of the test organisms, such as reproduction or growth.
13. "IDEQ" means Idaho Department of Environmental Quality.
14. "Maximum daily discharge limitation" means the highest allowable "daily discharge."
15. "Method Detection Limit (MDL)" means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.
16. "QA/QC" means quality assurance/quality control.
17. "Regional Administrator" means the Regional Administrator of Region 10 of the EPA, or the authorized representative of the Regional Administrator.
18. "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.

19. "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.
20. "24-hour composite" sample means a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of the facility over a 24 hour period. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the effluent flow at the time of sampling or the total effluent flow since the collection of the previous aliquot. 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*.



LUCKY FRIDAY MINE
"Out of the Earth, Into Our Lives"

Transmittal via Email to Patty McGrath: mcgrath.patricia@epa.gov

July 21, 2005

United States Environmental Protection Agency
Region 10
Park Place Building, 13th Floor
1200 Sixth Avenue, OWW-130
Seattle, Washington 98101

Attention: Director, Office of Water and Watersheds

RE. Comments on Lucky Friday Mine & Mill "Draft Modified Permit"
No. ID-000017-5 dated June 21, 2005

Dear Director:

The following comments are made by Hecla Mining Company ("Hecla") on the above-referenced "Draft Modified Permit":

- 1) Incorporation of Prior Comments. The "Draft Modified Permit" raises a variety of issues that are relevant to prior Hecla comments and therefore, all comments submitted on previous permit actions, including the variance request and any exhibits, by either the Lucky Friday Mine or Hecla are hereby incorporated into these comments by reference without limitation.

- 2) Hecla is Entitled to a pH Adjustment. The state's final 401 certification of July 15, 2004 clearly authorized a mixing zone for pH. EPA has already stated that the lower pH range in the draft modified permit is based upon water quality considerations and yet, without justification, the upper pH limit cannot be water quality-based. DEQ was supplied with a mixing zone analysis for pH showing that a pH of 10.0 s.u. in the effluent would result in no more than 0.2 s.u. pH increase in the receiving water, thus the state certified mixing zone would meet state water quality standards. The overriding intent of the Clean Water Act (CWA) is to meet applicable criteria instream. To ignore the will of the state on this issue flies in the face of the Congressional intent of the CWA to recognize, preserve, and protect the States' rights to manage the water resources of the States (Section 101(b)). The Region appears to reflexively refuse to provide Hecla any relief for pH despite assurances by the state of Idaho that pH relief is appropriate, EPA's own rules authorizing a pH adjustment and EPA's own studies on the South Fork demonstrating that use of high pH treatment is necessary to achieve applicable water quality standards. Hecla believes EPA's refusal to adjust pH limits in the Draft Permit is erroneous based upon the following:

- EPA Region 10 ignores the provisions in EPA regulations allowing for relief of the technology based upper, pH upper limit. The fact that Hecla did not specifically rely upon 40 CFR § 440.131 in its comments to prior draft permits (although previously raised as a defense by EPA before the EAB) is not relevant as the EAB Remand and final 401 certification clearly raises the issue of whether the pH limit is appropriate and whether appropriate regulatory relief is warranted.¹ In any event, it is not clear why EPA would not provide relief to Hecla (and the regulated community in general) if regulatory relief is available even if a specific regulation was not referenced in prior comments. 40 CFR § 440.131(d) clearly allows an adjustment to the pH technology based effluent limit to achieve "relevant metal limitations." As has been pointed out in other contexts by Hecla, in order to achieve the water quality based effluent limits in the referenced permit, the most economically viable treatment option is for lime addition combined with sedimentation (settling of the discharge in the tailings pond). See Centra Conceptual Design Report (Centra Consulting, Inc., August 2001) submitted to EPA by Hecla on June 9, 2003 in connection with the variance request. The use of lime treatment and sedimentation for the treatment of dissolved metals could result in the discharge of pH of up to 10.0 s.u. See Centra Report,² supra, and EPA Treatability Manual, Volumes 1-5 (EPA-600/2.82-001). The applicable ELGs are based upon the physical removal of metals associated with total suspended solids (TSS). The use of coagulation, flocculation, and settling of TSS and associated metals were used to derive the ELG metal limits (See Development Document for Proposed Effluent Limit Guidelines for the Ores Mining and Dressing Point Source Category at pgs. 226-229). The conclusion of the ELG document, even with respect to BAT, was that the toxic metals could be removed along with TSS treatment and that "Dissolved metals are not controlled further by physical treatment methods or additional suspended solids removal."
- When EPA proposed 40 CFR § 440.131 it clearly provided that a pH adjustment was authorized "if evidence as submitted to the permitting authority demonstrates that this provision will not result in degradation of water quality in the receiving stream or toxic conditions for its biota." 47 Fed. Reg. 25682, 25701 (June 14, 1982). The State of Idaho's final water quality certification of July 13, 2004 clearly provides that water quality in the South Fork of the Coeur d'Alene River will not be degraded and that there will not be toxic conditions for biota by reason

¹ Reliance upon EPA's fundamentally different factor (FDF) variance at 40 CFR Part 125, subpart D is no longer available because Hecla would be required to demonstrate pH adjustment costs are wholly out of proportion to pH costs considered by EPA in setting the effluent limits at 40 CFR Part 440. EPA Region 10 has already denied Hecla's request for a variance to water quality based limits based on a finding by the Region of no economic hardship. Accordingly, Hecla believes it is futile to further pursue an economic based FDF variance request to EPA. As noted in other comments, Hecla will have to receive, store and dispose large volumes of acid near the South Fork to achieve pH limits. Hecla does not understand why EPA would support this result when a viable alternative which is protective of the environment is available.

² Use of lime treatment may require that some discrete waste at the Lucky Friday be treated with pH greater than 10.0 s.u. However, based on state 401 water quality certification, Hecla believes it can achieve adequate metals treatment with discharges of pH up to 10.0 s.u.

of pH discharges of a 10.0 s.u. It is puzzling to Hecla why EPA continues to deny Hecla any relief under this provision.³

- When EPA developed the Effluent Limit Guidelines for Ore Mining in 1982, it was clear that many facilities in the industry were achieving optimum metal removal by use of lime and sedimentation⁴ (settling) with the resulting pH of greater than 9.0 s.u. See Development Document for Proposed Effluent Limit Guidelines for the Ores Mining and Dressing Point Source Category at Section VIII (EPA May 1982).
- It is also clear, that use of the term "relevant metals limitation" in 40 CFR § 440.131(d) not only included the technology based effluent limits in Part 440 but also included water quality based effluent limits (WQBELs). The requirement that EPA and the states were required to include any more stringent effluent limits to achieve water quality standards was clearly provided in the law in 1982 when 40 CFR Part 440 was promulgated. See 33 USC § 1311(b)(1)(C). The Preamble for the final rule clearly acknowledged the possibility of WQBELs in NPDES Permits for the mining industry. See 47 Fed. Reg. 54598, 54606 (December 3, 1980). Thus, a reasonable interpretation of the rule is that "relevant metals limitations" included WQBELs. Since it is clear that Hecla will be required to increase pH as part of its treatment in the tailings ponds to meet WQBELs for metals, Hecla is entitled to relief in accordance with the state's final 401 certification.
- The metal limits in the permit are based upon water quality considerations. The pH limits are based upon technology issues. We refuse to believe that EPA Region 10 fails to see the difference between a pH utilized to achieve technology-based metals limits versus a pH utilized for water quality-based permit limits; they are not the same! The metal limits proposed in the draft modified permit are many times lower than the metal limits associated with the effluent limitation guidelines. EPA Region 10 is fully aware that Hecla will have to remove dissolved metals to meet the final permit limits and the pH associated with the "Effluent Limitations Guidelines And New Source Performance Standards for the Ore Mining and Dressing Point Source Category" (ELG document) did not address dissolved metals. High pH treatment is what the science and technology dictates for the removal of dissolved metals. EPA's own treatability manuals acknowledge that removal of dissolved metals requires a pH in excess of 9.0 s.u. See EPA Treatability Manual, supra.

³ As noted, the alternative to pH adjustment is for storage and use of large volumes of acid near the river. Hecla cannot understand why EPA would advocate such a result from an environmental protection standpoint.

⁴ The use of the terms "neutralization" and "sedimentation" in 40 CFR § 440.131(d) was referring to lime addition and settling (as what occurs at the Lucky Friday) since *this* these treatment technologies were extensively evaluated in the Development Document and since "sedimentation" is not even referenced as a treatment technology in the Development Document

EPA's own guidance, technology, and science, the work of EPA consultants in the Coeur d'Alene Basin also stands in direct opposition to EPA Region 10 on the pH issue. The "FINAL CANYON CREEK TREATABILITY STUDY PHASE I REPORT" (March 23, 2005), prepared for EPA by URS Group, Inc., at Appendix C (Columbia Analytical Services Case Narrative), page 4, states under "General Observations" that "It was apparent that the optimal target pH is 10.5"! The focus of this study was on the removal of dissolved zinc, cadmium, and lead - the same metals of concern, from the same ore types, as those in the Lucky Friday discharge.

- Past permits issued by EPA Region 10 also contradict their current stance. The Red Dog Mine was issued a permit with a pH upper limit of 10.5 s.u. in 1998 based upon that facility's need to achieve more stringent WQBELS for dissolved metals and in reliance upon 40 CFR § 440.131. The Sunshine Mine was issued a permit with an upper pH limit of 9.5 s.u. to remove dissolved metals. The Bunker Hill Central Treatment Plant (CTP), operated by EPA, is operating under the conditions of an expired permit issued to Bunker Hill, with an upper pH limit of 10.0 s.u. to remove dissolved metals. Even though the CTP operates within the superfund "box", it discharges to the South Fork of the Coeur d'Alene River, which is not part of the superfund "box", thus the CTP discharge should be subject to the same standards as the Lucky Friday Mine. It is enlightening to note that the law, regulations, and guidance documents referenced above have not changed since these permits were issued.
- Increased hardness due to increased pH in the discharge also helps the health of the receiving water. Increased hardness reduces the toxicity of the heavy metals already in the system due to natural and manmade causes, and EPA Region 10 knows this.

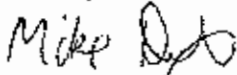
Thus, in closing, EPA rules authorize an adjustment to pH. Hecla has demonstrated entitlement to a pH adjustment as it will ensure compliance with water quality standards as certified by the state of Idaho. Hecla requests a pH limit of 10.0 s.u. in the final permit.

3) Interim Limits. The draft modified permit does not allow for the interim limits based upon recent performance agreed to with DEQ in the state 401 certification. We were under the impression that EPA Region 10 also agreed that the interim limits should be based upon past performance. Compliance schedules authorized by state law should be considered controlling on the issue of interim limits and EPA Region 10 should reconsider their position.

4) Effective Date of Permit. The Fact Sheet states that most of the "changes proposed in today's action are based on a revised Clean Water Act Section 401 certification". Regardless of how either DEQ or EPA characterize the 401 certification issued by DEQ on 15 July 2004, this certification is the "final" certification after the compliance required for 401 certifications under the Idaho Administrative Procedures Act

(IDAPA). Clean Water Act Section 401(a) (1) mandates these IDAPA requirements. This same section clearly states "No license or permit shall be granted until the certification required by this section has been obtained...". Subsequent issues requiring a "modification" or "revision", such as the TSS TMDL, clearly represent a "modification" or "revision", but the 15 July 2004 certification was the "final" pursuant to IDAPA. As such, the issuance of the permit prior to addressing the final 401 certification was premature, thus both the effective date, compliance schedule and expiration date of the permit must be changed accordingly.

Sincerely,



Mike Dexter, General Manager
Lucky Friday Mine
P.O. Box 31
Mullan, Idaho 83846
208/744-1751 X304

cc: Ed Tulloch, Idaho Department of Environmental Quality





STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

Post-It Fax Note 7671		Date 7/16	# of Pages 5
To Bob Tardle	From Terri Hanley		
Co./Dept.	Co. DEQ		
Phone #	Phone #		
Fax #	Fax #		

1410 North Hillon • Boise, Idaho 83706-1286 • (208) 373-0502

Dirk Kempthorne, Governor
C. Stephen Allred, Director

July 15, 2004

Mr. Robert R. Robichaud
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue
Seattle, WA 98101

Re: §401 Certification regarding NPDES Permit No. ID-000017-5
Hecla Mining Company - Lucky Friday Mine and Mill, Mullan, Idaho

Dear Mr. Robichaud:

The State of Idaho Department of Environmental Quality (DEQ) has reviewed the facts and information presented in the revised draft National Pollutant Discharge and Elimination System (NPDES) permit No. ID-000017-5 for the Hecla Mining Company's Lucky Friday Mine and Mill. This letter will serve as certification by the State of Idaho pursuant to the provisions of Section 401 of the Federal Water Pollution Control Act, (Clean Water Act) as amended, 33 USC Section 1341. If the Lucky Friday Mine and Mill complies with the terms and conditions imposed by this permit and the conditions set forth in this §401 Certification, there is reasonable assurance the discharge will comply with the applicable requirements of Sections 208(e), 301, 302, 303, 306, and 307 of the Clean Water Act, including Idaho Water Quality Standards and Wastewater Treatment Requirements (Water Quality Standards).

Mixing Zone

The DEQ authorizes, pursuant to the Water Quality Standards IDAPA 58.01.02.060, the use of the following mixing zones:

Parameter	Flow Tier	Mixing Zone
Copper at Outfall 001	< 14 cfs	50%
	> 14cfs to <32 cfs	25%
	>32 to <113 cfs	25%
	> 113 to <194 cfs	25%
	> 194 cfs	25%
Copper at outfall 002 when outfall 001 waste stream is discharged through outfall 002	<8.6 cfs	50%

	> 8.6 to < 20 cfs	50%
	>20 to <69 cfs	25%
	> 69 to <117 cfs	25%
	> 117 cfs	25%

Copper at outfall 002 when (the outfall) 003 waste stream is discharged through outfall 002	<20 cfs	50%
	> 20 to < 69 cfs	25%
	> 69 to < 117 cfs	25%
	> 117 cfs	25%

Copper at Outfall 003	<18 cfs	50%
	>18 to <63 cfs	50%
	>63 cfs	25%

Mercury at outfalls 001, 002 and 003: 75% for all flow tiers.

pH at outfalls 001, 002 and 003: 25% for pH above 9.0 su

Silver at outfalls 001, 002 and 003: 25% at all flow tiers.

DEQ also authorizes EPA to utilize a 25% mixing zones for calculating toxicity triggers for WITT testing.

Compliance Schedule

This certification includes authorization of a five-year compliance schedule to meet metals limits set forth within the draft permit pursuant to the Water Quality Standard IDAPA 58.01.02.400.03 for cadmium, lead, zinc, and mercury. The permittee has demonstrated that they can attain the effluent limits for copper and silver therefore, a compliance schedule is not needed or authorized. In an effort to develop a water-recycling program to help reduce metals loading, engineering and design of such systems must first be developed and installed. It is impossible to know or predict with any certainty what type of water treatment may be required until a water-recycling program is implemented. Furthermore, as part of a recycling program, discharge outfalls may be combined complicating the chemical composition of the effluent and thus influencing what type of water treatment system may be needed. Enough time must be allowed for proper testing and analyses of any combined effluent to ensure that a water treatment system, if needed, will enable the Lucky Friday Mine to meet permit limits. The compliance schedule for cadmium, lead, zinc, and mercury shall be as follows:

- 1) Hecla shall design and implement a water recycling system within 24 months (2 years) from the date the permit is issued to achieve permit limits.
- 2) Hecla shall have at the end of 24 months (2 years) an additional 12 months (1 year) for testing and analyses.

- 3) If it is determined that a water treatment system is needed to comply with the limits set forth in the permit, Hecla shall design, build, and implement a water treatment system and comply with permit limits for cadmium, lead, zinc, and mercury on or before permit expiration.
- 4) During the period that the compliance schedule is in effect interim limits shall apply to the outfalls based on the discharge levels reported in the DMRs (Table 1.).

Table 1 -- Interim Effluent Limitations

Outfall	Parameter	Maximum Daily Limit		Average Monthly Limit	
		ug/l	lb/day	ug/l	lb/day
Outfall 001 and Outfall 002 when the outfall 001 waste stream is discharged through outfall 002	Cadmium ¹ , total recoverable	6.0	0.046	2	0.023
	Lead ¹ , total recoverable	899	5.96	440	3.10
	Mercury ² , total	0.2 ²	0.0028 ²	0.2	0.0028
	Zinc ¹ , total recoverable	880	6.53	469	2.54
Outfall 003 and Outfall 002 when the outfall 003 waste stream is discharged through outfall 002	Cadmium ¹ , total recoverable	3	0.043	2	0.022
	Lead ¹ , total recoverable	321	2.76	265	1.43
	Mercury ¹ , total	0.2	0.0038	0.2	0.0038
	Zinc ¹ , total recoverable	670	6.29	480	4.28

Footnotes:

- 1 - Reporting is required within 24 hours of a maximum daily violation. See Part III.G.
- 2 - This interim limit applies to the first three flow tiers for outfall 001 (<14 cfs, 14-32 cfs, and 32-113 cfs) and the first four flow tiers for outfall 002 when the outfall 001 waste stream is discharged through outfall 002 (<4.6 cfs, 4.6-20 cfs, 20-69 cfs and 69-117 cfs).

For the compliance schedule above, Hecla shall, prior to implementing the water recycling system, provide the design of the system to IDEQ for comment. In addition, Hecla shall submit written progress status reports to EPA and DEQ in accordance with section I.A.4.f of the permit. The progress reports shall include the results of Hecla's testing and analysis used to determine the need for a water treatment system.

Bioassessment Monitoring

In order to ensure compliance with the Water Quality Standards, the permit shall include the requirement that Hecla conduct annual instream bioassessment using a sample design that will allow DEQ to make a determination as to the impact of the discharges to the beneficial use. This will likely involved biomonitoring immediately upstream of the discharge, within the mixing zone and just outside the mixing zones for outfalls 001 and 003, beginning in 2007. Hecla shall coordinate the sample design with the Coeur d'Alene Office of DEQ. If effluent is discharged from outfall 002 for six (6) months or longer, monitoring shall be required directly downstream of outfall 002. In the event that discharge effluent is combined to one outfall, annual monitoring

will be required directly downstream of the combined outfall and the abandoned outfall for comparison. Bioassessment monitoring shall be consistent with the most recent DEQ Beneficial Use Reconnaissance Project workplan for wadable streams. Copies of the field forms, macroinvertebrate identification and enumeration, as well as fish taxa and abundance shall be provided to DEQ by January 31 of the following year.

Flow Tiers

The permit establishes multiple flow tiers. Effluent limits are calculated from the minimum upstream flow of each tier. These flow tiers will allow effluent limits to be increased while maintaining Idaho Water Quality Standards.

Hardness Used to Calculate Limits

The state water quality criteria for cadmium, copper, lead, silver, and zinc are based upon hardness. Where a mixing zone has not been authorized (cadmium, lead, and zinc), EPA calculated the limits based upon the effluent hardness. Where a mixing zone was authorized (copper and silver), EPA calculated the limits based upon hardness at the edge of the mixing zone. We certify that these conditions are consistent with Idaho's water quality standards.

IDEQ Notification

Idaho DEQ requests that EPA require the permittee to notify DEQ in conjunction with EPA in all areas where notification is required. We also request that the timeline for EPA notification apply to the state as well.

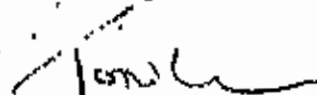
Other Comments

As a general comment, DEQ supports any steps that can be taken to make the all of the permit monitoring requirements less expensive. Consistent with this general comment, DEQ supports the position that the whole effluent toxicity testing should only be required starting in 2007 once Hecla completes its implementation, testing and analysis of the water recycling program. Similarly, the seepage study should be required after implementation of the water recycling program in 2007. DEQ believes that the discharge to the South Fork of the CDA River, if any, resulting from seepage from Hecla's tailings ponds is appropriately covered by this NPDES permit. If, however, the seepage study required by the permit demonstrates the need to the modify the permit, DEQ reserves its right to amend this certification to determine whether the seepage is causing or contributing to a violation of Water Quality Standards.

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, waste load allocations, site-specific criteria, variances, or other new information, shall first be provided to the DEQ for review to determine compliance with state Water Quality Standards and to provide additional certification pursuant to §401. The DEQ is willing to consider pollutant trading pursuant to IDAPA 58.01.02.054.06.

This section 401 certification and associated conditions may be appealed by submitting to DEQ a petition to initiate a contested case, pursuant to Idaho Code § 39-107(S) and the Rules of Administrative Procedure Before the DEQ Board IDAPA 58.01.23, within 35 days of the date of this letter.

Sincerely,



Toni Hardesty
Director

- c: Gwen Fransen, DEQ-CDA
- Patty McGrath, LPA
- Doug Conde, DEQ-AG
- Don Essig, DEQ-SO
- Ed Tulloch, DEQ-CDA



LUCKY FRIDAY MINE
"Out of the Earth, Into Our Lives"

Certified Mail-Return Receipt Requested

August 19, 2004

Ronald A. Kreizenbeck, Acting Regional Administrator
EPA - Region 10
1200 Sixth Avenue
Seattle, WA 98101

Re: NPDES Permit No. ID-000017-5 Incorporation of Revised Section 401 Certification

Dear Mr. Kreizenbeck:

Hecla Mining Company, Lucky Friday Unit ("Hecla") requests the incorporation of revised permit conditions into National Pollutant Discharge Elimination System ("NPDES") Permit No. ID-000017-5 (the "Lucky Friday Permit"). Hecla's request for incorporation of revised permit conditions is based on the issuance of a revised certification by the State of Idaho pursuant to Section 401 of the Federal Water Pollution Control Act ("Clean Water Act"), which was issued on July 15, 2004 ("revised Section 401 Certification").

The Lucky Friday Permit was issued on August 12, 2003. Prior to issuance of the permit, on June 17, 2003, the State of Idaho, pursuant to Section 401 of the Clean Water Act, provided certification validating the Lucky Friday Permit's compliance with pertinent water pollution control standards. See Attachment A. The conditions of the Section 401 Certification were incorporated into the Lucky Friday Permit.

On July 31, 2003 Hecla initiated a contested case proceeding before the Idaho Department of Environmental Quality ("DEQ") seeking review of certain conditions and omissions in DEQ's July 17, 2003 Section 401 Certification. Hecla appealed certain conditions and omissions in the July 17, 2003 Section 401 Certification on the basis that they were not technically or legally justified.

On June 3, 2004, after months of discussion and analysis of data underlying the certification, DEQ and Hecla negotiated a settlement of the contested case. See Attachment B (settlement and revised draft 401 Certification). See also, Attachment C (Memorandum from DEQ Re: Revised certification for the Lucky Friday Mine). The settlement included DEQ's agreement to issue a revised Section 401 Certification. See Attachment B. The settlement agreement was approved by the hearing officer appointed by the Idaho Board of Environmental Quality and the contested case was dismissed on June 15, 2004.

/ On September 11, 2003 Hecla also filed a Petition for Review before the Environmental Appeals Board seeking review of the conditions in the Lucky Friday Permit.

DEQ published a revised draft 401 Certification for public comment on June 3, 2004. On June 21, 2004, DEQ received comments from EPA regarding the draft certification. See Attachment D (letter from Michael F. Gearheard to Gwen Fransen). In response to EPA's comments, DEQ provided EPA additional information explaining and supporting the revised certification and provided EPA a letter from Hecla responding to the issues raised in EPA's comment letter. See Attachment E (July 20, 2004 letter to Michael Gearheard from Tomi Hardesty). After considering the comments, DEQ made several changes to the revised certification. *Id.* DEQ issued a final revised Section 401 Certification for the Lucky Friday Permit on July 15, 2004. See Attachment F. The technical support for the revised Section 401 Certification is contained in DEQ's records regarding the contested case.

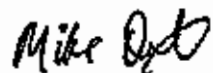
The CWA recognizes and preserves the primary responsibility and rights of the States to "prevent, reduce, and eliminate pollution" and "plan the development and use of land and water resources." 33 U.S.C. § 1251(b). In particular, Section 401 of the Clean Water Act requires that all NPDES permit applicants must obtain a certification from the appropriate state agency validating the permit's compliance with the pertinent federal and state water pollution control standards. 33 U.S.C. § 1341(a)(1). The regulatory provisions pertaining to state certification provide that EPA may not issue a permit until a certification is granted or waived by the state in which the discharge originates. 40 C.F.R. § 124.53(a). An NPDES permit may be "modified" during its term under certain circumstances, including the issuance of a "modified" state certification. 40 CFR § 122.62(a)(3)(iii). Specifically, after final agency action on a permit, the permit may be "modified" at the request of the permittee where an appropriate State board or agency has issued a "modified" certification. See 40 CFR § 124.55(b). The regulations provide that the permit should be "modified" to the extent necessary to delete the conditions invalidated by an appropriate State board or agency. *Id.*

Based on these regulations, and the July 15, 2004 issuance of a revised Section 401 Certification for the Lucky Friday Permit, Hecla seeks revision of NPDES Permit No. ID-000017-5 to delete the invalidated conditions and incorporate the revised conditions contained in the revised certification.

In particular, Hecla seeks incorporation of: (1) the revised mixing zones for copper and mercury; (2) the addition of a mixing zone of 25% for pH above 9.0 s.u.; (3) the addition of a 25% mixing zone for calculating toxicity triggers for WET testing; (4) the addition of a compliance schedule for cadmium at outfall 003; (5) the inclusion of the revised interim effluent limits contained in Table 1; (6) the delay of bioassessment monitoring until 2007; and (7) the delay of the seepage study requirement until 2007.

The revised Section 401 Certification is consistent with federal and state law and properly reflects the conditions necessary to assure compliance with federal and state water quality standards; therefore, Hecla requests the revised conditions be incorporated into the Lucky Friday Permit.

Very truly yours,



Mike Dexter
General Manager
Lucky Friday Mine

Attachments

cc: **Toni Hardesty**
Barry Burnell
Doug Conde
Gwen Fransen
David Allnut
Kevin Beaton

Attachment A

Jun 27 -



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

2110 Ironwood Parkway • Coeur d'Alene, Idaho 83814-2648 • (208) 760-1422

Dirk Kempthorne, Governor
C. Stephen Allred, Director

June 17, 2003

Mr. Robert R. Robichaux
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue
Seattle, Washington 98101

Re: §401 Certification regarding NPDES Permit No. ID-000017-5
Hecla Mining Company - Lucky Friday Mine and Mill, Mullan, Idaho

Dear Mr. Robichaux:

The State of Idaho's Department of Environmental Quality (DEQ) has reviewed the facts and information presented in the revised draft National Pollutant Discharge and Elimination System (NPDES) permit No. ID-000017-5 for the Hecla Mining Company's Lucky Friday Mine and Mill. This letter will serve as certification by the State of Idaho pursuant to the provisions of Section 401 of the Federal Water Pollution Control Act, (Clean Water Act) as amended, 33 USC Section 1341. If the Lucky Friday Mine and Mill complies with the terms and conditions imposed by this permit and the conditions set forth in this §401 Certification, there is reasonable assurance the discharge will comply with the applicable requirements of Sections 204(e), 301, 302, 303, 306, and 307 of the Clean Water Act, including Idaho Water Quality Standards and Wastewater Treatment Requirements (Water Quality Standards).

Mixing Zone

The DEQ authorizes, pursuant to the Water Quality Standards IDAPA 58.01.02.060, the use of a 25% mixing zone for copper, mercury, and silver at Outfalls 1, 2, and 3. DEQ also authorizes EPA to utilize a 25% mixing zone for calculating toxicity triggers for WFT testing.

Compliance Schedule

This certification includes authorization of a five-year compliance schedule to meet metals limits set forth within the draft permit pursuant to the Water Quality Standard IDAPA 58.01.02.400.03

Mr. Robert R. Robichaud
June 17, 2003
Page 2

for cadmium (Outfall 001 only), lead, zinc, and mercury. The permittee has demonstrated that they can attain the effluent limits for copper, silver and cadmium (Outfall 3 only) therefore, a compliance schedule is not needed or authorized. In an effort to develop a water-recycling program to help reduce metals loading, engineering and design of such systems must first be developed and installed. It is impossible to know or predict with any certainty, what type of water treatment may be required until a water-recycling program is implemented. Furthermore, as part of a recycling program, discharge outfalls may be combined, complicating the chemical composition of the effluent, and thus influencing what type of water treatment system may be needed. Enough time must be allowed for proper testing and analyses of any combined effluent to ensure that a water treatment system, if needed, will enable the Lucky Friday Mine to meet permit limits. The compliance schedule for cadmium (Outfall 001 only), lead, zinc, and mercury shall be as follows:

- 1) Hecla shall design and implement a water recycling system within 24 months (2 years) from the date the permit is issued to achieve permit limits.
- 2) Hecla shall have, at the end of 24 months (2 years), an additional 12 months (1 year) for testing and analyses.
- 3) If it is determined that a water treatment system is needed to comply with the limits set forth in the permit, Hecla shall design, build, and implement a water treatment system and comply with permit limits for cadmium (outfall 001 only), lead, zinc, and mercury on or before permit expiration.
- 4) During the period that the compliance schedule is in effect, interim limits shall apply to the outfalls based on the recent discharge levels reported in the DMRs (Table 1.).

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Mr. Robert R. Robichaud
 June 17, 2003
 Page 3

Table 1. Interim Discharge limits for Cadmium, Lead, Zinc, and Mercury.

Outfall 001 and 002 when discharge is from 001	Maximum Daily Limit (MDL)		Average Monthly Limit (AML)		Basis
	ug/l	lbs/day	ug/l	lbs/day	
Cd	2.0	0.028	1.0	0.014	Maximum of the data from May 2001 - Jan. 2002 rounded up to the next 1 ug/l. Two outliers were removed from data set.
Pb	450	6.3	300	4.2	Maximum of the data from Jan. 1997 - Jan. 2002 rounded up to the next 10ug/l. The AML is the technology-based limit. 40 CFR 125.3 requires that technology-based limits be met by March 31, 1989.
Zn	500	7.0	280	3.9	Maximum of the data from Jan. 1997 - Jan. 2002 rounded up to the 10ug/l and with 4 outliers removed.
Hg	0.2	0.0028	0.2	0.0028	All of the data has been non detect at detection limits of 0.2 ug/l. The interim limits have been set at levels the permittee has shown they can achieve.
Outfall 003 and 002 when discharge is from 003					Basis
Pb	330	6.2	270	5.1	Maximum of the data from Jan. 1997 - Jan. 2002 rounded up to the next 10ug/l.
Zn	500	7.4	410	7.7	Maximum of the data from Jan. 1997 - Jan. 2002 rounded up to the 10ug/l and with 1 outlier removed.
Hg	0.2	0.0032	0.2	0.0032	All of the data has been non detect at detection limits of 0.2 ug/l. The interim limits have been set at levels the permittee has shown they can achieve.

* Daily load is based off of the maximum effluent flow, 2.6 cfs for 001 and 3.5 cfs for 003.

For the compliance schedule above, Hecla shall submit written progress status reports to EPA and DEQ in accordance with section 3.A.4.e of the permit.

Mr. Robert R. Robichaud
June 17, 2003
Page 4

Bioassessment Monitoring

In order to ensure compliance with the Water Quality Standards, the permit shall include the requirement that Hecla conduct annual instream bioassessment monitoring directly downstream of Outfalls 001 and 003. If effluent is discharged from Outfall 002 for six (6) months or longer, monitoring shall be required directly downstream of Outfall 002. In the event that discharge effluent is combined to one outfall, annual monitoring will be required directly downstream of the combined outfall and the abandoned outfall for comparison. Bioassessment monitoring shall be consistent with the most recent DEQ Beneficial Use Reconnaissance Project workplan for wadable streams. Copies of the field forms, macroinvertebrate identification and enumeration, as well as fish taxa and abundance shall be provided to DEQ by January 31 of year the following sample collection.

Flow Tiers

The permit establishes five (5) flow tiers. Effluent limits are calculated from the minimum upstream flow of each tier. These flow tiers will allow effluent limits to be increased while maintaining Idaho Water Quality Standards.

Hardness Used to Calculate Limits

The state water quality criteria for cadmium, copper, lead, silver, and zinc are based upon hardness. Where a mixing zone has not been authorized (cadmium, lead, and zinc), EPA calculated the limits based upon the effluent hardness. Where a mixing zone was authorized (copper and silver), EPA calculated the limits based upon hardness at the edge of the mixing zone. We certify that these conditions are consistent with Idaho's water quality standards.

IDEQ Notification

Idaho DEQ requests that RPA require the permittee to notify DEQ in conjunction with EPA in all areas where notification is required. We also request that the timeline for EPA notification apply to the state as well.

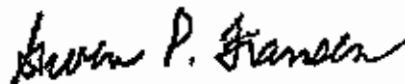
Mr. Robert R. Robichaud
June 17, 2003
Page 5

As a general comment, DEQ supports any steps that can be taken to make the all of the permits monitoring requirements less expensive.

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, waste load allocations, site-specific criteria, variances, or other new information, shall first be provided to the DEQ for review to determine compliance with state Water Quality Standards and to provide additional certification pursuant to §401. The DEQ is willing to consider pollutant trading pursuant to IDAPA 58.01.02.054.06.

This section 401 certification and associated conditions may be appealed by submitting to DEQ a petition to initiate a contested case, pursuant to Idaho Code § 39-107(3) and the Rules of Administrative Procedure Before the DEQ Board IDAPA 58.01.23, within 35 days of the date of this letter.

Sincerely,



Gwen P. Fransen
Regional Administrator

cc: Patty McGrath, EPA
Doug Condo, DRQ-AG
Don Essig, DEQ-SO
Ed Tulloch, DEQ-CDA

Attachment B

HECLA MINING COMPANY CONTESTED CASE SETTLEMENT AGREEMENT

1. On July 31, 2003, Hecla Mining Company ("Hecla") filed a Petition initiating a contested case before the Board of Environmental Quality challenging certain conditions in the Department of Environmental Quality ("DEQ") certification of Hecla's National Pollution Discharge Elimination System ("NPDES") for Hecla's Lucky Friday Mine issued pursuant to § 401 of the Clean Water Act.
2. Hecla and DEQ hereby agree to a full and complete settlement of all claims or issues that were or could have been raised in the contested case in accordance with the following terms and conditions:
 - a. Attached to this Settlement Agreement as Exhibit A is a modified certification of the NPDES permit for the Lucky Friday Mine. DEQ agrees to issue, subject to public notice and comment, the modified certification by June 30, 2004 and agrees that the modified certification shall replace and void the original certification that was the subject of this contested case.
 - b. In consideration of DEQ's agreement to issue a modified 401 certification, Hecla agrees to sign and file the Stipulation to Dismiss attached to this Settlement Agreement as Exhibit B.
 - c. If DEQ amends Exhibit A when DEQ issues the final certification, then Hecla reserves the right to challenge the final 401 certification.
3. The Settlement Agreement contains the entire agreement between Hecla and DEQ concerning the 401 certification and this contested case. Hecla and DEQ represent and warrant that their execution of this Settlement Agreement is not based upon any representations, understandings, promises or agreements other than as set forth within this Settlement Agreement.

Hecla Mining Company

*Michael D. Osto*Date: June 3, 2004

Idaho Department of Environmental Quality

Date: _____

EXHIBIT A

June __, 2004

Mr. Robert R. Robichaud
 U.S. Environmental Protection Agency, Region 10
 1200 Sixth Avenue
 Seattle, WA 98101

Re: §401 Certification regarding NPDES Permit No. ID-000017-5
 Hecla Mining Company - Lucky Friday Mine and Mill, Mullan, Idaho

Dear Mr. Robichaud:

The State of Idaho Department of Environmental Quality (DEQ) has reviewed the facts and information presented in the revised draft National Pollutant Discharge and Elimination System (NPDES) permit No. ID-000017-5 for the Hecla Mining Company's Lucky Friday Mine and Mill. This letter will serve as certification by the State of Idaho pursuant to the provisions of Section 401 of the Federal Water Pollution Control Act, (Clean Water Act) as amended, 33 USC Section 1341. If the Lucky Friday Mine and Mill complies with the terms and conditions imposed by this permit and the conditions set forth in this §401 Certification, there is reasonable assurance the discharge will comply with the applicable requirements of Sections 208(e), 301, 302, 303, 306, and 307 of the Clean Water Act, including Idaho Water Quality Standards and Wastewater Treatment Requirements (Water Quality Standards).

Mixing Zone

The DEQ authorizes, pursuant to the Water Quality Standards IDAPA 58.01.02.060, the use of the following mixing zones:

Parameter	Flow Tier	Mixing Zone
Copper at Outfall 001	< 14 cfs	50%
	> 14cfs to <32 cfs	50%
	>32 to <113 cfs	25%
	> 113 to <194 cfs	25%
	> 194 cfs	25%
Copper at outfall 002 when outfall 001 waste stream is discharged through outfall 002	<8.6 cfs	50%
	> 8.6 to < 20 cfs	50%

	>20 to <69 cfs	25%
	> 69 to <117 cfs	25%
	> 117 cfs	25%

Copper at outfall 002 when the outfall 003 waste stream is discharged through outfall 002	<20 cfs	50%
	> 20 to < 69 cfs	25%
	> 69 to < 117 cfs	25%
	> 117 cfs	25%

Copper at Outfall 003	<18 cfs	50%
	>18 to <63 cfs	50%
	>63 cfs	25%

Mercury at outfalls 001, 002 and 003: 75% for all flow tiers.

pH at outfalls 001, 002 and 003: 25%.

Silver at outfalls 001, 002 and 003: 25% at all flow tiers.

DEQ also authorizes EPA to utilize the approved mixing zones for calculating toxicity triggers for WET testing.

Compliance Schedule

This certification includes authorization of a five-year compliance schedule to meet metals limits set forth within the draft permit pursuant to the Water Quality Standard IDAPA 58.01.02.400.03 for cadmium, lead, zinc, and mercury. The permittee has demonstrated that they can attain the effluent limits for copper and silver therefore, a compliance schedule is not needed or authorized. In an effort to develop a water-recycling program to help reduce metals loading, engineering and design of such systems must first be developed and installed. It is impossible to know or predict with any certainty what type of water treatment may be required until a water-recycling program is implemented. Furthermore, as part of a recycling program, discharge outfalls may be combined complicating the chemical composition of the effluent and thus influencing what type of water treatment system may be needed. Enough time must be allowed for proper testing and analyses of any combined effluent to ensure that a water treatment system, if needed, will enable the Lucky Friday Mine to meet permit limits. The compliance schedule for cadmium, lead, zinc, and mercury shall be as follows:

- 1) Hecla shall design and implement a water recycling system within 24 months (2 years) from the date the permit is issued to achieve permit limits.
- 2) Hecla shall have at the end of 24 months (2 years) an additional 12 months (1 year) for testing and analyses.

- 3) If it is determined that a water treatment system is needed to comply with the limits set forth in the permit. Hecla shall design, build, and implement a water treatment system and comply with permit limits for cadmium, lead, zinc, and mercury on or before permit expiration.
- 4) During the period that the compliance schedule is in effect interim limits shall apply to the outfalls based on the discharge levels reported in the DMRs (Table 1.).

Table 1 - Interim Effluent Limitations

Outfall	Parameter	Maximum Daily Limit		Average Monthly Limit	
		ug/l	lb/day	ug/l	lb/day
Outfall 001 and Outfall 002 when the outfall 001 waste stream is discharged through outfall 002	Cadmium ¹ , total recoverable	6.0	0.046	2	0.023
	Lead ¹ , total recoverable	899	5.96	440	3.10
	Mercury ¹ , total	0.2 ²	0.0028 ²	0.2	0.0028
	Zinc ¹ , total recoverable	880	6.53	469	2.54
Outfall 003 and Outfall 002 when the outfall 003 waste stream is discharged through outfall 002	Cadmium ¹ , total recoverable	3	0.043	2	0.022
	Lead ¹ , total recoverable	321	2.76	265	1.43
	Mercury ¹ , total	0.2	0.0038	0.2	0.0038
	Zinc ¹ , total recoverable	670	6.29	480	4.28

Footnotes:
 1 - Reporting is required within 24 hours of a maximum daily violation. See Part III.G.
 2 - This interim limit applies to the first three flow tiers for outfall 001 (<14 cfs, 14-32 cfs, and 32-113 cfs) and the first four flow tiers for outfall 002 when the outfall 001 waste stream is discharged through outfall 002 (<8.6 cfs, 8.6-20 cfs, 20-69 cfs and 69-117 cfs).

For the compliance schedule above, Hecla shall, prior to implementing the water recycling system, provide the design of the system to IDEQ for comment. In addition, Hecla shall submit written progress status reports to EPA and DEQ in accordance with section I.A.4.f of the permit. The progress reports shall include the results of Hecla's testing and analysis used to determine the need for a water treatment system.

Bioassessment Monitoring

In order to ensure compliance with the Water Quality Standards, the permit shall include the requirement that Hecla conduct annual instream bioassessment using a sample design that will allow DEQ to make a determination as to the impact of the discharges to the beneficial use. This will likely involved biomonitoring immediately upstream of the discharge, within the mixing zone and just outside the mixing zones for outfalls 001 and 003, beginning in 2007. Hecla shall coordinate the sample design with the Coeur d'Alene Office of DEQ. If effluent is discharged from outfall 002 for six (6) months or longer, monitoring shall be required directly downstream of outfall 002. In the event that discharge effluent is combined to one outfall, annual monitoring

will be required directly downstream of the combined outfall and the abandoned outfall for comparison. Bioassessment monitoring shall be consistent with the most recent DEQ Beneficial Use Reconnaissance Project workplan for wadable streams. Copies of the field forms, macroinvertebrate identification and enumeration, as well as fish taxa and abundance shall be provided to DEQ by January 31 of the following year.

Flow Tiers

The permit establishes multiple flow tiers. Effluent limits are calculated from the minimum upstream flow of each tier. These flow tiers will allow effluent limits to be increased while maintaining Idaho Water Quality Standards.

Hardness Used to Calculate Limits

The state water quality criteria for cadmium, copper, lead, silver, and zinc are based upon hardness. Where a mixing zone has not been authorized (cadmium, lead, and zinc), EPA calculated the limits based upon the effluent hardness. Where a mixing zone was authorized (copper and silver), EPA calculated the limits based upon hardness at the edge of the mixing zone. We certify that these conditions are consistent with Idaho's water quality standards.

IDEQ Notification

Idaho DEQ requests that EPA require the permittee to notify DEQ in conjunction with EPA in all areas where notification is required. We also request that the timeline for EPA notification apply to the state as well.

Other Comments

As a general comment, DEQ supports any steps that can be taken to make the all of the permit monitoring requirements less expensive. Consistent with this general comment, DEQ supports the position that the whole effluent toxicity testing should only be required starting in 2007 once Hecla completes its implementation, testing and analysis of the water recycling program. Similarly, the seepage study should be required after implementation of the water recycling program in 2007. DEQ believes that the discharge to the South Fork of the CDA River, if any, resulting from seepage from Hecla's tailings ponds is appropriately covered by this NPDES permit. If, however, the seepage study required by the permit demonstrates the need to the modify the permit, DEQ reserves its right to amend this certification to determine whether the seepage is causing or contributing to a violation of Water Quality Standards.

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, waste load allocations, site-specific criteria, variances, or other new information, shall first be provided to the DEQ for review to determine compliance with state Water Quality Standards and to provide additional certification pursuant to §401. The DEQ is willing to consider pollutant trading pursuant to IDAPA 58.01.02.054.06.

This section 401 certification and associated conditions may be appealed by submitting to DEQ a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5) and the Rules of Administrative Procedure Before the DEQ Board IDAPA 58.01.23, within 35 days of the date of this letter.

Sincerely,

Gwen P. Fransen
Regional Administrator

cc: Patty McGrath, EPA
Doug Conde, DEQ-AG
Don Essig, DEQ-SO
Ed Tulloch, DEQ-CDA

Attachment C

Memo

To: Hecla 401 Certification File
Date: 05/19/04
Re: Revised certification for the Lucky Friday Mine

Introduction. This memorandum sets forth the basis for the revisions DEQ proposes to make to its 401 certification for the Lucky Friday Mine in order to resolve the contested case initiated by Hecla that challenged the 401 certification.

Compliance Schedule. The new permit reflects a significant reduction in the effluent limits for lead, cadmium, zinc and mercury when compared to the existing NPDES permit. In order to achieve those new permit limits it will be necessary for the Lucky Friday Mine to modify their existing treatment system. The specific modifications needed will be determined by conducting large scale water management, recycling and treatment. After the testing phase, DEQ has determined that it is reasonable to allow time to construct the treatment facility based on the result of the testing. During the testing and development time, it may not be feasible for the Lucky Friday unit to achieve the metal limits in the permit. In order to allow for operational flexibility during the water treatment testing and development phase, DEQ determined that it would be appropriate to develop a compliance schedule for the Lucky Friday unit for lead, cadmium, zinc and mercury for outfalls 001, 002, and 003. This short term flexibility will help to insure that the best treatment options for long term health of the water body is realized. To insure that the Lucky Friday unit does not increase the levels of the metals during the testing and development phase DEQ has incorporated interim limits for these pollutants in the 401 certification.

Historical records of metals discharged, however, indicate that the Lucky Friday unit could meet the permit limits for cadmium at outfall 003. For this reason, DEQ did not include in its original 401 certification a compliance schedule for cadmium at outfall 003. During the contested case, Hecla provided DEQ with further information regarding the operation of the mine during the testing of the water management or recycling program required by the permit that indicates the historical record will not reflect the operation of the mine during the permit. More specifically, during the testing phase, the composition of the wastewater will likely change and the wastewater may be moved to and discharged from different outfalls. This means that, although Hecla historically could achieve permit limits for cadmium at outfall 003, it may not be feasible for Hecla to achieve the cadmium limits at outfall 003 during the permit. For this reason, DEQ determined to include a compliance schedule and interim limits for cadmium at outfall 003 in the revised 401 certification.

DEQ also determined that it was appropriate to require Hecla provide DEQ with the design of its water recycling system prior to implementation, and to provide DEQ with the results of Hecla's testing and analysis of the water recycling system once it is implemented. Therefore, DEQ added this requirement to the revised certification.

Interim Limits. In the 401 certification, the interim limits for lead, cadmium, zinc, and mercury were based on historical data from January 1997 – January 2002. DEQ's intent was to ensure that, during the compliance schedule period, Hecla did not increase its discharge beyond its historic levels. EPA and DEQ analyzed the data and determined that there were 2 data points for cadmium and 4 data points for zinc from outfall 001 and 1 data point for zinc from outfall 003 that were sufficiently greater than the mean and therefore they were possibly an error. These data points were excluded from the initial analysis for determining interim effluent limits.

During the contested case, Hecla requested that DEQ revise the interim limits so that a violation only occurs if both the concentration and load limits are exceeded. In the alternative, Hecla requested DEQ revise the interim limits based upon data that more accurately reflects Hecla's historic operation. During the contested case, DEQ and Hecla met to discuss the interim limits. After discussing the data points excluded from the initial analysis, DEQ requested that Hecla review their records to determine if the outliers could be explained due to any operational upsets. DEQ also requested that Hecla provide supporting documentation as to why the excluded data should be included as part of the historical levels of discharge from the Lucky Friday Unit. On February 20, 2004 DEQ received a letter from Hecla clarifying their position and proposing alternative interim limits. That letter is attached. After review of the data and explanations, DEQ determined that all but two values were representative of Hecla's historic operation, and therefore were acceptable to use for calculation of the interim limits. The data points excluded were 11/25/1998 and 12/2/1998. These sampling events took place during an abnormally large precipitation event. The spreadsheets used to calculate this data is attached.

The certification has not been revised so that a violation occurs only if both the concentration and load limits are exceeded. DEQ has, however, modified the interim limits in the revised 401 certification to reflect the data discussed above and the calculations set forth in the spreadsheets. This was done because (1) it was DEQ's intent in the 401 certification that the interim limits reflect Hecla's historic operation; and (2) DEQ believes the more complete database most accurately describes the historic operation. Some of the modified interim limits are more stringent than the limits in the initial 401 certification, while the majority of the interim limits are less stringent.

Mixing Zones. Prior to issuing the 401 certification, Hecla requested a 75% mixing zone for copper, mercury and silver for all flow tiers in the NPDES permit. DEQ denied this request because DEQ believed Hecla had not provided sufficient information to show that such a mixing zone was needed and was protective of aquatic life. Instead, DEQ provided a 25% mixing zone for these pollutants in the 401 certification.

During the contested case, Hecla continued to request a 75% mixing zone. In response to DEQ's request, Hecla provided additional information regarding the health and characteristics of the aquatic community in the vicinity of the Lucky Friday Mine, and the effect of the mixing zone on aquatic life.

Hecla also provided information showing why it needs a larger than 25% mixing zone in certain circumstances. This additional information is contained in the following documents provided by Hecla: Supplemental Mixing Zone Information In Support of Lucky Friday NPDES Permit ID-000017-3, May 2004 with Addendum and a March 29, 2004 letter from Hecla with the Anchor Environmental Memorandum Re: Benthic Macroinvertebrate Characterization South Fork Coeur d'Alene River Near Mullan, Idaho. This information is in addition to the April 11, 2003 Mixing Zone Analysis submitted to DEQ by Hecla prior to the certification.

The information regarding the need for the mixing zone includes a comparison of Hecla's historic discharge levels to the average monthly effluent limits produced at different mixing zones to show that, without a certain size mixing zone for copper, Hecla will likely violate the effluent limits in the permit. Hecla also provided information showing that copper levels in its internal waste stream are high, that copper, unlike lead, zinc and cadmium, does not readily settle out, and when Hecla implements its water management system the concentration of copper in the wastewater will likely exceed historic levels. DEQ reviewed the information submitted with respect to copper and determined: (1) that a mixing zone of more than 25% volume for copper will not impair or unreasonably interfere with existing beneficial uses; and (2) that a 75% mixing zone was not warranted, but that Hecla had shown the need for a larger than 25% mixing zone for copper at certain low flows. In the revised 401 certification, DEQ has retained the 25% mixing zone for copper for the majority of flow tiers, but has increased the mixing zone to 50% for the lowest flow tiers.

DEQ also has agreed to increasing the mixing zone for mercury to 75%. Again, this decision was based upon the additional information submitted by Hecla showing that a larger than 25% mixing zone will not impair or unreasonably interfere with existing beneficial uses. In addition, DEQ relied upon the fact that there is no data showing the levels, if any, of mercury in Hecla's discharge because, given the past testing methods, mercury sampling has always shown non-detect. Data will be collected, however, during the life of the permit regarding mercury levels. In addition, ambient water quality and bioassessment monitoring will be conducted. Mercury is subject to a compliance schedule, and the limits to which the mixing zone apply must be met at the expiration of the current permit. Therefore, information will be available to determine at the end of this permit whether there is any mercury in Hecla's discharge, whether that mercury requires a water quality based effluent limitation, and whether a 75% mixing zone is appropriate.

During the contested case, Hecla requested a mixing zone for pH. Based upon information showing that Hecla had a need for a mixing zone, that there would be very little change in the receiving water pH with a 25% mixing zone, and that there will be no impairment of or unreasonable interference with existing uses, DEQ has agreed to include a 25% mixing zone for pH in the revised certification.

Bioassessment and WET testing. In its 401 certification, DEQ provided that bioassessment monitoring was needed to ensure compliance with water quality standards. EPA also included whole effluent toxicity (WET) testing as a requirement of the permit.

During the contested case, Hecla argued there was no basis for the bioassessment monitoring and that the requirement for such testing should be removed from the certification. In the alternative, Hecla requested that such monitoring be conducted only after the water recycling system has been

implemented. The bioassessment monitoring has been retained in the certification. DEQ agrees, however, that sampling once the water recycling system has been implemented will most accurately assess the future operation of the mine. Therefore, DEQ has included in the revised 401 certification a delay of the WET and bioassessment monitoring until 2007. DEQ has also included additional details regarding the required bioassessment monitoring.

Seepage Study. The NPDES permit requires Hecla to conduct a study to determine if there are unmonitored discharges from the tailings ponds to the SPCDA River. During the contested case, Hecla argued that this condition of the permit was not warranted by state or federal law, and requested that DEQ include in its certification that the seepage study requirement be removed from the permit. In the alternative, Hecla requested that the seepage study be delayed.

DEQ believes addressing the discharges from seepage, if any, in the permit in this manner is appropriate. DEQ, however, believes that, in the event the permit needs to be modified because of the results of the seepage study, it should have the right to amend its certification to determine if the seepage is causing or contributing to the violation of water quality standards. Therefore, DEQ has not included in the certification a suggestion the seepage study requirement be removed, but has included language in the revised 401 certification providing for the reservation of its right to certify any discharges from the seeps. In addition, DEQ believes that it is appropriate to delay the seepage study until after the water recycling system is implemented, and therefore, included a comment in the revised certification regarding such a delay.

Other Issues. During the contested case, Hecla argued that DEQ should affirmatively state in its 401 certification that the instream monitoring of chemical parameters and the mercury limits are not necessary. DEQ has not revised the certification in response to these arguments. Hecla also requested that DEQ grant its variance request. The variance request, however, will be determined by EPA with input from Idaho, and therefore, DEQ has not revised the certification or acted further on Hecla's variance request.

Attachment D

Reply To
Attn Of: OW-135

June 21, 2004

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

Re: Comments on Revised Clean Water Act Section 401 Certification
Permit No. ID-0000017, Hecla Mining Company, Lucky Friday Mine

Dear Ms. Fransen:

Enclosed are our comments on the revised draft 401 certification for the National Pollutant Discharge Elimination System (NPDES) permit for Hecla Mining Company's Lucky Friday Mine. We are concerned with your proposal to increase the size of some of the mixing zones, increase some of the interim limits and delay implementation of the seepage study and bioassessment monitoring. It is not clear from the revised certification why some of these changes are justified or how the changes would impact state water quality standards and still protect beneficial uses.

Typically, the Idaho Department of Environmental Quality (DEQ) provides EPA with preliminary draft certifications before the public comment period and draft certifications before the final certification is issued. Since we did not have an opportunity to review the revised draft certification prior to the public comment period, we felt compelled to supply these comments during the comment period. We hope that our staff can work together to resolve concerns raised in our comments prior to finalization of the revised 401 certification.

Please feel free to contact Patty McGrath at (206) 553-0979, if you have questions regarding the comments.

Sincerely,

/s/
Michael F. Gearheard
Director
Office of Water

Enclosure

**EPA Comment: Revised 401 Certification for
Hecla Mining Company - Lucky Friday Mine**

Copper mixing zones: DEQ proposes increasing the mixing zone for copper from 25% to 50% for the two lowest flow tiers for all outfalls. The basis for increasing the mixing zone is that:

- (1) Hecla will likely violate the effluent limits based on the 25% mixing zone;
- (2) when Hecla implements its water management system the concentration of copper in the wastewater will likely exceed historic levels; and,
- (3) the mixing zones will not impair or unreasonably interfere with existing beneficial uses.

In response to #1: DEQ's memo justifying the changes to the certification did not explain why IDEQ believes that Hecla is likely to violate the effluent limits based on a 25% mixing zone. To the contrary, data collected by Hecla indicates that Hecla would unlikely violate such limits.

The following table compares data collected by Hecla from January 2000 - January 2002 to the 2003 permit's copper limits, which were calculated with reference to a 25% mixing zone.

outfall	flow tier	maximum daily limit, ug/l	average monthly limit, ug/l	maximum daily reported value, ug/l	maximum average monthly reported value, ug/l
outfall 001	< 14 cfs	21	8.9	14	7.5
	14 - 32 cfs	26	11		
outfall 003	< 18 cfs	20	7.4	10	8.2
	18 - 63 cfs	21	7.7		

The table shows that, based on historical data, Hecla can meet the effluent limits for outfall 001. Hecla can meet the maximum daily limits at outfall 003. During a single month (July 2000) Hecla might have exceeded the average monthly limit at outfall 003, if the river flow was less than 63 cfs. The next highest average monthly reported value was 6.2 ug/l, which is below the average monthly limit. Based on this information, we do not believe that higher effluent limits based on increased mixing zones are needed. We believe that mixing zones should be as small as practicable (see Chapter 5 of EPA's Water Quality Standards Handbook), and that the concentrations of copper actually present in Hecla's effluent between January 2000 and January 2002 demonstrate that copper limits based on a 25% mixing zone are both achievable and practicable.

In response to #2: DEQ's memo did not provide any data demonstrating that implementation of wastewater management will increase the copper concentration above historic levels. The certification allows a compliance schedule to meet the cadmium, lead, and zinc effluent limits. Hecla will likely need to install wastewater treatment to meet these limits. Such treatment should also reduce (rather than increase) the concentrations of copper. In any case, we do not believe that it is appropriate to encourage increases in copper above current effluent levels.

In response to #3: DEQ's memo did not provide information demonstrating that the increased mixing zones would protect beneficial uses. We assume that DEQ relied on Hecla's CORMIX modeling to conclude that the larger mixing zones will not impair beneficial uses.

We have not had time to thoroughly review the modeling and were not provided with all the data (input parameters) used to run the model. However, we note that the effluent flows used in the model are not consistent with the effluent flows used to calculate the permit limits. The effluent limits were based on maximum effluent flows of 2.6 cfs (outfall 001) and 3.5 cfs (outfall 003). The CORMIX model used effluent flows of 0.93 cfs (outfall 001) and 0.63 cfs (outfall 003). These flows are even lower than the average effluent flows (based on data from 1997-2002) of 1.4 cfs (outfall 001) and 1.1 cfs (outfall 003). The use of average effluent flows may underestimate the size of the mixing zone during other than average conditions and are not representative of critical conditions. Based on the information currently available to it, EPA cannot conclude that a 50% mixing zone for copper would be protective of designated beneficial uses.

Mercury mixing zones: DEQ proposes increasing the mixing zones for mercury from 25% to 75% for all outfalls. The basis for increasing the mixing zone is that:

- (1) the mixing zones will not impair or unreasonably interfere with existing beneficial uses; and
- (2) there is no data showing the levels of mercury in the discharges, because past testing methods have resulted in non-detect.

In response to #1: See above comment regarding the copper mixing zones. The memo justifying changes to the certification did not show how the increased mixing zones were protective of designated beneficial uses.

In response to #2: We agree that the level of mercury in the discharges is unknown (except that it is typically less than 0.2 ug/l, which is the detection limit Hecla has used in past mercury monitoring). Therefore, it is unknown whether or not Hecla can meet limits based on either the 25% mixing zone or a 75% mixing zone. DEQ previously provided Hecla with a five year compliance schedule for mercury, and the 2003 permit incorporates this compliance schedule. The compliance schedule will allow Hecla time to sample its discharges and analyze these discharges using a lower detection limit for mercury. If Hecla demonstrates that it cannot meet mercury limits based upon a 25% mixing zone, then, at that time, it may be appropriate to increase the mixing zone size (assuming that a larger mixing zone is still protective of designated beneficial uses). However, we do not feel that it is appropriate to start off with a larger mixing zone, particularly for mercury, a pollutant that bioaccumulates.

pH mixing zones: The original certification did not provide a mixing zone for pH. DEQ is now proposing to allow a 25% mixing zone for pH. The basis for allowing a mixing zone is:

- (1) Hecla has a need for a mixing zone; and
- (2) there would be very little change in the receiving water pH

In response to #1: DEQ's memo justifying a pH mixing zone does not explain why Hecla needs a mixing zone for pH. Hecla's past permit contained a pH limit of 6-9. In the current (2003) permit, the pH limit is 6.5 - 9. In comments on the permit, Hecla requested a mixing zone for the upper pH limit only. DEQ's certification is not clear in regards to whether the mixing zone applies to the upper or lower pH limit.

The upper pH limit of 9 is a technology-based limit based on the effluent limitation guidelines applicable to copper, lead, zinc, gold, silver, and molybdenum ores (40 CFR 440.102). The NPDES regulations require that permits include technology-based limits based on applicable effluent limitation guidelines (ELGs) (40 CFR 122.44(a)(1)).

The NPDES regulations and effluent limitation guidelines do not allow for dilution to be considered in implementation of the technology-based limit. Therefore, a mixing zone cannot be applied to the upper pH limit. The lower pH limit is based on the state's water quality standard of 6.5 as a minimum. Since the limit is based on a state water quality standard, dilution could be considered. However, the certification does not justify the need for a limit of less than 6.5.

In response to #2: It is not clear what model or input parameters were used to show little changes in pH with a mixing zone. It is not clear what is meant by "very little change" and whether or not such a change could impair designated beneficial uses.

WET mixing zone: The revised certification states that "DEQ authorizes EPA to utilize the approved mixing zones for calculating toxicity triggers for WET testing." It is not clear what is meant by "approved mixing zones," since the revised certification would authorize mixing zones of between 25% and 75% depending on the parameter. The original certification authorized 25% mixing zones. The revised certification needs to be clear regarding the mixing zone size for WET and document that the mixing zone will not impair designated beneficial uses.

Compliance schedule for cadmium at outfall 003: The original certification did not authorize a compliance schedule for cadmium at outfall 003 because DEQ had determined that Hecla could meet the 2003 permit's limits. The outfall 003 effluent limits for cadmium in the permit are 2.1 ug/l (maximum daily) and 1.1 ug/l (average monthly). The maximum measured value of cadmium in outfall 003 from May 2001 through Jan 2002 was 0.8 ug/l.

In the revised certification, DEQ includes a compliance schedule for cadmium in outfall 003. The justification for the new compliance schedule is that "Hecla provided DEQ with further information regarding the operation of the mine during testing of the water management or recycling program required by the permit that indicates the historical record will not reflect the operation of the mine during the permit."

It does not make sense to EPA to allow a compliance schedule when a facility has demonstrated that it can meet the permit's final effluent limitation. Implementation of wastewater management should only decrease concentrations. DEQ's memo provided no data showing that concentrations will increase. We have seen no data that supports the need for a compliance schedule for cadmium at outfall 003.

Interim Limits: The interim limits in DEQ's original certification were based on the maximum effluent concentrations in data collected by Hecla from 1997 through 2000. Outliers were identified by statistical analysis and removed from the data set. In the revised certification, the interim limits for cadmium, lead, and zinc in outfall 001 and zinc in outfall 003 are higher than those in the original certification. However, there was no data provided in the certification that supports the increased values.

Another concern is that the increased interim limits for lead in outfall 001 (899 ug/l maximum daily and 440 ug/l average monthly) are greater than the technology-based limits applicable to the Lucky Friday Mine. The technology-based limits are 600 ug/l maximum daily and 300 ug/l average monthly (see ELGs at 40 CFR 440.103). Compliance schedules are not allowed where statutory deadlines have passed (40 CFR 122.47(a)(1)). The statutory deadlines for meeting technology-based limits based on ELGs is March 31, 1989, (40 CFR 125.3(a)(2) and CWA 301(b)).

Therefore, a compliance schedule cannot be allowed to meet any limit greater than 300 ug/l average monthly or 600 ug/l maximum daily for lead. Interim limits greater than these values cannot be included in the permit.

In addition, it is not clear how the mass-based interim limits were calculated, and it is not clear where footnote 2 to Table 1 (Interim Effluent Limitations) applies.

Bioassessment Monitoring: DEQ proposes to delay bioassessment monitoring until 2007. The reason for delaying the monitoring is that sampling once the water recycling system has been implemented will most accurately assess the further operation of the mine. Does this mean that there is not concern with impacts in the meantime?

Seepage Study: The revised certification states that the seepage study "should be required after implementation of the water recycling program in 2007." The certification does not provide a basis for delaying the seepage study, and EPA interprets this language as merely a suggestion, and not as a condition of certification. If the seepage study is delayed until 2007, Hecla may not have time to complete the study prior to expiration of the permit (September 2008). EPA intends to use data collected from the seepage study to determine the need for permit conditions related to the seepage in the next permit.

The certification also states "DEQ believes that the discharge to the South Fork of the CDA River, if any, resulting from seepage from Hecla's tailings ponds is appropriately covered by this NPDES permit." The certification does not provide any basis for this statement. By its own terms, the 2003 permit authorizes discharges from only three points: outfalls 001, 002, and 003.

Rec'd T-26-4 AD

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

Attachment E

1410 North Hilton • Boise, Idaho 83708-1255 • (208) 373-0502

Dirk Kempthorne, Governor
Toni Hardesty, Director

July 20, 2004

Mike Gearheard
Environmental Protection Agency
1200 6th Avenue
Seattle, Washington 98101

Dear Mr. Gearheard:

On July 15th DEQ sent EPA a revised 401 certification for the NPDES permit for the Hecla Lucky Friday Mine modified as a result of the contested case before the Idaho Board of Environmental Quality. This letter outlines the changes we made and the reasons behind them. DEQ provided the public with notice and an opportunity to comment on the modified certification. DEQ received comments supporting the modified certification from Hecla, and comments from EPA. After considering the comments, DEQ has determined to make several changes to the modified certification:

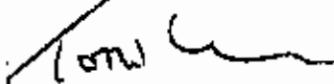
1. DEQ has changed the copper mixing zone for the >14cfs to <32cfs flow tier for outfall 001 from 50% to 25%. DEQ believes there will be no impairment or unreasonable interference with beneficial uses with effluent limits based on either a 25% or 50% mixing zone. DEQ made the change, however, because historic discharge records show that Hecla can meet the effluent limits for copper at this flow tier based on a 25% mixing zone, and therefore, does not need the 50% mixing zone.
2. DEQ has clarified the language in the certification regarding the mixing zone for WET. EPA pointed out that the certification specified the use of "approved mixing zones" for the WET testing, but did not explain what is meant by "approved mixing zones." This language presents a problem because the mixing zones range from 25% to 75%. DEQ agrees that this language needs to be clarified. Therefore, DEQ has changed the certification to specify that the WET testing should be accomplished using a 25% mixing zone. A 25% mixing zone reflects the smallest of the mixing zones for the different constituents in the effluent, and therefore ensures a conservative approach to the WET testing consistent with DEQ's analysis regarding the applicability of the mixing zones. In addition, a 25% mixing zone for WET testing reflects the language in the original certification. This term of the original certification was not challenged by Hecla in the contested case appeal.

3. DEQ has clarified that the mixing zone for pH is only for the upper limit.

On June 30, 2004, DEQ sent you additional information that explains and supports DEQ's modified certification. DEQ has also enclosed with this letter a response from Hecla to the issues raised in your comment letter. In addition, DEQ and EPA have had an opportunity to talk by phone about the modified certification. I hope that the additional written material and the conversations we have had have satisfactorily answered your questions. If you still have any questions or comments regarding the modified certification, please give me a call.

The certification dated July 15, 2004 replaces and voids the original certification dated June 17, 2003.

Sincerely,



Toni Hardesty
Director

c: Doug Conde
Gwen Fransen
Darren Brandt
Teresa Hill
Mike Dexter
Judy Brawer

Information Provided by Hecla**Response considerations to EPA 401 Certification comments:****Copper mixing zones****Response to #1:**

- EPA mentions "January 2000- January 2002" data – this is NOT the database they should be looking at. At a minimum, per the interim limits database, the timeline should be January 1997 – January 2002.
- EPA gives no recognition to the water management and how the moving of individual waste streams and recycling of others will change the nature of the effluent discharged prior to both implementation of water management and installation of treatment – this information was provided to DEQ.
- Mixing zones are strictly a state jurisdictional call. EPA is on record as admitting as much in the Matter of Star-Kist Caribe, Inc., where the EPA Administrator stated "whether limited forms of relief such as variances, mixing zones and compliance schedules should be granted are purely matters of state law, which EPA has no authority to override." (NPDES Appeal No. 88-5, at 15-16 (1990)). This comment is also applicable to any other mixing zone comments below.
- EPA references their Water Quality Standards Handbook, which is guidance only. Mixing zones must be judged on an individual basis and this is what DEQ has done. Besides, the compliance phase of the permit encompasses numerous activities that ultimately will decrease total load of all metals to the stream and the mixing zone can be re-evaluated during the next permit renewal cycle.

Response to #2:

- Potential increases in copper, as well as the full data set of existing monitoring results, have been provided to DEQ. EPA mentions here that treatment to reduce cadmium, lead, and zinc would also reduce copper concentrations. What EPA fails to recognize here is that copper does not have a compliance schedule and copper limits would be in effect under the new permit immediately if they had not been challenged by the Lucky Friday. Treatment installation will be several years out and it is arbitrary to subject the permittee to possible fines and penalties when an adequate mixing zone, which recognizes the temporary uncertainties, can be utilized while still protecting the instream uses. Here again, increases in concentration may occur but total load of copper, over and above what has been experienced in the recent past, should not occur.

Response to #3:

- A lot of additional information beyond CORMIX was provided to DEQ to support protection of beneficial uses.
- CORMIX tables contain a typographical error and effluent limits were calculated with the maximum effluent flows of 2.6 cfs at Outfall 001 and 3.5 cfs at Outfall 003. Corrected tables were submitted to DEQ with an explanation on July 8, 2004.

Mercury mixing zones**Response to #1**

- There is a healthy aquatic community above and below each Lucky Friday outfall without any mixing zone restrictions in the prior permit. A 75% mixing zone is more stringent than past permit conditions and therefore will continue to be protective of the designated beneficial uses.

Response to #2

- EPA suggests starting with a 25% mixing zone and then increasing it if "Hecla demonstrates that it cannot meet mercury limits based upon a 25% mixing zone". The Lucky Friday naturally has anti-backsliding concerns with this approach. Besides, given the national activities surrounding how to deal with mercury may change the entire regulatory structure by the time permit renewal occurs.
- EPA mentions it is not appropriate "to start off with a larger mixing zone, particularly for mercury, a pollutant that bioaccumulates". Throughout all the studies on the South Fork during the superfund process, EPA has no evidence that mercury is a concern, either in the water column or through bioaccumulation.

pH mixing zones**Response to #1**

- The mixing zone for pH only applies to the upper limit and Bob's mixing analysis sent to DEQ shows this.
- EPA states the regulations "require" the upper limit of 9.0 su in permits. The regulations ignored by EPA at 440.130(d) specifically allow for an increase in pH above 9.0 su for the application of neutralization and sedimentation to remove dissolved metals. EPA is allowing the tail to wag the dog with their arguments against allowing pH to be water quality-based. The Clean Water Act (CWA) is

designed to protect instream beneficial uses and the instream pH mixing analysis provided by the Lucky Friday demonstrates instream pH to protect beneficial uses, with a discharge pH of 10.0, is maintained. EPA is fully aware that a pH above 9.0 su is necessary to precipitate heavy metals, thus the addition of acid prior to discharge will be necessary to reduce the pH below this upper limit. This unnecessary acid addition, which does absolutely nothing to protect instream uses, actually adds potential pollutants to the discharge. Besides, the added transporting, storage, and use of acids adds the potential for an incident that could cause harm to human health and/or the environment. EPA's stance on this issue defies the regulations, science, the intent of the CWA, as well as both common sense and logic.

- The mixing zone analysis for pH provided to DEQ shows "very little change" to be no more than two tenths of a standard unit (su) with resultant pH instream well within the pH range to protect designated beneficial uses.

WET mixing zone

- Information supplied to DEQ for the copper and mercury mixing zones show that the protection of designated uses is maintained. WET testing, which utilizes organisms not native to site receiving waters with laboratory test conditions not exhibited in field, is not a valid indicator of the protection of instream uses. DEQ prefers to rely on actual instream bioassessments to verify protection of instream uses. Mixing zones of 50% should be used for WET testing.

Compliance schedule for cadmium at outfall 003

- Information on this topic has also been provided to DEQ. EPA is again focusing on a limited data set (May 2001 through January 2002) that does not represent a full production mode at the Lucky Friday. Also, as with the comments concerning the copper mixing zone above, EPA is ignoring the potential impacts of water management as well as the fact that although the load may stay the same or decrease (per the interim limits), concentration may increase. Again, this is a short-term transitory condition prior to implementation of both water management and additional treatment. Also, water quality similar to outfall 001 could end up being discharged out of outfall 003 – dependent entirely upon the results of optimal water management.

Interim limits

- The data set (Jan 1997-Jan 2002) was used less the monitoring days where heavy rains were identified as contributing to increased loads (11/25/98 & 12/2/98). The daily max concentration for each metal was simply the highest value in the

remaining data set. The daily max load was the highest actual load from the data set - calculated using the analysis results and the flow for that same day the sample was taken. The monthly average concentration was the highest average of monitoring results for the samples taken in the same month from the data set. The monthly average load was calculated from the data set using the individual sample results, and the corresponding flow for each sample, taken weekly in that same month. There was no mixing the highest flow on one day with the highest concentration on another.

EPA's comments concerning effluent limitation guidelines for metals are out of place. The Lucky Friday has been given a compliance schedule to transition from the old permit limits to the new water quality-based permit limits and EPA is attributing the interim limits solely to DEQ's past certification. The purpose of the interim limits, which EPA did not address in the draft permit, is to assure the discharges do not exceed recent discharge levels, thus assuring a status quo during the compliance period. Compliance periods are strictly state issues. The compliance period, building up to water quality-based limits (water management and enhanced treatment) would have been required even to meet effluent limitation guideline numbers. EPA's RESPONSE TO HECLA MINING COMPANY'S PETITION FOR REVIEW (Appeal No. NPDES 03-10) discusses the interim limits on pages 37-39. EPA states "Because neither the EAB nor the Region have the authority to look behind Idaho's claim that these interim limits are necessary to assure compliance with state water quality standards, the EAB should decline to review the Petition's challenge to these limits."

Bioassessment Monitoring

- The interim limits are intended to assure the load to the system does not increase during the implementation period for water management and necessary treatment. A sufficient baseline is established instream, due to past bioassessments, to assess impacts, if any.

Seepage Study

- It makes absolutely no sense to conduct a seepage study at the same time water management is being implemented because inputs will be changing. An integral component of any seepage study is an accurate water balance, which cannot be determined until water management is implemented and results measured. We are concerned that EPA would rather accept a flawed study to meet an uncertain deadline than to assure an accurate study is performed. The delay of the seepage study until water management is implemented should be a condition of certification.

- DEQ is correct that "discharge to the South Fork of the CDA River, if any, resulting from seepage from Hecla's tailings ponds is appropriately covered by this NPDES permit" because instream water quality is already protected and accounted for in permit limit derivation calculations. The effluent limitations and standards imposed at the outfalls are sufficient to protect water quality in the SFCDA River.
- The design and approval of the mine tailings impoundments is within the exclusive jurisdiction of the Idaho Department of Water Resources.

Attachment F



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

Postit Fax Note	7671	Date	7/16/04
To	MIK Dexter	From	Toni Hardesty
Co./Dept.		Co.	DEQ
Phone #		Phone #	
Fax #		Fax #	

1410 North Hillen • Boise, Idaho 83706-1666 • (208) 373-0502

Dirk Kempthorne, Governor
C. Stephen Alford, Director

July 15, 2004

Mr. Robert R. Rohlschaut
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue
Seattle, WA 98101

Re: §401 Certification regarding NPDES Permit No. ID-000017-5
Hecla Mining Company - Lucky Friday Mine and Mill, Mullan, Idaho

Dear Mr. Rohlschaut:

The State of Idaho Department of Environmental Quality (DEQ) has reviewed the facts and information presented in the revised draft National Pollutant Discharge and Elimination System (NPDES) permit No. ID-000017-5 for the Hecla Mining Company's Lucky Friday Mine and Mill. This letter will serve as certification by the State of Idaho pursuant to the provisions of Section 401 of the Federal Water Pollution Control Act, (Clean Water Act) as amended, 33 USC Section 1341. If the Lucky Friday Mine and Mill complies with the terms and conditions imposed by this permit and the conditions set forth in this §401 Certification, there is reasonable assurance the discharge will comply with the applicable requirements of Sections 208(e), 301, 302, 303, 306, and 307 of the Clean Water Act, including Idaho Water Quality Standards and Wastewater Treatment Requirements (Water Quality Standards).

Mixing Zone

The DEQ authorizes, pursuant to the Water Quality Standards IDAPA 58.01.02.060, the use of the following mixing zones:

Parameter	Flow Tier	Mixing Zone
Copper at Outfall 001	< 14 cfs	50%
	> 14cfs to <32 cfs	25%
	>32 to <113 cfs	25%
	> 113 to <194 cfs	25%
	> 194 cfs	25%
Copper at outfall 002 when outfall 001 waste stream is discharged through outfall 002	<8.6 cfs	50%

	> 8.6 to < 20 cfs	50%
	> 20 to < 69 cfs	25%
	> 69 to < 117 cfs	25%
	> 117 cfs	25%

Copper at outfall 002 when the outfall 003 waste stream is discharged through outfall 002	< 20 cfs	50%
	> 20 to < 69 cfs	25%
	> 69 to < 117 cfs	25%
	> 117 cfs	25%

Copper at Outfall 003	< 18 cfs	50%
	> 18 to < 63 cfs	50%
	> 63 cfs	25%

Mercury at outfalls 001, 002 and 003: 75% for all flow tiers.

pH at outfalls 001, 002 and 003: 25% for pH above 9.0 su

Silver at outfalls 001, 002 and 003: 25% at all flow tiers.

DEQ also authorizes IDPA to utilize a 25% mixing zones for calculating toxicity triggers for WFT testing.

Compliance Schedule

This certification includes authorization of a five-year compliance schedule to meet metals limits set forth within the draft permit pursuant to the Water Quality Standard IDAPA 58.01.02.400.03 for cadmium, lead, zinc, and mercury. The permittee has demonstrated that they can attain the effluent limits for copper and silver therefore, a compliance schedule is not needed or authorized. In an effort to develop a water-recycling program to help reduce metals loading, engineering and design of such systems must first be developed and installed. It is impossible to know or predict with any certainty what type of water treatment may be required until a water-recycling program is implemented. Furthermore, as part of a recycling program, discharge outfalls may be combined complicating the chemical composition of the effluent and thus influencing what type of water treatment system may be needed. Enough time must be allowed for proper testing and analyses of any combined effluent to ensure that a water treatment system, if needed, will enable the Lucky Friday Mine to meet permit limits. The compliance schedule for cadmium, lead, zinc, and mercury shall be as follows:

- 1) Hecla shall design and implement a water recycling system within 24 months (2 years) from the date the permit is issued to achieve permit limits.
- 2) Hecla shall have at the end of 24 months (2 years) an additional 12 months (1 year) for testing and analyses.

- 3) If it is determined that a water treatment system is needed to comply with the limits set forth in the permit, Hecla shall design, build, and implement a water treatment system and comply with permit limits for cadmium, lead, zinc, and mercury on or before permit expiration.
- 4) During the period that the compliance schedule is in effect interim limits shall apply to the outfalls based on the discharge levels reported in the DMRs (Table 1).

Table 1 -- Interim Effluent Limitations

Outfall	Parameter	Maximum Daily Limit		Average Monthly Limit	
		ug/l	lb/day	ug/l	lb/day
Outfall 001 and Outfall 002 when the outfall 001 waste stream is discharged through outfall 002	Cadmium ¹ , total recoverable	6.0	0.046	2	0.023
	Lead ¹ , total recoverable	899	5.96	440	3.10
	Mercury ¹ , total	0.2 ²	0.0028 ²	0.2	0.0028
	Zinc ¹ , total recoverable	880	6.53	469	2.54
Outfall 003 and Outfall 002 when the outfall 003 waste stream is discharged through outfall 002	Cadmium ¹ , total recoverable	3	0.043	2	0.022
	Lead ¹ , total recoverable	321	2.76	265	1.43
	Mercury ¹ , total	0.2	0.0038	0.2	0.0038
	Zinc ¹ , total recoverable	670	6.29	480	4.28

Footnotes:
 1 -- Reporting is required within 24 hours of a maximum daily violation. See Part III.G.
 2 -- This interim limit applies to the first three flow tiers for outfall 001 (<14 cfs, 14-32 cfs, and 32-113 cfs) and the first four flow tiers for outfall 002 when the outfall 001 waste stream is discharged through outfall 002 (<8.6 cfs, 8.6-20 cfs, 20-69 cfs and 69-117 cfs).

For the compliance schedule above, Hecla shall, prior to implementing the water recycling system, provide the design of the system to IDEQ for comment. In addition, Hecla shall submit written progress status reports to EPA and DEQ in accordance with section I.A.4.f of the permit. The progress reports shall include the results of Hecla's testing and analysis used to determine the need for a water treatment system.

Bioassessment Monitoring

In order to ensure compliance with the Water Quality Standards, the permit shall include the requirement that Hecla conduct annual instream bioassessment using a sample design that will allow DEQ to make a determination as to the impact of the discharges to the beneficial use. This will likely involved biomonitoring immediately upstream of the discharge, within the mixing zone and just outside the mixing zones for outfalls 001 and 003, beginning in 2007. Hecla shall coordinate the sample design with the Coeur d'Alene Office of DEQ. If effluent is discharged from outfall 002 for six (6) months or longer, monitoring shall be required directly downstream of outfall 002. In the event that discharge effluent is combined to one outfall, annual monitoring

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will be required directly downstream of the combined outfall and the abandoned outfall for comparison. Bioassessment monitoring shall be consistent with the most recent DEQ Beneficial Use Reconnaissance Project workplan for wadable streams. Copies of the field forms, macroinvertebrate identification and enumeration, as well as fish taxa and abundance shall be provided to DEQ by January 31 of the following year.

Flow Tiers

The permit establishes multiple flow tiers. Effluent limits are calculated from the minimum upstream flow of each tier. These flow tiers will allow effluent limits to be increased while maintaining Idaho Water Quality Standards.

Hardness Used to Calculate Limits

The state water quality criteria for cadmium, copper, lead, silver, and zinc are based upon hardness. Where a mixing zone has not been authorized (cadmium, lead, and zinc), EPA calculated the limits based upon the effluent hardness. Where a mixing zone was authorized (copper and silver), EPA calculated the limits based upon hardness at the edge of the mixing zone. We certify that these conditions are consistent with Idaho's water quality standards.

IDEQ Notification

Idaho DEQ requests that EPA require the permittee to notify DEQ in conjunction with EPA in all areas where notification is required. We also request that the timeline for EPA notification apply to the state as well.

Other Comments

As a general comment, DEQ supports any steps that can be taken to make all of the permit monitoring requirements less expensive. Consistent with this general comment, DEQ supports the position that the whole effluent toxicity testing should only be required starting in 2007 once Hecla completes its implementation, testing and analysis of the water recycling program. Similarly, the seepage study should be required after implementation of the water recycling program in 2007. DEQ believes that the discharge to the South Fork of the CDA River, if any, resulting from seepage from Hecla's tailings ponds is appropriately covered by this NPDES permit. If, however, the seepage study required by the permit demonstrates the need to the modify the permit, DEQ reserves its right to amend this certification to determine whether the seepage is causing or contributing to a violation of Water Quality Standards.

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, waste load allocations, site-specific criteria, variances, or other new information, shall first be provided to the DEQ for review to determine compliance with state Water Quality Standards and to provide additional certification pursuant to §401. The DEQ is willing to consider pollutant trading pursuant to IDAPA 58.01.02.054.06.

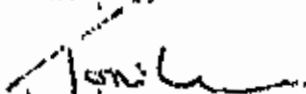
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This section 401 certification and associated conditions may be appealed by submitting to DEQ a petition to initiate a contested case, pursuant to Idaho Code § 39-107(5) and the Rules of Administrative Procedure Before the DEQ Board IDAPA 58.01.23, within 35 days of the date of this letter.

Sincerely,



Tomi Hardesty
Director

c: Gwen Fransen, DEQ-CDA
Patty McGrath, EPA
Doug Conde, DEQ-AG
Don Essig, DEQ-SO
Ed Tulloch, DEQ-CDA

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

Reply To
Attn Of: OWW-131

MAR 8 2005



Mike Dexter, General Manager
Hecla Mining Company
Lucky Friday Mine
397 Friday Avenue, Exit, Hwy 90
Mullan, ID 83846

Re: Final Decision to Deny Hecla Mining Company's, Lucky Friday Mine,
(NPDES Permit No. ID-0000175) Request for a Variance

Dear Mr. Dexter:

I am writing to you to inform you that EPA is denying Hecla Mining Company's (Hecla's) request for a variance to the water quality standards for the discharge of cadmium, lead, and zinc from the Lucky Friday Mine to the South Fork Coeur d'Alene River. We have thoroughly evaluated the information available to us regarding this matter and have determined that the information does not support granting a variance.

As part of the process for this decision, EPA conducted a 30-day public comment period on our proposed decision to deny the variance request. This comment period began on September 1, 2004. Following the close of the public comment period, EPA considered all comments received in preparation of this final decision. The comments received and EPA's responses are discussed in the Response to Comments Document, a copy of which is enclosed.

In our final analysis, we have found that Hecla has not demonstrated that the cold water biota use is unattainable for any of the three reasons Hecla specified in 40 CFR 131.33(d) (iii, iv, vi). The basis for this determination and our analysis are put forth in the Final Decision Document (March 8, 2005), a copy of which is also enclosed.

If you have any questions regarding this decision you may contact Michael Gearheard, Director of the Office of Water at (206) 553-7151.

Sincerely,

Ronald A. Kreizenbeck
Acting Regional Administrator

Enclosures (2)

cc: Toni Hardesty - IDEQ
Mike McIntyre - IDEQ
Don Essig - IDEQ
Gwen Fransen - IDEQ
Phil Cernera - Coer d'Alene Tribe
John Galbavy - Hecla
Kevin Beaton - Stoel Rives

March 8, 2005

FINAL DECISION DOCUMENT

**The U.S. Environmental Protection Agency (EPA)
Final Decision
to Deny a Request for a
Variance to Water Quality Standards for
the discharge of metals from the
Hecla Lucky Friday Mine**

I. Summary

EPA is denying Hecla Mining Company's (Hecla) request for variances from the water quality standards for the discharge of cadmium, lead, and zinc at the Lucky Friday Mine to the South Fork Coeur d'Alene River (SFCDA River or South Fork). The decision to deny the request for these variances is based on EPA's review of information submitted by the Hecla Mining Company.

On February 21, 2001, Hecla Mining Company first submitted a request to EPA for variances from the Idaho water quality standards for lead and zinc that were the basis for the lead and zinc effluent limits in the draft National Pollutant Discharge Elimination System (NPDES) permit for the Lucky Friday Mine. Hecla asserted that water quality standards could not be attained in the SFCDA River during the term of the permit (five years) and a variance was justified based on a demonstration that:

- 1) human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
- 2) dams, diversions, or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use; or
- 3) controls more stringent than those required by section 301(b)(1)(A) and (B) and 306 of the Act would result in substantial and widespread economic and social impact.

Hecla requested a variance for the interim period until revised water quality standards being developed by the State of Idaho were approved. These revised standards reflected site specific conditions for the SFCDA River. EPA approved Idaho's adoption of site-specific criteria (SSC) for cadmium, lead and zinc for the SFCDA River and its tributaries on February 28, 2003. On June 9 and July 11, 2003, Hecla revised its request for variances to now apply to the SSC for

lead, and zinc and added requests for variances from the water quality criteria for cadmium and mercury. In subsequent correspondence Hecla withdrew its variance request for mercury.

EPA reviewed the supporting documentation provided in Hecla's initial request and determined that the information Hecla supplied to support an economic basis for a variance was incomplete. Therefore, EPA requested additional financial and operating information from the company. Correspondence between EPA and Hecla continued through a series of letters in 2003 and 2004 which provided the additional information which was necessary for EPA to evaluate and analyze Hecla's variance request based on an economic demonstration.

Hecla's claims and all information submitted to EPA were analyzed and evaluated in detail. EPA's analysis concluded that Hecla had not demonstrated that the cold water biota use is unattainable for any of the three reasons Hecla specified in its variance request (131.33(d)(3)(iii, iv, vi)). EPA put forth the basis for this determination and our analysis in the Decision Document for the proposed denial (August 12, 2004). According to the regulations, the burden is on the applicant to demonstrate to EPA's satisfaction that the designated use is unattainable for one of the reasons specified in 40 CFR(d)(3).

On August 19, 2004, EPA made public notice of the proposed decision to deny Hecla Lucky Friday a variance in the Shoshone News Press, the Idaho Spokesman Review and the Coeur d'Alene Press and initiated public comment on the proposed decision during the month of September 2004.

EPA received 38 separate letters and e-mails commenting on the proposed decision. Twenty four of the thirty eight commenters were supportive of EPA's decision to deny the variance, and fourteen of the commenters were opposed. EPA reviewed each comment and prepared responses. These responses can be found in the document "Response to Comments, Comments Received on EPA's Proposed Decision to Deny a Variance to the Hecla Lucky Friday Mine" (February 18, 2005).

EPA reviewed the material Hecla provided to support its request for variances as well as the comments received during the public comment period. Neither Hecla nor any of the other commenters provided EPA with any new or additional information during the comment period that would provide a basis to revise EPA's analysis (contained in the August 12, 2004 Decision Document, proposed denial) to deny the variance. Therefore, EPA's final decision is to deny Hecla's request for variances. EPA has determined that the requirements for obtaining a variance, as required by the federal rule, (40 CFR Part 131.33(d), 62 Fed. Reg. 41188 (July 31, 1997)) have not been met. The information provided did not support nor demonstrate that attaining the cold water aquatic life use designation is not feasible for any of the three reasons Hecla claimed. Therefore, EPA is denying Hecla Lucky Friday Mine's request for a variance for cadmium, lead and zinc.

A. Background on EPA's Authority to Grant Variances

A water quality standard variance is a short-term exemption from meeting the otherwise applicable water quality standards. EPA authorizes States and Tribes to include variances in their water quality standards. See 40 CFR 131.13 63 Fed. Reg. 36,742, 36,759 (July 8, 1998). In 1997, EPA promulgated a federal rule that established water quality standards applicable to specific waters in the State of Idaho (40 CFR 131.33, Federal Register Vol. 62, No. 147, July 31, 1997), or the "Idaho Rule". As part of this rule-making EPA promulgated a cold water biota beneficial use designation for the SFCDA River. This rule also set forth requirements and a procedure for the Regional Administrator of EPA to grant variances to the cold water biota use in the SFCDA River (40 CFR 131.33(d), 62 Fed. Reg. 41188 (July 31, 1997). The Regional Administrator of EPA has the authority to grant variances to water quality standards in the SFCDA River.

In the Idaho Rule, a water quality standard variance applies only to the permittee requesting the variance and only to the pollutant(s) specified in the variance for a specific time; the underlying water quality standard otherwise remains in effect. 40 CFR 131.33(d). Maintaining the standard rather than changing it assures that further progress is made towards improving water quality and eventually attaining the standard.

The State of Idaho adopted revisions to its water quality standards that apply to the SFCDA River. Two specific provisions which have relevance to the proposed variance are Idaho's adoption of 1) a beneficial use designation of cold water for the SFCDA River and 2) site specific criteria (SSC) for lead, cadmium and zinc for the SFCDA River and its tributaries. These revisions were submitted by IDEQ to EPA on August 5, 2002 for review.

EPA formally approved the SSC on February 28, 2003 and thus these criteria are now the effective water quality criteria for CWA purposes for the SFCDA River and its tributaries. EPA has yet to approve the State's beneficial use designation. If and when EPA approves this beneficial use designation, the Agency will then withdraw the federal rule for cold water biota as a beneficial use designation for the SFCDA River. Any variance is a change to water quality standards that would need to be approved by EPA. Once EPA approves the State's use designation and withdraws the federal rule, then the more typical process for variances would apply, in that applicants would apply to the State for variances and any a grant of a variance would then be submitted to EPA for approval.

B. Process and Criteria for Granting Variances

The procedure for granting variances in the SFCDA River is identified at 40 CFR 131.33(d). The procedures state, in part, that the applicant must submit a request for a water quality standards variance to the EPA Region 10 Administrator. The application shall include all relevant information showing that the requirements for a variance have been satisfied. The burden is on the applicant to demonstrate to EPA's satisfaction that the designated use is unattainable for one

of the following reasons as set out in 40 CFR 131.33(d)(3):

- i. Naturally occurring pollutant concentrations prevent the attainment of the standard.
- ii. Natural, ephemeral, intermittent, or low flow conditions or water levels prevent the attainment of the standard.
- iii. Human caused conditions or sources of pollution prevent the attainment of the standard and cannot be remedied or would cause more environmental damage to correct than to leave in place.
- iv. Dams, diversions or other types of hydrologic modifications preclude the attainment of the standard, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in attainment of the standard.
- v. Physical conditions related to the natural features of the water body, unrelated to water quality, preclude attainment of the standard.
- vi. Controls more stringent than technology-based effluent limitations would result in substantial and widespread economic and social impacts.

The rule additionally specifies that a water quality standard variance will not be granted if:

- standards will be attained by implementing the technology-based effluent limitations and implementing reasonable best management practices for nonpoint source control or
- the variance would likely jeopardize the continued existence of any threatened or endangered species listed under the Endangered Species Act or result in the destruction or adverse modification of such species critical habitat.

II. Hecla's Request for a Variance

A. Background

By letter dated February 21, 2001, Hecla Mining Company submitted a request for variances from water quality standards for lead and zinc that were the basis for the lead and zinc effluent limits in the 2001 draft NPDES permit for the Lucky Friday Mine. In this letter Hecla requested the variances until the SSC were approved. This letter included numerous exhibits in support of the request.

Because Hecla had stated that the variance was only being requested until the SSC were approved, EPA focused its resources on the review of Idaho's work with respect to the SSC. EPA assumed that if the SSC were approved, it would not be necessary to further process the variance request (Letter from EPA to Hecla, Feb 3, 2003).

By letter dated April 11, 2003, Hecla, in its comments on the 2003 revised draft permit, stated it wished to keep its variance request active. In response, EPA sent a letter to Hecla (dated June 9, 2003) requesting that Hecla formally renew their variance request since their original request was for variances for lead and zinc water quality criteria that were no longer effective. Hecla submitted additional information related to the variance request in a letter dated June 9, 2003. In a letter dated July 11, 2003, Hecla clarified that they were requesting variances from the SSC for cadmium, lead and zinc and the mercury water quality criteria. Subsequent to the July 11, 2003 letter, Hecla withdrew its variance request for mercury in a September 15, 2003 letter.

EPA initially conducted a preliminary review of Hecla's claim that controls more stringent than those required by section 301(b) and 306 of the CWA would result in substantial and widespread economic and social impacts. As a result of EPA's review of the supporting documentation provided in Hecla's initial request, EPA determined that the information Hecla supplied was incomplete and requested additional financial and operating information from the company. Correspondence between EPA and Hecla, continued through a series of letters in 2003 and 2004 which provided the additional information needed to analyze Hecla's variance request.

EPA reviewed the material Hecla provided to support its request for variances and determined that Hecla had not demonstrated the requirements for granting a variance had been met. Therefore, on August 12, 2004 EPA proposed to deny a variance based on the Agency's determination that the requirements for obtaining a variance, as required by the federal rule, (40 CFR Part 131.33(d)(3)) had not been met. The information provided by Hecla did not support nor demonstrate that attaining the cold water aquatic life use designation along with the applicable criteria for cadmium, lead and zinc, is not feasible for any of the three reasons Hecla proposed.

B. Current Status of the Hecla Lucky Friday NPDES Permit

The Lucky Friday permit was last issued in 1977 and expired in 1980. Because the permit was long overdue, it was an Agency priority to issue the permit. Furthermore, a complaint was filed against EPA for undue delay in failing to reissue the Lucky Friday NPDES permit for 22 years. *See Idaho Conservation League et. al. v. EPA*, (W.D. Wa., no.C02-2295Z, 2002). EPA issued the Lucky Friday permit on August 12, 2003, and Idaho Conservation League dismissed its claims on August 19, 2003.

Hecla filed a timely appeal of this permit with the Environmental Appeals Board ("EAB") which had the effect of staying most of the permit's final effluent limits, monitoring requirements, and study requirements, including the limits for cadmium, lead, and zinc that are the subject of

Hecla's variance request. Hecla also appealed the state of Idaho's CWA Section 401 certification of the permit in state court. In settlement of the 401 certification appeal, IDEQ issued a revised CWA certification on July 15, 2004. On October 13, 2004, the EAB issued an order remanding certain permit conditions with instructions to Region 10, EPA, to reconsider these conditions in light of Idaho's July 2004 decision to modify the CWA Section 401 certification of the permit. EPA and Idaho DEQ are currently engaged in discussions to clarify some of the conditions of the modified Section 401 certification and EPA has requested additional information from IDEQ.

EPA is preparing to propose modifications to the permit in response to the EAB's remand order soon after it receives additional information from IDEQ and to issue a final modified permit within two or three months of publication of the draft modified permit. EPA's denial of Hecla's variance request does not impact Hecla's permit or proposed modifications to the permit.

III. Substance of Hecla's Request and Submittal

A. Human Caused Conditions Prevent Attainment of Use and Cannot be Remedied

Hecla asserted that a showing that it is not feasible to attain the standard within five years because of human caused conditions and sources of pollution is a sufficient basis to grant a variance. Hecla maintained that human caused conditions and sources of pollution, including historical mining, channelization of the South Fork, tailings deposition in the flood plain and other nonpoint source impacts have all contributed to the current water conditions in the South Fork, and that these impacts to the South Fork, and the unattainability of the standards, are documented in the South Fork TMDL and the Water Quality Assessment (IDEQ 1993) and the Natural Resource Damage Assessment (NRDA)(Stratus Consulting, Inc. 2000). Hecla maintained that these and other studies show that water quality standards will not be attained over the next five years.

B. Hydrologic Modifications Prevent Attainment of Use

Hecla also requested a variance based on a claim that hydrologic modifications preclude attainment of standards over the next five years and that it is not feasible to restore the water body to its original condition. Hecla maintained that the South Fork has been channelized in many locations to provide area for development of Interstate 90 (I-90), towns and mining facilities, and that the NRDA (Stratus Consulting, Inc. 2000) determined that 77 percent of the entire length of the South Fork has been channelized. In addition, Hecla stated that because I-90 parallels much of the length of the South Fork and many structures have been built for stream bank stabilization and flood control purposes, that these hydrologic modifications, which involve structures that are infeasible to remove, preclude attainment of aquatic life uses. Further, Hecla maintained that a habitat analysis performed by Dr. Tom Wesche (Wesche, 1999) concluded that human caused conditions including stream channelization have resulted in severe degradation of aquatic habitat within much of the South Fork and that the river lacks the physical structure

needed for a quality salmonid habitat.

C. Controls More Stringent than those Required by 301(b) would Result in Substantial and Widespread Economic and Social Impact

Hecla claimed a third basis for justifying this variance is that water quality-based pollution controls imposed upon the Lucky Friday Mine will not result in attainment of the standards during the term of the permit, and will cause substantial economic impact on the mine as well as widespread economic and social impacts to the affected community. Hecla maintained that it cannot afford to continue to invest significantly more money into the Mine or to sustain continued losses from operations at the mine. Hecla maintained that the Lucky Friday Mine has had millions of dollars in losses over the last five years (Hecla Annual Report, 1995-1999) because of significant capital expenditures at the mine to develop new ore bodies and the depressed price of silver, lead and zinc worldwide. Hecla stated that according to EPA guidance (EPA, 1995), the evaluation of a company's profitability is the primary measure to evaluate whether a company will face substantial economic impacts by installing additional pollution control technology. Hecla maintained that since the Lucky Friday Mine is not making a profit, any additional costs associated with installing expensive and unproven pollution control technology are substantial because they increase losses and could cause the mine to close. In addition, Hecla stated that company wide, it also continues to sustain losses (Hecla Annual Report, 1995-1999).

Further, Hecla maintained that despite significant population growth and economic growth throughout Idaho, Shoshone County has been experiencing a loss in population and stagnating economic development as a result of the declining mining industry in this area. Hecla stated that the Lucky Friday Mine provides many of the high-paying jobs throughout Shoshone County and that if the Mine is forced to close or reduce the number of employees at the mine, because of required installation and maintenance of pollution controls, there will be widespread socioeconomic impacts in the City of Mullan and Shoshone County.

IV. EPA's Analysis of the Adequacy of Hecla's Demonstration for a Variance

The following sections describe EPA's evaluation of each of the bases that Hecla claimed in requesting a variance.

A. Hecla claimed that a variance is warranted based on their demonstration that human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place.

Hecla raises three arguments in support of its claim that human caused conditions prevent the attainment of the use and cannot be remedied. First, Hecla claims that the evaluation of

attainability in connection with a variance request should be based on whether the water quality standards can be attained during the term of the permit (five years). Hecla contended that a variance should be granted or continued based on whether the water quality standards can be attained during the term of the permit (five years).

The Idaho Rule addresses the following aspects of a variance: 1) a variance must be supported by a demonstration that one of the six factors in 40 C.F.R. 133.33 (d)(3)(i) through (vi) (listed above) has been satisfied; 2) a variance is granted to an individual discharger for a specific pollutant(s) and does not otherwise modify the standards; 3) a variance may not exceed five years or the term of the permit, whichever is less, and extended only where the conditions for granting the variance (i.e., one of the six factors) still apply; 4) upon expiration of the variance, the underlying numerical criteria have full regulatory effect; 5) a variance does not exempt the discharger from compliance with applicable technology or other water quality-based limits; and 6) a variance does not affect effluent limitations for other dischargers. There are no requirements in EPA's regulations or procedures in EPA guidance that suggest that a variance is appropriate because a water body would not achieve standards within the term of a discharger's permit or five years.

Section 101(a)(2) of the Clean Water Act (CWA) establishes an objective to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Further, it sets forth a national goal that, wherever attainable, water quality provide for the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water. Section 303(c) of the CWA states that water quality standards shall serve the purposes of the Act. Although variances are a regulatory mechanism for addressing "wherever attainable" on a temporary, rather than permanent basis, the specific interpretation suggested by Hecla would impede progress toward achieving the national goal of the CWA and is contrary to its stated objective. If the water body's attainment of water quality standards, which is based on many factors, rather than the feasibility of the individual discharger to meet the limits necessary to meet applicable water quality standards, was by itself a condition or trigger for granting a variance, as Hecla contends, the process of restoring waters that do not attain standards would continually be delayed. Dischargers could simply point to the most polluted parts of the water body and argue that if those impaired waters could not attain standards within five years solely by their actions, then they should be granted a variance, regardless of their ability to meet the effluent limits. Under this interpretation, impaired waters would continue to receive variances indefinitely. Granting variances in this manner would allow dischargers to effectively lower water quality standards throughout the entire water body by ignoring the value of protecting waters within it or the value of discharging an effluent that is cleaner than the downstream waters. This approach if allowed would be inconsistent with the goals of the CWA.

Because EPA regulations provide for a variance that is temporary, it actively supports the goals of the CWA, yet it can only be granted or continued if the discharger demonstrates to EPA that attaining water quality standards, or effluent limits based on those standards, is not feasible because one of the six factors in 40 C.F.R. 133.33 (d)(3)(i) through (vi) has been satisfied

Secondly Hecla claims that compliance with limitations necessary to protect downstream uses is infeasible. EPA establishes NPDES permit limits to protect uses (e.g., cold water aquatic life) by achieving water quality criteria instream. Water quality-based permit limits are calculated not only to protect uses in waters in the immediate vicinity of the discharge but also to protect uses that may be affected by the discharge and which are further downstream. This analysis of whether a discharge causes or contributes to an exceedance of the standards is a regulatory requirement. (See 40 C.F.R.122.44). Because the cold water aquatic life use downstream of the Lucky Friday Mine is impaired and because cadmium, lead and zinc in the Lucky Friday Mine discharges contribute to that impairment, a mixing zone for cadmium, lead and zinc was not authorized for these pollutants by the state of Idaho in its 401 certification of the Lucky Friday permit. As a result, permit limits for these pollutants were established at levels that will achieve the SSC at the end of the discharge pipe. Thus, the effluent limits for cadmium, lead and zinc in Hecla's NPDES permit are based on SSC needed to protect an existing, and currently attained cold water aquatic life use in the upper SFCDA River as well as the cold water aquatic life use further downstream.

Hecla maintains that it is not feasible to achieve the effluent limits in its NPDES permit because it would require Hecla to install unproven treatment technology at the Lucky Friday Mine. Hecla provided information and supporting documentation as part of its economic impacts claim for a variance that identifies the treatment technology (lime precipitation) needed at the Lucky Friday Mine to achieve the effluent limits established in their permit for cadmium, lead and zinc. EPA reviewed and analyzed the information submitted by Hecla and determined that lime and sulfide co-precipitation would be required to meet the permit limits (SAIC 2004). Both of these treatment technologies are commonly used for metals removal and are technically and economically feasible. (SAIC 2004, Coad 2004)

"Historically, the intent of the variance provision has been to: provide a mechanism by which permits can be written to meet a modified standard where discharger compliance with the underlying water quality standard is demonstrated to be infeasible within the meaning of 40 C.F.R. 131.10(g)." See 63 Fed. Reg. 36,742, 36,759 (July 7, 1998). Based on this information, EPA does not agree that Hecla's compliance with limitations necessary to protect downstream uses is infeasible under 40 C.F.R. 131.33(d)(3).

EPA has determined, based on a review of documents submitted by Hecla in its variance request, that Hecla has not demonstrated that the cold water aquatic life use in the upper SFCDA River is not attainable, or that human caused conditions and sources of pollutants, namely mining, prevents the attainment of the cold water aquatic life use in waters downstream of discharges from the Lucky Friday Mine. In fact, if Hecla were to employ the technology it identified as necessary to meet the water quality-based effluent limits, it would reduce the discharge of metals to the SFCDA River, thereby, reducing the number of SSC exceedances in waters directly impacted by the Lucky Friday Mine and move forward to attainment of the downstream use.

Finally, Hecla claims that a variance is warranted based on their demonstration that human

caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place.

Hecla asserted that the waters in the SFCDA River are not attaining the cold water aquatic life use downstream from its Lucky Friday Mine because mining operations and discharges, including those from the Lucky Friday Mine, have created human caused conditions and sources of pollution that prevent attainment of the use in the next five years. As a result, Hecla maintained that EPA should grant a variance from water quality standards for cadmium, lead and zinc to its Lucky Friday Mine.

1. Hecla's Submission

Hecla argued that standards are unattainable because remediation in the Coeur d'Alene Basin will require a plan, and a considerable amount of time and resources beyond what has already been invested. Hecla linked these issues with its five-year permit cycle and concludes that if impaired waters within certain parts of the Coeur d'Alene Basin will not attain standards within five years a variance is justified for its Lucky Friday Mine, which discharges to the upper most portions of the Coeur d'Alene Basin. The fact that cold water aquatic life uses in parts of the Coeur d'Alene Basin may require a remediation plan, and considerably more time and resources in order to restore the aquatic resources which have been damaged by years of mining throughout the Basin does not demonstrate that human caused conditions or sources of pollution cannot be remedied or that standards are unattainable. This is especially true in those waters directly impacted by discharges of metals from the Lucky Friday Mine, which will benefit from improved water quality as a result of Hecla's compliance with the September 2003 permit limits based on water quality standards.

Hecla cited EPA's Draft Feasibility Study Report (U.S. EPA, December 2000) as the basis for their statements regarding both why water quality standards are not attained and the significant amount of time it would take to meet the standards. The purpose of EPA's RI/FS for the Coeur d'Alene Basin (Operable Unit 3) Superfund Site was to describe the nature and extent of the historic mine waste contamination in Operable Unit 3 and evaluate remedial alternatives. A RI/FS is not a remediation or cleanup plan.

However, EPA has developed a remediation plan. A Record of Decision (ROD) documents the selected remedy or cleanup plan for Superfund sites. In September 2002, EPA issued an Interim Record of Decision for Operable Unit 3, which describes an interim remedy called the selected remedy, which will occur in the Coeur d'Alene Basin at a cost of about \$360 million (U.S. EPA, 2002). The selected remedy represents a significant remedial response toward meeting the goal of full protection of human health and the environment in the Coeur d'Alene Basin. The selected remedy includes the full remedy needed to protect human health and an interim remedy for protection of the environment and ecological resources. More specifically with respect to remedies within the SFCDA River, the ROD sets forth the actions for improving conditions to support a higher fish density in the SFCDA River. These would include stream side actions such

as stabilization and bioengineering of the stream channel and banks and increasing the amount of pools and shade so as to enhance the South Fork as a migratory corridor for fish. In addition the remedy includes cleanup at six sites in the South Fork watershed including Morning No. 6 Mine and Millsite and the Golconda Mine, which impact the SFCDA River above Canyon Creek.

Hecla also cited to the NRD Assessment which discusses the extent of impacts causing water quality impacts to the SFCDA River. The purpose of the NRD Assessment document (Report of Injury Assessment and Injury determination: Coeur d'Alene Basin Natural Resource Damage Assessment, Stratus 2000) is to assess injuries resulting from releases of hazardous substances from mining and mineral processing operation in the Coeur d'Alene River Basin (Stratus, 2000). The NRD Assessment does discuss exceedances of water quality criteria in the South Fork, but this information does not demonstrate that human caused conditions or sources of pollution cannot be remedied or that standards are unattainable.

Hecla also cited the IDEQ Water Quality Assessment, SFCDA River, (IDEQ 1993). This document contains a summary of water quality data from 1972 through 1992. EPA determined that the information in this document does not support a demonstration that attaining the cold water aquatic life use is not feasible, in particular, above Mullan, due to human caused conditions of pollution and cannot be remedied. In fact, the document supports the conclusion that cold water aquatic life in the South Fork above Mullan is attained.

In IDEQ 1993 (see p.3) the State of Idaho acknowledged that the SFCDA River below Mullan to the confluence with the North Fork has been designated water quality limited and does not currently meet state water quality standards. The particular pollutants of concern are cadmium, lead and zinc. Additionally IDEQ states that "biological and water quality monitoring results (Hornig et al 1988; McCulley Frick and Gilman, 1992) indicate that the water quality of the river and its tributaries have been improving. Fishery and macroinvertebrate biosurveys indicate the river is fully supported from its headwaters to the Canyon Creek confluence near the east edge of Wallace." Additionally, a fishery exists in the reach between Mullan and Wallace. Further, other studies (Hornig et al, 1988, Rabe et al) and IDEQ indicate that macroinvertebrate communities are recovering to some extent in the river below Canyon Creek. The report (see p.4) goes on to state that the "documented recovery of some biotic communities of the SFCDA River and its tributaries indicate that at least a limited cold water biota use exists below Canyon Creek. Sufficient information exists which indicates cold water biota should be considered a protected use for the purposes of the water quality remediation process." Appendix C states that the "...goal of the Clean Water Act is to make waters "fishable and swimmable" and in a similar vein the State Trustees have set a goal of providing for natural redevelopment of fish and wildlife habitat. These statements indicate to EPA that the State's goal is not to abandon the cold water biota use, but instead to recover cold water biota use " and imply that the State does not view that the impairment in these waters "cannot be remedied."

Hecla also cited Appendix C of the IDEQ 1993 document. Appendix C states that water quality studies indicate that controls imposed on point sources since the 1970's have improved water

quality with respect to heavy metals contamination. "Fish populations have improved in the river between Mullan and Wallace." Primary sources of metals contamination to the SFCDA River are the Ninemile and Canyon Creek tributaries which join the river at Wallace. Additionally the report states that exceedances of the cadmium, lead and zinc criteria occur below the Canyon Creek confluence with the SFCDA River through the remainder of its course. Above this point criteria are exceeded near Mullan for a short reach. The other upper SFCDA River tributaries do contribute some metals to the river but at concentrations not exceeding the criteria.

2. Summary of EPA's Analysis of Human Caused Conditions Claim

EPA's review and analysis is based on the information Hecla provided in support of its claim as well as other available and relevant information. This included several technical reports developed in support of the SSC and EPA's Final Remedial Investigation Report (Remedial Investigation/Feasibility Study, EPA, 2001a,b) for the Coeur d'Alene Basin.

The principle demonstration in obtaining a variance is the whether or not the designated use is attainable. EPA's assessment of use attainment in the South Fork Coeur d'Alene was divided into two parts. Because the water quality and ecological conditions of the South Fork are significantly different in these two areas, EPA analyzed both the upper South Fork (in the vicinity of Hecla's discharge) and the lower South Fork (below Canyon Creek). EPA reviewed Hecla's submission as well as additional available biological and chemical data for the South Fork Coeur d'Alene River in assessing whether the cold water biota use is "unattainable."

Upper South Fork

Based on EPA's review of the biological and chemical data for the upper South Fork, EPA determined that the cold water biota use is currently attainable as discussed in detail in the August 12, 2004, Decision Document (proposed denial, pages 8-13). The data indicates that the ecological conditions in the upper South Fork are supportive of a cold water biota life use. There are self sustaining populations of fish and macroinvertebrates inhabiting the South Fork near Hecla's discharge, above Canyon Creek. Further, the chemical data indicate that water quality conditions are supportive of cold water aquatic species and have generally shown improvement over time.

In addition, implementation of the Interim Record of Decision (ROD) for the Coeur d'Alene Basin will provide for water quality improvements that will benefit the cold water aquatic species and ecological community in the upper South Fork (Decision Document, proposed denial, August 12, 2004, page 9).

Furthermore, the discharge from the Lucky Friday Mine, which contributes to exceedances of the metals water quality criteria downstream from the mine, can be controlled via treatment. The record indicates that Hecla would be able to meet the effluent limitations that would be required if the variance is denied

through the use of technology that is employed at several mines in Region 10. (SAIC, Hecla 1999). In fact, Hecla has already employed sulfide precipitation treatment at its Grouse Creek mine in Challis, Idaho.(Hecla 1999). EPA evaluated the costs and feasibility of both hydroxide precipitation and sulfide precipitation as treatment at the Lucky Friday mine. (SAIC) Sulfide precipitation would allow Hecla to meet its permit effluent limits but it has not yet been shown through treatability studies whether hydroxide precipitation would be sufficient to meet the permit effluent limits .(SAIC, Hecla, June 9, 2002 Attachment F).

Institution of treatment controls necessary to assure compliance with its NPDES permits ensures that discharges from the Mine will not cause or contribute to water quality exceedances in the vicinity of the mine or in the lower South Fork and thus protects the cold water biota use.

South Fork below Canyon Creek

EPA reviewed information submitted by Hecla as well as information in a number of publicly available technical reports which contained data and information regarding the ecological conditions of the South Fork below Canyon Creek (Decision Document, proposed denial, August 12, 2004, pages 8 - 14). EPA reviewed this information in order to determine whether the cold water biota use is attainable. The information reviewed clearly confirms that ecological conditions in this portion of the South Fork are impaired as a result of mining impacts. Information indicates that the physical in-stream habitat is of low quality and there are exceedances of the numeric water quality criteria for metals (i.e., cadmium, lead and zinc). Although fish and other aquatic life are present in this area of the South Fork, surveys indicate that the density and abundance of aquatic organisms are substantially reduced in comparison to appropriate reference streams. Information which Hecla submitted in support of its variance request substantiates this impairment.

That information, as EPA discussed in the Decision Document (proposed denial, August 12, 2004, page 9), also indicates that water quality has been improving over time and the biological conditions have also seen some recovery. Several of the documents include statements that further indicate that at the current time a limited cold water aquatic life use exists below Canyon Creek (Decision Document, proposed denial, August 12, 2004, pages 11 and 12). Again, EPA reviewed other information in addition to Hecla's submission (Decision Document, proposed denial August 12, 2004, pages 10 - 12). This information also substantiated the conclusion that the use is impaired in the lower South Fork.

Based on the information Hecla presented and other information obtained by EPA, the Agency concluded that the cold water biota use in the lower South Fork is present, although its condition is impaired. It is important to note that a

determination of "use impairment" is not synonymous with a determination that the use is "not attainable" and that conditions can not be remedied.

EPA's Interim ROD for the Coeur d'Alene Basin does not support Hecla's claim that the cold water biota use can not be attained. As discussed in EPA's Decision Document (proposed denial, August 12, 2004, page 8 - 13), EPA concluded that water quality and aquatic life conditions in the South Fork range from excellent to poor. The remedies in the Interim ROD vary based on the range of conditions. In those areas where the mining impacts are severe and the conditions are poor it will likely take a significant number of years and the implementation of a number and variety of remedial activities and restoration actions until the goal of meeting the water quality standards are attained. In those areas where the mining impacts are less, its likely that water quality standards can be achieved sooner.

EPA's analysis in the proposed denial showed that 1) technology for treatment is available and feasible to put in place at the Hecla Lucky Friday Mine, 2) remediation in the Coeur d'Alene Basin is progressing and 3) water quality and ecological conditions are improving, and that the cold water biota use is partially attained. These conclusions suggest that attaining the use and remedying the human caused conditions due to mining is possible in the South Fork. Hecla has not provided additional information since EPA's proposed denial that would refute these conclusions.

In summary, Hecla's submission provided information that supports the fact that cold water aquatic life is present in the lower South Fork even though impaired as a result of mining impacts. However, Hecla did not show how the information and studies they provided demonstrate that the cold water biota use is not attainable and that the mining impacts cannot be remedied. The regulations clearly state that the applicant must demonstrate that attaining the use is not feasible because human caused conditions prevent attainment and these conditions can not be remedied (40 CFR 131.33(d)). An adequate analysis of attainability would need to demonstrate that even with pollution controls in place as well as application of reasonable and cost-effective best management practices for nonpoint source control 40 CFR 131.10(d) it is not possible to attain full support of the cold water biota use. Hecla failed to provide the necessary analysis of attainability.

3. Summary of Public Comments related to the "Human Caused Conditions" claim

Hecla was the only commenter with respect to EPA's proposed decision to deny the human caused conditions claim (40 CFR 131.33(d)(3)(iii)). The principle point in Hecla's comments was that it did not agree with EPA's decision and believed that the Agency's analysis was

incorrect. Hecla stated it perceived a lack of clarity in EPA's proposed decision to deny the variance request. Additionally, Hecla argued that EPA's proposed decision to deny the variance was unreasonable and arbitrary. Lastly, Hecla stated that EPA failed to evaluate Hecla's claim and that EPA's findings were contrary to the studies Hecla cited in their variance request.

EPA reviewed these comments and considered each one in the Agency's response (See Response to Comments, Section D, E, Comments # 7 - 11 and Section G, Comments # 16 and 17). EPA concluded that Hecla had misconstrued the requirements which the applicant must demonstrate in order to obtain a variance as well as the basis for EPA's authority for granting a variance. EPA did not find Hecla's arguments to be based on an accurate reading of the Clean Water Act or the implementing water quality standards regulations. EPA concluded that Hecla's comments did not provide a basis to revise EPA's analysis or change the Agency's decision as to Hecla's variance request.

In a related comment Hecla cited a report which was not previously submitted with their variance request and stated that EPA's analysis was contradictory to this report. EPA obtained the report (Expert Report of Dudley Reiser, 1999) and reviewed it in detail. EPA found that the Agency's analysis of Hecla's claim was not counter to Mr. Reiser's conclusions. (See response to comment # 17)

In summary, neither Hecla nor any of the other commenters provided EPA with any new or additional information during the comment period which would refute the basis for EPA's analysis and decision to deny the variance request based on "the human caused conditions claim."

4. Conclusion as to Hecla's Claim Regarding the "Human Caused Conditions" Claim

The preamble to the Idaho Rule, at 62 Fed. Reg. 41662, July 31, 1997, included an example related to past mining activities where a variance may be granted that appears similar to the Hecla circumstances. However, upon detailed review of all relevant facts of this case, there are three critical factors that distinguish this case from those that might successfully make a demonstration for a variance: 1) technology for treatment is available and feasible to put in place at the Hecla Lucky Friday Mine, 2) remediation in the Coeur d'Alene Basin is progressing, and 3) water quality and biological information for the SFCDA River suggest partial attainment and improving conditions toward which discharger compliance would contribute.

EPA concludes, based on the Agency's analysis of information Hecla has submitted and other available information, Hecla has not demonstrated that attaining the water quality standard is not feasible because human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place in these waters. Therefore, EPA is denying Hecla's request for a variance under 40 CFR 131.33(d)(3)(iii). EPA's denial of Hecla's request for a variance predicated on the "human

caused conditions" claim (40 CFR 131.33(d)(3)(iii)), is based on the Agency's determination that the cold water aquatic life use is supported in the vicinity of the Hecla Lucky Friday Mine, and is attainable.

B. Hecla claimed that a variance is warranted because hydrologic modifications preclude attainment of the use and it is not feasible to restore the original condition or to operate such modification in a way which would result in attainment of the use.

1. Hecla's Submission

Hecla states that it is not feasible to restore the SFCDA River to its original condition because of hydrologic modifications such as channelization. As a result, Hecla states that this independent condition should provide a determination that the designated use cannot be attained (over the next five years) and a variance should be granted. Hecla states that in many locations the South Fork has been channelized from the construction of I-90 to provide for development of towns and mining facilities. Hecla relied upon a report authored by Thomas Wesche, which concludes that the South Fork lacks the physical structure needed for quality salmonid habitat. (Expert Report of Thomas A. Wesche, U.S. v ASARCO et al., No. CV 96-0122-N-EJL, October 1999).

2. EPA's Analysis of Hecla's Claim Regarding "Hydrologic Modifications"

The issue of whether channelization of the SFCDA River precludes the recovery of cold water biota was considered by EPA during its CERCLA investigation of Operable Unit 3 of the Bunker Hill Mining and Metallurgical Complex. As a result of this investigation, EPA concluded that the presence of heavy metal contamination in the surface waters of the SFCDA River was the principal limitation for recovery of aquatic resources (see Appendix K to the Final Ecological Risk Assessment Coeur d'Alene Basin Remedial Investigation/Feasibility Study, May 2001). In addition, EPA concluded that the implementation of selected remedial actions to address surface water contamination would improve the cold water biota habitat in the SFCDA River (see Interim ROD at Section 12.2.).

EPA does not dispute the existence of hydrologic modifications, yet disagrees that attainment of the use as it pertains to the variance request is precluded. As documented in the discussion above, the cold water aquatic life use of the SFCDA in the immediate vicinity of the Lucky Friday mine is attained. According to studies done on behalf of IDEQ, the river above the confluence of Canyon Creek supports healthy populations of macroinvertebrates and native westslope cutthroat trout (IDHW-DEQ 1994; Hartz 1994; EVS 1997).

The use of reference streams and conditions to evaluate and make comparisons of biological conditions is a commonly used approach in watershed assessment. The St. Regis River in Montana was used as a reference area because it is similar in terms of watershed area and drainage characteristics. Similar to the SFCDA River, the St. Regis was channelized when I-90 was developed and it also has some urban, residential, and other transportation infrastructure development. Studies conducted on behalf of IDEQ (Windward 2002) compared and evaluated fish and macroinvertebrate metrics such as trout density, stream fish index of biotic integrity, and stream macroinvertebrate index for the two rivers. For those stations of the SFCDA above Mullan the two rivers are similar. Furthermore, the St. Regis River exhibits a year round resident population of brook and westslope cutthroat trout and mountain whitefish as well as adult bull, rainbow, and brown trout (data obtained from StreamNet [6 July 2004]).

In conclusion, although the hydrologic modifications of the SFCDA may or may not have a negative effect on the extent of quality salmonid habitat, it is clear from the data that more comprehensive measures of attainment of cold water aquatic life use indicate that the use is not precluded. Moreover, the water quality parameters for which Hecla was seeking a variance are not affected by the adverse effects, such as substrate modification, that may occur from the type of hydrologic modifications in place. The criteria for lead, cadmium, and zinc are protective of acute and chronic toxicity from exposure within the water column. The fact that resident fish may need to pass through stretches of stream that do not constitute ideal habitat does not warrant removal of protection from toxicity through a relaxation of the water quality criteria for metals.

3. Summary of Public Comments Related to the "Hydrologic Modifications" Claim

Hecla was the sole commenter regarding EPA's analysis of Hecla's claim under 40 CFR 131.33(d)(3) (iv), "dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the waterbody to its original conditions or to operate such modification in a way which would result in attainment of the use." Hecla commented that the information contained in EPA's Record of Decision for Operable Unit 3 (ROD) was the supportive documentation underlying Hecla's basis for requesting a variance under 40 CFR 131.33(d)(3)(iv).

EPA discussed its analysis of this claim in the Decision Document for the proposed denial (August 12, 2004 pp.14 - 16). EPA concluded that the Interim ROD did not provide a basis for the conclusion that the cold water biota use was not attainable as a result of hydrologic modifications in the South Fork Coeur d'Alene River (South Fork). The Interim ROD is a plan for remediation, and not a document which addresses the issue of whether or not the cold water biota use is attainable. EPA reviewed the ROD and other publicly available information and concluded the cold water biota use is attainable (i.e., fish are present in the South Fork) in spite of the channelization in parts of the South

Fork (See Decision Document, proposed rule, August 12, 2004 pp 14-16).

4. Conclusions as to Hecla's Claim Regarding Hydrologic Modifications

Based on EPA's review of Hecla's submission and other available information, the Agency has concluded that Hecla has not demonstrated that the cold water biota use is precluded by the channelization of the SFCDA River. Therefore, EPA is denying Hecla's request for a variance under 40 CFR 131.33(d)(3)(iv).

C. Hecla has claimed that controls more stringent than those required by section 301(b)(1)(A) and (B) and 306 of the Act would result in substantial and widespread economic and social impact.

1. EPA Analysis

EPA recognizes that there are circumstances in which the local economic adverse impacts of strictly applied NPDES permitting requirements may be so severe as to justify a variance. For private sector dischargers, this may mean that a business has to reduce its operations or perhaps close, which may also result in serious adverse impacts on the local economy. EPA, in its Interim Economic Guidance for Water Quality Standards [the EPA Guidance] (EPA, 1995), distinguished substantial and widespread impact from:

- circumstances in which the discharger can clearly afford the pollution controls
- circumstances in which pollution control costs may substantially affect a business' performance without having subsequent adverse impacts on the community
- circumstances where a business' viability is already at risk because of poor performance that is not related to the pollution controls.

In evaluating substantial impacts for a private entity, the EPA Guidance states that

"If the analysis shows that the entity will not incur any substantial impacts due to the cost of pollution control (e.g., there will be no significant changes in the factory's level of operations nor profit), then the analysis is complete. If, on the other hand, the analysis shows that there will be substantial impacts on the entity, then the resulting impacts on the surrounding community must be considered ..."
(EPA, 1995 - ch.3)

The EPA Guidance indicates that "[s]ubstantial impacts refer to financial impacts..." (EPA, 1995 - ch.1) Chapters 1 and 3 of the EPA Guidance describe two steps involved in the evaluation process: first, verify project costs and calculate the annual cost of the pollution control project and second, the financial impact analysis. As part of this evaluation process additional information and tests may be necessary (EPA, 1995). EPA

believes that the EPA guidance provides a framework for decision making in this instance and did not receive any comments that convinced it that the approach set forth in the guidance would not be appropriate to use in this case.

2. Hecla's Submission

In February 2001, Hecla requested a variance for its Lucky Friday Mine (the Mine) from any water quality standards that EPA would use to establish water quality-based effluent limitations for lead and zinc in the NPDES permit (Stoel Rives LLP, 2001). Hecla argued that compliance with these limits would require treatment controls more stringent than those required by sections 301(b) and 306 of the Clean Water Act, resulting in substantial and widespread economic and social impacts. Hecla stated that it was undertaking treatability studies to determine the level of treatment that can reasonably be achieved through the use of sulfide precipitation, and that those studies and pilot scale testing should be completed later in the year. Hecla also claimed that, "regardless of the results of the treatability study, sulfide precipitation and filtration will be prohibitively expensive for Hecla to install. Hecla estimated at that time that the costs of installing a sulfide precipitation and filtration plant necessary to attempt to meet TMDL wasteload allocations is approximately \$3.5 million, plus annual operation and maintenance costs of \$200,000." Hecla claimed that, "in light of the present financial condition of the Lucky Friday Mine, such an expense would cause a substantial economic impact not only to Lucky Friday and Hecla, but also to local communities and to Shoshone County."

In their request (Stoel Rives LLP, 2001), Hecla stated that, "Because of the depressed price of silver, lead and zinc worldwide, the Lucky Friday Mine has lost approximately \$10.3 million over the last five years." In addition, Hecla claimed, "Since the Lucky Friday is not making a profit, any additional costs associated with pollution control technology are substantial. In fiscal year 2000 the Mine will lose approximately \$3.1 million. Similar losses were sustained in 1999 and 1997." Hecla continued, "Company wide, Hecla also continues to sustain losses."

In its June 9, 2003 letter to EPA (Hecla, 2003b), Hecla updated its cost estimates (and worksheets G through L) to include \$5.6 million for capital expenditures necessary to fully meet the more recent 2003 permit requirements, and \$387,000 in annual operations and maintenance costs for wastewater treatment.

In response to EPA's inquiry regarding how much of a variance is required, Hecla responded that "any new costs further compromise the economic viability of the Lucky Friday Unit (Hecla, 2003c)." The widespread impact analysis that Hecla submitted (Worksheets M and N) evaluate the local impact of terminating all employment at the Lucky Friday mine. Finally, Hecla also provided its forward looking confidential internal financial analysis which included an \$8 million investment in the Lucky Friday mine, announced in December 2003 (Hecla, 2003d).

3. EPA's Analysis of Hecla's Claim of Substantial and Widespread Economic and Social Impact

The Lucky Friday Mine is operated by, and is a wholly owned division of Hecla Mining Company (<http://www.hecla-mining.com/propLucky.html>). Confidential information provided for the Mine by Hecla allows EPA to evaluate the Mine's overall financial health (past, present and projected) and assess the financial impact of the pollution control equipment costs on the Mine's continuing operation. Financial information provided by Hecla allows EPA to evaluate the company's overall financial condition and its ability to finance expenditures necessary for the Mine. This financing can occur through the Mine's cash flow and/or through direct support from Hecla or from other sources.

While historical financial and operating conditions may be useful when assessing an entity's current and near-term future prospects, this may not always be the case. With unpredictability of silver market prices, variability in silver market price cycles and continual changes in operational characteristics of a mine, historical mining operations may not be representative of future operations. Since the Lucky Friday Mine's primary revenue is derived from its silver production, by taking into consideration relatively recent, current and available forecasted operating and financial conditions, EPA can more accurately evaluate the Mine's and Hecla's overall financial condition with respect to the company's variance request. For example, due to continuing low silver and lead prices in the fourth quarter of 2000, Hecla deferred a decision to approve capital expenditures necessary to develop a new area of the Mine. With continuing low metals prices, the company reduced mining activity to approximately 30% of full production, and during 2002 mining activity was increased to 50% of full production (<http://www.hecla-mining.com/propLucky.html>). With a sustained increase in silver prices since mid-2003 which are higher than silver prices of the preceding few years and also taking into consideration its own forward-looking analysis for the period 2004 through 2011, Hecla made the decision in early December 2003 to invest approximately \$8 million in the Lucky Friday Mine to increase silver production by 2007 to near capacity (4 million ounces), to be achieved within approximately 18 months from that date (Hecla, 2003d; <http://www.hecla-mining.com/propLucky.html>).

Given that conditions have changed during the pendency of Hecla's application, as noted in part above, EPA focused its evaluation of the Lucky Friday Mine's and Hecla's finances and operations starting with the year 2001. At EPA's request, in March 2004 Hecla provided an updated substantial impact analyses for the Lucky Friday Mine and Hecla Mining Company (Hecla, 2004A).

In proceeding with its evaluation of Hecla's substantial impacts submission, EPA used a financial consultant to perform the analysis. (Coad, 2004). Where the EPA consultant found arithmetic errors or inconsistencies in Hecla's submission, these were accounted

for by making adjustments to the relevant line items in the worksheets and incorporating these adjustments in the subsequent review. In addition to reviewing the worksheets and additional information provided by Hecla and other publicly available documents, the EPA consultant also performed other relevant analyses.

EPA also obtained an independent opinion for assessing the costs for meeting the water quality standards for the Lucky Friday Mine. This independent assessment concluded that a modified treatment system could be achieved at a capital cost of \$3.9 million and annual O&M costs of \$311,000 (SAIC, 2004). This compares to Hecla's capital cost estimate of \$5.6 million (or \$5.5 million adjusted, as corrected to reflect Hecla's detailed estimate), with annual O&M costs of \$387,000. Though the EPA financial consultant's review and analyses initially considered all three capital cost figures and their respective O&M costs, particularly when calculated as Total Annual Cost of Pollution Control Project (Coad, 2004), EPA's conclusions were based on using Hecla's adjusted capital cost estimate of \$5.5 million and its respective O&M costs.

In its profitability analysis (EPA Guidance Worksheets H and I), Hecla reports earnings before taxes (EBT) of negative \$6.2 million for 2001, positive \$9.8 million for 2002, and negative \$7.1 million for 2003. The company's high overhead reported for 2003, almost double that for 2001, includes a \$23.8 million non-cash accrual expense for environmental clean-up and remediation. Since this \$23.8 million non-cash expense was not paid out, Hecla's 2003 EBT of negative \$7.1 million is adjusted to positive \$16.7 million. These EBTs, reported and adjusted, do not include the projected pollution control costs. In announcing the results for 2003, Hecla's President stated: "Hecla has had a phenomenal two years. The true measures of our company's performance - income before environmental accruals, gross profit, cash flow and balance sheet - all continue to improve." (Hecla, 2004c). In responding to what a typical year EBT might be in Worksheet H, Hecla states: "... earnings before taxes have significantly changed over the three year period (2001-2003). Average EBT from 1994 to 2000 was negative \$44,327 (Hecla, 2004a - Att.D)." When adjusting for the one time non-cash expense for 2003, the average EBT for the period 2001-2003 increases from negative \$1.2 million to positive \$6.8 million." (Coad, 2004).

Applying the projected pollution control expenses (corrected) to the 2003 EBTs results in the following: Hecla's reported EBT becomes negative \$8.3 million; the adjusted and SAIC EBTs decline to \$15.6 million and \$15.9 million, respectively. The company's profit rate for 2003 goes from -6.1% to -7.1% using Hecla's submitted figures; the adjusted Hecla cost profit rate goes from 14.4% to 13.4%; and the adjusted SAIC cost profit rate goes from 14.4% to 13.7% (Coad, 2004).

Profitability analysis for the Lucky Friday Mine based on Hecla's submission shows an EBT of negative \$5.4 million for 2001, negative \$1.8 million for 2002, and positive \$0.3 million for 2003. Though the company considers EBT for 2002 to be typical for the

period 1994 - 2000 (Hecla, 2004a - Worksheet H), there has been a steady improvement in the Mine's EBT for the period 2001 through 2003. In looking at 2003, when projected pollution control costs are included, the Mine's EBT falls to negative \$0.93 million based on Hecla's corrected costs, negative \$0.84 million based on the adjusted Hecla costs, and negative \$0.55 million using the SAIC costs. The mine's profit rate for 2003 drops from 2.4% to -7.5%, -6.8% and -4.4% based on applying the respective cost figures (Coad, 2004).

Another measure of profitability can be total cash costs per ounce of silver (for a mine's production) when compared to the average price of silver. Hecla states that, "We believe cash costs per ounce of silver or gold provide an indicator of profitability and efficiency ..." (Hecla website) Total cash costs for the Lucky Friday Mine versus the average price of silver were: \$5.02 v. \$5.00 (2000), \$5.27 v. 4.36 (2001), \$4.97 v. \$4.63 (2002), and \$4.86 v. \$4.91 (2003) (Coad, 2004). While the mine about broke even in 2000, total cash costs exceeded silver prices for 2001 and 2002, while the silver price exceeded cash costs for 2003 (Hecla website; Coad, 2004). For the first quarter of 2004, Hecla reported that the Mine's sales and income improved despite higher total cash production costs of \$5.44 per ounce of silver, while the price of silver averaged \$6.71 per ounce (Hecla, 2004e). Hecla recently projected the price of silver will average \$5.50 per ounce in 2004 and 2005 (Hecla, 2004d).

Lucky Friday Mine's recent history does not appear to be indicative of its future. On December 5, 2003, Hecla announced its decision to "drive a 5,500-foot drift on the 5900 level" of the Lucky Friday Mine, at a cost of approximately \$8 million, providing access to 28 million more ounces of silver, and nearly doubling annual production through 2011 (Hecla, 2003d). Hecla projects that the new development will allow it to produce up to 4 million ounces of silver annually beginning in late 2005, with cash production costs of less than \$4.50 per ounce of silver. Hecla's President and CEO Phillips Baker stated that, "This new development level will also give us an excellent platform for future exploration at Lucky Friday, giving us more time to enlarge the resource at a better grade of ore that can be mined even more profitably". Mr. Baker referred to the \$8 million as a "minor capital investment" and went on to say that "Driving the 5900 drift positions us to develop resources in the future which could give us access to more mineable ounces of silver after this current plan is completed." Hecla also indicated that compared to 94 people employed as of early December 2003, at full production the Mine will increase employment by up to 50% (Hecla, 2003d).

Financial ratios are used to evaluate other aspects of an entity's financial condition. Ratios should not only be analyzed with respect to the entity under review, but where possible, compared to other entities in the same business. From Worksheets J, K and L, Hecla provided the Current Ratio, Beaver's Ratio, and the Debt to Equity Ratio (Hecla, 2004a). Hecla's Current Ratio, an indicator of its ability to cover its current liabilities, went from 0.99 in 2001, to 1.39 in 2002, to 4.73 in 2003. The 4.73 Current Ratio is very

strong by any measure, and Hecla states that "During 2002 and 2003, Hecla's current ratio was favorable to other firms in this line of business." (Hecla, 2004a - Worksheet J).

Hecla's Beaver's Ratio, a measure of a company's solvency and potential for bankruptcy, steadily improved for the three year period (2001 - 2003) and is above levels of concern. Hecla states that "During 2002 and 2003, the Beaver's ratio compares favorably to other similar mining companies. The Beaver's Ratio from 1994 through 2001 compares unfavorably." (Hecla, 2004a - Worksheet K) Hecla did not provide its calculations for the 1994 through 2000 period and as mentioned earlier, EPA finds that the earlier financial history is not relevant to this evaluation.

Hecla's Debt to Equity ratio, a measure of the degree to which a company's debt is backed by assets, shows a continuing decline from 2001 through 2003, going from 1.13 in 2001 to 0.42 in 2003. This decline in the Debt to Equity ratio during this period is a positive indicator. Hecla states that for 2001, the debt to equity ratio was similar to other mining companies, and for 2003 the ratio was "[s]imilar to, or better than" other similar companies (Hecla, 2004a - Worksheet L).

Hecla had cash and short term investments of \$123.4 million as of December 31, 2003. In June 2004 Hecla projected that by the end of 2005 it expects to retain \$111.1 million in cash (Hecla, 2004d). These are strong cash positions.

Overall, Hecla's financial ratios demonstrate that the company is in good financial condition and there has been constant improvement for the period 2001 through 2003. The same financial ratios for the Lucky Friday Mine, for the period 2001 through 2003, indicate that the Mine financial condition is sound, though there are no other mining operations with which it can be compared.

4. Summary of Public Comments Related to Hecla's Claim Regarding Substantial and Widespread Economic and Social Impact

a. Industry Comments

In its response to EPA's proposed decision (Decision Document, August 12, 2004), Hecla's Lucky Friday Mine and another mining company raised three issues related to EPA's analysis of Hecla's claim alleging that compliance with the permit would cause substantial and widespread economic and social impact. In EPA's opinion, none of these comments have any merit, and the commenters failed to provide documentation that would justify any alternative conclusion.

First, Hecla asserts that EPA chose to wait until the first period of reasonable silver prices to issue its decision and based that decision on the recently improved silver price. EPA finds this issue is without merit. While EPA's analysis reviewed silver prices for the

period 2001 through 2003 (Coad, 2004, p.17), EPA concluded these figures were not appropriate for evaluating the Mine. The Agency instead performed its analysis based on "[a]ssumptions used by Hecla in its confidential forward-looking analysis" (Coad, 2004, p.23). These assumptions included Hecla's price forecasts for the period 2004 through 2011. Further discussion is provided in EPA's Response to Comments Document. (See response to comment #20).

Second, industry alleges that EPA's numerous recent requests for information, made more than two years after Hecla Lucky Friday Mine filed its request, were merely efforts to gain data to support a decision already made. EPA disagrees. Hecla's initial submissions were inadequate. EPA made exhaustive efforts to obtain up-to-date and thorough financial documentation from the applicant in order to make the most informed decision possible. In addition, EPA had to request from Hecla a clear understanding of which materials were considered confidential business information (CBI) before making its proposed decision public. Finally, EPA sought to make its decision based on the best available information at the time of the decision.

Third, Hecla asserts that EPA's analysis relies on Hecla Mining Company financing the pollution control expenditures, and does not take into account Hecla's view that Lucky Friday Mine must be self-sufficient and independently sustainable. EPA finds that the evidence indicates that Lucky Friday can comply with its permit and remain independently sustainable. In addition, historically, Hecla has provided financing on occasion to Lucky Friday, particularly during periods of low prices. EPA had an extensive economic analysis performed evaluating Hecla Lucky Friday mine's initial claims. (Coad, 2004). EPA then updated its financial analysis in response to the comments, concluding that the Mine's financial situation continues to be strong. (Coad, 2005). First, EPA notes that in conducting a financial analysis, EPA's Interim Economic Guidance states that "The structure, size, and financial health of the parent firm should also be considered." (U.S. EPA, 1995, pp.3-4) The EPA economic analysis explains that Lucky Friday is an operational division of Hecla, and that "[H]ecla will first attempt to finance Lucky Friday's capital expenditure's and exploration costs through Lucky Friday's cash flow, but could also be reasonably expected to contribute financing support for major projects." (Coad, 2004, p.12) Also, since "[L]ucky Friday is not an independent subsidiary, Hecla's support is a reasonable expectation. (Coad, 2004, p.27) Hecla's own submissions also indicate that historically it has financed the Mine.

b. Other Comments

The Mullan School District (MSD) raised two issues regarding the potential impact of the variance decision on MSD's tax revenues and the locality in general.

First, MSD argues that EPA should have reviewed further the potential impacts upon the community. EPA disagrees. EPA's Interim Economic Guidance states that if EPA

determines that "the entity will not incur any substantial impacts due to the cost of pollution control... then the analysis is completed." (U.S. EPA. 1995, p.3-1). EPA has concluded that Hecla Lucky Friday Mine will not incur any substantial impacts, and therefore, no further analysis is required. More recent developments reinforce EPA's conclusions. In particular, Hecla had an optimistic and positive discussion of the Lucky Friday Mine's prospects in its quarterly financial report for the period ending September 30, 2004 (Hecla. 2004f) and in the company's news release of November 4, 2004.(Hecla. 2004e) EPA notes that Hecla's press release was issued after EPA proposed publicly that it did not intend to grant Lucky Friday's request for a variance on its water permit. It is apparent from its statements that Hecla is continuing to explore and make significant investments in the Lucky Friday facility despite the pending decision on its variance request.

Second, MSD comments that the School District will lose significant revenues if Hecla either proceeds with the additional pollution control investment or shuts down because it cannot afford the pollution control investment. EPA disagrees, as the premise of underlying this conclusion is incorrect. EPA's analysis concludes that there is no indication at this time that the Lucky Friday mine will shut down, or substantially reduce its production levels, rather than comply with EPA's water quality standards based effluent permit. EPA has examined the potential impacts of the permit requirements on MSD property and net profit tax revenues. With respect to property taxes, the School District included in its response a letter from the Shoshone County Assessor, wherein it states that "The value of the Lucky Friday Mine dropped from \$19,150,550 in 2001 to \$5,595,820 in 2004.(White, Jerry. 2004) *The major factors that caused the value decrease were depressed silver prices, decreased production and limited ore reserves.*"(emphasis added by EPA) Lucky Friday's submissions indicate its property tax payments have decreased over the 2001 - 2004 period. However, by late 2004, all three factors attributed by the County Assessor for the Mine's decreasing property value had reversed, e.g.: (1) silver prices had already begun a significant increase compared to earlier levels, silver prices have maintained the higher levels, and silver prices are projected by Hecla to remain at these higher levels for the foreseeable future; (2) the 5900 level drift project was in process, thereby enabling Lucky Friday to access and mine additional reserves; and (3), production at the Mine would about double, enabling production to proceed at 100 percent capacity. Based on these current and projected conditions, EPA would expect that the Mine's property tax payments should increase in succeeding years above its 2003 property tax payment. With respect to net profit taxes, the School District did not provide specific details on Lucky Friday Mine's historical payment of county net profits taxes. EPA's review of the CBI financial records provided by Hecla and the Lucky Friday Mine (Coad. 2004; 2005) and of additional information provided by the School District and public sources, lead EPA to conclude that Lucky Friday's payments of county net profits taxes will not be materially affected by the pollution control investment necessary to comply with the water quality standards based permit.

c. Comments Related to Technical Feasibility of Treatment

Hecla also commented on issues related to the technical feasibility of treatment analysis which SAIC prepared for EPA (SAIC, 2004). In general, Hecla's comments were directed toward challenging the appropriateness of SAIC's selection of pollution control technology. Hecla's comments on the SAIC report included statements contesting SAIC's cost estimates for specific components of the treatment train, appropriateness of comparing the Lucky Friday Mine to the Red Dog Mine, and questioning SAIC's reviews of hydroxide precipitation and sulfide precipitation. Although EPA responded to each comment, none of the information in Hecla's comments provided new or additional information which supported revising the Agency's analysis (See Section F, response to comments #12 - 15 in Response to Comments).

EPA's analysis of feasibility as it related to Hecla's variance request considered both the treatment cost estimate in the SAIC report and Hecla's higher treatment cost estimate. EPA concluded that even using Hecla's higher cost estimate, the treatment was feasible and therefore would not result in substantial and widespread economic and social impact.

In summary, Hecla did not provide any new or additional information which supported revising EPA's determination of the feasibility of treatment.

5. Conclusion as to Hecla's Claim Regarding Substantial and Widespread Economic and Social Impact

After evaluating Hecla's submissions, additional related information including its forward looking analysis of the Lucky Friday Mine, the comments received, as well as more recent developments at the Lucky Friday Mine and in the silver market in general, EPA has concluded that implementing the proposed pollution control project to meet water quality standards will not cause the Mine to close or materially change its ongoing operations, although its profitability will be slightly reduced.. Hecla should not have any difficulty financing the necessary pollution control equipment and covering the operation and maintenance costs.

Hecla has kept the Lucky Friday Mine in operation during periods of sustained losses; silver prices have improved overall while the total cash cost of production is declining; Mine production increased from 2002 to 2003; and Hecla is investing some \$8 million in the Mine, increasing production to near full capacity within a relatively short period of time while obtaining a better grade of ore more profitably, and increasing Mine employment by up to 50%. Hecla should easily be able to finance the cost of the necessary pollution controls. As the Mine will continue to operate at increased production and employment levels, there will be no adverse impacts on employment.

Consistent with the approach recommended in EPA Guidance (EPA, 1995), EPA

concluded there was no evidence to indicate that the Lucky Friday Mine or Hecla will incur any substantial adverse impact as a result of compliance with the NPDES permit. Because EPA found that there were no substantial impacts to the Lucky Friday Mine or Hecla, there was no need to further evaluate potential impacts on the community. Nonetheless, EPA evaluated the information submitted by the Mullan School District during public comment and determined that school district would not lose significant revenues as a result of the installation of pollution controls to meet the requirements of the NPDES permit.

EPA concludes that Hecla has not demonstrated that a variance should be granted based on the claim that controls more stringent than those required by Section 301(b)(1)(A) and (B) and 306 of the Act would result in a substantial adverse impact to the Hecla Lucky Friday Mine. 40 CFR 131.33(d)(3)(vi).

V. Conclusion

Based on the above analysis of Hecla's submission and public comments, EPA concludes that Hecla has not satisfied the requirements for granting of a variance identified at 40 CFR 131.33(d). Hecla failed to demonstrate that the designated use is unattainable for one of the reasons specified in 131.33(d)(3). Therefore, EPA denies Hecla's request for variances from the applicable water quality criteria for cadmium, lead and zinc.

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RESPONSE TO COMMENTS

February 18, 2005

Comments Received on EPA's Proposed Decision to Deny a Variance to the Hecla Lucky Friday Mine

EPA issued public notice of its proposed decision to deny the variance on August 19, 2004 and took comments from September 1, through September 30, 2004. EPA had prepared a Decision Document (proposed denial, August 12, 2004) which discussed, in detail, the basis for the proposed denial. This document was available for public review.

EPA received a total of 38 individual letters and/or e-mails. The majority of these (24 of the 38) expressed support for the proposed decision. Fourteen of the commenters were not supportive of the proposed decision.

Following are the comments received on EPA's proposed decision to deny a variance to water quality standards to Hecla, Lucky Friday Mine, and EPA's responses. Comments and responses are grouped according to the subject area of the comment. The individual comments under each subject area are identified with the commenter(s) by a number. A list of the commenters that correspond to each number is included in Table 1 at the end of this document.

In some cases, the exact phrasing of detailed comments is presented. In other cases, substantive portions were excerpted or summarized from the comment. Where more than one commenter submitted similar comments, a summary of the comment is followed by the list of the commenters (by number) that provided the comment. The Administrative Record files contain complete copies of each comment letter and are available for review at the Wallace Public Library, 415 River Street, Wallace Idaho as well the EPA Regional Office, 1200 Sixth Avenue, Seattle, Washington.

A. General Comments

Comment #1 - Sixty five percent of the commenters were supportive of EPA's proposed decision to deny the request for a variance.
(commenters 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24)

The commenters stated in very general terms that they were supportive of EPA's proposed decision based on a variety of reasons which included the following:

- a) they believe that treatment to control and limit metals into surface waters is affordable for Hecla Lucky Friday
- b) they believe that protecting and enhancing water quality and ecological conditions and aquatic species is important in the South Fork Coeur d'Alene River
- c) they are concerned about pollution from past mining practices

- d) they believe that efforts should work towards reducing and eliminating pollution in our waters
- e) they believe Hecla Lucky Friday should meet its NPDES permit limits and not release additional metals into the River.

Response: EPA acknowledges the comments.

Comment #2 - Thirty five percent of the commenters were not supportive of EPA's proposed decision to deny the request for a variance. The commenters below did not provide information refuting EPA's analysis, nor did they provide specifics as to what in EPA's analysis they were disagreeing with. More generally, they simply disagreed with the proposed decision and provided an opinion related to why they disagreed.
(commenters 25, 26, 27, 28, 29, 30, 31, 32, 35, 37, 38)

Commenters stated they were opposed to EPA's decision because they believe:

- a) Hecla should not have to spend more money on treatment because the additional removal of metals from Lucky Friday is not needed
- b) the amount of metals (zinc) discharged into the South Fork by Lucky Friday and Galena Mines is minute compared to what enters from other sources
- c) the financial impact to Hecla would be burdensome
- d) demanding additional improvements/treatment goes beyond reasonable and threatens the existence of the company
- e) There is concern that Hecla may close its Lucky Friday operation which would have adverse effects on the mining industry in the Silver Valley and also the economy of the community.

Response:

- a) As required by the Clean Water Act (CWA), Lucky Friday is required to have an NPDES permit (the permit) which allows the facility to discharge effluent into surface waters. The permit establishes the level/concentration of metals that the facility is permitted to discharge (the permit limits). The permit limits were calculated based upon the State of Idaho's water quality criteria. The water quality criteria, established by the State of Idaho, are designed to ensure that aquatic life, and the necessary levels of water quality to protect that life are attained in the South Fork Coeur d'Alene River (the South Fork).

Because the current discharge from the Lucky Friday Mine exceeds the permit limits for certain metals, the mine is required to reduce their current discharge levels so as to be in compliance with the limits. Therefore additional treatment and removal of metals from the effluent is needed, required by law, and necessary in order for the Lucky Friday Mine to be in compliance with the implementing federal and state laws which provide for the protection of the water quality in the South Fork. The permit includes a compliance schedule that allows Hecla up to 5

years to meet the permit limits for cadmium, lead, mercury, and zinc.

- b) EPA is aware of the fact that the contribution of metals from the Lucky Friday discharges is relatively small in comparison to other sources of metals to the surface waters of the Coeur d'Alene Basin. However, this does not alleviate the mine from having to meet requirements under the CWA and NPDES regulations. These regulations in part require the establishment of limits on dischargers which must be stringent enough to meet state water quality standards.(40 CFR 122.44(d))

When looking at the South Fork Coeur d'Alene River as a whole, EPA agrees that the discharges of metals from the permitted mines are a small percentage of the total load of metals in the river. However, when looking at discrete segments of the South Fork, individual sources of metals become significant. For example, the Final Remedial Investigation Report prepared by EPA's Superfund program identified the Lucky Friday Mine and Tailings Ponds as a major source area for metals above Mullan.

- c), d), e)

EPA specifically evaluated and analyzed the financial impact to Hecla of having to install pollution controls (active metals treatment) in order to meet the NPDES permit limits for cadmium, lead, and zinc. That analysis showed that even with Hecla's estimated pollution control costs of five million dollars, Lucky Friday would produce a more than sufficient return to justify continuing in business. Therefore, EPA's analysis concluded that the pollution controls would not cause widespread social or economic impacts nor be such that it would cause the mine to be unprofitable and shut down. Further, based on recent information which Hecla has released publicly, the company is conducting exploration drilling adjacent to identified reserves, and expects to add additional reserves to the mine in 2005, increasing the known potential mineable ore (Hecla press release, "Hecla Releases Third Quarter Financial Results, Advances Exploration and Development Projects", November 4, 2004, Business Wire). Additionally the overall Lucky Friday unit's performance over the first nine months of 2004 continues to be very strong, reflecting the improved and higher price of metals. Based on this information, EPA does not believe that the concern that Hecla may shut down the Lucky Friday Mine is a legitimate concern at this time.

Lastly, the installation of the additional treatment (sulfide precipitation) as described by Hecla is not unreasonable. Sulfide precipitation is, in fact, a common and well proven treatment for the removal of metals which several mines have installed.

Comment #3 - Request for a public hearing.

(commenters 25, 38)

Response: Of the 38 letters and/or e-mails that EPA received, only 2 contained a request for a public hearing. These individuals did not identify any specific need or basis for requesting a hearing. Based on a few individual requests, and the lack of a specific need, EPA determined there was insufficient interest to justify the resources needed to hold a public hearing. However, as an alternative to a public hearing, EPA contacted these individuals and offered each the opportunity to meet individually with EPA. They declined that offer.

B. Timing of EPA Response

Comment # 4 - EPA has taken over 3 ½ years to review and propose a decision on this request. This long period of indecision makes business planning extremely difficult.
(commenters 34, 36,)

Response: EPA acknowledges that it has taken a significant amount of time to process this particular variance. EPA believes the delay was justified based on a number of circumstances associated with the approval of the site-specific criteria (SSC) and Hecla's conditioning of their initial variance request to the SSC approval and the need to issue the NPDES permit for the Lucky Friday Mine. Nevertheless EPA does not believe that the delay has had any significant adverse effects on the Lucky Friday Mine operations.

On February 21, 2001, shortly before EPA was to issue the draft NPDES permit, Hecla Mining Company submitted to EPA a request for variances from water quality standards for lead and zinc for the Lucky Friday Mine. In the February 2001 letter and in their public comments on the 2001 draft permit, Hecla requested the variances until Idaho's SSC for lead and zinc were approved by EPA.

Hecla had stated that the variance was only being requested until the SSC for cadmium, lead and zinc were approved by EPA. EPA decided it was prudent to focus resources on the review of Idaho's SSC, rather than the variance request. This was based on our direct and early involvement in Idaho's development of the SSC and our confidence that the SSC were most likely approvable. Further, based on statements made by Hecla, EPA assumed that if the SSC were approved, it would not be necessary to further process the variance request (Letter from EPA to Hecla, Feb 3, 2003). Idaho DEQ provided EPA a complete submission on the SSC in December 2002. EPA spent considerable time and resources reviewing Idaho's submission of the SSC and approved these in February 2003. Again, EPA assumed that the approval of the SSC for cadmium, lead and zinc, and the implementation of these revised criteria into a second draft revised NPDES permit

for Hecla Lucky Friday would replace Hecla's need for a variance for these metals.

EPA revised the Lucky Friday draft permit, incorporating recalculated effluent limits for cadmium, lead and zinc which were based on the recently approved SSC. The revised draft permit was public noticed on January 6, 2003. The effluent limits in the 2003 revised draft permit based on the SSC allow higher levels of lead and zinc to be discharged than effluent limits in the 2001 draft permit which were based on the previous Idaho standards.

Even though the higher SSC-based limits were included in the permit, Hecla, in its comments on the 2003 revised draft NPDES permit, stated it wished to keep its variance request active. In response, EPA sent a letter to Hecla (dated June 9, 2003) requesting that Hecla formally renew their variance request since their original request was for variances for lead and zinc water quality criteria that were no longer effective. Hecla submitted additional information related to the variance request in a letter dated June 9, 2003. In a letter dated July 11, 2003, Hecla clarified that they were now requesting variances from the SSC for cadmium, lead and zinc and the mercury water quality criteria. Hecla subsequently withdrew its variance request for mercury in a September 15, 2003 letter.

Given this renewed request, EPA conducted a preliminary review of Hecla's claim that controls more stringent than those required by section 301(b) and 306 of the CWA would result in substantial and widespread economic and social impacts. As a result of EPA's review of the supporting documentation provided in Hecla's initial request, EPA determined that the information Hecla supplied was incomplete and requested additional financial and operating information from the company. Correspondence between EPA and Hecla, continued through a series of letters in 2003 and 2004 which provided the additional information which was necessary in order for EPA to evaluate and analyze Hecla's variance request based on an economic demonstration.

C. Comments Related to the Lucky Friday NPDES permit

Comment # 5 - EPA violated their own regulations by issuing the permit prior to acting on the variance request.
(commenter 34)

Response: EPA disagrees with this statement. EPA did not violate any applicable regulations with respect to issuing Hecla Lucky Friday's NPDES permit. There are no regulations which require EPA to act on a water quality standards variance prior to issuing an NPDES permit.

The applicable federal regulations governing the procedures EPA follows in processing a variance request for water quality standards in Idaho can be found at 40 CFR Part 131.33(d)(4). These regulations state, in part, that an applicant shall submit a request to the Regional Administrator not later than the date the applicant applies for an NPDES permit which would implement the variance, except that an application may be filed later if the need for the variance arose, or the data supporting the variance becomes available after the NPDES permit application is filed. The burden is on the applicant to demonstrate to EPA's satisfaction that the designated use is unattainable for any one of the six reasons specified in the regulations under 131.33(d)(3).

These regulations do not require EPA to act on the variance prior to issuing an NPDES permit. However since the permit is the vehicle for implementation of the variance, in most situations and where EPA had complete information from the applicant, EPA would strive to make a decision on a variance request prior to issuing a permit.

EPA determined that the best course of action with respect to the Hecla Lucky Friday Mine was to issue the permit first. EPA issued the Lucky Friday permit on August 12, 2003. EPA decided to issue the permit even though a decision had not been made on the variance for the following reasons:

- (1) The Lucky Friday permit was last issued in 1977 and expired in 1980. Because the permit was long overdue, it was an Agency priority to issue the permit. Furthermore, a complaint was filed against EPA for undue delay in failing to reissue the Lucky Friday NPDES permit for 22 years. *See Idaho Conservation League et. al. v. EPA*, (W.D. Wa., no.C02-2295Z, 2002). EPA issued the Lucky Friday permit on August 12, 2003, and Idaho Conservation League dismissed its claims on August 19, 2003.
- (2) EPA's preliminary review of the documentation indicated that the submission in support of a variance based on an economic showing was incomplete. EPA knew it would take a significant amount of time to review this in greater depth and to obtain the additional necessary information from Hecla. Because EPA did not want to further delay the issuance of the permit pending this review, EPA believed it was prudent to issue the permit while continuing our review and analysis of the variance request. This decision was based in part on the fact that if the Agency did grant a variance we could go back and modify the permit and include any alternate metals limits as well as any additional conditions for a variance.
- (3) The Lucky Friday permit contains a compliance schedule which provides the Mine with up to five years before having to come into compliance with the cadmium, lead, and zinc limits. EPA believed that this provided the facility with the necessary regulatory relief during the processing of the

variance request.

Comment # 6 - Hecla incorporated by reference their comments on the TMDL and the Lucky Friday draft permits. Hecla cited specific concerns with the permit, including the permit requirements for continuous flow monitoring, composite sampling, ambient water monitoring, a best management practices plan, WET testing and instream bioassessment, measurement of total recoverable metals instead of dissolved, a seepage study, mercury monitoring, and the upper pH limit. Hecla also commented on EPA's reasonable potential procedures. (commenter 34)

Response: EPA responded to Hecla's comments on the TMDL and the Lucky Friday draft permits in the Response to Comments documents that were prepared with issuance of the TMDL and permit decisions. The appropriate time to comment on the permit and the TMDL was during the comment periods applicable to those decisions. Decisions regarding the TMDL and the permit were made following the public comment periods. The State of Idaho's TMDL was approved in August 2000 and the permit was issued in August 2004).

The Administrative record for the NPDES permit and the TMDLS are now closed. Therefore, EPA will not respond again to specific comments related to the TMDL or the permit in this Response to Comments document. EPA directs Hecla to the administrative records for the TMDL and the permit.

D. Hecla believes that EPA's denial of the variance does not comply with the Clean Water Act

Hecla made three claims that were the basis for their request for a variance. EPA evaluated all three bases that Hecla asserted in their variance application. The burden is on the applicant to demonstrate to EPA's satisfaction that the designated use is unattainable for one of the reasons specified in 40CFR 131.33(d)(3). EPA denied Hecla's variance request because Hecla failed to make the necessary demonstrations that the aquatic life use in the South Fork Coeur d'Alene River was not attainable based on all three of the factors they claimed. Hecla's claims and information submitted to EPA were analyzed and evaluated in detail in EPA's Decision Document (proposed denial, August 12, 2004). During the comment period Hecla submitted no new information as to any of these claims. Their specific comments are addressed below.

E. The Basis for EPA's Denial is Unclear

Several of Hecla's comments were related to a perceived lack of clarity in EPA's Decision Document (proposed denial, August 12, 2004) with respect to the basis for the Agency's denial of their request for a variance based on 131.33(d)(3)(iii) and (iv).

“...attaining the water quality standard is not feasible because:

- (iii) human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
- (iv) dams, diversions, or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of the use.”

The following are the specific comments related to the above issue:

Comment # 7 - “It is not clear what the factual basis is for EPA’s proposed denial of the variance. Is the denial premised upon the fact that the designated uses are currently supported in the South Fork immediately below the Lucky Friday discharge?”
(commenter 34)

Response: EPA’s denial of Hecla’s request for a variance based on factor (iii) is based on our determination that the cold water biota use is currently attained in the South Fork in the vicinity of the Lucky Friday discharge. In fact, Hecla agrees. In their comment letter, Hecla stated that the aquatic community of the South Fork above Wallace is healthy.

As described in the applicable regulations (40 CFR 131.33(d)) the requirements for obtaining a variance include a demonstration by the applicant that it is not feasible to attain the designated use for any of the six reasons provided in the regulations. One of the bases for Hecla’s request for a variance is that the designated use of cold water biota in the South Fork is not attainable because human caused conditions and sources of pollution prevent the attainment of the cold water biota use and these impacts can not be remedied. In this specific case, Hecla needed to have demonstrated that it is not feasible to attain the cold water biota use in the South Fork because of mining impacts and that these mining impacts can not be remedied.

In our review of Hecla’s submission, with respect to the “human caused conditions” claim, Hecla’s argument was that waters in the South Fork Coeur d’Alene River are not attaining the cold water biota use because of mining impacts and that attaining the use can not be accomplished in 5 years.

First, Hecla incorrectly assumes that a showing of non-attainment is limited to 5 years. Neither EPA’s guidance nor regulation on variance factors limits the time frame for demonstrating attainability.

Secondly, EPA reviewed the documentation which Hecla submitted in support of its claim and determined that their submission did not support the assertion that it was not feasible to attain the cold water biota use and that these conditions could not be remedied. In EPA's Decision Document (proposed denial, August 12, 2004) the Agency provided a discussion of our detailed review of the information submitted by Hecla and additional relevant information.

In reviewing Hecla's submission, it was unclear to EPA whether Hecla's claim for a variance was based on the conditions in the vicinity of the facility's discharge or on the conditions in the Lower South Fork below Canyon Creek. Therefore, EPA analyzed Hecla's submission with respect to both scenarios.

EPA has divided its assessment of use attainment in the South Fork Coeur d'Alene into two parts. Because the water quality and ecological conditions of the South Fork are significantly different in these two areas, EPA has analyzed both the upper South Fork (in the vicinity of Hecla's discharge) and the lower South Fork (below Canyon Creek). EPA reviewed Hecla's submission as well as additional available biological and chemical data for the South Fork Coeur d'Alene River in order to assess whether the cold water biota use is "unattainable."

Upper South Fork

Based on EPA's review of the biological and chemical data for the upper South Fork, EPA determined that the cold water biota use is currently attainable as discussed in detail in the Decision Document in pages 8-13 (proposed denial, August 12, 2004). The data indicates that the ecological conditions in the upper South Fork are supportive of a cold water biota life use. There are self sustaining populations of fish and macroinvertebrates inhabiting the South Fork near Hecla's discharge, above Canyon Creek. Further, the chemical data indicate that water quality conditions are supportive of cold water aquatic species and have generally shown improvement over time.

In addition, implementation of the Interim Record of Decision (ROD) for the Coeur d'Alene Basin will provide for water quality improvements that will benefit the cold water aquatic species and ecological community in the upper South Fork (Decision Document, proposed denial, August 12, 2004 page 9).

Additionally, the discharge from the Lucky Friday Mine, which contributes to exceedances of the metals water quality criteria downstream from the mine, can be controlled via treatment. Institution of treatment controls necessary to assure compliance with its NPDES permits ensures that discharges from the Mine will not cause or contribute to water quality exceedances in the vicinity of the mine or in the lower South Fork and thus protects the cold water biota use.

Lastly, neither Hecla nor any of the other commenters provided EPA with any new or additional information during the comment period that would provide a basis to revise EPA's analysis and decision to deny the variance.

In conclusion, neither Hecla's submission nor public comment demonstrated that the cold water biota use in the Upper South Fork is precluded by human caused conditions and pollution (i.e., the impacts from mining) and can not be remedied. In fact EPA's review of the available information supports the opposite conclusion, the cold water biota use is currently attained in the Upper South Fork. Therefore, granting a variance to Hecla is unwarranted because it would allow Hecla's discharge to violate site-specific water quality standards in the Upper South Fork where the cold water biota use is attained.

South Fork below Canyon Creek

EPA reviewed information submitted by Hecla as well as information in a number of publicly available technical reports which contained data and information regarding the ecological conditions of the South Fork below Canyon Creek (Decision Document, proposed denial, August 12, 2004 pages 8-14). EPA reviewed this information in order to determine whether the cold water biota use is attainable. The information reviewed clearly confirms that ecological conditions in this portion of the South Fork are impaired as a result of mining impacts. Information indicates that the physical in-stream habitat is of low quality and there are exceedances of the numeric water quality criteria for metals (i.e., cadmium, lead and zinc). Although fish and other aquatic life are present in this area of the South Fork, surveys indicate that the density and abundance of aquatic organisms are substantially reduced in comparison to appropriate reference streams. Information which Hecla submitted in support of its variance request substantiates this impairment.

That information, as EPA discussed in the Decision Document (proposed denial, August 12, 2004, pg. 9), also indicates that water quality has been improving over time and the biological conditions have also seen some recovery. Several of the documents include statements that further indicate that at the current time a limited cold water aquatic life use exists below Canyon Creek (Decision Document, proposed denial, August 12, 2004 pages 11 and 12). Again, EPA reviewed other information in addition to Hecla's submission (Decision Document, proposed denial August 12, 2004 pages 10 - 12). This information also substantiated the conclusion that the use is impaired in the lower South Fork.

Based on the information Hecla presented and other information obtained by EPA, the Agency concluded that the cold water biota use in the lower South Fork is present, although its condition is impaired. It is important to note that a

determination of "use impairment" is not synonymous with a determination that the use is "not attainable" and that conditions can not be remedied.

Hecla's reliance on EPA's Interim ROD for the Coeur d'Alene Basin does not support Hecla's claim that the cold water biota use can not be attained. As discussed in EPA's Decision Document (proposed denial, August 12, 2004), EPA concluded that water quality and aquatic life conditions in the South Fork range from excellent to poor. The remedies in the Interim ROD vary based on the range of conditions. In those areas where the mining impacts are severe and the conditions are poor it will likely take a significant number of years and the implementation of a number and variety of remedial activities and restoration actions until the goal of meeting the water quality standards are attained. In those areas where the mining impacts are less, its likely that water quality standards can be achieved sooner.

In summary, Hecla's submission provided information that supports the fact that cold water aquatic life is present in the lower South Fork even though impaired as a result of mining impacts. However, Hecla did not show how the information and studies they provided demonstrate that the cold water biota use is not attainable and that the mining impacts cannot be remedied. The regulations clearly state that the applicant must demonstrate that attaining the use is not feasible because human caused conditions prevent attainment and these conditions can not be remedied (40 CFR 131.33(d)). An adequate analysis of attainability would need to demonstrate that even with pollution controls in place as well as other means of controlling water quality impacts from mining, it is not possible to attain full support of the cold water biota use. Hecla failed to provide the necessary analysis of attainability.

Finally, even if the cold water biota use in the lower South Fork was unattainable, this would not justify allowing Hecla's discharge to exceed the site-specific water quality criteria in the upper South Fork where the cold water biota use is now attained.

Comment # 8 - "EPA attempts to narrow the health of the South Fork to areas above the Lucky Friday discharges" (page 8)".
(commenter 34)

Response: EPA did not narrow its assessment of the health of the South Fork strictly to the area above the Lucky Friday discharges. As discussed in #7 above, EPA evaluated attaining the cold water biota use in the Upper South Fork, the area in the vicinity of the Lucky Friday discharge (both above and below the Mine) and the area of the South Fork below Canyon Creek. On page 8 of the Decision Document (proposed denial, August 12, 2004), EPA distinguished between the

condition of impairment of the aquatic life in the South Fork below Canyon Creek and the "non-impairment" in the South Fork in the vicinity the Lucky Friday discharges.

Comment # 9 - Commenter believed that EPA arbitrarily and unreasonably denied Hecla's request for a variance based on a finding that beneficial uses are currently supported in the South Fork above Wallace, without evaluating whether criteria can also be attained and the economic impacts to the Lucky Friday of complying with the effluent limits.
(commenter 34)

Response: EPA's analysis included an assessment of whether or not the cold water biota use was attainable. Included in that assessment was an analysis of whether the metals criteria were being met currently in the Upper and Lower South Fork. We determined that the metals criteria are consistently being met above the Lucky Friday discharge, are often being met (although sometimes exceeded) in the vicinity just downstream from Lucky Friday and are most often not being met below Canyon Creek.

With respect to evaluating the economic impacts to the Lucky Friday of complying with the effluent limits, an economic analysis which evaluated whether there were substantial economic impacts to Hecla was performed. The economic analysis included an evaluation of whether the treatment Hecla identified as necessary in order to comply with the water quality based effluent limits in the permit would result in substantial and widespread economic and social impact. The results of EPA's economic evaluation indicated that the impact to Lucky Friday of installing appropriate treatment was not a substantial economic impact.

Comment # 10 - Commenter believed EPA failed to evaluate the regulatory variance provision of both "human caused conditions" and "hydraulic modifications" thus rendering the provisions moot because if they are not applicable in this situation, there will be no situations where these provision apply.
(commenter 34)

Response: EPA did evaluate Hecla's request for a variance based on their assertion of uses not feasible to attain due to human caused conditions and also due to hydrologic modifications in the South Fork. As discussed above, as well as in the Decision Document (proposed denial, August 12, 2004), EPA carefully evaluated the information Hecla presented as well as other readily available information. EPA spent considerable time analyzing the data and information contained in numerous technical reports from 1993 through the present. EPA concluded that Hecla had not made the necessary demonstration as set forth in the applicable regulations. Therefore a variance was not justified based on Hecla's claims.

EPA is aware there are situations where use attainability analysis (UAA) claims have adequately demonstrated the factor - "not feasible to attain the use due to human caused conditions and/or hydrologic modifications". A UAA which Idaho Division of Environmental Quality (IDEQ) submitted for Blackbird and Westfork Blackbird Creek at the Blackbird Mine, which addressed these same factors as a variance in 131.10(g), adequately demonstrated these exact assertions, and EPA approved the use attainability analysis.

Comment # 11 - "If the basis for EPA denial is that the designated uses below Wallace on the South Fork are attainable (although currently impaired) we believe that such a finding is arbitrary and contrary to the various studies cited in Hecla's request for variance. Lucky Friday's variance request was not a use attainability analysis, as we understood that such an analysis was not necessary."

(commenter 34)

Response: EPA did not determine that the cold water biota use below Canyon Creek on the South Fork is attainable. EPA's denial of Hecla's request for a variance based on 40 CFR 131.33(d)(iii) is based on Hecla's failure to show that the cold water biota use is not feasible to attain and human caused conditions can not be remedied in both the upper and lower South Fork (Decision Document, proposed denial August 12, 2004, p.14).

EPA reviewed Hecla's claims and studies and responded to them with respect to the upper South Fork and the lower South Fork. In doing so, EPA determined that with respect to the lower South Fork (that part of the South Fork below Canyon Creek (which is also the same as the South Fork below Wallace) Hecla did not demonstrate in its submittal that the cold water biota use is unattainable, only that it is impaired below Canyon Creek. Hecla's statements with respect to the Interim ROD as well as the other documents which were submitted and cited, do not demonstrate that the cold water biota use below Wallace is not attainable, but simply that it will take considerable time and resources to attain the use at sometime in the future. EPA does not agree that this is a basis for concluding that "it is not feasible to attain the use." (Decision Document, proposed denial August 12, 2004)

EPA's analysis in the proposed denial showed that 1) technology for treatment is available and feasible to put in place at the Hecla Lucky Friday Mine, 2) remediation in the Coeur d'Alene Basin is progressing and 3) water quality and ecological conditions are improving which suggests that the cold water biota use is partially attained. These conclusions suggest that attaining the use and remedying the human caused conditions due to mining is possible in the South Fork. Hecla has not provided additional information since EPA's proposed denial that would refute these conclusions.

Even if Hecla had demonstrated that the cold water biota use is not attainable in the lower South Fork, this would not be a basis for EPA to grant a variance to Hecla Lucky Friday. As EPA discussed in comment #7 the cold water biota use is now attained in the upper South Fork and any relaxation of the effluent limits in the NPDES permit would allow the discharge to exceed the site-specific criteria which protect that use.

Hecla can not construct a case for a variance based on use attainment conditions in the lower South Fork because Lucky Friday's discharge is a relatively minor contributor of the loading of cadmium, lead and zinc below Canyon Creek. EPA believes that the conditions below Canyon Creek (Wallace) have bearing on facilities which discharge to that part of the South Fork, or facilities which impact or are impacted by the use attainment issues in that area. EPA believes the water quality of the South Fork above Canyon Creek are most relevant in reviewing whether the requirements for a variance for Lucky Friday have been met.

As to Hecla's comment regarding UAA, EPA agrees that Hecla is not required to perform a UAA. However some of those factors to be considered for a UAA (40 CFR Part 131.10(g)) are the same as for a variance. 40 CFR 131.33(d). Therefore, the analyses required for either a variance or a use attainability analysis (UAA) are similar. EPA Guidance states that the variance procedures involve the same substantive and procedural requirements as removing a designated use (an UAA), but unlike use removal, variances are both discharger and pollutant specific, are time-limited and do not forego the currently designated use. (Water Quality Standards Handbook: Second Edition, 1994, pg. 5-12)

F. SAIC's Technical Feasibility Report

Hecla had several criticisms of the SAIC report (Technical Feasibility of Reducing Zinc, Lead, and Cadmium Levels in Mining Waste Waters From the Hecla Mining Company Lucky Friday Mine, SAIC, June 24, 2004). Hecla's comments are directed toward challenging the appropriateness of SAIC's selection of pollution control technology and the associated costs of treatment. However, Hecla's comments on the report do not provide a basis for EPA to revise its analysis of Hecla's variance request or EPA's decision to deny the variance. EPA's analysis considered both the treatment cost estimate in the SAIC report and Hecla's higher treatment cost estimate. EPA's analysis concluded that even Hecla's higher cost estimate was feasible and therefore would not result in substantial and widespread economic and social impact. EPA is responding to the comments as follows.

Comment # 12 - Hecla commented that the SAIC report was based on a previous 1998 SAIC report and that the report did not discuss any innovative technologies as available since their 1998 review.

(commenter 34)

Response: SAIC did not need to review the use of innovative technologies, since SAIC identified that a more readily available technology exists (sulfide precipitation) that can meet the cadmium, lead, and zinc limits in the permit. In documents submitted to EPA, Hecla (Hecla Water Treatment report) and Hecla's contractor CENTRA also identified non-innovative precipitation technologies that can meet the permit limits.

Comment # 13 - Hecla commented that the "Hydroxide Precipitation" and "Sulfide Precipitation" reviews are suspect without consideration of hydrodynamics and/or hydrometallurgy for the water to be treated. Hecla commented that SAIC has completely misrepresented hydroxide precipitation without stating that bench scale and/or pilot testing will better demonstrate treatment efficiency. Hecla selected hydroxide precipitation technology. SAIC added additional technology without evaluation of the hydrodynamics associated with mixed-metal solutions being treated.
(commenter 34)

Response: In their report, SAIC acknowledged that estimates of metal removal by precipitation as hydroxides should be treated carefully "... because over simplification of theoretical solubility data can lead to errors of several orders of magnitude." (see last paragraph of "Hydroxide Precipitation" section of the SAIC report). The same could be said of estimates of metal removal based solely on the theoretical metal sulfide solubility curves. As discussed in response to the following comment, SAIC did not rely solely on theoretical metal solubility curves in identifying a treatment technology for the Lucky Friday wastewater.

EPA agrees that bench and pilot scale testing is important to determine wastewater specific treatment efficiencies. Regardless, as stated in the opening paragraph, EPA evaluated Hecla's variance request based on both the treatment train and costs identified by Hecla and as estimated by SAIC, and concluded that even Hecla's higher cost estimate was economically feasible and therefore therefore would not result in substantial and widespread economic and social impact.

Comment # 14 - Hecla commented that SAIC's comparison of Red Dog and Lucky Friday is not appropriate since the facilities are very different (e.g., influent pH, influent metal concentrations, proposed effluent limits, process facility design, etc.).
(commenter 34)

Response: EPA agrees that there are differences in wastewater characteristics between Red Dog and Lucky Friday. SAIC used Red Dog as an example to show that sulfide co-precipitation technology could achieve limits similar to those in the Lucky Friday permit. This was only one factor that influenced SAIC's selection of sulfide co-precipitation as a reasonable treatment technology for the Lucky Friday

wastewater. SAIC also considered theoretical solubility of metal sulfides, published reports of precipitation of metals via sulfides (see footnotes 5, 6, and 7 of the SAIC report), and information in the CENTRA report. The CENTRA report also identified sulfide co-precipitation as the treatment technology for the Lucky Friday wastewater.

Comment # 15 - Hecla criticized some of the costs used in SAIC's analysis, including the costs for: the lime storage and feed equipment, the coagulation/clarification equipment, the factors applied to calculate piping, electrical, instrumentation, and engineering and construction management.
(commenter 34)

Response: EPA tasked SAIC to determine a treatment technology that could achieve the cadmium, lead, and zinc limits in the Lucky Friday permit and estimate the cost of treatment. SAIC estimated costs based on their engineering judgement and selected unit costs based on the CENTRA report, vendor quotes, and factors discussed in the SAIC report. SAIC estimated wastewater treatment capital and operating costs of \$3.97 million and \$311,000/year, respectively. Hecla estimated capital and operating costs of \$5.5 million and \$387,000. Regardless, as stated in the opening paragraph, EPA evaluated Hecla's variance request based on both Hecla's cost estimate and SAIC's cost estimate, and concluded that even Hecla's higher cost estimate was economically feasible and therefore would not result in substantial and widespread economic and social impact.

G. Superfund Record of Decision (ROD) and Natural Resource Damage Assessment

Comment # 16 - "In the Superfund context EPA understands that water quality standards are a goal and not the standard by which this interim ROD will be evaluated over the next 30 years. If it makes sense that the Superfund remedy first phase is expected to take 30 years without achieving water quality standards, it seems reasonable that a mere 5 year variance for the Lucky Friday Mine discharge also should make sense."
(commenter 36)

Response: The comment that the water quality standards are a goal and not the standard which the Superfund Interim ROD will be evaluated over the next 30 years is correct. EPA also agrees that the remedies in the Interim ROD are expected take 30 years and that even after the implementation of the Interim ROD that in some areas of the Basin it is likely that the water quality standards will not be met. However, there are two important points to note - 1) in the vicinity where Hecla Lucky Friday discharges, the water quality criteria are being attained most of the time and the aquatic life community is generally in good condition, 2) regardless of the statements about the Interim ROD, any point source, (which includes those facilities with NPDES permits), established under the remedy (e.g., a water

treatment facility or operating mine) would need to meet water quality standards (WQS) at the point of discharge. The Lucky Friday Mine is such a point source, and therefore, is expected to meet all applicable WQS, at this time; regardless of the fact that the implementation of the Interim ROD will take 30 years.

However, the compliance schedule and interim effluent limits provisions in the permit effectively provides Hecla with the same relief as a variance would, 5 years until the final effluent limits for certain metals would need to be met.

Comment # 17 - "...EPA contradicts the report of their own expert witness in the NRD lawsuit (Dudley W. Reiser - August 31, 1999). Reach 4 of the site pairings (South Fork Paired with similar reach of the St. Regis reference stream) contains 4 separate sites, all of which are below Lucky Friday discharges. The Reiser report states that fish density "was significantly greater in the SF at site pairing 4.""
(commenter 34)

Response: EPA reviewed the Expert Report of Dudley W. Reiser, PH.D., August 31, 1999. EPA's summary of the conditions in the South Fork as discussed in EPA's Decision Document (proposed denial, August 12, 2004) are consistent with the conclusions and opinions of Dudley Reiser. His conclusions and opinions as summarized in that report are as follows (Expert Report of Dudley W. Reiser, Ph.D. (Aug. 31, 1999) (unpublished report in docket for UNITED STATES of America, Plaintiff v. Asarco Incorporated, et al. No. 96-10122-N-EJL and Case No. 91-9342-N-EJL, 1999 WL 33313132 (D.Idaho, Sept. 30, 1999, pages 6-1 through 6-2).

"Fish populations in the SFCDA River are influenced by anthropogenic factors including mining, metals toxicity, channelization. The degree to which each of these factors has impacted the populations varies spatially and in some cases temporally."

This conclusion is consistent with EPA's analysis. EPA concluded that the water quality condition and the health of aquatic species in the South Fork varies from the upper South Fork to the lower South Fork

"Wild trout populations in the SFCDA River below Canyon Creek is controlled primarily by high concentrations of zinc, cadmium and lead."

This conclusion is consistent with EPA' analysis. EPA concluded that fish populations are impaired in the South Fork below Canyon Creek.

"Wild trout populations in the SFCDA River above Canyon Creek are controlled more by physical habitat and channel alteration and basin scale

factors than by elevated metals concentrations. The high abundance of wild trout in the South Fork above Canyon Creek, near Mullan, occurred in spite of the channel being extensively channelized and total and dissolved zinc concentrations exceeding the criteria. The concentrations of metals in the very upper most reaches (headwaters) of the SFCDA River were well below the water quality criteria for these metals."

EPA reviewed Reiser's work and concluded that it is consistent with EPA's conclusion that the cold water biota use is attained in the upper South Fork. Reiser's analysis found a high abundance of trout above Canyon Creek in spite of some elevated levels of zinc and channel modifications. In our review of the water quality data EPA acknowledged there were some exceedances of cadmium and zinc below the Lucky Friday discharges. (Decision Document proposed denial August 12, 2004 p.12).

Resier's conclusions do not contradict EPA's analysis and conclusions in the Decision Document (proposed denial August 12, 2004).

Hecla's statement that Reiser measured greater fish density at site pairing 4 (below Hecla Lucky Friday) in the South Fork compared with the reference site for the St. Regis River is correct. However, EPA does not find this statement supportive of Hecla's claim that the cold water biota use is not attainable. In fact, Reiser's statements and findings regarding site pairing 4 only further support EPA's conclusion that resident fish populations exist in the South Fork below the Lucky Friday discharges and therefore the cold water biota use is attainable.

H. EPA should Re-examine the Proposal to Deny the Variance

Comment # 18 - Lucky Friday is entitled to some regulatory relief under the variance process (commenter 34)

Response: As stated previously, the applicable water quality standards regulations require an applicant to provide information to EPA which would demonstrate that a variance is warranted for any of one of the six conditions defined in the regulations (40 CFR at 131.10(g)). A facility is not entitled to regulatory relief under the variance process without having provided that demonstration. EPA determined that Hecla had not made the required demonstration.

However, Lucky Friday Mine was provided regulatory relief from the final effluent limitations in the NPDES permit via a compliance schedule and interim limits. In accordance with the State of Idaho's 401 certification, EPA incorporated interim effluent limits for cadmium, lead, zinc, and mercury that are in effect during the five year compliance schedule (note that these are interim

"limits" not "standards"). These interim limits are based on the current performance of the facility (current discharge levels). As discussed in EPA's Response to Comments on the Lucky Friday NPDES permit, IDEQ authorized a five year compliance schedule for cadmium (outfall 001 only), lead, mercury, and zinc in their final CWA Section 401 certification. The compliance schedule requirements in the certification were included in Part I.A.4. of the final permit. In summary, Lucky Friday has, in essence, been provided 5 years (from the date of permit issuance) of relief from the regulatory requirement of meeting the final effluent limits for these metals.

Comment # 19 - In order for the Lucky Friday to maintain continued economic viability it is critical for EPA to exercise additional flexibility on certain permit requirements which would be less costly to the Lucky Friday. EPA should consider these permit issues again on deciding whether to grant Helca's variance request.
(commenter 34)

Response: EPA conducted a detailed review of financial information on Hecla and Lucky Friday Mine. On the basis of this review, EPA concluded that installing available treatment technologies to meet its permit limits would be unlikely to substantially alter its activities or planned investments at the Lucky Friday Mine. Therefore, EPA found that the permit requirements would not result in substantial and widespread impacts, and a variance is not warranted.

EPA establishes permit limits based on attaining water quality standards, but does not specify or require the mix of controls and treatment technologies needed to achieve those limits. Thus, this gives Hecla maximum flexibility to install the least costly mix of controls and treatment technologies needed to meet its permit limits.

L Economic Considerations

Comment #20 - EPA chose to wait until the first period of reasonable silver prices to issue its decision and based that decision on the recently improved silver price.
(commenters 34,36)

Response: This conclusion by Hecla and Coeur is based on an incorrect interpretation of EPA's assumptions underlying its analysis. The EPA analysis did not rely on "one year of silver prices" or the "prices of the last few months."

EPA's analysis was based on information provided by Hecla and concluded that the historical results and figures were not an appropriate basis for evaluating the Lucky Friday situation. EPA also concluded that the appropriate basis for its analysis was to reference Hecla's forward-looking analysis, which includes

forecasted prices for the period 2004 through 2011. Hecla's forward-looking analysis was conducted in late 2003 to determine whether it should proceed with constructing a 5500 foot drift at the 5900 level of the Lucky Friday Mine, a major new project essential to Lucky Friday's continued viability and would cost approximately \$8 million. Hecla announced its decision to go forward with this project in December 2003, a decision based on the company's pricing assumptions for 2004 to 2011. Thus, EPA's use of Hecla's pricing assumptions reflected the company's analytical approach.

EPA analyzed the estimated costs of water pollution controls necessary to meet the water quality standard based permit using Hecla's estimated costs and forecasted prices, and concluded the impact of the water pollution control project would not be sufficient to deter Hecla's investment in the new drift.

Comment #21 - EPA's numerous recent requests for information, made more than two years after Hecla-Lucky Friday Mine filed its request, were merely efforts to gain data to support a decision already made.
(commenter 34)

Response: When making its decision on a variance request, EPA first waits until all of the relevant analyses are completed, including the substantial impacts (i.e., financial) analysis. In the process of conducting this type of analysis it is important that EPA is aware of the entity's current and if available, future financial and operating conditions. Though the agency may already have certain information previously provided by the applicant, that information may have to be updated. For example, EPA may request clarification on information already provided by the applicant, or based on information already provided to EPA the agency may learn about a related issue and requires additional information from the applicant to better understand that issue. So while EPA does request information that ultimately can be used as a basis for its decision, no decision can be made without first obtaining that information.

In this case, Hecla-Lucky Friday Mine's initial submission raised a number of questions and issues that required a series of correspondence between EPA and Hecla. EPA found that some of the information provided by Hecla required clarification, including: questions regarding the accuracy of certain of Hecla's calculations, the basis for Hecla's calculations, and the specification from Hecla as to which information it was requesting confidentiality for. As time passed, EPA was obliged to take into account the evolving financial situation for the Lucky Friday Mine and Hecla, and requested updates to assure that EPA's decision was based on up-to-date information.

Comment #22 - EPA did not feel obligated to review any further the potential impacts upon the

community.
(commenters 31, 34, 36)

Response: EPA's Interim Guidance (section 3) indicates that,

"If the analysis shows that the entity will not incur any substantial impacts due to the cost of pollution control (e.g., there will be no significant changes in the factory's level of operations nor profit), then the analysis is completed."

EPA has concluded, based particularly on Hecla's forward-looking plans for the operation of the mine, that the pollution control costs will not cause any significant change in the Mine's level of operations. In arriving at its decision, EPA focused on Lucky Friday's expansion program (i.e., the 5900 level drift project), including an increase in production to 100 percent capacity; the significantly improved and continuing level of silver prices which directly relates to improved revenues for the Mine; and the expected increase in the Mine's property value.

In addition, EPA takes particular notice of Hecla's optimistic and positive discussion of the Lucky Friday Mine prospects in its quarterly financial report for the period ending September 30, 2004. Hecla states in its press release:

"Exploration drilling to the east of the identified reserve envelope at the Lucky Friday has been excellent, extending the strike length of the vein on the 5900 level by almost 250 feet. Drilling to test the westerly strike extension of the deposit is now underway. Hecla anticipates adding additional reserves to the mine next year. Hecla is currently evaluating metallurgical improvements in the mill at the Lucky Friday unit. Preliminary results indicate excellent potential to improve metal recovery and concentrate grades, as well as some potential for additional capacity. Work will commence in the first quarter of next year [2005] to evaluate the ability of the current infrastructure to support an increased level of production above current peak capacity. The mine has been in operation for nearly 50 years and still has more reserves and resources than at most times in its history." (Hecla Press Release, Nov. 4, 2004)

EPA notes that this press release was issued after EPA proposed publicly that it did not intend to grant Lucky Friday's request for a variance on its water permit. It is apparent from its statements that Hecla is continuing to explore and make significant investments in the Lucky Friday facility despite the pending decision on its variance request.

Based on all the analysis and available information, EPA concluded there was no evidence to indicate that the Lucky Friday Mine or Hecla will incur any substantial adverse impact as a result of compliance with the water quality standard based permit. As a result of this conclusion and in accordance with the EPA Guidance as quoted earlier, there are no substantial impacts to further evaluate as to potential impacts on the community.

Comment #23 - The Mullan School District will lose significant revenues if Hecla either proceeds with the addition pollution control investment or shuts down because it cannot afford the pollution control investment.
(commenters 30, 31, 33, 34, 36)

Response: There is no indication at this time that the Lucky Friday mine will shut down rather than comply with EPA's water quality standards based effluent permit. In fact, Hecla did not consider this issue material enough for EPA's proposed variance denial to be mentioned in its third quarter financial results that were submitted to the SEC (Form 10-Q, filed November 9, 2004.) Instead, as discussed in response to Comment #22, Hecla pointedly described the encouraging exploration results and plans for improvements in the mill at the Lucky Friday unit.

Because it is highly unlikely that Lucky Friday will shut down in response to the permit requirement, the issue for the Mullan School District is the impact of the additional pollution control investment on Lucky Friday's property tax payment.

Included in the School District's response to EPA's public comments process to the agency's draft decision was a letter from the Shoshone County Assessor, wherein it states that "The value of the Lucky Friday Mine dropped from \$19,150,550 in 2001 to \$5,595,820 in 2004. *The major factors that caused the value decrease were depressed silver prices, decreased production and limited ore reserves.*"(emphasis added by EPA) In its submissions to EPA, Lucky Friday indicates that it has paid property taxes, the annual amounts paid decreasing each successive year as reflected by the decreasing property values for the Mine for the 2001 - 2004 period. By the time the County Assessor's letter was written (Sept. 13, 2004), all three factors attributed by the County Assessor for the Mine's decreasing property value had reversed, e.g.: (1) silver prices had already begun a significant increase compared to earlier levels, silver prices have maintained the higher levels, and silver prices are projected by Hecla to remain at these higher levels for the foreseeable future; (2) the 5900 level drift project was definitely taking place, thereby enabling Lucky Friday to access and mine additional reserves; and (3), production at the Mine would about double, enabling production to proceed at 100 percent capacity. These current and projected conditions positively impact the three factors cited by the County Assessor

regarding the Mine's value and consequently, these improvements should increase the Mine's value, thereby increasing the Mine's property taxes. It would therefore be a sound assumption that the Mine's property tax payments should increase in succeeding years above its 2003 property tax payment.

Comment #24 - The deductibility of pollution control equipment investments will affect Lucky Friday's payments of county net profits taxes.
(commenters 33, 34).

Response: Commenters provided no specific detail on Lucky Friday Mine's historical payment of county net profits taxes. EPA's review of the CBI financial records provided by Hecla and the Lucky Friday Mine (Memorandums: Coad, Aug. 2, 2004; Feb. 10, 2005), and additional information provided by the School District and public sources, lead EPA to conclude that Lucky Friday's payments of county net profits taxes will not be substantively affected by the pollution control investment necessary to comply with the water quality standards based permit.

When looking at possible net profit tax related benefits foregone to the School District if the pollution control project is implemented, there is not a dollar-for-dollar trade-off between the additional pollution control expenditures and a reduction in the Mine's net profits. For example, starting with the annualized capital and operating costs that the Mine is projected to incur to implement the pollution control project, approximately \$1,135,350 (Exhibit 6: Coad, Aug. 2, 2004) - and assuming a federal/state marginal tax rate of 30 percent, would result in an incremental decrease in the Mine's net profits of approximately \$794,745. Applying a net profit tax rate of .003 (Idaho State Tax Commission 2004) to this amount results in an incremental net profit tax revenue impact of \$ 2,384. For comparative purposes, this amounts to about 0.11 percent of the School District's 2002-2003 Total Revenue and Transfers (see Exhibit 1).

Additionally, the Lucky Friday has until September 2008 to come into compliance which, as indicated in EPA's economic analysis in its public comments, allows the Mine to wait until early 2006 to begin construction, and therefore implementation of the pollution control project would not be an immediate imposition on the Mine's finances.

Exhibit 1				
MULLAN SCHOOL DISTRICT #392				
School year ending June 30	2002-2003	2001-2002	2000-2001	1999-2000
REVENUE				
Taxes	405,890	358,871	451,237	433,095
Other Local	221,955	129,114	105,197	91,275
State Sources	1,247,218	1,277,313	1,180,523	1,179,394
Federal Sources	249,789	112,492	68,549	60,052
Other Sources	0	0	0	0
TOTAL REVENUE	2,124,852	1,877,790	1,805,506	1,763,816
Transfers in	13,491	15,717	19,240	16,381
TOTAL REVENUE AND TRANSFERS	2,138,343	1,893,507	1,824,746	1,780,197
Increase from prior year	12.9%	3.8%	2.5%	
Source: Idaho Department of Education, Complete Financial Summary Manuals, Combined Statement of Revenues & Expenditures with Changes in Fund Balances for Shoshone County, Mullan School District #392. http://www.sde.state.id.us/finance/financialsum.asp				

Comment #25 - EPA's analysis relies on Hecla Mining Company financing the pollution control expenditures. Each unit of the company, such as Lucky Friday Mine, is expected to be self-sufficient and independently sustainable.

(Commenter 34)

Response: The EPA analysis evaluated the question of Lucky Friday's self-sufficiency and sustainability, using the same type of analysis performed by Hecla to determine whether it should make the investment of approximately \$8 million to increase ore reserves and production at the Mine's 5900 level. The EPA analysis indicated that even with the estimated pollution control costs, Lucky Friday would produce a more than sufficient return to justify continuing in business, remaining independently sustainable, and still able to support necessary financing costs.

The Mine's first option for financing the pollution control project is through its cash flow. If annual cash flow is insufficient to cover the Mine's capital investment costs, then Hecla could finance these costs or obtain financing from other sources (as indicated by Hecla in a July 11, 2003 letter to EPA). Hecla's own submissions indicate that historically it has financed Lucky Friday.

Table 1. Summary of Comments Received on EPA's Proposed Decision to Deny a Variance to Hecla Lucky Friday Mine, Coeur d'Alene, Idaho

Commenter #	Date Received	Name & Address of commenter	Summary of Comment
1	9/23/2004	Justin Hayes, Program Director, Idaho Conservation League, PO Box 844, Boise, Idaho 83701	Supportive of EPA's decision. ICL's analysis concludes that treatment options for Hecla's discharge are available and affordable. Remediation in the CDA Basin is progressing and the WQ and overall health of the basin is improving. Hecla's compliance w/ WQS and permit conditions would contribute to the overall improvement on WQ in the SFCDA. Hecla is a multi-national mining corporation w/ assets in the hundreds of millions of dollars. Hecla reports that it will have \$111.1million in cash on hand in 2005.
2	9/29/2004	Charles E. Corsi, Regional Supervisor, Panhandle Region, 2750 Kathleen Avenue, Coeur d'Alene, ID 83815, Idaho Fish and Game.	Supportive of EPA's decision to deny Hecla's request for variances from WQS for the SF-CDA river. Granting variances would lower the water quality throughout the CDA basin and could jeopardize improvement that have occurred. Improve condition could mean increased in fishing opportunities as well as recreational opportunities for the public.
3	9/30/2004	Mike Petersen, The Lands Council, , 423 W. First Ave., Suite 240, Spokane, WA 99201	Supportive of EPA's decision. The Lands Council agrees to EPA decision. Installation of necessary wastewater treatment at the mine will reduce the levels of metals entering SF-CDA River. The ecological conditions for the existing aquatic life in the river, the native population of west-slope cutthroat trout will improve due to the improving water quality condition..

Commenter #	Date Received	Name & Address of commenter	Summary of Comment
4	9/27/2004	Mike Mihelich, Kootenai Environmental Alliance, P.O. Box 1598, Coeur d'Alene, ID 83816-1598	Supportive of EPA's decision. Citing the Idaho WQS at IDAPA 58.01.02.050.02a and 02b which contains the language: Wherever attainable, surface waters of the state....The WQS cited in IDAPA do not indicate the requested metals variances would be in compliance with a number of Idaho WQS.
5	9/27/2004	Judy Plant, E-mail: sewingfortun@msn.com .	Supportive of EPA's decision to deny Hecla's request for variances to WQS.
6	9/27/2004	Nora J. Cooper, E-mail: nicooper@adelphia.net .	Supportive of EPA's decision to deny Hecla's request for variances to WQS. Agrees for requiring Hecla to build a WWTP at the mine in Idaho rather than dumping their pollution into SF-CDA River.
7	9/28/2004	Glida Bothwell, E-mail: glida@earthlink.net .	Supportive. Grateful for EPA's decision to deny Hecla's request.
8	9/28/2004	Laird Erman, E-mail: lerman@cox-internet.com .	Supportive. Grateful for EPA's decision to deny Hecla's request.
9	9/28/2004	John Foss, E-mail: john.foss@hp.com , 5629 N. Cattail Way, Boise, ID 83714	Supportive. Grateful for EPA's decision to deny Hecla's request. Given that Hecla has sufficient financial resources and a viable solutions at their disposal, the decision to enforce the water quality was a good one. The result will contribute to a healthier basin.
10	9/28/2004	Robert Walker, E-mail: rjwalker@neiu.edu , 900 Drake Rd., Glenview, IL 60025	Supportive of EPA's decision to deny Hecla's request for variances from WQS for the SF-CDA river. Exploitation of this type of natural resource must be controlled.
11	9/28/2004	Fred Rabe, E-mail: fredr@uidaho.edu , Professor Emeritus, University of Idaho, Moscow, ID 83843	Supportive of EPA's decision to deny Hecla's request for variances from WQS for the SF-CDA river.

Commenter #	Date Received	Name & Address of commenter	Summary of Comment
12	9/27/2004	George Alderson, E-mail: george7096@comcast.net , George & Frances Alderson, 112 Hilton Ave., Baltimore, Maryland 21228.	Supportive of EPA's decision to deny Hecla's request for variances from WQS for the SF-CDA river. Responsible corporations have long recognized that compliance with water and air quality standards is an integral part of doing business, and it is part of a company's role as a good citizen.
13	9/27/2004	Robert Vestal, E-mail: rvestal@mindspring.com , Robert E. Vestal, MD, 3475 W. Breneman, St., Boise, Idaho 83703-5559	Supportive of EPA's decision to deny Hecla's request for variances from WQS for the SF-CDA river. Hecla has plenty of money to construct the necessary WWTP in order to protect the SF-CDA river and the downstream waer system.
14	9/27/2004	Robert C. Rogero, E-mail: rcrogero@aol.com , 12678 Deer Ridge Trail, Nampa, ID 83686	Supportive of EPA's decision to deny Hecla's request for variances from WQS for the SF-CDA river. As a shareholder, expects management to operate the company in a profitable manner. At the same time management is responsible to protect the environment, and not pollute unnecessarily.
15	9/20/2004	Rocky Hill, President, Silver Valley Community Resource Center, P.O. Box 362, Kellogg, ID 83837	Supportive of EPA's decision to deny Hecla's request for variances from WQS for the SF -CDA River. Silver Valley's concern are the discharge limits pertaining to the Hecla's NPDES permits pertaining to lead, cadmium, and zinc stds.
16	9/13/2004	Thomas J. Kane, 745 N. 3 rd Street, Coeur d'Alene, ID 83814	Supportive of EPA's decision. Opposed to granting Hecla a variance. Concern about the pollution in the area.
17	8/19/2004	Sharon & David Seitz, (Coeur d'Alene, ID) e-mail: idsophie@adelphia.net	Supportive of EPA's decision. Do not allow Hecla to release more metals to the SF-CDA River which flows into CDA Lake that is already polluted.

Commenter #	Date Received	Name & Address of commenter	Summary of Comment
18	8/19/2004	Iris J. Byrne, E-mail: ijbyrne@imbris.com	Supportive of EPA's decision. Through research and experience in working w/ political campaigns and attending mtgs organized network of people w/ mining interest (Natural Res., Coalition) pretend to represent community. Be aware of the extent of their network.
19	8/20/2004	Al Espinosa, Fisheries Scientist, 735 Vista Street, Moscow, ID 83843, E-mail: spinedog@adelphia.net	Supportive of EPA's decision to deny Company's request for a variance. Company must not be allowed to discharge more heavy metals in th SF-CDA River. CDA basin and its resources have suffered enough pollution and degradation.
20	8/25/2004	Brad & Deb Holmes, E-mail: holmes0801@usamedia.tv	Supportive of EPA's decision to deny Hecla the request for variance. Preventing the company to dump metals into river.
21	8/30/2004	Frank & Cecilia Walls, 6 W 27 th Avenue, Spokane, WA 99203-1848	Supportive of EPA's decision denial of variance from WQS. Mining companies had ample time to improve the WQ but failed to do so.
22	8/27/2004	Gary Passmore, E-mail: gary.passmore@colvilletribes.com	Supportive of EPA's decision to deny Hecla's request for variances from WQS for the SF-CDA River. Sediment analysis performed by USGS has documented that metal contaminants from CDA WS are working their way down the Spokane Rvr into the Col River (Lake Roosevelt) part of which is on the Colville Indian Reservation. WS contamination must be controlled from the top down, not visa versa. EPA's Indian Policy recognizes the federal govt's responsibility to protect land, water, and air resources held in trust for Indian tribes.

Commenter #	Date Received	Name & Address of commenter	Summary of Comment
23	8/29/2004	Anne Salisbury, 620 Ridge Road, Moscow, ID 83843	Supportive of EPA's decision. Strongly feel that Hecla not be granted the variance. To continue to pollute our water even though it has been polluted in the past, would have greater economic and social impact that consequences borne by Hecla in complying with the protection laws.
24	10/08/2004	Valerie Chamberlain	Supportive of EPA's decision. Cadmium and lead are dangerous to humans and zinc is unhealthy for fish. Please continue your good work of cleaning up our waterways.
25	9/08/2004	Kenneth & Joann Branstetter, E-mail: jokenb@ipbris.net	Opposed to EPA's decision. Request for Public Hearing. Concerned that EPA is planning to spend millions of \$\$\$ cleaning up something that does not need cleaning. Commenter thinks we are putting the Valley down instead of helping the Valley to comeback to life.
26	9/9/2004	Rose M. Zieja, P.O. Box 863, Osburn, ID 83849-0863	Opposed to EPA's decision to deny Hecla the request for variances from cadmium, lead, and zinc. Concerned that the amount of pollutant discharged (Zinc) into the SF by Lucky Friday and Galena is minute (1.3#) compared to what is dumped by the Central Impoundment Area of the Bunker Hill site) 1400#) operated by the agency.
27	9/01/2004	Ray Yount	Opposed to EPA's decision. Concern of financial impact to the company and community. (The EPA has skipped over CDA Lake's problems, and almost considers it virgin waters. What a bunch of self-serving hooley.
28	9/01/2004	Vineta R. Spencer, 99 Green St., Kingston, ID 83839	Opposed to EPA's decision. Concern where the figures and the science that supports the Agency's decision. Decision need to be based on real needs and logical thinking.

Commenter #	Date Received	Name & Address of commenter	Summary of Comment
29	8/21/2004	Jim Hollingsworth, 3130 Cherry Lane, Coeur d'Alene, ID 83815, E-mail: jimhollingsworth@abcinet.net	Opposed to EPA's decision. Hecla should be granted a variance. Concern that if it becomes harder and harder to mine. They will have no mines in Idaho. EPA must be careful what to require of the mining companies that still exist in Idaho.
30	8/25/2004	Robin Stanley, Box 268 Silverton, ID 83867	Opposed to EPA's decision. Concerned about the impact of EPA's decision to deny a variance to Hecla. The economic impact of reallocation of Lucky Fridays resources will have in the infrastructures of the community. Due to economy's hardship from previous EPA lawsuits, threat of lawsuits and environmental regs hanging over the primary industry.
31	9/28/2004	Robin Stanley, Facilitator, Shoshone Natural Resource Coalition, P.O. Box 1027, Wallace, ID 83873.	Opposed to the Agency's decision; requesting for reconsideration to allow the Company and the communities of Shoshone County the opportunity to recover from the past twenty years of economic depression, and additional time to develop the resources necessary to address the clean water issues without further exacerbating the tax shift issue in Shoshone County.
32	9/17/2004	Lisa Carney, P.O. Box 93, Cataldo, ID 83810	Opposed to the Agency's decision; to demand improvements go beyond reasonable and extend to the point of unreasonable financial expenditures and threaten the existence of the company.
33	9/13/2004	Doug Jutila, Chairman, Mullan School Dist., Board of Trustees, P.O. Box 71, Mullan, ID 83846.	Opposed to the Agency's decision. The fiscal impact this standard will create at the Mullan School Dist., and the community.
34	9/29/2004	Mike Dexter, General Manager, Lucky Friday Mine.	Opposed to Agency's decision. Numerous concerns raised over a number of different issues.
35	10/11/2004	Bonita Erickson, Clerk, Mullan School Dist., re Lucky Fridays Market Value.	Opposed to EPA's decision. Lucky Friday Market Value, Tax Levies for School Purposes,

Commenter #	Date Received	Name & Address of commenter	Summary of Comment
36	9/28/2004	Harry Cougher, VP/GM Coeur Silver Valley, Inc.,	Opposed to the Agency's decision; the timing of EPA response; relationship of operating units; relationship to Superfund record of decision.
37	9/18/2004	Harry & Mary Winkler, P.O. Box 632, Pinehurst, ID 83850	Opposed to EPA's decision. Suggest EPA provide a 5-yr extension on the variances. Concerned on both economy and environment.
38	9/13/2004	Berniece Rife, Box 147, Silverton, ID 83867	Opposed to EPA's decision. Request for a Public Hearing. Would like to get the mine in full production, concern about the Economic Benefit.

References

Coad, G. 2004. Memorandum from Gail Coad, Industrial Economics, Inc., to Lisa Macchio, U.S. EPA Region 10. August 2, 2004.

Coad, G. 2005. Memorandum from Gail Coad, Industrial Economics, Inc., to Lisa Macchio, U.S. EPA Region 10. February 10, 2005.

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Hecla Press Release. November 2004. "Hecla Releases Third Quarter Financial Results, Advances Exploration and Development Projects", November 4, 2004, Business Wire.

Hecla Mining Company. Form 10-Q, for the period ended September 30, 2004. Filed with the U.S. Securities and Exchange Commission on November 9, 2004.

Idaho Tax Commission. 2004 (December 14). Boise, Idaho. Personal communication between Allen Dornfest and Elliot Rosenberg, EPA.

U.S. EPA. 1994. Water Quality Standards Handbook, Second Edition, EPA-823-B-94-005a. August 1994.

U.S. EPA. 2003. Letter from EPA to Hecla, February 3, 2003.

U.S. EPA 2004. Decision Document, August 12, 2004. The U.S. Environmental Protection Agency, Proposes to Deny a Request for a Variance to Water Quality Standards for the discharge of metals from the Hecla Lucky Friday Mine.

U.S. EPA. 2005. Memorandum from Elliot Rosenberg to Lisa Macchio, Subject: Hecla Lucky Friday Mine: Response to Mullan School District's Assertion, re: Net Profits Tax Reductions, March 2, 2005

Appendix F

FACT SHEET FOR PERMIT REMAND AND MODIFICATION PROCEEDINGS



NPDES Permit Number: ID-000017-5
Public Notice Start Date: June 21, 2005
Public Notice Expiration Date: July 21, 2005
Technical Contact: Patty McGrath, (206) 553-0979
1-800-424-4372 (within Region 10)
mcgrath.patricia@epa.gov

The U.S. Environmental Protection Agency (EPA) Proposes to Modify a National Pollutant Discharge Elimination System (NPDES) Permit To:

Hecla Mining Company
Lucky Friday Mine and Mill
P.O. Box 31, Mullan, Idaho 83846

EPA Proposes NPDES Permit Modification.

Region 10 of the EPA (Region 10) proposes to modify some of the requirements contained in the NPDES permit for the Lucky Friday Mine site. The permit sets conditions on the discharge of pollutants from the Lucky Friday mine and mill facilities to the South Fork Coeur d'Alene River (SFCdA or South Fork). In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged.

Specifically, the Region is proposing to modify the mercury effluent limits, some of the copper effluent limits, some of the compliance schedule requirements, the schedule for conducting the seepage study, and the schedule for the bioassessment monitoring. In addition, the Region is proposing new effluent limits for Total Suspended Solids (TSS) based on the Suspended Solids TMDL for the South Fork. The remainder of the permit conditions are not subject to this modification. Therefore, the Region is requesting comments only on the proposed modified conditions.

This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures
- a description of the conditions from the permit the Region issued in 2003 that the Region is today proposing to modify
- a map and description of the area where the Lucky Friday Mine is located
- technical information supporting the draft modified permit conditions

The State of Idaho Proposes Certification.

Most of the changes proposed in today's action are based on a revised Clean Water Act Section 401 certification issued by the Idaho Department of Environmental Quality (IDEQ) on July 15, 2004. The revised certification did not address the new proposed TSS limits. Persons wishing to receive a copy of the July 15, 2004 revised 401 certification should contact IDEQ at the following address: Ed Tulloch at Idaho Department of Environmental Quality, Coeur d'Alene Regional Office, 2110 Ironwood Parkway, Coeur d'Alene, Idaho 83814 or phone number (208)769-1422, or etulloch@deq.state.id.us.

Public Comment on the Draft Modified Permit.

Persons wishing to comment on or request a public hearing for the draft permit modification may do so in writing by the close of the public comment period. A request for a public hearing must state the nature of the issues to be raised. All comments and requests for public hearings must be in writing and include the commenter's name, address, and telephone number and either be submitted by mail to Office of Water Director at U.S. EPA, Region 10, 1200 - 6th Avenue, OW-135, Seattle, WA 98101; submitted by facsimile to (206) 553-0165; or submitted via e-mail to mcgrath.patricia@epa.gov.

After the comment period ends, and all comments have been considered, EPA's regional Director for the Office of Water will make a final decision regarding permit reissuance. If comments are received, the Region will address the comments prior to permit issuance.

Documents are Available for Review.

The draft NPDES permit modification and related documents can be reviewed or obtained by visiting or contacting EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday (see addresses below).

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, OW-130
Seattle, Washington 98101
(206) 553-0979 or 1-800-424-4372 (within Alaska, Idaho, Oregon, and
Washington; ask to be connected to Patty McGrath)

The draft NPDES permit modification and fact sheet are also available at:

EPA Coeur d'Alene Field Office
1910 NW Boulevard
Coeur d'Alene, Idaho 83814
(208) 664-4588

Idaho Department of Environmental Quality
Coeur d'Alene Regional Office
2110 Ironwood Parkway
Coeur d'Alene, Idaho 83814
(208) 769-1422

Wallace Public Library
415 River Street
Wallace, Idaho
(208) 752-4571

The draft NPDES permit modification and fact sheet can also be found by visiting the Region 10 website at www.epa.gov/r10earth/water/npdes.htm.

For technical questions regarding the permit or fact sheet, contact Patty McGrath at the phone numbers or email address at the top of this fact sheet. Those with impaired hearing or speech may contact a TDD operator at 1-800-833-6384 (ask to be connected to Patty McGrath at the above phone number). Additional services can be made available to persons with disabilities by contacting Patty McGrath.

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APPENDIX A - LOCATION MAP

APPENDIX B - DEVELOPMENT OF EFFLUENT LIMITATIONS

APPENDIX C - EXAMPLE WATER QUALITY-BASED EFFLUENT LIMIT
CALCULATION

LIST OF ACRONYMS

BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BPT	Best Practicable Control Technology
CFR	Code of Federal Regulations
cfs	cubic feet per second
CV	coefficient of variation
CWA	Clean Water Act
EAB	Environmental Appeals Board
ELG	Effluent Limitation Guidelines
EPA	Environmental Protection Agency
IDEQ	Idaho Department of Environmental Quality
LTA	Long Term Average
MDL	method detection limit
mgd	million gallons per day
MZ	mixing zone
NPDES	National Pollutant Discharge Elimination System
RP	Reasonable Potential
RPM	Reasonable Potential Multiplier
SFCdA	South Fork Coeur d'Alene
s.u.	Standard units
TMDL	Total Maximum Daily Load
TSD	Technical Support Document (EPA 1991)
TSS	Total Suspended Solids
WET	whole effluent toxicity
WLA	Wasteload Allocation

I. APPLICANT

Hecla Mining Company

NPDES Permit No.: ID-000017-5

Mailing Address: P.O. Box 31, Mullan, Idaho 83846

Facility Location: approximately 1 mile east of Mullan (see Appendix A for a map)

Facility Contact: Mike Dexter, General Manager

II. FACILITY ACTIVITIES

The Lucky Friday Mine is a silver, lead, and zinc mine and mill located in Shoshone County, Idaho, just north of the South Fork Coeur d'Alene River (SFCdA River or South Fork) and approximately 1 mile east of Mullan. The mine and mill are owned and operated by the Hecla Mining Company (Hecla). Ore has been mined from the Lucky Friday deposit since 1942. The Lucky Friday mill has been in operation since 1959, with periods of temporary closure.

The ore is mined via underground methods and conveyed to the mill. Mill operations include crushing, grinding, and flotation to produce a silver-lead concentrate and a zinc concentrate. The concentrates are transported off-site for refining. Tailings (the residuals from the mill) are separated via hydrocyclones to produce a coarse and fine product. The coarse tailings are used to backfill the mine. The fine tailings are piped in a slurry from the mill to tailings pond no. 3.

Wastewater is discharged from the facility to the SFCdA River via the following outfalls (see Appendix A for a map of the outfall locations):

outfall 001: Outfall 001 is the overflow from tailings pond no. 1. The pond is located adjacent to the SFCdA River near Mullan. Tailings pond no. 1 receives groundwater, cooling water, sanitary wastewater, and mine water from the Lucky Friday Mine. Outfall 001 discharges continuously.

outfall 002: Outfall 002 is the overflow from tailings pond no. 2. Tailings pond no. 2 is located adjacent to the SFCdA River, and would discharge to the river approximately 0.8 miles east of outfall 001. Although Hecla contends that outfall 002 has not experienced a discharge for years, Hecla nevertheless applied for authorization to discharge from outfall 002 for emergency use when the flow from outfalls 001 or 003 need to be diverted. The permit issued by the Region in 2003 included effluent limits that allow for either outfall 001 or outfall 003 to be discharged through outfall 002.

outfall 003: Outfall 003 is the overflow from tailings pond no. 3. Tailings pond no. 3 is located adjacent to the SFCdA River and discharges to the river approximately 1.3 miles east of outfall 002. Pond no. 3 receives tailings from the Lucky Friday mill and storm water. Outfall 003 discharges continuously.

The parameters of concern in all the discharges include pH, total suspended solids (TSS), and metals.

III. PURPOSE FOR MODIFICATION

The Region is proposing to modify the NPDES permit for the Lucky Friday Mine site. The proposed modification is a result of a number of factors including a revised Clean Water Act Section 401 certification from IDEQ, a remand order from EPA's Environmental Appeals Board (EAB), a request for permit modification by Hecla, and EPA's approval of the final South Fork Coeur d'Alene River Sediment Total Maximum Daily Load (TMDL). The NPDES regulations at 40 CFR 122.62(a)(2) and (3)(iii) allow for changes based on new information and modified state certifications. Additionally, EPA regulations at 40 CFR 124.55(b) allow a permit to be modified when a 401 certification is modified.

A. Revised 401 Certification and EAB Remand

The Region last issued an NPDES permit for the Lucky Friday Mine site (hereinafter referred to as the "2003 permit") on August 12, 2003. Hecla filed a petition with the EAB to appeal some of the conditions in the permit, including: mercury effluent limits and monitoring, seepage study, the use of total recoverable permit limits, some compliance schedule conditions, zinc method detection limit, upper pH limit, bioassessment monitoring, and whole effluent toxicity (WET) monitoring. These permit conditions are stayed (not in effect) pending the outcome of the appeal.

The permit included conditions authorized in a 401 certification prepared by IDEQ on June 17, 2003 (hereafter referred to as the "original 401 certification"). IDEQ has since revised some of the certification conditions and sent to the Region a new 401 certification by letter dated July 15, 2004 (hereafter referred to as the "revised 401 certification"). At the Region's request, on March 23, 2005, IDEQ submitted additional information related to the mixing zones in the revised certification.

On August 19, 2004, Hecla sent to the Region a request to modify the Lucky Friday Mine permit based on the revised 401 certification. In addition, Hecla requested that the EAB remand five issues raised in its petition that are affected by the revised 401 certification. On October 13, 2004, the EAB remanded these five issues to the Region. In its Remand Order, the EAB stated that it was remanding to the Region "five issues in Hecla's Petition that may be affected by Hecla's modification request along with the associated Permit conditions." These remanded issues were: mercury effluent limits and monitoring, seepage study and hydrological analysis, compliance schedule interim limits, upper pH limit, and bioassessment monitoring and WET monitoring. (EAB 2004)

On October 28, 2004, the Region sent a letter to Hecla stating that it interpreted the EAB's order to have remanded the following permit conditions:

1. The final effluent limitations for mercury specified in Tables 1, 2, 3, and 4 of the permit;
2. The seepage study and hydrological analysis required by Part I.C. of the permit;
3. The compliance schedules and interim effluent limitations specified in Part I.A.4. and Table 5 of the permit;
4. The final upper effluent limitation for pH specified in Part I.A.3. of the permit; and
5. The whole effluent toxicity testing requirements of Part I.B. of the permit and the bioassessment monitoring requirements of Part I.D.3. of the permit.

This letter further stated that the Region had decided to modify two additional sets of permit conditions potentially affected by Idaho's revised 401 certification: the final effluent limitations for copper specified in Tables 1, 2, 3, and 4 of the 2003 permit and the requirement to submit the design of Hecla's water recycling system to IDEQ. (EPA 2004).

In light of the revised 401 certification, the EAB remand order, and Hecla's request for modification, the Region is today proposing the following modifications to the 2003 permit:

- Revised effluent limits for copper and mercury based on increased mixing zone sizes.
- Addition of a compliance schedule for meeting the cadmium limits at outfall 003 and at outfall 002 when the outfall 003 wastestream is discharged through outfall 002.
- Addition of a compliance schedule requirement that Hecla submit the design of their wastewater recycling system before implementation.
- Revision of some of the interim effluent limits effective during the compliance schedule.
- Establishment of a 2007 deadline for beginning the permit's the seepage study and hydrological analysis requirements.
- Revision of some of the bioassessment monitoring requirements and establishment of a 2007 deadline for beginning the bioassessment monitoring.

B. Total Maximum Daily Load for TSS

The SFCdA River has been listed pursuant to Section 303(d) of the CWA as not attaining Idaho's water quality standards for suspended solids. In response IDEQ prepared a Total Maximum Daily Load (TMDL) for the SFCdA river. The South Fork Coeur d'Alene River Sediment Subbasin Assessment and TMDL, May 17, 2002 (the Sediment TMDL) was approved by EPA on August 21, 2003. The Sediment TMDL provided wasteload allocations (WLAs) for TSS for Lucky Friday outfalls 001 and 003. The following new permit condition is proposed as a result of EPA's approval of the Sediment TMDL.

- New effluent limits for TSS based on the WLAs in the TMDL.

C. Minor Changes

Through this proceeding, the Region is also proposing two minor changes to the 2003 permit:

- The cover page of the permit incorrectly listed the latitude of Outfall 002 as 44°28'06" N. The correct latitude is 47°28'06" N.
- The method detection limit for zinc in Table 7 is changed from 5 ug/l to 10 ug/l.

D. Modifications Subject to Public Comment

The EPA regulations state that, in a permit modification proceeding, only those conditions to be modified are reopened when the new draft permit is prepared. These changes are highlighted in the draft permit modification and are discussed in more detail in the following section of this fact sheet. The Region is soliciting comments on these proposed changes, but will not entertain comments on other aspects of the 2003 permit that are outside the scope of this remand and modification proceeding.

IV. PROPOSED MODIFIED PERMIT CONDITIONS

The following summarizes the proposed changes reflected in the draft permit modification. Subsection D. includes a discussion of how the changes respond to the EAB's remand order.

A. Proposed Changes Due to Revised 401 Certification

1. Copper and Mercury Effluent Limits

The effluent limits in the 2003 Lucky Friday permit and the draft modification proposed today were developed consistent with the requirements of Sections 101, 301(b), 304, 308, 401, 402,



and 405 of the Clean Water Act (CWA), state and federal regulations, and EPA's March 1991 *Technical Support Document for Water Quality-Based Toxics Control* (TSD).

EPA sets technology-based limits by considering the effluent quality that is achievable using readily available technology. EPA evaluates the technology-based limits to determine whether they are adequate to ensure that water quality standards are met in the receiving water. If the technology-based limits are not adequate, EPA must develop additional water quality-based limits. Water quality-based limits are designed to prevent exceedances of the Idaho water quality standards in the receiving waters. In general, the CWA requires that the effluent limit for a particular pollutant be the more stringent of either the technology-based limit or water quality-based limit. The revised copper and mercury limits that are being proposed in the draft permit modification are water quality-based.

Water quality-based effluent limits are calculated based on a number of factors. One factor is the amount of dilution (mixing zone) that is available in the receiving water stream. The copper and mercury limits in the 2003 permit were calculated based on a mixing zone volume of 25% as authorized by IDEQ in its original 401 certification. In its revised 401 certification, IDEQ increased the mixing zones available to Hecla for copper and mercury. The revised 401 certification authorized mixing zones of 50% for copper for the low flow tier in outfall 001, the two lowest flow tiers for outfall 002, and the three lowest flow tiers for outfall 003 (25% mixing zones were retained for the other flow tiers). The revised certification authorized 75% mixing zones for mercury for all the outfalls.

The Region has calculated revised copper and mercury limits based on the increased mixing zone sizes provided in the revised 401 certification. The calculations were performed following the same procedures and using the same data as was used for calculating effluent limits in the 2003 permit. Appendix B provides a detailed discussion of how the revised effluent limits were calculated.

The increased mixing zone sizes resulted in increased effluent limits for copper and mercury. The following tables compare the effluent limits proposed in the draft permit modification to the 2003 permit's effluent limits. See also Tables 1 through 4 in the draft modified permit.

Table 1: Copper and Mercury Effluent Limits for Outfall 001									
Parameter	Upstream River Flow Tier ¹	2003 Permit Limits				Draft Modified Permit Limits			
		Max. daily limit		Avg. monthly limit		Max. daily limit		Avg. monthly limit	
		ug/l	lbs/day	ug/l	lbs/day	ug/l	lbs/day	ug/l	lbs/day
Copper, total recoverable	< 14 cfs	21	0.29	8.9	0.12	28	0.39	12	0.17
Mercury, total	< 14 cfs	0.038 ²	0.00053 ²	0.019 ²	0.00027 ²	0.073 ²	0.0010 ²	0.036 ²	0.00050 ²
	≥ 14 to < 32 cfs	0.046 ²	0.00064 ²	0.023 ²	0.00032 ²	0.099 ²	0.0014 ²	0.050 ²	0.00070 ²
	≥ 33 to < 113 cfs	0.080 ²	0.0011 ²	0.040 ²	0.00056 ²	0.20	0.0028	0.10 ²	0.0014 ²
	≥ 113 to < 194 cfs	0.23	0.0032	0.12 ²	0.0017 ²	0.66	0.0092	0.33	0.0046
	> 194 cfs	0.39	0.0055	0.19 ²	0.0027 ²	1.1	0.015	0.56	0.0078

footnotes:
1 - The effluent limits for copper and mercury will be determined by the monthly average of the daily flows measured in the SFCdA River directly upstream of outfall 001.
2 - The permit includes a 5-year compliance schedule for mercury. The permittee must comply with these limits on or before September 13, 2008.

Table 2: Copper and Mercury Effluent Limits for Outfall 002 when the Outfall 001 Waste Stream is Discharged through Outfall 002									
Parameter	Upstream River Flow Tier ³	2003 Permit Limits				Draft Modified Permit Limits			
		Max. daily limit		Avg. monthly limit		Max. daily limit		Avg. monthly limit	
		ug/l	lbs/day	ug/l	lbs/day	ug/l	lbs/day	ug/l	lbs/day
Copper, total recoverable	< 8.6 cfs	16	0.22	7.0	0.098	20	0.28	8.6	0.12
	≥ 8.6 to < 20 cfs	19	0.27	8.3	0.12	26	0.36	11	0.15
Mercury, total	< 8.6 cfs	0.030 ²	0.00042 ²	0.015 ²	0.00021 ²	0.052 ²	0.00072 ²	0.026 ²	0.00036 ²
	≥ 8.6 to < 20 cfs	0.036 ²	0.00050 ²	0.018 ²	0.00025 ²	0.069 ²	0.00096 ²	0.034 ²	0.00048 ²
	≥ 20 to < 69 cfs	0.058 ²	0.00081 ²	0.029 ²	0.00041 ²	0.13 ²	0.0018 ²	0.067 ²	0.00094 ²
	≥ 69 to < 117 cfs	0.15 ²	0.0021 ²	0.075 ²	0.0010 ²	0.41	0.0057	0.21	0.0029
	> 117 cfs	0.24	0.0034	0.12 ²	0.0017 ²	0.68	0.0095	0.34	0.0048

Table 2: Copper and Mercury Effluent Limits for Outfall 002 when the Outfall 001 Waste Stream is Discharged through Outfall 002

Parameter	Upstream River Flow Tier ¹	2003 Permit Limits				Draft Modified Permit Limits			
		Max. daily limit		Avg. monthly limit		Max. daily limit		Avg monthly limit	
		ug/l	lbs/day	ug/l	lbs/day	ug/l	lbs/day	ug/l	lbs/day
footnotes:									
1 - The effluent limits for copper and mercury will be determined by the monthly average of the daily flows measured in the SFCdA River directly upstream of outfall 002.									
2 - The permit includes a 5-year compliance schedule for mercury. The permittee must comply with these limits on or before September 13, 2008.									

Table 3: Copper and Mercury Effluent Limits for Outfall 002 when the Outfall 003 Waste Stream is Discharged through Outfall 002

Parameter	Upstream River Flow Tier ¹	2003 Permit Limits				Draft Modified Permit Limits			
		Max. daily limit		Avg. monthly limit		Max. daily limit		Avg monthly limit	
		ug/l	lbs/day	ug/l	lbs/day	ug/l	lbs/day	ug/l	lbs/day
Copper total recoverable	< 8.6 cfs	20	0.38	7.4	0.14	20	0.38	7.3	0.14
	8.6 to < 20 cfs	20	0.38	7.4	0.14	23	0.43	8.6	0.16
Mercury, total	< 8.6 cfs	0.028 ²	0.00053 ²	0.014 ²	0.00026 ²	0.043 ²	0.00081 ²	0.022 ²	0.00041 ²
	≥ 8.6 to < 20 cfs	0.032 ²	0.00060 ²	0.016 ²	0.00030 ²	0.056 ²	0.0011 ²	0.028 ²	0.00053 ²
	≥ 20 to < 69 cfs	0.048 ²	0.00090 ²	0.024 ²	0.00045 ²	0.10 ²	0.0019 ²	0.052 ²	0.00098 ²
	≥ 69 to < 117 cfs	0.12 ²	0.0023 ²	0.058 ²	0.0011 ²	0.31	0.0058	0.16 ²	0.0030 ²
	> 117 cfs	0.18 ²	0.0034 ²	0.092 ²	0.0017 ²	0.51	0.0096	0.26	0.0049

footnotes:
 1 - The effluent limits for copper and mercury will be determined by the monthly average of the daily flows measured in the SFCdA River directly upstream of outfall 002.
 2 - The permit includes a 5-year compliance schedule for mercury. The permittee must comply with these limits on or before September 13, 2008.

Table 4: Copper and Mercury Effluent Limits for Outfall 003

Parameter	Upstream River Flow Tier ¹	2003 Permit Limits				Draft Modified Permit Limits			
		Max. daily limit		Avg. monthly limit		Max. daily limit		Avg monthly limit	
		ug/l	lbs/day	ug/l	lbs/day	ug/l	lbs/day	ug/l	lbs/day
Copper, total recoverable	< 8 cfs	20	0.38	7.4	0.14	20	0.38	7.4	0.14
	≥ 8 to < 18 cfs	20	0.38	7.4	0.14	23	0.43	8.4	0.16
	≥ 18 to < 63 cfs	21	0.40	7.7	0.14	29	0.55	11	0.21
Mercury, total	< 8 cfs	0.027 ²	0.00051 ²	0.014 ²	0.00026 ²	0.042 ²	0.00079 ²	0.021 ²	0.00040 ²
	≥ 8 to < 18 cfs	0.031 ²	0.00058 ²	0.015 ²	0.00028 ²	0.054 ²	0.0010 ²	0.027 ²	0.00051 ²
	≥ 18 to < 63 cfs	0.045 ²	0.00085 ²	0.023 ²	0.00043 ²	0.096 ²	0.0018 ²	0.048 ²	0.00090 ²
	≥ 63 to < 108 cfs	0.11 ²	0.0021 ²	0.054 ²	0.0010 ²	0.29	0.0055	0.14 ²	0.0026 ²
	> 108 cfs	0.17 ²	0.0032 ²	0.086 ²	0.0016 ²	0.48	0.0090	0.24	0.0045

footnotes:

1 - The effluent limits for copper and mercury will be determined by the monthly average of the daily flows measured in the SFCdA River directly upstream of outfall 003.

2 - The permit includes a 5 year compliance schedule for mercury. The permittee must comply with these limits on or before September 13, 2008.

2. Compliance Schedule

The 2003 permit included a compliance schedule that allowed Hecla up to five years to meet the water quality-based effluent limits for certain metals. This compliance schedule required Hecla to design and implement a water recycling system on or before August 12, 2005 and to develop a water treatment system (if it is determined that water treatment is necessary) on or before September 13, 2008. The compliance schedule also included interim effluent limits for cadmium, lead, mercury, and zinc. The 2003 permit established interim effluent limits to apply until the end of the compliance schedule when compliance with the permit effluent limits was required. The compliance schedule requirements were based on IDEQ's original 401 certification.

IDEQ revised some of the compliance requirements in the revised 401 certification. Following is a description of the 2003 permit's compliance schedule requirements that were changed and the proposed modified compliance schedule requirements.

Compliance schedule for cadmium: The 2003 permit (based on the original 401 certification) included a compliance schedule for cadmium for outfall 001 and outfall 002, when the outfall

001 waste stream is discharged through outfall 002. A compliance schedule was not authorized for cadmium in outfall 003 or outfall 002, when the outfall 003 waste stream is discharged through outfall 002. The revised 401 certification authorized a compliance schedule for cadmium for all outfalls. The draft modified permit incorporates the cadmium compliance schedule for all outfalls (see draft modified permit Part I.A.4.).

Compliance schedule requirements: The 2003 permit (based on the original 401 certification) required that Hecla design and implement a water recycling system on or before August 12, 2005. The revised 401 certification includes an additional requirement that Hecla provide the design of the water recycling system to IDEQ for comment before implementation. This additional requirement has been incorporated into the draft modified permit at Part I.A.4.b.

Compliance schedule interim limits: The 2003 permit (based on the original 401 certification) included interim effluent limits for cadmium (for outfall 001 and the outfall 002 when the outfall 001 wastestream is discharged from outfall 002), lead, mercury, and zinc that are in effect during the compliance schedule. The interim effluent limits for cadmium, lead, and zinc were changed in the revised 401 certification. Most of the revised interim effluent limits have been incorporated into the draft modified permit at Part I.A.4.c. The following table compares the 2003 permit's interim effluent limits with those proposed in the draft modified permit and explains why some of the interim limits for lead in the revised 401 certification have not been included in the draft modified permit.

Outfall	Parameter ¹	2003 Permit Interim Limits ²				Draft Modified Permit Interim Limits ²			
		maximum daily limit		average monthly limit		maximum daily limit		average monthly limit	
		ug/l	lb/day	ug/l	lb/day	ug/l	lb/day	ug/l	lb/day
outfall 001 and	Cadmium	2.0	0.028	1.0	0.014	6.0	0.046	2	0.023
outfall 002 when the outfall 001 waste stream is discharged through outfall 002	Lead	450	6.3	300	4.2	600 ³	5.96	300 ³	3.10
	Zinc	500	7.0	280	3.9	880	6.53	469	2.54
outfall 003 and	Cadmium	na ⁴	na ⁴	na ⁴	na ⁴	3	0.043	2	0.022
outfall 002 when the outfall 003 waste stream is discharged through outfall 002	Lead	330	6.2	270	5.1	321	2.76	265	1.43
	Zinc	500	9.4	410	7.7	670	6.29	480	4.28

Table 5: Interim Effluent Limitations

footnotes:

1 - Cadmium, lead, and zinc expressed as total recoverable.

2 - The 2003 permit includes interim effluent limits for mercury for all outfalls that were not changed in the revised 401 certification. The mercury interim limits, therefore, have not changed and are not subject to the draft permit modification.

3 - The revised 401 certification specified interim lead limits of 899 ug/l as a maximum daily and 440 ug/l as an average monthly. These limits are greater than applicable technology-based effluent limitation guidelines of 600 ug/l as a maximum daily and 300 ug/l as an average monthly (see Appendix B, Table B-1). The statutory deadlines for meeting technology-based limits based on effluent limitation guidelines (ELGs) was March 31, 1989 (40 CFR 125.3(a)(2) and CWA 301(b)). Compliance schedules are not allowed where statutory deadlines have passed (40 CFR 122.47(a)(1)). Since the CWA and regulations do not allow setting limits higher than technology-based ELGs, the interim limits in the revised 401 certification cannot be included in the permit. The technology-based limits, instead, are included as the interim limits in the draft permit modification.

4 - The 2003 permit does not authorize a compliance schedule for cadmium in outfall 003 or outfall 002 when the outfall 003 waste stream is discharge through outfall 002, therefore interim limits were not applicable.

3. Seepage Study and Hydrological Analysis

The 2003 permit required a seepage study and hydrological analysis to determine if there are unmonitored discharges of pollutants from the Lucky Friday tailings ponds into the South Fork. The original 401 certification did not include any conditions specific to the seepage study. The revised 401 certification states that the seepage study should be required after implementation of the water recycling program in 2007. Part I.C.1. of the permit has been modified to incorporate this condition. The 2003 permit required that the seepage study be completed within three years of the effective date of the permit. The Region has proposed revising this completion date to occur six months prior to the expiration date of the permit to allow Hecla time to complete the study (see Part I.C.4. of the draft permit modification).

4. Bioassessment Monitoring

The 2003 permit required annual instream bioassessment monitoring directly downstream of outfalls 001 and 003, and outfall 002 if effluent is discharged from outfall 002 for six months or longer. The bioassessment monitoring requirements were based on the original 401 certification. The revised certification does not specify that monitoring occur "directly downstream of each outfall." Rather the revised 401 certification states that bioassessment monitoring be conducted "using a sample design that will allow DEQ to make a determination as to the impact of the discharges to the beneficial use" and that "Hecla shall coordinate the sample design with the Coeur d'Alene Office of DEQ." The Region has included these revised bioassessment monitoring requirements in Part I.D.3. of the revised draft permit.

B. TMDL-based TSS Limits

The TSS limits in the 2003 permit were based on technology-based requirements found in 40 CFR 440.102 (see Appendix B, Section II.). The technology-based limits for all outfalls are 30 mg/l as a maximum daily and 20 mg/l average monthly. As discussed in Section III.B., above, the Sediment TMDL for the South Fork provides WLAs for TSS for Lucky Friday outfalls 001 and 003. Regulations at 40 CFR 122.44(d)(1)(vii)(B) require that effluent limits be consistent with the assumptions and requirements of any available WLA for the discharge in an approved TMDL. Water quality-based effluent limits expressed in terms of mass loading (lbs/day) were developed based on these WLAs. See Appendix B (Section III.B.) of this Fact Sheet for a discussion regarding how the water quality-based limits were developed from the TMDL.

The water quality-based TSS limits are shown in Table 6, below, and are included in the draft permit modification (see also footnote 6 in Tables 1 through 4 of the draft modified permit). The technology-based TSS effluent limits also still apply to each outfall.

Outfall	maximum daily limit ¹	average monthly limit ¹
001 - when no portion is discharged through outfall 002	469 lbs/day	247 lbs/day
001 - when all or a portion of the waste stream is discharged through outfall 002	lbs/day from outfall 001 + lbs/day from outfall 002 must not exceed 469 lbs/day	lbs/day from outfall 001 + lbs/day from outfall 002 must not exceed 247 lbs/day
002 - when all or a portion of the outfall 001 waste stream is discharged through outfall 002	469 lbs/day	
002 - when all or a portion of the outfall 003 waste stream is discharged through outfall 002	lbs/day from outfall 003 + lbs/day from outfall 002 must not exceed 346 lbs/day	lbs/day from outfall 003 + lbs/day from outfall 002 must not exceed 188 lbs/day
003 - when all or a portion of the waste stream is discharged through outfall 002		
003 - when no portion is discharged through outfall 002	346 lbs/day	188 lbs/day
Footnote 1: The 30 mg/l maximum daily limit and 20 mg/l average monthly limit in the 2003 permit continue to apply to all outfalls.		

C. Revised Method Detection Limit for Zinc

The 2003 permit specified that water quality analyses of the SFCdA River samples achieve a method detection limit (MDL) for zinc of 5 ug/l (Table 7, Part I.D.2.d. of the permit). In its

documents requesting appeal of the permit, Hecla requested a zinc MDL of 10 ug/l. Part I.D.2.d. of the permit allows the permittee to request different MDLs. If such a request is submitted in writing and approved by the Region, the revised MDL can be utilized. The Region approved Hecla's request to change the MDL to 10 ug/l in a letter dated October 31, 2003. The draft permit modification incorporates this change. This change is appropriate because an MDL of 10 ug/l still allows EPA to make a determination of whether or not Idaho's water quality criteria is being met instream.

D. Response to the EAB Remand Order

Mercury Effluent Limits and Monitoring: The EAB remanded to the Region the 2003 permit's mercury effluent limits and monitoring requirements. In its petition for appeal, Hecla argued that the mercury limits and monitoring requirements were based on unsupported and erroneous factual assumptions, were unnecessary, and that the Region failed to adequately respond to the comments submitted by Hecla during the public comment period.

As discussed above (section IV.A.1.) the mercury effluent limits have been revised based on new mixing zones in the revised 401 certification. The revised 401 certification did not address other issues related to the mercury limits or monitoring. Therefore, the Region is not proposing any changes to the other input parameters used to calculate the mercury effluent limits and there are no changes proposed for the mercury monitoring requirements. For the reasons described in the record supporting the 2003 permit and in its response to Hecla's petition for review of this permit, the Region continues to believe that the mercury effluent limits are necessary and that the parameters and assumptions used to calculate the mercury limits are not erroneous. (See EPA 2003d)

Compliance Schedule Interim Limits: The EAB remanded to the Region the 2003 permit's compliance schedule interim limits. In its petition for review of this permit, Hecla argued that the interim effluent limits for cadmium, lead, mercury, and zinc set forth in Table 5 of the permit were erroneous because they were allegedly not based on Hecla's past performance.

As discussed above (section IV.A.2.), the interim effluent limits in the 2003 permit and in today's draft permit modification are based on the 401 certifications. The revised 401 certification included revised interim effluent limits for cadmium, lead, and zinc that are incorporated into the draft permit modification, with one exception. The revised 401 certification included an interim limit of 899 ug/l (maximum daily) and 499 ug/l (average monthly) for lead in outfall 001. The Region did not include these interim limits in the draft modified permit since they are greater than the technology-based requirements (see footnote 3 of Table 5, above). Instead the technology-based limits were used as the interim limits for lead at outfall 001. The state did not change the mercury interim limit in their revised certification and, therefore, the Region is not proposing to change the mercury interim limit. According to IDEQ, the interim effluent limits are based on Hecla's historic operations.

Seepage Study and Hydrological Analysis: The EAB remanded to the Region the 2003 permit's seepage study and hydrological analysis requirements. Hecla argued that EPA does not have the legal authority to impose this requirement and that the errors inherent in such a study would likely render the results meaningless.

As discussed above (section IV.A.3.), based on the revised 401 certification, the start and completion dates of the seepage study and hydrological analysis are proposed to be delayed. No other changes are being proposed to the seepage study requirements. For the reasons described in the record supporting the 2003 permit and in the Region's response to Hecla's petition for review, EPA has the legal authority to require the seepage study and the Region believes that the study will not be erroneous or meaningless. (EPA 2003d).

Upper Limit for pH: The EAB remanded to the Region the upper limit for pH. Hecla argued that the upper pH limit should have been set at 10 standard units (su).

The 2003 permit required that the pH of effluent discharged from outfalls 001, 002, and 003 not exceed 9.0 su. This upper pH limit of 9.0 was also included in Hecla's previous permit that was issued in 1977. The original 401 certification did not authorize a mixing zone for pH. The revised 401 certification authorizes a mixing zone of 25% for the upper pH limit of 9.0. However, the upper pH limit is a technology-based limit based on the effluent limitation guidelines applicable to the Lucky Friday Mine (see Table B-1 of Appendix B). The NPDES regulations require that permits include technology-based limits based on the applicable effluent limitation guidelines (40 CFR 122.44(a)(1)). The NPDES regulations do not allow for dilution to be considered in implementation of technology-based limits. Therefore, a mixing zone cannot be applied to the upper pH limit and the upper pH limits were not revised. The record supporting the 2003 permit and the Region's response to Hecla's petition for review of this permit, contain additional discussion of this issue (EPA 2003d).

Bioassessment Monitoring and WET Sampling: The EAB remanded to the Region the 2003 permit's bioassessment monitoring and WET sampling requirements. Hecla argued that there is no authority under state standards to require WET sampling in addition to in-stream bioassessment monitoring.

As discussed above (section IV.A.4.), some of the bioassessment monitoring conditions are proposed for revision based on the revised 401 certification. The revised certification does not address not requiring WET monitoring. In fact, both the original and revised certification included conditions related to WET testing and bioassessment, which implies that the state believes that both types of assessment are required.

The original and revised certification specified a 25% mixing zone for calculating the WET triggers. The 2003 permit already includes toxicity triggers based upon a 25% mixing zone that was authorized in the original 401 certification. Therefore the WET triggers have not been revised. The revised 401 certification also suggests that WET testing not be required until 2007, after Hecla's implementation of their water recycling program. The Region believes that it is

important to monitor toxicity regardless of whether Hecla is recycling their wastewater. Therefore, the Region has not proposed to delay the WET testing in the draft permit modification.

In summary, the Region is proposing to revise the permit to include revised bioassessment monitoring conditions based on the revised certification. No other change is made to the bioassessment monitoring. No changes are being made to the WET monitoring. The Region believes that both bioassessment monitoring and WET monitoring are important as discussed further in the record supporting the 2003 permit and the Region's response to Hecla's petition for review. (EPA 2003d).

V. OTHER LEGAL REQUIREMENTS

A. State Certification

Section 401 of the CWA requires an NPDES permit applicant to provide EPA with certification from the State that the permit has limitation and monitoring requirements necessary to assure that the applicant will comply with State water quality standards. Section 401 and EPA's regulations allow for the State to impose more stringent conditions in the permit, if the 401 certification cites the CWA or State law references upon which that condition is based. In addition, the regulations require a 401 certification to include statements of the extent to which each condition of the permit can be made less stringent without violating the requirements of State law.

As discussed above, most of the permit conditions proposed for modification were based on a revised 401 certification. The Region, therefore, will not request that IDEQ re-certify these conditions. The new proposed TSS loading limits, however, were based on the sediment TMDL which was approved following issuance of the 2003 permit. the Region will request certification of the TSS loading limits prior to issuance of the permit modification.

After the public comment period, a preliminary final permit will be sent to the State for final certification. If the State authorizes different requirements in its final certification, the Region will incorporate those requirements into the final permit.

B. Endangered Species Act

Section 7 of the Endangered Species Act requires federal agencies to consult with the NOAA National Marine Fisheries Service (NOAA Fisheries) and the U.S. Fish and Wildlife Service (USFWS) regarding potential effects a federal action may have on threatened and endangered species. Following are the federally-listed species that may be in the area of the discharge.

Endangered Species:

Gray Wolf (*Canis lupus*) - experimental

Threatened Species:

Bull Trout (*Salvelinus confluentus*)

Bald Eagle (*Haliaeetus leucocephalus*)

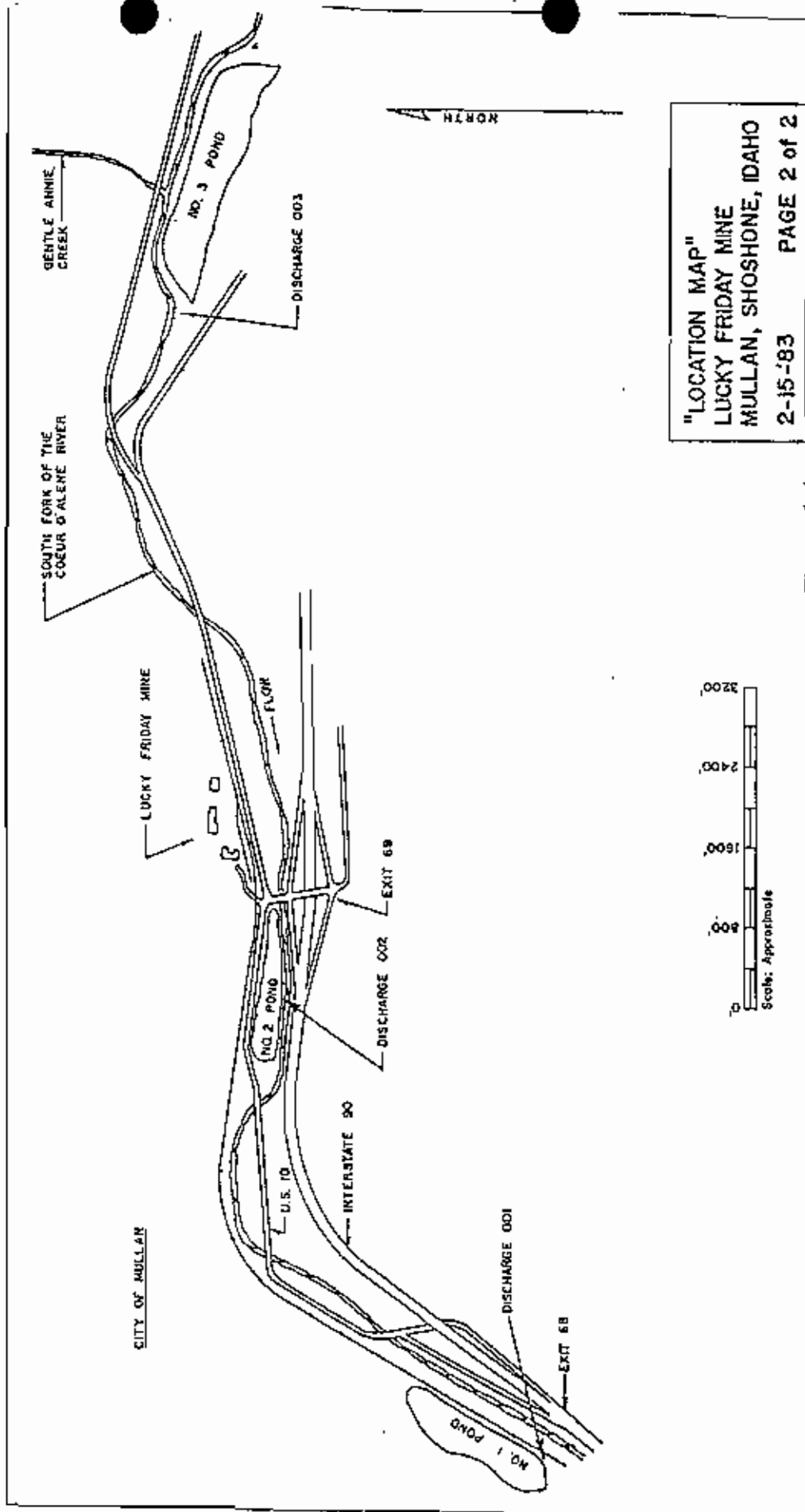
Ute' ladies-tresses (*Spiranthes diluvialis*)

The Region has determined that the requirements contained in the draft permit modification will not have an impact on these species. The basis for this determination is found in Appendix D.

C. Essential Fish Habitat

Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (16 USC 1855(b)) requires federal agencies to consult with NOAA Fisheries when any activity proposed to by, permitted, funded, or undertaken by a federal agency may have an adverse effect on designated Essential Fish Habitat (EFH). To date, federal management plans have been developed by NOAA Fisheries for groundfish, coastal pelagics, and pacific coast salmon. The Region reviewed these management plans and found that none of these plans specified EFH in the discharge area (the South Fork Coeur d'Alene River).

APPENDIX A
LOCATION MAP



"LOCATION MAP"
 LUCKY FRIDAY MINE
 MULLAN, SHOSHONE, IDAHO
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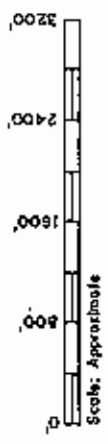


Figure A-1
 (from Lucky Friday NPDES permit application)

APPENDIX B - DEVELOPMENT OF EFFLUENT LIMITATIONS

This appendix discusses the basis for and the development of revised effluent limits for outfalls 001, 002, and 003 for the draft modified permit. Revised effluent limits were developed for copper (for some flow tiers), mercury, and TSS. This section includes: discussion of the statutory and regulatory basis for effluent limits (Section I); development of technology-based effluent limits (Section II); and development of water quality-based effluent limits (Section III).

I. Statutory and Regulatory Basis for Limits

Sections 101, 301(b), 304, 308, 401, 402, and 405 of the Clean Water Act (CWA) provide the basis for the effluent limitations and other conditions in the draft permit modification. The Region evaluates the discharges with respect to these sections of the CWA and the relevant NPDES regulations to determine which conditions to include in the draft permit modification.

In general, the EPA first determines which technology-based limits must be incorporated into the permit. EPA then evaluates the effluent quality expected to result from these controls, to see if it could result in any exceedances of the water quality standards in the receiving water. If exceedances could occur, EPA must include water quality-based limits in the permit. The proposed permit limits will reflect whichever requirements (technology-based or water quality-based) are more stringent.

II. Technology-based Evaluation

Section 301(b) of the CWA requires technology-based controls on effluents. This section of the CWA requires that, by March 31, 1989, all permits contain effluent limitations which: (1) control toxic pollutants and nonconventional pollutants through the use of "best available technology economically achievable" (BAT), and (2) represent "best conventional pollutant control technology" (BCT) for conventional pollutants by March 31, 1989. In no case may BCT or BAT be less stringent than "best practical control technology currently achievable" (BPT), which is the minimum level of control required by section 301(b)(1)(A) of the CWA.

In many cases, BPT, BCT, and BAT limitations are based on effluent guidelines developed by EPA for specific industries. On December 3, 1982, EPA published effluent guidelines for the mining industry. These guidelines are found in 40 CFR 440. Effluent guidelines applicable to the Lucky Friday Mine are found in the Copper, Lead, Zinc, Gold, Silver, and Molybdenum Ores Subcategory (Subpart J) of Part 440. The BAT(40 CFR 440.103) and BPT(40 CFR 440.102) effluent limitation guidelines that apply to the Lucky Friday discharges are shown in the following table.

Table B-1: Technology-Based Effluent Limitations for the Lucky Friday Mine				
Effluent Characteristic	Effluent Limitations for Mine Drainage (applies to outfall 001 and outfall 002 when 001 discharges from 002)		Effluent Limitations for Mill Process Waters (applies to outfall 003 and outfall 002 when 003 discharges from 002)	
	daily maximum	monthly average	daily maximum	monthly average
cadmium, ug/l	100	50	100	50
copper, ug/l	300	150	300	150
lead, ug/l	600	300	600	300
mercury, ug/l	2	1	2	1
zinc, ug/l	1500	750	1000	500
TSS, mg/l	30	20	30	20
pH, su	within the range 6.0 -9.0		within the range 6.0 - 9.0	

III. Water Quality-based Evaluation

In addition to the technology-based limits discussed above, the Region evaluated the Lucky Friday discharges to determine compliance with Section 301(b)(1)(C) of the CWA. This section requires the establishment of limitations in permits necessary to meet water quality standards by July 1, 1977.

The regulations at 40 CFR 122.44(d) implement section 301(b)(1)(C) of the CWA. These regulations require that permits include limits for all pollutants or parameters which "are or may be discharged at a level which will cause, have the "reasonable potential to cause, or contribute to an excursion above any state water quality standard", including state narrative criteria for water quality." The limits must be stringent enough to ensure that water quality standards are met, and must be consistent with any available wasteload allocation (WLA) in an approved Total Maximum Daily Load (TMDL).

Water quality-based effluent limits were determined in two ways:

- Water quality-based effluent limits for copper and mercury were developed based upon guidance in EPA's *Technical Support Document for Water Quality-based Toxics Control* (TSD, EPA 1991). This is discussed in Section III.A., below.

- Water quality-based effluent limits for TSS were developed based upon the TMDL for suspended sediments for the South Fork. This is discussed in Section III.B., below.

A. Development of Water Quality-based Effluent Limits for Copper and Mercury

EPA follows guidance in the TSD to determine whether water quality-based limits are needed and in developing the limits. The water quality-based analysis consists of four steps:

1. Determine the appropriate water quality criteria (see Section III.A.1., below)
2. Determine if there is "reasonable potential" for the discharge to exceed the criteria in the receiving water (see Section III.A.2.)
3. If there is "reasonable potential", develop a WLA (see Section III.A.3.)
4. Develop effluent limitations based on the WLA (see Section III.A.3.)

The following sections provide a detailed discussion of each of the above steps. Appendix C provides an example calculation to illustrate how these steps are implemented.

1. Water Quality Criteria

The first step in developing water quality-based limits is to determine the applicable water quality criteria. For Idaho, the State water quality standards are found at IDAPA 58, Title 1, Chapter 2 (IDAPA 58.01.02). The applicable criteria are determined based on the beneficial uses of the receiving water. The beneficial uses for the SFCdA River are as follows:

- secondary contact recreation (IDAPA 58.01.02110.09.)
- cold water biota (promulgated by EPA on July 31, 1997, 62 FR 41162)

For any given pollutant, different uses may have different criteria. To protect all beneficial uses, the permit limits are based on the most stringent of the water quality criteria applicable to those uses. The applicable criteria used to determine reasonable potential and calculate the copper and mercury effluent limits for the Lucky Friday discharges are provided in Table B-2. The table includes only copper and mercury since these are the only parameters where effluent limits were recalculated in the draft modified permit.

Idaho's aquatic life criteria for copper are calculated as a function of hardness measured in mg/l of calcium carbonate (CaCO_3). As the hardness of the receiving water increases, the toxicity decreases and the numerical value of the criteria increases. Where a mixing zone is allowed, the hardness used to calculate the criteria is the hardness in the receiving water after mixing with the effluent.

In addition to the calculation for hardness, Idaho's criteria for some metals include a "conversion factor" to convert from total recoverable to dissolved criteria. Conversion factors address the

relationship between the total amount of metal in the water column (total recoverable metal) and the fraction of that metal that causes toxicity (bioavailable metal). The conversion factors are shown in italics in Table B-2.

Table B-2: Idaho Water Quality Criteria for Copper and Mercury			
Parameter	Cold Water Biota - Aquatic Life Criteria ^{1,2,3}		Secondary Contact Recreation ¹
	Acute Criteria	Chronic Criteria	
Dissolved Copper, ug/l	<i>(0.960)e^{(0.9422(ln H)-1.464)}</i>	<i>(0.960)e^{(0.8545(ln H)-1.463)}</i>	na
Mercury, ug/l (acute expressed as dissolved; chronic and human health expressed as total)	<i>(0.85)2.1</i>	0.012	0.15
Footnotes: 1 - The criteria are based on IDAPA 58.01.02210. 2 - Conversion factors are noted in italics. 3 - The aquatic life criteria for copper are a function of hardness (H). See Table B-3 for the calculated copper criteria.			

Table B-3: Copper Aquatic Life Criteria for Each Outfall				
Outfall	Flow Tier ¹	Hardness, mg/l CaCO ₃ ²	Aquatic Life Criteria	
			Acute	chronic
outfall 001	< 14 cfs	67	11.7	8.06
outfall 002 when the outfall 001 waste stream is discharged through outfall 002	< 8.6 cfs	60	10.5	7.3
	≥ 8.6 to < 20 cfs	58	10.1	7.1
outfall 002 when the outfall 003 waste stream is discharged through outfall 002	< 8.6 cfs	67 for acute, 66 for chronic	11.7	8.0
	≥ 8.6 to < 20 cfs	62	10.8	7.5
outfall 003	< 8 cfs	68 for acute, 66 for chronic	11.8	8.0
	≥ 8 to < 18 cfs	63	11.0	7.6
	≥ 18 to < 63 cfs	50	8.9	6.3

Table B-3: Copper Aquatic Life Criteria for Each Outfall

Footnotes:

1 - This table only includes the flow tiers for which the effluent limits are proposed to be modified.

2 - Where a mixing zone is allowed, the hardness value used to calculate the criteria is the downstream hardness which is the hardness calculated after the effluent is mixed with the receiving water. The hardness is calculated via the following equation:

$$H_{mixed} = [(He \times Qe) + MZ(Hu \times Qu)] / [Qe + MZ(Qu)]$$

He = hardness of the effluent = 74 mg/l CaCO₃ for outfall 001 and 114 mg/l CaCO₃ (5th percentile of hardness data collected by Hecla from Jan. 1999 - Oct. 2000)

Qe = effluent flow = 0.93 cfs for outfall 001 and 0.62 cfs for outfall 003 (5th percentile of average daily outfall flow data reported by Hecla on DMRs from Jan. 1997 - March 2002)

Hu = hardness of the SFCdA River upstream of the outfall
Hu = 65 mg/l CaCO₃ for outfall 001; 55 mg/l CaCO₃ for outfall 002; and for outfall 003, 55 mg/l CaCO₃ for < 18 cfs tiers and 46 mg/l CaCO₃ for 18 - 63 cfs tier.
(Hus based on 5th percentile of hardness data collected by Hecla Jan. 1999 - Sept. 2000 from locations AB#1, AB#2, and AB3# upstream of outfalls 001, 002, and 003 respectively)

Qu = flow in the SFCdA River upstream of the outfall
Qu = for outfall 001: 7.3 cfs (1Q10) for acute calculation and 8.4 cfs (7Q10) for chronic calculation
for outfall 002: 4.9 cfs (1Q10) for acute calculation and 5.6 cfs (7Q10) for chronic calculation for < 8.6 cfs tier and 8.6 cfs for the 8.6-20 cfs tier
for outfall 003: 4.5 cfs (1Q10) for acute calculation and 5.2 cfs (7Q10) for chronic calculation for < 8 cfs tier, 8 cfs for the 8-18 cfs tier, and 18 cfs for the 18-63 cfs tier
(see Table B-4 for source of upstream flow data)

MZ = mixing zone volume = 0.50 (see page B-9)

2. Reasonable Potential Evaluation

To determine if there is "reasonable potential" to cause or contribute to an exceedence of water quality criteria for a given pollutant (and therefore whether a water quality-based effluent limit is needed), for each pollutant present in a discharge, EPA compares the maximum projected receiving water concentration to the criteria for that pollutant. If the projected receiving water concentration exceeds the criteria, there is "reasonable potential", and a limit must be included in the permit. EPA uses the recommendations in Chapter 3 of the TSD to conduct this "reasonable potential" analysis. This section discusses how reasonable potential is evaluated.

Where a mixing zone is allowed, the maximum projected receiving water concentration (C_d) is determined using the following mass balance equations.

Where the criteria are expressed as total:

$$C_d = \frac{(C_e \times Q_e) + [C_u \times (Q_u \times MZ)]}{Q_e + (Q_u \times MZ)} \quad (\text{Equation 1})$$

where, C_d = receiving water concentration downstream of the discharge (at mixing zone edge)

C_e = maximum projected effluent concentration

C_u = receiving water upstream concentration of pollutant

Q_e = effluent flow

Q_u = receiving water upstream flow

Q_d = receiving water flow downstream of the effluent discharge = ($Q_e + Q_u$)

MZ = the mixing zone fraction based on receiving water flow

The copper acute and chronic and mercury acute aquatic life water quality criteria are expressed as dissolved. However, the NPDES regulations require that metals limits be based on total recoverable metals (40 CFR 122.45(c)). This is because changes in water chemistry as the effluent and receiving water mix could cause some of the particulate metal in the effluent to dissolve. To account for the difference between total effluent concentrations and dissolved criteria, "translators" are used in the reasonable potential (and permit limit derivation) equations.

Therefore, for criteria expressed as dissolved, Equation 1 becomes:

$$C_d = \frac{\text{translator} \times (C_e \times Q_e) + [C_u \times (Q_u \times MZ)]}{Q_e + (Q_u \times MZ)} \quad (\text{Equation 2})$$

After C_d is determined, it is compared to the applicable water quality criterion. If it is greater than the criterion, a water quality-based effluent limit is developed for that parameter.

The following discusses each of the factors used in the mass balance equation to calculate C_d . Many of these same factors are used to also calculate the effluent limits in Section III.A.3. Except for the mixing zone factor (MZ), the rest of the factors are the same as those used to determine reasonable potential and calculate effluent limits in the 2003 permit.

Translator: Translators can either be site-specific numbers or default numbers. EPA guidance related to the use of translators in NPDES permits is found in *The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion* (EPA 823-B-96-007, June 1996). In the absence of site-specific translators, this guidance recommends the use of the water quality criteria conversion factors as the default translators. Because a site-specific translator was not available for copper or mercury (acute), the water quality conversion factors

(0.960 for copper and 0.85 for acute mercury) were used as the translator in the calculations. These are the same translators values that were used to calculate the effluent limits for copper and mercury in the 2003 permit.

C_e (maximum projected effluent concentration): The technology-based maximum daily limit was used as the maximum projected effluent concentration for copper and mercury (see Table B-1). The maximum technology-based limit was used since water quality-based limits are only required if discharge at the technology-based limits have reasonable potential to exceed water quality standards in the receiving water. Therefore, C_e for copper was 300 ug/l and C_e for mercury was 2 ug/l. These are the same values that were used in the calculations in the 2003 permit.

C_u (upstream concentration of pollutant): The upstream concentration in the mass balance equation is based on a reasonable worst-case estimate of the pollutant concentration upstream from the discharge point. Where sufficient data exists, the 95th percentile of the ambient data is generally used as an estimate of worst-case. The upstream concentrations were based on samples collected by Hecla from monitoring locations AB#1, AB#2, and AB#3 upstream of outfalls 001, 002, and 003 respectively. Data was collected from January 1999 through December 2000 (mercury) and from May 30, 2000 through September 2001 (copper). Based on this data, the C_us for dissolved copper is 1.8 ug/l, 1.5 ug/l, and 1.5 ug/l for outfalls 001, 002, and 003 respectively. Since all the mercury data was reported at less than method detection limits, 0 was used as the C_u for mercury. These are the same upstream values that were used to calculate limits in the 2003 permit.

Q_u (upstream flow): The upstream flow used in the mass balance equations depends upon the criterion and flow tier that is being evaluated. The permit includes effluent limits for five separate ranges or tiers of flow. For the lowest flow tier, the critical low flows used to evaluate compliance with the water quality criteria are:

- The 1-day, 10-year low flow (1Q10) is used for the protection of aquatic life from acute effects. It represents the lowest daily flow that is expected to occur once in 10 years.
- The 7-day, 10-year low flow (7Q10) is used for protection of aquatic life from chronic effects. It represents the lowest 7-day average flow expected to occur once in 10 years.
- The 30-day, 5-year low flow (30Q5) is used for the protection of human health uses from non-carcinogens (e.g., mercury). It represents the 30-day average flow expected to occur once in 5 years.

Long-term flow data for locations upstream of the outfalls is limited. Therefore statistical flows upstream of the outfalls were obtained by calculating linear regressions between the available flow data and the USGS stations at Silverton and Deadman Gulch.

Table B-4 identifies how flows upstream of the outfalls were determined. These are the same flow values that were used to calculate the limits in the 2003 permit.

Flow Tier	Baseline Tier Flow Parameter	SFCdA River at Silverton (USGS #12413150)	SFCdA River at Deadman Gulch ¹ (USGS #12413040)	Flow Upstream of Outfall 003 ² (Qu)	Flow Upstream of Outfall 002 ³ (Qu)	Flow Upstream of Outfall 001 ⁴ (Qu)
1 st flow tier	1Q10 for acute	27	4.9	4.5	4.9	8.1
	7Q10 for chronic	31	5.6	5.2	5.6	9.4
	30Q5 for human health	42	7.6	7.0	7.6	13
2 nd flow tier	10th percentile	48	8.6	8.0	8.6	14
3 rd flow tier	50th percentile	109	20	18	20	32
4 th flow tier	halfway between the 50 th and 90 th percentiles	379	69	63	69	103
5 th flow tier	90 th percentile	649	117	108	117	176

Footnotes:
1 - Flow data calculated by multiplying the SFCdA at Silverton flows by 0.18. This is the ratio of (SFCdA at Deadman flow)/(SFCdA at Silverton flow) calculated from regression analysis of 10/98 - 9/99 USGS data (R-squared value of 0.97).
2 - Flow values based on analysis performed by Brown and Caldwell for Hecla (Attachment III of Hecla's comments on 2001 draft permit). Brown and Caldwell calculated flow values upstream of outfall 003 by subtracting the daily outfall 003 flows from the daily Deadman Gulch gage flows (since Deadman Gulch gage is downstream of outfall 003). Critical flows were then calculated via a regression analysis between the Silverton gage and flow upstream of outfall 003. The regression ratio was 0.1669 with a R-squared value of 0.97.
3 - Same as values estimated for the Deadman Gulch gage since Deadman Gulch is upstream of outfall 002.
4 - Flow data calculated by multiplying the flow upstream of outfall 003 by 1.8. This is the ratio of flow at AB#1 (upstream of outfall 001) to flow at AB#3 (upstream of outfall 003) as monitored by Hecla from January 1999 through May 1999. This is documented in the Response to Comments on the permit issued August 12, 2003.

Q_e (effluent flow): The effluent flow used in the mass balance equations is the maximum effluent flow. The maximum effluent flows reported by Hecla on DMRs from 1997 to March 2002 are as follows:

- Outfall 001: 1.7 mgd (2.6 cfs)
- Outfall 003: 2.275 mgd (3.5 cfs)

Since outfall 002 can discharge either flows from outfall 001 or 003, the effluent flows for both outfalls were each used to calculate two separate sets of effluent limits for outfall 002. One set

of limits applies to the situation where the waste streams from outfall 001 are discharged through outfall 002. The other set of limits applies to the situation where the waste streams from outfall 003 are discharged through outfall 002. These are the same effluent flow values that were used to calculate limits in the 2003 permit.

MZ (the percent mixing zone based on receiving water flow): Mixing zones are defined as a limited area or volume of water where the discharge plume is progressively diluted by the receiving water. Water quality criteria may be exceeded in the mixing zone as long as acutely toxic conditions are prevented from occurring and the applicable existing designated uses of the water body are not impaired as a result of the mixing zone. Mixing zones are allowed at the discretion of the State, based on the State water quality standards regulations.

The Idaho water quality standards at IDAPA 58.01.02060 allow for the use of mixing zones. The Idaho water quality standards recommend that the mixing zone should not be more than 25% of the volume of stream flow. IDEQ authorized mixing zones of 25% for copper, mercury, and silver in their original 401 certification. Effluent limits in the 2003 permit were calculated based on these mixing zones. In their revised 401 certification, IDEQ changed some of the mixing zones as follows:

- The mixing zones for copper for the lowest flow tier for outfall 001, the lowest two flow tiers for outfall 002, and the lowest three flow tiers for outfall 003 were increased from 25% to 50%.
- The mixing zones for mercury were increased from 25% to 75%.

These new mixing zones were used to calculate the copper and mercury effluent limits in the draft modified permit.

Reasonable Potential Summary: Results of the reasonable potential analyses for copper and mercury are provided in Tables B-5 through B-8. Based on the reasonable potential analysis, water quality-based effluent limits were developed.

Table B-5: Summary of Reasonable Potential Determination for Copper and Mercury for Outfall 001

Parameter ¹	Reasonable Potential Evaluation ²	Flow Tier ¹ , cfs				
		< 14	≥14 to < 32	≥ 32 to < 113	≥ 113 to < 194	≥ 194
Copper, dissolved	aquatic life acute C _d , ug/l	114	na	na	Na	na
	aquatic life chronic C _d , ug/l	104	na	na	Na	na
	Reasonable Potential	yes	na	na	Na	na
Mercury, acute as dissolved; chronic and recreational as total	aquatic life acute C _d , ug/l	0.510	0.337	0.166	0.0506	0.0298
	aquatic life chronic C _d , ug/l	0.539	0.397	0.195	0.0595	0.0351
	recreational C _d , ug/l	0.421	0.397	0.195	0.0595	0.0351
	Reasonable Potential	yes	yes	yes	Yes	yes

Footnotes:

1- Reasonable potential was evaluated for only those parameters and flow tiers where increased mixing zones were authorized.

2- Reasonable potential exists if the maximum projected receiving water concentration (C_d) exceeds the applicable criterion (see Tables B-2 and B-3 for the criteria).

Table B-6: Summary of Reasonable Potential Determination for Copper and Mercury for Outfall 002 When the Outfall 001 Waste Stream is Discharged through Outfall 002

Parameter ¹	Reasonable Potential Evaluation ²	Flow Tier ¹ , cfs				
		< 8.6	≥ 8.6 to < 20	≥ 20 to < 69	≥ 69 to < 117	≥ 117
Copper, dissolved	aquatic life acute C _d , ug/l	149	109	na	Na	na
	aquatic life chronic C _d , ug/l	139	109	na	Na	na
	Reasonable Potential	yes	yes	na	Na	na
Mercury, acute as dissolved; chronic and recreational as total	aquatic life acute C _d , ug/l	0.704	0.488	0.251	0.0813	0.0489
	aquatic life chronic C _d , ug/l	0.765	0.575	0.295	0.0957	0.0575
	recreational C _d , ug/l	0.626	0.575	0.295	0.0957	0.0575
	Reasonable Potential	yes	yes	yes	Yes	yes

Footnotes: same as footnotes 1 and 2 of Table B-5

Table B-7: Summary of Reasonable Potential Determination for Copper and Mercury for Outfall 002 When the Outfall 003 Waste Stream is Discharged through Outfall 002						
Parameter ¹	Reasonable Potential Evaluation ²	Flow Tier ¹ , cfs				
		< 8.6	≥ 8.6 to < 20	≥ 20 to < 69	≥ 69 to < 117	≥ 117
Copper, dissolved	aquatic life acute C _d , ug/l	170	130	na	Na	na
	aquatic life chronic C _d , ug/l	161	130	na	Na	na
	Reasonable Potential	yes	yes	na	Na	na
Mercury, acute as dissolved; chronic and recreational as total	aquatic life acute C _d , ug/l	0.829	0.598	0.322	0.108	0.0652
	aquatic life chronic C _d , ug/l	0.909	0.704	0.378	0.127	0.0767
	recreational C _d , ug/l	0.761	0.704	0.378	0.127	0.0767
	Reasonable Potential	yes	yes	yes	Yes	yes

Footnotes: same as footnotes 1 and 2 of Table B-5

Table B-8: Summary of Reasonable Potential Determination for Copper and Mercury for Outfall 003						
Parameter ¹	Reasonable Potential Evaluation ²	Flow Tier ¹ , cfs				
		< 8	≥ 8 to < 18	≥ 18 to < 63	≥ 63 to < 108	≥ 108
Copper, dissolved	aquatic life acute C _d , ug/l	176	135	81.7	Na	na
	aquatic life chronic C _d , ug/l	166	135	81.7	Na	na
	Reasonable Potential	yes	yes	yes	Na	na
Mercury, acute as dissolved; chronic and recreational as total	aquatic life acute C _d , ug/l	0.865	0.626	0.35	0.117	0.0704
	aquatic life chronic C _d , ug/l	0.946	0.737	0.412	0.138	0.0828
	recreational C _d , ug/l	0.8	0.737	0.412	0.138	0.0828
	Reasonable Potential	yes	yes	yes	Yes	yes

Footnotes: same as footnotes 1 and 2 of Table B-5

3. Water Quality-based Permit Limit Derivation

Once EPA has determined that a water quality-based limit is required for a pollutant, the first step in developing the permit limit is development of a WLA for the pollutant. A WLA is the concentration (or loading) of a pollutant that the permittee may discharge without causing or contributing to an exceedence of water quality standards in the receiving water. The WLAs are then converted to long-term average concentrations (LTAs) and compared. The most stringent LTA concentration for each parameter is converted to effluent limits. The procedures for deriving WLAs, LTA concentrations, and effluent limits are based upon guidance in the TSD. This section describes each of these steps.

Calculation of WLAs. Where the state authorizes a mixing zone for the discharge, the WLA is calculated as a mass balance, based on the available dilution, background concentration of the pollutant, and the water quality criterion. WLAs are calculated using the same mass balance equation used in the reasonable potential evaluation (see Equation 1). However, C_d becomes the criterion and C_c the WLA. Making these substitutions, Equation 1 is rearranged to solve for the WLA, becoming:

For criteria expressed as total:

$$WLA = \frac{\text{criterion} \times [Q_c + (Q_u \times MZ)] - (C_u \times Q_u \times MZ)}{Q_c} \quad (\text{Equation 3})$$

For criteria expressed as dissolved a translator is added to Equation 3 and the WLA is calculated as:

$$WLA = \frac{\text{criterion} \times [Q_c + (Q_u \times MZ)] - (C_u \times Q_u \times MZ)}{Q_c \times \text{translator}} \quad (\text{Equation 4})$$

Calculation of Long-term Average Concentrations (LTAs): As discussed above, WLAs are calculated for each parameter and each criterion (acute aquatic life, chronic aquatic life, human health). Because the different criteria apply over different time frames and may have different mixing zones, it is not possible to compare the criteria or the WLAs directly to determine which criterion results in the most stringent limits. For example, the acute criteria are applied as a one-hour average and may have a smaller (or no) mixing zone, while the chronic criteria are applied as a four-day average and may have a larger mixing zone.

To allow for comparison, the acute and chronic aquatic life criteria are statistically converted to LTA concentrations. This conversion is dependent upon the CV of the effluent data and the probability basis used. The probability basis corresponds to the percentile of the estimated concentration. EPA uses a 99th percentile for calculating a LTA, as recommended in the TSD.

The following equation from Chapter 5 of the TSD is used to calculate the LTA concentrations (alternately, Table 5-1 of the TSD may be used):

$$LTA = WLA \times \exp[0.5\sigma^2 - z\sigma] \text{ (Equation 5)}$$

where: σ^2 = $\ln(CV^2 + 1)$ for acute aquatic life criteria
 = $\ln(CV^2/4 + 1)$ for chronic aquatic life criteria
CV = coefficient of variation
z = 2.326 for 99th percentile probability basis, per the TSD

The CV is calculated as the standard deviation of the data divided by the mean. For copper the CVs are 0.8 for outfall 001 and 1.2 for outfall 003. The copper CVs were calculated based on effluent monitoring from January 2000 through January 2002 (since most of previous data was nondetect at a high detection limit). All of the mercury data was reported as less than detection limits, therefore effluent-specific CVs could not be determined. The TSD recommends that a CV of 0.6 be used where a CV cannot be determined. Therefore, the CV for mercury was assumed to be 0.6. These are the same CVs that were used to calculate the permit limits in the 2003 permit.

Calculation of Effluent Limits: The LTA concentration is calculated for each criterion and compared. The most stringent LTA concentration is then used to develop the maximum daily and average monthly permit limits. The maximum daily limit is based on the CV of the data and the probability basis, while the average monthly limit is dependent upon these two variables and the monitoring frequency. As recommended in the TSD, EPA used a probability basis of 95 percent for the average monthly limit calculation and 99 percent for the maximum daily limit calculation. The limits are calculated using the following equations from the TSD (alternately, Table 5-2 of the TSD may be used):

$$\text{maximum daily and average monthly limits} = LTA \times \exp[z\sigma - 0.5\sigma^2] \quad \text{(Equation 6)}$$

for the maximum daily: $\sigma^2 = \ln(CV^2 + 1)$
z = 2.326 for 99th percentile probability basis, per TSD

for the average monthly: $\sigma^2 = \ln(CV^2/n + 1)$
n = number of sampling events required per month
z = 1.645 for 95th percentile probability basis, per the TSD

For setting water quality-based limits for protection of human health uses, the TSD recommends setting the average monthly limit equal to the WLA, and then calculating the maximum daily limit (i.e., no calculation of LTAs). The human health maximum daily limit is calculated based on the ratio of the average monthly limit and maximum daily limit as expressed by Equation 6. The maximum daily limit, therefore, is based on effluent variability and the number of samples

per month. (Average monthly limit)/(maximum daily limit) ratios are provided in Table 5-3 of the TSD.

The new proposed water quality-based effluent limits developed for outfalls 001, 002, and 003 for copper and mercury are shown in Tables B-9 through B-12. These tables also show intermediate calculations (i.e., WLAs, LTAs) used to derive the effluent limits. Since the water quality-based effluent limits are more stringent than the technology-based effluent limits (see Table B-1), the water quality-based effluent limits are included in the draft modified permit (see Tables 1 through 4).

Appendix C shows an example of the permit limit calculation for copper in Outfall 001.

4. Mass-based Limits

The effluent limits have thus far been expressed in terms of concentration. However, with a few exceptions, the NPDES regulations (40 CFR 122.45(f)) require that water quality-based effluent limits also be expressed in terms of mass. The following equation was used to convert the concentration-based limits into mass-based limits:

$$\text{mass limit (lb/day)} = \text{concentration limit (ug/l)} \times \text{effluent flow rate} \times \text{conversion factor} \quad (\text{Equation 7})$$

where, conversion factor = 0.005379 (to convert units on the right side of the equation to lb/day)
effluent flow rate = maximum discharge rate in cfs (see Page B-8)

The mass-based limits are shown in Tables 1 through 4 of the Fact Sheet.

Table B-9: Summary of Copper and Mercury Water Quality-based Effluent Limit Derivation for Outfall 001								
Parameter ug/l	Flow Tier	Aquatic Life Criteria WLAs		Aquatic Life Criteria LTA Conc.		Water Quality-based Effluent Limits		
		acute WLA	chronic WLA	acute LTA	chronic LTA	Basis ¹	maximum daily	average monthly
copper	< 14 cfs	28.2	20.2	7.02	8.87	acute	28	12
mercury ²	< 14 cfs	8.24	0.0445	2.65	0.0235	chronic	0.073	0.036
	≥ 14 to < 32 cfs	12.4	0.0606	4.00	0.0319	chronic	0.099	0.050
	≥ 32 to < 113 cfs	25.3	0.123	8.12	0.0648	chronic	0.20	0.10
	≥ 113 to < 194 cfs	83.0	0.403	26.7	0.213	chronic	0.66	0.33
	≥ 194 cfs	141	0.684	45.2	0.361	chronic	1.1	0.56

WLA = wasteload allocation LTA = long-term average

Footnotes:
1 - Effluent limits are based on the most stringent criteria (lowest LTA).
2 - Effluent limits for mercury were also developed based upon the recreational use criterion. These limits were less stringent than the limits based on the aquatic life criteria.

Table B-10: Summary of Copper and Mercury Water Quality-based Effluent Limit Derivation for Outfall 002 when Outfall 001 is Discharged Through Outfall 002								
Parameter ug/l	Flow Tier	Aquatic Life Criteria WLAs		Aquatic Life Criteria LTA Conc.		Water Quality-based Effluent Limits		
		acute WLA	chronic WLA	acute LTA	chronic LTA	Basis ¹	maximum daily	average monthly
copper	< 8.6 cfs	19.8	14.2	4.94	6.24	acute	20	8.6
	≥ 8.6 to < 20 cfs	25.6	17.1	6.38	7.52	acute	26	11
mercury ²	< 8.6 cfs	5.96	0.0314	1.91	0.0166	chronic	0.052	0.026
	≥ 8.6 to < 20 cfs	8.6	0.0418	2.76	0.0220	chronic	0.069	0.034
	≥ 20 to < 69 cfs	16.7	0.0812	5.37	0.0428	chronic	0.13	0.067
	≥ 69 to < 117 cfs	51.6	0.251	16.6	0.132	chronic	0.41	0.21
	≥ 117 cfs	85.9	0.417	27.6	0.220	chronic	0.68	0.34

Table B-10: Summary of Copper and Mercury Water Quality-based Effluent Limit Derivation for Outfall 002 when Outfall 001 is Discharged Through Outfall 002

WLA = wasteload allocation LTA = long-term average

Footnotes:

1 - Effluent limits are based on the most stringent criteria (lowest LTA).

2 - Effluent limits for mercury were also developed based upon the recreational use criterion. These limits were less stringent than the limits based on the aquatic life criteria.

Table B-11: Summary of Copper and Mercury Water Quality-based Effluent Limit Derivation for Outfall 002 when Outfall 003 is Discharged Through Outfall 002

Parameter ug/l	Flow Tier	Aquatic Life Criteria WLAs		Aquatic Life Criteria LTA Conc.		Water Quality-based Effluent Limits		
		acute WLA	chronic WLA	acute LTA	chronic LTA	Basis ¹	maximum daily	average monthly
copper	< 8.6 cfs	19.6	13.7	3.40	4.39	acute	20	7.3
	≥ 8.6 to < 20 cfs	23.3	15.6	4.04	5.01	acute	23	8.6
mercury ²	< 8.6 cfs	5.06	0.0264	1.63	0.0139	chronic	0.043	0.022
	≥ 8.6 to < 20 cfs	7.02	0.0341	2.26	0.0180	chronic	0.056	0.028
	≥ 20 to < 69 cfs	13.1	0.0634	4.19	0.0335	chronic	0.10	0.052
	≥ 69 to < 117 cfs	39	0.189	12.5	0.0999	chronic	0.31	0.16
	≥ 117 cfs	64.4	0.313	20.7	0.165	chronic	0.51	0.26

WLA = wasteload allocation LTA = long-term average

Footnotes:

1 - Effluent limits are based on the most stringent criteria (lowest LTA).

2 - Effluent limits for mercury were also developed based upon the recreational use criterion. These limits were less stringent than the limits based on the aquatic life criteria.

Table B-12: Summary of Copper and Mercury Water Quality-based Effluent Limit Derivation for Outfall 003

Parameter ug/l	Flow Tier	Aquatic Life Criteria WLAs		Aquatic Life Criteria LTA Conc.		Water Quality-based Effluent Limits		
		acute WLA	chronic WLA	acute LTA	chronic LTA	Basis ¹	maximum daily	average monthly
copper	< 8 cfs	19.2	13.3	3.34	4.27	acute	19	7.1
	≥ 8 to < 18 cfs	22.8	15.3	3.96	4.91	acute	23	8.4
	≥ 18 to < 63 cfs	28.9	19.3	5.02	6.21	acute	29	11
mercury ²	< 8 cfs	4.83	0.0254	1.56	0.0133	chronic	0.042	0.021
	≥ 8 to < 18 cfs	6.71	0.0326	2.15	0.0172	chronic	0.054	0.027
	≥ 18 to < 63 cfs	12	0.0583	3.85	0.0307	chronic	0.096	0.048
	≥ 63 to < 108 cfs	35.8	0.174	11.5	0.0918	chronic	0.29	0.14
	≥ 108 cfs	59.6	0.290	19.2	0.153	chronic	0.48	0.24

WLA = wasteload allocation LTA = long-term average

Footnotes:

1- Effluent limits are based on the most stringent criteria (lowest LTA).

2 - Effluent limits for mercury were also developed based upon the recreational use criterion. These limits were less stringent than the limits based on the aquatic life criteria.

B. Development of Effluent Limits for TSS

The regulations at 40 CFR 122.44(d)(1)(vii)(B) require that effluent limits be consistent with the assumptions and requirements of any available WLA for the discharge in an approved TMDL. A TMDL is a determination of the amount of a pollutant from point, nonpoint, and natural background sources, including a margin of safety, that may be discharged to a water body without causing the water body to exceed the criterion for that pollutant.

The IDEQ prepared a TMDL for suspended sediments in the SFCdA River (South Fork Coeur d'Alene River Sediment Subbasin Assessment and Total Maximum Daily Load, May 17, 2002). EPA approved the Sediment TMDL on August 21, 2003. The Sediment TMDL contained the following WLAs for TSS for the Lucky Friday Mine outfalls 001 and 003:

Outfall 001: 45.1 tons/year
 Outfall 003: 34.4 tons/year

According to the Sediment TMDL, the WLAs represent 90% of the 2003 permit's monthly average limit for TSS. The Sediment TMDL did not include WLAs for outfall 002.

The Region converted the above annual WLAs from tons/year to pounds/day and applied them as average monthly limits.

Outfall 001: average monthly limit = $45.1 \text{ tons/year} \times (1 \text{ year}/365 \text{ days}) \times (2000 \text{ lbs}/1 \text{ ton})$
= 247 lbs/day

Outfall 003: average monthly limit = $34.4 \text{ tons/year} \times (1 \text{ year}/365 \text{ days}) \times (2000 \text{ lbs}/1 \text{ ton})$
= 188 lbs/day

The maximum daily limits were determined using Table 5-3 of EPA's TSD. Table 5-3 provides a formula for deriving maximum daily limits from average monthly limits.

$$\text{maximum daily limit} = (\text{Table 5-3 multiplier}) \times \text{average daily limit}$$

The multiplier depends upon the frequency of sampling and CV of the data. The effluent will be sampled 4 times per month. The CVs for outfalls 001 and 003 are 0.6 and 0.5, respectively (based on data collected by Hecla from January 1997 through January 2002). Based on these values, the Table 5-3 multipliers are 2.01 for outfall 001 and 1.84 for outfall 003.

Outfall 001: maximum daily limit = $247 \text{ lbs/day} \times 2.01 = 496 \text{ lbs/day}$

Outfall 003: maximum daily limit = $188 \text{ lbs/day} \times 1.84 = 346 \text{ lbs/day}$

Outfall 002 may include the discharge of either outfall 001 or outfall 003. Since the TMDL did not include a WLA for outfall 002, when outfall 002 is discharging the flows from outfall 001, the total TSS loading from outfall 002 plus outfall 001 cannot exceed the WLA for outfall 001. Likewise, when outfall 002 is discharging the flows from outfall 003, the total TSS loading from outfall 002 plus 003 cannot exceed the WLA for outfall 003. Effluent limits established in this way will ensure that the TMDL WLAs are not exceeded when there is a discharge from outfall 002. Therefore, the TSS loading limits are as shown in Table B-13.

Table B-13: TSS Loading Limits

Outfall	maximum daily limit, lbs/day	average monthly limit, lbs/day
001 - when no portion is discharged through outfall 002	496	247
001 - when all or a portion of flow is discharged through outfall 002 002 - when all or a portion of outfall 001 flow is discharged through outfall 002	lbs/day from outfall 001 + lbs/day from outfall 002 must not exceed 496	lbs/day from outfall 001 + lbs/day from outfall 002 must not exceed 247
002 - when all or a portion of outfall 003 flow is discharged through outfall 002 003 - when all or a portion of flow is discharged through outfall 002	lbs/day from outfall 001 + lbs/day from outfall 002 must not exceed 346	lbs/day from outfall 001 + lbs/day from outfall 002 must not exceed 188
003 - when no portion is discharged through outfall 002	346	188

**APPENDIX C -
EXAMPLE WATER QUALITY-BASED EFFLUENT LIMIT CALCULATION**

This appendix demonstrates how the water quality-based analysis (reasonable potential determination and development of effluent limits) that was described in Section III.A. of Appendix B was performed using copper in Outfall 001 as an example.

Step 1: Determine the applicable water quality criteria.

Applicable water quality criteria for copper in Outfall 001 at South Fork Coeur d'Alene River flows of < 14 cfs are 11.7 ug/l (acute) and 8.06 ug/l (chronic) expressed as dissolved. See Table B-3.

Step 2: Determine if there is reasonable potential for the discharge to exceed the criteria in the receiving water.

To determine reasonable potential, the maximum projected receiving water concentration (C_d) is compared to the applicable water quality criterion. If C_d exceeds the criterion, then reasonable potential exists and a water quality-based effluent limit is established. Since the copper criteria is expressed as dissolved C_d is determined with Equation 2.

$$C_d = \frac{\text{translator} \times (C_e \times Q_e) + [C_u \times (Q_u \times MZ)]}{Q_e + (Q_u \times MZ)} \quad (\text{Equation 2})$$

The values for the parameters in the above equation are:

translator = The water quality criteria conversion factor is used as the default translator. The conversion factor for copper is 0.960 (see page B-6).

C_e = maximum projected effluent concentration = 300 ug/l (see page B-7)

C_u = upstream receiving water concentration = 1.8 ug/l, dissolved (see page B-7).

Q_u = upstream receiving water flow (see Table B-4)
for the < 14 cfs tier = 8.1 cfs for comparison to acute aquatic life criterion
= 9.4 cfs for comparison to chronic aquatic life criterion

Q_e = effluent flow (see page B-8) = 2.6 cfs

MZ = mixing zone (see page B-9) = 0.50

Insert the above values into Equation 2 and solve to determine reasonable potential.

Determine the reasonable potential to exceed acute aquatic life criterion:

$$C_d = \frac{(0.960)(300)(2.6) + (1.8)(8.1)(0.50)}{2.6 + (8.1)(0.50)} = 114 \text{ ug/l}$$

Since the maximum projected receiving water concentration ($C_d = 114 \text{ ug/l}$) exceeds the acute aquatic life criterion (11.7 ug/l), there is reasonable potential for the effluent to cause an exceedence to the water quality standard, and a water quality-based effluent limit is required (see Table B-5).

Determination of reasonable potential to exceed chronic aquatic life criterion:

$$C_d = \frac{(0.960)(300)(2.6) + (1.8)(9.4)(0.50)}{2.6 + (9.4)(0.50)} = 104 \text{ ug/l}$$

Since C_d exceeds the chronic aquatic life criterion (8.06 ug/l), there is reasonable potential for the effluent to cause an exceedence to the water quality standard, and a water quality-based effluent limit is required (see Table B-5).

Step 3: Since there is reasonable potential, determine the wasteload allocation (WLA).

Since the applicable criteria are expressed as dissolved, the WLAs for copper in Outfall 001 are calculated using Equation 4:

$$WLA = \frac{\text{criterion} \times [Q_e + (Q_u \times MZ)] - (C_u \times Q_u \times MZ)}{Q_e \times \text{translator}} \quad (\text{Equation 4})$$

The variables in the WLA equation have already been defined in Steps 1 and 2. Inserting these into Equation 4 and solving:

Determination of the WLA for protection of acute aquatic life:

$$WLA_{\text{acute}} = \frac{(11.7)[2.6 + (8.1)(0.50)] - (1.8)(8.1)(0.50)}{(2.6)(0.960)} = 28.2 \text{ ug/l}$$

Determination of the WLA for protection of chronic aquatic life:

$$WLA_{\text{chronic}} = \frac{(8.06)[2.6 + (9.4)(0.50)] - (1.8)(9.4)(0.50)}{(2.6)(0.960)} = 20.2 \text{ ug/l}$$

These WLAs are shown in Table B-9.

Step 4a: Develop Long-term Average (LTA) Concentrations based on the WLAs.

Effluent limits are developed by converting the aquatic life WLAs to LTA concentrations. The most stringent of the acute or chronic LTA concentration is then used to develop the effluent limits. The aquatic life WLAs are converted to LTA concentrations using Equation 5:

$$\text{LTA} = \text{WLA} \times \exp[0.5\sigma^2 - z\sigma] \quad (\text{Equation 5})$$

where,

$z = 2.326$ for 99th percentile probability basis (per the TSD)

$\text{CV} = 0.8$ (see page B-13)

for acute criteria, $\sigma^2 = \ln(\text{CV}^2 + 1) = \ln(0.8^2 + 1) = 0.4947$

for chronic criteria, $\sigma^2 = \ln(\text{CV}^2/4 + 1) = \ln(0.8^2/4 + 1) = 0.1484$

Plugging the above values and the WLAs from step 3 into Equation 5 and solving:

$$\text{LTA}_{\text{acute}} = (28.2) \times \exp [0.5(0.4947) - (2.326)(0.7033)] = 7.02 \text{ ug/l}$$

$$\text{LTA}_{\text{chronic}} = (20.2) \times \exp [0.5(0.1484) - (2.326)(0.3852)] = 8.87 \text{ ug/l}$$

These LTA concentrations are shown in Table B-9. Since the LTA concentration based on the acute criterion is more stringent than the LTA based on the chronic criterion, the acute LTA is used to derive the aquatic life effluent limits for copper (see Step 4b, below).

Step 4b: Develop Effluent Limits Based on the LTA.

The most stringent LTA concentration for each flow condition is converted to a maximum daily limit and an average monthly limit via Equation 6:

$$\text{maximum daily limit and average monthly limit} = \text{LTA} \times \exp[z\sigma - 0.5\sigma^2] \quad (\text{Equation 6})$$

where,

for the maximum daily limit:

$z = 2.326$ for 99th percentile probability basis (per TSD)

$\sigma^2 = \ln(\text{CV}^2 + 1) = \ln(0.8^2 + 1) = 0.4947$

for the average monthly limit:

$z = 1.645$ for 95th percentile probability basis (per the TSD)

$\sigma^2 = \ln(\text{CV}^2/n + 1) = \ln(0.8^2/4 + 1) = 0.1484$

since, $n =$ number of samples per month $= 4$

(weekly monitoring for copper in Outfall 001)

Substituting the above values and the lowest LTA concentrations from Step 4a into Equation 6 and solving:

$$\text{maximum daily limit} = (7.02) \exp [(2.326)(0.7033) - 0.5 (0.4947)] = 28 \text{ ug/l}$$

$$\text{average monthly limit} = (7.02) \exp [(1.645)(0.3852) - 0.5 (0.1484)] = 12 \text{ ug/l}$$

These are the copper effluent limits for Outfall 001 in the draft modified permit (see Table B-9).

APPENDIX D - Endangered Species Act

Section 7 of the Endangered Species Act requires federal agencies to consult with the NOAA National Marine Fisheries Service (NOAA Fisheries) and the U.S. Fish and Wildlife Service (USFWS) regarding potential effects a federal action may have on threatened and endangered species. The USFWS has identified the following federally-listed species that may be impacted by the discharge.

Endangered Species:

Gray Wolf (*Canis lupus*) - experimental

Threatened Species:

Bull Trout (*Salvelinus confluentus*)

Bald Eagle (*Haliaeetus leucocephalus*)

Ute' Ladies-tresses (*Spiranthes diluvialis*)

Based on the following discussion, the Region has determined that the requirements contained in the draft permit modification will not have an impact on these species.

Gray Wolf: The primary threats to wolf population are human caused mortality. The primary exposure of the gray wolf to water quality impacts is through either drinking water exposure or habitat degradation. Gray wolves consume prey that are primarily vegetarian. Therefore, the gray wolf should not be exposed to harmful concentrations as a result of exposure to contaminated aquatic habitats since they do not consume fish.

The possibility of exposure of gray wolf to the pollutants in the Lucky Friday discharge in toxic amounts via contamination of plant materials in aquatic systems is extremely unlikely because exposure via this pathway would require: (1) that gray wolves would consume prey species affected primarily by the area of the discharge; and (2) that prey species consume enough contaminated vegetation in the area of the discharge to pass on a significant amount to their predators. Additionally, biomagnification through plants directly to mammals is uncommon. From this information, the Region has determined that the issuance of the NPDES permit for the Lucky Friday Mine will have no effect on the gray wolf.

Bull Trout: Based on information from the USFWS on the bull trout listing (63 FR 31622) as well as the Draft Bull Trout Recovery Plan (USFWS 2002), bull trout do not reside in the South Fork and are not expected to reside in the South Fork. Therefore, the Region considered the impact of the Lucky Friday permit on bull trout in the Main Stem of the Coeur d'Alene River (Main Stem) where bull trout may occur. The Lucky Friday discharges are located 25 miles above the confluence with the Main Stem. The flow from the Lucky Friday Mine discharges are approximately 0.1% of the flow at the confluence with the Main Stem. For the 2003 permit issuance, the Region estimated the loading of cadmium, lead, and zinc to the Main Stem from the Lucky Friday discharges and found that the loads are less than 2% of the metals in the river at

this point (EPA 2003c). the Region concluded that the copper, mercury, and silver contributed by the Lucky Friday discharges in the Main Stem would also be very small.

Based on this information, the Region determined that issuance of the permit would have no effect on bull trout since bull trout are not present in the South Fork and the Lucky Friday discharges would have an inconsequential effect in the Main Stem where bull trout may occur.

Bald Eagle: The bald eagles diet includes hatchery trout, other fish species including both salmonids and non-salmonids, mule deer, ground squirrels, rabbits, waterfowl, and other small mammals. Water quality could potentially affect bald eagles through four avenues: prey displacement or quantitative decline, prey mortality, bioaccumulation in prey, or direct consumption.

Because bald eagles are not aquatic animals, the only concern for exposure is through their prey (consumption of fish) that have been exposed to toxins in the outfalls of the Lucky Friday discharges. Given the range over which the bald eagle feed and their varied diet, it is highly unlikely that bald eagles would be consuming fish solely from the area of the Lucky Friday discharges. It is highly unlikely that any fish that would be consumed by the bald eagle in the area of the discharge would represent a significant portion of their diet. Therefore, the Region has determined that issuance of the NPDES permit to the Lucky Friday Mine will have no effect on the bald eagle.

Ute ladies' tresses: Ute ladies' tresses is a perennial, terrestrial orchid found in four general areas of the interior western United States. This species generally inhabits river shores where inundation occurs infrequently. Exposure to surface water would generally occur in these areas only during rare flooding events when dilution of contaminants and length of exposure to contaminated water would minimize toxicity. Therefore, because of the lack of exposure to contaminants in aquatic systems, the Region has determined that issuance of the Lucky Friday permit will have no effect on the Ute ladies'-tresses.

APPENDIX E - REFERENCES

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IDEQ 2004. Letter from Toni Hardesty, IDEQ, to Robert R. Robichaud, EPA, 401 Certification regarding NPDES Permit No. ID-000017-5, Hecla Mining Company – Lucky Friday Mine, Mullan, Idaho. July 15, 2004.

IDEQ 2005. Letter from Gwen P. Fransen, IDEQ, to Michael Gearheard, EPA, Mixing Zones. March 23, 2005.

U.S. Fish and Wildlife Service (USFWS). 2002. Bull Trout Draft Recovery Plan. USFWS Region 1. October 2002.

Appendix G

**National Pollutant Discharge Elimination System (NPDES) Permit for
Hecla Mining Company - Lucky Friday Mine
NPDES Permit No. ID-000017-5**

Response to Comments on Permit Modification

December 27, 2005

U.S. Environmental Protection Agency, Region 10

INTRODUCTION

This document provides a response to comments received on the draft National Pollutant Discharge Elimination System (NPDES) permit modification for the Lucky Friday Mine, owned and operated by Hecla Mining Company (Hecla). The draft permit modification was issued for public comment on June 21, 2005. A Fact Sheet entitled "Fact Sheet for Permit Remand and Modification Proceedings" (the Fact Sheet) was issued with the draft permit modification. The Fact Sheet described the facility activities, wastewater discharges, reason for the modification, and how the modified permit conditions were developed.

BACKGROUND

EPA Region 10 (the Region) issued a final NPDES permit for the Lucky Friday Mine on August 12, 2003. Hecla filed a petition with EPA's Environmental Appeals Board (EAB) to appeal some of the conditions in the permit. These permit conditions are stayed pending the outcome of the appeal. Hecla also appealed the State's Clean Water Act Section 401 certification of the 2003 NPDES permit. In response to Hecla's appeal of the 401 certification, the Idaho Department of Environmental Quality (IDEQ) revised some of the 401 certification conditions and sent to the Region, on July 15, 2004, the final revised Section 401 certification. On August 19, 2004, Hecla sent to the Region a request to modify the Lucky Friday Mine permit based on the revised 401 certification. In addition, Hecla sent a request to the EAB requesting that the EAB remand five issues raised in its petition that were affected by the revised 401 certification. On October 13, 2004, the EAB remanded these five issues to the Region.

On June 21, 2005, the Region issued a draft modification to the Lucky Friday NPDES permit in response to the revised 401 certification, the EAB remand order, and Hecla's request for modification. The following modifications were proposed:

- Revised effluent limits for copper and mercury based on increased mixing zone sizes.
- Addition of a compliance schedule for meeting the cadmium limits at outfall 003 and at outfall 002 when the outfall 003 waste stream is discharged through outfall 002.
- Addition of a compliance schedule requirement that Hecla submit to EPA and IDEQ the design of its wastewater recycling system prior to implementing the system.
- Revision of some of the interim effluent limits effective during the compliance schedule.

- Establishment of a 2007 deadline for beginning the permit's seepage study and hydrological analysis requirements and a March 14, 2008 submission date for the report documenting the results of this study and analysis.
- Revision of some of the bioassessment monitoring requirements and establishment of a 2007 deadline for beginning the bioassessment monitoring.

The Region also proposed modification of the total suspended solids (TSS) limits to include new TSS loading limits based on wasteload allocations in the South Fork Coeur d'Alene River Sediment Subbasin Assessment and Total Maximum Daily Load (the Sediment TMDL). The Sediment TMDL was approved by EPA on August 21, 2003.

The draft permit modification comment period ended on July 21, 2005. Comments on the draft permit modification were received from Hecla and from the Center for Justice (on behalf of Idaho Rivers United and the Sierra Club). This document provides a response to the comments.

CWA SECTION 401 CERTIFICATION OF THE TSS LIMITS

Most of the permit conditions that were proposed for modification were based on the revised 401 certification. The Region, therefore, did not request that IDEQ re-certify these conditions. The new proposed TSS loading limits, however, were based on the sediment TMDL which was approved following issuance of the 2003 permit. On December 16, 2005, IDEQ issued a Section 401 certification for the TSS limits in the draft permit modification (IDEQ 2005). The TSS Certification stated that the TSS limits included in the permit comply with the wasteload allocations set forth in the Sediment TMDL and that if the Lucky Friday Mine and Mill complies with the terms and conditions related to TSS imposed by the permit, there is reasonable assurance the discharge will comply with Idaho Water Quality Standards.

CHANGE TO EPA REPORTING ADDRESS

Part III.B. of the permit provides the address for submitting monitoring results to EPA and IDEQ. Due to organizational changes within EPA, the address for submitting monitoring information to EPA has changed. The original address was the Office of Water at OW-133. The new address is the Office of Compliance and Enforcement at OCE-133. This change is reflected in Part III.B. of the permit.

COMMENTS RECEIVED ON THE DRAFT PERMIT MODIFICATION

Following are comments on the draft permit modification and EPA's responses. In some cases, the exact phrasing of comments is presented. In other cases, substantive portions were excerpted or summarized from the comment. The Administrative Record files contain complete copies of each comment letter.

Comments from Hecla Mining Company (July 15, 2005 letter from Mike Dexter, Lucky Friday Mine, to the Director Office of Water and Watersheds, EPA)

Comment 1: Incorporation of Prior Comments.

The Draft Modified Permit raises a variety of issues that are relevant to prior Hecla comments and therefore, all comments submitted on previous permit actions, including the variance request and any exhibits, by either the Lucky Friday Mine or Hecla are hereby incorporated into these comments by reference without limitation.

Response: Comments submitted by Hecla on past EPA actions, including issuance of the 2003 final NPDES permit and EPA's decision on Hecla's request for a variance were responded to as part of the decision-making processes for those actions. EPA refers Hecla to the administrative records for those actions.

Comment 2: Hecla seeks pH Adjustment.

Hecla commented that the upper pH limits should be adjusted from 9.0 su to 10.0 su. Hecla provided the following reasons for increasing the pH limits.

Reason 1: The 401 certification allows for a higher upper pH limit.

The state's final 401 certification of July 15, 2004 authorized a mixing zone for pH. DEQ was supplied with a mixing zone analysis for pH showing that a pH of 10 s.u. in the effluent would result in no more than 0.2 s.u. pH increase in the receiving water, thus the state certified mixing zone would meet state water quality standards. The overriding intent of the Clean Water Act (CWA) is to meet applicable criteria instream. To ignore the will of the state on this issue flies in the face of the Congressional intent of the CWA to recognize, preserve, and protect the States' rights to manage the water resources of the States (Section 101(b)).

Reason 2: EPA regulations allow for relief of the upper pH limit.

EPA regulations at 40 CFR 440.131 allow for relief of the technology-based pH upper limit; 40 CFR § 440.131(d) clearly allows an adjustment to the pH technology based effluent limit to achieve "relevant metal limitations." It is also clear, that use of the term "relevant metals limitation" in 40 CFR § 440.131(d) not only include the technology based effluent limits in Part 440 but also included water quality based effluent limits (WQBELs).

Hecla cites a previous report submitted to EPA that points to the need for lime treatment (which would raise the pH) to meet the new metals limits in the final permit (Centra Conceptual Design Report, Centra Consulting, Inc., August 2001). Hecla states that the use of lime treatment and sedimentation for the treatment of dissolved metals could result in the discharge of pH up to 10. Hecla also cites EPA Treatability Manual, Volumes 1-5 (EPA-600/2.82-001) and the Development Document for Proposed Effluent Limit Guidelines for the Ores Mining and Dressing Point Source Category (EPA May 1982) that lime is needed to achieve metals limits and that resulting pH levels are higher than 9.0.

Hecla also cites the work of EPA consultants in the Coeur d'Alene Basin "FINAL CANYON CREEK TREATABILITY STUDY PHASE I REPORT" (March 23, 2005), prepared for EPA by URS Group, Inc. that a high pH is necessary to treat for metals. Hecla cites Appendix C (Columbia Analytical Services Case Narrative), page 4, states under "General Observations" that "It was apparent that the optimal target pH is 10.5"! The focus of this study was on the removal of dissolved zinc, cadmium, and lead – the same metals of concern, from the same ore types, as those in the Lucky Friday discharge.

Hecla cites the Federal Register to EPA's proposal of 40 CFR § 440.131, that provides that a pH adjustment was authorized "if evidence as submitted to the permitting authority demonstrates that this provision will not result in degradation of water quality in the receiving stream or toxic conditions for its biota." 47 Fed. Reg. 25682, 25701 (June 14, 1982). The State of Idaho's final water quality certification of July 15, 2004 clearly provides that water quality in the South Fork of the Coeur d'Alene River will not be degraded and that there will not be toxic conditions for biota by reason of pH discharges of 10.0 s.u.

Reason 3: The alternative to pH adjustment is for storage and use of large volumes of acid near the river. Hecla cannot understand why EPA would advocate such a result from an environmental protection standpoint.

Reason 4: EPA has provided relief of the upper pH limit to other facilities. The Red Dog Mine was issued a permit with a pH upper limit of 10.5 s.u. in 1998 based upon that facility's need to achieve more stringent WQBELS for dissolved metals and in reliance upon 40 CFR 440.131. The Sunshine Mine was issued a permit with an upper pH limit of 9.5 s.u. to remove dissolved metals. The Bunker Hill Central Treatment Plant (CTP), operated by EPA, is operating under the conditions of an expired permit issued to Bunker Hill, with an upper pH limit of 10.0 s.u. to remove dissolved metals. Even though the CTP operates within the superfund "box", it discharges to the South Fork of the Coeur d'Alene River, which is not part of the superfund "box", thus the CTP discharge should be subject to the same standards as the Lucky Friday Mine.

Reason 5: Increased hardness due to increased pH in the discharge also helps the health of the receiving water. Increased hardness reduces the toxicity of the heavy metals already in the system due to natural and manmade causes, and EPA Region 10 knows this.

Response: The upper pH limit of 9.0 su in the final permit was based on the technology-based effluent limitation guidelines (ELGs) for Copper, Lead, Zinc, Gold, Silver, and Molybdenum Ores subcategory found in Subpart J of 40 CFR 440. The guidelines specify an upper pH limit of 9.0 s.u. During the comment periods available for the permit that was issued in 2003, Hecla requested an upper pH limit of 10.0 s.u. Hecla did not cite 40 CFR 440.131(d) as a basis for increasing the limit. Hecla did cite this provision in its brief to the EAB, however, that was after the 2003 permit was issued.

The revised 401 certification authorized a mixing zone of 25% for pH above 9.0 s.u. However, the upper pH limit of 9.0 s.u. is a technology-based limit and the NPDES regulations do not allow for dilution (mixing zones) to be considered in implementation of technology-based limits. The NPDES regulations at 40 CFR 122.44(a)(1) require that NPDES permits include technology-based effluent limitations and standards and nothing in the regulations allows for considering dilution of effluent in the receiving water to determine technology-based limits. Therefore, the upper pH limit cannot be increased on the basis of the mixing zone included in the revised 401 certification.

The NPDES regulations at 40 CFR 440.131(d)(1), however, do provide a basis for increasing the upper pH limit specified in the ELGs. 40 CFR 440.131(d)(1) states "Where the application of neutralization and sedimentation technology to comply with relevant metal limitations results in an inability to comply with the pH range of 6 to 9, the permit issuer may allow the pH level in the final effluent to slightly exceed 9.0 so that the copper, lead, zinc, mercury, and cadmium limitations will be achieved." Hecla currently operates tailings ponds that allow for sedimentation prior to discharge. However, Hecla has not supplied EPA with any commitment that they will implement neutralization technology in order to meet the metals limits in the permit. Nor has Hecla supplied information related to the expected pH in the discharge following neutralization and sedimentation treatment to meet the metals limits in the final permit or draft permit modification. In fact, Hecla has challenged the metals limits in the permit in an appeal to the EAB.

In its comment Hecla cites the Centra report, EPA's treatability study manual, EPA's development document for the effluent limitations guidelines, and a treatability study report for Canyon Creek as examples of documents that discuss processes that require pH above 9 s.u. in order to

treat for metals. EPA agrees that in many cases pH adjustment is required to precipitate metals and that for certain wastewaters pH adjustment above 9.0 s.u. is required. However, there are also examples where pH adjustment is used to treat metals, yet the final effluent meets the technology-based limit of 9.0 s.u. One example, is Hecla's Grouse Creek Mine. Wastewater from the mine is treated via processes similar to those identified by Hecla in its comment, yet the wastewater meets the NPDES permit limit which requires that the effluent not exceed pH 9 s.u. (EPA 1999 and EPA 2002).

Hecla has submitted no specific plans or commitment to implement a specific neutralization treatment technology to treat wastewater from the Lucky Friday Mine nor any demonstration that the pH of the wastewater following treatment will exceed 9.0 s.u. If Hecla submits information that provides a commitment to implement a neutralization process to meet the metals limits and demonstrates that the process will result in a pH above 9.0 s.u. upon discharge, then EPA may consider modifying the NPDES permit to incorporate a limit higher than 9.0.

EPA did allow a higher pH limit in the NPDES permit for the Red Dog mine discharge pursuant to 40 CFR 440.131(d)(1) (EPA 1993). The permit included the higher limit since the wastewater was being treated by a high density sludge wastewater treatment plant that utilized neutralization and settling as part of the treatment processes. In addition, the Red Dog permittee (Cominco) had committed to upgrading the treatment process. EPA would consider allowing a higher pH limit for the Lucky Friday mine should Hecla commit to installing similar treatment and demonstrate that the use of this technology would render it unable to comply with an upper pH limit of 9.0 s.u.

The permit for the Sunshine Mine includes an upper pH limit of 9.5. That limit was not developed according to 40 CFR 440.131(d)(1), but rather represents a calculated technology-based pH requirement for a number of combined wastestreams. (EPA 1990). Some of these wastestreams have technology-based limits of 10.0. These wastestreams are not equivalent to those for the Lucky Friday Mine.

Contrary to the statements in the comment, the Bunker Hill CTP does not operate under an expired NPDES permit and the CTP discharge does not exceed a pH of 9.0. The NPDES permit for the CTP has been terminated since the CTP is operated by EPA under Superfund authorities. The CTP is operated pursuant to the "Bunker Hill CTP Discharge Quality and Monitoring Plan" (EPA 2001) which provides effluent quality limits and monitoring requirements for the CTP. The CTP Discharge Quality and Monitoring Plan requires that the discharge from the CTP not exceed a pH of 9.0 s.u (see Table 2 of EPA 2001). This is equivalent to what is currently being required for the Lucky Friday Mine.

Based upon the above response, the upper pH limit of 9.0 will be retained in the final permit. However, EPA will consider modifying the NPDES permit to include a higher pH limit pursuant to 440.131(d)(1) should Hecla submit information that provides a commitment to implement a neutralization and sedimentation process to meet the metals limits and demonstrates that the process will render it unable to comply with an upper pH limit of 9.0 s.u.

Comment 3: Interim Limits.

The draft modified permit does not allow for the interim limits based upon recent performance agreed to with DEQ in the state 401 certification. We were under the impression that EPA Region 10 also agreed that the interim limits should be based upon past performance. Compliance schedules authorized by state law should be considered controlling on the issue of interim limits and EPA Region 10 should reconsider their position.

Response: In the revised 401 certification, IDEQ authorized a compliance schedule to meet the cadmium, lead, mercury, and zinc metals limits in the Lucky Friday permit. The compliance schedule included interim limits for these parameters. The Region included, in the draft permit modification, the interim limits as specified in the revised 401 certification, with one exception. The exception is the lead interim limits for outfall 001.

The revised 401 certification specified interim lead limits for outfall 001 of 899 ug/l (maximum daily) and 440 ug/l (average monthly). These limits are higher than the technology-based effluent limitation guidelines (ELGs) that are applicable to the Lucky Friday Mine. The ELGs for lead that are applicable to Lucky Friday Mine outfall 001 are 600 ug/l (maximum daily) and 300 ug/l (average monthly); see 40 CFR 440.103 and the Fact Sheet, Appendix B, Section II. The statutory deadline for meeting technology-based limits based on ELGs was March 31, 1989 (40 CFR 125.3(a)(2) and CWA 301(b)). Compliance schedules are not allowed where statutory deadlines have passed (40 CFR 122.47(a)(1)). Since the CWA and NPDES regulations do not allow setting limits higher than technology-based ELGs, the outfall 001 interim lead limits in the revised 401 certification cannot be included in the permit. The technology-based ELGs, instead, were included as the interim limits in the draft permit modification. This was discussed in the Fact Sheet (see Table 5, footnote 5 and Section D.). Based upon the above discussion, the interim limits included in the draft permit modification were retained in the final permit.

Comment 4: Permit Effective Date.

The Fact Sheet states that most of the “changes proposed in today’s action are based on a revised Clean Water Act Section 401 certification”. Regardless of how either DEQ or EPA characterize the 401 certification issued by DEQ on 15 July 2004, this certification is the “final” certification after the compliance required for 401 certifications under the Idaho Administrative Procedures Act (IDAPA). Clean Water Act Section 401(a) (1) mandates these IDAPA requirements. This same section clearly states “No license or permit shall be granted until the certification required by this section has been obtained...”. Subsequent issues requiring a “modification” or “revision”, such as the TSS TMDL, clearly represent a “modification” or “revision”, but the 15 July 2004 certification was the “final” pursuant to IDAPA. As such, the issuance of the permit prior to addressing the final 401 certification was premature, thus both the effective date, compliance schedule and expiration date of the permit must be changed accordingly.

Response: EPA’s issuance of the permit was not premature. IDEQ issued a final Section 401 certification for the Lucky Friday permit on June 17, 2003. The June 17, 2003 certification was a final certification as characterized in the certification letter which stated “This letter will serve as certification by the State of Idaho pursuant to the provisions of Section 401 of the Federal Water pollution Control Act, (Clean Water Act) as amended, 33 USC Section 1341.” The NPDES permit issued by the Region on August 12, 2003 included conditions authorized in the June 2003 certification.

On July 15, 2004 IDEQ issued a revised 401 certification. In subsequent correspondence, IDEQ refers to the July 15, 2004 certification as a “revised 401 certification” and “modified certification” (IDEQ 2004b). By today’s action, EPA is revising a number of the permit’s conditions to reflect the modified (July 2004) 401 certification. A number of these revisions to the permit limits are mandated by 40 CFR 124.55(b) because the modified 401 certification was received before final agency action on the permit and required more stringent conditions. Other conditions are being revised to be less stringent in light of the modified 401 certification, Hecla’s August 19, 2004 modification request, and the EAB’s remand order. Nothing in EPA’s regulations, the modified 401 certification, Hecla’s August 19, 2004 modification request, or the EAB’s remand order authorizes or compels revisions to the permit’s original effective dates, compliance schedules, or expiration date.

Many of the original permit’s conditions were neither challenged by Hecla nor affected by the EAB’s remand order and have therefore been in effect since November 2003 in accordance with 40 CFR 124.16(a)(2) (EPA 2003, EPA 2004). Revising the permit’s effective and expiration dates more than two years after these conditions went into effect would sow further confusion and could run afoul of the requirement that “NPDES permits shall be effective for a fixed term not to exceed 5 years” and that

this maximum duration not be exceeded through permit modification. 40 CFR 122.46(a), (b).

Based on the above discussion, the permit effective and expiration dates have not been changed and neither have the compliance schedule dates. The NPDES regulations at 40 CFR 122.62 state that when a permit is modified, "only the conditions subject to modification are reopened." Therefore the permit effective and compliance schedule dates have not been revised

Comments from the Center for Justice, submitted on behalf of Idaho Rivers United and the Upper Columbia River Groups of the Sierra Club (July 20, 2005 letter from Rick Eichstaedt to Patty McGrath, EPA)

Comment 5: Mixing Zones

Center for Justice comments that the mixing zones for mercury and copper are increased by 200% and 100%, respectively. IDAPA 58.01.02.051 requires that "the existing in stream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." They comment that the increases appear to be in violation of state regulations addressing maximum size limitations for mixing zones. The permit lacks an explanation of the reason for such a large increase in the size of the mixing zones and no measures are discussed identifying how stream quality and beneficial uses will be protected. For the mercury mixing zones, Center for Justice requests additional explanation and analysis, including a discussion of the consistency of the mixing zone with the protection of beneficial uses. For the copper mixing zones, Center for Justice requests that the copper mixing zones be changed to be consistent with the mixing zone size limits at 58.01.02.060 Section 1 (a) and (i). They also request that the increases, the reason for the increases, and the overall size of the mixing zones be explained in more detail.

Response: The NPDES regulations allow for dilution (mixing zones) to be considered in developing water quality-based effluent limits (40 CFR 122.44(d)(1)(i)), such as those for copper and mercury in the Lucky Friday permit modification. Mixing zones can be established where the state has mixing zone provisions in its water quality standards regulations and authorizes mixing zones in a CWA Section 401 certification of the NPDES permit. As discussed in the Fact Sheet for the draft permit modification, the mixing zone volumes used to develop the copper and mercury effluent limits were based on IDEQ's July 15, 2004 revised 401 certification. IDEQ certified that these mixing zones will be protective of designated uses in the South Fork and that there is reasonable assurance that the discharges will comply with Idaho Water Quality Standards. Comments related to the state certification action and authorization of mixing zones should be sent to IDEQ. Please see IDEQ's administrative

record supporting the mixing zones for information related to consistency with the states mixing zone policy, mixing zone sizes, and protection of beneficial uses.

Comment 6: Antidegradation Analysis

The permit documents lack any discussion of antidegradation requirements or any antidegradation assessment. The CWA requires that EPA conduct a full antidegradation analysis for all NPDES permits. The commenter requests that an antidegradation analysis take place to ensure that the levels for release do not further degrade the river and damage current uses (including within the mixing zone). Given the length of time that the Lucky Friday Mine has been operating without a valid permit (1980-until now), an extensive antidegradation analysis is appropriate.

Response: The proposed limits in the draft permit modification were based on state water quality standards and mixing zones authorized in the revised 401 certification. The revised 401 certification states "If the Lucky Friday Mine and Mill complies with the terms and conditions imposed by this permit and the conditions set forth in this 401 Certification, there is reasonable assurance the discharges will comply with the applicable requirements of Sections 208(e), 301, 302, 303, 306, and 307 of the Clean Water Act, including Idaho Water Quality Standards and Wastewater Treatment Requirements (Water Quality Standards)." Antidegradation is part of the state water quality standards and the certification provides reasonable assurance that the permit complies with the standards, and therefore, with antidegradation.

Idaho's antidegradation policy (IDAPA 58.01.0205(1.01)) states in part, that "the existing in stream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." The "level of water quality necessary to protect the existing uses" is defined by the State's water quality standards. Meeting these standards will ensure that the existing uses will be protected. The limits in the final permit are based on the state standards. Therefore, the permit is consistent with Idaho's antidegradation policy. The metals limits in the final permit will require Hecla to improve the quality of the wastewater that they are currently discharging. This will result in improved water quality and therefore complies with the Idaho's antidegradation policy.

Comment 7: Seepage Studies

The draft permit indicates that the applicant will receive extension on the required seepage studies. Center for Justice comments that it is unclear why the applicant after 20+ years of operating without a valid permit why such an extension is appropriate. Please provide additional details as to why an extension is appropriate.

Response: The 2003 NPDES permit required that the seepage study be submitted to EPA and IDEQ within 3 years of the effective date of the permit. However, in its revised 401 certification, IDEQ stated that the seepage study should be required after implementation of the water recycling program in 2007. This change was included in the draft permit modification. It makes sense to begin the seepage study after implementation of water recycling since changes to wastewater flowing into the tailings ponds may result in changes to any seepage from the ponds. It is important for seepage to be adequately characterized in order for the Region to determine the need for any future permit conditions related to the seepage.

It should be noted that requiring that the seepage study begin in 2007 is not really an extension or delay of the seepage studies. That is because the seepage study portion of the permit is not currently in effect due to Hecla's petition to appeal this portion of the permit. Conditions in the permit that are subject to appeal are currently stayed, or not in effect, pending outcome of the appeal. Therefore, the original language (3 years from the effective date of the permit) is actually less stringent than the new language that requires the seepage study begin in 2007.

Comment 8: Monitoring

The draft permit proposed that bioassessment monitoring will begin in 2007. Given the length of the permit (5 years), monitoring should begin immediately. Please provide additional details as to why such a delay is appropriate.

Response: The bioassessment monitoring provisions were included in the 2003 NPDES permit because the state required the monitoring in its original 401 certification. The revised 401 certification specified that bioassessment monitoring begin in 2007. This change was incorporated into the draft permit modification. The Region believes that it is appropriate to defer to the State's 401 certification regarding when to begin the bioassessment monitoring since the State authorized the bioassessment monitoring in the certification.

REFERENCES

EPA 1990. Proposed Reissuance of a NPDES Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act. Fact Sheet for Sunshine Mining Company. US Environmental Protection Agency (EPA) Region 10. July 24, 1990.

- EPA 1993. Proposed Reissuance of a NPDES Permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act. Fact Sheet for Cominco Alaska, Inc. (Red Dog Mine). EPA Region 10. December 27, 1993.
- EPA 1999. Fact Sheet for Proposed Reissuance of NPDES Permit to Hecla Mining Company, Grouse Creek Unit. EPA Region 10. November 24, 1999.
- EPA 2001. Bunker Hill CTP Discharge Quality and Monitoring Plan. Prepared by URS Greiner and CH2M Hill for EPA Region 10. June 2001.
- EPA 2002. NPDES Permit No. ID-002646-8. Hecla Mining Company – Grouse Creek Unit. January 8, 2002.
- EPA 2003. Notification of Stayed Permit Conditions, Hecla Mining Company, Lucky Friday Mine NPDES Permit No. ID-000017-5, Issued August 12, 2003. Letter from Randall F. Smith, EPA, to Mike Dexter, Hecla. October 1, 2003.
- EPA 2004. Notification of Remanded and Withdrawn Permit Conditions, Hecla Mining Company, Lucky Friday Mine NPDES Permit No. ID-000017-5, Issued August 12, 2003. Letter from Michael F. Gearheard, EPA, to Mike Dexter, Hecla. October 28, 2004.
- EPA 2005. Fact Sheet for Permit Remand and Modification Proceedings. EPA Region 10. June 21, 2005.
- IDEQ 2004a. 401 Certification regarding NPDES Permit No. ID-000017-5, Hecla Mining Company – Lucky Friday Mine and Mill, Mullan, Idaho. Letter from Toni Hardesty, IDEQ, to Robert R. Robichaud, EPA. July 15, 2004.
- IDEQ 2004b. Letter from Toni Hardesty, IDEQ, to Mike Gearheard, EPA.
- IDEQ 2005. 401 Certification regarding NPDES Permit No. ID-000017-5, Hecla Mining Company – Lucky Friday Mine and Mill, Mullan, Idaho, Total Suspended Solids Certification. Letter from Toni Hardesty, IDEQ, to Robert R. Robichaud, EPA. December 16, 2005.

Opheut H

Rec'd 1-3-06 ID



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

December 28, 2005

Reply To
Attn Of: ORC-158

U.S. Environmental Protection Agency
Clerk of the Board, Environmental Appeals Board (MC 1103B)
Ariel Rios Building
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460-0001

Re: Notification of Completion of Remand Proceedings, Hecla Mining Company, Lucky
Friday Mine NPDES Permit No. ID-000017-5, Issued August 12, 2003

Dear Sir or Madam:

On October 13, 2004, the Environmental Appeals Board ("EAB") issued an order that remanded certain conditions of the above-referenced National Pollutant Discharge Elimination System ("NPDES") permit "to allow the Region to incorporate any changes it determines are appropriate" in light of the State of Idaho's decision to revise its Clean Water Act ("CWA") Section 401 certification of the permit. This letter is written to provide notification to the EAB and to the participants in the remand proceedings that the Region has completed the remand proceedings ordered by the EAB.

The Region's decision on remand is embodied in the enclosed modified NPDES permit that incorporates changes to the remanded conditions. Also enclosed is the response to comments received on the draft modified permit. Pursuant to the EAB's remand order, any party "who participated in the remand proceedings and is not satisfied with the Region's decision on remand may file an appeal with the Board pursuant to 40 C.F.R. § 124.19. Any such appeal must be limited to issues within the scope of the remand." Pursuant to 40 C.F.R. § 124.15(b), the modified permit conditions will go into effect on the date specified in the permit unless review is requested on the permit under 40 C.F.R. § 124.19.

Please feel free to contact me at (206) 553-2581 should you have questions regarding this letter.

Sincerely,

R. David Albrutt
Assistant Regional Counsel

encl.

cc: Mike Dexter, Hecla [via certified mail]
Rick Eichstaedt, Center for Justice [via certified mail]
Kevin J. Beaton, Stoel Rives LLP [via certified mail]
Ed Tulloch, IDEQ Coeur d'Alene Office
Gwen Fransen, IDEQ Coeur d'Alene Office
Phil Camera, Coeur d'Alene Tribe
Justin Hayes, Idaho Conservation League