

JUN 30 2015

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

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

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

94-4229. 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.)

Hercules; Tamarack. See attached deed(s).

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

H-1965; T-1977

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

Economic recessions; low metals prices

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

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

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

USGS – Metal Prices in the United States through 2010 Report

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

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

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

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

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

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

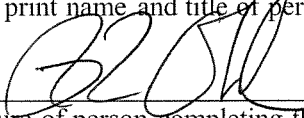
any structures or encumbrances that would interfere with mining or milling operations. The only structures on

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

Paul L. Glader Environmental Director

Please print name and title of person completing this questionnaire

6/18/15
Date


Signature of person completing this questionnaire

Exceptions to Forfeiture for Mining Questionnaire Attachments

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

THIS INDENTURE, made this, the 3rd day of May, A. D. 1919, between EDWARD BOYCE AND ELEANOR DAY BOYCE, husband and wife, of the City of Portland, County of Multnomah, State of Oregon, parties of the first part, and the TAMARACK & CUSTER CONSOLIDATED MINING COMPANY, a corporation duly organized and existing under and by virtue of the laws of the State of Nevada and registered as a foreign corporation under the laws of the State of Idaho party of the second part,

WITNESSETH: That said parties of the first part for and in consideration of NINETY FIVE THOUSAND FIVE HUNDRED (95,500) shares of the capital stock of the Tamarack & Custer Consolidated Mining Company, of a par value of One Dollar (\$1.00) per share, to then in hand paid, 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 forever, all of the following described real property and mining claims situated in Palcer Center Mining District, Shoshone County, State of Idaho, and more particularly described as follows, to wit:

All of the ALEXANDRIA Lode Mining Claim, Mineral Survey No. 2716 a United States Patent to which was issued on the 23d day of April, 1915, and which said United States Patent was thereafter, and on the 16th day of December, 1916, duly recorded in the office of the County Recorder of Shoshone County, Idaho, in Book "51" of Deeds at Page 20 thereof, 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 ALEXANDRIA Lode Mining Claim;

Also all of the HOOGLY Lode Mining Claim, Mineral Survey No. 2717, a United States Patent to which was issued on the 3d day of April, 1915, and which said United States Patent was thereafter, and on the 23d day of April, 1915, duly recorded in the office of the County Recorder of Shoshone County, Idaho, in Book "48" of Deeds at Page 33 thereof, 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 HOOGLY Lode Mining Claim;

Also all of the INDUS and OXUS Lode Mining Claims, Mineral Survey No. 2712, a United States Patent to which was issued on the 3d day of April, 1915, and which said United States Patent was thereafter, and on the 23d day of April, 1915, duly recorded in the office of the County Recorder of Shoshone County, Idaho, in Book "48" of Deeds at Page 31 thereof, 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 INDUS and OXUS Lode Mining Claims;

Also all of the GANGES Lode Mining Claim, Mineral Survey No. 2142, a United States Patent to which was issued on the 15 day of February, 1909, and which said United States Patent was thereafter, and on the 27th day of December, 1909, duly recorded in the office of the County Recorder of Shoshone County, Idaho, in Book "B" of Patents at Page 30 thereof, 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 GANGES Lode Mining Claim;

Also all of the NILUS Lode Mining Claim, Mineral Survey No. 2142, being the same claim originally located by D. H. Brien on January 1, 1899, and notice of the location of which was duly recorded on January 16, 1899 in Book "Q" of Quartz Locations at Page 572 thereof of the records of said Shoshone County, Idaho, and which claim has been officially surveyed, and reference is hereby made and had to the official field notes of such survey for a more definite and specific description of the said NILUS Lode Mining Claim;

Also all the NILUS FRACTION Lode Mining Claim, Mineral Survey No. 2142, being the same claim originally located by D. H. Brien on January 11, 1899, and notice of the location of which was duly recorded on January 30, 1899, in Book "Q" of Quartz Locations at Page 586 thereof of the records of said Shoshone County, Idaho, and which claim has been officially surveyed, and reference is hereby made and had to the official field notes of such survey for a more definite and specific description of the said NILUS FRACTION Lode Mining Claim;

Also all of the ORMUS FRACTION Lode Mining Claim, Mineral Survey No. 2142, being the same claim originally located by D. H. Brien on February 20, 1900, and notice of the location of which was duly recorded on April 4, 1900, in Book "T" of Quartz Locations at Page 196 thereof, of the records of said Shoshone County, Idaho, and which claim has been officially surveyed, and reference is hereby made and had to the official field notes of such survey for a more definite and specific description of the said ORMUS FRACTION Lode Mining Claim;

Also all of the PO Lode Mining Claim, being the same claim originally located by D. H. Brien on the 28th day of April, 1908, and notice of the location of which was duly recorded on May 11, 1908, in Book "9" of Quartz Locations at Page 28 thereof, of the records of Shoshone County, Idaho, to which said notice of location and the said record thereof, reference is hereby had and made for a more definite and specific description of the said PO Lode Mining Claim;

And also all of that portion of the Phoenix Lode Mining Claim, Mineral Survey No. 1934 more particularly described as follows, to wit: Beginning at Corner No. 7 of the Phoenix Lode Mining Claim, thence S. 49 degrees 30' E. 1201.9 feet to a point on the south side line thereof, thence N. 33 degrees 7' E. 347.8 feet to a point; thence N. 58 degrees 35' W. 1273.1 feet to a point on the north line of said Phoenix Lode Mining Claim; thence S. 6 degrees W. 175 feet to place of beginning, being Corner No. 7 of said Phoenix Lode Mining Claim, containing an area of 7.064 acres;

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 or enjoyed; and also all and singular the tenements, hereditaments, and appurtenances thereunto belonging, or in any wise 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 or to the said premises, and every part and parcel thereof, with the appurtenances.

TO HAVE AND TO HOLD, all and singular, the said premises, together with the appurtenances and privileges 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 the day and year first above written.

Signed, Sealed and Delivered
in the presence of:

M. A. Henley

John H. Thomas

Edward L. Joyce (SEAL)

Eleanor M. Joyce (SEAL)

STATE OF OREGON, }
COUNTY OF MULTNOMAH. } SS

On this 3rd day of May, A. D. 1919, before me M. A. Henley, a Notary Public in and for said State, personally appeared EDWARD BOYCE and ELEANOR DAY BOYCE, husband and wife, personally known to me to be the persons that executed the within and foregoing 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 Portland, County of Multnomah, State of Oregon, on this the day and year in this certificate first above written.

M. A. Henley
Notary Public in and for the
State of Oregon, residing at
Portland, Oregon.

my commission expires Jan. 24, 1920

61494

D E E D

Edward Boyce & Eleanor Day Boyce,
his wife

to

Tamarack & Custer Consolidated
Mining Company

Recorded at the request of

JOHN H. MOURNS

JUN 7 1919

at 10:30 o'clock A.M., in book

'53'

of Deeds

page

476

Records of

Shoshone County, State of Idaho.

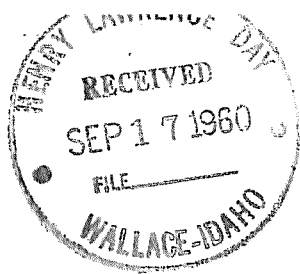
Harold A. Rogers

County Recorder.

Deputy Recorder.

00689

Shoshone County, Idaho
JUN 7 1919



181878

BOOK 102 PAGE 120

QUIT CLAIM DEED

This Instrument, dated the 2nd day of September, 1960, between American Smelting and Refining Company, a corporation organized under the laws of the State of New Jersey, Grantor, and Day Mines, Inc., a corporation organized under the laws of the State of Idaho, Grantee,

WITNESSETH:

American Smelting and Refining Company is the Successor to Federal Mining and Smelting Company.

Day Mines, Inc., is the successor to Tamarack and Custer Consolidated Mining Company.

Pursuant to the terms of an indenture dated July 24, 1922, by and between Federal Mining and Smelting Company and Tamarack and Custer Consolidated Mining Company and for the consideration named and acknowledged therein, Grantor does herewith grant, bargain, sell, convey and quit claim to Grantee all their right, title and interest to the surface of the following described mining claims:

Combination - - - - - Mineral Survey 1615
Selkirk - - - - - Mineral Survey 1287
No. 6 - - - - - Mineral Survey 2437
Review - - - - - Mineral Survey 1550
excepting from the Review claim all parcels
and rights previously granted to others, which
parcels and rights are more completely described
in Book 23 - Deeds, Page 162, Book 25 - Deeds,
Page 431, Book 26 - Deeds, Page 197, Book 35 -
Deeds, Page 195, Book 57 - Deeds, Page 226,
Book 52 - Deeds, Page 515, Records of Shoshone
County, to which reference is hereby made for
a more particular description,

as shown on the maps attached hereto, containing 49.592 acres, more or less, all located within an area probably contained in section 8,

4845E8

Township 48 North, Range 5 East, B.M., Shoshone County, Idaho, said section 8 being as yet unsurveyed.

Grantor, although disclaiming all present ownership of any estate in the Jessie claim, Survey No. 1547, located within the same unsurveyed area of section 8, Township 48 North, Range 5 East, B.M., Shoshone County, Idaho, does herewith convey and quit claim to Grantee any right, title or interest of which it is presently possessed in the surface of the Jessie claim, Survey No. 1547.

Reserving and excepting to the Grantor all minerals of every kind, nature and description beneath the surface of said mining claims, together with the right to extract said minerals and to use so much of the surface of said claims as may be necessary in the course of such extraction, without, however, interfering with the operations of Day Mines, Inc.

IN WITNESS WHEREOF American Smelting and Refining Company has caused its corporate name and seal to be affixed and these presents to be executed by its officers thereunto duly authorized on the day and year herein first written.

AMERICAN SMELTING AND REFINING COMPANY

By

Vice President

ATTEST:

Donald H. [Signature]
Secretary

STATE OF NEW YORK)
) ss:
County of New York)

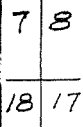
On this 2nd day of September, 1960, before me, the undersigned, a Notary Public in and for the State of New York, personally appeared ADIN A. BROWN known to me to be Vice President of American Smelting and Refining Company, the corporation that executed the within instrument, and acknowledged to me that such corporation executed the same.

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

Clare A. Baione
Notary Public for the State of New York

Notary Public, State of New York
No. 24-0133975 Qualified in Kings Co.
Cert. filed in New York County
COMMISSION EXPIRES MARCH 30, 1961

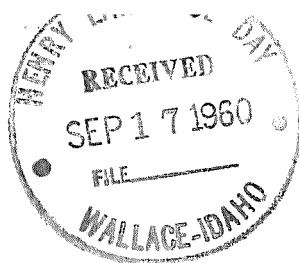
CLARE A. BAIONE
942 East 37th Street
Brooklyn 10, N.Y.



Scale 1" = 500'

Sec. 8, T 48 N, R 5 E

Return to Day Mines, Inc.
Wallace, Idaho



181878

BOOK 102 PAGE 120

QUIT CLAIM DEED

This Instrument, dated the 2nd day of September, 1960, between American Smelting and Refining Company, a corporation organized under the laws of the State of New Jersey, Grantor, and Day Mines, Inc., a corporation organized under the laws of the State of Idaho, Grantee,

W I T N E S S E T H :

American Smelting and Refining Company is the Successor to Federal Mining and Smelting Company.

Day Mines, Inc., is the successor to Tamarack and Custer Consolidated Mining Company.

Pursuant to the terms of an indenture dated July 24, 1922, by and between Federal Mining and Smelting Company and Tamarack and Custer Consolidated Mining Company and for the consideration named and acknowledged therein, Grantor does herewith grant, bargain, sell, convey and quit claim to Grantee all their right, title and interest to the surface of the following described mining claims:

Combination - - - - - Mineral Survey 1615
Selkirk - - - - - Mineral Survey 1287
No. 6 - - - - - Mineral Survey 2437
Review - - - - - Mineral Survey 1550
excepting from the Review claim all parcels
and rights previously granted to others, which
parcels and rights are more completely described
in Book 23 - Deeds, Page 162, Book 25 - Deeds,
Page 431, Book 26 - Deeds, Page 197, Book 35 -
Deeds, Page 195, Book 57 - Deeds, Page 226,
Book 52 - Deeds, Page 515, Records of Shoshone
County, to which reference is hereby made for
a more particular description,

as shown on the maps attached hereto, containing 49.592 acres, more or less, all located within an area probably contained in section 8,

48N 5E 8

Township 48 North, Range 5 East, B.M., Shoshone County, Idaho, said section 8 being as yet unsurveyed.

Grantor, although disclaiming all present ownership of any estate in the Jessie claim, Survey No. 1547, located within the same unsurveyed area of section 8, Township 48 North, Range 5 East, B.M., Shoshone County, Idaho, does herewith convey and quit claim to Grantee any right, title or interest of which it is presently possessed in the surface of the Jessie claim, Survey No. 1547.

Reserving and excepting to the Grantor all minerals of every kind, nature and description beneath the surface of said mining claims, together with the right to extract said minerals and to use so much of the surface of said claims as may be necessary in the course of such extraction, without, however, interfering with the operations of Day Mines, Inc.

IN WITNESS WHEREOF American Smelting and Refining Company has caused its corporate name and seal to be affixed and these presents to be executed by its officers thereunto duly authorized on the day and year herein first written.

AMERICAN SMELTING AND REFINING COMPANY

By

Vice President

ATTEST:

Secretary

STATE OF NEW YORK)

ss:

County of New York)

On this 2nd day of September, 1960, before me, the undersigned, a Notary Public in and for the State of New York, personally appeared ADIN A. BROWN known to me to be Vice President of American Smelting and Refining Company, the corporation that executed the within instrument, and acknowledged to me that such corporation executed the same.

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

Notary Public, State of New York

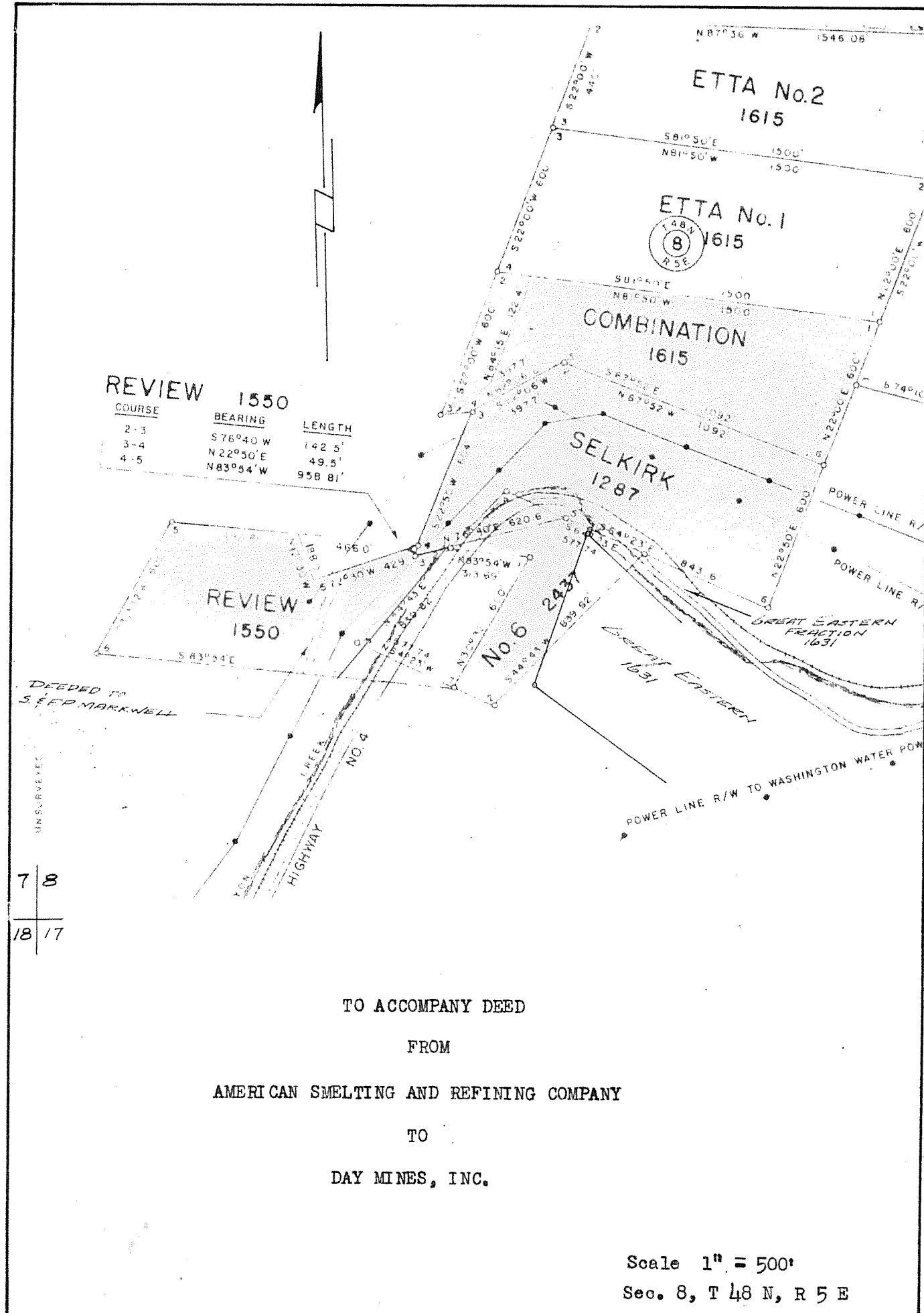
Notary Public, State of New York

No. 24-0133975 Qualified in Kings Co.

Cert. filed in New York County

COMMISSION EXPIRES MARCH 30, 1961

CLARE A. BAIONE
942 East 37th Street
Brooklyn 10, N. Y.



State of Idaho }
County of Shoshone } ss

This instrument was recorded at the request of
Day Mines, Inc. at 11:15 A.M.
on September 9, 1960

ANNA E. BATTICK, County Recorder

Fee \$ 1.50 By Shirley Handing Deputy

Return to: Day Mines, Inc.
Wallace, Idaho

SPECIAL WARRANTY DEED

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

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

For the purposes of this Deed,

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

351159

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

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

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

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

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

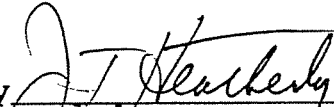
IN WITNESS WHEREOF, the Grantor has caused this Special Warranty Deed to be signed as of the day and year first above written.

HECLA MINING COMPANY, GRANTOR

Attest


Michael B. White
Secretary

By

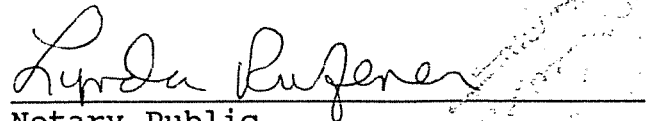

Joseph T. Heatherly
Vice President

351159

STATE OF IDAHO)
) ss.
County of Kootenai)

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

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



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

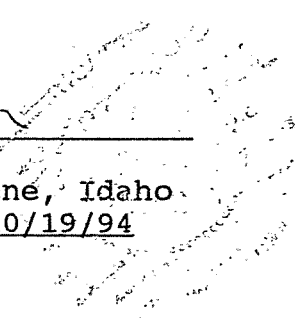


Exhibit A - Page 47

HECLA MINING COMPANY
HERCULES & TAMARACK AREA

All or a portion of two hundred twenty-one (221) patented lode claims located in Sections 28, 32, 33 and 34, Township 49 North, Range 5 East, and Sections 3, 4, 5, 6, 7, 8, 9 and 10, Township 48 North, Range 5 East, B.M., Placer Center and Lelande Mining Districts, Shoshone County, Idaho, as listed below by mineral survey number and claim name:

<u>Claim Name</u>	<u>Mineral Survey Number</u>	<u>Acres</u>
Union	654	17.010
Hidden Treasure	663	18.750
Burke Tiger Fraction	671	1.630
Crown Point	676	
Custer	676	33.800
Chesapeake	677	19.274
Bullion	823A	10.300
Carbon	898	13.837
Bengal Tiger Fraction	983	2.280
Sherman	1305	15.638
Union Fraction	1305	0.824
Diamond Fraction	1355	
Pacific Fraction	1355	21.551
Fairview Fraction	1419	2.919
Silver Chief No. 2	1473	12.760
Stanley	1473	13.108
North Star	1594	14.363
Darling	1641	20.256
Almo	1654	
Firefly	1654	
Granite Contact	1654	
Hercules	1654	
Old Veteran	1654	
Patti	1654	
Protection	1654	136.674
Alice	1673	
Olympia	1673	
Olympia Fr.	1673	
Portland	1673	
Seattle	1673	80.278

(continued)

Exhibit A - Page 48

<u>Claim Name</u>	<u>Mineral Survey Number</u>	<u>Acres</u>
Station	1781	19.885
Mercury	1782	16.154
Anna	1783	18.591
Nellie	1783	14.139
Lincoln	1784	19.288
Ambergris	1792	10.802
North Star Fr.	1824	5.625
Granite Contact	1870	18.922
Old Veteran Ext.	1870	18.607
Anderson	1871	.518
Roundy	1878	18.277
Anaconda	1902	19.214
Little Chief	1903	15.090
Atlas	1904	19.546
Jupiter	1904	19.530
Phyrne	1904	20.376
Rambler	1904	17.480
Moonlight Fr.	1933	10.076
Oreano	1933	13.227
Pearl	1933	15.606
Pearl Fr.	1933	4.847
Sinker	1933	17.784
Aetna	1934	
Blue Jay	1934	
Bombard	1934	
Commercial	1934	
Fairmont	1934	
Humming Bird	1934	
Josie	1934	
Mountain View	1934	
No Count	1934	
Phillipine	1934	
Phoenix	1934	
Summit	1934	
Tomahawk	1934	
Wedge Fr.	1934	188.258
Grey Eagle	1976	
Happy Day	1976	
Iowa	1976	
Minneapolis	1976	
Snowslide	1976	
Wisconsin	1976	115.300
Marsh	1995	11.725

(continued)

Exhibit A - Page 49

<u>Claim Name</u>	<u>Mineral Survey Number</u>	<u>Acres</u>
Chesapeake Fr.	2011	
Tamarack Fr.	2011	7.364
Burgomaster	2018	12.194
Little Chief Fr.	2018	3.860
Diamond Fr.	2018	3.293
Big Horn	2069	
Roosevelt	2069	
Selkirk	2069	
Skyline	2069	
Smoke-House	2069	103.305
Euna	2073	9.633
Badger	2074	12.600
Ibex	2074	19.044
Leopard	2074	18.508
Panorama	2074	13.407
Panther	2074	16.256
Ontario Fr.	2095	
Puritan	2095	
Puritan Fr.	2095	37.526
Dipper	2101	20.037
E & J	2101	18.766
Irene	2101	20.458
Laclede	2101	20.450
Mars	2101	20.661
Montana	2101	16.843
Saturn	2101	20.660
Tacoma	2101	20.477
Venus	2101	20.406
Botha	2105	
C & R	2105	
Captain Cash	2105	
Napoleon	2105	
Sidwell Fr.	2105	80.809
Bad Axe	2126	
Eureka	2126	
Lilly	2126	
Silver Dollar	2126	
Trade Dollar	2126	
Truax	2126	74.748

(continued)

Exhibit A - Page 50

<u>Claim Name</u>	<u>Mineral Survey Number</u>	<u>Acres</u>
Wellington	2137	18.680
Ajax	2138	19.958
Ganges	2142	
Nilus	2142	
Nilus Fr.	2142	
Ormus Fr.	2142	32.026
Monroe	2158	20.601
Revenue	2172	
Thursday	2172	
Virginus Fr.	2172	38.741
Panorama No. 2	2190	9.443
Panorama No. 3	2191	3.373
Leopold Fr.	2192	11.840
Slide	2277	16.071
Jap	2278	2.567
Herder	2280	
Tago	2280	27.221
Alma	2439	
Smuggler	2439	7.439
Minnie	2440	13.991
Panorama No. 4	2447	4.357
Panorama No. 5	2448	7.686
Rattler	2481	5.004
Goofy Jack	2482	4.806
Rose	2666	14.45
Winter Fraction	2684	
Mahill Fraction	2684	
Central	2697	16.732
Harmony	2698	
Jack	2698	
Jim	2698	19.249
Dime Fr.	2708	5.818
Indus	2712	
Oxus	2712	25.603
Il Medico	2713	
Il Medico Fr.	2713	22.994
Franc	2714	
Trillium	2714	18.031

(continued)

Exhibit A - Page 51

<u>Claim Name</u>	<u>Mineral Survey Number</u>	<u>Acres</u>
Danube	2715	
October	2715	
Rhone	2715	56.037
Alexander	2716	11.161
Hoogly	2717	8.234
Defender	2718	
Hemlock	2718	
O. & T.	2718	
September	2718	
Spruce	2718	
Virginian	2718	75.811
Obi	2719	13.957
Euphrates	2720	2.922
Tamerlane Fr.	2721	5.052
Agnes	2722	
Agnes Fr.	2722	
Aleutan Fr.	2722	
Hawaiian	2722	
Lillian	2722	
Lillian Fr.	2722	
Phillippine Fr.	2722	
Rattler	2722	
San Poil Fr.	2722	
Sweetheart Fr.	2722	71.484
Jerusalem	2723	
Skyline Fr.	2723	13.612
Chance	2732	14.286
Halfway Creek Fr.	2733	2.924
Black Jack	2756	
Ella	2756	
Frankie	2756	
Hemlock	2756	
Josie	2756	
Mamie	2756	
Minnie	2756	
Poor	2756	
Spruce	2756	129.663

(continued)

Exhibit A - Page 52

<u>Claim Name</u>	<u>Mineral Survey Number</u>	<u>Acres</u>
Doty Fr.	2757	
Wedge Fr.	2757	3.242
Battle of Waterloo	2769	
Guelph	2769	
New Jersey	2769	
Syrnna	2769	
Waterloo	2769	91.398
Pleasant Sun Fr.	2815	1.095
A No. 1	2909	
A No. 2	2909	35.516
Knob Hill	2933	
Summit	2933	32.190
Van	2985	4.065
Bernice	2986	1.129
J.J. Jr.	2987	2.057
Jerry	2988	.098
Po	2989	2.276
Remainder	2990	2.061
Sleeper	3001	2.897
Dreamer	3002	1.838
June	3069	4.006
Crater Fr.	3070	
Russell Fr.	3070	16.728
Polygon	3222	3.085
Babe	3243	.111
Edmund	3244	
Stroebe	3244	14.855
Bobbie	3252	.037
Arab	3263	
Coyle	3263	
Harry W.	3263	
Overlooked	3263	
R R	3263	
Ridge	3263	
Smoke House	3263	
Snow Shoe	3263	65.462
Piute	3264	6.662

(continued)

Exhibit A - Page 53

Which are located within the following described perimeter boundary:

BEGINNING at Corner 4 of the EUNA (MS 2073);

THENCE S 26°56' E, 1,122.95 feet to Corner 3 of the EUNA;

THENCE S 86°48' E, 335 feet to Corner 2 of the EUNA;

THENCE N 40°48' E, 1,260.7 feet to Corner 4 of the TORPEDO (MS 1839);

THENCE S 13°53' W, 453.6 feet to Corner 2 of the BOMBARD (MS 1934);

THENCE S 86°55' E, 555.1 feet to Corner 2 of the WIDE WEST (MS 707);

THENCE S 32°40' E, 226.3 feet to Corner 7 of the NORTH STAR;

THENCE S 82°40' W, 417.2 feet to Corner 1 of the FAIRVIEW and Corner 4 of the FAIRVIEW FRACTION (MS 1824);

THENCE S 21°21' W, 529.4 feet to Corner 1 of the FAIRVIEW FRACTION;

THENCE S 53°36' E, 32.8 feet to the intersection of the BURKE TIGER FRACTION (MS 671);

THENCE S 65°44' E, 500.0 feet to Corner 4 of the BURKE TIGER FRACTION;

THENCE S 75°32' W, 48.9 feet to Corner 1 of the BULLION (MS 823A);

THENCE S 34°00' W, 320.0 feet to the intersection of the GALENA (MS 662);

THENCE N 46°33' W, 187.9 feet to Corner 3 of the GALENA;

THENCE S 46°30' W, 298.4 feet to the intersection of the BULLION (MS 823A);

THENCE N 51°48' W, 604.7 feet to Corner 3 of the BULLION;

THENCE N 34°00' E, 600.0 feet to Corner 2 of the BULLION;

(continued)

Exhibit A - Page 54

THENCE N 51°21' W, 608.6 feet to Corner 3 of the HIDDEN TREASURE (MS 663);

THENCE N 52°18' W, 168.2 feet to Corner 2 of the UNION;

THENCE N 64°10' W, 713.64 feet to Corner 7 of the SINKER (MS 1933);

THENCE S 34°00' W, 600.0 feet to Corner 1 of the SINKER;

THENCE S 34°00' W, 5.0 feet to Corner 4 of the PEARL FRACTION (MS 1933);

THENCE S 03°26' W, 108.78 feet to Corner 1 of the PEARL FRACTION;

THENCE N 77°59' W, 937.87 feet to Corner 1 of the MOONLIGHT FRACTION (MS 1933);

THENCE S 21°30' W, 443.02 feet to Corner 2 of the MOONLIGHT FRACTION;

THENCE N 49°27'29" W, 600.0 feet to Corner 3 of the MOONLIGHT FRACTION;

THENCE N 41°49'38" W 501.58 feet to Corner 4 of the MOONLIGHT FRACTION;

THENCE N 03°26' E, 341.52 feet to Corner 5 of the MOONLIGHT FRACTION;

THENCE N 21°30' E, 50.0 feet to Corner 6 of the MOONLIGHT FRACTION and PEARL (MS 1933);

THENCE N 51°02'38" W, 19.05 feet to Corner 3 of the PEARL;

THENCE N 03°26' E, 634.68 feet to Corner 4 of the PEARL and Corner 2 of the OREANO (MS 1933);

THENCE N 03°26' E, 385.0 feet to Corner 3 of the OREANO and Corner 4 of the BONAPARTE (MS 1324);

THENCE N 41°49'38" E, 412.5 feet to the intersection of the CROWN POINT (MS 676);

THENCE N 57°16' W, 320.0 feet to the intersection of the BONAPARTE;

(continued)

Exhibit A - Page 55

THENCE S 03°16' W, 120.37 feet to the intersection of the
TIMBERLINE (MS 1324);

THENCE S 71° W, 1,445.70 feet to Corner 3 of the
TIMBERLINE;

THENCE S 19° W, 600.0 feet to Corner 2 of the TIMBERLINE
and Corner 3 of the SATURDAY (MS 1179);

THENCE S 05°18' E, 160.38 feet to Corner 2 of the GREEN
HILL FRACTION (MS 1322);

THENCE N 66°02'17" W, 10.0 feet to Corner 3 of the GREEN
HILL FRACTION;

THENCE S 13°15' W, 357.23 feet to Corner 2 of the ROSE
(MS 2666);

THENCE N 56°01' W, 1,145.33 feet to Corner 3 of the ROSE
and Corner 2 of the PACIFIC (MS 1355);

THENCE N 69°09' W, 210.1 feet to the intersection of the
DIAMOND FRACTION;

THENCE S 11°27' W, 460.92 feet to Corner 4 of the DIAMOND
FRACTION;

THENCE N 58°45' W, 324.5 feet to Corner 2 of the
CLEVELAND (MS 1043);

THENCE S 23°30' W, 498.0 feet to Corner 3 of the
CLEVELAND;

THENCE N 55°35' W, 58.89 feet to the intersection of the
LAST CHANCE (MS 2330);

THENCE N 23°20' E, 245.53 feet to Corner 3 of the LAST
CHANCE;

THENCE S 87°53' W, 1,343.0 feet to Corner 1 of the TAGO
(MS 2280);

THENCE N 23°20' E, 475.3 feet to Corner 5 of the TAGO;

THENCE N 85°07' W, 1,329.3 feet to Corner 1 of the
SEATTLE (MS 1673);

THENCE N 61°43' W, 1,535.2 feet to Corner 1 of the ALICE
(MS 1673);

(continued)

Exhibit A - Page 56

THENCE N 81°18' W, 496.58 feet to Corner 3 of the OCTOBER (MS 2715);

THENCE S 01°37' E, 1,200.0 feet to Corner 3 of the RHONE (MS 2715);

THENCE N 81°18' W, 1,368.0 feet to Corner 4 of the RHONE;

THENCE N 01°37' W, 1,200.0 feet to Corner 2 of the OCTOBER;

THENCE S 81°18' E, 367.08 feet to Corner 1 of the DANUBE (MS 2715);

THENCE N 01°37' W, 598.72 feet to Corner 2 of the DANUBE;

THENCE S 81°21' E, 65.44 feet to the intersection of the CRYSTAL (MS 1431A);

THENCE S 06°14' E, 172.6 feet to Corner 6 of the CRYSTAL;

THENCE N 81°44'53" E, 868.06 feet to Corner 5 of the CRYSTAL;

THENCE S 88°19'22" E, 585.99 feet to Corner 4 of the CRYSTAL;

THENCE N 08°04'37" W, 481.53 feet to Corner 3 of the CRYSTAL;

THENCE S 87°55' E, 575.8 feet to Corner 3 of the EMPIRE STATE (MS 1431A);

THENCE N 05°21' W, 600.0 feet to Corner 2 of the EMPIRE STATE;

THENCE S 87°55' E, 467.6 feet to Corner 3 of the MANILLA (MS 1431A);

THENCE N 18°41' W, 121.5 feet to the intersection of the DIME FRACTION (MS 2708);

THENCE N 77°06' E, 263.5 feet to Corner 1 of the DIME FRACTION and Corner 4 of the CENTRAL (MS 2697);

THENCE S 60°50' E, 602.0 feet to Corner 3 of the CENTRAL;

THENCE N 35° E, 1,407.0 feet to Corner 2 of the CENTRAL;

THENCE N 60°50' W, 598.0 feet to Corner 1 of the CENTRAL;

(continued)

Exhibit A - Page 57

THENCE S 30°51' W, 64.0 feet to Corner 2 of the POOR (MS 2756);

THENCE N 60°35' W, 1,450.0 feet to Corner 3 of the POOR;

THENCE N 30°51' E, 309.3 feet to the intersection of the LOS ANGELES (MS 2206);

THENCE S 69°17' E, 259.2 feet to Corner 2 of the LOS ANGELES;

THENCE N 48°35' E, 678.6 feet to Corner 1 of the LOS ANGELES;

THENCE N 37°05' E, 600.06 feet to Corner 1 of the SQUARE (MS 2206);

THENCE N 69°17' W, 194.0 feet to the intersection of the SPRUCE (MS 2756);

THENCE N 30°51' E, 244.7 feet to Corner 2 of the SPRUCE;

THENCE S 55°58' E, 538.5 feet to the intersection of the PORT ARTHUR (MS 2567);

THENCE S 49°31'30" E, 1,244.34 feet to Corner 2 of the PORT ARTHUR and Corner 3 of the BESSIE (MS 2567);

THENCE S 69°06' E, 1,076.0 feet to Corner 2 of the BESSIE;

THENCE N 35°57' E, Approximately 310 feet to Corner 5 of the JUDSON (MS 2567);

THENCE S 65°23' W, 750.0 feet to Corner 4 of the JUDSON;

THENCE S 87°18'20" E, 622.78 feet to Corner 3 of the JUDSON;

THENCE N 35°57' E, 350 feet to Corner 2 of the JUDSON;

THENCE N 44°56'30" E, 481.37 feet to Corner 2 of the BUTTE (MS 2567);

THENCE N 44°56'30" E, 480.0 feet to Corner 4 of the OVERSIGHT (MS 2567);

THENCE N 65°11' E, 994.3 feet to Corner 3 of the OVERSIGHT;

(continued)

351159

Exhibit A - Page 58

THENCE N 40°18' E, 20.7 feet to Corner 3 of the CHANDLER (MS 2567);

THENCE N 40°18' E, 600.0 feet to Corner 2 of the CHANDLER;

THENCE N 65°46' W, 20.4 feet to Corner 3 of the GLOBE (MS 2567);

THENCE N 11°07' E, 594.1 feet to Corner 3 of the GIANT (MS 2567);

THENCE N 29°44' E, 572.8 feet to Corner 2 of the GIANT;

THENCE N 79°14' E, 815.5 feet to Corner 4 of the LITTLE CHIEF FRACTION (MS 2018);

THENCE N 45° E, 168.5 feet to Corner 1 of the LITTLE CHIEF FRACTION;

THENCE N 43°55' E, 563.2 feet to Corner 1 of the LITTLE CHIEF (MS 1903);

THENCE S 67°03'30" E, 544.8 feet to the intersection of the ANACONDA (MS 1902);

THENCE N 63°38' W, 177.1 feet to Corner 4 of the ANACONDA;

THENCE N 07°24' E, Approximately 55 feet to Corner 1 of the AJAX (MS 2138);

THENCE N 67°41' W, 1,500 feet to Corner 4 of the AJAX;

THENCE N 07°24' E, 578.7 feet to Corner 3 of the AJAX;

THENCE N 69°15' W, 2.0 feet to Corner 4 of the NEW JERSEY (MS 2769);

THENCE N 20°37' E, 540.0 feet to Corner 1 of the NEW JERSEY;

THENCE S 68°52' E, 302.81 feet to the intersection of the POLYGON (MS 3222);

THENCE N 79°30' E, 617.71 feet to the intersection of the A NO. 1 (MS 2909);

(continued)

Exhibit A - Page 59

THENCE N 58°31' W, 519.91 feet to Corner 1 of the A NO. 1;

THENCE N 08°14' E, 716.0 feet to Corner 2 of the A NO. 1;

THENCE N 08°02' E, 716.0 feet to Corner 2 of the A NO. 2 (MS 2909);

THENCE S 48°10' E, 538.74 feet to the intersection of the ULA FRACTION (MS 1337);

THENCE S 30° W, 48.7 feet to Corner 4 of the ULA FRACTION;

THENCE S 46°13' E, 672.0 feet to Corner 3 of the ULA FRACTION;

THENCE N 30° E, 40.0 feet to Corner 4 of the TRY ME (MS 1337);

THENCE S 51°22' E, 1,162.0 feet to Corner 1 of the SUMMIT (MS 2933);

THENCE S 59°18' E, 585.0 feet to Corner 2 of the SUMMIT;

THENCE S 72°49'13" E, 1,500.0 feet to Corner 2 of the CAPTAIN CASH (MS 2105);

THENCE N 88°05' E, 1,379.62 feet to Corner 2 of the NAPOLEON (MS 2105);

THENCE S 04°11' E, 184.66 feet to Corner 3 of the NAPOLEON;

THENCE S 16°57' W, 333.84 feet to Corner 4 of the NAPOLEON;

THENCE N 88°05' E, 50.0 feet to Corner 1 of the RUSSELL FRACTION (MS 3070);

THENCE S 65°16'30" E, 772.9 feet to Corner 6 of the RUSSELL FRACTION;

THENCE S 80°49' E, 705.65 feet to Corner 5 of the RUSSELL FRACTION;

THENCE S 16°57' W, 600.0 feet to Corner 4 of the RUSSELL FRACTION;

(continued)

Exhibit A - Page 60

THENCE S 38°15' E, 267.0 feet to Corner 4 of the SNOWSLIDE (MS 1976);

THENCE S 67°52' E, 711.90 feet to Corner 1 of the MINNEAPOLIS (MS 1976);

THENCE N 14°04' E, 600.0 feet to Corner 2 of the MINNEAPOLIS;

THENCE S 66°58' E, 1,499.8 feet to Corner 3 of the MINNEAPOLIS;

THENCE S 14°04' W, 600.0 feet to Corner 4 of the MINNEAPOLIS;

THENCE S 65°58' E, 788.1 feet to Corner 3 of the GREY EAGLE (MS 1976);

THENCE S 26°15' W, 1,200.0 feet to Corner 4 of the IOWA (MS 1976);

THENCE N 72°39' W, 929.8 feet to Corner 2 of the TIP TOP (MS 1865);

THENCE N 81°23' W, 1,497.8 feet to Corner 2 of the EMPIRE (MS 1865);

THENCE N 77°30' W, 547.0 feet to Corner 3 of the JEROME (MS 1865);

THENCE S 09°27' W, 157.58 feet to the intersection of the ALAMO (MS 1654);

THENCE S 61°33' E, 197.39 feet to Corner 2 of the ALAMO;

THENCE S 08°55' W, 594.5 feet to Corner 3 of the ALAMO;

THENCE N 61°45' W, 203.0 feet to Corner 2 of the JEROME (MS 1865);

THENCE S 08° W, 300.0 feet to Corner 1 of the JEROME;

THENCE S 77°30' E, 568.31 feet to Corner 5 of the JEROME;

THENCE S 07°35' W, 1,460.2 feet to Corner 3 of the LINCOLN (MS 1784);

THENCE S 07°23' W, 650.57 feet to Corner 1 of the MORNING GLORY (MS 1897);

(continued)

Exhibit A - Page 61

THENCE S 72°50' E, 590.1 feet to Corner 4 of the MORNING GLORY;

THENCE S 68°36' E, 1,416.25 feet to Corner 2 of the MAYFLOWER (MS 1897);

THENCE S 07°23' W, 281.2 feet to Corner 1 of the MYSTERY (MS 1897);

THENCE S 20°48' W, 10.0 feet to Corner 1 of the "M" (MS 1897);

THENCE S 49°46' E, 1,374.08 feet to Corner 4 of the "M";

THENCE S 20°48' W, 465.8 feet to Corner 1 of the BADGER (MS 1897);

THENCE S 58°16' E, 361.13 feet to the intersection of the SILVER DOLLAR (MS 2126);

THENCE S 32°21' W, 190.14 feet to Corner 4 of the SILVER DOLLAR;

THENCE N 74°52' W, 1,229.9 feet to Corner 1 of the SILVER DOLLAR;

THENCE S 78°09' W, 1,500.0 feet to Corner 1 of the TRADE DOLLAR (MS 2126);

THENCE S 00°24' W, 600.0 feet to Corner 2 of the SILVER CHIEF (MS 1473);

THENCE S 86°48' W, 123.0 feet to Corner 4 of the EUNA (MS 2073); to the point of the beginning, containing an area of 2,723.606 acres more or less.

(continued)

26

TWENTY-FOURTH ANNUAL
REPORT OF THE
MINING INDUSTRY
OF IDAHO

FOR THE YEAR
1922



Idaho
TN
24
.12
MS
1922

STEWART CAMPBELL
INSPECTOR OF MINES

MISS A. F. MAHAN
Secretary

HERCULES MINING CO.

Office: Burke. **Officers:** Jerome J. Day, Mgr., Wallace. **Inc.:** Partnership
Property: Hercules; 38 patented claims, Lelande and Placer Center dist.;
 Burke. **Development:** Principally by 5 tunnels: No. 1, 280 ft. long; No. 2,
 3350 ft. long; No. 3, 3900 ft. long; No. 4, 5900 ft. long; No. 5, 8550 ft. long;
 and a four-compartment vertical shaft 1300 ft. deep with 8 intermediate
 levels. Total development, approximately 17 miles. **Plant:** MINE: Special
 first motion, double reel, Nordberg electric hoist, direct connected to 700 h. p.
 motor. One 22x16 I-R and one 29x21 I-R compressors, both electrically
 driven. Electric trolley locomotive in main transportation tunnel and
 storage battery locomotives in intermediate levels. Complete and modern
 mine equipment and shops. **MILL:** 600-ton concentrator, including flota-
 tion. **Ore:** Lead-silver. **Men employed:** Average, 350, since resuming
 operation, prior to which 60 men were employed. **Remarks:** This property
 which has been in idleness for approximately two years resumed operations
 during 1922 and in the closing months of the year was operating with a full
 force of men and maintaining capacity production. Control of this mine is
 held by the Day family and the property is known throughout the world
 as a famous lead producing mine and as one of the bonanzas of the Coeur
 d'Alene district.

HIDDEN TREASURE MINING CO.

Office: Wallace. **Officers:** Frederick Burbidge, Pres.-Mgr.; A. W. Hoover,
 Sec., both of Wallace. **Inc.:** May 18, 1908. **Capital:** 500,000 shares; par value
 \$10; all shares issued. **Property:** Hidden Treasure group; 4 patented claims,
 Lelande dist.; Burke. **Development:** Principally by one tunnel, 2540 ft.
 long.

HIGHLAND-SURPRISE CONSOLIDATED MINING CO.

Office: Kellogg. **Officers:** Dr. Charles R. Mowery Pres., Wallace; George D.
 Lamielle, Sec.; M. J. Sinclair, Mgr., both of Kellogg. **Inc.:** Aug. 27, 1912.
Capital: 1,200,000 shares; par value \$1; 1,192,947 shares issued. **Property:**
 3 patented, 27 unpatented claims; Pine Creek, Yreka dist.; Kellogg. **De-**
velopment: Approximately 2 miles of underground workings. **Plant:** MINE:
 A 7-drill I-R compressor, electrically driven; complete mining equipment and
 camp. **MILL:** 100-ton concentrator. **Ore:** Lead-zinc-silver. **Men employed:**
 5 leasers. **Remarks:** The upper workings of the mine were operated by
 leasers throughout the year.

HILL MINING & MILLING CO.

Office: Kellogg. **Officers:** Josiah Hill, Pres.; Lester S. Harrison, Sec. **Inc.:**
 May 10, 1916. **Capital:** 1,000,000 shares; par value 10c; 500,000 shares issued.
Property: 4 claims, Yreka dist.; Kellogg. **Remarks:** A projected crosscut to
 expose the vein at a greater depth was driven by the president of the com-
 pany during the year.

HONOLULU MINING CO., LTD.

Office: Wallace. **Officers:** J. W. Tabor, Pres.-Mgr., Wallace; John Mahoney,
 Sec., 1418 W. Riverside Ave., Spokane, Wash. **Inc.:** April 4, 1916. **Capital:**
 1,000,000 shares; par value \$1; 620,000 shares issued. **Property:** 4 unpatented
 claims, Lelande dist.; Burke. **Development:** By 2 tunnels: No. 1, 550 ft.
 long; No. 2, 600 ft. long. **Ore:** Lead-silver. **Remarks:** A small amount of
 development work during the year.

HORN SILVER

Office:
 Sec., W
 shares

HORSE SHOE

Office:
 Sec., b
 value \$
 claims,
 one, 11
 velopm

HUMMINGBIRD

Office:
 Burke.
 shares.
 dist.;
 tunnel
 long.
 Co. O.
 amount
 cent a

HYPOTHESIS

Office:
 Mgr.,
 value
 dist.;
 long;
 7400 ft
 electri
 12 bui
 zinc-si
 ment

IDAHO CO.

Office:
 24, 190
 erty:
 ber of

IDAHO GOLD

Office:
 ough,
 Owns

IDAHO-LE

Office:
 P. Ry.
 000 sh
 claims
 long;
 marks
 velopm

Twenty-Seventh
Annual Report
of the
Mining Industry
of Idaho for the
Year 1925



STEWART CAMPBELL
INSPECTOR OF MINES

Herbert E. Sammis

D.
A. M. Lobaugh, Pres., Los Angeles, Calif.;
nger, Calif. Inc.: May 9, 1900. Capital: 1,800,-
1 shares issued. Remarks: Owns no property.

ames F. McCarthy, Pres.-Mgr.; L. E. Hanley,
Sept. 26, 1898. Capital: 1,000,000 shares; par
Property: 43 patented, 2 unpatented claims,
oment: Principally by a four-compartment
ft. deep, and a three-compartment vertical
el, which is 800 ft. deep. Total development,
nt: MINE: One of the most complete and
L: 700-ton concentrator, including flotation.
loyed: Average, 527.

REMARKS

la ore body was proven to the 2800-foot level,
working level. At this point it was as strong
the upper levels. The ore in the Star mine
f 1650 ft. in the Star crosscut, which is 2800
These new ore exposures have assured the
interrupted operations and dividend payments,
al in causing a big increase in the value of

ock is 25 cents per share and during the early
ow as 3 cents per share. After ore was first
rked increase in value, although fluctuating,
been continually on the increase. On Nov. 25,
it \$3.15 per share; during 1924 it was rapidly
, had reached \$18.00, a remarkable record for
low value.

ire surface plant was destroyed by the disas-
the town of Burke. Before the ruins had quit
nstruction were under way, and were com-
was cleared up. Rebuilding rapidly progressed,
me operations and production were resumed.
te of the fire to the resumption of operations,
id without interruption. This was made pos-
and Occupancy" insurance with which the
operations, and which reflected greatly to the
management.

were replaced with modern fireproof build-
steel and concrete, a new all-steel headframe
s rearranged. All construction was completed
was designed to handle the ore from the Star
he Hecla, and as completed is one of the most

are progressive and intelligent; they have
rit of cooperation among the employees and
sideration to safety and welfare provisions.
with the life of the mine assured for many
mpany is exceedingly favorable.

Paul Liver, Pres.; Thomas Nicholson, Sec.-
March 8, 1907. Capital: 1,000,000 shares; par
ued. Property: Helvetia group; 5 unpatented
Wallace. Development: By one tunnel 290 ft.

HERCULES MINING CO.

Office: Burke. Officers: Harry L. Day, Pres.-Mgr.; A. P. Ramstedt, Sec.,
both of Wallace. Inc.: Dec. 31, 1923. Capital: 500,000 shares par value \$10;
430,180 shares issued. Property: Hercules group, 38 patented claims;
Maher-Hearn group, 29 patented, 8 unpatented claims; Columbia Lode, 1
patented claim; Lelande and Placer Center dists.; Burke. Development:
Principally by 5 tunnels: No. 1, 280 ft. long; No. 2, 3350 ft. long; No. 3, 3900
ft. long; No. 4, 5900 ft. long; No. 5, 8550 ft. long; and a four-compartment
vertical shaft 1300 ft. deep with 8 intermediate levels. Total development,
approximately 18 miles. Plant: MINE: Special first motion, double reel,
Nordberg electric hoist, direct connected to 700 h. p. motor. One 22x16
I-R and one 29x21 I-R compressor, both electrically driven. Electric trol-
ley locomotive in main transportation tunnel and storage battery locomot-
ives in intermediate levels. Complete and modern mine equipment and
shops. MILL: 600-ton concentrator, including flotation. Ore: Lead-silver.
Men employed: Average 226.

REMARKS

Because of the exhaustion of the great ore bodies in the Hercules
mine, the company suspended operations at this mine in April, thus add-
ing one more famous producer to the fate that awaits all mines.

After years of effort and self denial by the owners in developing
the mine, the ore was encountered in 1900. The magnitude of the ore
body and grade of the ore electrified the mining world, and shortly there-
after the mine was on a self-sustaining basis. The first dividend was
paid in 1901, and excepting periods of idleness caused by external con-
ditions, dividends have been paid without interruption up to the date
of closing.

Until Dec. 31, 1923, the mine had always been operated as a partner-
ship, which comprised practically all of the original owners. On this date
the company was incorporated as a Delaware corporation.

Because the ownership was closely held, with the majority interest in
the Day family, no reports were ever published; consequently the exact
production and amount of dividends paid will probably never be known.
However, estimates place the production record at more than \$75,000,000
and dividends paid at over \$18,000,000—a most remarkable record, and
one that fully justified the name given to the mine in its early days, "The
Bonanza Mine of the Coeur d'Alenes."

The passing of the Hercules mine does not mean the end of the Her-
cules Mining Co. Before the mine was closed, the company had com-
menced to expand, and by the time operations ceased, work had ad-
vanced sufficiently at other mines that were owned or controlled by this
company to absorb the larger part of the pay roll that had been main-
tained at the Hercules.

At the close of the year the company was actively engaged in an ex-
tensive developing campaign on other properties which it owns or con-
trols. As these were acquired with the good judgment which has always
been displayed throughout the life of the parent mine, it is reasonable to
assume that this company will again take its place among the important
dividend payers of the Coeur d'Alene district.

The principal mines and companies which this company owns or con-
trols, and which were actively developed throughout the year, are: the
Maher-Hearn; the Alice; Western Union Mng. Co.; Strattons Mines
Co.; Success Mng. Co., Ltd., Ambergris Mines Co.; C. & R. Mng. Co.;
Honolulu Mng. Co.; Humming Bird Mng. Co.; and Happy Day Mng. Co.;
of which the Hercules, Western Union, Strattons, Success, and Ambergris
are producing mines.

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



GEO. A.
MCDOWELL
Inspector of Mines

MYRTLE
ELLENBOHN
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-

ANNUAL REPORT

DAY MINES, INC.

For the Year Ending December 31, 1947

Incorporated Under Laws of Idaho

GENERAL OFFICES

Wallace, Idaho

OFFICERS

HENRY L. DAY, President and Manager
F. M. ROTHROCK, Vice President
PAUL B. JESSUP, Vice President and Comptroller
S. F. HEITFELD, Secretary and Treasurer
R. W. ANNO, Asst. Secretary and Asst. Treasurer

DIRECTORS

ELEANOR DAY BOYCE, Wallace, Idaho
HENRY L. DAY, Wallace, Idaho
WRAY D. FARMIN, Spokane, Washington
PAUL B. JESSUP, Wallace, Idaho
C. I. PAULSEN, Spokane, Washington
F. M. ROTHROCK, Spokane, Washington
F. W. ROTHROCK, Spokane, Washington

TRANSFER OFFICE - - DAY BLDG., WALLACE, IDAHO

Manager's Report

Wallace, Idaho

March 8, 1948

TO THE STOCKHOLDERS OF DAY MINES, INC.

Herewith please find report and financial statements for the calendar year 1947, covering the operations of Day Mines, Inc., and its twelve predecessor companies. The combined production of silver, lead and zinc increased from that of the previous year as more workers were available. The combined net operating profit of all the companies, parties to the consolidation of October 1, 1947, after all deductions including state and federal income taxes, was \$654,667.01 during the past year; it was \$898,292.75 before depletion. Cash amounted to \$920,341.53 on December 31, 1947, and current assets exceeded current liabilities by \$1,382,736.72. The ratio of current assets to current liabilities was 3.2 to 1.

CONSOLIDATION—Day Mines, Inc. came into corporate existence on October 1, 1947, being a statutory consolidation of twelve mining companies, all owning mineral properties in the Coeur d'Alene Mining District of Northern Idaho. In meetings specially called for the purpose, the shareholders of each of the predecessor companies voted on September 23 and 24, 1947, by more than two-thirds majorities in favor of the consolidation. At the twelve meetings there were a total of 20,713,614½ shares eligible to vote; 17,931,469 shares were present in person or by proxy. Of the 20,713,614½ shares, 86.19% voted in favor of the consolidation, and only 0.38% in opposition. As a result, all assets and liabilities of the twelve old companies were assumed by Day Mines, Inc. on October first, and the predecessor corporations were legally dissolved the same day. Exchange ratios for the old stocks into the new were also established at the shareholders' meetings. For each 1,000 shares of the predecessor company, the old stockholders were entitled to receive the following number of Day Mines, Inc. shares:

Tamarack & Custer Cons. Mng. Co.....	164
Hercules Mining Co.....	692
Sherman Lead Co.....	168
Dayrock Mining Co.....	340
Monitor Mining Co.....	212
King Mining Co.....	60
Stanley Mining Co.....	8
Duluth Mining Co.....	12.5
Happy Day Mining Co., Ltd.....	7
Western Union Mining Co.....	6
Crystal Lead Mines Co.....	21
Treasure Vault Mining Co.....	6

On March 1, 1948, Day Mines, Inc. had 2,149 shareholders of record. In addition, there were 397 shareholders of the twelve old companies who had not yet surrendered their old shares for conversion into certificates of Day Mines, Inc. at the foregoing ratios. However, 99.08% of the old shareholdings have done so. The management urges the others to do so immediately, as the exchange is necessary in order for them to receive the 10c per share dividend payable January 31, 1948.

DIVIDENDS—In June, 1947, three of the predecessor corporations declared dividends to their shareholders. The Dayrock paid \$43,680.72, at the rate of 2½c per share; the Sherman disbursed \$73,500.00, at the rate of 2c per share; and the Tamarack paid \$50,000.00 at the rate of 1c per share. All of these dividends were paid from current earnings, and were fully taxable to stockholder recipients.

Day Mines, Inc. paid its first dividend on January 31, 1948, of 10c per share, aggregating \$288,657.50. This dividend was declared on November 13, 1947, and made payable to stockholders of record on January 3, 1948. A portion of this dividend was charged to current earnings and the balance to capital surplus. The status of this dividend from the standpoint of its taxability to the shareholders has not been determined at the present time. When it is, stockholders will be advised.

Dividends declared by all the companies totalled \$455,838.22 in 1947. At the present time the management has no fixed policy with respect to the declaration of regular dividends. These will be paid in the future as justified by earnings, after setting aside prudent amounts for capital expenditures (new properties, new equipment, exploration work) and for additional working capital.

EXPLORATION AND DEVELOPMENT—Progress was at an accelerated pace last year, appreciably above the substantial totals of 1946. To a considerable extent, the 1947 program was underwritten through exploration funds made available by the Office of the Premium Price Plan for Copper, Lead and Zinc operating under order No. 137 of the Office of Economic Stabilization, issued in September, 1946. Federally aided exploration projects were terminated December 31, 1947. In addition, Day Mines, Inc. and the majority of its twelve predecessor companies (treated in this paragraph as a single entity for calendar 1947), made substantial expenditures in the search for new and additional ore bodies.

The 800 level, present bottom one in the Dayrock mine, was extended westerly 1,335 feet to the Murray fault and 1,320 feet of diamond drilling performed east thereof. The Nipsic crosscut on Interstate No. 4 level (now re-named the 1500) was extended 2,745 feet northerly to intersect two Silver Tip veins near the end of 1947. The Carlisle vein was explored in 1947 by deepening the shaft 145 feet, drifting a total of 470 feet on a new lower level (the 3250), and by extending drifts northerly and southerly on the main haulage level (the 2800) a total of 549 feet. On the Idora No. 3 level (the 1400) the drift on the Tuscumbia vein system was driven 907 feet easterly, and 1,257 feet of the diamond drilling done therefrom. No ore was discovered but a strong vein was left in the face, as winter weather made the work difficult. Further exploration to the east is planned for 1948. A portion of the area intervening between the Sherman and Tamarack mines was explored by crosscutting and drifting a total of 1,050 feet to the west of and from the Sherman 1,000 level. Only about 60% of the original project was completed. From the 2400 level of the Tamarack mine an off-set, vertical shaft was sunk 300 feet. Drifting on the 2700 level, the deepest in the mine, will be completed in 1948. No additional ore bodies were developed in 1947 either on the Crystal Lead vein, or on the Fairview vein in the present Hercules Group. The latter (one of the old Humming Bird veins) is now regarded as worked out. An extensive geological reconnaissance of the King Area, running from Burke southeasterly over the Mullan divide toward the Snowstorm mine, was started in the spring of 1947 and will be completed about July, 1948. Unwatering of the Hercules

shaft, 1200 feet deep, and located nearly two miles underground, was commenced in the third quarter of 1947. At present, unwatering has reached the 1000 level, and a new 500 gallon per minute pump has been installed thereon. The 1000 was the lowest operating level in the old mine. The vein will be initially explored in 1948 by deep diamond drilling from the 1200 level.

The following tabulation is a summary of the progress of the exploration and development work during the past five years. For comparison purposes, the 1947 figures apply to the calendar year at each property without regard to the consolidation of last October first. The totals for 1943, 1944, 1945 and 1946 show the progress of the predecessor companies of Day Mines, Inc.

	Drifting	Cross cutting	Raising	Sinking	Diamond Drilling	Stations & Pockets
1943	7,356 ft.	3,113 ft.	1,345 ft.	436 ft.	11,802 ft.	29,598 cu. ft.
1944	7,151	2,431	2,881	....	7,938	.....
1945	4,179	1,203	2,129	784	3,873	68,411
1946	7,787	4,998	3,638	....	4,587	38,418
1947-Dayrock	2,562	1,093	922	....	4,545	.....
Monitor	4,274	3,475	1,218	145	1,969	36,281
Sherman	1,091	388	517	....	150	.....
Tamarack	 837	788	1,802	373	829	32,775
Crystal Lead	 650	88	.....	....	181	.....
Hercules-Fairview	 87	.....	66	....	1,133	.....
	9,501	5,832	4,525	518	8,807	69,056

ORE RESERVES—These were estimated to aggregate 1,033,918 tons on December 31, 1947, in the four principal mines, as contrasted to 906,264 tons twelve months previously. The increase was chiefly due to the favorable development of the Dayrock in 1947, although there were other substantial contributing factors. Estimates embrace only the "measured" and "indicated" classifications as defined by the U. S. Bureau of Mines, following accepted standards. Such estimating involved prediction of metal prices as well as production costs over a four to five-year period in the future.

PRODUCTION—The output of the mines in 1947 increased in tonnage as more underground workers became available. The following tabulation shows the average grade and tonnage of the company account ore milled during the past five years by the predecessor companies of Day Mines, Inc. For 1947, a breakdown by mines is given for the calendar year. Inasmuch as at the present time it is economically desirable to recover zinc concentrates only from Tamarack and Monitor milling ores, the zinc figures apply only to such production. In 1947 the Tamarack company reclaimed and treated in the Dorn concentrator a modest tonnage of old tailings which had been deposited on its own property. Figures follow:

	Dry Tons	Silver	Lead	Tons Milled From Which Zinc Recovered	Recoverable Zinc
1943	225,684	3.0 oz.	5.7%	142,923	7.8%
1944	222,325	2.6	5.0	157,013	6.7
1945	188,136	2.5	4.5	131,115	6.0
1946	155,363	2.0	4.2	105,761	5.5
1947-Dayrock	46,363	3.1	5.3		
-Hercules (Fairview)	11,163	5.3	7.9		
-Monitor	64,190	.8	2.0	64,190	5.0
-Sherman	33,678	9.1	13.3		
-Tamarack	65,518	1.1	3.3	65,518	4.7
	220,912	2.9	5.1	129,708	4.9
-Tamarack-Tailings	20,059	2.5	3.2	20,059	3.7

The gross contents of the ores milled by the various companies during the past five calendar years are tabulated herewith. The annual figures for pounds of recoverable zinc apply only to those tonnages from which zinc concentrates were made in the mills.

	Silver Oz.	Lead Lb.	Recoverable Zinc Lb.
1943	679,984	25,822,040	22,298,689
1944	580,159	22,268,130	21,014,174
1945	464,834	17,016,001	15,811,080
1946	314,049	12,933,120	11,708,960
1947-Dayrock	145,677	4,933,284	
-Hercules (Fairview)	 59,455	1,769,102	
-Monitor	 51,188	2,560,018	6,425,950
-Sherman	306,117	8,941,890	
-Tamarack	 74,431	4,378,024	6,190,968
	636,868	22,582,318	12,616,918
-Tamarack-Tailings	 49,951	1,276,360	1,498,148

LEASING—Five underground leasers produced a total of 19,820 dry tons of milling ore in 1947. Zinc concentrates were made from 18,303 tons. The average grade was 1.4 ounces silver per ton, 3.5 per cent lead, and 4.7 per cent recoverable zinc. The gross content of the ore concentrated was 27,918 ounces of silver, 1,399,440 pounds of lead, and 1,707,714 pounds of recoverable zinc.

Five surface leasers produced 13,079 dry tons of milling ore from old dumps and tailings deposits. Zinc concentrates were made from 7,924 tons of such material. The average grade was 1.3 ounces silver per ton, 1.8 per cent lead,

and 2.2 per cent recoverable zinc. The gross content of the ore concentrated was 17,063 ounces of silver, 465,430 pounds of lead, and 351,708 pounds of recoverable zinc.

Royalties paid by the leasers in 1947 amounted to \$41,359.84. The leasers' output declined slightly from the 1946 totals. This is probably due to the termination of the Premium Price Plan on June 30, 1947, and subsequent lower net prices for zinc.

METAL PRICES—The following table gives the average quotations during the past five years of the three metals produced by Day Mines, Inc. The silver figures are the average prices paid by the United States Treasury for newly-mined domestic metal, while the lead prices are the New York quotations, and the zinc prices are based on the St. Louis market.

Year	Silver Per Oz.	Lead Per Lb.	Zinc Per Lb.
1943	70.625c	6.50c	8.25c
1944	70.625	6.50	8.25
1945	70.625	6.50	8.25
1946	80.56	8.11	8.73
1947	90.00	14.67	10.50

Under the law of July, 1946, the Treasury continued to buy silver produced in the United States at the official price of 90½c per ounce less handling charge. Following the removal of O. P. A. controls in November, 1946, the price of lead advanced to 12.55c at the start of 1947, and to 15.00c early in March, 1947, which has been the quotation ever since. There is a world scarcity of lead at the present time. While the price is now at the highest in history, it is very firm. Zinc was quoted at 10½c per pound in St. Louis all during the past year. United States zinc consumption was in excess of production, which caused a price increase to 12c on January 20, 1948. This quotation should hold until more zinc is available to consumers.

The Premium Price Plan for Copper, Lead and Zinc—an aftermath of the scheme used during World War II to stimulate the production of these three metals—expired June 30, 1947. Hardship was caused to those producers dependent on high zinc prices. Congress enacted a law in July, 1947, extending the Premium Price Plan, little changed, for one year. The measure was promptly vetoed by President Truman, contrary to the expectation of the mining industry. New legislation will be introduced during the present session of Congress. It is now impossible to predict its exact nature or likelihood of enactment into law.

CAPITAL ADDITIONS—Total expenditures for capital purposes in 1947 of Day Mines, Inc. and twelve predecessors, totalled \$578,886.14. Substantial capital expenditures were made last year for the Tamarack 2400 level offset shaft, the deepening of the Carlisle shaft, the completion of a vertical working raise between the Amazon 2000 and 2800 levels, and the unwatering of the Hercules mine. At the end of 1947, the capacity of the Carlisle mill was being increased from 215 tons daily to 490 tons; a lead oxide flotation circuit was being installed in the Sherman mill; and a worn-out ball mill in the Hercules concentrator was being replaced by a used but serviceable unit. Boarding houses at the Sherman mine in Burke and at the Interstate property were equipped and put into service last December. The Mace Power Plant was purchased from Citizens Utilities Co. Substantial expenditures were made for new machinery and equipment for the various mines.

SUBSIDIARIES—The Fern Mining Company, wholly owned by Day Mines, Inc. during 1947, was organized under the laws of Idaho, February 18, 1946. The corporation was non-productive last year, and the development expense was limited to \$1,550.16, mostly for geological work. The Fern company owns 81 unpatented claims aggregating 1554.67 acres, lying southerly and easterly of Osburn at the headwaters of Shields and Lake Gulches. Eighty of the claims are in one contiguous group.

The Aurum Mining Company, a second wholly owned Day Mines, Inc. subsidiary, not only maintained its gold properties near Republic, Washington, but performed successful development work. The major portion of the production came from three leasers, active through all of 1947, who paid the company \$20,774.50 in royalties. The output was shipped direct to a custom smelter as crude silicious ore, and aggregated:

Dry Tons	Grade	Content
14,951.4	0.244 oz. gold	3,643.7 oz. gold
	1.26 oz. silver	18,785 oz. silver

During 1947 the Ben Hur 600 level drift was extended 189 feet northerly, and then turned to crosscut the South Cross vein, which was intersected by 604 feet of work. At the end of the year, drifts on the South Cross vein had been extended a total of 134 feet northerly and southerly. This work and its continuation early in 1948 have indicated a substantial tonnage of better than average grade.

The tonnage of the Aurum ore reserves declined about 5% in 1947, while the gold grade increased about 10%. This is due to the fact that estimated future operating costs had to be increased which raised the cut-off grade, and eliminated a substantial amount of low-grade material, previously considered commercial.

The Aurum company maintained its properties during 1947 at a loss of \$4,784.40, before depletion. In addition, net capital expenditures amounted to \$44,769.22, which with one exception was all for the exploration of the South Cross vein from the Ben Hur 600 level. The exception was \$5,200 spent for the purchase of additional mineral property.

GENERAL—The Hercules mill operated rather steadily as well as profitably during 1947 on a custom basis. Until last July when President Truman vetoed the one-year extension of the Premium Price Plan bill, operations were at near capacity on freshly broken ore. Since then, screened river tailings have furnished the bulk of the material concentrated.

Day Mines, Inc. has a one-fourth participating interest in a long-term lease on the Galena property held by the American Smelting and Refining Company. The Galena property, a mile west of Wallace, is now owned by the Vulcan Silver-Lead Corporation, a subsidiary of the Callahan Zinc Lead Company. The project contemplates deepening the

Galena shaft more than 2000 feet vertically to approximate sea level, and 5000 feet of crosscutting and drifting at that elevation. This work was started in 1947 with the installation of a large compressor, suitable double drum hoist, surface buildings, and the rehabilitation of the old shaft to the sump, 840 feet below the collar. The shaft work included the addition of a fourth compartment to be used for ventilation. By March 1, 1948, the shaft had been deepened about 200 feet. Day Mines, Inc. expenditures in 1947, account of its quarter interest in the Galena project, amounted to \$61,006.89.

In January, 1947, "portal" pay suits were filed against several of the predecessor companies in the total of \$615,091. The cases were tried in the district federal court in Coeur d'Alene last November. The following month Judge Chase A. Clark decided the cases should be dismissed if pleadings were not amended. A judgment of dismissal was entered February 20, 1948, which is subject to appeal if made within three month of that date.

A new labor contract was negotiated in the summer of 1947 and is effective until June 30, 1949, except that the matter of wages can be re-opened on June 30, 1948. It provided for an increase of \$1.00 per shift and six paid holidays. The average daily wage paid to all wage-earners including shift differentials, overtime, vacations and holidays, is now about \$11.89.

The number of employees increased substantially last year as the labor supply showed a marked improvement. On Day Mines, Inc. payrolls, on December 31, 1947, there were 569 employees of all classifications, an increase of 116 during the year. Approximately two-thirds were working underground. Turn-over continued very high as hires and separations in 1947 ran in excess of 1,300 and 1,200 respectively. At present only experienced miners are being employed.

Day Mines, Inc. shares were traded in as "unlisted" by the Spokane Stock Exchange from October 1, 1947, to February 25, 1948, with the approval of the Securities and Exchange Commission. On the latter date, Day Mines, Inc. shares were admitted to "listed" trading, and Dayrock, Sherman and Tamarack were no longer called. Further Day Mines, Inc. listing is under consideration, and will be applied for when opportune.

OUTLOOK—The Day Mines, Inc. properties are well equipped, both surface and underground, and in a position to take advantage of high prices for lead and zinc. However, a substantial portion of the ore reserves are low to medium in grade, and due to present high costs, this tonnage requires high prices for profitable extraction. The management anticipates a high rate of capital expenditures during the next few years as several exploration projects are now in the formulative stage, in addition to the unwatering of the Hercules mine, and the one-fourth interest in the deep development at the Galena shaft.

This opportunity is taken to thank all employees, whose loyal and efficient services made the 1947 results possible. Particular appreciation is accorded to those who participated in the unusual work required by the consolidation.

Respectfully submitted,

HENRY L. DAY,
President and Manager.

Auditor's Certificate

Day Mines, Inc.

Wallace, Idaho

March 6, 1948

To the Board of Directors

Day Mines, Inc.

Wallace, Idaho

Gentlemen:

We have examined the balance sheet and statement of surplus of Day Mines, Inc., as at December 31, 1947, and the combined statement of profit and loss of the predecessor corporations and the Day Mines, Inc. for the year then ended, have reviewed the system of internal control and the accounting procedures of the company and, without making a detailed audit of the transactions, have examined or tested accounting records of the company and other supporting evidence, by methods and to the extent we deemed appropriate. Our examination was made in accordance with generally accepted auditing standards and included all procedures which we considered necessary in the circumstances.

The investments in subsidiaries are not consolidated into the balance sheet of the Day Mines, Inc. for the reason that the subsidiaries are in the development stage and the book values of the property, plant, and equipment of these companies have no relation to actual value, which can only be determined from future exploration. The investments in these companies are carried at cost, and current accounts with them are shown in the balance sheet.

In our opinion the accompanying comparative balance sheet and related comparative statements of income and surplus and the notes thereon present fairly the position of Day Mines, Inc. at December 31, 1947, and the results of operations for the fiscal year then ended in conformity with generally accepted accounting principles.

Yours very truly,

L. J. RANDALL,
Certified Public Accountant

DAY MINES, INC.
CONDENSED BALANCE SHEET

December 31, 1947

ASSETS

CURRENT ASSETS:

Cash on Hand and in Banks	\$ 920,341.53
Bond Investments @ Cost (Market \$263,314.40)	253,560.61
Amounts due from Smelters for Concentrates Shipped	470,808.69
Concentrates on Hand @ Market value	12,930.09
Receivables and Prepaid Expenses	52,051.13
Inventory of Mine and Mill Supplies at Cost	309,406.50

TOTAL \$2,019,098.55

INVESTMENTS:

Stock of Subsidiary Companies @ Cost	490,477.53
Advances to Subsidiary Companies	196,326.56
Stock of Other Companies @ Cost	88,376.02
Other Investments	9,369.00

TOTAL 784,549.11

MINING PROPERTIES, PLANT & EQUIPMENT:

Operating Mining Properties:	
Mining Claims and Ore bodies (after deducting Reserve Plant, Equipment, Deferred Mining Costs, for Depletion)	1,560,941.12
Furniture and Fixtures (after deducting Reserve for Depreciation)	1,131,372.02

TOTAL 2,692,313.14

Non Operating Mining Properties:

Claims and Mining Properties	1,869,147.21
Exploration Costs and Other Interests	241,905.15

TOTAL 2,111,052.36

TOTAL ASSETS \$7,607,013.16

LIABILITIES

CURRENT LIABILITIES:

Accounts Payable	\$ 157,348.09
Wages and Salaries Payable	101,499.62
Taxes Payable	78,584.34
Dividend Payable	288,657.50
Exploration Premiums Unexpended	10,272.28

TOTAL \$ 636,361.83

**CAPITAL STOCK (Authorized—5,000,000 shares
par value 10c per share)**

Capital Stock Issued and Outstanding
(2,886,575 shares, par value 10c per
share) 288,657.50

SURPLUS: (See Statement of Surplus)

Capital Surplus	6,681,993.83
Earned Surplus	.00

TOTAL 6,681,993.83

TOTAL LIABILITIES \$7,607,013.16

FOOTNOTE: No provision has been made for possible liability for additional compensation to employees under the "portal to portal" suits which have been dismissed, and for additional federal income taxes that might arise out of the Tamarack & Custer Consolidated Mining Company's depletion controversy with the Bureau of Internal Revenue.

DAY MINES, INC. AND ITS PREDECESSOR CORPORATIONS
PROFIT & LOSS STATEMENT FOR YEAR ENDING DECEMBER 31, 1947

	PREDECESSOR CORPORATIONS 9 MOS. ENDING 9-30-47	DAY MINES, INC., 3 Mos. ENDING 12-31-47	COMBINED 12 MONTHS ENDING 12-31-47
OPERATING INCOME:			
Revenue from Ore Sales	\$2,689,972.08	\$886,893.12	\$3,576,865.20
Royalties from Lease Operations	37,872.42	3,487.42	41,359.84
Profit from Custom Milling	12,450.28	7,466.91	19,917.19
TOTAL	\$2,740,294.78	\$897,847.45	\$3,638,142.23
OPERATING EXPENSES:			
Ore Breaking	\$1,067,012.49	\$402,206.50	\$1,469,218.99
Development	131,734.55	29,562.83	161,297.38
Milling	293,740.13	87,724.72	381,464.85
Hauling Ores, Concentrates and Tailings	56,504.52	16,738.38	73,242.90
Office, Administrative and General:			
Salaries	53,403.40	29,054.17	82,457.57
Property Taxes	23,620.66	8,631.86	32,252.52
Other	58,494.08	29,462.03	87,956.11
TOTAL	\$1,684,509.83	\$603,380.49	\$2,287,890.32
OPERATING PROFIT	1,055,784.95	294,466.96	1,350,251.91
OTHER INCOME AND EXPENSE (NET)	40,005.08	14,035.97	54,041.05
NET PROFIT BEFORE DEPLETION, DEPRECIATION AMORTIZATION AND INCOME TAXES	\$1,095,790.03	\$308,502.93	\$1,404,292.96
DEPLETION, DEPRECIATION AND AMORTIZATION:			
Depletion	\$ 208,687.81	\$ 34,937.93	\$ 243,625.74
Depreciation and Amortization	134,575.59	39,135.41	173,711.00
TOTAL	\$ 343,263.40	\$ 74,073.34	\$ 417,336.74
NET PROFIT BEFORE INCOME TAXES	\$ 752,526.63	\$234,429.59	\$ 986,956.22
INCOME TAXES:			
State Income	\$ 32,660.61	\$ 10,140.01	\$ 42,800.62
State Mine License	13,007.92	3,704.09	16,712.01
Federal Income	224,258.09	48,518.49	272,776.58
TOTAL	\$ 269,926.62	\$ 62,362.59	\$ 332,289.21
NET PROFIT	\$ 482,600.01	\$172,067.00	\$ 654,667.01

DAY MINES, INC.
STATEMENT OF SURPLUS DECEMBER 31, 1947

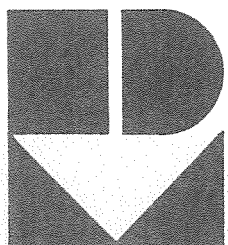
CAPITAL SURPLUS:

Surplus at date of Organization—	
October 1, 1947	\$6,800,264.46
Additions for Year	None
Deductions for Year:	
Monitor Royalty Adjustment	\$ 1,680.13
Portion of Dividend No. 1	116,590.50
CAPITAL SURPLUS—December 31, 1947	\$6,681,993.83

EARNED SURPLUS:

Additions for year: Net Profit	\$ 172,067.00
Deductions for Year: Portion of Dividend No. 1	172,067.00
EARNED SURPLUS—December 31, 1947	\$.00

FOOTNOTE: The excess earnings of the predecessor corporations over the dividends paid by such corporations during the nine months ending September 30, 1947 were reflected in the capital surplus of Day Mines, Inc. The combined earnings of Day Mines, Inc., and its predecessor corporations for the year amounted to \$654,667.01. The total dividends declared by Day Mines, Inc. and its corporate predecessors for the year 1947 amounted to \$455,838.22, leaving an excess of earnings over dividends on a combined basis of \$198,828.79.



DAY
MINES
INC.

1977 Annual Report

Tamarack Project:

Work continued as planned throughout the year. Development ore, derived from drifting along the Phoenix vein late in 1976, was milled during the month of March. Diamond drilling continued at a reduced rate totalling 5,162 feet for the year.

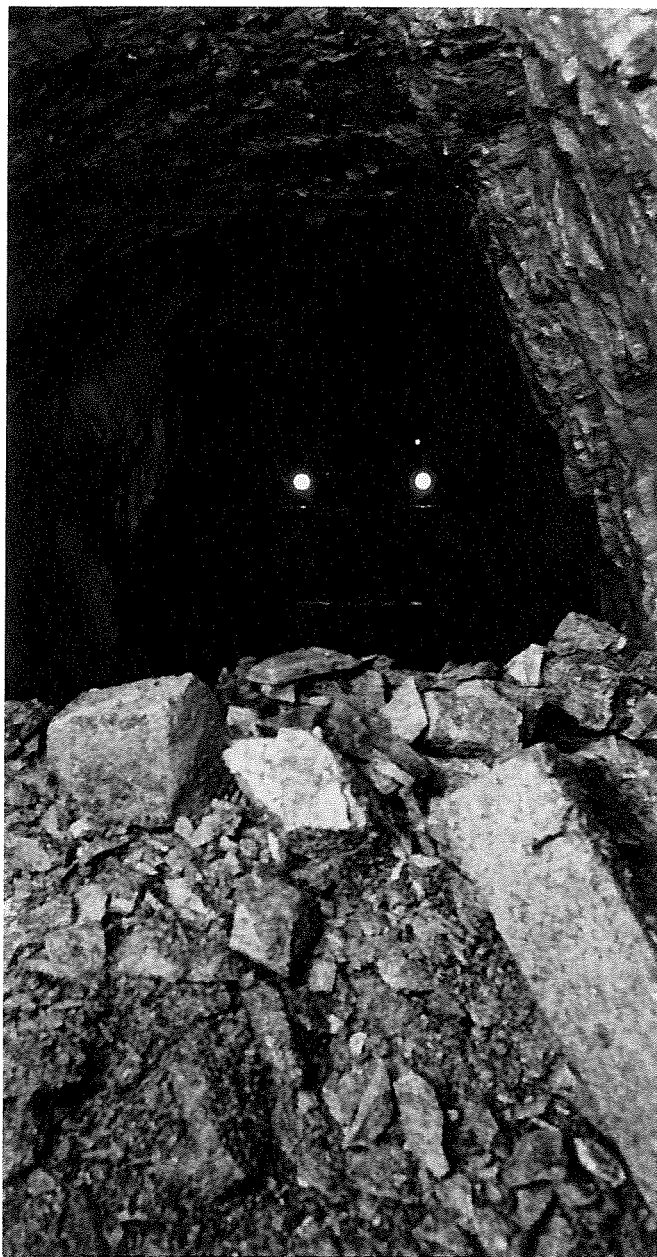
At the east end of the Tamarack No. 7 level, two vein segments in the hanging wall of the Phoenix vein were developed along narrow mineralization of good grade for a total length of 250 feet. One of the segments warrants additional development. The main Phoenix vein, reported last year, is of mining grade across narrow widths, and is being stoped on a test basis. This operation affords training for the miners in a specialized mining method while the mineralization is being followed toward the more favorable environment expected a few hundred feet above the level. Until increased vein widths are encountered the production is expected to remain small. This ore, together with development ore, is being stockpiled for future milling.

At the west end of the project, a crosscut, driven westward, traversed two blocks of ground separated by the Puritan fault in which an earlier diamond drill hole disclosed important mineralization. East of the fault, only narrow stringers were found in unfavorable rocks. West of the fault, the crosscut entered a block of favorable rock and a short diamond drill hole disclosed the vein nearby. An extension of the crosscut and subsequent drifting has exposed a strong vein zone which appears to be an extension of the Tamarack system about 200 feet to the south. The vein structure, named the Nilus vein, contains heavily sheared rock with zinc and lead mineralization across mining widths for a developed length, to date, of 275 feet. A connection to the old Tamarack workings for ventilation is planned, and drifting will investigate a block of ground to the north. As the work progresses, access will be provided for additional drilling to test for new veins or projections of known Tamarack vein structures in this newly opened area.

Republic Unit

During the year, Day Mines participated in certain revenues derived from the Knob Hill operation located in Republic, Washington. DMI's share of production from the Gold Dollar Lease was 7,611 tons with an average grade of 0.84 ounces of gold and 2.55 ounces of silver per ton. Day Mines' share of production from the No. 3 Joint Operation was 9,271 tons with an average grade of 0.48 ounces of gold and 2.98 ounces of silver per ton.

Knob Hill Mines, Inc., terminated mining operations on February 28, 1978. Subsequently, Day Mines acquired the remainder of the mineral rights, all of the property and surface plants of Knob Hill Mines, Inc. An investigative drilling program for gold mineralization is underway, and the mine and mill are being rehabilitated. The recent increase in gold price makes the development program and a limited resumption of production during 1978 appear feasible.



Like a monstrous insect from a Jules Verne movie, an underground mucking machine moves along a drift in the Tamarack Mine toward a pile of broken rock.

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

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

Compiled by
Victoria E. Mitchell
Earl H. Bennett

Idaho Geological Survey
University of Idaho
Moscow, Idaho 83843

Technical Report 83-3
May 1983

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

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

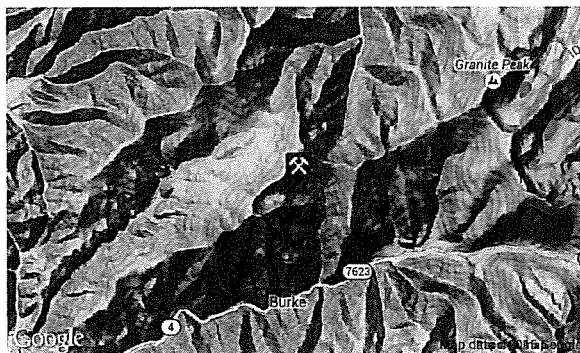
Western Mining History

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

Hercules 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: 6,001 feet (1,829 meters)

Latitude: 47.5431

Longitude: -115.81720

Primary: Silver , Lead , Zinc

Hercules Mine MRDS Details

All data originates from the USGS Mineral Resource Data System.

Site Name	Commodity	Location
Primary: "Hercules Mine"	Primary: Silver Primary: Lead Primary: Zinc Secondary: Copper Tertiary: Gold Tertiary: Nickel	State: Idaho County: Shoshone District: Lelande
Land Status	Holdings	Workings
Land Ownership: Private Administrative Organization:		Type: Underground
Ownership	Production	Deposit
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: Hercules Mining Co. Company ID: Percent: 100.0 Home Office: Wallace, Idaho Info Year: Years: 1889 - 1947	Year: 1983 Time Period: 1901-1965 Mined: 3192921.000 mt Material type: Ore mined Description:	Record Type: Site Operation Category: Past Producer Deposit Type: REPLACEMENT VEIN Plant Type: Beneficiation (Mill) Plant Subtype: Flotation Operation Type: Underground Mining Method: Milling Method: Flotation Year First Production: 1901 Year Last Production: Discovery Year: 1889 Discovery Method: Unknown Years of Production: 1901-1925, 1930-1931, 1934-1935, 1937-1938, 1941, 1945-1960, 1962, 1964-1965 Organization: Significant: Y Deposit Size: L

Physiography

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

Mineral Deposit Model

Orebody

Name: Mountain View Vein
Form: PINCH AND SWELL

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

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

About The MRDS Mines Database

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

Popular Tags

[View all tags](#)

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

Find us on Facebook

Western Mining History
Like

149 Likes · 2 Comments · 19 Shares

6,942 people like Western Mining History.

Facebook social plugin

Physiographic Section:
 Physiographic Detail: Coeur D'Alene Mountains

Name: Hercules Vein
 Form: PINCH AND SWELL
 Name: Hummingbird Vein
 Form: PINCH AND SWELL

Structure	Alterations	Rocks
Type: R Structure: Description: West Limb of Burke Anticline Type: R Structure: Description: Hercules-Mercury Fault a shear zone cutting west limb of Burke Anticline. Fault steepens and splays at depth. This fault is complementary to a set of NS faults that join the Osburn and Thompson Pass faults.		Name: Quartzite Role: Host Description: Age Type: Host Rock Unit Age in Years: Dating Method: Material Analyzed: Age Young: Neoproterozoic Age Old: Name: Quartzite Role: Host Description: Age Type: Host Rock Unit Age in Years: Dating Method: Material Analyzed: Age Young: Neoproterozoic Age Old:

Analytical Data	Materials
	Ore: Chalcopyrite Ore: Galena Ore: Tetrahedrite Ore: Sphalerite Ore: Cerussite Gangue: Grunerite Gangue: Adularia Gangue: Pyrrhotite Gangue: Actinolite Gangue: Marcasite Gangue: Hematite Gangue: Chlorite Gangue: Andradite Gangue: Biotite Gangue: Magnetite Gangue: Pyrite Gangue: Siderite Gangue: Arsenopyrite Trace: Bournonite Trace: Niccolite Trace: Silver Trace: Anglesite Trace: Pyromorphite Trace: Silver Trace: Plattnerite Trace: Jamesonite

Comments	
Comment Type: Location	Comment AT HEAD OF GORGE GULCH, N OF BURKE
Comment Type: Development	Comment 136 PATENTED CLAIMS
Comment Type: Deposit	Comment THE CARLISLE-HERCULES MINERAL BELT IS ABOUT 28,000 FT LONG. RAMBLER ORE SHOOT STRIKES W TO S 45 DEG W, DIPS 60 - 80 DEG S, IS ABOUT 400 FT LONG. DEPTHS TO TOP, BOTTOM ARE IN ELEVATION.
Comment Type: Workings	Comment LENGTH OF WORKINGS A 1961 FIGURE.
Comment Type: Orebody	Comment The main Hercules oreshoot, mine through 1925, passed abruptly at depth into a 200 foot thick (vertical) zone of pyrite-chalcopyrite mineralization, then passed into a pyrite only zone.
Comment Type: Production	Comment Production data from Mitchell and Bennett (1983) using production data reported to the U.S. Bureau of Mines. Grade data from Long (1998).

References

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

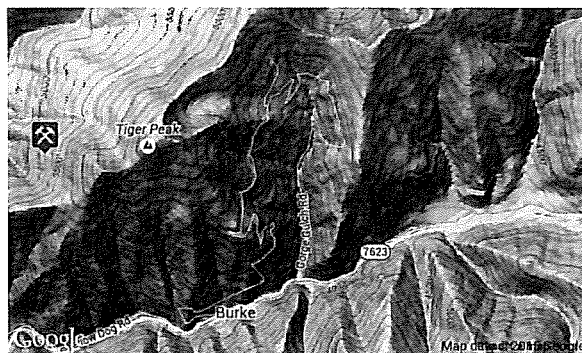
Western Mining History

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

Tamarack and Custer 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: 3,494 feet (1,065 meters)

Latitude: 47.5358

Longitude: -115.84690

Primary: Lead , Zinc , Silver

Tamarack and Custer Mine MRDS Details

All data originates from the USGS Mineral Resource Data System.

Site Name

Primary: "Tamarack and Custer Mine"
Secondary: "Custer Mine"
Secondary: "Tamarack and Chesapeake Mine"

Commodity

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

Location

State: Idaho
County: Shoshone
District: Placer Center

Land Status

Land Ownership: Private
Administrative Organization:

Holdings

Workings

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

Ownership

Owner Name: Custer Mining Co.
Company ID:
Percent: 100.0
Home Office:
Info Year: 2005
Years: 1888 - 1895
Owner Name: Coeur d'Alene Mining and Concentrating Co.
Company ID:
Percent: 100.0
Home Office: Spokane, Washington
Info Year: 2005
Years: 1895 - 1899
Owner Name: Tamarack & Chesapeake Mining Co.
Company ID:
Percent: 100.0
Home Office:

Production

Year: 1967
Time Period: 1913-1958
Mined: 2601371.000 mt
Material type: Ore
Description: Cp_Grade: ^3.6 Oz Ag/Ton, 6.9 % Pb, 5.0 % Zn
Year: 1983
Time Period: 1905-1977
Mined: 2557783.000 mt
Material type: Production reported to US Bureau of Mines
Description:

Deposit

Record Type: Site
Operation Category: Producer
Deposit Type: HYDROTHERMAL VEIN AND REPLACEMENT
Plant Type: Beneficiation (Mill)
Plant Subtype: Flotation
Operation Type: Underground
Mining Method: Filled Slopes - Timber With Subsequent Fill
Milling Method: Flotation
Year First Production: 1888
Year Last Production: 1978
Discovery Year: 1885
Discovery Method: Ore-Mineral In Place
Years of Production: 1888-1892, 1895-1899, 1904-1907, 1913-1931;

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

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

About The MRDS Mines Database

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

Popular Tags

[View all tags](#)

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

Find us on Facebook



Western Mining History
Like



Western Mining History
June 12 at 9:12am

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



149 Likes · 2 Comments · 19 Shares

6,942 people like Western Mining History.



Facebook social plugin

Info Year: 2005	1934-1958; 1978
Years: 1897 - 1912	Organization: William H. Clagett and others
Owner Name: Custer Consolidated Mining Co.	Significant: Y
Company ID:	Deposit Size: L
Percent: 100.0	
Home Office: Wallace, Idaho	
Info Year: 2005	
Years: 1910 - 1912	
Owner Name: Day Mines Inc.	
Company ID:	
Percent: 100.0	
Home Office: Wallace, Idaho	
Info Year: 2005	
Years: 1947 - 1981	
Owner Name: Tamarack & Custer Consolidated Mining Co.	
Company ID:	
Percent: 100.0	
Home Office: Wallace, Idaho	
Info Year: 2005	
Years: 1912 - 1947	
Owner Name: Hecla Mining Co.	
Company ID:	
Percent: 100.0	
Home Office: Coeur d'Alene, Idaho	
Info Year: 2005	
Years: 1981 -	

Physiography	Mineral Deposit Model	Orebody
General Physiographic Area: Rocky Mountain System	Model Name: Polymetallic veins	Name: Chesapeak No. 2 Split Vein
Physiographic Province: Northern Rocky Mountains		Form: PINCH AND SWELL
Physiographic Section:		Name: A-X (A-Cross) Vein
Physiographic Detail: Coeur D'Alene Mountains		Form: PINCH AND SWELL
		Name: Wet Vein
		Form: PINCH AND SWELL
		Name: Thomas Vein
		Form: PINCH AND SWELL
		Name: Nelson Vein
		Form: PINCH AND SWELL
		Name: Chesapeak Vein
		Form: PINCH AND SWELL
		Name: Watson Vein
		Form: PINCH AND SWELL
		Name: Falvey Vein
		Form: PINCH AND SWELL
		Name: Snowy Peak Vein
		Form: PINCH AND SWELL
		Name: Phoenix Vein
		Form: PINCH AND SWELL
		Name: Tamarack Vein
		Form: PINCH AND SWELL
		Name: North (East) Vein
		Form: PINCH AND SWELL
		Name: Standard Vein
		Form: PINCH AND SWELL
		Name: Murphy Vein
		Form: PINCH AND SWELL
		Name: Monroe Vein
		Form: PINCH AND SWELL
		Name: Custer Vein
		Form: PINCH AND SWELL
		Name: Main (South) Vein
		Form: PINCH AND SWELL

Structure	Alterations	Rocks
Type: R	Alteration Type: L	Name: Meta-Argillite
Structure:	Alteration:	Role: Host
Description: Broad Anticlinal Arch Trending N Broken By Many Cross Faults	Alteration Text: Supergene alteration (oxidation) extends to no more than 30 meters depth. Minerals found in the oxide zone include limonite, cerussite, and smithsonite.	Description:
Type: R		Age Type: Host Rock
Structure:		Age in Years:
Description: Phoenix, Puritan-Standard and Nilus Faults		Dating Method:
		Material Analyzed:

Alteration Type: L	Age Young: Neoproterozoic
Alteration:	Age Old:
Alteration Text: Bleaching; Sericite-Chlorite; Clay; Carbonates; Good ore is found outside of bleached zones, however.	Name: Quartzite
	Role: Host
	Description:
	Age Type: Host Rock
	Age in Years:
	Dating Method:
	Material Analyzed:
	Age Young: Neoproterozoic
	Age Old:

Analytical Data**Materials**

Ore: Smithsonite
 Ore: Cerussite
 Ore: Sphalerite
 Ore: Galena
 Ore: Chalcopyrite
 Ore: Boulangerite
 Gangue: Pyrite
 Gangue: Hematite
 Gangue: Calcite
 Gangue: Magnetite
 Gangue: Siderite
 Gangue: Limonite
 Gangue: Pyrrhotite
 Gangue: Quartz
 Trace: Ferro-Anthophyllite

Comments

Comment Type: Orebody	Comment Watson Vein mined from 1800 to 2700 level; little ore found below 3000 level.
Comment Type: Orebody	Comment Phoenix Vein last vein found and mined (1978).
Comment Type: Orebody	Comment Chesapeake Vein mine from 600 to 1800 level; vein turned to gouge on 1800 level, flattened and cut off Thomas Vein below that level.
Comment Type: Orebody	Comment Nelson Vein is a split from the Chesapeake vein; mined from 1000 to 1650 level.
Comment Type: Orebody	Comment Thomas Vein is a split from the Chesapeake vein; mined from 1000 to 1650 level.
Comment Type: Orebody	Comment Falvey Vein a narrow high-Zn content vein mined above and below the No. 4 adit level.
Comment Type: Production	Comment Tonnage and recovered metals from Mitchell and Bennett (1983); ore grades from Long (1998).
Comment Type: Deposit	Comment This record includes data from duplicate records 10120788 and 10192633 which have been deleted.
Comment Type: Orebody	Comment Monroe Vein mined from surface down to 16th floor above No. 5 adit level.
Comment Type: Development	Comment Frisco gravity concentration mill purchased 1917, remodeled as a gravity-flotation mill, and used until ? Then used Hercules mill until?
Comment Type: Orebody	Comment Murphy Vein mined from No.4 adit level to 800 level; galena ore 8 to 10 feet wide on 400 level.
Comment Type: Development	Comment Dorn flotation mill built 1940 near Tamarack No. 7 adit.
Comment Type: Orebody	Comment North (East) Vein mined from No.3 to No. 7 adit levels. Zinc and magnetite content of vein increased with depth.
Comment Type: Orebody	Comment Snowy Peak vein mined from 600 to 1200 level; Zn rich ore.
Comment Type: Orebody	Comment Standard Vein
Comment Type: Orebody	Comment Tamarack Vein
Comment Type: Orebody	Comment Wet Vein mined by leasers above and below the No. 5 adit level.

Comment Type: Orebody	Comment A-X Vein is a split from the Chesapeake Vein
Comment Type: Development	Comment Custer gravity concentration mill built 1890 and used until 1916.
Comment Type: Development	Comment 178 PATENTED CLAIMS, 3 PATENTED MILLSITES, 8 UNPATENTED CLAIMS. TAMARACK NO. 7 TUNNEL AND SURFACE FACILITIES REHABILITATED IN 1974 . TAMARACK CONNECTION WITH HUMMINGBIRD (HERCULES 5 LEVEL) COMPLETED IN 1976 . WORK IN 1976 INCLUDED 4700 FT DDH
Comment Type: Deposit	Comment 10 DIFFERENT ORE SHOOT. TAMARACK - MARSH MINERAL SUBBELT ABOUT 12000 FT LONG. TAMARACK ORE SHOOT. STRIKE W TO N 73 DEG W, DIP 50 - 70 DEG E, 65 - 80 DEG N, 70 DEG W, 70 DEG S, AND VERTICALLY. DEPTHS TO TOP AND BOTTOM EXPRESSED IN ELEVATION
Comment Type: Production	Comment Mine production reported by Crosby (1967).
Comment Type: Names	Comment A consolidation of the Tamarack and Chesapeake and Custer mines effected in 1912. This record includes the history of the Tamarack and Chesapeake and Custer mines prior to consolidation included in this record. Chesapeake is frequently misspelled as Chesapeakee.
Comment Type: Orebody	Comment Custer vein narrow and barren below No. 3 adit level; mined out by 1893.
Comment Type: Reserve-Resource	Comment Reported by Day Mines Inc in their Annual Report for the year 1978.
Comment Type: Orebody	Comment No. 2 Split Vein is a split from the Chesapeake Vein.
Comment Type: Orebody	Comment Main (South) Vein contained clean galena ore down to 400 level, Zn and Fe rich ore below; vein fans out between No. 3 and No. 4 adit levels.
Comment Type: Workings	Comment At the end of 1961 the mine had 39,265 meters of level workings to a depth of 1,463 meters.
Comment Type: Reserve-Resource	Comment Reported by Day Mines Inc in their Annual Report for the year 1978.

References

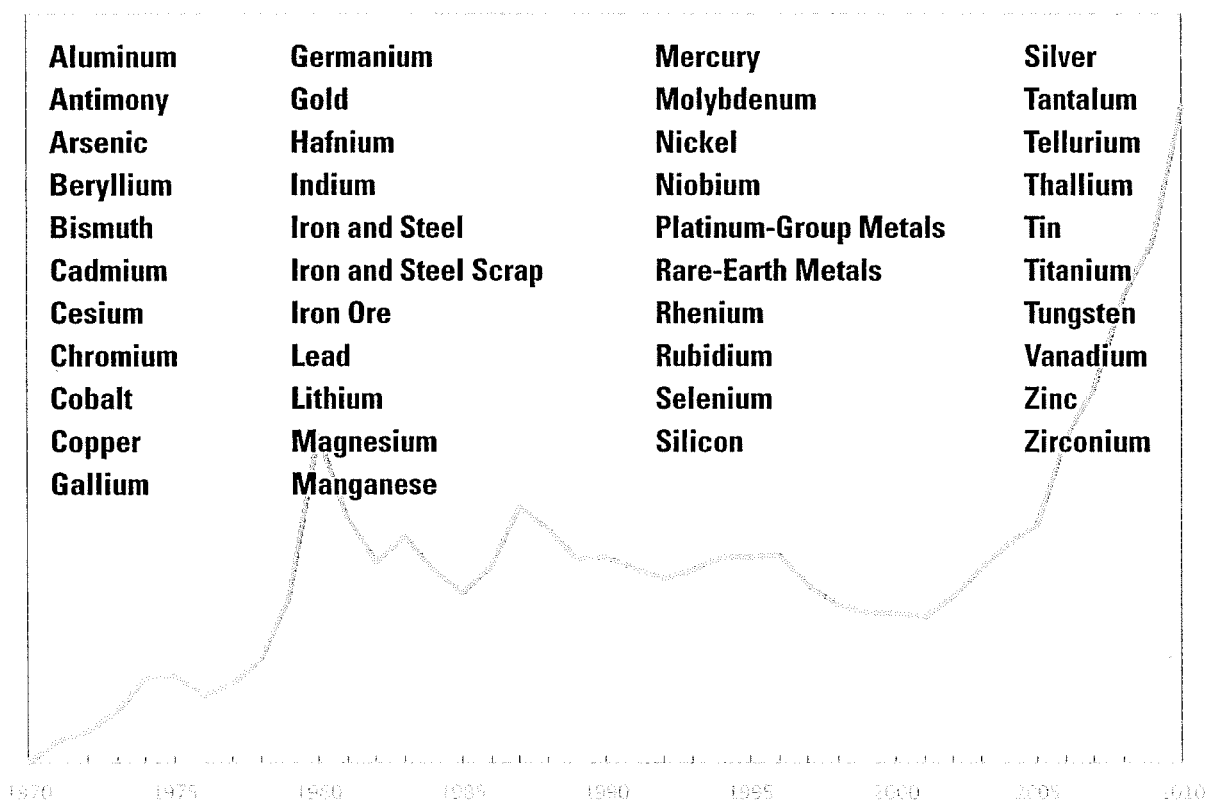
Reference Category: Geology	Reference: Griggs, A.B., 1952, Geology and notes on ore deposits of Canyon-Nine Mile creek area, Shoshone County, Idaho: U.S. Geological Survey Open-File Report 52-55, 108 p.
Pages:	URL:
Reference Category: Deposit	Reference: Bulla, Edward W., 1951, A mineragraphic study of ore from the Tamarack mine, Burke, Idaho: Moscow, Idaho, University of Idaho, M.S. thesis, 58 p.
Pages:	URL:
Reference Category: Deposit	Reference: Fryklund, V.C., Jr., 1964, Ore deposits of the Coeur d'Alene district, Shoshone County, Idaho: U.S. Geological Survey Professional Paper 445, 103 p..
Pages:	URL:
Reference Category: Deposit	Reference: Umpleby, J.B., and Jones, E.L., Jr., 1923, Geology and ore deposits of Shoshone County, Idaho: U.S. Geological Survey Bulletin 732, 156 p.
Pages:	URL:
Reference Category: Deposit	Reference: Shenon, P.J., and others, 1954, Geological study of the Custer Peak area, Beaver, Placer Center, Lelande, Hunter, and Summit mining districts, Shoshone County, Idaho, 138 p.
Pages:	URL:
Reference Category: Deposit	Reference: Hollister, V.F., 1950, File memorandum, Tamarack mine, Placer Center Dist., Shoshone Co., Idaho, 2 p.
Pages:	URL:
Reference Category: Deposit	Reference: Gidel, M.H., 1929, Report on properties adjoining the Sunset Group L Butte, Mont., Anaconda Copper Mining Co., Geological Dept., 23 p. [Anaconda Archive 21621.09]
Pages:	URL:
Reference Category: Deposit	Reference: Stephens, E.C., 1946, Memorandum on the Day properties (Tamarack, Hercules, Amazon-Manhattan, Dayrock), Coeur d'Alene district, Shoshone County, Idaho: Butte, Montana, Anaconda Copper Mining Co., Geological Dept., 5 p. [Anaconda Archive #22019.01]
Pages:	URL:
Reference Category: Production	Reference: Mitchell, V.E., and Bennett, E.H., 1983, Production statistics for the Coeur d'Alene mining district, Shoshone County, Idaho; 1884-1980: Idaho Geological Survey Technical Report 83-3, 33 p.
Pages:	URL:
Reference Category: Production	Reference: Long, K.R., 1998, Grade and tonnage models for Coeur d'Alene-type polymetallic veins: US Geological Survey Open-File Report 98-583, 28 p.
Pages:	URL:
Reference Category:	

Production

Pages:

Reference: CROSBY, G. M., 1969 , A preliminary examination of trace mercury in rocks, Coeur d'Alene district, Idaho: Colorado School of Mines Quarterly, v. 64, no. 1, p. 169-194.
URL:

Metal Prices in the United States Through 2010



Scientific Investigations Report 2012–5188

Metal Prices in the United States Through 2010

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

Scientific Investigations Report 2012–5188

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

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

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

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

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

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

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

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

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

Suggested citation:

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

50 Metal Prices in the United States Through 2010

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

[Values in cents per pound]

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

Notes:

1850–96, New York price for Lake copper (99.9-percent-pure copper), *in* Loughlin, G.F., Prefatory note on the report on gold, silver, copper, lead, and zinc,

Mineral Resources of the United States 1922, Part I, U.S. Geological Survey, 1925, p. 127a.

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

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

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

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

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

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

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

84 Metal Prices in the United States Through 2010

Table 1. Annual average lead price.

[Values in dollars per pound]

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

Notes:

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

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

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

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

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

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

Significant events affecting U.S. gold prices since 1970

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

Table 1. Annual average gold price.

[Values in dollars per troy ounce]

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

Notes:

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

Significant events affecting silver prices since 1970

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

Table 1. Annual average silver price.

[Values in dollars per troy ounce]

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

Notes:

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

200 Metal Prices in the United States Through 2010

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 - Tamarack

To Whom It May Concern:

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

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

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

Thank you.

Best Regards,

A handwritten signature in black ink, appearing to read "Paul Glader", written in a cursive style.

Paul Glader
Environmental Director

Cc: File
Judy Cloos
Encls.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

Annual Reporting Form

A. GENERAL INFORMATION

1. Facility Name: HECLA LIMITED TAMARACK

2. NPDES Permit Tracking No.: IDR05C444

3. Facility Physical Address:

a. Street: BURKE ROAD/NINEMILE ROAD

b. City: WALLACE

c. State: ID

d. Zip Code: 83873

4. Lead Inspectors Name: JUDY CLOOS

Title: SR ENVIRONMENTALTECH

Additional Inspectors Name(s): KENNETH CLOOS

SEASONAL EMPLOYEE

5. Contact Person: JUDY CLOOS

Title: SR ENVIRONMENTALTECH

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

6. Inspection Date: 06/12/2014

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 Tamarack and associated sites. Based on past site visits, there are no indications of significant storm water runoff from these sites into the East Fork of Ninemile Creek, Canyon Creek and associated tributaries.

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

☐ YES ☒ NO

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

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:

Tamarack mine and associated sites.

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

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

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

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

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

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

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

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

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

INDUSTRIAL ACTIVITY AREA _____:

Brief Description:

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

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

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

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

NOTE: Copy this page and attach additional pages as necessary

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

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

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

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

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

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

INDUSTRIAL ACTIVITY AREA _____:

1. Brief Description:

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

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

D. CORRECTIVE ACTIONS

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

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

1. Corrective Action # of for this reporting period.

2. Is this corrective action:

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

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

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

4. Briefly describe the nature of the problem identified:

5. Date problem identified: / /

6. How problem was identified:

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

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

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

9. Date corrective action initiated: / /

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

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

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

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

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

2. Annual Report Certification

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

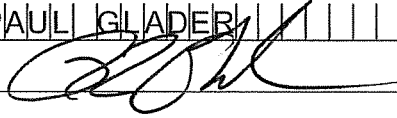
Authorized Representative
Printed Name:

PAUL GLADER

Title:

ENV DIRECTOR

Signature:



Date Signed:

10/20/14

Comprehensive Site Inspection 2014

Comprehensive Site Inspection Procedures.

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

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

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

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

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

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

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

Were all site areas examined? Y / N

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

Were all site areas examined? Y / N

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

Were all site areas examined? Y / N

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

Were all site areas examined? Y / N

- Control measures needing replacement, maintenance, or repair.

Were all site areas examined? Y / N

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

No replacement or maintenance needed for control measures.

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 – 6/25/2014

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

Judy Cloos – Senior Environmental Technician

(name and title)

Ken Cloos – Seasonal Employee

(name and title)

Dustin Howell – Seasonal Employee

(name and title)

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

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

previously unidentified discharges from the site? Y / N

previously unidentified pollutants in existing discharges? Y / N

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

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

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

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

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

If “Yes”, describe:

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

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

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

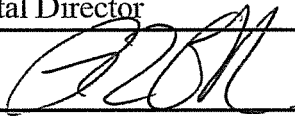
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information contained therein. Based on my inquiry of the person or persons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

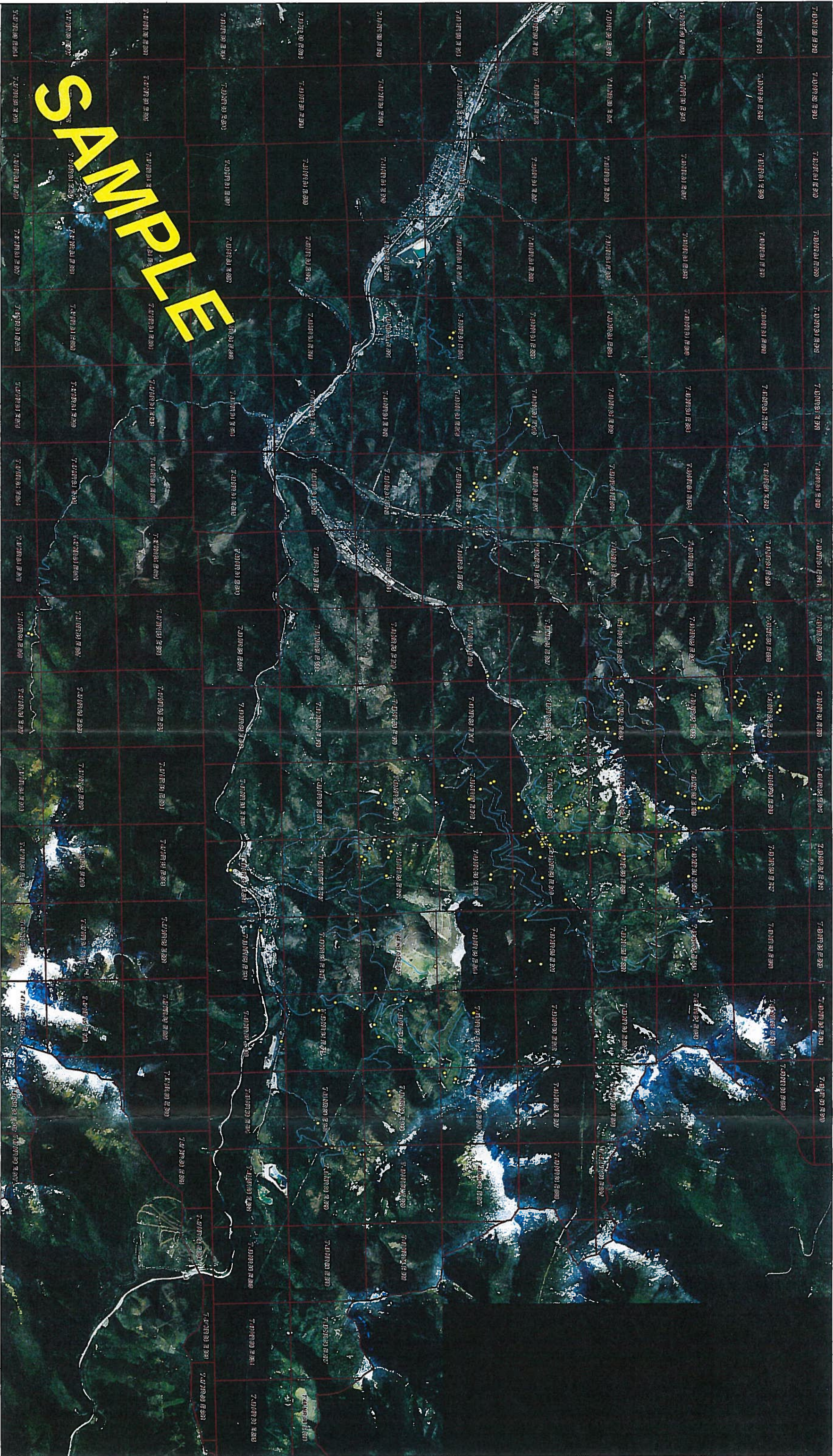
Paul Glader – Environmental Director

(name & title – printed)

(signature)

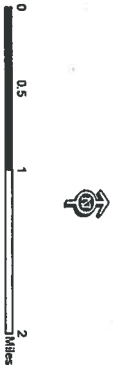
(date)


18 / 20 1/4



SAMPLE

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.



Projects
Shoshone County, ID

Drawn By	xxxxx
Defined 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 CFR 440, Subpart J – Copper, Lead, Gold, Silver, and Molybdenum Ores Subcategory, although only lead, zinc, and cadmium have been shown to be potential concerns during the lengthy and detailed RI/FS superfund process.

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

n/a

the likelihood of contact with stormwater;

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

vegetation of site (if any);

Some of the sites contain substantial natural vegetation.

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

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

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

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

Description of Control Measures (Part 5.1.4).

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

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

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

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

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

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

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

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

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

- >use spill/overflow protection equipment;
- >drain fluids from equipment and vehicles prior to on-site storage or disposal;
- >perform all cleaning operations indoor, under cover, or in bermed areas that prevent runoff and run-on and also that capture any overspray; and
- >ensure that all washwater drains to a proper collection system (i.e., not the stormwater drainage system).

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

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

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

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

Good housekeeping will be observed at the site.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

n/a

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

Addressed below.

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

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

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

See above discussion on the superfund process.

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

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

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

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

8. G.6.4 Documentation of Control Measures.

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

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

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

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

See above discussion per training.

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

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

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

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

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

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

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

Schedules and Procedures (Part 5.1.5)

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

The following must be documented in your SWPPP:

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

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

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

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

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

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

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

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

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

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

Pertaining to Monitoring and Inspection (5.1.5.2).

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

>Benchmark monitoring (see Part 6.2.1);

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

>Effluent limitations guidelines monitoring (see Part 6.2.2);

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

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

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

>Impaired waters monitoring (see Part 6.2.4); and

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

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

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

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

For each type of monitoring, your SWPPP must document:

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

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

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

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

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

sampling is required). Frequency will be determined made 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).

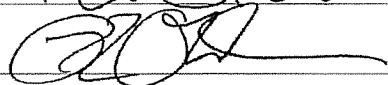
You must keep with your SWPPP the documentation supporting your certification of eligibility under Part 1.1.2.5 (Discharges Subject to Any New Source Performance Standards).

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.