

**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:

94-2127. 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.)

Dayrock. See attached deed(s).

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

1974

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

Economic recession; 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]  
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 this the 2<sup>nd</sup> day of June, A. D. 1925, between STANLY A. EASTON and Estelle EASTON, his wife, of the City of Kellogg, County of Shoshone, State of Idaho, and SAMUEL SEVERANCE and Eleanor S. SEVERANCE, his wife, of the City of Pittsburgh, State of Pennsylvania, the parties of the first part, and STRATTONS MINES COMPANY, a corporation duly organized and existing under and by virtue of the laws of the State of Idaho, and having its principal place of business in the City of Wallace, County of Shoshone, State of Idaho, the party of the second part;

WITNESSETH: That the said parties of the first part, for and in consideration of the sum of ONE DOLLAR (\$1.00), lawful money of the United States of America, to them in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, have granted, bargained, sold, remised, released and forever quitclaimed, and by these presents do grant, bargain, sell, remise, release and forever quitclaim, unto the said party of the second part, and unto its successors and assigns, the following described property, to wit:

All right, title and interest, of, in and to the NINETY-NINE lode mining claim, Mineral Survey No. 2184, situated on Nine Mile Creek, about three miles Northerly from the City of Wallace, in the Placer Center Mining District, Shoshone County, State of Idaho, and being the same claim for which a United States patent was issued to the Panhandle Mining and Milling Company on the 11th day of May, 1908, and which said patent was duly recorded on June 8, 1908, in Book "B" of Patents, at Page 14 thereof, of the records of said Shoshone County, Idaho; to which said patent and the said record thereof, reference is hereby had and made for a more definite and specific description of the said NINETY-NINE lode mining claim.

Also all right, title and interest, of in and to the HORNET lode mining claim, Mineral Survey No. 2194 (sometimes erroneously described as Mineral Survey No. 2191), situated on Nine Mile Creek, about three miles Northerly from the City of Wallace, in the Placer Center Mining District, Shoshone County, State of Idaho, and being the same claim for which a United States patent was issued to the Panhandle Mining and Milling Company on May 11, 1908, and which said patent was duly recorded on June 8, 1908, in Book "B" of Patents, at Page 13 thereof, of the records of said Shoshone County, Idaho, to which said patent and the said record thereof, reference is hereby had and made for a more definite and specific description of the said HORNET lode mining claim.

Subject however, to the existing right-of-way of the Northern Pacific Railway Company, as now used and occupied by said Railway Company, over and across the said premises, and also subject to any rights of the Washington Water Power Company to maintain its power lines over and across the said granted premises, as the same are now constructed thereon, and occupied by the said Washington Water Power Company, and also subject to an easement of that certain flume now situated on said premises, and which has been heretofore used to convey the waters of East Nine Mile Creek from a point Northerly of the premises hereby granted to a point Easterly from, and opposite the concentrating plant of the California Consolidated Mining Company, a corporation.

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 thereunto 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 parties of the first part, of in and 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 thereto incident, unto the said party of the second part, its successors and assigns, forever.

IN WITNESS WHEREOF, the said parties of the first part have hereunto set their hands and seals this the day and year first above written.

Signed, sealed and delivered in the presence of:

Ira C. Robson

Stanly A. Easton (SEAL)

Estelle Easton (SEAL)

Signed, sealed and delivered in the presence of:

L. H. Thompson

x Samuel Neverance (SEAL)

x Emma S. Neverance (SEAL)

STATE OF IDAHO, )  
COUNTY OF SHOSHONE. ) ss



On this, the 12<sup>th</sup> day of June, A. D. 1925, before me, Ceo J. [unclear], a Notary Public in and for the State of Idaho, personally appeared STANLY A. EASTON and Estelle EASTON, his wife, personally known to me to be

the persons whose names are subscribed to the within instrument and acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal at my office in the City of Kellogg, County of Shoshone, State of Idaho, on this, the Day and year in this certificate first above written.

*Ceo S. Summons*

Notary Public in and for the State of Idaho, residing at Kellogg, Idaho.

STATE OF PENNSYLVANIA,

County of Allegheny ) ss

On this, the 2nd day of June, A. D. 1925, before me,

David H. Thompson, a Notary Public in and for the State of Pennsylvania, personally appeared SAMUEL SEVERANCE and Eleanor S. SEVERANCE, his wife, personally known to me to be the persons whose names are subscribed to the within instrument, and acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal at my office in the City of Pittsburgh, County of Allegheny, State of Pennsylvania, on this the day and year in this certificate first above written.

*David H. Thompson*

Notary Public in and for the State of Pennsylvania, residing at Pittsburgh, Pennsylvania.

DAVID H. THOMPSON  
NOTARY PUBLIC  
MY COMMISSION EXPIRES MAR. 23, 1929

104-35

STANLY A. EASTON, et ux  
SAMUEL SEVERANCE, et ux

TO

STRATTON MINES COMPANY

99 Lode MS 2184

Hornet 2194

less R/w to NFRy Co  
LWR Co

STATE OF IDAHO  
COUNTY OF SEOSSTONE

I hereby certify that the within instru-  
ment was filed for record at the request of  
JOS. A. BROWN

JUN 12 1925

at 4 o'clock P. M. and recorded in Book  
58 of Deeds, page 561, records  
of said County.

Harry A. Rogers

County Recorder  
By *W. C. White*

Deputy

Fee \$ 2.00 chg.

Return To Stratton Mines Co.  
Wallace

*Indefinite*

THIS INDENTURE, made the 16th day of June, 1915, between PATRICK BRADY and ALICE BRADY ( his wife). both of the City of Wallace, Shoshone County, State of Idaho, the parties of the first part, and TAMARACK & CUSTER CONSOLIDATED MINING COMPANY, a corporation organized under the laws of the State of Nevada, the party of the second part,

WITNESSETH, that the said parties of the first part, for and in consideration of the sum of One Thousand (\$1000.00) Dollars, lawful money of the United States of America, to them in hand paid by the said party of the second part, the receipt whereof is hereby acknowledged, do by these presents grant, bargain, sell, convey and confirm unto the said party of the second part and to its successors and assigns forever, all of the following property, situate, lying and being in the County of Shoshone, State of Idaho, and more particularly described as follows, to-wit:

All of that certain placer mining claim situated in the Placer Center Mining District, County of Shoshone, State of Idaho, known as and called "NUGET" Placer Mining Claim, and designated by the Surveyor General of the United States for the State of Idaho as Lot Number 1470, for which a patent was issued by the United States of America to said Patrick Brady under date of the 20th day of November, 1905, and which said patent was duly recorded in Book "30" of Deeds at page 381 thereof, in the office of the Recorder of Shoshone County, State of Idaho, to which said patent and said record thereof reference is hereby had and made for a more particular description of said Nugget Placer Mining Claim. Also any water right and all water rights located for or used in connection with said Nugget Placer Mining Claim, and also any water right and all water rights located or situated on, or over, or across said claim.

Together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise 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. And the said parties of the first part and their heirs,

the said premises, in the quiet and peaceable possession of the said party of the second part, and its successors and assigns, against the said parties of the first part and their heirs, and against all and every person and persons whomsoever, lawfully claiming or to claim the same, shall and will warrant, and by these presents forever defend.

IN WITNESS WHEREOF, the said parties of the first part have hereunto set their hands and seals the day and year first above written.

Signed, sealed and delivered  
in the presence of:

J. A. Wayne

Patrick Brady (Seal)  
Alice Brady (Seal)

STATE OF IDAHO,       )  
                              : ss:  
COUNTY OF SHOSHONE.)

On this 16th day of June, A. D. 1913, before me J. A. Wayne, a Notary Public in and for said County of Shoshone, State of Idaho, personally appeared Patrick Brady and Alice Brady ( his wife), personally known to me to be the persons whose names are subscribed to the within instrument and acknowledged to me that they executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial seal at my office, in Wallace, Idaho, the day and year in this certificate first above written.

J. A. Wayne  
Notary Public.

1878  
Alfred E. Brady  
Alfred Brady, his wife  
James E. Cullen  
Consolidated Mining  
Company

Recorded at the request of  
C. W. Decker

JUN 16 1913

at 3 o'clock P.M. in book

45 of Idaho

Page 78 Records of  
Shoshone County, State of Idaho.

Alfred E. Cullen  
County Recorder.

By ~~Alfred E. Cullen~~  
County Recorder

Alfred E. Cullen  
Consolidated Mining Company

1878

THIS INDENTURE made this the 28th day of May  
A. D. 1925, between WILLIAM N. RUMELY (Also known as W. N. Rumely)  
and ANNA LONG RUMELY, husband and wife, of the City of Chicago,  
County of Cook, State of Illinois, parties of the first part and  
STRATTONS MINES COMPANY, a corporation duly organized and existing  
under and by virtue of the laws of the State of Idaho and having  
its principal place of business in the City of Wallace, County of  
Shoshone, State of Idaho, the party of the second part;  
WITNESSETH: That the said parties of the first part, for  
and in consideration of the sum of FORTY FIVE THOUSAND DOLLARS  
(\$45,000.00), lawful money of the United States of America, to them  
in hand paid, by the said party of the second part, the receipt  
whereof is hereby acknowledged, have granted, bargained, sold and  
conveyed, and by these presents do grant, bargain, sell and convey  
unto the said party of the second part, and unto its successors and  
assigns, the following described property, to wit:  
All of the JOHNEY Placer mining claim, designated by  
the Surveyor General as Lot No. 1451, (also known as the JOHNNIE  
and JOHNNY placer claim) situated on Nine Mile Creek about three  
and one-half (3 1/2) miles Northerly from the City of Wallace, in  
the Placer Center Mining District, Shoshone County, State of  
Idaho, and being the same placer mining claim for which a United  
States patent was issued to Johan W. Flink on September 4, 1900,  
and which patent was duly recorded on October 4, 1900, in Book  
"18" of Deeds at Page 241 thereof, of the records of said Shoshone  
County, Idaho, to which said patent and the said record thereof re-  
ference is hereby had and made for a more definite and specific  
description of the said JOHNEY placer mining claim.

THIS INDEMNITY was given for the

of

Also an undivided Seven-eighths (7/8) of the PANHANDLE lode mining claim, and all of the CONTACT lode mining claim, IDAHO lode mining claim and MOUNTAIN CHIEF lode mining claim, designated by the Surveyor General as Mineral Survey No. 2655, situated on Nine Mile Creek about three (3) miles Northerly from the City of Wallace, in the Placer Center Mining District, Shoshone County, State of Idaho, and being the same claims for which a United States patent was issued to William N. Rumely on June 30, 1913, and which said patent was duly recorded on July 18, 1913, in Book "45" of Deeds at Page 120 thereof, of the records of said Shoshone County, Idaho, to which said patent and the said record thereof, reference is hereby had and made for a more definite and specific description of the said PANHANDLE, IDAHO, CONTACT and MOUNTAIN CHIEF lode mining claims.

Subject, however, to the existing right-of-way of the Northern Pacific Railway Company as now used and occupied by said Railway Company over and across the said premises, and also subject to any rights of the Washington Water Power Company to maintain its power lines over and across the said granted premises as the same are now constructed thereon and occupied by the Washington Water Power Company.

Expressly reserving from the premises hereby granted, a strip of surface ground, eight (8) feet in width, lying between parallel lines which are four (4) feet distant from the center line of that certain flume now situated on said premises, and which has been heretofore used to convey the water of East Nine Mile Creek from a point Northerly of the premises hereby granted to a point Easterly from, and opposite the concentrating plant of the California Consolidated Mining Company, a corporation, with the

right to enter in and upon the said premises for the purpose of repairing, constructing and reconstructing the said flume.

Together with all dips, spurs and angles, and also all the metals, ores, gold and silver-bearing quartz, rocks and earth therein; and all rights, privileges and franchises thereto incident, appendant and appurtenant, or therewith usually had and enjoyed.

To have and to hold all and singular the said premises, together with the appurtenances and privileges thereto incident, unto the said party of the second part, its successors and assigns forever. And the said parties of the first part, and their heirs, the said premises, in the quiet and peaceable possession of the said party of the second part, its successors and assigns, against the said parties of the first part, and their heirs, and against all and every person and persons whomsoever, lawfully claiming or to claim the same, shall and will warrant, and by these presents forever defend; always saving and excepting the hereinbefore mentioned reservations, limitations and exceptions, and the provisos, reservations and limitations contained in the patent of the United States issued for said mining claims, and as provided by law.

IN WITNESS WHEREOF, the said parties of the first part have hereunto set their hands and seals the day and year first above written.

Signed, sealed and delivered in the presence of:

Richard P. Rumely

William N. Rumely (SEAL)  
Anna Long Rumely (SEAL)

... and also all  
relating, contracting and recontracting the said time.  
right to enter in and upon the said premises for the purpose of

STATE OF ILLINOIS, )  
COUNTY OF COOK, ) ss

On this the 28<sup>th</sup> day of May, A. D. 1925, before me  
Willie W. Helms, a Notary Public in and for  
said County and State, personally appeared WILLIAM N. RUMELY (also  
known as W. N. Rumely) and ANNA LONG RUMELY, husband and wife,  
known to me to be the persons described in and whose names are sub-  
scribed to the within instrument and acknowledged to me that they  
executed the same.

IN WITNESS WHEREOF, I have hereunto set my hand and  
affixed my notarial seal at my office in the City of Chicago, in  
the County of Cook and the State of Illinois, this the day and year  
in this certificate first above written.

Willie W. Helms  
Notary Public in and for the County  
of Cook, State of Illinois, residing  
at 411 W. Jefferson Street  
Chicago, Illinois.

WILLIAM M. RUMBLEY, et ux

TO

STRATTON MINES COMPANY

Johnny Placer MS 1251  
8) Panhandle MS 2655  
Contact  
Idaho  
Mountain Chief  
Less Ref'd - N.P.R.  
L.R.P.C.

STATE OF IDAHO  
COUNTY OF SEVENTH

I hereby certify that the within instrument was filed for record at the request of  
JOE A. BROWN

JUN 12 1925

Book 58 of Deeds, page 558, records of said County.

HENRY A. ROGERS

By County Recorder

Fee \$ 2.00 chg. Deputy

Returned To Stratton Mines Company  
Wallace.

## 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.

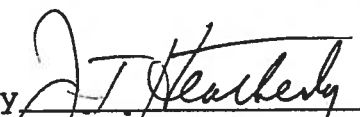
IN WITNESS WHEREOF, the Grantor has caused this Special Warranty Deed to be signed as of the day and year first above written.

HECLA MINING COMPANY, GRANTOR

Attest

  
Michael B. White  
Secretary

By

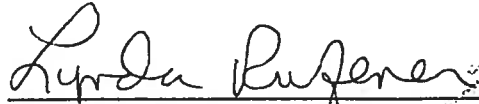
  
Joseph T. Heatherly  
Vice President

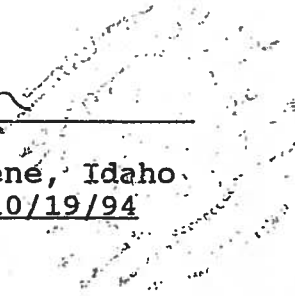
351159

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



351159

Exhibit A - Page 18

HECLA MINING COMPANY  
DAYROCK AREA

All or a portion of thirty-one (31) patented lode claims located in Sections 10, 11, 12, 13 and 14, Township 48 North, Range 4 West, B.M., Placer Center Mining District, Shoshone County, Idaho, as listed below by mineral survey number and claim name:

| <u>Claim Name</u> | <u>Mineral Survey<br/>Number</u> | <u>Acres</u> |
|-------------------|----------------------------------|--------------|
| Bonanza           | 1117                             |              |
| Fraction          | 1117                             |              |
| Monarch           | 1117                             | 33.236       |
| Black Cloud       | 1280                             |              |
| Iowa              | 1280                             | 35.384       |
| California        | 1668                             | 17.156       |
| Ohio              | 2283                             | 15.20        |
| Pacific           | 2283                             | 15.629       |
| Dora              | 3041A                            | 11.55        |
| Coolidge          | 3058                             |              |
| Freeman           | 3058                             |              |
| Sites             | 3058                             | 37.312       |
| Harding           | 3145                             | 14.33        |
| John              | 3145                             | 8.374        |
| Little Ford       | 3152                             | 20.660       |
| Little Jimmie     | 3152                             | 20.453       |
| Little Joe        | 3152                             | 19.953       |
| Mitzie            | 3152                             | 18.027       |
| Sophie            | 3152                             | 20.453       |
| Wilson            | 3152                             | 9.423        |
| Zan               | 3152                             | 10.077       |
| January           | 3187                             |              |
| February          | 3187                             |              |
| April             | 3187                             |              |
| November          | 3187                             |              |
| December          | 3187                             | 72.651       |
| May               | 3235                             |              |
| June              | 3235                             |              |
| July              | 3235                             | 55.164       |
| Galena            | 3241                             | 16.589       |
| Silver            | 3241                             | 17.259       |

(continued)

Also: Lot 7, Section 11, Township 48 North, Range 4 East, B.M., Shoshone County, Idaho, and as described in a United States of America patent to Hecla Mining Company and recorded in Shoshone County as instrument 333766 and containing 45.41 acres.

45.41

EXCEPT THOSE PORTIONS OF M.S. 2283, M.S. 3041A and M.S. 3145 lying easterly of a line as described, to-wit:

BEGINNING at corner 4 of the PANHANDLE Lode claim M.S. 2655 which is a point on the east end line of the OHIO lode claim, M.S. 2283;

THENCE North 74° West a distance of 68 feet to a point;

THENCE North 10° 30' West a distance of 935 feet to a point;

THENCE North 40° 06' 26" East a distance of 904.45 feet to a point on the North side boundary of the Harding lode claim, M.S. 3145. Said boundary line is recorded in deeds, Shoshone County, as instrument 339659.

ALSO EXCEPT a portion of the Zan lode claim, M.S. 3152, as described in deeds, Shoshone County, Idaho, at book 64, page 344, which contains 3.559 acres and presently owned by Nine Corporation.

Which are located within the following described perimeter boundary:

BEGINNING at Corner 1 of the PACIFIC claim located in Section 14, T48N, R4E, B.M., Shoshone County, Idaho;

THENCE N 15°25'E along the east end line of the PACIFIC, 537.4 feet to Corner 4;

THENCE continuing N 15°25' E along the east end line of the OHIO claim, 62.6 feet to a point coincident with Corner 3 of NINETY NINE (MS 2184);

(continued)

## Exhibit A - Page 20

THENCE N 74° W, 68 feet to a point;

THENCE N 10°30' W, 935.0 feet to a point;

THENCE N 40°06'26" E, 904.45 feet to a point on the north side line of the HARDING claim; which point lies 220 feet from Corner 1 of the HARDING;

THENCE N 61°24' W along the north side line of the HARDING to intersect west boundary of NUGET PLACER (MS 1470) a distance of 73.83 feet;

THENCE N 25°43' E along the west side of said NUGET PLACER to intersect north side of JOHN, a distance of 334.8 feet;

THENCE N 61°24' W along north side of JOHN to intersect east boundary of Section 11, T48N, R4E;

THENCE north on the section line to the east 1/16 corner of SE $\frac{1}{4}$  of Section 11;

THENCE west along north boundary of LOT 7, Section 11, T48N, R4E, to intersect east end line of LITTLE JOE claim (MS 3152);

THENCE N 0°17' W along east end line of LITTLE JOE to Corner 4 of said claim;

THENCE N 73°17' W along north side line of LITTLE JOE, 26.91 feet to Corner 1 of LITTLE JIMMIE claim (MS 3152);

THENCE N 24°51' E, along the east end lines of the LITTLE JIMMIE, SOPHIE, and ZAN to a point on the east end line of the ZAN claim (MS 3152), a distance of 1,501.72 feet;

THENCE N 73°50' W, 1,508.9 feet to a point on the west end line of ZAN;

THENCE S 24°51' W, along the west end lines of the ZAN, SOPHIE, and LITTLE JIMMIE to Corner 2 of the LITTLE JIMMIE, a distance of 1,487.2 feet;

THENCE S 73°17' E, 36.91 feet to Corner 3 of LITTLE JOE;

THENCE S 0° 17' E, 613.34 feet to Corner 2 of LITTLE JOE;

THENCE N 73°17' E along north side of LITTLE FORD claim, 1,208.84 feet to Corner 2 of said claim;

(continued)

## Exhibit A - Page 21

THENCE S 24°57' W to intersect north side line of NOVEMBER (MS 3187), a distance of 256.65 feet;

THENCE S 87°04' W along north side of NOVEMBER to intersect east end line of DECEMBER, a distance of 1.59 feet;

THENCE N 18°41' W, 325.97 feet to Corner 4 of DECEMBER claim (MS 3187);

THENCE N 79°40' W, 132 feet to Corner 1 of GALENA claim (MS 3241);

THENCE N 9°47' W, 578.18 feet to Corner 5 of GALENA;

THENCE N 82°25' W, 1,392.64 feet to Corner 4 of GALENA;

THENCE N 79°24' W, 1,473.43 feet to Corner 2 of SILVER (MS 3241);

THENCE S 9°47' E, 256.72 feet to a point on the north side line of MAY, (MS 3235);

THENCE N 89°17' W, 1,449.12 feet to Corner 3 of MAY;

THENCE S 9°47' E, 603.5 feet to corner 2 of MAY and Corner 3 of JUNE (MS 3235);

THENCE S 26°39' E, 581.5 feet to Corner 2 of JUNE;

THENCE S 87°42' E, 20.8 feet to Corner 3 of JULY (MS 3235);

THENCE S 36°19' E, 669.5 feet to Corner 2 of JULY;

THENCE S 89°32' E, 1,460.4 feet to Corner 1 of JULY;

THENCE N 36°19' W, 102.5 feet to Corner 1 of JANUARY;

THENCE S 83°14' E, 334.64 feet to intersect north side line of VERNA (MS 3059);

THENCE N 78°45' E, 311.57 feet to Corner 3 of VERNA;

THENCE S 47°30' E, 165 feet along east end line of VERNA to Corner 3 of BOODEY (MS 3059);

THENCE S 83°14' E, 717.79 feet to Corner 2 of BOODEY;

(continued)

## Exhibit A - Page 22

THENCE N 84°48'30" E, 1,102.55 feet to Corner 3 of DOOLEY (MS 3059);

THENCE S 47°30' E, 762 feet to Corner 4 of DOOLEY;

THENCE N 87°27' E, 97.68 feet to Corner 2 of JAP (MS 3059);

THENCE S 30°49' E, 503 feet to Corner 3 of JAP;

THENCE S 7° 30' W, 523 feet to Corner 8 of MONARCH (MS 1117);

THENCE S 7°30' W, 47 feet to Corner 10 of FRACTION (MS 1117);

THENCE S 72°17' E, 197.5 feet to Corner 6 of CALIFORNIA claim (MS 1668);

THENCE S 7° 22' W, 544.32 feet to Corner 7 of CALIFORNIA;

THENCE S 72°27' E, 1,216 feet to intersect northerly end line of IOWA (MS 1280);

THENCE S 67°30' W, 209.5 feet to Corner 7 of IOWA;

THENCE S 34°17' E, 1,220.8 feet to Corner 8 of IOWA;

THENCE N 67°30' E, 548 feet to Corner 5 of IOWA;

THENCE N 31°53' W, 531.1 feet along easterly side line of IOWA to Corner 1 of BLACK CLOUD (MS 1280);

THENCE N 54°W, 415.2 feet to a point on the south side line of the PACIFIC (MS 2283);

THENCE S 62°06' E, 1,086.3 feet to Corner 1 of PACIFIC and the place of beginning and containing an area of 514.290 Acres, more or less.

(continued)

50th Annual Report  
OF THE  
**MINING INDUSTRY**  
OF THE  
STATE OF IDAHO  
FOR THE YEAR 1948



GEO. A.  
McDOWELL  
Inspector of Mines

MYRTLE  
ELLEN SOHN  
Secretary

10,000 shares; par value \$100; 518 shares issued. **Remarks:** This property has been sold to Day Mines, Inc.

#### DAY MINES, INC.

**Office:** Wallace. **Officers:** Henry L. Day, Pres.; S. F. Heitfeld, Sec., both of Wallace. **Inc.:** October 1, 1947. **Capital:** 5,000,000 non-assessable shares, par value 10c; 2,886,575 shares issued. **Men Employed:** Average, 500. **Ore:** Silver, lead, zinc, copper, antimony. **Remarks:** Day Mines, Inc., came into existence on October 1, 1947, as a result of a statutory consolidation effected under the laws of the state of Idaho, Delaware and Nevada, the corporate domicile of the predecessors of constituent corporations whose names were as follows: Tamarack & Custer Consolidated Mining Company, Hercules Mining Company, Sherman Lead Company, Dayrock Mining Company, Monitor Mining Company, King Mining Company, Stanley Mining Company, Duluth Mining Company, Happy Day Mining Company, Ltd., Western Union Mining Company, Crystal Lead Mines Company and Treasure Vault Mining Company.

#### DAYROCK MINING CO.

**Office:** Wallace. **Officers:** Henry L. Day, Pres.; S. F. Heitfeld, Sec., both of Wallace. **Inc.:** Nov. 30, 1923 as Strattons Mines Co.; name changed Nov. 19, 1928. **Capital:** 2,000,000 shares; par value 10c; 1,747,229 shares issued. **Property:** 47 patented and 22 unpatented claims; Evolution, Beaver and Placer Center dists.; Wallace. **Development:** By 22 tunnels the longest of which is 21,508 feet. Approximate total development 59,744 ft. **Plant:** MINE: Electrically driven hoist and 2 electrically driven compressors; complete mining equipment; storage-battery locomotive and haulage. **MILL:** 150-ton Selective flotation. **Ore:** Lead-silver. **Remarks:** Development work done during the year: Crosscutting, 1,232 ft.; drifting, 2,645 ft.; raises, 839 ft. **NOTE:** On October 1, 1947 the Dayrock Mining Company was consolidated into a new corporation named Day Mines, Inc., as a result of a statutory consolidation effected under the laws of the State of Idaho. The corporate existence of this company was terminated by operation of law on this date as a result of such statutory consolidation.

#### DOBSON PASS LEAD AND SILVER MINES CORP.

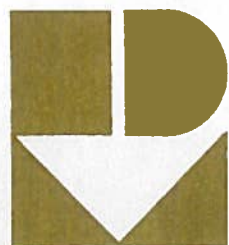
**Office:** Cataldo. **Officers:** M. D. Anderson, Pres., Cataldo; A. J. Teske, Sec., Wallace. **Inc.:** Sept. 17, 1932. **Capital:** 1,500,000 non-assessable shares; par value 10c; 158,762 shares issued. **Property:** 3 patented claims; Dobson Pass group; Beaver mining dist., Wallace. **Development:** By 1 tunnel. **Ore:** Lead and silver. **Remarks:** Idle.

#### DOUGLAS MINING CO., LTD.

**Office:** Wallace. **Officers:** Stanly A. Easton, Pres.-Mgr., Kellogg; Lennis E. Hill, Sec., Wallace. **Inc.:** Oct. 24, 1903. **Capital:** 1,200,000 shares; par value \$1; all shares issued. **Property:** Douglas group; 17 patented and 1 unpatented claims, Yreka dist.; Kellogg. **Development:** By 4 tunnels totaling 4,830 feet and an inclined shaft 330 ft. **Plant:** MINE: Electrically driven compressor and hoist; complete mining equipment and camp. **Ore:** Lead and zinc. **Remarks:** Leased to Douglas Leasing Company, Wallace, Idaho. 210.5 ft. of crosscutting and 407 ft. of drifting done under contract during the year.

#### DULUTH MINING CO.

**Office:** Wallace. **Officers:** Henry L. Day, Pres.; S. F. Heitfeld, Sec., both of Wallace. **Inc.:** June 10, 1909. **Capital:** 1,500,000 shares; par value 25c; 320,210 shares issued. **Property:** Duluth group; 8 patented claims, Lelande dist., Burke. **Development:** By 5 tunnels. **Ore:** Lead-silver. **Remarks:** Idle. **NOTE:** On October 1, 1947 the Duluth Mining Co. was consolidated into a new corporation named Day Mines, Inc. as a result of a statutory con-



DAY  
MINES  
INC.

1977 Annual Report



Leadville Mill



Underground Shop, Sherman Mine

### *Permian Potash:*

Your company has been optimistic about the long term outlook for the potash reserves indicated by drilling on our leased lands. Management has assumed that, when potash prices and market demand improved, development of the property for production could be quickly initiated.

The Department of the Interior, however, is now preparing changes in existing regulations which would discourage companies from maintaining potash leases in preparation for later production. The Department plans to impose royalties which could soon nearly triple and later more than quadruple DMI's cost of maintaining its leases.

Seven Potash Prospecting Permit applications, some of which were originally made in 1971, were finally issued to Day Mines late in 1977. Three more, the last of DMI's applications, will probably be approved early in 1978.

### *Dayrock Mine:*

Venture capital could not be located for the project within the time frame that was considered prudent to maintain the Dayrock in standby condition. In the latter part of the year, the decision was made to close the mine. Salvage operations are now being completed.

### *DIA Project:*

DMI holds a 47.7 percent interest in this project, which is operated by Hecla Mining Company. During 1977, the DIA crosscut advanced 1,041 feet to reach its objective, referred to as the "Y," from which 396 feet of drifting westward along the mineralization was completed. In addition, 1,525

feet of diamond drilling was done from the face of the crosscut, and crosscuts totalling 133 feet in length were driven north and south from the drift.

The DIA crosscut intersected a mineralized zone approximately 3000 feet below the bottom level of the Gold Hunter Mine. About 200 feet of intensely altered rock, mineralized with narrow quartz and siderite stringers containing minor amounts of galena, sphalerite and tetrahedrite, was encountered. Near the north edge of the zone a section of stringers and narrow veins 45 feet wide contains the strongest mineralization. The new occurrence is found in the Wallace formation.

### *Monitor:*

The independent contractor completed mining and milling operations in the Gray Rock portion of the mine early in 1977. Final production of 3,328 tons of ore averaged 0.7 ounces of silver per ton, 1.8 percent lead and 4.2 percent zinc. Following completion of underground work, DMI conducted final closure and surface plant cleanup operations.

### *Hunter Ranch:*

Over a period of several years, mining operations in the Lucky Friday mine have skirted the Hunter Ranch-Lucky Friday property line, and at times, have extended into DMI's Hunter Ranch, between Lucky Friday's 2300 and 2800 levels. More recently, development activity on the 3850, 4050 and 4250 levels has indicated ore in the Hunter Ranch property that is much improved in grade as well as volume. Profit derived from mining the Lucky Friday vein in the Hunter Ranch is split 50-50 under a Development Agreement with Hecla Mining Company.

# Proxy Statement of Dayrock Mining Company

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## Dayrock — Plant and Equipment

The surface plant consists of compressor building and steel-sharpening shop, change house, timber shed, heating plant and concentrator. The latter is of standard all-flotation type with facilities to produce both lead and zinc concentrates. The mine is provided with storage battery locomotives, trains of cars, mucking machines, and the usual drilling machines and other necessary equipment. The two-compartment vertical shaft, reaching to the 800 level, was recently equipped with an 150 H.P., single-drum electric hoist. A large fan will soon be installed for primary mine ventilation and the shaft made permanently downcast. Exhaust air will be returned to the surface through the old Panhandle workings on the eastern side of Nine Mile Gulch.

## Dayrock — Mining

The veins and their enclosing walls are relatively soft, and drifts require timbering. After sill sets are placed, a primary raise is run through to the level above providing not only ventilation but chutes through which to fill the stopes with waste that are started on either side of the raise.

The broken ore is trammed to the shaft, hoisted to the top level and trammed to the mill. Only one product is made, a lead-silver concentrate, shipped to East Helena, Montana. The company now has 50 employees, roughly two-thirds of a maximum crew.

## Dayrock — Exploration and Development

In the last two years search for new ore bodies and extensions of the old ones has been pressed by the management. The amount of such progress over five years is shown by the following figures:

| Year        | Drifting  | Cross-cutting | Raising   | Sinking | Diamond Drilling | Stations and Pockets |
|-------------|-----------|---------------|-----------|---------|------------------|----------------------|
|             |           |               |           |         |                  |                      |
| 1942 .....  | 368 ft.   | 752 ft.       | 291 ft.   | ft.     | ft.              | cu. ft.              |
| 1943 .....  | 1,509     | 581           | 299       |         | 3,301            |                      |
| 1944 .....  | 3,121     | 508           | 312       |         | 1,405            |                      |
| 1945 .....  | 1,562     | 350           | 739       | 383     | 985              | 16,116               |
| 1946 .....  | 1,655     | 319           | 624       |         | 2,478            | 15,421               |
| Total ..... | 8,215 ft. | 2,510 ft.     | 2,265 ft. | 383 ft. | 8,169 ft.        | 31,537 cu. ft.       |

As a result of this work, the tonnage of estimated ore reserves has increased, but the grade is less than in previous years and more consistent with tenor of current output. Exploration is continuing on both the 650 and 800 levels, the bottom ones in the mine at the present time.

The management recognizes the existence of a north-south striking fault, with a flat westerly dip, known as the Dobson Pass Fault. It is of major displacement and has been clearly described in Professional Paper 62 of the United States Geological Survey. Present search on the 800 is primarily planned to explore that part of the mine west of the shaft, and away from the Dobson Pass Fault.

## Dayrock — Production, Costs, Earnings

The mining business of the Dayrock company is disclosed in the following tabulation which gives the tonnage and average grade of the ore milled in the past five years, the corporate gross income, expense and net income per ton, as well as the earnings and dividends per share of stock outstanding. From some of these figures, as shown by the footnote, depreciation, depletion, income taxes and non-recurring items have been excluded in order to

make them comparable with figures furnished for other companies in this proxy statement. These items account for a portion of the difference between the earnings per share, during the past five years, and the dividends paid; the balance of the difference is due to the fact that it was felt good business to increase the working capital substantially.

| Year                    | Tons Milled    | Ozs. Ag.   | % Lead     | % Zinc    | Per Ton        |                |               | Per Share    |           |
|-------------------------|----------------|------------|------------|-----------|----------------|----------------|---------------|--------------|-----------|
|                         |                |            |            |           | Income*        | Expense*       | Net*          | Earnings*    | Dividends |
| 1942 .....              | 26,278         | 2.2        | 9.1        |           | \$13.32        | \$ 7.29        | \$6.03        | 9.0c         | 2c        |
| 1943 .....              | 26,544         | 5.5        | 6.7        | .9        | 10.30          | 8.44           | 1.86          | 2.8          | 2         |
| 1944 .....              | 32,587         | 3.7        | 4.9        | .6        | 8.43           | 6.50           | 1.93          | 3.6          | 0         |
| 1945 .....              | 30,394         | 3.1        | 4.2        | .4        | 7.44           | 7.26           | .18           | .3           | 0         |
| 1946 .....              | 27,873         | 3.5        | 5.7        | .9        | 13.35          | 7.35           | 6.00          | 9.5          | 2         |
| <b>Total or Average</b> | <b>143,676</b> | <b>4.5</b> | <b>6.0</b> | <b>.6</b> | <b>\$10.42</b> | <b>\$ 7.33</b> | <b>\$3.09</b> | <b>25.2c</b> | <b>6c</b> |

\* Excluding Depreciation, Depletion, Income Taxes, and non-recurring items.

### Dayrock — Metal Prices

The following tabulation is given to show the prices received by the Dayrock mine for its lead production during the past five years including premiums inaugurated during World War II:

| Year       | Lead       |
|------------|------------|
| 1942 ..... | 7.52 cents |
| 1943 ..... | 7.60       |
| 1944 ..... | 8.49       |
| 1945 ..... | 9.30       |
| 1946 ..... | 12.72      |

### Dayrock — Ore Reserves

Estimates are made by the company at the end of each year following the generally accepted methods. The following table shows the tonnage and estimated silver and lead content at the beginning and end of each of the past five years. It includes only measured and indicated ore reserves.

| Date                    | Tons   | Silver  | Lead  |
|-------------------------|--------|---------|-------|
| January 1, 1942 .....   | 56,099 | 7.0 oz. | 9.0 % |
| December 31, 1942 ..... | 30,485 | 7.0     | 9.0   |
| December 31, 1943 ..... | 41,835 | 6.3     | 8.1   |
| December 31, 1944 ..... | 71,057 | 3.8     | 5.5   |
| December 31, 1945 ..... | 69,962 | 4.0     | 5.6   |
| December 31, 1946 ..... | 98,981 | 3.4     | 5.2   |

While no figures have been made covering the inferred ore reserves, it is the management's opinion that the chances for finding additional tonnages are very good. The most economical operating practice is to establish only several years' life, and then attempt to develop additional tonnage at a rate equivalent to the annual extraction.

The cut off grades used in calculating the Dayrock's ore reserves were:

2.3 Ounces of silver, and  
3.4 % Lead.

The metal prices used were:

90 Cents per ounce of silver, and  
12 Cents per pound for lead.

The operating costs used were \$6.70 per ton.

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<br>Symbol  | Source                | Property                                                          | Tons<br>Produced | Silver<br>oz | Lead<br>lb    | Zinc<br>lb    | Copper<br>lb | Gold<br>oz | Silver<br>oz/ton | Lead<br>% | Zinc<br>% | Copper<br>% | Ratio,<br>Silver<br>oz/ton<br>to<br>% Lead | Ratio,<br>to<br>% Zinc |
|----------------|-----------------------|-------------------------------------------------------------------|------------------|--------------|---------------|---------------|--------------|------------|------------------|-----------|-----------|-------------|--------------------------------------------|------------------------|
| 14             | Hecla                 | Morning<br>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<br>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<br>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        | 63,366,324   | 808,520,880   | 91,870,600    | --           | --         | --               | --        | --        | --          | --                                         | --                     |
| 15             | USBM <sup>1</sup>     | Gold Hunter <sup>1</sup><br>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 <sup>2</sup><br>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<br>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<br>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<br>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<br>plotted | Shenon<br>and<br>Full | Butte and<br>Coeur d'Alene <sup>3</sup><br>(Idaho Silver)<br>1926 | 35               | 497          | 1,540         | 3,360         | --           | --         | 14.2             | 2.2       | 4.8       | --          | 6.45                                       | 0.46                   |
| 17             | USBM                  | Vindicator<br>(1922-1938)                                         | 28               | 859          | 12,418        | --            | 209          | --         | 30.68            | 22.18     | --        | 0.37        | 1.38                                       | --                     |
| not<br>plotted | USBM                  | Dear<br>(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 | 22,197,389   | 51,052     | 4.43             | 6.64      | 4.84      | 0.00        | 0.77                                       | 1.17                   |

<sup>1</sup> 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.

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

<sup>3</sup> 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

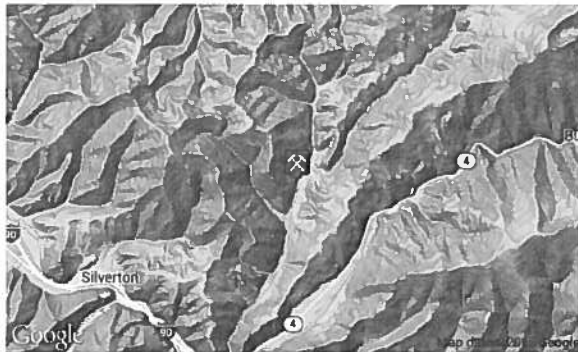
## Western Mining History

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

### Dayrock 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: 3,130 feet (954 meters)

Latitude: 47.5117

Longitude: -115.90220

Primary: Lead, Silver, Zinc

### Dayrock Mine MRDS Details

All data originates from the USGS Mineral Resource Data System.

#### Site Name

Primary: "Dayrock Mine"  
Secondary: "Stratten Mine"  
Secondary: "Mc Phillips Group"  
Secondary: "Option Mine"  
Secondary: "Panhandle Mine"

#### Commodity

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

#### Location

State: Idaho  
County: Shoshone  
District: Placer Center

#### Land Status

Land Ownership: Private  
Administrative Organization:

#### Holdings

#### Workings

Type: Underground

#### Ownership

Owner Name: Hecla Mining Co.  
Company ID:  
Percent: 100.0  
Home Office: Coeur d'Alene, Idaho  
Info Year:  
Years: 1981 -  
Owner Name: Day Mines, Inc.  
Company ID:  
Percent: 100.0  
Home Office: Wallace, Idaho  
Info Year:  
Years: 1947 - 1981  
Owner Name: Dayrock Mining Co.  
Company ID:  
Percent: 100.0  
Home Office: Wallace, Idaho  
Info Year:  
Years: 1928 - 1947  
Owner Name: Strattons Mines Inc.  
Company ID:  
Percent: 100.0  
Home Office: Wallace, Idaho  
Info Year:  
Years: 1923 - 1928

#### Production

Year: 2005  
Time Period: 1924-1974  
Mined: 1197510.000 mt  
Material type: Ore Treated  
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: 1924  
Year Last Production: 1974  
Discovery Year:  
Discovery Method: Ore-Mineral In  
Place  
Years of Production: 1924-1931,  
1935-1962, 1965-1974  
Organization:  
Significant: Y  
Deposit Size: L

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#### 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.

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Miners Union protest meeting, Rhyolite, Nevada, February 17, 1907.



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**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: Dom Vein  
 Form: PINCH AND SWELL  
 Name: Ohio Vein  
 Form: PINCH AND SWELL  
 Name: Dayrock Vein  
 Form: PINCH AND SWELL

**Structure**

Type: L  
 Structure:  
 Description: Most orebodies found between the Dobson  
 Pass and Murray 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**

Analytical Data: 2 ORE SHOOT TOTALING 350 FT  
 LONG AVERAGE 6 OZ/TON AG AND 6.8% PB  
 ACROSS 8 FT WIDTH.

**Materials**

Ore: Galena  
 Ore: Sphalerite  
 Ore: Tetrahedrite  
 Ore: Chalcopryrite  
 Gangue: Sericite  
 Gangue: Siderite  
 Gangue: Quartz  
 Gangue: Pyrite  
 Gangue: Calcite  
 Gangue: Ankerite

**Comments**

**Comment Type:** Location  
**Comment** BORDERED BY SILVER STAR INC. ON THE S AND W

**Comment Type:** Development  
**Comment** 44 PATENTED CLAIMS, 22 UNPATENTED CLAIMS, 3 PATENTED MILLSITES

**Comment Type:** Production  
**Comment** Production data compiled from Day Mines, Inc. annual reports and other sources.

**Comment Type:** Development  
**Comment** The Dayrock vein orebody, the first economic orebody found in mine, was apparently discovered in 1924.

**Comment Type:** Deposit  
**Comment** DAYROCK VEIN STRIKES W TO N 70 DEG W, DIPS 65 DEG S TO VERTICAL, OHIO VEIN STRIKES N 55 DEG W, IS 2000 FT LONG; DORA VEIN STRIKES N 65 DEG W, IS 650 FT LONG; LATTER TWO DIP S. DEPTHS GIVEN ABOVE EXPRESSED IN ELEVATION

**Comment Type:** Workings  
**Comment** LENGTH IS A 1961 FIGURE

**References**

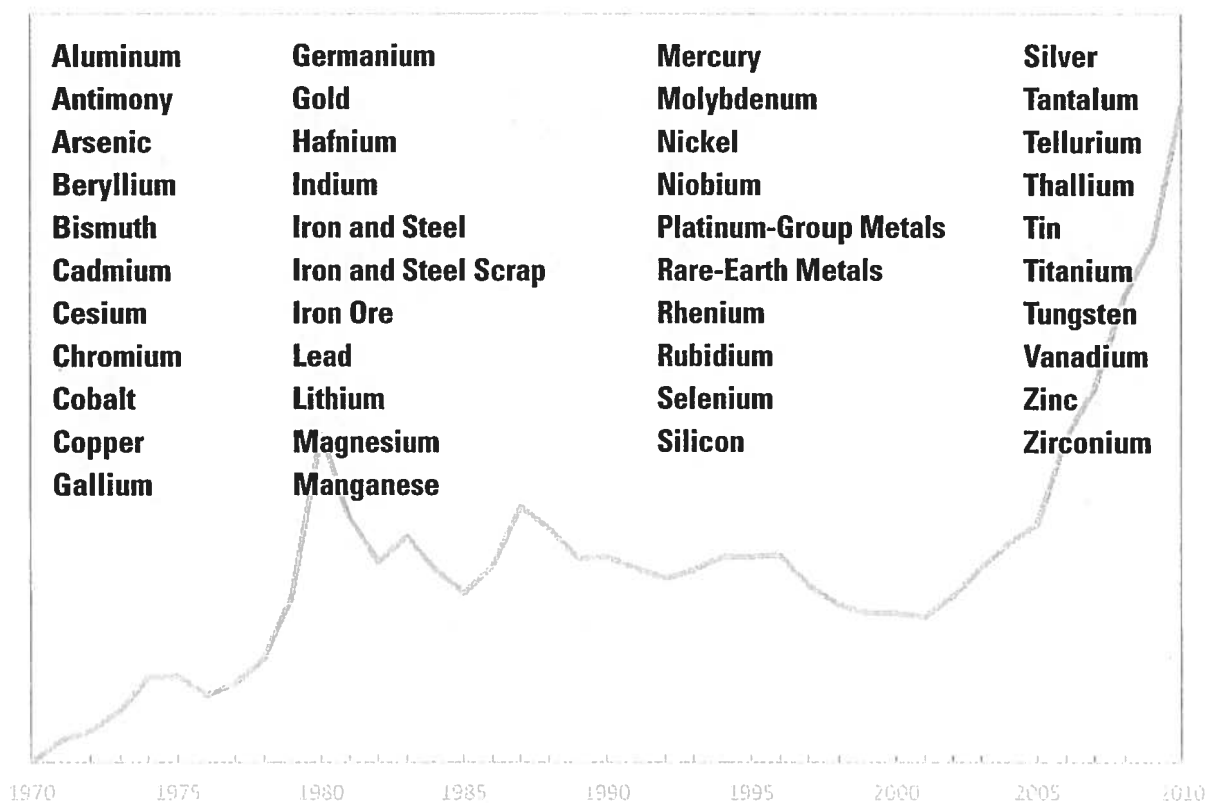
**Reference Category:** Deposit  
**Pages:**  
**Reference:** CAMPBELL, A. B., COLSON, J. B., AND OTHERS, 1961, GUIDEBOOK TO THE GEOLOGY OF THE COEUR D'ALENE MINING DISTRICT; IDAHO BUREAU OF MINES BULL. 16  
**URL:**

**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:** 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:** **Reference:** Hobbs, S. W., And Others, 1965 , Geology Of The Coeur D'Alene District, Shoshone  
**Geology** County, Idaho: USGS Prof. Paper 478 , 139 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**

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**Suggested citation:**

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# 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.

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 *Platts 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 – Star/Morning Facility

To Whom It May Concern:

Please find enclosed the Annual Reporting Form for Hecla Limited's inactive and unstaffed site Star/Morning Facility.

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](mailto:jcloos@hecla-mining.com)

Thank you.

Best Regards,

A handwritten signature in dark ink, appearing to read "Paul Glader", is written over the typed name.

Paul Glader  
Environmental Director

Cc: File  
Judy Cloos  
Encls.

NPDES Permit Tracking No.:

IDR05A421

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

## Annual Reporting Form

## A. GENERAL INFORMATION

1. Facility Name: HECLA LIMITED STAR/MORNING

2. NPDES Permit Tracking No.: IDR05A421

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: 07 / 16 / 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 Star/Morning and associated sites. Based on past site visits, there are no indications of significant storm water runoff from these sites into either the Canyon Creek, O'Neil Gulch Creek, Grouse Creek, Mill Creek and associated tributaries.

The Star Mine Site is no longer conducting underground exploration activities and therefore is again unstaffed. An updated NOI was submitted and has been processed indicating this status.

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?

11

**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:

Star/Morning 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)

Morning #5 Portal was improved for ventilation purposes

Star 700 Rock Raise was filled for safety improvements

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:

IDR05A421

**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.

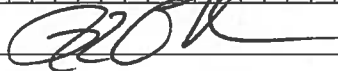
Authorized Representative  
Printed Name:

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

Star/Morning includes: Hecla #1 - #3, Russell #1 - #2, Marsh (2 portals), O’Neil Rock Dump, Hecla Waste Dump, Star Mine Yard, Omaha, Joe Matt, Tailings Ponds, Duluth, Midway Summit (2 portals), Sonora #1 - #2, Gertie #1 - #2, Matt, Imperial, Andrews  
South Fork Side: Grouse Claims (5 portals), We Like, Star 700, 1000, 1200, Star Discovery Cut, Iron Crown, You Like #1 - #2, Lucretia, Morning #1 - #5, Fanny Gremm, Wall Street

- 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:

Morning #5 Portal was improved for ventilation purposes  
Star 700 Rock Raise was filled for safety improvements

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; 5/27/2014 – 7/16/2014

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:

The Star Mine Site is no longer conducting underground exploration activities and therefore is again unstaffed. An updated NOI was submitted and has been processed indicating this status.

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.**

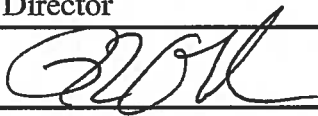
Do you certify that this annual comprehensive site inspection met the requirements of MSGP 2008 Part 4.3 and that based upon the results of this inspection, to the best of your knowledge, you are in compliance with 2008? Yes **X** No \_\_\_\_\_

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

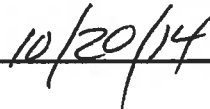
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons 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. Memorial Drive, Suite 200  
Coeur d'Alene, ID 83815-5408

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

00.512

0.5

1

2

Miles

Projects

Shoshone County, ID

|             |             |
|-------------|-------------|
| Drawn By    | xxxxx       |
| Drafted By  | B. Roberts  |
| Approved By | S. Peterson |
| Date        | xx-xx-xxxx  |
| Scale       | As Noted    |
| File Name   | xxxxxx-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 CRF 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](http://www.epa.gov/npdes/stormwater/msgp)), *National Menu of Stormwater BMPs* ([www.epa.gov/npdes/stormwater/menuofbmps](http://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](http://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](http://www.epa.gov/npdes/stormwater/msgp)), *National Menu of Stormwater BMPs* ([www.epa.gov/npdes/stormwater/menuofbmps](http://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](http://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.