

JUN 30 2015

DEPARTMENT OF
WATER RESOURCES**Exceptions to Forfeiture for Mining Questionnaire- Section 42-223(11), Idaho Code**

This questionnaire should be used as a guide to provide evidence supporting an exception to forfeiture. Each answer will need to have corresponding documents and/or affidavits.

List the adjudication claim number(s) in which an exception to forfeiture under Section 42-223(11), Idaho Code is sought:

94-4190. This right is also claimed as exempt from forfeiture under Section 42-223(6).

- 1) Enter the name of the mine or property in which the water claimed above was historically used. (All of the following questions will refer to the mine or property named below.)

Hecla/Star; Tiger-Poorman. See attached deed(s).

- 2) When was the mining, mineral processing or milling at the mine or property suspended?

H-1969; S-1980 ;TP-1961

- 3) Described the reason(s) the mining, mineral processing or milling of minerals at the mine or property was suspended or the mine was closed?

Economic recessions; low metals prices

- 4) Does the mine or property have one or more valuable minerals as defined in Section 47-1205, Idaho Code? If so, please list the mineral(s).

Silver, lead, zinc, copper, gold. See attached mineralization reports.

- 5) Please provide a history of the price of the mineral(s) at the mine or property?

USGS – Metal Prices in the United States through 2010 Report

- 6) Explain how the property and mineral rights have been maintained for future mineral production at the mine or property?

Hecla owns the patented mining claims, including the mineral rights where these mines are located. In

addition, the company maintains stormwater permits associated with these claim sites, conducts annual

inspections of the sites, and maintains access to the sites. See attached example of a stormwater permit

and inspection report and copy of a map of access routes to these mining properties (yellow dots depict mine

sites included in annual inspections; blue lines are access routes). The surface of this mine property is free of

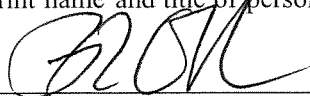
any structures or encumbrances that would interfere with mining or milling operations. The only structures on

the surface are those associated with historic mining activities or property caretaking.

Paul L. Glader Environmental Director

Please print name and title of person completing this questionnaire

6/18/15
Date


Signature of person completing this questionnaire

Exceptions to Forfeiture for Mining Questionnaire Attachments

- ♦ Ownership Deeds/Information
- ♦ Historical operation records
- ♦ Historical production records/mineralization reports
- ♦ USGS – Metal Prices in the United States through 2010
- ♦ Example stormwater inspection report
- ♦ Map of historical mine site access routes
- ♦ Stormwater permit example

This Indenture, made the 22^d day of October
in the year of our Lord one thousand eight hundred and ~~eighty~~ ninety one

Between Patrick Clark of Shoshone County, State of Idaho,
party of the first part, and The Hecla Mining Company, a corpora-
tion organized under the laws of the State of Idaho,

the part y of the second part, **Witnesseth:** That the said part y of the first part, for
and in consideration of the sum of One (\$1.00)

Dollars, lawful money
of the United States of America, to him in hand paid by the said part y of the
second part, the receipt whereof is hereby acknowledged, ha.th granted, bargained,
sold, remised, released, and forever quitclaim and by these presents do th grant,
bargain, sell, remise, release, and forever quitclaim unto the said part y of the
second part, and to its successors heirs and assigns.

The undivided two thirds interest of in and to the Hecla and Katie
May lodes and mining claims as described in Mineral Survey Number
nine hundred and forty nine (No. 949), situated in the Lelande Min-
ing District, Shoshone County, State of Idaho, and as the same are
located and recorded in said Mining District,

Together with all the dips, spurs and angles, and also all the metals, ores, gold and silver-bearing quartz, rock and earth therein; and all the rights, privileges, and franchises thereto incident; appendant and appurtenant, or therewith usually had and enjoyed; and also, all and singular the tenements, hereditaments and appurtenances thereto belonging, or in anywise appertaining, and the rents, issues and profits thereof; and, also all the estate, right, title, interest, property, possession, claim and demand whatsoever, as well in law as in equity, of the said part y of the first part, of, in, or to the said premises, and every part and parcel thereof with the appurtenances.

To Have and to Hold, all and singular the said premises, together with the appurtenances and privileges thereunto incident, unto the said party of the second part.

In Witness Whereof, the said part y of the first part, ha th hereunto set his hand and seal the day and year first above written.

Signed, Sealed and Delivered in the Presence of

W. B. Woods

Patience Allen



State of Idaho } ss.
County of Shoshone }

On this 22nd day of October in the year one thousand
eight hundred and eighty ninety one before me,
the undersigned a Notary Public
in and for the said Shoshone County, personally appeared
Patrick Clark

known to me to be the same person whose name^{is} subscribed to the annexed instrument
and

who acknowledged to me that he executed the same.

In Witness Whereof, I have hereunto set my hand and affixed
my Official Seal, at my office in the County of Shoshone
the day and year in this Certificate first above written.

[Signature]
Notary Public

1338

John Clark

To

Hecla M Co

Deed of Mining Claim.

Dated Oct 23 1891

Recorded at the Request of

Hecla M Co
Oct 23rd 1891

at minutes past 9 o'clock
A.M., in Book X of Deeds

page 296 Records of the
County of Goodhue, Idaho.

Samuel D. Hillard
County Recorder.

By Deputy Recorder.

By

1502 6791
SH. FLY No. 2 MS 1486

QUITCLAIM DEED

THIS INDENTURE, Made the 28th day of December, A. D. 1967,
between DAY MINES, INC., an Idaho corporation, the party of the first
part, and HECLA MINING COMPANY, a Washington corporation qualified to
do business in the State of Idaho, the party of the second part,
WITNESSETH:

That the said Party of the First Part, for and in consideration
of the sum of One Dollar (\$1.00) and other valuable considerations, to
it in hand paid by the said Party of the Second Part, the receipt whereof
is hereby acknowledged, does, by these presents remise, release and
forever quitclaim unto the said Party of the Second Part, and its successors
and assigns, the surface of and all surface rights upon the following
described tract of land located in Section 10, Township 48 North, Range 5
East, B.M., Shoshone County, Idaho, described as follows, to wit:

Parcel No. 1

All of that portion of the SHOO FLY No. 2 Patented Lode Mining Claim,
Mineral Survey No. 1486, lying southerly of the centerline of the
county road, an extension from State Highway No. 4, and westerly
of a line running from the intersection of said State Highway No.
4 and the Gorge Gulch road to Corner Number 1 of the BURKE Patented
Lode Mining Claim, Mineral Survey No. 686, common with corner
No. 11 of Fuller Lode Mining Claim, Mineral Survey No. 686.

Parcel No. 2

All of the SUNDAY Patented Lode Mining Claim, Mineral Survey
Number 1502, patent of which is recorded in Book 54 of Deeds
at Page 588 in the office of the County Recorder, Shoshone
County, Idaho, and;

Parcel No. 3

All of the POORMAN Patented Lode Mining Claim, Mineral Survey
Number 1, U. S. Lot Number 37, patent of which is recorded
in Book X of Deeds at Page 54, in the office of the County
Recorder, Shoshone County, Idaho, and;

Parcel No. 4

All of the TIGER Patented Lode Mining Claim, Mineral Survey
Number 679, patent of which is recorded in Book 9 of Deeds
at Page 101 in the office of the County Recorder, Shoshone
County, Idaho.

The foregoing property hereinabove conveyed is subject to existing
rights of way and easements, together with all and singular, the

tenements, hereditaments and appurtenances thereunto belonging, or in anywise appertaining, and the reversion and reversions, remainder and remainders, rents, issues and profits thereof.

TO HAVE AND TO HOLD all and singular the said premises, together with the appurtenances, unto said Party of the Second Part and to its successors and assigns forever, subject to the reservations hereinbefore mentioned.

IN WITNESS WHEREOF the first party has signed and sealed these presents by its duly authorized officers, as of the day and year first above written.

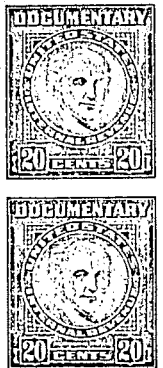
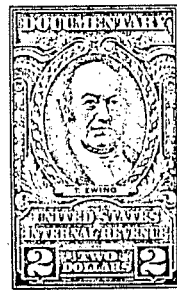
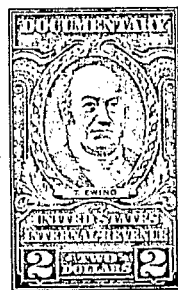
DAY MINES, INC.

By Henry L. Day
President

Attest:

Norval K. Bue
Secretary

State of Idaho)
County of Shoshone) ss



On this 28th day of December, 1967, before me, the undersigned Notary Public for the State of Idaho, personally appeared Henry L. Day and Norval K. Bue, known to me and to me known to be the President and Secretary respectively of Day Mines, Inc., a corporation, and acknowledged to me that they executed the foregoing deed for and on behalf of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

Richard A. Eickwald
Notary Public for the State of Idaho
Residing at Wallace, Idaho

My commission expires: May 10, 1970

INSTRUMENT NUMBER 55294

THIS INDENTURE, Made this 4th day of November, A.D. 1920, between FEDERAL MINING AND SMELTING COMPANY, a corporation organized under the laws of the State of Delaware, party of the first part and HECLA MINING COMPANY, a corporation organized under the laws of the State of Washington, party of the second part,

WITNESSETH:

That the said party of the first part, in consideration of the sum of Three hundred thousand dollars (300,000.00) to it in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, has granted, bargained, sold, conveyed and forever quit-claimed, and by these presents does grant, bargain, sell, convey and forever quit claim unto the party of the second part, its successors and assigns, forever, the following subscribed property, situated in Lalande Mining District, in Shoshone County, State of Idaho, namely:

A certain lode mining claim known as the "Tiger", as bounded and described in the official survey thereof, the same being Survey No. 679;

Also that certain lode mining claim known as the "Ella", as bounded and described in the official survey thereof, the same being Survey No. 641.

Also that certain lode mining claim known as the "Poorman", as bounded and described in the official survey thereof, the same being Survey No. 1;

Also that certain lode mining claim known as the "Missing Link", as bounded and described in the official survey thereof, the same being Survey No. 1516;

CH-117

Also that certain lode mining claim known as the "Apex", as bounded and described in the official survey thereof, the same being Survey No. 2441;

Also that certain lode mining claim known as the "Protection", as bounded and described in the official survey thereof, the same being Survey no. 1450.

Also that certain lode mining claim known as the "Sunday", as bounded and described in the official survey thereof, the same being Survey No. 1502.

Also that certain lode mining claim known as the "Sheridan", as bounded and described in the official survey thereof, the same being Survey No. 1319.

Also that certain lode mining claim known as the "Shoo Fly No. 2", as bounded and described in the official survey thereof, the same being Survey No. 1846. 1486 PEN 5-4-83

Also that certain lode mining claim known as the "Wide West", as bounded and described in the official survey thereof, the same being Survey No. 707.

Also all those portions of the "Fairview" lode mining claim, Survey No. 1594, heretofore conveyed by Humming Bird Mining Company to Empire State Idaho Mining and Developing Company, predecessor in interest of the grantor herein;

Also that certain lode mining claim known as the "O'Neil", as bounded and described in the Government's survey thereof, the same being Survey No. 722; subject, however, to that certain lease entered into between the grantor herein as lessor therein, and the Marsh Mining Company, a corporation of the State of Washington, as lessee therein, bearing date the 20th day of July, 1916, and of record in Book "C" of Leases, at page 103, in the office of the County Recorder

CA-117

of Shoshone County, Idaho, and thereafter assigned by said lessee to the Marsh Mines Consolidated, a corporation of the State of Washington;

Also what is known as the "Lower Water Right", the waters from which are conveyed in what is known as the "Low Flume" heading on Canyon Creek about 600 feet below the Upper Power House and running for a distance of approximately 7,800 feet along the said hill south of Canyon Creek to a tank opposite the compressor house at the former Tiger mill, and from this tank a pipe line is running down to the said compressor house; together with any feeders or other water rights heretofore used in connection with what is known as the "Tiger-Poorman" group of mining claims, excepting what is known as the "Upper Water Right", which is expressly reserved by the grantor herein and more particularly hereinafter described

Also all the grantor's right, title and interest in and to what is known as the "Hidden Treasure Tunnel", but subject, however, to any outstanding rights of others to use said tunnel;

Always excepting herefrom and reserving to the grantor herein what is known as the "Upper Water Right" on Canyon Creek, being the right to divert waters from the said creek as the same flows across any of the claims above described and as that right has heretofore been exercised by the grantor herein by what is known as the "High Flume" heading on Canyon Creek about $3\frac{1}{2}$ miles above Burke and running for a distance of about 9,300 feet on the side hill south of Canyon Creek to the Upper Power House, including the small feeders, one of which, 3,700 feet long from Sonora Creek, joins the main flume close to intake of the penstock leading from the flume down to said power house.

It is the intention of the grantor herein to hereby convey by this instrument to the grantee all of the mining claims, properties and water rights constituting what is known as the "Tiger-Poorman" group of mining claims and property situated in said Lalande Mining District, Shoshone

County, State of Idaho, excepting the "Russell" lode mining claim, official Survey No. 1487, and the "Mono Fraction" lode mining claim official Survey No. 1485, and that portion of the "Fairview" lode mining claim, official Survey No. 1594, heretofore conveyed by the grantor herein or its predecessors in interest, and always excepting herefrom the "Upper Water Right" above specified and described.

This conveyance is made subject to that certain lease entered into between the grantor herein, as lessor therein, and the Marsh Mining Company, a corporation of the State of Washington, as lessee therein, bearing date the 20th of July, 1916, and of record in Book "O" of Leases, at page 103, in the office of the County Recorder of said Shoshone County, and which said lease has been assigned by said lessee to the Marsh Mines Consolidated, a corporation of the State of Washington, so far as said lease relates to or affects the said "O'Neill" lode mining claim, official Survey No. 722; and this conveyance is subject also to all rights-of-way or other crossing rights, surface rights, tunnel rights, easements, for dumping-ground, or other rights, or easements or privileges now outstanding or existing and heretofore granted by lease or conveyance or agreement, relating to or affecting any of said property herein conveyed; and is also subject to all mining leases now in existence affecting any of said property so conveyed, excepting that the grantor herein assigns and transfers to the grantee herein any future or further rent, royalty or royalties hereafter accruing or to become due under any such leases, with the full right and power in said grantee to collect the same; together with all and singular the mines, minerals, lodes and veins within the lines of said claims, together with all the dips, spurs and angles, and also all the metals, ores, gold and silver-bearing quartz, rock and earth therein, and all the rights, privileges and franchises thereto incident, appendant or appurtenant, or therewith usually had and enjoyed, and all dumps, plant, fixtures, improvements, rights, privileges, and

appurtenances thereunto in anywise belonging, and also all the estate, right, title, interest, possession, claim and demand whatsoever, as well in law as in equity, and as well in possession as in expectancy, of the of the party of the first part in and to the above granted premises, and every part and parcel thereof, TO HAVE AND TO HOLD the lands, tenements and hereditaments hereby conveyed, unto the said party of the second part, its successors and assigns forever.

IN WITNESS WHEREOF, the party of the first part has caused this instrument to be executed by its proper officers and its corporate seal to be hereunto affixed the day and year first above written.

(U.S.I.R. stamps, \$300.00)
(attached and cancelled)

(Corporate seal)

FEDERAL MINING AND SMELTING COMPANY,
By F. H. Brownell, As its President.
Attest: J. L. Martin, Secretary.

STATE OF NEW YORK, COUNTY OF NEW YORK) ss:

On this 5th day of November A. D., 1920, before me S. Kalischer, a Notary Public in and for said county and state, personally appeared F. H. Brownell and J. L. Martin the President and Secretary, respectively, of the Federal Mining and Smelting Company, the corporation that executed the within instrument, and acknowledged to me that such corporation executed the same.

Witness my hand and notarial seal the day and year in this certificate first above written.

(Notarial Seal)

S. Kalischer
Notary Public in and for said
County and State, residing at
Queens Co. N.Y. Notary Public,
Queens County. Certificate filed
in Queens County No. 2887. N. Y.
County No. 359. N. Y. Register No
1364.

RECORDED at the request of L. E. Hanley, Nov. 16th 1920 at 9:30 o'clock
A.M.

HARRY A ROGERS, County Recorder

By Elmer Johnson
Deputy.

WARRANTY DEED

THIS INDENTURE, made the 7 day of November, 1923, between The Idaho Wholesale Company, Inc., a corporation organized and existing under the laws of the State of Idaho, with its principal place of business at Wallace, Idaho, party of the first part, and the Hecla Mining Company, a corporation organized and existing under the laws of the State of Washington, party of the second part,

WITNESSETH: That the said party of the first part for and in consideration of the sum of One Dollar (\$1.00) and other good and valuable consideration, in hand paid by the party of the second part, the receipt whereof is hereby acknowledged, does by these presents, grant, bargain, sell, convey and confirm unto the said party of the second part and its successors and assigns forever, all of the following described real property, situated in the Village of Burke, County of Shoshone, State of Idaho, and particularly described as follows:

All that portion of the surface of the Sheridan Lode Mining Claim, Survey #1319, described as follows: Beginning at a point situate on the westerly sideline of said Sheridan Lode Mining Claim, same being the common sideline between said Sheridan Lode Claim and the DeLong Lode Claim, Survey #1523, from which point corner No. 4 of the said Sheridan Lode Claim bears S. 48°41' E. 135 ft; thence N. 48°41' W. 117.6 ft. along said sideline to a point; thence N. 29°55' W. 14 feet; thence N. 62°20' E. 74 feet to a point; thence S. 28°15' E. 125 ft. to a point; thence S. 61°28' W. to the place of beginning.

Also all that portion of the surface of the DeLong Lode Mining Claim, Survey No. 1523, described as follows: Beginning at a point 154.6 ft. N. 48°47' W. of Corner #2, Survey 1523, DeLong Lode; thence N. 48°47' W. along the N.E. line of said DeLong Lode 94.8 ft; thence S. 28°02' E. 88.6 ft; thence N. 61°58' E. 33.6 ft. to the place of beginning, containing 0.034 acres.

Together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in any wise appertaining, and the rents, issues and profits thereof.

TO HAVE AND TO HOLD, all and singular the above mentioned and described premises, together with the appurtenances, unto the said party of the second part and to its successors and assigns forever. The said party of the first part and its successors

the said premises, in the quiet and peaceable possession of the said party of the second part, its successors and assigns, against the said party of the first part and its successors, shall and will warrant, and by these presents forever defend.

IN WITNESS WHEREOF, the said The Idaho Wholesale Company, Inc. has caused these presents to be executed by its duly authorized officers and has caused its corporate seal to be hereunto attached, the day and year first above written.

THE IDAHO WHOLESALE COMPANY, INC.

BY

Platt P. Morrow
President.

Attest:

Albert B. Allen
Secretary.

STATE OF IDAHO,

County of Shoshone, SS.

On this 7th day of November, 1923, before me, the undersigned, a Notary Public for the State of Idaho, personally appeared Platt P. Morrow and Albert Allen, known to me to be the President and Secretary respectively of The Idaho Wholesale Company, Inc. the corporation that executed the foregoing instrument, and acknowledged to me that such corporation executed the same.

In witness whereof, I have hereunto set my hand and affixed my notarial seal, the day and year in this certificate first above written.

Ruth Kane
Notary Public for the State of
Idaho, residing at Wallace, Idaho.

11-7-23

WARRANTY DEED

THE IDAHO WHOLESALE COMPANY, INC.

First Party,

HECLA MINING COMPANY,

Second Party.

NOTARY PUBLIC
I hereby certify that the foregoing is a true and correct copy of the original of the within and to be recorded in the records of Hecla Mining Co

DEC 8 1923

3:30 P.M. ☒ Forwarded
57 of Deeds
of said County

Harry A. Rogers
County Recorder

Deputy

1.50 CHG

Return to Hecla Mining Co

THIS INDENTURE made this 23 day of July, A. D. 1941, by and between HARRY L. DAY of Wallace, Idaho, BLANCHE DAY ELLIS and ELEANOR DAY BOYCE of Portland, Oregon, and LUCY MIX DAY, HARRY L. DAY and HENRY LAWRENCE DAY, EXECUTORS OF THE ESTATE OF JEROME J. DAY, Deceased, said Harry L. Day, Blanche Day Ellis, Eleanor Day Boyce and Jerome J. Day being the devisees and distributees under the estate of Eugene R. Day, Deceased, the PARTIES OF THE FIRST PART, and HECLA MINING COMPANY, a corporation organized under the laws of the State of Washington and licensed as a foreign corporation under the laws of the State of Idaho, the PARTY OF THE SECOND PART, WITNESSETH:

That said parties of the first part, for and in consideration of the sum of SIX HUNDRED NINETY SEVEN DOLLARS (\$697.00), lawful money of the United States of America, to them in hand paid by the Party of the Second part, the receipt whereof is hereby acknowledged, do hereby grant, bargain and sell unto said Party of the Second Part, its successors and assigns forever, all right, title and interest, of, in and to all that certain tract, piece and parcel of land, being a portion of the surface ground of the SHERIDAN Lode, Min. Sur. No. 1319 and De LONG Lode, Min. Sur. No. 1525, in Burke, Shoshone County, Idaho, more particularly described by metes and bounds as follows, to-wit:

Beginning at the Southwesterly corner of the tract thence North 31° West 124 ft. to the point of intersection with the Southerly sideline of Glidden Street in Burke, Idaho; thence North 62° East along the Southerly sideline of said Glidden

TO HAVE AND TO HOLD the same, together with all the hereditaments and appurtenances thereunto belonging or in anywise appertaining, to said party of the second part, its successors and assigns forever.

STATE OF IDAHO)
County of Shoshone) ss.

-2-

-3-

-4-

D E E D

Harry L. Day, Blanche Day Ellis,
Eleanor Day Boyce, Lucy Mix Day,
Harry L. Day, Henry Lawrence Day

to

Hecla Mining Company

STATE OF IDAHO)
COUNTY OF SHOELONE) SS.

I hereby certify that the within instrument
was filed for record at the request of

Hecla Mng Co.
Aug 1 1941

at 10 o'clock A.M. and recorded in Book
74 of Deeds, page 244, Records
of said County.

FRED C. BAIER

County Recorder

By

Victoria Taylor
Deputy

Fee \$ 1.50

Return To Hecla Mng Co
City

SPECIAL WARRANTY DEED

This Special Warranty Deed is executed and delivered this 28th day of February, 1992, by HECLA MINING COMPANY, a Delaware corporation ("Grantor") to LOUISIANA-PACIFIC CORPORATION, a Delaware corporation ("Grantee"), whose address is P.O. Box 4000-98, Hayden Lake, Idaho 83835-4000.

Grant, Exceptions and Reservations. FOR VALUE RECEIVED, Grantor grants, bargains, sells and conveys to Grantee the surface rights to that certain real property located in Shoshone County, Idaho, described on Exhibit A, attached hereto and incorporated herein by this reference together with (i) the right to lateral and subjacent support subject to Hecla's reserved rights; (ii) the right to ordinary soil, rock, sand and gravel located within 100 feet of the surface of said real property; and (iii) the right to reasonable subsurface access to obtain water and the full benefit of the property rights transferred herein (the "Property"); EXCEPTING AND RESERVING TO GRANTOR all other subsurface rights and the "Minerals," and the right to use as much of the surface of the real property described in Exhibit A as in the reasonable judgment of Hecla is reasonably necessary for "Access" and "Mining Operations".

For the purposes of this Deed,

- A. "Minerals" shall mean all ores, base and precious metals, coal, oil, gas, other liquid or gaseous hydrocarbons, minerals and mineral bearing substances of every kind and character, whether currently known to be valuable or becoming valuable in the future, now known to exist or hereafter discovered on, in or under the Property, but excluding ordinary soil and rock, sand and gravel.
- B. "Access" shall mean the right of the Grantor to use existing roads on the Property in connection with Mining Operations and Other Operations and the right to construct new roads, pipelines, powerlines, rail lines or conveyors, tramways, communication lines and other similar access and communications facilities to be used in connection with Mining Operations.
- C. "Mining Operations" shall mean without limitation the right to conduct geological, geophysical or geochemical exploration and the extraction and processing of Minerals on the Property by any method now known or subsequently developed including the right to use water from the Property for such purposes, and the right to use the Property for excavations, tunnels, adits, drill holes, wells, surface mine operations, buildings, tailings, stock piling of ores and mine waste and other facilities as in the reasonable judgment of

351159

Grantor is reasonably necessary for the exploration and extraction of Minerals.

- D. "Other Operations" shall mean without limitation forest management and timber harvesting and other current uses of the land in the vicinity of the Property now owned or controlled by Grantor or Grantor's affiliates.

TO HAVE AND TO HOLD the said premises, with their appurtenances unto Grantee, its successors and assigns forever. Grantor covenants with and warrants to Grantee that Grantor will defend the Property from all lawful claims whatsoever of persons claiming by, through or under Grantor but not otherwise, subject to the following exceptions:

- (i) Power line and other utility easements of record or in view as of the date hereof;
- (ii) Reservations or exceptions contained in federal patents or in Acts authorizing the issuance thereof;
- (iii) Liens for taxes not yet payable;
- (iv) All rights reserved to or vested in any governmental, statutory or public authority to control or regulate the Hecla Property in any manner, and all applicable laws, rules and orders of governmental authority.
- (v) The exceptions set forth in Exhibit A to this deed.

This grant and conveyance is subject to the terms and conditions of that certain agreement by and between Grantor and Grantee dated February 28, 1992.

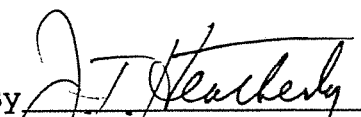
IN WITNESS WHEREOF, the Grantor has caused this Special Warranty Deed to be signed as of the day and year first above written.

HECLA MINING COMPANY, GRANTOR

Attest


Michael B. White
Secretary

By

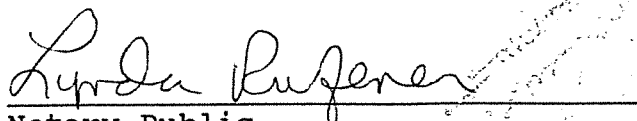

Joseph T. Heatherly
Vice President

351159

STATE OF IDAHO)
) ss.
County of Kootenai)

On this 28th day of February, 1992, before me, the undersigned, a Notary Public in and for the State of Idaho, personally appeared JOSEPH T. HEATHERLY and MICHAEL B. WHITE, known or identified to me to be the Vice President and Secretary, respectively, of HECLA MINING COMPANY, the officers who executed the instrument on behalf of said corporation, and acknowledged to me that such corporation executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal the day and year in this certificate first above written.



Notary Public
Residing at Coeur d'Alene, Idaho
My Commission Expires: 10/19/94

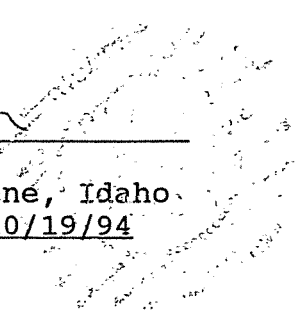


Exhibit A - Page 39

HECLA MINING COMPANY
HECLA GROUP

All or a portion of seventy-six (76) patented lode claims located in Sections 9, 10, 15, 16 and 17, Township 48 North, Range 5 East, B.M., Lelande Mining District, Shoshone County, Idaho, as listed below by mineral survey number and claim name:

<u>Claim Name</u>	<u>Mineral Survey Number</u>	<u>Acres</u>
Got Em Now	640	9.390
Ella	641	1.397
O'Neil	722	15.212
Katie May	949	16.591
Burlington	1336	17.249
Croesus	1336	20.264
Leadville	1336	17.951
Leadville Fr.	1336	3.877
Muscatine	1336	19.754
Muscatine Fr.	1336	7.213
Ore-Or-No-Go-Fr.	1336	4.398
Orphan Boy	1336	18.813
Orphan Girl	1336	20.644
Star	1336	18.090
Consolidated Extension	1417	17.387
Iron Side	1417	8.218
Mono Fraction	1485	6.246
Russell	1487	13.842
Missing Link	1516	0.047
Mascot	1518	3.065
Columbia	1537	9.441
Fir	1674	0.544
Gertie	1716	
Iron King	1716	33.215
Rooster	1752	0.267
Fox	1753	0.692
Climax	1803	15.237
See Em	1941	7.328
Marsh	1995	11.725
Croesus Extension	2096	20.347
East Hecla	2096	19.782
Polaris	2096	7.760
Saturday	2096	20.107
Apex	2441	0.215

(continued)

Exhibit A - Page 40

<u>Claim Name</u>	<u>Mineral Survey Number</u>	<u>Acres</u>
J. J. Lentz	2529	
Jett	2529	
Lentz Fr.	2529	
Slayden	2529	
Wm. Sulzer	2529	59.186
December	2752	7.715
Blue Jay	2759	
Iron Queen	2759	10.828
May	2834	0.065
June	2838	0.910
Albany	3031	
Badger	3031	
Black Diamond	3031	
Hector	3031	
Jupiter	3031	
Mollie G.	3031	
Mollie G. Fr.	3031	
North Star	3031	
Omaha	3031	
Omaha Fr.	3031	
Pandora	3031	
Pittsburg	3031	
Sedalie	3031	
Thisbie	3031	
Thisbie Fr.	3031	289.082
Night	3082	0.179
Baldy	3128	
Florence	3128	
Marian	3128	
Ruth	3128	35.710
Duluth	3167	
Duluth Fr.	3167	
Lillie	3167	
Lillie Fr.	3167	
Lindbergh	3167	
Minnie	3167	
Selma	3167	
St. Louis	3167	105.026

(continued)

Exhibit A - Page 41

<u>Claim Name</u>	<u>Mineral Survey Number</u>	<u>Acres</u>
Cusick	3257	6.560
Tollgate	3296	
Lucky Star	3296	38.046
Including:	Government Tract 46 located in Sections 15, 16, 21 and 22, Township 48 North, Range 5 East, B.M. and containing 13.81 acres.	13.81

Which are located within the following described perimeter boundary:

BEGINNING at Corner 1 of the TOLLGATE claim (MS 3296) located in Section 10, T48N, R5E, B.M., Shoshone County, Idaho;

THENCE S 86°35' W, 1,302.37 feet to a point on the east end line of the BENTON (MS 2625);

THENCE S 06°43' W, 27.45 feet to Corner 4 of the BENTON;

THENCE S 19°46' W, 415.3 feet to Corner 2 of the KEYSTONE (MS 1864);

THENCE N 80°17' W, 285.03 feet to a point on the west end line of the TOLLGATE;

THENCE S 32°24' W, 315.22 feet along the west end line of the TOLLGATE to Corner 3;

THENCE S 32°24' W, 288.78 feet along the easterly side line of the TOLEDA NO. 2 (MS 1864) to Corner 2 of the TOLEDO;

THENCE N 80°17' E, 17.8 feet to Corner 3 of the WALLACE MILL SITE, (MS 3021B);

THENCE S 63° 09' W, 28.3 feet to Corner 3 of the CALUMET (MS 2111);

THENCE S 17°07' E, 463.7 feet to Corner 4 of the CALUMET;

THENCE S 67°24' W, 916.9 feet to Corner 5 of the CALUMET;

(continued)

THENCE N 17°07' W, 193 feet along the westerly end line of the CALUMET to Corner 4 of the NEVER SWEAT (MS 1724);

THENCE S 77°51' W, 336.29 feet to Corner 1 of the GREEN MOUNTAIN (MS 687);

THENCE S 01°41' E, 823 feet to Corner 2 of the GREEN MOUNTAIN;

THENCE N 74°36' W, 313.8 feet to Corner 3 of the GREEN MOUNTAIN, a point on the northerly side line of the O'NEIL (MS 722);

THENCE N 41°31'48" W, 831.59 feet to Corner 9 of the O'NEIL and Corner 2 of the POORMAN (MS 1);

THENCE S 58°22' W, 579 feet to Corner 3 of the POORMAN, a point on the northerly side line of the SUNDAY (MS 1502);

THENCE S 61°33' E, 528.8 feet to Corner 3 of the SUNDAY;

THENCE S 54°50' W, 613.1 feet to Corner 2 of the SUNDAY, a point on the northerly side line of the HECLA (MS 949);

THENCE S 54°41' E, 203.3 feet to Corner 3 of the HECLA;

THENCE S 47°00' W, 565.6 feet to Corner 4 of the HECLA;

THENCE N 56°24' W, 334 feet to Corner 3 of the ORE-OR-NO-GO (MS 659A);

THENCE S 30°52' W, 600 feet to Corner 4 of the ORE-OR-NO-GO;

THENCE N 47°22' W, 31 feet to Corner 2 of the DENVER (MS 1336);

THENCE S 50°35' W, 585 feet to Corner 3 of the DENVER and Corner 2 of the SILVANITE (MS 1803);

THENCE S 62°10' W, 596.7 feet to Corner 3 of the SILVANITE;

THENCE N 35°25' W, 37 feet to a point on the southerly side line of the SILVANITE and Corner 3 of the SIMLOW (MS 1941);

THENCE S 45°W, 32 feet to Corner 3 of the SIMLOW and Corner 2 of the SEE EM (MS 1941);

(continued)

Exhibit A - Page 43

THENCE N 57°18' W, 561.64 feet to Corner 1 of the SEE EM;

THENCE S 07°43' W, 351.44 feet to a point on the northerly side line of the OMAHA (MS 3031);

THENCE N 55°40'05" W, 462.59 feet to Corner 3 of the OMAHA and Corner 2 of the OMAHA FRACTION (MS 3031);

THENCE N 57°35' W, 1,500 feet to Corner 1 of the OMAHA FRACTION;

THENCE S 55°12' W, 600 feet to Corner 4 of the OMAHA FRACTION;

THENCE S 34°06' W, 385.37 feet along the westerly end line of the BADGER (MS 3031) to a point on the northerly side line of the NORA (MS 2649);

THENCE S 25°17' E, 436.64 feet to Corner 2 of the NORA;

THENCE S 65° W, 546.5 feet to Corner 3 of the NORA;

THENCE N 25°17' W, 130.6 feet to a point on the northerly side line of the LINDBERG (MS 3031);

THENCE N 88°43' W, 11.2 feet to a point on the southerly end line of the HOMESTAKE (MS 2134);

THENCE S 60°40' W, 561.31 feet to Corner 3 of the HOMESTAKE;

THENCE N 25°17' W, 319.62 feet to a point on the north side line of the LINDBERG;

THENCE N 88°43' W, 277.17 feet to Corner 3 of the LINDBERG;

THENCE S 33°54' W, 54.88 feet to a point on the northerly side line of the GLADIATOR (MS 2299);

THENCE S 50°32' E, 323.58 feet to Corner 4 of the GLADIATOR;

THENCE S 45°30' W, 597.25 feet to Corner 5 of the GLADIATOR;

THENCE N 50°45' W, 20.97 feet to Corner 3 of the LIBERTY BELL (MS 2299);

(continued)

Exhibit A - Page 44

THENCE S 23°30' W, 590 feet more or less to a point on the northerly end line of the ALVERDA (MS 2299);

THENCE S 53°13' E, 403 feet more or less to Corner 5 of the ALVERDA;

THENCE S 43°30' W, 440.74 feet to a point on the westerly end line of the DULUTH FRACTION (MS 3167);

THENCE S 04°21' E, 77.52 feet to a point on the northerly end line of the SAMPSON (MS 3081A);

THENCE S 67°03'30" E, 110.93 feet to Corner 5 of the SAMPSON;

THENCE S 40°56' W, 5.0 feet to Corner 3 of the NOBLE SCHLEY (MS 3081A);

THENCE S 13°50' E, 85.42 feet to a point on the southerly side line of the DULUTH FRACTION;

THENCE S 57°37' E, 963.85 feet to Corner 1 of the DULUTH FRACTION and Corner 2 of the DULUTH;

THENCE S 57°37' E, 1,497.62 feet to a point on the west side line of the TUFFNUT (MS 1377);

THENCE N 04°18' W, 1,134.83 feet along the west side of the TUFFNUT to a point on the south side line of the CRICKET (MS 2710);

THENCE N 57°07' W, 314.23 feet along the southerly side line of the CRICKET to Corner 2 of the CRICKET, and Corner 1 of the MINNIE (MS 3167);

THENCE N 33°54' W, 600 feet to Corner 4 of the MINNIE and Corner 2 of the BLACK DIAMOND (MS 3031);

THENCE S 56°45' E, 1,500 feet to Corner 1 of the BLACK DIAMOND and Corner 2 of the SEDALIE (MS 3031);

THENCE S 42°16' E, 1,417.7 feet to Corner 1 of the SEDALIE, and Corner 2 of the ALBANY (MS 3031);

THENCE S 56°02' E, 1,500 feet to Corner 1 of the ALBANY, and Corner 3 of the WAKE UP JIM FRACTION (MS 2710);

THENCE S 66°53' E, 222.7 feet to Corner 4 of the WAKE UP JIM FRACTION and Corner 3 of the RAINY DAY FRACTION (MS 2710);

(continued)

Exhibit A - Page 45

THENCE S 66°33' E, 320.7 feet to Corner 4 of the RAINY DAY FRACTION;

THENCE S 21°02' W, 2,701.84 feet to Corner 1 of the RUSLER (MS 2710) and Corner 3 of the SUMMIT (MS 2236);

THENCE N 21°18' E, 1,800 feet to Corner 3 of the SKYLINE (MS 2236) and Corner 2 of the STAR NO. 1 (MS 2634);

THENCE N 21°06' E, 2,396.4 feet to Corner 3 of the STAR NO. 12 (MS 2636);

THENCE S 55°32' E, 1,491.7 feet to Corner 4 of the STAR NO. 12 and Corner 2 of the STAR NO. 13;

THENCE N 21°06' E, 292.17 feet to a point on the southwesterly side line of the SATURDAY (MS 2096);

THENCE S 42°02' E, 364.55 feet to Corner 3 of the SATURDAY;

THENCE N 62°10' E, 1,212.3 feet to Corner 2 of the CREOSIS EXTENSION (MS 2096);

THENCE N 42°02' W, 834.05 feet to a point on the southeasterly end line of the BURLINGTON (MS 1336);

THENCE N 50°14' E, 601.66 feet to Corner 2 of the BURLINGTON;

THENCE N 42°34' E, 1,020.95 feet to Corner 3 of the METOR (MS 2760);

THENCE N 67°55' E, 953.3 feet to Corner 4 of the IRON KING (MS 1716);

THENCE N 82°20' E, 1,885.3 feet to Corner 1 of the IRON QUEEN (MS 2759);

THENCE N 22°53' W, 381.26 feet to Corner 4 of the IRON QUEEN;

THENCE N 82°16' W, 262.64 feet to Corner 2 of the BLUE JAY (MS 2759);

THENCE N 05°10' E, 200.0 feet to Corner 1 of the BLUE JAY, and Corner 3 of the SLAYDEN (MS 2529);

(continued)

Exhibit A - Page 46

THENCE N 10°44' E, 600 feet to Corner 2 of the SLAYDEN, and Corner 3 of the LENTZ FRACTION (MS 2529);

THENCE N 20°53' E, 583.6 feet to Corner 2 of the LENTZ FRACTION, a point on the south side line of the ARLINGTON (MS 1652);

THENCE N 75°18' W, 1,708.8 feet to Corner 2 of the FOURTH OF JULY (MS 1652) and Corner 8 of the MARSH (MS 1995);

THENCE N 13°48' E, 528.5 feet to Corner 1 of the FOURTH OF JULY;

THENCE N 79°06' W, 71.2 feet to Corner 4 of the JULY FRACTION (MS 2261);

THENCE N 12°22' E, 10.5 feet to Corner 6 of the MARSH and Corner 2 of the GOT-EM-NOW (MS 640);

THENCE N 70°39' W, 61 feet to Corner 2 of the MAT (MS 1299);

THENCE N 21°04' W, 595 feet to Corner 1 of the MAT;

THENCE S 87°35'43" E, 744.65 feet to a point on the east end line of the CUSICK (MS 3257);

THENCE N 06°07' E, 588.2 feet to a point on the south side line of the LUCKY STAR (MS 3296);

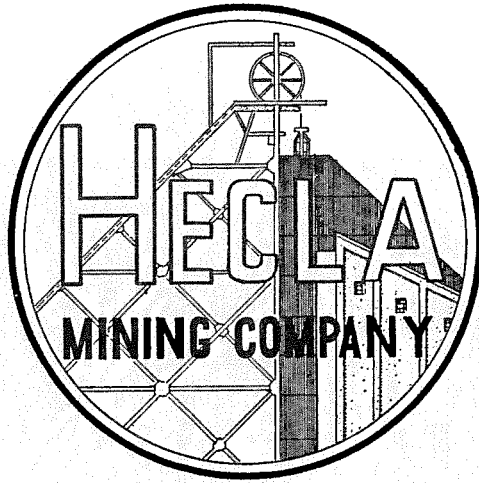
THENCE N 86°35' E, 1,243.41 feet to Corner 1 of the LUCKY STAR;

THENCE N 17°07' W, 615 feet to Corner 4 of the LUCKY STAR, a point on the south side line of the TOLLGATE (MS 3296);

THENCE N 86°35' E, 261.2 feet to Corner 2 of the TOLLGATE;

THENCE N 32°24' E, 739.9 feet to Corner 1 of the TOLLGATE, the point of beginning and containing an area of 953.425 acres, more or less.

(continued)



1965

SIXTY-EIGHTH

ANNUAL REPORT

OF THE DIRECTORS OF

HECLA MINING COMPANY

FOR THE YEAR ENDED

December 31, 1965

OPERATIONS

A description of the Company's mining operations is set forth as follows:

LUCKY FRIDAY MINE

Coeur d'Alene District — Idaho

Hecla owns 100% of the Lucky Friday mine which produced 181,074 tons of ore assaying 17.8 ounces of silver, 11.3% lead and 1.0% zinc. On December 31, 1965 ore reserves were computed at 607,000 tons as compared to 671,000 tons as of the beginning of the year.

Stope preparation work was completed on the 3250' level, preparatory development work on the 3450' level has been started, and the vein on this level will be intersected and developed during 1966. The Lucky Friday shaft was deepened 219 feet to a point 155 feet below the 3650' level.

An agreement was signed with Day Mines, Inc. to develop the Hunter Ranch property which adjoins the Lucky Friday property to the west. Development is to be done from the Lucky Friday shaft on at least two levels with Hecla and Day Mines sharing production and expense equally. Work was started on the 2800' level and as of December 31, 1965, 480 feet of lateral heading had been driven in the Hunter Ranch property.

As previously reported, Atlas Mining Company, in November, 1962, attempted to locate several mining claims upon ground which was located by the predecessors of Lucky Friday Silver-Lead Mines Company (now merged with Hecla) as long ago as 1889, and for which a U.S. patent was issued in 1926. These attempted mining locations by Atlas were over ground which contains the Lucky Friday ore body and represent an endeavor to appropriate that ore body and mine. The case is now being litigated. In the opinion of counsel the Company's title to the claims is good and will be upheld by the courts.

STAR UNIT AREA

Coeur d'Alene District — Idaho

Hecla owns a 30% interest in production from the Star mine and from the adjoining Morning mine leased from American Smelting and Refining Company. The two mines are operated by Hecla through common facilities as the Star Unit Area. Operating profits after Morning lease royalties are divided 30% to Hecla and 70% to The Bunker Hill Company.

During the year 72,059 tons of ore were mined for the account of Hecla, assaying 2.80 ounces of silver, 4.69% lead, and 10.24% zinc. Hecla's share of ore reserves increased 70,000 tons to 342,000 tons.

During February, 1966 Hecla purchased the Morning mine from American Smelting and Refining Company in exchange for 25,230 shares of Hecla stock. Effective February 1, 1966 Hecla will receive 100% of the Morning lease royalty income which previously had been paid by the Star Unit Area owners to American Smelting and Refining Company.

In the opinion of Hecla's management, royalty income to be derived from present ore reserves of the Morning mine, which can be reached with existing operating facilities, is expected to at least equal the purchase price paid for the property. Royalty income over and above cost is contingent upon economic mining of deep level ore reserves, and present plans (which would not have been considered feasible without purchase of the Morning property) call for major underground installations to facilitate extraction of ore from deep levels of the Star-Morning Unit.

SUNSHINE UNIT AREA

Coeur d'Alene District — Idaho

Hecla owns a 33.25% interest in production from the Sunshine Unit Area which is operated by the Sunshine Mining Company. The other participants in the area are Sunshine Mining Company and Silver Dollar Mining Company.

During 1965 the Sunshine Unit Area produced 168,763 tons of ore, assaying 38.8 ounces of silver per ton, of which Hecla's share was 56,114 tons. Tons of ore developed exceeded tons of ore mined and Hecla's share of ore reserves increased from 160,000 tons at the beginning of the year to 223,000 tons at the end of the year.

Lateral development and drilling along the Chester fault - vein on the 4600' level disclosed ore over a total length of 670 feet, as compared to a length of 687 feet of ore developed along the same vein on the 4400' level. In addition, development in the "Hook" area on 4600' level has indicated commercial ore in several short ore shoots. Development of this area is continuing on both the 4400' and 4600' levels. Deepening of the No. 10 shaft below the 4600' level was started late in the year to provide for development of the 4800' and the 5000' levels.

CHESTER MINING COMPANY

Coeur d'Alene District — Idaho

Hecla owns a 54.2% stock interest in Chester Mining Company. Chester receives a royalty on ores mined from the "Chester Area" (a strip of ground 400 feet wide and approximately 1,500 feet in length adjoining the Sunshine Unit Area) which is leased to the owners of the Sunshine Unit Area. Hecla does not participate as a shareholder

Property of
HECLA MINING COMPANY
6500 MINERAL DRIVE BOX C-8000
COEUR D'ALENE, ID 83814-1931
(208) 769-4100

PRODUCTION STATISTICS FOR THE COEUR D'ALENE MINING DISTRICT,
SHOSHONE COUNTY, IDAHO -- 1884-1980

Compiled by
Victoria E. Mitchell
Earl H. Bennett

Idaho Geological Survey
University of Idaho
Moscow, Idaho 83843

Technical Report 83-3
May 1983

Table 15. Burke area production (Prichard-Burke deposits).

Map Symbol	Source	Property	Tons Produced	Silver oz	Lead lb	Zinc lb	Copper lb	Gold oz	Silver oz/ton	Lead %	Zinc %	Copper %	Ratio, Silver oz/ton to % Lead	Ratio, Silver oz/ton to % Zinc
K	USBM	Hecia 1898-1969	7,686,967	40,788,931	1,424,099,978	73,824,278	4,966,979	7,007	5.31	9.26	0.48	0.03	0.57	19.29
E	USBM	Standard-Mammoth 1887-1965	3,763,893	25,542,538	568,733,357	949,832	205,966	2,452	6.79	7.56	0.01	0.003	0.90	756.00
B	USBM	Hercules 1901-1965	3,519,592	29,952,537	767,345,172	9,616,058	3,760,660	5,564	8.51	10.90	0.14	0.05	0.78	77.85
C	USBM	Tamarack-Custer 1905-1977	2,819,472	8,753,391	338,308,629	156,417,665	2,036,427	3,511	3.10	6.00	2.77	0.04	0.52	2.17
O	USBM	Helena-Frisco 1897-1967	2,676,379	6,131,065	213,201,249	174,966,741	790,241	1,030	2.29	3.98	3.27	0.01	0.58	1.22
H	USBM	Tiger-Poorman ¹ 1901-1961	1,128,793	2,656,234	112,771,417	127,846	1,735	1	2.35	5.00	0.01	0.0001	0.47	500.00
E	USBM	Greenhill-Cleveland 1902-1918	791,447	8,378,611	126,565,606	13,784,888	391,388	1,273	10.59	8.00	0.87	0.02	1.32	9.20
L	USBM	Success 1905-1952	789,704	994,638	28,837,031	98,491,597	51,493	160	1.26	1.83	6.24	0.003	0.69	0.29
F	USBM	Sherman 1927-1972	661,071	3,930,759	118,700,646	8,546,128	528,808	1,246	5.95	8.98	0.65	0.04	0.66	13.82
Q	Shenon, Full, and Gerweis	Golconda ² 1926-1967	339,228	1,317,502	36,660,044	26,116,343	178,608	180	3.88	5.40	3.85	0.03	0.72	1.40
J	USBM	Marsh 1908-1925	128,805	477,474	17,636,202	183,089	36,780	216	3.71	6.85	0.07	0.01	0.54	97.85
G	Shenon and Full	Fairview and Wide West 1945-1950	57,186	217,307	6,340,000	458,000	--	--	3.80	5.54	0.40	--	0.69	13.85
N	USBM	Canyon Silver/ Formosa CS 1966-1974 F 1931-1938	24,246	101,363	3,073,012	1,056,433	1,686	13	4.18	6.34	2.18	0.003	0.66	2.91
P	USBM	Black Bear 1927-1973	19,727	12,744	988,329	1,790,307	19,304	22	0.65	2.51	4.54	0.05	0.26	0.55

Property of
HECLA MINING COMPANY
6500 MINERAL DRIVE BOX C-8000
COEUR D'ALENE, ID 83814-1931
(208) 769-4100

PRODUCTION STATISTICS FOR THE COEUR D'ALENE MINING DISTRICT,
SHOSHONE COUNTY, IDAHO -- 1884-1980

Compiled by
Victoria E. Mitchell
Earl H. Bennett

Idaho Geological Survey
University of Idaho
Moscow, Idaho 83843

Technical Report 83-3
May 1983

Table 12. Other Revett-St. Regis deposits production.

Map Symbol	Source	Property	Tons Produced	Silver oz	Lead lb	Zinc lb	Copper lb	Gold oz	Silver oz/ton	Lead %	Zinc %	Copper %	Ratio, Silver oz/ton to % Lead	Ratio, % Lead to % Zinc
14	Hecla	Morning 1895-1980	18,631,754	62,311,121	2,814,714,000	1,945,494,000	4,565,921	12,833	3.34	7.55	5.22	0.01	0.44	1.45
14	Hecla	Star 1925-1980	7,259,687	9,246,727	610,668,000	1,314,380,000	3,790,300	5,308	1.27	4.21	9.05	0.03	0.30	0.47
16	USBM*	Lucky Friday 1938-1980*	3,998,747	64,927,626	812,588,335	79,929,967	12,587,958	30,785	16.24	10.16	1.00	0.16	9.50	1.71
	Hecla	1942-1979	3,823,118	63,566,324	808,520,880	91,870,600	--	--	--	--	--	--	--	--
15	USBM	Gold Hunter ¹ 1901-1954	3,260,750	9,955,082	195,209,698	1,144,318	456,810	615	3.05	2.99	0.02	0.01	1.02	149.50
12	USBM	Dayrock ² 1924-1974	1,276,488	6,526,992	154,918,341	7,762,003	794,672	1,406	5.11	6.07	0.30	0.03	0.84	20.23
12	USBM	Monarch 1904-1942	58,840	51,289	6,792,667	687,519	1,322	59	0.87	5.77	0.58	0.001	0.15	9.95
13	USBM	Alice 1909-1926	49,419	80,806	3,562,915	7,552	17	--	1.64	3.60	0.01	0.00002	0.46	360.00
12	USBM	California 1902-1925	49,079	270,174	7,134,141	11,301	120	46	5.50	7.27	0.01	0.0001	0.76	727.00
not plotted	Shenon and Full	Butte and Coeur d'Alene ³ (Idaho Silver) 1926	35	497	1,540	3,360	--	--	14.2	2.2	4.8	--	6.45	0.46
17	USBM	Vindicator (1922-1938)	28	859	12,418	--	209	--	30.68	22.18	--	0.37	1.38	--
not plotted	USBM	Dear (1935)	1	117	333	--	60	--	117	16.65	--	3.00	7.03	--
TOTALS			34,584,828	153,371,300	4,595,602,388	3,349,420,020	22,197,589	51,052	4.43	6.64	4.84	0.00	0.77	1.17

¹ The Gold Hunter mine is believed to have had considerable production prior to 1901, but there are no records available. This mine is in the Wallace Formation.

² The figures for the Dayrock mine include tonnages for 1924 to 1928, but not metal production for this period.

³ The Butte and Coeur d'Alene mine is in the Wallace Formation.

USBM Data from the U. S. Bureau of Mines' Western Field Operations Center, Spokane, Washington

-- Data insufficient or unavailable

* Data from this source used to calculate total

Western Mining History

Home >> Mines >> Idaho Mines >> Shoshone County Mines >> Mine Detail

Hecla Mine

Location: Shoshone County, Idaho

All mine locations were obtained from the USGS Mineral Resources Data System. The locations and other information in this database have not been verified for accuracy. It should be assumed that all mines are on private property.



View Larger Map

State: Idaho

County: Shoshone

Elevation: 3,855 feet (1,175 meters)

Latitude: 47.5186

Longitude: -115.81640

Primary: Silver, Lead

Hecla Mine MRDS Details

All data originates from the USGS Mineral Resource Data System.

Site Name

Primary: "Hecla Mine"

Commodity

Primary: Silver
Primary: Lead
Secondary: Zinc
Secondary: Copper
Tertiary: Gold

Location

State: Idaho
County: Shoshone
District: Lelande

Land Status

Land Ownership: Private
Administrative Organization:

Holdings

Workings

Type: Underground

Ownership

Owner Name: Hecla Mining Co. (Golconda ?)
Company ID:
Percent: 100.0
Home Office: Coeur d'Alene, Idaho
Info Year:
Years: 1891 -

Production

Year: 1983
Time Period: 1898-1969
Mined: 6973501.000 mt
Material type: Ore Treated
Description:

Deposit

Record Type: Site
Operation Category: Past Producer
Deposit Type: HYDROTHERMAL REPLACEMENT VEIN
Plant Type: Beneficiation (Mill)
Plant Subtype: Flotation
Operation Type: Underground
Mining Method: Filled Stopes - Horiz
Cut and Fill W/Waste Rock
Milling Method: Flotation
Year First Production: 1897
Year Last Production:
Discovery Year: 1885
Discovery Method: Ore-Mineral In Place
Years of Production: 1898-1951
Organization:
Significant: Y
Deposit Size: L

Physiography

General Physiographic Area: Rocky Mountain System
Physiographic Province: Northern Rocky Mountains
Physiographic Section:

Mineral Deposit Model

Model Name: Polymetallic veins

Orebody

Name: East Hecla 74
Form: PINCH AND SWELL
Name: East Hecla (Russell)
Form: PINCH AND SWELL

[Home](#) [Mines](#) [Mining Towns](#) [Articles](#) [Blog](#)

[Please Consider a Donation](#) [Join Our Mailing List](#)

About The MRDS Mines Database

The Western Mining History database of mines is currently in beta form. The database uses the full USGS Mineral Resources Data System (MRDS) database. More information about this section will be posted soon.

Popular Tags

[View all tags](#)

Historical Commercial Buildings	564
Historical Homes	240
Best of Mining Era Structures	143
Stamp Mills	141
Cemeteries	109
Hotels	107
1906 San Francisco Earthquake	65
Churches	64
Victorian Homes	56
Mining Machinery	44
Panoramas	43
Headframes	37
Western Museum Of Mining And Industry	37
Gold Dredging	31
Railroads	30
Schools	27
Winter Scenes	23
Smelters	22
Commercial Building Interiors	21
Best Historical Photos	8

Find us on Facebook

Western Mining History
Like

Western Mining History
June 12 at 9:12am
Miners Union protest meeting, Rhyolite, Nevada, February 17, 1907.

149 Likes · 2 Comments · 19 Shares

6,942 people like Western Mining History.

Facebook social plugin

Physiographic Detail: Bitterroot Mountains - Coeur
D'Alene Mountains

Name: Magazine
Form: PINCH AND SWELL
Name: Hecla
Form: PINCH AND SWELL
Name: Ore-Or-No-Go
Form: PINCH AND SWELL
Name: Hecla B
Form: PINCH AND SWELL

Structure

Type: L
Structure:
Description: Host fault for the Hecla vein is a feather joint off a N-S shear, part of system of N-S shears that connect the Osburn and Thompson Pass faults.

Alterations**Rocks**

Name: Quartzite
Role: Host
Description:
Age Type: Host Rock Unit
Age in Years:
Dating Method:
Material Analyzed:
Age Young: Neoproterozoic
Age Old:
Name: Quartzite
Role: Host
Description:
Age Type: Host Rock Unit
Age in Years:
Dating Method:
Material Analyzed:
Age Young: Neoproterozoic
Age Old:

Analytical Data**Materials**

Ore: Cerussite
Ore: Sphalerite
Ore: Tetrahedrite
Ore: Galena
Ore: Chalcopyrite
Gangue: Limonite
Gangue: Pyrrhotite
Gangue: Pyrite
Gangue: Calcite
Gangue: Quartz
Gangue: Siderite
Trace: Covellite
Trace: Boulangerite
Trace: Pyromorphite

Comments

Comment Type: Commodity	Comment IN THE REX-SNOWSTORM MINERAL BELT
Comment Type: Reserve-Resource	Comment ITEM 2 GIVES HECLA'S SHARE OF RESERVES FROM SUNSHINE MINE IN 1968 . HECLA'S SHARE OF 1968 RESERVES FROM STAR - MORNING UNIT AREA GIVEN IN ITEM 3
Comment Type: Location	Comment ON SECTION LINE S/2, SEC'S 9 & 10
Comment Type: Deposit	Comment 6 MAIN ORE SHOOT: HECLA, HECLA B, ORE-OR-NO-GO, MAGAZINE, EAST HECLA, EAST HECLA 74 . DEPTHS TO TOP, BOTTOM, ABOVE, EXPRESSED IN ELEVATION ON HECLA VEIN
Comment Type: Production	Comment Production data from Mitchell and Bennett (1983) using data reported to the U.S. Bureau of Mines. Grade data from Long (1998).
Comment Type: Development	Comment 100 PATENTED, 19 UNPATENTED CLAIMS
Comment Type: Geology	Comment BURKE FORMATION BEDS STRIKE NW, DIP 80 DEG NE
Comment Type: Deposit	Comment HECLA OWNS MAJOR INTEREST IN LUCKY FRIDAY, SUNSHINE UNIT AREA, SILVER SUMMIT, STAR UNIT AREA, AND MAYFLOWER MINE.

References

Reference Category: Production Pages:	Reference: Mitchell, V.E., and Bennett, E.H., 1983, Production statistics for the Coeur d'Alene mining district, Shoshone County, Idaho, 1884-1980: Idaho Geological Survey Technical Report 83-3, 33 p. URL:
Reference Category: Production Pages:	Reference: Long, K.R., 1998, Grade and tonnage models for Coeur d'Alene-type polymetallic veins: US Geological Survey Open-File Report 98-583m 28 p. URL:
Reference Category: Deposit Pages:	Reference: RANSOME, F. L., 1905 , ORE DEPOSITS OF THE COEUR D'ALENE DISTRICT, IDAHO: USGS BULL. 260 , P. 274 - 303 . URL:
Reference Category: Deposit Pages:	Reference: GRIGGS, A. B., 1952 , GEOLOGY AND NOTES ON ORE DEPOSITS IN CANYON - NINE MILE CREEKS AREA, SHOSHONE COUNTY, IDAHO: USGS OPEN-FILE REPT., 108 P. URL:
Reference Category: Deposit Pages:	Reference: UMPLEBY, J. B., AND JONES, E. L., JR., 1923 , GEOLOGY AND ORE DEPOSITS OF SHOSHONE COUNTY, IDAHO: USGS BULL. 732 , 156 P. URL:
Reference Category: Deposit Pages:	Reference: FRYKLUND, V. C., JR., 1964 , ORE DEPOSITS OF THE COEUR D'ALENE DISTRICT, SHOSHONE COUNTY, IDAHO: USGS PROF. PAPER 445 , 103 P. URL:
Reference Category: Deposit Pages:	Reference: RANSOM, F. L., AND CALKINS, F. C., 1908 , THE GEOLOGY AND ORE DEPOSITS OF THE COEUR D'ALENE DISTRICT, IDAHO: USGS PROF. PAPER 62 , 203 P. URL:

Western Mining History

Home >> Mines >> Idaho Mines >> Shoshone County Mines >> Mine Detail

Star-Morning Mine

Location: Shoshone County, Idaho

All mine locations were obtained from the USGS Mineral Resources Data System. The locations and other information in this database have not been verified for accuracy. It should be assumed that all mines are on private property.



View Larger Map

State: Idaho

County: Shoshone

Elevation: 5,325 feet (1,623 meters)

Latitude: 47.49408

Longitude: -115.81383

Primary: Zinc , Lead , Silver

Star-Morning Mine MRDS Details

All data originates from the USGS Mineral Resource Data System.

Site Name

Primary: "Star-Morning Mine"
Secondary: "Morning Mine"
Secondary: "Star Mine"
Secondary: "You Like Mine"

Commodity

Primary: Zinc
Primary: Lead
Primary: Silver
Secondary: Copper
Tertiary: Gold

Location

State: Idaho
County: Shoshone
District: Hunter

Land Status

Land Ownership: BLM Administrative Area
Administrative Organization:

Holdings

Workings

Type: Underground
Type: Underground
Type: Underground
Type: Underground
Type: Underground
Type: Underground
Type: Underground
Type: Underground
Type: Underground
Type: Underground
Type: Underground
Type: Underground

Ownership

Owner Name: Sullivan Mining Co.
Company ID:
Percent: 100.0
Home Office: Kellogg, Idaho
Info Year:
Years: 1924 - 1956
Owner Name: Sullivan Mining Co.
Company ID:
Percent: 100.0
Home Office: Kellogg, Idaho
Info Year:
Years: 1916 - 1924
Owner Name: Star Mining Co.
Company ID:

Production

Year: 2005
Time Period: 1925-1990
Mined: 9586325.000 mt
Material type: Star and Star-Morning
Mine Production
Description:
Year: 2005
Time Period: 1895-1958
Mined: 13371423.000 mt
Material type: Morning Mine
Cumulative Production
Description:

Deposit

Record Type: Site
Operation Category: Past Producer
Deposit Type: HYDROTHERMAL
VEIN AND REPLACEMENT
Plant Type: Beneficiation (Mill)
Plant Subtype: Flotation
Operation Type: Underground
Mining Method: Filled Stopes - Horiz
Cut and Fill W/Tailings
Milling Method: Flotation
Year First Production: 1887
Year Last Production: 1990
Discovery Year: 1884
Discovery Method: Ore-Mineral In

[Home](#) [Mines](#) [Mining Towns](#) [Articles](#) [Blog](#)

[Please Consider a Donation](#) [Join Our Mailing List](#)

About The MRDS Mines Database

The Western Mining History database of mines is currently in beta form. The database uses the full USGS Mineral Resources Data System (MRDS) database. More information about this section will be posted soon.

Popular Tags

[View all tags](#)

Historical Commercial Buildings 564

Historical Homes 240

Best of Mining Era Structures 143

Stamp Mills 141

Cemeteries 109

Hotels 107

1906 San Francisco Earthquake 65

Churches 64

Victorian Homes 56

Mining Machinery 44

Panoramas 43

Headframes 37

Western Museum Of Mining And Industry 37

Gold Dredging 31

Railroads 30

Schools 27

Winter Scenes 23

Smelters 22

Commercial Building Interiors 21

Best Historical Photos 8

Find us on Facebook

Western Mining History
Like

Western Mining History
31 mins

Cashier Mill - Harrisburg - Death Valley National Park.



33 Likes · 1 Share

6,949 people like Western Mining History.



Facebook social plugin

Percent: 100.0
Home Office: Spokane, Washington
Info Year:
Years: 1900 - 1924
Owner Name: You Like Mining Association (H&K Lease)
Company ID:
Percent: 100.0
Home Office: Mullan, Idaho
Info Year:
Years: 1922 - 1929
Owner Name: You Like Mining Co.
Company ID:
Percent: 100.0
Home Office: Mullan, Idaho
Info Year:
Years: 1891 - 1905
Owner Name: Star Phoenix Mining Co.
Company ID:
Percent: 100.0
Home Office: Wallace, Idaho
Info Year:
Years: 1989 - 1990
Owner Name: Star-Morning Mining Co.
Company ID:
Percent: 100.0
Home Office: Wallace, Idaho
Info Year:
Years: 1984 - 1985
Owner Name: Hecla Mining Co.
Company ID:
Percent: 100.0
Home Office: Coeur d'Alene, Idaho
Info Year:
Years: 1966 -
Owner Name: Bunker Hill Co.
Company ID:
Percent: 70.00
Home Office: Kellogg, Idaho
Info Year:
Years: 1961 - 1966
Owner Name: Hecla Mining Co.
Company ID:
Percent: 30.00
Home Office: Coeur d'Alene, Idaho
Info Year:
Years: 1961 - 1966
Owner Name: American Smelting & Refining Co.
Company ID:
Percent: 100.0
Home Office: New York
Info Year:
Years: 1953 - 1966
Owner Name: H&K Lease (Grouse Lease)
Company ID:
Percent: 100.0
Home Office: Mullan, Idaho
Info Year:
Years: 1929 - 1938
Owner Name: Sheridan Leasing Co.
Company ID:
Percent: 100.0
Home Office:
Info Year:
Years: 1923 - 1929
Owner Name: Federal Mining & Smelting Co.
Company ID:
Percent: 100.0
Home Office: New York
Info Year:
Years: 1905 - 1953
Owner Name: Peter Larson & Thomas Greenough
Company ID:
Percent: 100.0
Home Office: Mullan, Idaho
Info Year:
Years: 1897 - 1905

Place
Years of Production: 1889-1891,
1893-1982, 1984-1985, 1989-1990
Organization: George S. Good and
C. C. A. Clark
Significant: Y
Deposit Size: L

Owner Name: Peter Larson & Thomas Greenough

Company ID:

Percent: 100.0

Home Office: Mullan, Idaho

Info Year:

Years: 1895 - 1897

Owner Name: D.B. Huntley

Company ID:

Percent: 100.0

Home Office: Mullan, Idaho

Info Year:

Years: 1894 - 1894

Owner Name: Morning Mining & Concentrating Co.

Company ID:

Percent: 100.0

Home Office:

Info Year:

Years: 1894 -

Owner Name: Morning Mining Co

Company ID:

Percent: 100.0

Home Office: Milwaukee, Wisconsin

Info Year:

Years: 1891 - 1894

Owner Name: Warren Hussey

Company ID:

Percent: 100.0

Home Office: Mullan, Idaho

Info Year:

Years: 1886 - 1891

Physiography

General Physiographic Area: Rocky Mountain System

Physiographic Province: Northern Rocky Mountains

Physiographic Section:

Physiographic Detail: Bitterroot Mountains - Coeur

D'Alene Mountains

Mineral Deposit Model

Model Name: Polymetallic veins

Orebody

Name: North Silver Vein

Form: PINCH AND SWELL

Name: Motor Barn Vein

Form: PINCH AND SWELL

Name: South Noonday Vein

Form: PINCH AND SWELL

Name: Noonday Vein

Form: PINCH AND SWELL

Name: Midnight Vein

Form: PINCH AND SWELL

Name: Skip Pocket (East Morning)
Vein

Form: PINCH AND SWELL

Name: Wilkie Vein

Form: PINCH AND SWELL

Name: East Noonday Vein

Form: PINCH AND SWELL

Name: Star-Morning Vein

Form: PINCH AND SWELL

Name: Grouse Vein

Form: PINCH AND SWELL

Name: You Like Vein

Form: PINCH AND SWELL

Structure

Type: R

Structure:

Description: Osburn Fault (WNW) to south.

Type: R

Structure:

Description: Star-Morning Fault, a feather joint off a shear plane complementary to the Osburn Fault.

Type: R

Structure:

Description: Antidline (WNW) - veins in south upright limb.

Alterations

Alteration Type: L

Alteration:

Alteration Text: Zone of disseminated siderite extends 10s to 100s of meters out from the veins, passing into a siderite-ankerite zone up to 10s of meters wide, and then into a zone of ankerite-calcite 100s of meters wide.

Alteration Type: L

Alteration:

Alteration Text: Sericitization;
Chlorite; Biotite; Siderite

Rocks

Name: Quartzite

Role: Host

Description:

Age Type: Host Rock Unit

Age in Years:

Dating Method:

Material Analyzed:

Age Young: Neoproterozoic

Age Old:

Name: Quartzite

Role: Host

Description:

Age Type: Host Rock Unit

Age in Years:

Dating Method:

Material Analyzed:
 Age Young: Neoproterozoic
 Age Old:
 Name: Quartzite
 Role: Host
 Description:
 Age Type: Host Rock Unit
 Age in Years:
 Dating Method:
 Material Analyzed:
 Age Young: Neoproterozoic
 Age Old:

Analytical Data
Materials

Ore: Galena
 Ore: Chalcopyrite
 Ore: Sphalerite
 Ore: Tetrahedrite
 Gangue: Siderite
 Gangue: Magnetite
 Gangue: Quartz
 Gangue: Calcite
 Gangue: Pyrite
 Gangue: Barite
 Gangue: Pyrrhotite
 Gangue: Ankerite
 Gangue: Biotite
 Gangue: Chlorite
 Gangue: Sericite
 Gangue: Specularite
 Gangue: Marcasite
 Trace: Plattnerite
 Trace: Silver
 Trace: Cerussite
 Trace: Pyromorphite
 Trace: Polybasite
 Trace: Pyrargyrite

Comments

Comment Type: Development	Comment The Star claim was located in 1886 by Thomas Greenough and Clarence Cunningham on a western extension of the Morning vein.
Comment Type: Production	Comment Star and Star-Morning Mine production compiled from Bunker Hill Co. records, Hecla Mining Co. annual reports, and other sources.
Comment Type: Workings	Comment Morning Adits Nos. 1 to 4 caved and inaccessible by 1912. The Morning No. 5 Adit level is the zero level of the Morning mine and equivalent to the 1700 level of the Star mine. Morning No. 6 Adit level is Morning 600 level and Star 2500 level. Morning workings connected with Star via Star 2900 and 4000 level crosscuts.
Comment Type: Orebody	Comment Mineralization extends below bottom (8300 foot Star) level.
Comment Type: Reserve-Resource	Comment The Star-Morning vein on Morning ground is depleted, but extends below the lowest level in the Star Mine. Substantial resources remain in subsidiary veins such as the Noonday.
Comment Type: Development	Comment The modern Star-Morning mine is a unitization of the Morning and Star Mines effected in 1961. At the time of unitization, the Morning consisted of 44 patented and 14 unpatented claims, including the old Grouse, Midnight, and You Like Groups. The Star Group in 1971 consisted of 30 patented claims.
Comment Type: Production	Comment Morning mine production compiled from annual reports and records of Federal Mining & Smelting Co., Asarco, and other sources.

References

Reference Category: Development Pages:	Reference: Dalton, M.P., 1930, Milling methods and costs at the Morning concentrator of the Federal Mining & Smelting Co., Mullan, Idaho: U.S. Bureau of Mines Information Circular 6587, 11 p. URL:
Reference Category: Reserve-Resource Pages:	Reference: Hecla Mining Co., 1981, Annual report URL:
Reference Category:	Reference: Federal Mining & Smelting Co., 1912-1952, Annual report to stockholders

Production	URL:
Pages:	
Reference Category:	Reference: Reynolds, John R., 1956, Mining methods and costs at the Morning mine, American Smelting & Refining Co., Shoshone County, Idaho: U.S. Bureau of Mines Information Circular 7743,
Development	40 p.
Pages:	URL:
Reference Category:	Reference: Hershey, O.H., 1920, Report on Star and Morning mines for the Bunker Hill & Sullivan
Deposit	Mining & Smelting Co.
Pages:	URL:
Reference Category:	Reference: Constantonopoulos, J., and Larson, P.B., 1991, Oxygen and hydrogen isotope
Geology	geochemistry of the Star-Morning mine, Coeur d'Alene mining district, Idaho: Geology, v. 19, p. 131-
Pages:	134.
	URL:
Reference Category:	Reference: Calkins, F.C., and Jones, E.L., Jr., 1914, Economic geology of the region around Mullan,
Geology	Idaho, and Saltese, Montana: U.S. Geological Survey Bulletin 540-E, p. 167-211.
Pages:	URL:
Reference Category:	Reference: 6) Ransome, F. L., AND Calkins, F. C., 1908 , The geology and ore deposits of the
Geology	Coeur d'Alene district, Idaho: U.S. Geological Survey Professional Paper 62 , 203 p.
Pages:	URL:
Reference Category:	Reference: Fryklund, V. C., Jr., 1964 , Ore Deposits of the Coeur d'Alene district, Shoshone County,
Geology	Idaho: U.S. Geological Survey Professional Paper 445 , 103 p.
Pages:	URL:
Reference Category:	Reference: Umpleby, J. B., and Jones, F. L., Jr., 1923 , Geology and ore deposits of Shoshone
Deposit	County, Idaho: U.S. Geological Survey Bulletin 732, 156 p.
Pages:	URL:

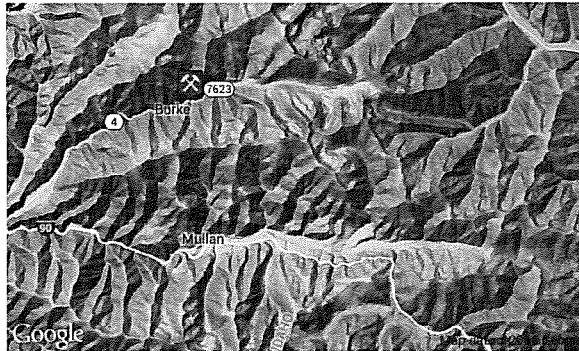
Western Mining History

Home >> Mines >> Idaho Mines >> Shoshone County Mines >> Mine Detail

Tiger-Poorman Mine

Location: Shoshone County, Idaho

All mine locations were obtained from the USGS Mineral Resources Data System. The locations and other information in this database have not been verified for accuracy. It should be assumed that all mines are on private property.



View Larger Map

State: Idaho

County: Shoshone

Elevation: 3,898 feet (1,188 meters)

Latitude: 47.5239

Longitude: -115.81190

Primary: Lead, Silver

Tiger-Poorman Mine MRDS Details

All data originates from the USGS Mineral Resource Data System.

Site Name

Primary: "Tiger-Poorman Mine"
Secondary: "Poorman Mine"
Secondary: "Tiger Mine"

Commodity

Primary: Lead
Primary: Silver
Secondary: Zinc
Secondary: Gold
Secondary: Copper

Location

State: Idaho
County: Shoshone
District: Lelande

Land Status

Land Ownership: Private
Administrative Organization:

Holdings

Workings

Type: Underground
Type: Underground

Ownership

Owner Name: Hecla Mining Company
Company ID:
Percent: 100.0
Home Office: Coeur d'Alene, Idaho
Info Year: 2004
Years: 1920 -
Owner Name: Federal Mining and Smelting Company
Company ID:
Percent: 100.0
Home Office: New York
Info Year: 2004
Years: 1903 - 1920
Owner Name: Empire State-Idaho Mining and Development Company
Company ID:
Percent: 100.0
Home Office: New York
Info Year: 2004
Years: 1901 - 1903
Owner Name: Buffalo Hump Mining Company
Company ID:
Percent: 100.0
Home Office: New York
Info Year: 2004
Years: 1899 - 1901

Production

Year: 1983
Time Period: 1901-1961
Mined: 1024024.000 mt
Material type: ORE
Description: Cp_Grade: ^1.2 Oz/Ton
Ag, 5.3% Pb

Deposit

Record Type: Site
Operation Category: Past Producer
Deposit Type: HYDROTHERMAL
VEIN AND REPLACEMENT
Plant Type: Beneficiation (Mill)
Plant Subtype: Gravity
Operation Type: Underground
Mining Method: Filled Stopes -
Timber With Subsequent Fill
Milling Method: Gravity
Year First Production: 1888
Year Last Production: 1952
Discovery Year: 1884
Discovery Method: Ore-Mineral In Place
Years of Production: 1888-1919,
1941, 1943, 1951-1952; 1961
Organization: JOHN CARTON;
ALMEDA SEYMOUR
Significant: Y
Deposit Size: L

[f](#) Home Mines Mining Towns Articles Blog

Please Consider a Donation Join Our Mailing List

About The MRDS Mines Database

The Western Mining History database of mines is currently in beta form. The database uses the full USGS Mineral Resources Data System (MRDS) database. More information about this section will be posted soon.

Popular Tags

View all tags

Historical Commercial Buildings 564

Historical Homes 240

Best of Mining Era Structures 143

Stamp Mills 141

Cemeteries 109

Hotels 107

1906 San Francisco Earthquake 65

Churches 64

Victorian Homes 56

Mining Machinery 44

Panoramas 43

Headframes 37

Western Museum Of Mining And Industry 37

Gold Dredging 31

Railroads 30

Schools 27

Winter Scenes 23

Smelters 22

Commercial Building Interiors 21

Best Historical Photos 8

Find us on Facebook

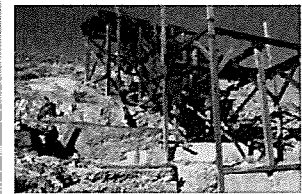


Western Mining History
Like



Western Mining History
32 mins

Cashier Mill - Harrisburg - Death Valley National Park.



33 Likes · 1 Share

6,949 people like Western Mining History.



Facebook social plugin

Owner Name: The Consolidated Tiger and Poorman
Mining Company
Company ID:
Percent: 100.0
Home Office: Spokane, Washington
Info Year: 2004
Years: 1895 - 1899
Owner Name: Coeur d'Alene Silver-Lead Mining
Company
Company ID:
Percent: 100.0
Home Office: Butte, Montana
Info Year: 2004
Years: 1887 - 1895
Owner Name: Tiger Mining Company
Company ID:
Percent: 100.0
Home Office: Burke, Idaho
Info Year: 2004
Years: 1884 - 1895

Physiography

General Physiographic Area: Rocky Mountain System
Physiographic Province: Northern Rocky Mountains
Physiographic Section:
Physiographic Detail: Coeur D'Alene Mountains

Mineral Deposit Model

Model Name: Polymetallic veins

Orebody

Name: Tiger-Poorman
Form: PINCH AND SWELL

Structure

Type: L
Structure:
Description: Tiger-Poorman Lode
Type: L
Structure:
Description: O'Neill Gulch Fault, A reverse fault which moved Prichard Fm up against Burke Fm
Type: R
Structure:
Description: Granite Peak Syncline

Alterations**Rocks****Analytical Data**

Analytical Data: ORE AVERAGES ABOUT 6% PB, 3 OZ/TON AG

Materials

Ore: Galena
Ore: Sphalerite
Ore: Tetrahedrite
Ore: Chalcopyrite
Gangue: Quartz
Gangue: Siderite
Gangue: Hematite
Gangue: Magnetite
Gangue: Pyrrhotite
Gangue: Pyrite
Gangue: Ankerite
Trace: Cerussite
Trace: Silver

Comments

Comment Type:
Reserve-Resource

Comment Reserves exhausted when mine closed in 1908. Production since 1908 came from clean-up of underground workings and surface dumps by lessees. Hecla explored the western end of the 300 and 600 levels from the Tiger shaft in 1928 for a reported body of zinc-rich ore. Such ore would not have been mined before 1908 due to inability to handle the zinc. No such orebody was found. Possibilities for additional ore are restricted to the area west of the western boundary of the Tiger-Poorman orebody, although a modest amount of drifting found no ore in that direction.

Comment Type:
Ownership

Comment Consolidation of the Tiger Mining Co. and Coeur d'Alene Silver-Lead Mining Co.

Comment Type:
Ownership

Comment Present (2004) owner

Comment Type:
Development

Comment The Tiger lode was discovered by prospectors searching for placer gold on Canyon Creek. They found float of lead-silver ore and traced it to the vein. The Poorman was located the next

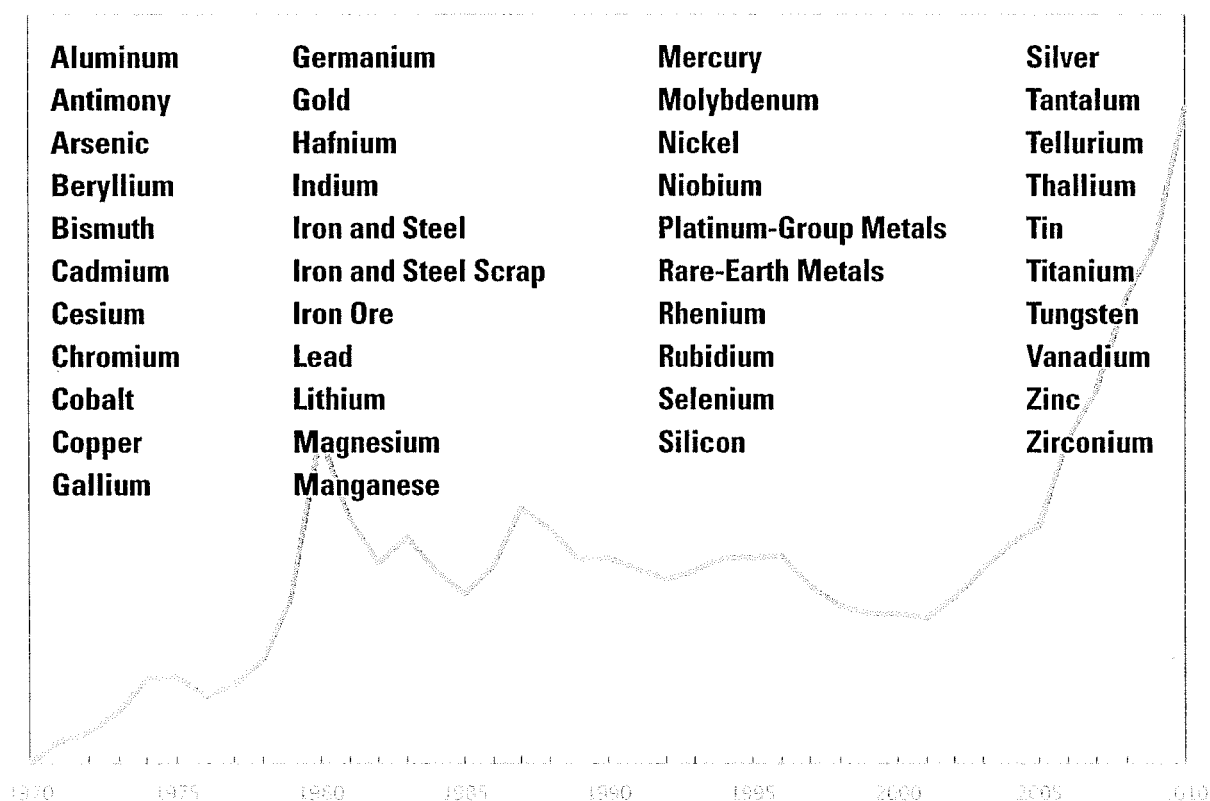
day, the two claims covering almost all of the orebody. The Tiger and Poorman were operated independently, as the Tiger Mining Co. and the Coeur d'Alene Silver-Lead Mining Co., respectively, until consolidated as the Consolidated Tiger and Poorman Mining Co. in 10/1895. The mine(s) operated continuously from 1887, with several changes in ownership, until 10/1908, when the Federal M&S Co. permanently closed the mine due to exhaustion of ore. Leasers operated the mine until 11/1920 when purchased by Hecla Mining Co. Hecla explored the west end of the 300 and 600 levels in 1928 for zinc-rich ore but found none. Some ore shipped from surface dumps in 1940s and 1950s. Shafts now filled with waste rock and surface plant removed. Workings are flooded and inaccessible.

Comment Type: Deposit	Comment DEPTHS TO TOP, BOTTOM, ABOVE EXPRESSED IN ELEVATION. IN THE TAMARACK-MARSH MINERAL SUBBELT.
Comment Type: Names	Comment A consolidation of the Tiger and the Poorman mines, effected late in 1895. History of the two mines prior to consolidation included in this record.
Comment Type: Ownership	Comment Owned and operated Tiger mine, purchased from original locator
Comment Type: Orebody	Comment The Tiger-Poorman orebody, bounded on the east by the O'Neill Gulch reverse fault, (N-S 75E) and possibly by another N-S fault with a steep easterly dip to the west, consisted of 5 individual ore shoots, oriented in echelon, and offset by small faults. Between the 2000 and 2200 levels, when the vein passed into the Prichard Formation, the ore broke up into short, narrow shoots of low grade, too poor to mine profitably.
Comment Type: Location	Comment Tiger and Poorman shafts now filled with waste rock. Poorman mill and Tiger mill burned down in 1896, and were replaced by the Tiger-Poorman mill (no longer extant) on the site of the old Tiger mill.
Comment Type: Deposit	Comment ARGILLITE BEDDING NEARLY FLAT
Comment Type: Ownership	Comment Owned and operated Poorman mine
Comment Type: Workings	Comment The Tiger Mine was originally developed by four short adits, the Poorman by three short adits, each 100 feet long.
Comment Type: Production	Comment Zinc, copper, and gold only recovered from small quantities of dump material worked in the 1940s and 1950s

References

Reference Category: Geology	Reference: Hobbs, W., Griggs, A.B., Wallace, R.E., and Campbell, A.B., 1965, Geology of the Coeur d'Alene district, Shoshone County, Idaho: USGS PP 478, 139 p.
Pages:	URL:
Reference Category: Reserve-Resource	Reference: Yeatman, Pope, 1907, Preliminary statement of investigation of the Federal Mining & Smelling Company's property in the Coeur d'Alenes, Idaho: New York, Federal M&S internal report, 8 p.
Pages:	URL:
Reference Category: Geology	Reference: GRIGGS, A. B., 1952 , GEOLOGY AND NOTES ON ORE DEPOSITS OF CANYON - NINE MILE CREEKS AREA, SHOSHONE COUNTY, IDAHO: USGS OPEN-FILE REPT., 108 P.
Pages:	URL:
Reference Category: Production	Reference: Mitchell, V.E. and Bennett, E.H., 1983, Production statistics for the Coeur d'Alene mining district, Shoshone County, Idaho - 1884-1980: Idaho Geological Survey Technical Report 83-3, 33 p.
Pages:	URL:
Reference Category: Deposit	Reference: UMPLEBY, J. B., AND JONES, E. L., JR., 1923, GEOLOGY AND ORE DEPOSITS OF SHOSHONE COUNTY, IDAHO: USGS BULL. 732 , 156 P.
Pages:	URL:
Reference Category: Deposit	Reference: FRYKLUND, V. C., JR., 1964 , ORE DEPOSITS OF THE COEUR D'ALENE DISTRICT, SHOSHONE COUNTY, IDAHO: USGS PROF. PAPER 445 , 103 P.
Pages:	URL:

Metal Prices in the United States Through 2010



Scientific Investigations Report 2012–5188

Metal Prices in the United States Through 2010

By U.S. Geological Survey National Minerals Information Center staff

Scientific Investigations Report 2012–5188

U.S. Department of the Interior
U.S. Geological Survey

U.S. Department of the Interior
KEN SALAZAR, Secretary

U.S. Geological Survey
Marcia K. McNutt, Director

U.S. Geological Survey, Reston, Virginia: 2013

For more information on the USGS—the Federal source for science about the Earth, its natural and living resources, natural hazards, and the environment, visit <http://www.usgs.gov> or call 1-888-ASK-USGS.

For an overview of USGS information products, including maps, imagery, and publications, visit <http://www.usgs.gov/pubprod>

To order this and other USGS information products, visit <http://store.usgs.gov>

Any use of trade, firm, or product names is for descriptive purposes only and does not imply endorsement by the U.S. Government.

Although this information product, for the most part, is in the public domain, it also may contain copyrighted materials as noted in the text. Permission to reproduce copyrighted items must be secured from the copyright owner.

Suggested citation:

U.S. Geological Survey, 2013, Metal prices in the United States through 2010: U.S. Geological Survey Scientific Investigations Report 2012–5188, 204 p., available only at <http://pubs.usgs.gov/sir/2012/5188>.

50 Metal Prices in the United States Through 2010

Table 1. Annual average U.S. producer copper price.

[Values in cents per pound]

Year	Price	Year	Price	Year	Price	Year	Price
1850	22.00	1891	12.80	1932	5.79	1973	59.49
1851	17.00	1892	11.60	1933	7.28	1974	77.27
1852	22.00	1893	10.80	1934	8.66	1975	64.16
1853	22.00	1894	9.50	1935	8.88	1976	69.59
1854	22.00	1895	10.70	1936	9.71	1977	66.77
1855	27.00	1896	10.80	1937	13.39	1978	65.81
1856	27.00	1897	11.29	1938	10.22	1979	92.19
1857	25.00	1898	12.03	1939	11.20	1980	101.31
1858	23.00	1899	16.70	1940	11.53	1981	84.21
1859	22.00	1900	16.19	1941	12.00	1982	72.80
1860	23.00	1901	16.10	1942	12.00	1983	76.53
1861	22.00	1902	11.63	1943	12.00	1984	66.85
1862	22.00	1903	13.20	1944	12.00	1985	66.97
1863	34.00	1904	12.80	1945	12.00	1986	66.05
1864	47.00	1905	15.60	1946	14.04	1987	82.50
1865	39.20	1906	19.30	1947	21.27	1988	120.51
1866	34.20	1907	20.00	1948	22.32	1989	130.95
1867	25.40	1908	13.20	1949	19.50	1990	123.16
1868	23.00	1909	13.11	1950	21.58	1991	109.33
1869	24.20	1910	12.88	1951	24.50	1992	107.42
1870	21.20	1911	12.55	1952	24.50	1993	91.56
1871	24.10	1912	16.48	1953	29.05	1994	111.05
1872	35.60	1913	15.52	1954	29.94	1995	138.33
1873	28.00	1914	13.31	1955	37.51	1996	109.04
1874	22.00	1915	17.47	1956	42.00	1997	106.92
1875	22.70	1916	28.46	1957	30.17	1998	78.64
1876	21.00	1917	29.19	1958	26.31	1999	75.91
1877	19.00	1918	24.68	1959	30.99	2000	88.16
1878	16.60	1919	18.19	1960	32.34	2001	76.85
1879	18.60	1920	17.50	1961	30.32	2002	75.80
1880	21.40	1921	12.65	1962	31.00	2003	85.01
1881	19.20	1922	13.56	1963	31.00	2004	134.20
1882	19.10	1923	14.75	1964	32.35	2005	173.57
1883	16.50	1924	13.28	1965	35.36	2006	314.75
1884	13.00	1925	14.30	1966	36.00	2007	328.00
1885	10.80	1926	14.05	1967	38.10	2008	319.16
1886	11.10	1927	13.05	1968	41.17	2009	241.38
1887	13.80	1928	14.81	1969	47.43	2010	348.34
1888	16.80	1929	18.35	1970	58.07		
1889	13.50	1930	13.23	1971	52.09		
1890	15.60	1931	8.37	1972	51.44		

Notes:

1850–96, New York price for Lake copper (99.9-percent-pure copper), *in* Loughlin, G.F., Prefatory note on the report on gold, silver, copper, lead, and zinc, Mineral Resources of the United States 1922, Part I, U.S. Geological Survey, 1925, p. 127a.

1897–98, New York price for Lake copper (99.9-percent-pure copper), *in* Engineering and Mining Journal.

1899–1908, Electrolytic (99.9-percent-pure copper) refinery price in New York, *in* Engineering and Mining Journal.

1909–22, Electrolytic (99.9-percent-pure copper) domestic f.o.b. refinery, *in* American Metal Market.

1923–72, Electrolytic (99.9-percent-pure copper) domestic delivered to Connecticut price, *in* American Metal Market.

1973–77, U.S. producer electrolytic (99.9-percent-pure copper) wirebar, *in* Metals Week.

1978–92, U.S. producer cathode (99.99-percent-pure copper), *in* Metals Week.

1993–2010, U.S. producer cathode (99.99-percent-pure copper), *in* Platts (Platt's) Metals Week.

84 Metal Prices in the United States Through 2010

Table 1. Annual average lead price.

[Values in dollars per pound]

Year	Price	Year	Price	Year	Price	Year	Price
1909	0.043	1935	0.041	1961	0.109	1987	0.359
1910	0.044	1936	0.047	1962	0.096	1988	0.371
1911	0.044	1937	0.060	1963	0.111	1989	0.394
1912	0.045	1938	0.047	1964	0.136	1990	0.460
1913	0.044	1939	0.051	1965	0.160	1991	0.335
1914	0.039	1940	0.052	1966	0.151	1992	0.351
1915	0.047	1941	0.058	1967	0.140	1993	0.317
1916	0.069	1942	0.065	1968	0.132	1994	0.372
1917	0.088	1943	0.065	1969	0.149	1995	0.423
1918	0.074	1944	0.065	1970	0.157	1996	0.488
1919	0.058	1945	0.065	1971	0.139	1997	0.465
1920	0.080	1946	0.081	1972	0.150	1998	0.453
1921	0.045	1947	0.147	1973	0.163	1999	0.437
1922	0.057	1948	0.180	1974	0.225	2000	0.436
1923	0.073	1949	0.154	1975	0.215	2001	0.436
1924	0.081	1950	0.133	1976	0.231	2002	0.436
1925	0.090	1951	0.175	1977	0.307	2003	0.438
1926	0.084	1952	0.165	1978	0.337	2004	0.551
1927	0.068	1953	0.135	1979	0.526	2005	0.61
1928	0.063	1954	0.141	1980	0.425	2006	0.774
1929	0.068	1955	0.151	1981	0.365	2007	1.240
1930	0.055	1956	0.160	1982	0.255	2008	1.200
1931	0.042	1957	0.147	1983	0.217	2009	0.869
1932	0.032	1958	0.121	1984	0.256	2010	1.090
1933	0.039	1959	0.122	1985	0.191		
1934	0.039	1960	0.119	1986	0.221		

Notes:

1909–36, Primary producer price, New York (common lead, 99.94-percent pure), *in* Engineering and Mining Journal.

1937–66, Primary producer price, New York (common lead, 99.94-percent pure), *in* Engineering and Mining Journal, Metal and Mineral Markets.

1967–70, Primary producer price, New York (common lead, 99.94-percent pure), *in* Metals Week.

1971–85, Primary producer price, delivered (minimum 99.97-percent pure), *in* Metals Week.

1986–93, North American producer price, delivered (minimum 99.97-percent pure), *in* Metals Week.

1994–2010, North American producer price, delivered (minimum 99.97-percent pure), *in* Platts (Platt's) Metals Week.

Significant events affecting U.S. gold prices since 1970

1971	President suspended convertibility of dollar into gold; dollar devalued by 7.9 percent
1972	Official U.S. gold price increased to \$38 per troy ounce
1973	Official U.S. gold price increased to \$42.22 per troy ounce, dollar devalued, two-tier gold price terminated, Organization of Petroleum Exporting Countries (OPEC) oil embargo begins
1974	U.S. citizens allowed to hold gold bullion and coins for the first time in 40 years
1975	U.S. Treasury began public sales of gold stocks
1976	International Monetary Fund (IMF) began 5-year gold sales program; IMF auctions and lower inflation outlook drove gold prices down
1977	Hiatus in U.S. Treasury gold sales
1978	U.S. Treasury resumed selling gold; Middle Eastern investors increased gold purchases
1979	Soviet Union invaded Afghanistan; political upheaval in Iran; taking of U.S. hostages
1980	Gold price peaked at an historic daily high of \$850 per troy ounce on January 21; IMF completes 5-year gold sales program
1982–88	Fluctuating world currency exchange rates, increasing concern about U.S. trade and budget deficits and banking problems, and Third World debt
1989–91	Conflict in the Persian Gulf and the breakup of the Soviet Union; erosion of gold's role as a safe haven for investors; generally weak economic growth worldwide
1992–96	Gold price remained relatively stable
1997–2001	Central banks of several countries sold large shares of gold holdings to meet common-currency criteria for European Union or to demonetize; bank failures or insolvencies in East and Southeast Asian countries
2001	September 11 terrorist attacks
2002–10	Prices surged because of increase in investment in gold stemming from political and economic concerns

Table 1. Annual average gold price.

[Values in dollars per troy ounce]

Year	Price	Year	Price	Year	Price	Year	Price
1968	40.06	1979	307.50	1990	384.93	2001	272.22
1969	41.51	1980	612.56	1991	363.29	2002	311.33
1970	36.41	1981	459.64	1992	344.97	2003	364.80
1971	41.25	1982	375.91	1993	360.91	2004	410.52
1972	58.60	1983	424.00	1994	385.41	2005	446.20
1973	97.81	1984	360.66	1995	385.50	2006	605.83
1974	159.74	1985	317.66	1996	389.08	2007	698.95
1975	161.49	1986	368.24	1997	332.38	2008	873.50
1976	125.32	1987	477.95	1998	295.24	2009	974.68
1977	148.31	1988	438.31	1999	279.91	2010	1,227.51
1978	193.55	1989	382.58	2000	280.10		

Notes:

1968–93, Englehard domestic market price, 99.95-percent-pure gold, *in* Metals Week.1994–2010, Englehard domestic market price, 99.95-percent-pure gold, *in* Platts (Platt's) Metals Week.

Significant events affecting silver prices since 1970

1979–80	Individual investors attempted to corner the silver market
1985	U.S. Mint authorized to begin minting a silver bullion coin
1982–97	U.S. Government disposed of silver in the National Defense Stockpile, using it for production of commemorative coins
1998	Price increased in the first quarter of 1998 following disclosure that an investment firm had accumulated approximately 4,000 metric tons (t) of silver
2006	Highest average price since 1983 owing to investment interest in newly established silver exchange-traded fund (ETF)
1999–2010	Price increased mainly because of investment demand and increased industrial use

Table 1. Annual average silver price.

[Values in dollars per troy ounce]

Year	Price	Year	Price	Year	Price	Year	Price
1900	0.62	1928	0.58	1956	0.91	1984	8.14
1901	0.60	1929	0.53	1957	0.91	1985	6.14
1902	0.53	1930	0.38	1958	0.89	1986	5.47
1903	0.54	1931	0.29	1959	0.91	1987	7.01
1904	0.58	1932	0.28	1960	0.91	1988	6.53
1905	0.61	1933	0.35	1961	0.92	1989	5.50
1906	0.67	1934	0.48	1962	1.09	1990	4.82
1907	0.66	1935	0.64	1963	1.28	1991	4.04
1908	0.53	1936	0.45	1964	1.29	1992	3.94
1909	0.52	1937	0.45	1965	1.29	1993	4.30
1910	0.54	1938	0.43	1966	1.29	1994	5.29
1911	0.54	1939	0.39	1967	1.55	1995	5.15
1912	0.62	1940	0.35	1968	2.14	1996	5.19
1913	0.61	1941	0.35	1969	1.79	1997	4.89
1914	0.56	1942	0.38	1970	1.77	1998	5.54
1915	0.51	1943	0.45	1971	1.55	1999	5.25
1916	0.67	1944	0.45	1972	1.68	2000	5.00
1917	0.84	1945	0.52	1973	2.56	2001	4.39
1918	0.98	1946	0.80	1974	4.71	2002	4.62
1919	1.12	1947	0.72	1975	4.42	2003	4.91
1920	1.02	1948	0.74	1976	4.35	2004	6.69
1921	0.63	1949	0.72	1977	4.62	2005	7.34
1922	0.68	1950	0.74	1978	5.40	2006	11.57
1923	0.65	1951	0.89	1979	11.09	2007	13.41
1924	0.67	1952	0.85	1980	20.63	2008	15.00
1925	0.69	1953	0.85	1981	10.52	2009	14.69
1926	0.62	1954	0.85	1982	7.95	2010	20.20
1927	0.57	1955	0.89	1983	11.44		

Notes:

1900–74, New York price of 99.9-percent-pure silver, *in* Silver, U.S. Bureau of Mines Minerals Yearbook 1974.1974–93, New York price of 99.9-percent-pure silver, *in* Metals Week.1993–2010, New York price of 99.9-percent-pure silver, *in* Platts (Platt's) Metals Week.

Table 1. Annual average zinc price.

[Values in dollars per pound]

Year	Price	Year	Price	Year	Price	Year	Price
1875	0.070	1909	0.054	1943	0.083	1977	0.344
1876	0.072	1910	0.054	1944	0.083	1978	0.310
1877	0.060	1911	0.056	1945	0.083	1979	0.373
1878	0.049	1912	0.068	1946	0.087	1980	0.374
1879	0.052	1913	0.055	1947	0.105	1981	0.446
1880	0.055	1914	0.051	1948	0.136	1982	0.385
1881	0.052	1915	0.142	1949	0.122	1983	0.414
1882	0.053	1916	0.136	1950	0.139	1984	0.486
1883	0.045	1917	0.089	1951	0.180	1985	0.404
1884	0.044	1918	0.080	1952	0.162	1986	0.380
1885	0.043	1919	0.070	1953	0.109	1987	0.419
1886	0.044	1920	0.078	1954	0.107	1988	0.602
1887	0.046	1921	0.047	1955	0.123	1989	0.820
1888	0.049	1922	0.057	1956	0.135	1990	0.746
1889	0.050	1923	0.066	1957	0.114	1991	0.528
1890	0.055	1924	0.063	1958	0.103	1992	0.584
1891	0.050	1925	0.076	1959	0.115	1993	0.462
1892	0.046	1926	0.073	1960	0.130	1994	0.493
1893	0.040	1927	0.062	1961	0.116	1995	0.534
1894	0.035	1928	0.060	1962	0.116	1996	0.511
1895	0.036	1929	0.065	1963	0.120	1997	0.646
1896	0.039	1930	0.046	1964	0.136	1998	0.514
1897	0.041	1931	0.036	1965	0.145	1999	0.535
1898	0.046	1932	0.029	1966	0.145	2000	0.556
1899	0.058	1933	0.040	1967	0.139	2001	0.440
1900	0.044	1934	0.042	1968	0.135	2002	0.386
1901	0.041	1935	0.043	1969	0.147	2003	0.406
1902	0.048	1936	0.049	1970	0.153	2004	0.525
1903	0.054	1937	0.065	1971	0.161	2005	0.671
1904	0.051	1938	0.046	1972	0.178	2006	1.589
1905	0.059	1939	0.051	1973	0.207	2007	1.544
1906	0.061	1940	0.063	1974	0.360	2008	0.889
1907	0.058	1941	0.075	1975	0.390	2009	0.779
1908	0.046	1942	0.083	1976	0.370	2010	1.020

Notes:

1875–1904, New York price for Prime Western zinc (98-percent-pure), *in* Ingalls, W.R., *Lead and Zinc in the United States*, McGraw-Hill, N.Y., 1980, p. 342.1905–70, St. Louis/East St. Louis producer price for Prime Western zinc, *in* American Metal Market/Metal Statistics.1971–79, U.S. Dealers Prime Western delivered price, *in* Metals Week.1980–93, U.S. Dealers High Grade zinc (99.9-percent-pure) delivered price, *in* Metals Week.1994–98, U.S. Dealers Special High Grade zinc (99.99-percent-pure) delivered price, *in* Platt's Metals Week.1999–2010, North American Special High Grade zinc (99.995-percent-pure) delivered price, *in* Platt's Metals Week.



October 20, 2014

U.S. Environmental Protection Agency
Office of Water, Water Permits Division
Mail Code 4203M, ATTN: MSGP Reports
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

RE: Annual Reporting Form – Hecla Limited Inactive and Unstaffed Site – Tiger/Poorman

To Whom It May Concern:

Please find enclosed the Annual Reporting Form for Hecla Limited's inactive and unstaffed site Tiger/Poorman.

If there are any omissions, errors, or concerns related to this submittal please do not hesitate to contact Judy Cloos, using any of the following:

Attn: Judy Cloos
Hecla Limited
Lucky Friday Mine
P.O. Box 31
Mullan, ID 83846
208-744-1751 X 2241
jcloos@hecla-mining.com

Thank you.

Best Regards,

A handwritten signature in black ink, appearing to read "Paul Glader", with a stylized flourish extending from the end.

Paul Glader
Environmental Director

Cc: File
Judy Cloos
Encls.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

Annual Reporting Form

A. GENERAL INFORMATION

1. Facility Name: HECLA LIMITED TIGER/POORMAN

2. NPDES Permit Tracking No.: IDR05C445

3. Facility Physical Address:

a. Street: BURKE ROAD

b. City: WALLACE c. State: ID d. Zip Code: 83873

4. Lead Inspectors Name: JUDY CLOOS Title: SR ENVIRONMENTALTECH

Additional Inspectors Name(s): KENNETH CLOOS SEASONAL EMPLOYEE

5. Contact Person: JUDY CLOOS Title: SR ENVIRONMENTALTECH

Phone: 208 - 744 - 1751 Ext. 2241 E-mail: jcloos@hecla-mining.com

6. Inspection Date: 06 / 24 / 2014

B. GENERAL INSPECTION FINDINGS

1. As part of this comprehensive site inspection, did you inspect all potential pollutant sources, including areas where industrial activity may be exposed to stormwater?
☒ YES ☐ NO

If NO, describe why not:

NOTE: Complete Section C of this form for each industrial activity area inspected and included in your SWPPP or as newly identified in B.2 or B.3 below where pollutants may be exposed to stormwater.

2. Did this inspection identify any stormwater or non-stormwater outfalls not previously identified in your SWPPP? ☐ YES ☒ NO

If YES, for each location, describe the sources of those stormwater and non-stormwater discharges and any associated control measures in place:

3. Did this inspection identify any sources of stormwater or non-stormwater discharges not previously identified in your SWPPP? ☐ YES ☒ NO

If YES, describe these sources of stormwater or non-stormwater pollutants expected to be present in these discharges, and any control measures in place:

4. Did you review stormwater monitoring data as part of this inspection to identify potential pollutant hot spots? ☐ YES ☐ NO ☒ NA, no monitoring performed

If YES, summarize the findings of that review and describe any additional inspection activities resulting from this review:

5. Describe any evidence of pollutants entering the drainage system or discharging to surface waters, and the condition of and around outfalls, including flow dissipation measures to prevent scouring:

There are no industrial materials or activities exposed to storm water at the Tiger/Poorman and associated sites. Based on past site visits, there are no indications of significant storm water runoff from these sites into Canyon Creek and associated tributaries.

6. Have you taken or do you plan to take any corrective actions, as specified in Part 3 of the permit, since your last annual report submission (or since you received authorization to discharge under this permit if this is your first annual report), including any corrective actions identified as a result of this annual comprehensive site inspection?

☐ YES ☒ NO

If YES, how many conditions requiring review for correction action as specified in Parts 3.1 and 3.2 were addressed by these corrective actions?

--	--	--

NOTE: Complete the attached Corrective Action Form (Section D) for each condition identified, including any conditions identified as a result of this comprehensive stormwater inspection.

C. INDUSTRIAL ACTIVITY AREA SPECIFIC FINDINGS

Complete one block for each industrial activity area where pollutants may be exposed to stormwater. Copy this page for additional industrial activity areas.

In reviewing each area, you should consider:

- Industrial materials, residue, or trash that may have or could come into contact with stormwater;
- Leaks or spills from industrial equipment, drums, tanks, and other containers;
- Offsite tracking of industrial or waste materials from areas of no exposure to exposed areas; and
- Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas.

INDUSTRIAL ACTIVITY AREA 1:

1. Brief Description:

Tiger/Poorman mine and associated sites.

2. Are any control measures in need of maintenance or repair? ☐ YES ☒ NO

3. Have any control measures failed and require replacement? ☐ YES ☒ NO

4. Are any additional/revised control measures necessary in this area? ☐ YES ☒ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO

3. Have any control measures failed and require replacement? ☐ YES ☐ NO

4. Are any additional/revised c necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO

3. Have any control measures failed and require replacement? ☐ YES ☐ NO

4. Are any additional/revised BMPs necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

NOTE: Copy this page and attach additional pages as necessary

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO3. Have any control measures failed and require replacement? ☐ YES ☐ NO4. Are any additional/revised BMPs necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO3. Have any control measures failed and require replacement? ☐ YES ☐ NO4. Are any additional/revised BMPs necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

2. Are any control measures in need of maintenance or repair? ☐ YES ☐ NO3. Have any control measures failed and require replacement? ☐ YES ☐ NO4. Are any additional/revised BMPs necessary in this area? ☐ YES ☐ NO

If YES to any of these three questions, provide a description of the problem: (Any necessary corrective actions should be described on the attached Corrective Action Form)

D. CORRECTIVE ACTIONS

Complete this page for each specific condition requiring a corrective action or a review determining that no corrective action is needed. Copy this page for additional corrective actions or reviews.

Include both corrective actions that have been initiated or completed since the last annual report, and future corrective actions needed to address problems identified in this comprehensive stormwater inspection. Include an update on any outstanding corrective actions that had not been completed at the time of your previous annual report.

1. Corrective Action # of for this reporting period.

2. Is this corrective action:

- ☐ An update on a corrective action from a previous annual report; or
☐ A new corrective action?

3. Identify the condition(s) triggering the need for this review:

- ☐ Unauthorized release or discharge
☐ Numeric effluent limitation exceedance
☐ Control measures inadequate to meet applicable water quality standards
☐ Control measures inadequate to meet non-numeric effluent limitations
☐ Control measures not properly operated or maintained
☐ Change in facility operations necessitated change in control measures
☐ Average benchmark value exceedance
☐ Other (describe): _____

4. Briefly describe the nature of the problem identified:

5. Date problem identified: / /

6. How problem was identified:

- ☐ Comprehensive site inspection
☐ Quarterly visual assessment
☐ Routine facility inspection
☐ Benchmark monitoring
☐ Notification by EPA or State or local authorities
☐ Other (describe): _____

7. Description of corrective action(s) taken or to be taken to eliminate or further investigate the problem (e.g., describe modifications or repairs to control measures, analyses to be conducted, etc.) or if no modifications are needed, basis for that determination:

8. Did/will this corrective action require modification of your SWPPP? ☐ YES ☐ NO

9. Date corrective action initiated: / /

10. Date correction action completed: / / or expected to be completed: / /

11. If corrective action not yet completed, provide the status of corrective action at the time of the comprehensive site inspection and describe any remaining steps (including timeframes associated with each step) necessary to complete corrective action:

E. ANNUAL REPORT CERTIFICATION**1. Compliance Certification**

Do you certify that your annual inspection has met the requirements of Part 4.2 of the permit, and that, based upon the results of this inspection, to the best of your knowledge, you are in compliance with the permit? ☒ YES ☐ NO

If NO, summarize why you are not in compliance with the permit:

2. Annual Report 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 gathered and evaluated 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.

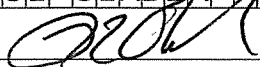
Authorized Representative
Printed Name:

PAUL GLADER

Title:

ENV DIRECTOR

Signature:



Date Signed:

10/20/14

Comprehensive Site Inspection 2014

Comprehensive Site Inspection Procedures.

Annual comprehensive site inspections will occur during coverage under this permit. Annual means once during each of the following inspection periods beginning with the period authorized to discharge under this permit:

Year 1:	September 29, 2008 – September 29, 2009
Year 2:	September 29, 2009 – September 29, 2010
Year 3:	September 29, 2010 – September 29, 2011
Year 4:	September 29, 2011 – September 29, 2012
Year 5:	September 29, 2012 – September 29, 2013

For “Year 1”, a comprehensive site inspection for an inspection period is waived if authorization to discharge is less than three months before the end of that inspection period.

Should coverage be administratively continued after the expiration date of MSGP 2008, inspections will continue to be performed annually until coverage under MSGP 2008 is no longer necessary.

Comprehensive site inspections will be conducted by qualified personnel with at least one member of the stormwater pollution prevention team participating in the comprehensive site inspections.

Comprehensive site inspections must cover all areas of the facility affected by the requirements in this permit, including the areas identified in the SWPPP as potential pollutant sources (see Part 5.1.3) where industrial materials or activities are exposed to stormwater, any areas where control measures are used to comply with the effluent limits in Part 2, and areas where spills and leaks have occurred in the past 3 years. The inspections must also include a review of monitoring data collected in accordance with Part 6.2. Inspectors must consider the results of the past year’s visual and analytical monitoring when planning and conducting inspections. Inspectors must examine the following:

- Industrial materials, residue, or trash that may have or could come into contact with stormwater;

Were all site areas examined? Y / N

- Leaks or spills from industrial equipment, drums, tanks, and other containers;

Were all site areas examined? Y / N

- Offsite tracking of industrial or waste materials, or sediment where vehicles enter or exit the site;

Were all site areas examined? Y / N

- Tracking or blowing of raw, final, or waste materials from areas of no exposure to exposed areas;

Were all site areas examined? Y / N

- Control measures needing replacement, maintenance, or repair.

Were all site areas examined? Y / N

Describe any control measures needing replacement, maintenance, or repair:

There is no maintenance needed at this time.

Stormwater control measures required by this permit must be observed to ensure that they are functioning correctly. If discharge locations are inaccessible, nearby downstream locations must be inspected.

Were all control measures observed? Y / N

Are all stormwater control measures functioning correctly? Y / N

If the answer above is “No”, describe the specific site and situation:

Comprehensive Site Inspection Documentation

Document the findings of each comprehensive site inspection and maintain this documentation onsite with the SWPPP as required in Part 5.4. In addition, submit this documentation in an annual report as required in Part 7.2. At a minimum, documentation of the comprehensive site inspection must include (see the Annual Reporting Form included as Appendix I):

The date(s) of the inspection; 6/4/2014 – 6/24/2014

The name(s) and title(s) of the personnel making the inspection;

Judy Cloos – Senior Environmental Technician
(name and title)

Ken Cloos – Seasonal Employee
(name and title)

Dustin Howell – Seasonal Employee
(name and title)

Findings from the examination of areas of your facility affected by the requirements of MSGP 2008:

All observations relating to the implementation of your control measures including:

previously unidentified discharges from the site? Y / N

previously unidentified pollutants in existing discharges? Y / N

evidence of, or the potential for, pollutants entering the drainage system? Y / N

evidence of pollutants discharging to receiving waters at all facility outfall(s), and the condition of and around the outfall, including flow dissipation measures to prevent scouring? Y / N, and

additional control measures needed to address any conditions requiring corrective action identified during the inspection? Y / N

For any items answered "Yes" above, describe the specific site location and circumstances below:

Any required revisions to the SWPPP resulting from the inspection? Y / N

If "Yes", describe:

Any corrective action required as a result of the comprehensive site inspection must be performed consistent with Part 3 of this permit.

Do you certify that this annual comprehensive site inspection met the requirements of MSGP 2008 Part 4.3 and that based upon the results of this inspection, to the best of your knowledge, you are in compliance with 2008? Yes X No _____

If "No", summarize why you are not in compliance with the permit:

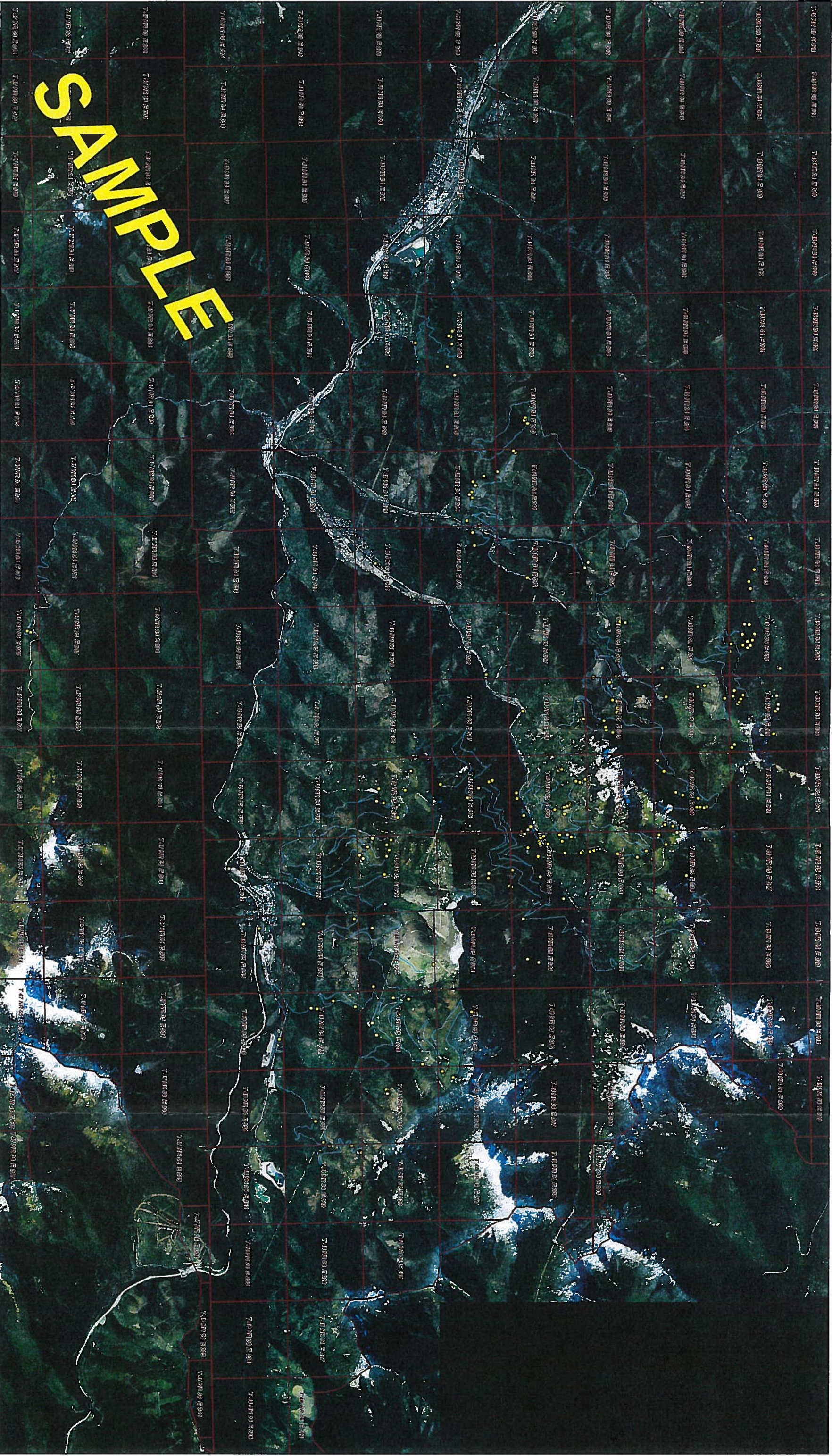
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information contained 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.

Paul Glader – Environmental Director

(name & title – printed)

(signature)

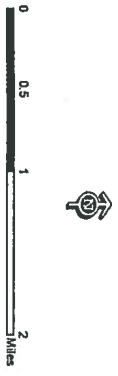
(date)



SAMPLE

6500 N. Merwin Drive, Suite 200
Coeur d'Alene, ID 83815-9408

This map is for representation only and should be treated as such. The data is not survey grade quality and was compiled from various dates/times.



Projects
Shoshone County, ID

Drawn By	xxxxx
Ordned By	B. Rollins
Approved By	S. Patton
Date	xx-xx-xxxx
Scale	As Noted
File Name	xxxxx.xxx

STORM WATER POLLUTION PREVENTION PLAN

STAR- MORNING FACILITY - – MSGP 2008 PERMIT #IDR05A401

Contents of Your SWPPP (Part 5.1)

For coverage under this permit, your SWPPP must contain all of the following elements:

- Stormwater pollution prevention team (see Part 5.1.1);
- Site description (see Part 5.1.2);
- Summary of potential pollutant sources (see Part 5.1.3);
- Description of control measures (see Part 5.1.4);
- Schedules and procedures (see Part 5.1.5);
- Documentation to support eligibility considerations under other federal laws (see Part 5.1.6); and
- Signature requirements (see Part 5.1.7).

Where your SWPPP refers to procedures in other facility documents, such as a Spill Prevention, Control and Countermeasure (SPCC) Plan or an Environmental Management System (EMS) developed for a National Environmental Performance Track facility, copies of the relevant portions of those documents must be kept with our SWPPP.

Stormwater Pollution Prevention Team (Part 5.1.1)

“You must identify the staff members (by name or title) that comprise the facility’s stormwater pollution prevention team as well as their individual responsibilities. Your stormwater pollution prevention team is responsible for assisting the facility manager in developing and revising the facility’s SWPPP as well as maintaining control measures and taking corrective actions where required. Each member of the stormwater pollution prevention team must have ready access to either an electronic or paper copy of the applicable portions of this permit and your SWPPP.”

The pollution prevention team includes Judy Cloos, Ken Cloos and Dustin Howell, who will manage all SWPPP issues.

Site Description (Part 5.1.2)

- **Activities at the Facility**

Provide a description of the nature of the industrial activities at your facility.

8. G.6.1 Nature of Industrial Activities

Briefly document in your SWPPP the mining and associated activities that can potentially affect the stormwater discharges covered by this permit, including a general description of the location of the site relative to major transportation routes and communities.

The Star Morning Facility includes historic disturbances associated with underground mining and surface milling facilities. The Hecla Mine operated from the late 1800's until the late 1940's. The Star facility was operated initially under a contract arrangement beginning in the 1920's; the Morning facilities were historically operated by Federal/ASARCO and subsequently leased, then purchased, by Hecla in the 1960's. Hecla ceased mining and milling activities at this site in 1982. The property was leased to Star/Phoenix Mining Company in 1989. Star/Phoenix ceased operation in November 1990. The Star Mine area of the Facility was active and staffed from June 2011 to June 2013 during underground exploration activities. The underground exploration activities ended in June 2013 and this Facility will no longer be routinely staffed.

Development rock associated with the underground exploration activities was trucked to Star Pond 5, a historically disturbed area (closed per the requirements of the Idaho Department of Water Resources (IDWR) rules for Mine Tailings Impound Structures (MTIS) that had been used during historic Star operations for storage of tailings. The development rock was placed over an approximately one acre area on the closed pond surface.

Work also took place at the Grouse 700 portal to establish a secondary escapeway for the underground exploration project. The Grouse 700 portal is located at an elevation of 5,130 (see Figure 4). There are no buildings at this location. The site provided access to the underground workings for repair and rehabilitation work only and is now closed.

This Facility area is part of Operable Unit 3 of the Bunker Hill Mining and Metallurgical Complex superfund site, specifically addressed by the Consent Decree (CD) for Operable Unit 3.

The nearest community to the Star side of the facility is the small community of Burke. The nearest community to the Morning side of the facility is the town of Mullan. Mullan sits adjacent to Interstate 90 and Burke is located north of Interstate 90 on the Burke Canyon road (old State Highway 4). (See attached general location map)

- General location map

Provide a general location map (e.g. U.S. Geological Survey (USGS) quadrangle map) with enough detail to identify the location of your facility and all receiving waters for your stormwater discharges.

See attached general location map (Figure 1), and both the Star Mine 2000 Portal Site Map (Figure 2), Star Pond 5 Site Map (Figure 3), and Grouse 700 Portal (Figure 4).

- Site map

Provide a map showing:

>the size of the property in acres;

The Star Mine area is approximately 4 surface acres, as indicated on the site maps. The mining area itself is fairly expansive, including numerous historic shafts, adits, and exploration developments. The acreage is assumed to be the surface area disturbance related to past mining activities. Surface land ownership overlaying the underground mining operations is predominantly owned by other entities, primarily timber companies. The disturbed acreage including the access roads was determined during the inspections of these properties under the MSGP and is as follows: Hecla #1-1.5, Hecla #2-1.5, Hecla tramway-1.4, Marsh-2.38, O'Neill Rock dump-2.54, tailing ponds-58.35, Omaha-1.0, Burke mine/mill site-9.37, Russell #1-#2- 0.22, Duluth-0.2, Joe Matt-0.68, Midway Summit-0.32, Hecla 700 level-0.34, Hecla 1000 level-0.3, Hecla 1200 level-6.75, Morning #1-0.2, Morning #2-1.5, Morning #3-1.31, Morning #4-0.99, Morning #5-4.55, Grouse Claims-0.1, You Like- 1.12, We Like-0.53, Fanny Gremm-1.3, Iron Crown-0.2, Star Discovery Cut-0.3, Lucretia- 0.1. The total acreage is 99.05 acres.

>the location and extent of significant structures and impervious surfaces;

Impervious areas represent nearly half the site area, as indicated on Figures 2 & 3.

>directions of stormwater flows (use arrows);

See attached site maps. Flow arrows will be refined as necessary as stormwater runoff is observed.

>locations of all existing structural control measures;

Water diversions, including a liner and riprap, have been constructed at the Star 1200 level. The development rock at this location has been terraced and BMPs have been placed along the toe of this area. Some seeding has also occurred. Improvements have been made to the access road to the Star 700 level including culverts and re-grading. The Morning #1 and #4 have logging roads running through the dumps. Morning #5 area has a new logging road above the portal and the logging company agreed to culvert the water through the dump and riprap Mill Creek near the road. Natural vegetation also provides a vegetative filter at some locations.

>locations of all receiving waters in the immediate vicinity of your facility, indicating if any of the waters are impaired and, if so, whether the waters have TMDLs established for them;

The receiving water bodies of storm water runoff from the Star-Morning facility sites include: O'Neill Gulch Creek, Canyon Creek, Grouse Gulch Creek, & Mill Creek. (See topographic map attached.)

Canyon Creek (from and including Gorge Gulch to mouth) is "impaired" by sediment and has an EPA-approved sediment TMDL. Canyon Creek is also "impaired" for metals (dissolved lead, dissolved zinc, and dissolved cadmium). EPA has approved a TMDL but DEQ needs to finalize via APA process. Do to the uncertainty; monitoring will occur as if there is no EPA-approved TMDL, although this may not be necessary. The Record of Decision (ROD) for Operable Unit 3 may serve as the functional equivalent of a TMDL as virtually all remediation is driven by water quality.

Canyon Creek is completely enclosed within a concrete structure for approximately 1,300 feet, beginning near the entrance to the Star Mine 2000 Portal Area site and continuing approximately 200 feet past the east limit of this area (see attached site map). Surface runoff from this area cannot reach Canyon Creek where the creek is completely enclosed. Surface runoff from the Star Pond 5 area is contained and infiltrated in a grassy swale and does not flow overland into Canyon Creek. Surface runoff from the Grouse 700 Portal area is controlled with berms, sediment traps, and straw wattles.

>locations of all stormwater conveyances including ditches, pipes, and swales;

See attached site maps.

>locations of potential pollutant sources identified under Part 5.1.3.2;

It is not evident that significant amounts of pollutants originate from the Star-Morning facility due to the inactive status. Potential sources of turbidity and sediment include access roads and development rock storage areas. These sources are not expected to be significant.

>locations where significant spills or leaks identified under Part 5.1.3.3 have occurred;

No major spills or leaks are known to have occurred.

>locations of all stormwater monitoring points;

See attached site maps.

>locations of stormwater inlets and outfalls, with a unique identification code for each outfall (e.g. Outfall No. 1, No. 2, etc.), indicating if you are treating one or more outfalls as “substantially identical” under Parts 4.2.3, 5.1.5.2, and 6.1.1, and an approximate outline of the areas draining to each outfall;

See attached site maps.

>municipal separate storm sewer systems, where your stormwater discharges to them;

n/a

>locations and descriptions of all non-stormwater discharges identified under Part 2.1.2.10;

Mine groundwater from the Star Mine side of the Facility is routed to the historic Star tailings line, which transports the groundwater to the Star Pond 6, a tailings pond located down gradient of the site (See Figure 1, NPDES Permit No.ID-000016-7). Mine groundwater from the Morning side of the Facility is routed to the SFCDR. Other historic waters in the area have been identified during the superfund RI/FS activities and are to be addressed under superfund according to the CD.

locations of the following activities where such activities are exposed to precipitation:

>>fueling stations;

n/a

>>vehicle and equipment maintenance and/or cleaning areas;

n/a

>>loading/unloading areas;

n/a

>>locations used for the treatment, storage, or disposal of wastes;

previously addressed

>>liquid storage tanks;

n/a

>>processing and storage areas;

n/a

>>immediate access roads and rail lines used or traveled by carriers of raw materials/manufactured products/waste material/by-products used or created by the facility;

n/a

>>transfer areas for substances in bulk; and

n/a

>>machinery

n/a

>locations and sources of run-on to your site from adjacent property that contains significant quantities of pollutants.

n/a

8.G.6.2 Site Map

Document in your SWPPP the locations of the following (as appropriate):

mining or milling site boundaries;

See attached site maps.

access and haul roads;

Access roads are present at the sites and are controlled by the state, county, logging companies or federal agencies. See attached topographic map for access road locations. No haul roads are associated with this operation.

outline of the drainage areas of each stormwater outfall within the facility with indications of the types of discharges from the drainage areas;

See attached site maps.

location(s) of all permitted discharges covered under an individual NPDES permit;

See attached general location map.

outdoor equipment storage, fueling, and maintenance areas;

Maintenance and fueling has not occurred since 2013. Maintenance activities, during operation, occurred indoors in the plant buildings or at underground maintenance stations.

materials handling areas;

n/a

outdoor manufacturing, outdoor storage, and material disposal areas;

Outdoor manufacturing does not occur at the Star-Morning site. The other items were addressed above.

outdoor chemicals and explosives storage areas;

n/a

overburden, materials, soils, or waste storage areas;

Development rock areas at numerous locations, tailing impoundment area, and the mine/mill plant yard where historic storage of mining and milling items occurred are shown on the attached topographic map.

location of mine drainage (where water leaves mine) or other process water;

“Mine drainage” is a regulatory term applicable to active facilities. There are no process wastewater sources at the Star-Morning sites.

tailings piles and ponds (including proposed ones);

There is one permitted MTIS (Star Pond 6) at the Star-Morning facility.

heap leach pads;

n/a

off-site points of discharge for mine drainage and process water;

n/a

surface waters;

The receiving water bodies of storm water runoff from the Star-Morning facility sites include: O’Neill Gulch Creek, Canyon Creek, Grouse Gulch Creek, & Mill Creek. (See topographic map attached.)

boundary of tributary areas that are subject to effluent limitation guidelines;

See attached maps.

and location(s) of reclaimed areas

n/a – future area remediations conducted under the ROD for Operable Unit 3 will dictate remediation areas.

Summary of Potential Pollutant Sources (Part 5.1.3)

You must document areas at your facility where industrial materials or activities are exposed to stormwater and from which allowable non-stormwater discharges are released. *Industrial materials or activities* include, but are not limited to: material handling equipment or activities; industrial machinery; raw materials; industrial production and processes; and intermediate products, by-products, final products, and waste products. *Material handling activities* include, but are not limited to: the storage, loading and unloading, transportation, disposal, or conveyance of any raw material, intermediate product, final product or waste product. For each area identified, the description must include:

- Activities in the area (5.1.3.1).

A list of the industrial activities exposed to stormwater (e.g., material storage; equipment fueling, maintenance, and cleaning; cutting steel beams).

none

- Pollutants (5.1.3.2).

A list of the pollutant(s) or pollutant constituents (e.g., crankcase oil, zinc, sulfuric acid, and cleaning solvents) associated with each identified activity. The pollutant list must include all significant materials that have been handled, treated, stored, or disposed, and that have been exposed to stormwater in the 3 years prior to the date you prepare or amend your SWPPP.

Potential pollutant constituents in stormwater discharges from the exposed materials could include common heavy metals (lead, zinc, iron, copper, and cadmium), sediment, TSS, and turbidity.

Spills and Leaks (5.1.3.3).

You must document where potential spills and leaks could occur that could contribute pollutants to stormwater discharges, and the corresponding outfall(s) that would be affected by such spills and leaks. You must document all significant spills and leaks of oil or toxic or hazardous pollutants that actually occurred at exposed areas, or that drained to a stormwater conveyance, in the 3 years prior to the date you prepare or

amend your SWPPP.

There were no spills or leaks in the prior three years

Note: Significant spills and leaks include, but are not limited to, releases of oil or hazardous substances in excess of quantities that are reportable under CWA Sections 311 (see 40 CFR 110.6 and 40 CFR 117.21) or Section 102 of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 USC §9602. This permit does not relieve you of the reporting requirements of 40 CFR 110, 40 CFR 117, and 40 CFR 302 relating to spills or other releases of oils or hazardous substances.

- Non-Stormwater Discharges (5.1.3.4).

You must document that you have evaluated for the presence of non-stormwater discharges and that all unauthorized discharges have been eliminated.

Documentation of your evaluation must include:

The date of any evaluation;

These areas have been evaluated by EPA during the superfund activities of Operable Unit 3. Such discharges will be addressed under superfund according to the CD.

A description of the evaluation criteria used;

Visual evaluations and monitoring (associated with the superfund activities).

A list of the outfalls or onsite drainage points that were directly observed during the evaluation;

- Areas on the attached maps are visited at least annually.

The different types of non-stormwater discharge(s) and source locations; and

Groundwater from historic mine openings - maps are available in the superfund documents for Operable Unit 3.

The action(s) taken, such as a list of control measures used to eliminate unauthorized discharge(s), if any were identified. For example, a floor drain was sealed, a sink drain was re-routed to sanitary, or an NPDES permit application was submitted for an

unauthorized cooling water discharge.

The CD with EPA will address these discharges.

- 8.G.6.6 Certification of Permit Coverage for Commingled Non-Stormwater Discharges.

If you are able, consistent with Part 8.G.5.3 above, to certify that a particular discharge composed of commingled stormwater and non-stormwater is covered under a separate NPDES permit, and that permit subjects the non-stormwater portion to effluent limitations prior to any commingling, retain such certification with your SWPPP. This certification must identify the non-stormwater discharges, the applicable NPDES permit(s), the effluent limitations placed on the non-stormwater discharge by the permit(s), and the points at which the limitations are applied.

n/a

- Salt Storage (5.1.3.5). You must document the location of any storage piles containing salt used for deicing or other commercial or industrial purposes.

n/a

- Sampling Data (5.1.3.6). You must summarize all stormwater discharge sampling data collected at your facility during the previous permit term.

n/a

8.G.6.3 Potential Pollutant Sources.

For each area of the mine or mill site where stormwater discharges associated with industrial activities occur, identify the types of pollutants (e.g. heavy metals, sediment) likely to be present in significant amounts. Consider these factors:

the mineralogy of the ore and waste rock (e.g. acid forming);

Mine sites in the area are situated in the Belt Series rocks, which contain similar minerals. Rock formations contain only very small amounts of pyrite or other acid forming minerals. As a result the mineral compounds, if present in the outfall(s), tend to result in slightly basic water. Canyon Creek has not been shown to have a pH problem even though impacted by historic mining/milling practices. Potential pollutant sources include the development rock areas and disturbed areas at the

immediate historic mine and mill site. Based on past site inspections, there are no indications of significant storm water runoff from the sites other than the Star 1200 level where water diversion and repair work has occurred in the past. The types of pollutants with the potential to be present would be TSS, lead, zinc, cadmium, copper, and mercury as identified for the Ore Mining and Dressing point source category at 40 CFR 440, Subpart J – Copper, Lead, Gold, Silver, and Molybdenum Ores Subcategory, although only lead, zinc, and cadmium have been shown to be potential concerns during the lengthy and detailed RI/FS superfund process.

toxicity and quantity of chemicals used, produced, or discharged;

n/a

the likelihood of contact with stormwater;

Based on the applicable portions of the narrative above, pollutants are not expected to be present in significant amounts.

vegetation of site (if any);

Some of the sites contain substantial natural vegetation.

and history of significant leaks or spills of toxic or hazardous pollutants.

There have not been any such leaks or spills as addressed above.

Also include a summary of any existing ore or waste rock or overburden characterization data and test results for potential generation of acid rock. If any new data is acquired due to changes in the ore type being mined, update your SWPPP with this information.

For the above requirements of section 8.G.6.3, based upon the lack of erosion and results of past evaluations, the site is very stable and does not appear to be a source of significant pollutants. Mine sites in the area are situated in the Belt Series rocks, which contain similar minerals. Rock formations contain only very small amounts of pyrite or other acid forming minerals. As a result, the mineral compounds if present in the outfalls tend to result in slightly basic water. Potential pollutant sources include; 1) the development rock area, and 2) historic areas at the combined mine/mill site as discussed above. Numerous superfund documents developed for Operable Unit 3 contain characterization data and pH has not been identified as a concern.

Description of Control Measures (Part 5.1.4).

- Control Measures to Meet Technology-Based and Water Quality-Based Effluent Limits (5.1.4.1).

You must document the location and type of control measures you have installed and implemented at your site to achieve the non-numeric effluent limits in Part 2.1.2, and where applicable in Part 8, the effluent limitations guidelines-based limits in Part 2.1.3, the water quality-based effluent limits in Part 2.2, and any agreed-upon endangered species or NEPA-related requirements in Parts 2.3 and 2.4, and describe how you addressed the control measure selection and design considerations in part 2.1.1. This documentation must describe how the control measures at your site address both the pollutant sources identified in Part 5.1.3, and any stormwater run-on that commingles with any discharges covered under this permit.

Due to the nature of the site areas, limited BMPs are necessary. BMP locations are shown on the site maps. Ultimately, the ROD implementation process will dictate activities at the sites.

Part 2.1.2 Non-Numeric Technology-Based Effluent Limits (BPT/BAT/BCT).

2.1.2.1 Minimize Exposure. You must minimize the exposure of manufacturing, processing, and material storage areas (including loading and unloading, storage, disposal, cleaning, maintenance, and fueling operations) to rain, snow, snowmelt, and runoff by either locating these industrial materials and activities inside or protecting them with storm resistant coverings (although significant enlargement of impervious surface area is not recommended). In minimizing exposure, you should pay particular attention to the following:

>use grading, berming, or curbing to prevent runoff of contaminated flows and divert run-on away from these areas;

>locate materials, equipment, and activities so that leaks are contained in existing containment and diversion systems (confine the storage of leaky or leak-prone vehicles and equipment awaiting maintenance to protected areas);

>clean up spills and leaks promptly using dry methods (e.g., absorbents) to prevent the discharge of pollutants;

>use drip pans and absorbents under or around leaky vehicles and equipment or store indoors where feasible;

>use spill/overflow protection equipment;

>drain fluids from equipment and vehicles prior to on-site storage or disposal;

>perform all cleaning operations indoor, under cover, or in bermed areas that prevent runoff and run-on and also that capture any overspray; and

>ensure that all washwater drains to a proper collection system (i.e., not the stormwater drainage system).

The discharge of vehicle and equipment washwater, including tank cleaning operations, is not authorized by this permit. These wastewaters must be covered under a separate NPDES permit, discharged to a sanitary sewer in accordance with applicable industrial pretreatment requirements, or disposed of otherwise in accordance with applicable law.

Note: Industrial materials do not need to be enclosed or covered if stormwater runoff from affected areas will not be discharged to receiving or if discharges are authorized under another NPDES permit.

Limited industrial activities occurred and development rock is the exposed material as indicated above and shown on the site maps.

2.1.2.2 Good Housekeeping. You must keep clean all exposed areas that are potential sources of pollutants, using such measures as sweeping at regular intervals, keeping materials orderly and labeled, and storing materials in appropriate containers.

Good housekeeping will be observed at the site.

2.1.2.3 Maintenance. You must regularly inspect, test, maintain, and repair all industrial equipment and systems to avoid situations that may result in leaks, spills, and other releases of pollutants in stormwater discharged to receiving waters. You must maintain all control measures that are used to achieve the effluent limits required by this permit in effective operating condition. Nonstructural control measures must also be diligently maintained (e.g., spill response supplies available, personnel appropriately trained). If you find that your control measures need to be replaced or repaired, you must make the necessary repairs or modifications as expeditiously as practicable.

Maintenance is not an issue for industrial equipment and systems due to the inactive nature of the site. BMPs are inspected at least annually and repaired as necessary.

2.1.2.4 Spill Prevention and Response Procedures. You must minimize the potential for leaks, spills and other releases that may be exposed to stormwater and develop plans for effective response to such spills if or when they occur. At a minimum, you must implement:

>Procedures for plainly labeling containers (e.g., “Used Oil”, “Spent Solvents”, “Fertilizers and Pesticides”, etc.) that could be susceptible to spillage or leakage to encourage proper handling and facilitate rapid response if spills or leaks occur;

>Preventive measures such as barriers between material storage and traffic areas, secondary containment provisions, and procedures for material storage and handling;

>Procedures for expeditiously stopping, containing, and cleaning up leaks, spills, and other releases. Employees who may cause, detect, or respond to a spill or leak must be trained in these procedures and have necessary spill response equipment available. If possible, one of these individuals should be a member of your stormwater pollution prevention team (see Part 5.1.1); and

>Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies. Where a leak, spill or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302, occurs during a 24-hour period, you must notify the National Response Center (NEC) at (800) 424-8802 or, in the Washington, DC, metropolitan area, call (202) 267-2675 in accordance with the requirements of 40 CFR Part 110, 40 CFR part 117, and 40 CFR Part 302 as soon as you have knowledge of the discharge. State or local requirements may necessitate reporting spills or discharges to local emergency response, public health, or drinking water supply agencies. Contact information must be in locations that are readily accessible and available.

Spill prevention and response procedures are not necessary due to the absence of industrial materials as noted above.

2.1.2.5 Erosion and Sediment Controls. You must stabilize exposed areas and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation, and the resulting discharge of pollutants. Among other actions you must take to meet this limit, you must place flow velocity dissipation devices at discharge locations and within outfall channels where necessary to reduce erosion and/or settle out pollutants. In selecting, designing, installing, and implementing appropriate control measures, you are encourage to consult with EPA’s internet-based resources relating to BMPs for erosion and sedimentation, including the sector-specific *Industrial Stormwater Fact Sheet*

Series, (www.epa.gov/npdes/stormwater/msgp), *National Menu of Stormwater BMPs* (www.epa.gov/npdes/stormwater/menuofbmps), and *National Management Measures to Control Nonpoint Source Pollution from Urban Areas* (www.epa.gov/owow/nps/urbanmm/index.html), and any similar State or Tribal publications.

As indicated above, the limited historic disturbances associated with the Star-Morning Facility are very stable after many decades of exposure. The MANUAL OF BEST MANAGEMENT PRACTICES FOR THE MINING INDUSTRY IN IDAHO (BMP manual) will be consulted for appropriate control measures as necessary. The BMP manual was developed by the Idaho Mining Advisory Committee comprised of: Idaho Department of Lands, Idaho Department of Water Resources, Idaho Department of Health & Welfare (DEQ), Idaho Department of Fish & Game, Bureau of Land Management, USDA Forest Services (Region 1), USDA Forest Service (Region 4), Idaho Conservation League, Clark Fork Coalition, Idaho Mining Association, Independent Miner's Association, and individual volunteers. Additional procedures required by the CD will be followed under that specific procedure.

2.1.2.6 Management of Runoff. You must divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff, to minimize pollutants in your discharges. In selecting, designing, installing, and implementing appropriate control measures, you are encouraged to consult with EPA's internet-based resources relating to runoff management, including the sector-specific *Industrial Stormwater Fact Sheet Series*, (www.epa.gov/npdes/stormwater/msgp), *National Menu of Stormwater BMPs* (www.epa.gov/npdes/stormwater/menuofbmps), and *National Management Measures to Control Nonpoint Source Pollution from Urban Areas* (www.epa.gov/owow/nps/urbanmm/index.html), and any similar State or Tribal publications.

As indicate above, the stability of the historic disturbances limits the need for many control features. Stormwater infiltration occurs at the sites and runoff will be controlled with appropriate BMPs. At the Star 1200 level (see attached maps), a small intermittent drainage was diverted over the development rock.

2.1.2.7 Salt Storage Piles Containing Salt. You must enclose or cover storage piles of salt, or piles containing salt, used for deicing or other commercial or industrial purposes, including maintenance of paved surfaces. You must implement appropriate measures (e.g., good housekeeping, diversions, containment) to minimize exposure resulting from adding to or removing materials from the pile. Piles do not need to be enclosed or covered if stormwater runoff from the piles is not discharged or if discharges from the piles are authorized under another NPDES permit.

n/a

2.1.2.8 Sector Specific Non-Numeric Effluent Limits. You must achieve any additional non-numeric limits stipulated in the relevant sector-specific section(s) of Part 8.

Addressed below.

2.1.2.9 Employee Training. You must train all employees who work in areas where industrial materials or activities are exposed to stormwater, or who are responsible for implementing activities necessary to meet the conditions of this permit (e.g., inspectors, maintenance personnel), including all members of your Pollution Prevention Team. Training must cover both the specific control measures used to achieve the effluent limits in this Part, and monitoring, inspection, planning, reporting, and documentation requirements in other parts of this permit. EPA recommends training be conducted at least annually (or more often if employee turnover is high).

Training amongst the team member and site personnel will occur annually, with documentation included with the SWPPP.

2.1.2.10 Non-Stormwater Discharges. You must eliminate non-stormwater discharges not authorized by an NPDES permit. See Part 1.2.3 [THERE IS NO PART 1.2.3 – THE LIST IS AT PART 1.1.3] for a list of non-stormwater discharges authorized by this permit.

See above discussion on the superfund process.

2.1.2.11 Waste, Garbage and Floatable Debris. You must ensure that waste, garbage, and floatable debris are not discharged to receiving waters by keeping exposed areas free of such materials or by intercepting them before they are discharged.

Such materials are not generated at this inactive and unstaffed site.

2.1.2.12 Dust Generation and Vehicle Tracking of Industrial Materials. You must minimize generation of dust and off-site tracking of raw, final, or waste materials.

These activities are not occurring at this inactive and unstaffed site.

8. G.6.4 Documentation of Control Measures.

Document all control measures that you implement consistent with Part 8.G.5.2. If control measures are implemented or planned but are not listed in Part 8.G.5.2 (e.g., substituting a less toxic chemical for a more toxic one), include descriptions of them in your SWPPP.

Berms, straw logs/bales, stormwater runoff directed to infiltration, sediment sump at bridge and silt fences are all in place at the Star Mine Site. Water diversions, including a liner and riprap, have been constructed at the Star 1200 level. The development rock at this location has been terraced and BMPs have been placed along the toe of this area. Some seeding has also occurred. Improvements have been made to the access road to the Star 700 level including culverts and re-grading. The Morning #1 and #4 have logging roads running through the dumps. Morning #5 area has a new logging road above the portal and the logging company agreed to culvert the water through the dump and riprap Mill Creek near the road. Natural vegetation also provides a vegetative filter at some locations.

8.G.5 Additional Technology-Based Effluent Limits.

8.G.5. 1 *Employee Training.* (See also Part 2.1.2.9) Conduct employee training at least annually at active and temporarily inactive sites.

See above discussion per training.

8.G.5.2 *Stormwater Controls.* Apart from the control measures you implement to meet your Part 2 effluent limits, consider implementing the following control measures at your site. The potential pollutants identified in Part 8.G.6.3 shall determine the priority and appropriateness of the control measures selected.

8.G.5 .2.1 *Stormwater Diversions:* Consider diverting stormwater away from potential pollutant sources. Following are some options: interceptor or diversion controls (e.g., dikes, swales, curbs, or berms); pipe slope drains; subsurface drains; conveyance systems (e.g., channels or gutters, open-top box culverts, and waterbars; rolling dips and road sloping; roadway surface water deflector and culverts); or their equivalents.

Water diversions have been implemented at the Star 1200 level as indicated above. Such features may be part of the ultimate ROD implementation addressing the sites.

8.G.5.2.2 *Capping:* When capping is necessary to minimize pollutant discharges in stormwater, identify the source being capped and the material used to construct the cap.

Capping is not necessary at these sites or has already been completed.

8.G.5.2.3 *Treatment*: If treatment of stormwater (e.g., chemical or physical systems, oil and water separators, artificial wetlands) is necessary to protect water quality, describe the type and location of treatment used. Passive and/or active treatment of stormwater runoff is encouraged where practicable. Treated runoff may be discharged as a stormwater source regulated under this permit provided the discharge is not combined with discharges subject to effluent limitation guidelines for the Ore Mining and Dressing Point Source Category (40 CFR Part 440).

Treatment of stormwater runoff from these sites has not been shown to be necessary.

Schedules and Procedures (Part 5.1.5)

- Pertaining to Control Measures Used to Comply with the Effluent Limits in Part 2. (5.1.5.1)

The following must be documented in your SWPPP:

Good Housekeeping (See Part 2.1.2.2) – A schedule for regular pickup and disposal of waste materials, along with routine inspections for leaks and conditions of drums, tanks and containers;

N/A at this site due to inactive and unstaffed nature of the site.

Maintenance (See Part 2.1.2.3) – Preventative maintenance procedures, including regular inspections, testing, maintenance, and repair of all industrial equipment and systems, and control measures, to avoid situations that may result in leaks, spills, and other releases, and any back-up practices in place should a runoff event occur while a control measure is off-line;

N/A at this site due to inactive and unstaffed nature of the site.

Spill Prevention and Response Procedures (See Part 2.1.2.4) – Procedures for preventing and responding to spills and leaks. You may reference the existence of other plans for

Spill Control and Countermeasure (SPCC) developed for the facility under Section 311 of the CWA or BMP programs otherwise required by an NPDES permit for the facility, provided that you keep a copy of that other plan onsite and make it available for review consistent with Part 5.3; and

N/A at this site due to inactive and unstaffed nature of the site.

Employee Training (Part 2.1.2.9) – A schedule for all types of necessary training.

8. G.6.5 Employee Training. All employee training(s) must be documented in the SWPPP.

See above per training. Documentation will be attached to the SWPPP.

Pertaining to Monitoring and Inspection (5.1.5.2).

You must document in your SWPPP your procedures for conducting the five types of analytical monitoring specified by this permit, where applicable to your facility, including:

>Benchmark monitoring (see Part 6.2.1);

N/A at this site due to inactive and unstaffed nature of the site.

>Effluent limitations guidelines monitoring (see Part 6.2.2);

n/a at this site due to inactive and unstaffed nature of the site.

>State- or Tribal-specific monitoring (see Part 6.2.3)

n/a at this site due to inactive and unstaffed nature of the site.

>Impaired waters monitoring (see Part 6.2.4); and

Monitoring will begin per the process identified at MSGP 6.2.4.2. The metals TMDL (dissolved lead, dissolved zinc, dissolved cadmium), applicable to some site receiving waters, was approved by EPA 8/18/2000, according to DEQ's approved Integrated Report. This TMDL must be subjected to the Idaho APA process. The sediment TMDL is also applicable to some site receiving waters. Due to similarities of the sites (development rock exposure) and potential pollutants (heavy metals, TSS, and turbidity),

any identified outfalls are considered to be substantially identical, not only within the Star-Morning facility sites, but other historic inactive sites in the areas addressed under the Superfund RI/FS process. Sampling documentation will be maintained and kept with the SWPPP.

>Other monitoring as required by EPA (see Part 6.2.5).

N/A at this site due to inactive and unstaffed nature of the site.

For each type of monitoring, your SWPPP must document:

>Locations where samples are collected, including any determinations that two or more outfalls are substantially identical;

Part 6.1.1 Monitored Outfalls. Applicable monitoring requirements apply to each outfall authorized by this permit, except as otherwise exempt from monitoring as a “substantially identical outfall.” If your facility has two or more outfalls that you believe discharge substantially identical effluents, based on the similarities of the general industrial activities and control measures, exposed materials that may significantly contribute pollutants to stormwater, and runoff coefficients of their drainage areas, you may monitor the effluent of just one of the outfalls and report that the results also apply to the substantially identical outfall(s). As required in Part 5.1.5.2, your SWPPP must identify each outfall authorized by this permit and describe the rationale for any substantially identical outfall determinations. The allowance for monitoring only one of the substantially identical outfalls is not applicable to any outfalls with numeric effluent limitations. You are required to monitor each outfall covered by a numeric effluent limit as identified in Part 6.2.2. [THE “METAL MINING” SECTOR HAS NO NUMERIC EFFLUENT LIMITS]

Storm Water Pollution Prevention Plan (SWPPP) components will address site information knowledge available at this time. For example, the MSGP requires information in the SWPPP, such as outfall locations, which have not all been located at the Star-Morning facility due to the remote and historic nature of these inactive mine sites. The monitoring waiver for inactive and unstaffed sites will be applied where applicable. Outfalls are considered to be substantially identical.

>Parameters for sampling and the frequency of sampling for each parameter;

Potential parameters for impaired waters monitoring include lead, zinc, and cadmium, even though EPA approved the TMDL but DEQ has not formalized (i.e. not clear if this

sampling is required). Frequency will be determined pursuant to MSGP 6.2.4.2.

>Schedules for monitoring at your facility, including schedule for alternate monitoring periods for climates with irregular stormwater runoff (see Part 6.1.6):

See above response. Sample will be collected when an opportunity is available per site staffing/logistics.

>Any numeric control values (benchmarks, effluent limitations guidelines, TMDL-related requirements, or other requirements) applicable to discharges from each outfall; and

To be determined per 6.2.4.2.

>Procedures (e.g., responsible staff, logistics, laboratory to be used, etc.) for gathering storm event data, as specified in Part 6.1.

The pollution prevention team members would conduct the sampling. For any potential TSS monitoring, analysis will be conducted by a team member pursuant to 40 CFR Part 136 on the same day as sample collection. For potential dissolved metal analysis of lead, zinc, and cadmium; SVL Analytical, Inc. of Kellogg, Idaho would be used. Samples would be delivered to SVL the same day as sample collection occurs. Local area rain gauges could be used to determine rainfall for storm events.

If you are invoking the exception for inactive and unstaffed sites for benchmark monitoring, you must include in your SWPPP the information to support this claim as required by Part 6.2.1.3.

Documentation is attached.

You must document the following in your SWPPP if you plan to use the substantially identical outfall exception for your quarterly visual assessment requirements in Part 4.2 or your benchmark monitoring requirements in Part 6.2.1:

>Location of each of the substantially identical outfalls;

See attached site maps.

>Description of the general industrial activities conducted in the drainage area of each outfall;

As described above, there are no industrial activities occurring. Historic sampling during

superfund-related activities shows the lowest concentrations instream during spring runoff. Loadings are higher, but this appears to be attributable to historic tailings in the floodplain because similar increases are seen in stream reaches (which contain historic tailings) where development rock and mining disturbances are absent.

>Description of the control measures implemented in the drainage area of each outfall;

See attached site maps for control measures. The primary potential outfall area for Star site is the access road leading up to the 2000 Portal site.

See attached maps for control measures. Most sites have stabilized naturally and do not exhibit signs of any significant erosion. Estimated drainage areas:

Hecla #1-#2 ~10, 000 sq. ft.	Russell #1-#2 ~32, 500 sq. ft.
Marsh ~25, 000 sq. ft.	O'Neill rock dump ~50, 000 sq. ft.
Burke mine/mill site ~50, 000 sq. ft.	Duluth ~100, 000 sq. ft.
Joe Matt ~30, 000 sq. ft.	Omaha ~30, 000 sq. ft.
Midway Summit ~50, 000 sq. ft.	Hecla tramway ~20, 000 sq. ft.
Tailing ponds ~113, 750 sq. ft.	Grouse claims ~1, 250 sq. ft.
You Like ~25, 000 sq. ft.	We Like ~10, 000 sq. ft.
Fanny Gremm ~200, 000 sq. ft.	Morning #1-#5 ~200, 000 sq. ft.
Iron Crown ~10, 000 sq. ft.	Star Discovery Cut ~10, 000 sq. ft.
Star 700 ~200, 000 sq. ft.	Star 1000 ~100, 000 sq. ft.
Star 1200 ~900, 000 sq. ft.	Lucretia ~100, 000 sq. ft.

>Description of the exposed materials located in the drainage area of each outfall that are likely to be significant contributors of pollutants to stormwater discharges;

No exposed materials are considered to be significant sources of pollutants as evidenced by annual inspection results showing quite stable natural conditions. Development rock is present at all sites.

>An estimate of the runoff coefficient of the drainage areas (low = under 40%; medium = 40 to 65%; high = above 65%); and

Due to the permeable nature of development rock, and observed historic stability, runoff coefficients are considered to be low for these areas. The majority of the Star Mine area is pavement & concrete with outslope areas consisting of native materials with no evidence of significant erosion. BMPs have been installed and maintained.

>Why the outfalls are expected to discharge substantially identical effluents.

District mining occurs in similar rock structures (Belt Series) with the potential pollutants being TSS, metals, and turbidity. Specific to metals, the numerous water quality studies conducted during basin superfund activities have identified dissolved zinc, dissolved cadmium, and particulate lead as water quality concerns throughout Operable Unit 3, including the areas surrounding the Facility.

You must document in your SWPPP your procedures for performing, as appropriate, the three types of inspections specified by this permit, including:

>Routine facility inspections (see Part 4.1);

N/A – inactive and unstaffed waiver applied.

>Quarterly visual assessment of stormwater discharges (see Part 4.2): and

N/A – inactive and unstaffed waiver applied.

>Comprehensive site inspections (see Part 4.3).

Site areas described above will be inspected annually with documentation maintained in the SWPPP.

For each type of inspection performed, your SWPPP must identify:

>Person(s) or positions of person(s) responsible for inspection;

The pollution prevention team member will conduct the inspections.

>Schedules for conducting inspections, including tentative schedule for facilities in climates with irregular stormwater runoff discharges (see Part 4.2.3): and

Annual comprehensive inspections will occur when sites are accessible, which can be late May/early June thru October.

>Specific items to be covered by the inspections, including the schedules for specific outfalls.

All site areas identified above will be inspected during the annual comprehensive site inspection. Inspection forms will be kept with the SWPPP.

If you are invoking the exception for inactive and unstaffed sites relating to routine facility inspections and quarterly visual assessments, you must include in your SWPPP the information to support this claim as required by Parts 4.1.3 and 4.2.3.

This exception is being invoked and supporting information will be included with the SWPPP documents.

Documentation to Support Eligibility Considerations Under Other Federal Laws (Part 5.1.6).

- Documentation Regarding Endangered Species (5.1.6.1).

You must keep with your SWPPP the documentation supporting your determination with regard to Part 1.1.4.5 (Endangered and Threatened Species and Critical Habitat Protection).

Attached

- Documentation Regarding Historic Properties (5.1.6.2).

You must keep with your SWPPP the documentation supporting your determination with regard to Part 1.1.4.6 (Historic Properties Protection).

Attached

- Documentation Regarding NEPA Review (5.1.6.3).

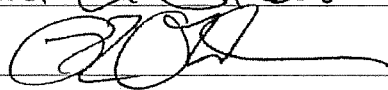
You must keep with your SWPPP the documentation supporting your certification of eligibility under Part 1.1.2.5 (Discharges Subject to Any New Source Performance Standards).

N/A - these are historic sites on private property addressed under superfund. No Table 1-1 conditions apply.

Signature Requirements (Part 5.1.7).

You must sign and date your SWPPP in accordance with Appendix B, Subsection 11, including the date of signature.

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 gathered and evaluated 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.

Name: Paul L. Glader Title: Environmental Director
Signature:  Date: 6/12/15

Required SWPPP Modifications (Part 5.2)

You must modify your SWPPP whenever necessary to address any of the triggering conditions for corrective action in Part 3.1 and to ensure that they do not reoccur, or to reflect changes implemented when a review following the triggering conditions in Part 3.2 indicates that changes to your control measures are necessary to meet the effluent limits in this permit. Changes to your SWPPP document must be made in accordance with the corrective action deadlines in Parts 3.3 and 3.4, and must be signed and dated in accordance with Appendix B, Subsection 11.

Required SWPPP modifications will be documented and, where necessary, addressed per the corrective action requirements of Part 3 of MSGP 2008.

SWPPP Availability (Part 5.3).

You must retain a copy of the current SWPPP required by this permit at the facility, and it must be immediately available to EPA; a State, Tribal, or local agency approving stormwater management plans; the operator of an MS4 receiving discharge from the site; and representatives of the U.S. Fish and Wildlife (USFS) or the National Marine Fisheries Service (NMFS) at the

time of an onsite inspection or upon request. EPA may provide access to portions of your SWPPP to a member of the public upon request. Confidential Business Information (CBI) may be withheld from the public, but may not be withheld from those staff cleared for CBI review within EPA, USFWS, or NMFS.

EPA encourages you to post your SWPPP online and provide the website address on your NOI.

Additional Documentation Requirements (Part 5.4)

You are required to keep the following inspection, monitoring, and certification records with your SWPPP that together keep your records complete and up-to-date, and demonstrate your full compliance with the conditions of this permit:

- A copy of the NOI submitted to EPA along with any correspondence exchanged between you and EPA specific to coverage under this permit;
- A copy of the acknowledgement letter you receive from the NOI Processing Center or eNOI system assigning your permit tracking number;
- A copy of this permit (an electronic copy easily available to SWPPP personnel is also acceptable).
- Descriptions and dates of any incidences of significant spills, leaks, or other releases that resulted in discharges of pollutants to waters of the U.S., through stormwater or otherwise; the circumstances leading to the release and actions taken in response to the release; and measures taken to prevent the recurrence of such releases (see Part 2.1.2.4);
- Records of employee training, including date training received (see Part 2.1.2.9);
- Documentation of maintenance and repairs of control measures, including the date(s) of regular maintenance, date(s) of discovery of areas in need of repair/replacement, and for repairs, the date(s) that the control measure(s) returned to full function, and the justification for any extended maintenance/repair schedules (see Part 2.1.2.3);
- All inspection reports, including the Routine Facility Inspection Reports (see Part 4.1), the Quarterly Visual Assessment Reports (see Part 4.2), and the Comprehensive Site Inspection Reports (see Part 4.3);

- Description of any deviations from the schedule for visual assessments and/or monitoring, and the reason for the deviations (e.g., adverse weather or it was impracticable to collect samples within the first 30 minutes of a measureable storm event) (see Parts 4.2.1, 6.1.4, and 6.2.1.2);
- Description of any corrective action taken at your site, including triggering event and dates when problems were discovered and modifications occurred;
- Documentation of any benchmark exceedences and how they were responded to, including either (1) corrective action taken, (2) a finding that the exceedence was due to natural background pollutant levels, or (3) a finding that no further pollutant reductions were technologically available and economically practicable and achievable in light of best industry practice consistent with Part 6.2.1.2;
- Documentation to support any determination that pollutants of concern are not expected to be present above natural background levels if you discharge directly to impaired waters, and that such pollutants were not detected in your discharge or were solely attributable to natural background sources (see Part 6.2.4.2); and
- Documentation to support your claim that your facility has changed its status from active to inactive and unstaffed with respect to the requirements to conduct routine facility inspections (see Part 4.1.3), quarterly visual assessments (see Part 4.2.3), and/or benchmark monitoring (see Part 6.2.1.3).

Applicable documents per the Part 5.4 requirements will be kept with the SWPPP.