

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

In the Matter of:)	
)	
)	Appeal No. NPDES 06-05
HECLA MINING COMPANY)	
LUCKY FRIDAY MINE)	
NPDES Permit No. ID-000017-5)	RELEVANT PORTIONS OF THE ADMINISTRATIVE RECORD
)	
)	
)	

Pursuant to the January 27, 2006 letter from the Clerk of the Environmental Appeals Board, attached hereto are copies of those portions of the administrative record in this matter relevant to the Petition for Review ("2006 Petition") of NPDES Permit No. ID-000017-5 filed by the Hecla Mining Company on January 26, 2006. For ease of identification, each document is identified by both: (1) the exhibit number ("Ex. No.") it has been assigned in the Region's responses to the 2003 Petition and/or the 2006 Petition; and (2) the number ("AR No.") the document has been assigned in the certified index of the entire administrative record.

Six of the exhibits (Ex. Nos. 1, 2, 3, 4, 6, and 13) cited in the Region's brief responding to the 2006 Petition appeared in the administrative record supporting issuance of the 2003 Permit and have been previously cited and provided to the Board. The "AR No." citations to these six exhibits are taken from the administrative record supporting this 2003 action. Because the Board was previously provided with copies of these six exhibits, they are not being resubmitted with today's response brief. Copies of the remaining exhibits (Ex. Nos. 23- 29) are attached hereto.

Ex. No.	AR No.	Date	Document
1	201	8/12/03	2003 NPDES Permit No.: ID-000017-5, Hecla Mining Co., Lucky Friday Mine
2	202	8/12/03	EPA Response to Comments on 2003 Draft Permit
3	49	3/28/01	2001 EPA Fact Sheet
4	138	1/3/03	2003 EPA Fact Sheet
6	210	12/96	U.S. EPA. <i>NPDES Permit Writers' Manual</i> (excerpt only: pp. 94-96, 99, 101)
13	194	07/11/03	Letter from Dexter, Hecla, to Smith, EPA, providing additional variance information.
23	59	6/21/05	Draft 2005 NPDES Permit No. ID-000017-5
24	58	6/21/05	2005 EPA Fact Sheet
25	64	7/21/05	Hecla's 2005 Comments on 2005 Draft Modified Permit
26	67	12/28/05	Final Modified 2005 NPDES Permit No. ID-000017-5
27	68	12/27/05	EPA Response to Comments on 2005 Draft Permit Modification
28	33	6/9/03	Letter from Dexter, Hecla, to Smith, EPA, and Allred, DEQ providing supplemental variance information
29	43	7/15/04	DEQ 2004 § 401 Certification

Dated this 13TH day of March, 2006.

Respectfully submitted,



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**PERMIT CONDITIONS PROPOSED TO BE DELETED ARE STRUKE OUT AND
CONDITIONS PROPOSED TO BE ADDED ARE HIGHLIGHTED.**

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	4447° 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

Signed this day of

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.

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	< 14 cfs	21-28	0.29 0.39	8-9 12	0.12 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		
	≥ 13 to <194 cfs	73	1.0	32	0.45		
	≥ 194 cfs	63	0.88	28	0.39		

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
Mercury ² , total	< 14 cfs	0.038 0.073 ⁴	0.00053 0.0010 ⁴	0.019 0.036 ⁴	0.00027 0.00050 ⁴	2/month ⁵	grab
	≥ 14 to < 32 cfs	0.046 0.099 ⁴	0.00064 0.0014 ⁴	0.023 0.050 ⁴	0.00032 0.00070 ⁴		
	≥ 32 to < 113 cfs	0.080 ⁴ 0.20	0.0011 ⁴ 0.0028	0.040 0.10 ⁴	0.00056 0.0014 ⁴		
	≥ 113 to < 194 cfs	0.23 0.66	0.0032 0.0092	0.12 ⁴ 0.32	0.0017 ⁴ 0.0046		
	≥ 194 cfs	0.39 1.1	0.016 0.015	0.19 ⁴ 0.56	0.0027 ⁴ 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 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 001. The permittee must report the average monthly flow on

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
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 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	46 20	0.22 0.28	7.0 8.6	0.0980.12	weekly	24-hour composite
	≥ 8.6 to < 20 cfs	49 26	0.27 0.36	8.3 11	0.12 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		

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
Mercury ² , total	< 8.6 cfs	0.030 0.052 ⁴	0.00042 0.00072 ⁴	0.015 0.026 ⁴	0.00021 0.00036 ⁴	2/month ⁵	grab
	≥ 8.6 to < 20 cfs	0.036 0.069 ⁴	0.00050 0.00096 ⁴	0.018 0.034 ⁴	0.00025 0.00048 ⁴		
	≥ 20 to < 69 cfs	0.058 0.13 ⁴	0.00081 0.0018 ⁴	0.029 0.067 ⁴	0.00041 0.00094 ⁴		
	≥ 69 to < 117 cfs	0.15 ⁴ 0.41	0.0021 ⁴ 0.0057	0.075 ⁴ 0.21	0.0010 ⁴ 0.0029		
	≥ 117 cfs	0.24 0.68	0.0034 0.0095	0.12 ⁴ 0.34	0.0017 ⁴ 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:

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		Sample Frequency	Sample Type
		ug/l	lb/day	ug/l	lb/day		
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		Sample Frequency	Sample Type
		ug/l	lb/day	ug/l	lb/day		
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	20 23	0.38 0.43	7.4 8.6	0.14 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		

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		Sample Frequency	Sample Type
		ug/l	lb/day	ug/l	lb/day		
Mercury ² , total	< 8.6 cfs	0.028 0.043 ⁴	0.00084 0.00081 ⁴	0.014 0.022 ⁴	0.00026 0.00041 ⁴	2/month ⁵	grab
	≥ 8.6 to < 20 cfs	0.032 0.056 ⁴	0.00060 0.0011 ⁴	0.016 0.028 ⁴	0.00030 0.00053 ⁴		
	≥ 20 to < 69 cfs	0.048 0.10 ⁴	0.00090 0.0019 ⁴	0.024 0.052 ⁴	0.00045 0.00098 ⁴		
	≥ 69 to < 117 cfs	0.12 ⁴ 0.31	0.0023 ⁴ 0.0058	0.058 0.16 ⁴	0.011 0.030 ⁴		
	≥ 117 cfs	0.18 ⁴ 0.51	0.0034 ⁴ 0.0096	0.092 ⁴ 0.26	0.0017 ⁴ 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
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	--	--	--	--	--	daily	recording

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
of the outfall, cfs							
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
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	29 23	0.38 0.43	7.4 8.4	0.14 0.16		
	≥ 18 to < 63 cfs	24 29	0.40 0.55	7.7 11	0.14 0.21		
	≥ 63 cfs	30	0.56	11	0.21		
Mercury ² , total	< 8.0 cfs	0.027 0.042 ⁴	0.00054 0.00079 ⁴	0.014 0.021 ⁴	0.00026 0.00040 ⁴	2/month ⁵	grab

Table 4 - Effluent Limitations and Monitoring Requirements for Outfall 003

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		
	≥8.0 to < 18cfs	0.034 0.054 ⁴	0.00058 0.0010 ⁴	0.015 0.027 ⁴	0.00028 0.00051 ⁴		
	≥18 to < 63 cfs	0.045 0.096 ⁴	0.00085 0.0018 ⁴	0.023 0.048 ⁴	0.00043 0.00090 ⁴		
	≥ 63 to < 108 cfs	0.011 ⁴ 0.29	0.0021 ⁴ 0.0055	0.054 0.14 ⁴	0.0010 0.0026 ⁴		
	≥ 108 cfs	0.017 0.48	0.0032 ⁴ 0.0090	0.086 ⁴ 0.24	0.0016 ⁴ 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
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

Table 4 - Effluent Limitations and Monitoring Requirements for Outfall 003							
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		
<p>on the DMR.</p> <p>2 - Reporting is required within 24 hours of a maximum daily violation. See Part III.G.</p> <p>3 - See Part I.B. for whole effluent toxicity testing requirements.</p> <p>4 - See Part I.A.4. for the cadmium, lead, mercury, and zinc compliance schedule.</p> <p>5 - Monitoring for mercury is required twice per month. The monitoring must not occur on consecutive days or weeks.</p> <p>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</p>							

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 (~~outfall 001 and outfall 002 when the outfall 001 waste stream is discharged through outfall 002~~), Lead, Mercury, and Zinc Compliance Schedule.
 - a. The permittee must comply with the cadmium (~~outfall 001 and outfall 002 when the outfall 001 waste stream is discharged through outfall 002~~), 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	2.0 6.0	0.028 0.046	1.0 2.0	0.014 0.023
	Lead ¹ , total recoverable	450 600	6.3 5.96	300	4.2 3.10
	Mercury ¹ , total	0.2 ²	0.0028 ²	0.2	0.0028
	Zinc ¹ , total recoverable	500 880	7.0 6.53	280 469	3.9 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	330 321	6.2 2.76	270 265	5.1 1.43
	Mercury ¹ , total	0.2 ³	0.0038 ³	0.2 ³	0.0038 ³
	Zinc ¹ , total recoverable	500 670	9.4 6.29	410 480	7.7 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 four 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), and ~~69-117 cfs~~].
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 (~~outfall 001 and outfall 002 when the outfall 001 waste stream is discharged through outfall 002~~), 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 I.A 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.

Table 6: Chronic Toxicity Triggers and Receiving Water Concentrations			
Outfall	Flow Tier¹	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
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 ~~within 3 years of the effective date of this permit~~ 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 ~~within 3 years following the initial six month period of discharge from outfall 002~~ 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	5-10
Total Suspended Solids (TSS)	mg/l	--
pH	standard units	--
Temperature	°C	--
Hardness ¹	mg/l CaCO ₃	--
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 ~~directly downstream of outfalls 001 and 003.~~ using a sample design that will allow IDEQ to make a determination as to the impact of the discharges to the beneficial use. Hecla 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 wadable 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 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 Water, with copies to IDEQ at the following addresses:

United States Environmental Protection Agency, Region 10
1200 Sixth Avenue, OW-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

3. "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*.

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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 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	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.e. 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 outfall 002 when the outfall 001 waste stream is discharged through outfall 002	cadmium	2.0	0.028	1.0	0.014	6.0	0.046	2	0.023
	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 outfall 002 when the outfall 003 waste stream is discharged through outfall 002	cadmium	na ⁴	na ⁴	na ⁴	na ⁴	3	0.043	2	0.022
	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.

Table 6 - Draft Permit Modification TSS Limits		
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		
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

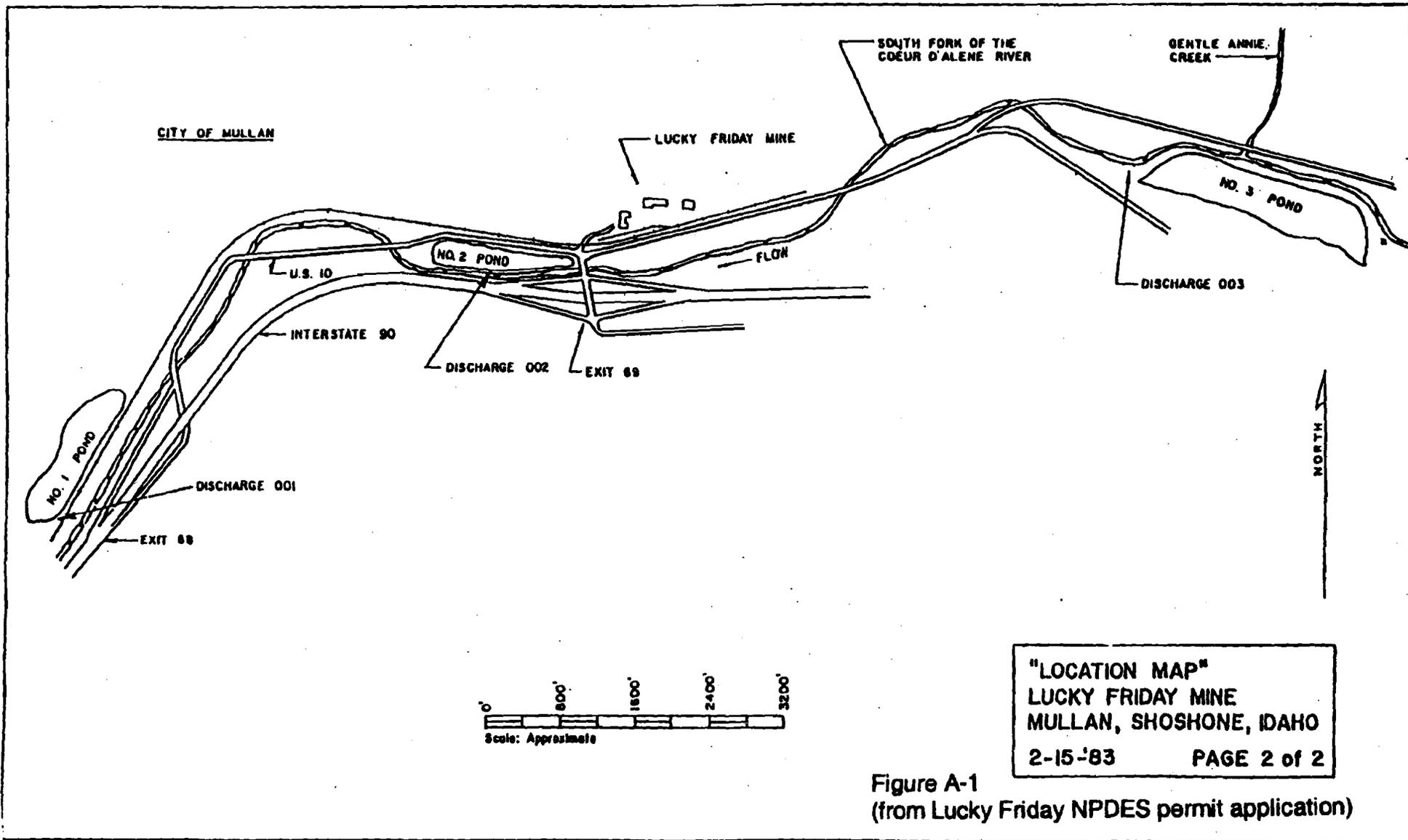


Figure A-1
 (from Lucky Friday NPDES permit application)

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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.

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.

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)-1.465]</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.

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:

$$H_{\text{mixed}} = [(H_e \times Q_e) + MZ(H_u \times Q_u)] / [Q_e + MZ(Q_u)]$$

H_e = 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)

Q_e = 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)

H_u = hardness of the SFCdA River upstream of the outfall

H_u = 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.

(H_u s 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)

Q_u = flow in the SFCdA River upstream of the outfall

Q_u = 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.

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).

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_e 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
- σ^2 = $\ln(CV^2/4 + 1)$ 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.

maximum daily limit = (Table 5-3 multiplier) x 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	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 001 flow is discharged through outfall 002		
002 - when all or a portion of outfall 003 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 all or a portion of flow is discharged through outfall 002		
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:

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

where,

$z = 2.326$ for 99th percentile probability basis (per the TSD)

$CV = 0.8$ (see page B-13)

for acute criteria, $\sigma^2 = \ln(CV^2 + 1) = \ln(0.8^2 + 1) = 0.4947$

for chronic criteria, $\sigma^2 = \ln(CV^2/4 + 1) = \ln(0.8^2/4 + 1) = 0.1484$

Plugging the above values and the WLAs from step 3 into Equation 5 and solving:

$$LTA_{\text{acute}} = (28.2) \times \exp [0.5(0.4947) - (2.326)(0.7033)] = 7.02 \text{ ug/l}$$

$$LTA_{\text{chronic}} = (20.2) \times \exp [0.5(0.1484) - (2.326)(0.3852)] = 8.87 \text{ ug/l}$$

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:

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

where,

for the maximum daily limit:

$z = 2.326$ for 99th percentile probability basis (per TSD)

$\sigma^2 = \ln(CV^2 + 1) = \ln(0.8^2 + 1) = 0.4947$

for the average monthly limit:

$z = 1.645$ for 95th percentile probability basis (per the TSD)

$\sigma^2 = \ln(CV^2/n + 1) = \ln(0.8^2/4 + 1) = 0.1484$

since, $n = \text{number of samples per month} = 4$

(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

EAB 2004. Remand Order and Order Requiring Status Report. NPDES Appeal No. 03-10. Environmental Appeals Board (EAB). October 13, 2004.

EPA 1991. *Technical Support Document for Water Quality-based Toxics Control*. Office of Water Enforcement and Permits, Office of Water Regulations and Standards. Washington, D.C., March 1991. EPA/505/2-90-001.

EPA, 1996. *The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion*, EPA 823-B-96-007, June 1996.

EPA 2001. Fact Sheet for Proposed Reissuance of NPDES Permit to Hecla Mining Company, Lucky Friday Mine. March 28, 2001.

EPA 2003a. Fact Sheet for Revised Draft Permit for Hecla Mining Company, Lucky Friday Mine. January 6, 2003.

EPA 2003b. NPDES Permit No. ID-000017-5. Issued August 12, 2003.

EPA 2003c. Letter from Kelly Huynh, EPA, to Susan Martin, US Fish and Wildlife Service, No Effect Determination for Hecla Mining Company Lucky Friday Mine NPDES Permit. NPDES Permit No. ID-0000175.

EPA 2003d. Response to Hecla Mining Company's Petition for Review. Before the Environmental Appeals Board United States Environmental Protection Agency, Washington D.C., Appeal No. NPDES 03-10. October, 30, 2003.

EPA 2004. Letter from Michael F. Gearheard, EPA to Mike Dexter, Hecla Mining Company. Notification of Remanded and Withdrawn Permit Conditions, Hecla Mining Company, Lucky Friday Mine NPDES Permit No. ID-000017-5. October 28, 2004.

Hecla 2004. Letter from Mike Dexter, Hecla Mining Company, to Ronald A. Kreizenbeck, EPA. NPDES Permit No. ID-000017-5 Incorporation of Revised Section 401 Certification. August 19, 2004.

IDEQ 2002. South Fork Coeur d'Alene River Sediment Subbasin Assessment and Total Maximum Daily Load. Idaho Department of Environmental Quality (IDEQ). May 17, 2002.

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.

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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 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

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 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.

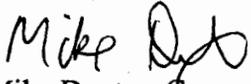
- Past permits issued by EPA Region 10 also contradict their current stance. The Red Dog Mine was issued a permit with a pH upper limit of 10.5 s.u. in 1998 based upon that facility's need to achieve more stringent WQBELS for dissolved metals and in reliance upon 40 CFR § 440.131. The Sunshine Mine was 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

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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 29th day of

December, 2005


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.

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		
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	< 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		
	≥ 194 cfs	63	0.88	28	0.39		

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
Mercury ² , total	< 14 cfs	0.073 ⁴	0.0010 ⁴	0.036 ⁴	0.00050 ⁴	2/month ⁵	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 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. coll, #/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.

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

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
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 ⁵	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		
	≥ 117 cfs	0.68	0.0095	0.34	0.0048		

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		Sample Frequency	Sample Type
		ug/l	lb/day	ug/l	lb/day		
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		Sample Frequency	Sample Type
		ug/l	lb/day	ug/l	lb/day		
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	0.18		
	≥ 20 to < 69 cfs	25	0.47	9.3	0.18		
	≥ 69 to < 117 cfs	39	0.73	15	0.28		
	≥ 117 cfs	35	0.68	13	0.24		
Mercury ² , total	< 8.6 cfs	0.043 ⁴	0.00081 ⁴	0.022 ⁴	0.00041 ⁴	2/month ⁵	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	5.8	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
pH, s.u.	not dependent upon river flow	see Part I.A.3.		see Part I.A.3.		weekly	grab

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
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
Lead ² , total recoverable	not dependent upon river flow	75 ⁴	1.4 ⁴	45 ⁴	0.85 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		Sample Frequency	Sample Type
		ug/l	lb/day	ug/l	lb/day		
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 < 18 cfs	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
Whole Effluent Toxicity (WET) ³ , TU _c	-	-	-	-	-	quarterly	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
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 I.A 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 Tier¹	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*.

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**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)(ii)), 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 58.01.02051.01) 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.

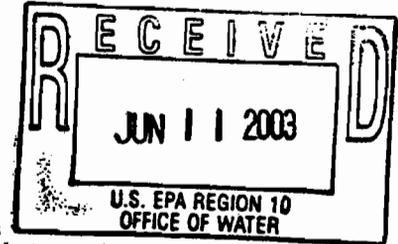
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for me

June 9, 2003

Randall F. Smith, Director
Office of Water
U.S. Environmental Protection Agency
Region 10
1200 Sixth Avenue, OW-131
Seattle, Washington 98101



Stephen Allred, Director
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706

RE: Supplemental Information – Variance Request, NPDES Permit No. ID-000017-5

Gentlemen:

Please find attached the supplemental information requested by EPA via letter transmittal dated 3 February 2003. Hecla Mining Company and the Lucky Friday Unit consider all information submitted, except for the Hecla Mining Company annual reports and excerpts from EPA documents, as "Confidential Business Information" (CBI). Completed worksheets, on forms obtained from EPA's economic guidance, are also considered CBI.

We hope you appreciate our concerns relative to maintaining our current variance request. These concerns include: 1) a lack of certainty on our part as to whether or not it is EPA or IDEQ with current variance authority; 2) what happens to our variance request in the event a technical change to agency authority occurs during the permit renewal process; 3) the potential for another TMDL-based permit scenario; and 4) lack of certainty about final permit limits and conditions that will drive ultimate compliance costs. Both EPA and IDEQ have substantial discretion in the application of procedures to derive both effluent limits and additional permit requirements, all of which can drive compliance costs upwards substantially with no recognizable environmental benefit. Comments submitted by us in April, on the latest draft Lucky Friday Unit NPDES permit, detail this discretionary flexibility.



The requested supplemental information is attached in accordance with the three major sections identified in the attachment to the 3 February 2003 EPA correspondence. We also provide comments to each of these three sections below and list information applicable to the three sections.

I. Verify Pollution Control Costs

It is imperative to realize that the current economic conditions faced by the Lucky Friday Unit are precarious and any increase in costs negatively impact the economic viability of the Unit. As mentioned above, there are numerous scenarios of potential effluent limits, thus a wide range of potential treatment costs. These scenarios are discussed in the attached "Comparison of Economic Analyses for Water Treatment – Hecla Mining Company's Lucky Friday Unit" (Attachment A).

A. Potential Costs Associated With a TMDL Scenario

The 2001 variance request addressed potential TMDL allocations. Given the fact that EPA considers the entire South Fork drainage a superfund site, we believe that TMDLs are no longer applicable, however we have no assurance from either EPA or IDEQ that the TMDL process will not be applied to the basin. Subsequent to filing the variance request, Centra Consulting prepared a cost analysis to assure 100% compliance with TMDL-based permit limits while at the same time assuring recycle water quality would not impair mill performance (Attachment B). Once the detailed cost analysis was conducted, these costs to address TMDL allocations were higher than expected when the variance was requested. While addressing TMDL load allocations, it was assumed that cadmium levels would not be an issue due to treatment necessary to reduce lead and zinc to levels required by the TMDL load allocations. It is not known if treatment to meet site-specific criteria for lead and zinc will be sufficient to meet draft permit cadmium limits which are based upon traditional "Gold Book" cadmium criteria. In addition to the Centra Consulting report, and for comparison purposes, EPA consultant's CH2MHILL's draft report on TMDL permit limit compliance for the Bunker Hill Central Treatment Plant (CTP) was reviewed (Attachment C). It should be noted that the TMDL costs associated with the CTP merely address upgrades to an existing treatment facility whereas the Centra report addresses construction of a new treatment facility.

B. Potential Costs Associated With 2003 Draft Permit Limits (site-specific criteria)

Prior EPA estimates of compliance costs associated with Gold Book criteria (Attachment D) were reviewed and adjusted (Attachment E) to accurately reflect Lucky Friday Unit operations. It should be noted that the site-specific criteria for cadmium is the traditional Gold Book criteria utilized in EPA's 1997 economic analysis. Hecla's cost estimate

(Attachment F) is similar to the adjusted EPA costs although the Hecla cost estimate assumes multi-media filtration will not be needed for cadmium removal.

Discussion

In April 1997, EPA proposed new water quality standards that would be applicable to the Lucky Friday Unit (62 FR 23003; April 28, 1997). These standards were subsequently finalized. EPA conducted an "Economic Analysis for the Final Water Quality Standards for Idaho" (July 21, 1997) where EPA addressed potential compliance costs for regulated facilities, including the Lucky Friday Unit. This analysis erroneously included only pond 1 discharge. EPA's costs were updated to address both flows from pond 3 and surge capacity with costs adjusted per EPA's analysis. These adjusted costs are substantially similar to Hecla's cost estimate provided in the April 2003 draft permit comments. At this point it is important to note statements made by EPA in the 1997 economic analysis. These statements include:

Under Executive Order (E.O.) 12866 (56 FR 51735; October 4, 1993), EPA is required to determine if a regulatory action is "significant" – if an action is "significant", it is subject to review by the Office of Management and Budget (OMB). The EO defines "significant regulatory action", in part, as follows:

(1) Have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or Tribal governments or communities; (emphasis added)

EPA's document states "EPA's final rule does not itself establish any requirements directly applicable to regulated entities." then opines, "In addition, there is significant flexibility and discretion in how the final rule will be implemented within the NPDES permit program." (pg. 1-2)

Dischargers affected by the rulemaking could "seek alternative regulatory approaches, such as phased total maximum daily loads (TMDLs), site-specific criteria, and water quality variances." (pg. 2-1)

"The actual impact of the Idaho water quality regulation will depend primarily upon the procedures used to implement it." (pg. 2-1)

"The actual impact of EPA's final rule will depend upon the procedures and policy decisions that will be established by the permitting authority to implement the rule and upon the control strategy selected by the discharger to bring the facility into compliance." (pg. 2-4)

"The costs can vary significantly because of the wide range of control strategies available to the dischargers." (pg. 2-5)

"In developing and using the cost decision matrix, it is acknowledged that granting relief from WQBELs is dependent upon the specific circumstances at a facility, as well as the

judgment and implementing procedures of the permitting authority." (emphasis added – pg. 2-7)

We agree with EPA that the implementation of water quality standards via NPDES permitting has great flexibility, which impacts ultimate costs, and our comments to both EPA and IDEQ have requested this flexibility. If the Lucky Friday Unit is allowed the flexibility in the NPDES permitting process, as both EPA and IDEQ are authorized to do, a combination of water management, lime addition and flocculation may suffice. Until final limits are determined and water management implemented, final treatment costs cannot be defined. The concepts of NPDES permitting flexibility, wide ranges of potential costs, facility specifics, and variances are all addressed in EPA's economic analysis.

II. SWESI Analysis Information

The economic worksheets are included as Attachment G. EPA requested worksheet F and we believe that this particular worksheet is not applicable to private entities and is not mentioned in Section 3 of the economic guidance. While worksheet information is provided for Hecla Mining Company, as well as for the individual Lucky Friday Unit, it is our position that the economic viability of Hecla Mining Company should not be a factor in determining costs associated with an individual operating Unit. The Lucky Friday Unit is evaluated based upon economic performance specific to the Unit.

III. Other Information

Financial statements, litigation issues, financial settlement issues, lines of credit, and company officer remuneration are all included in the individual Annual Reports for years 1999-2002 and the most recent Proxy Statement (Attachment H).

Federal tax returns for years 1999, 2000, and 2001 are included as Attachment I. Federal tax returns for year 2002 are not yet available.

As mentioned above, CBI is requested for all attached information except for Hecla Mining Company annual reports and excerpts from EPA documents (excepting forms from EPA documents filled out pursuant to the information request).

As you know, two years went by before EPA notified Hecla in February 2003 that additional information was needed to process Hecla's 2001 variance request. We are concerned that EPA will not timely act on Hecla's variance request prior to issuance of the final NPDES permit. Accordingly, please promptly notify me whether any additional information is necessary to process the variance and when you expect EPA to make a final decision on the variance request so that Hecla can consider possible business decisions about the future of the Lucky Friday Unit. Please contact me if there are any

questions concerning the attached submittals and I will see to it that the appropriate personnel are informed of your questions.

Best Regards,

A handwritten signature in black ink that reads "Mike Dexter". The signature is written in a cursive, slightly slanted style.

Mike Dexter
Lucky Friday Unit Manager

C: Kevin Beaton
John Galbavy
Paul Glader
Ron Clayton

Attachments

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STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

JUL 21 2004

1410 North Hilton • Boise, Idaho 83706-1255 • (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 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.

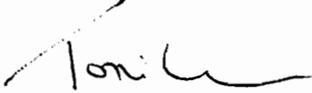
Other Comments

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,

A handwritten signature in black ink, appearing to read "Toni", with a horizontal line extending to the right.

Toni Hardesty
Director

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