

FOR: 72-7573 Thompson Creek Mining Co.
FROM: Sandy Hemenway
DATE: 1/11/2011
REF: Contents of File for Licensing Review

NOTES:

System: sump on pit floor & 8" pipeline to booster station, then delivered to mine or mill w/8" metal pipeline.

Owners of property at POD/POU: Thompson Creek Mining Co.

Idaho Secretary of State shows Organizational ID/Filing number: D123362, filed 7/17/2008

POU Overlap 72-7257, 72-7193, 72-7414; 72-7219

POD Overlap 72-7414

Purpose of Filing this Application: 72-7414 licensed in 1995 for 1.1 cfs, and 1.5 cfs additional pump capacity has been added.

Additional pump capacity is necessary to remove additional quantities of groundwater & surface water which accumulate in the mine excavation pit. Accumulation of water interferes with continued mine activities if it isn't pumped out. It is effectively utilized in the milling process (Grinding mills reduce rocks size to the consistency of face powder. The powder is mixed with a liquid and aerated in the flotation step. The less dense ore rises in the froth to be collected, while the gangue sinks to be discarded).

CONTENTS OF FILE:

9/2/1999 Review from Allen Merritt, recommend application be approved subject to R06, and 09E.

Purpose of application: pump water from a sump in the mine pit where groundwater collects, and using the water milling operation at the mine. (Industrial use is associated with the mining and milling of molybdenum ore process)

Advertised, and No Protests.

9/9/1999 Permit Approved/Signed

9/10/1999 Permit Approval Notice

10/26/1999 Wilderness Area Moratorium Order signed & sent (stop further development immediately, file proof of B/U of use completed or request a stay in the development.)

12/8/1999 Request for Stay (From Elam & Burke)

12/10/1999 IDWR request for additional info. Extent of development & B/U (letter to Elam & Burke)

12/21/1999 IDWR/Jeff Peppersack, letter stating that IDWR plan on processing the request for stay.

12/27/1999 Ltr. From Elam & Burke requesting to schedule a meeting to seek resolution to matters pertaining to permits.

1/5/2000 Preliminary Order granting request for a stay in the development.

1/12/2000 Letter from Elam and Burke/Scott Campbell representing client
 Permit affected by the new wilderness area moratorium (copy of order sent)

11/9/2005 Order Rescinding Salmon - Clearwater Basin Moratorium and Wilderness Area Moratorium

11/21/2005 Ltr from IDWR/Gary Spackman to Thompson Crk. Mining, stating that the Director rescinded the moratorium allowing continued development and B/U of water authorized by existing permits.

PROOF DUE DATE is 10/1/2006.

7/31/2006 Proof Due Notice

9/21/2006 Moffatt Thomas/Scott Campbell. REQUEST for EXTENSION to submit PROOF of B/U

10/19/2006 Request for Extension of Time signed by Gary Spackman; \$150 receipt C082237

EXTENSION APPROVAL allowing till 10/1/2007

Proof of B/U submitted 9/10/2007

7/31/2007 Proof Due Notice

8/6/2007 Ltr from Moffatt Thomas/Dylan Lawrence; forms & instructions given to Scott King/SPF (conducting field exam)

8/30/2007 **Cover letter from Scott King/SPF w/field exam that was conducted on 6/5/2007**

9/4/2007 **Email from IDWR Corey Skinner: Application for Amendment of Permit will be treated as a licensing amendment to reflect the recommended amendments described in Scott King's B/U exam.**

9/4/2007 **Application for Amendment of Permit submitted w/\$50 fee, receipt S029703**

USE AS AMENDMENT FOR LICENSING 1.5 cfs Industrial 1/1 - 12/31, change POU, add POD

9/10/2007 **PROOF OF B/U RECEIVED (1.5 cfs Industrial USE; measuring device has been installed)**

9/12/2007 Proof Acknowledgment Letter from IDWR

2/27/2008 Ltr from Scott King/SPF. Storage tank is 500,000 gallons, less than the 24-hr volume of 969,000 gallons for the 1.5 cfs flow rate authorized & developed under this permit. Therefore this storage should not be included as an industrial use and should be removed.

9/11/2008 Ltr from Moffatt Thomas/Dylan Lawrence, confirming plan agreed upon during meeting w/Aaron Marshall/IDWR

(1) Agreed on erratic historical data, due to possible malfunctioning data logging device.

(2) Agreed on 1 yr.measurements from mining pit, to base an annual diversion volume.

4/28/2010 Ltr from Scott King/SPF. Annual Diversion Volume Data for Thompson Creek Mining Co.'s pit-water diversions from January thru December 2009. Total diverted from pit during 2009 calendar year = 487.4 af.

5/19/2010 Ltr from Holland & Hart. Notice of Termination of Security Interests in WR72-7573 (lien terminated)

Tailings Bin

② P.O.D

Intermediate
Sump + 300 HP pump

① P.O.D

Mine Pit / Deep Pit Sump + 140 HP pump
collection sump in bottom

Sec. 3

4 miles
10" pipe

Sec. 2

③

Booster station 100' vertical higher
mixed w/ other water & discharges to storage tank
w/ (3) - 300 HP pumps

Sec. 1

4 miles
8" pipe

④

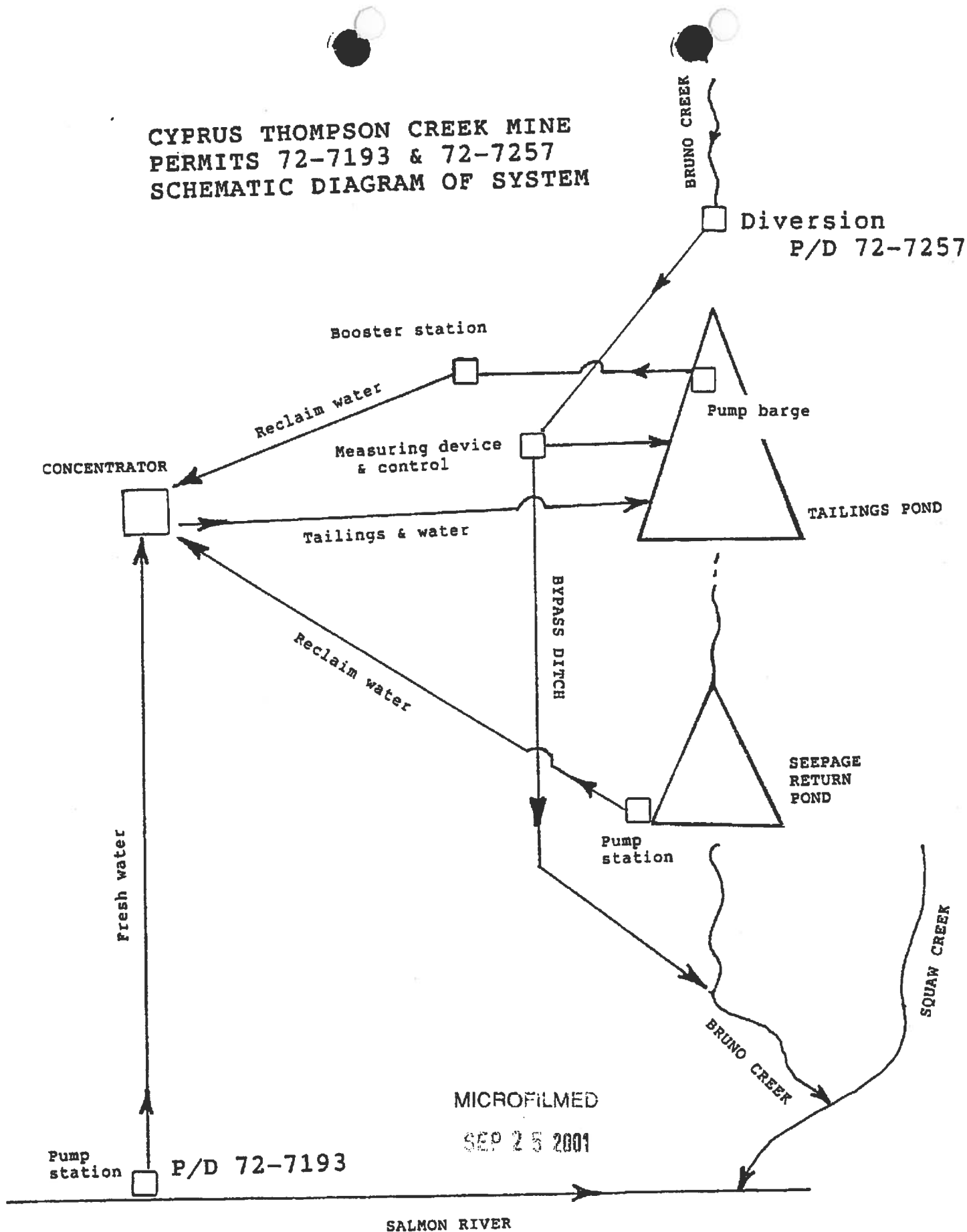
Storage tank
P.O.U.

Mill
P.O.U.

Sec. 12

72-7573 Thompson Creole Mining (not to scale)
For narrative purposes

CYPRUS THOMPSON CREEK MINE
 PERMITS 72-7193 & 72-7257
 SCHEMATIC DIAGRAM OF SYSTEM

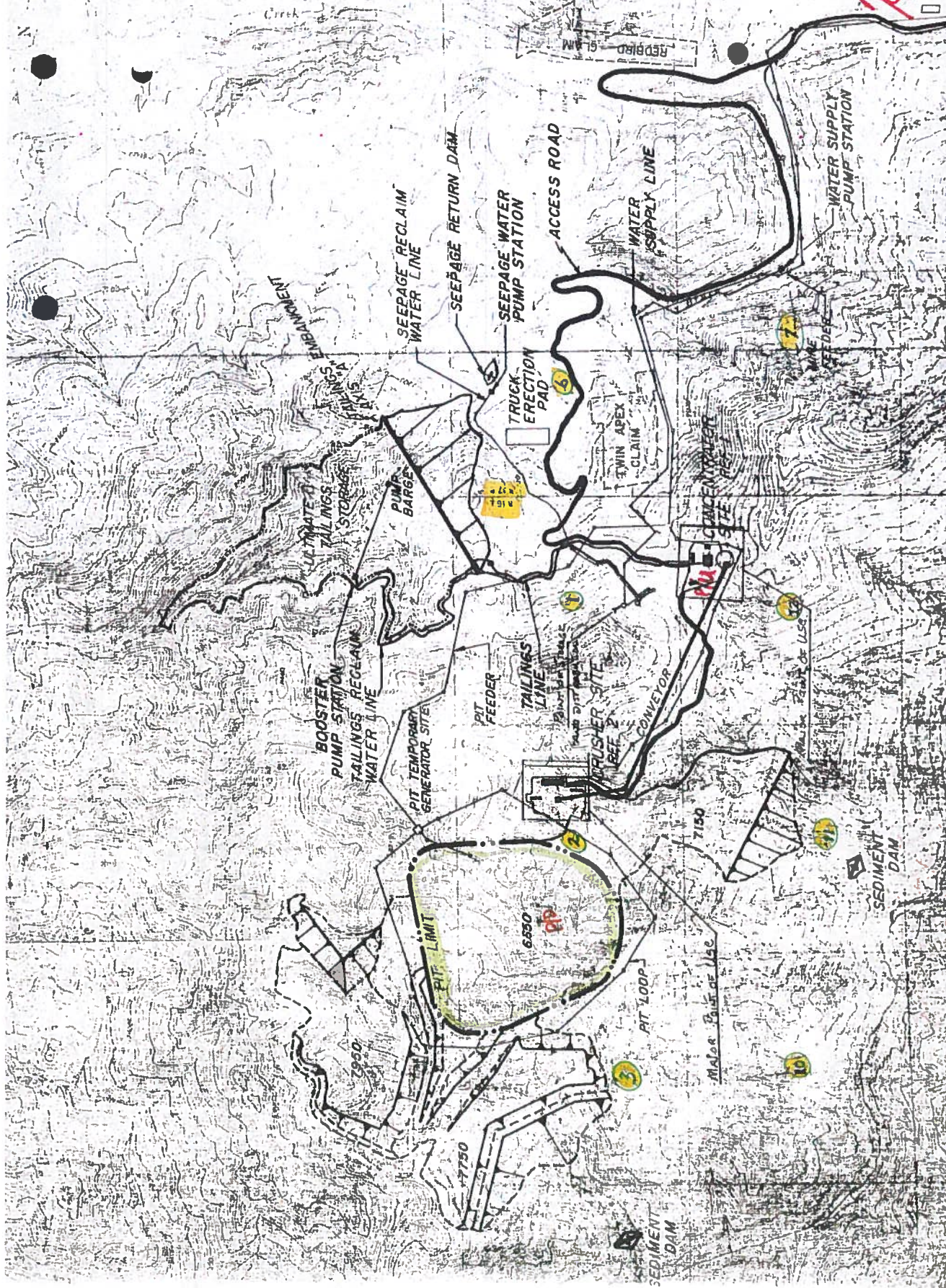


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 SEP 25 2001

FYI - 72-07414
 72-7573

72-07414
SOUTH BUTTE
SUB SITE

72-7573





Idaho Statutes

TITLE 42

IRRIGATION AND DRAINAGE -- WATER RIGHTS AND RECLAMATION

CHAPTER 2

APPROPRIATION OF WATER -- PERMITS, CERTIFICATES, AND LICENSES -- SURVEY

42-228.DRILLING AND USE OF WELLS FOR DRAINAGE OR RECOVERY PURPOSES EXCEPTED. The excavation and opening of wells and the withdrawal of water therefrom for the sole purpose of improving or preserving the utility of land by draining them shall not be forbidden or governed by this act, and, likewise, there shall be excepted from the provisions of this act the excavation and opening of wells and withdrawal of water therefrom by canal companies, irrigation districts, and other owners of irrigation works for the sole purpose of recovering ground water resulting from irrigation under such irrigation works for further use on or drainage of lands to which the established water rights of the parties constructing the wells are appurtenant; providing that the drilling of such wells shall be subject to the licensing provisions of section [42-238](#), Idaho Code.

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Idaho Statutes

TITLE 42

IRRIGATION AND DRAINAGE -- WATER RIGHTS AND RECLAMATION

CHAPTER 2

APPROPRIATION OF WATER -- PERMITS, CERTIFICATES, AND LICENSES -- SURVEY

42-219. **ISSUANCE OF LICENSE -- PRIORITY.** (1) Upon receipt by the department of water resources of all the evidence in relation to such final proof, it shall be the duty of the department to carefully examine the same, and if the department is satisfied that the law has been fully complied with and that the water is being used at the place claimed and for the purpose for which it was originally intended, the department shall issue to such user or users a license confirming such use. Such license shall be issued under the seal of the office of the department of water resources, and shall state the name and post-office address of such user, the purpose for which such water is used, the quantity of water which may be used, which in no case shall be an amount in excess of the amount that has been beneficially applied. A license may be issued to a municipal provider for an amount up to the full capacity of the system constructed or used in accordance with the original permit provided that the director determines that the amount is reasonably necessary to provide for the existing uses and reasonably anticipated future needs within the service area and otherwise satisfies the definitions and requirements specified in this chapter for such use. The director shall condition the license to prohibit any transfer of the place of use outside the service area, as defined in section [42-202B](#), Idaho Code, or to a new nature of use of amounts held for reasonably anticipated future needs together with such other conditions as the director may deem appropriate.

(2) If such use is for irrigation, such license shall give a description, by legal subdivisions, of the land which is irrigated by such water, except that the general description of a place of use described in accordance with subsection (5) or (6) of this section may be described using a digital boundary, as defined in section [42-202B](#), Idaho Code. If the use is for municipal purposes, the license shall describe the service area and shall state the planning horizon for that portion of the right, if any, to be used for reasonably anticipated future needs.

(3) Such license shall bear the date of the application for, and the number of, the permit under which the works from which such water is taken were constructed; the capacity of such works; the date when proof of beneficial use of such water was made, and also the date of the priority of the right confirmed by such license.

(4) The date of priority confirmed by the license shall be the date of the application for the permit for the construction of the works from which the water is taken, and to which the right relates, provided there has been no loss of priority under the provisions of this chapter. Whenever proof of the beneficial application of water shall be offered subsequent to the date stated in the permit, or in any authorized

extension thereof, when such beneficial application shall be made, the proof shall be taken, if received by the department within the sixty (60) days prescribed in the preceding section. If the proof taken is satisfactory to the department of water resources, a license shall be issued by the department the same as though proof had been made before the date fixed for such beneficial application. The priority of the right established by the proof shall not date back to the date of the application for the permit to which the right would relate under the provisions of this chapter, but shall bear a date which shall be subsequent to the date of the application, a time equal to the difference between the date set in the permit, or extension thereof, for such beneficial application of water and the date of proof.

(5) For irrigation projects where the canals constructed cover an area of twenty-five thousand (25,000) acres or more, or within irrigation districts organized and existing as such under the laws of the state of Idaho, the license issued shall be issued to the persons, association, company, corporation or irrigation district owning the project, and final proof may be made by such owners for the benefit of the entire project. It shall not be necessary to give a description of the land by legal subdivisions but a general description of the entire area under the canal system shall be sufficient. The water diverted and the water right acquired thereby shall relate to the entire project and the diversion of the water for the beneficial use under the project shall be sufficient proof of beneficial use without regard as to whether each and every acre under the project is irrigated or not.

(6) For an irrigation project developed under a permit held by an association, company, corporation or the United States to divert and deliver or distribute surface water under any annual charge or rental for beneficial use by more than five (5) water users in an area of less than twenty-five thousand (25,000) acres, the license issued shall be issued to the permit holder. For the place of use description in the license issued for the irrigation project, it shall be sufficient to provide a general description of the area within which the total number of acres developed under the permit are located and within which the location of the licensed acreage can be moved provided there is no injury to other water rights.

(7) Subject to other governing law, the location of the acreage irrigated within a generally described place of use, as defined in accordance with subsections (5) and (6) of this section and as filed with the department pursuant to section [43-323](#), Idaho Code, may be changed without approval under the provisions of section [42-222](#), Idaho Code. However, the change shall not result in an increase in either the rate of flow diverted or in the total number of acres irrigated under the water right and shall cause no injury to other water rights. If the holder of any water right seeks to challenge such a change, the challenge may only be brought as an action initiating a contested case before the department, pursuant to the administrative procedure act, [chapter 52, title 67](#), Idaho Code. Nothing in this section shall be construed to grant, deny or otherwise affect an irrigation district's authority to deliver water to areas outside the boundaries of such district.

(8) In the event that the department shall find that the applicant has not fully complied with the law and the conditions of permit, it may issue a license for that portion of the use which is in accordance with the permit, or may refuse issuance of a license and void the permit. Notice of such action shall be forwarded to the permit holder by certified mail. The applicant may contest such action by the department pursuant to section [42-1701A](#)(3), Idaho Code.

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Check Administrative Area Results

Click On Item For More Information

Season Of Use 4/1 - 10/31
Headgate Requirement 3
Consumptive Use 2
Source Water Plumes SALMON CITY OF
Administrative Basin 72
Wild and Scenic Watersheds Salmon R excluding Mid F
Water District 72D - Clayton Area Sub-district
Water District 170 - Upper Salmon River Basin

Watermaster's Recommendation:

- a) X I do not oppose approval of this application.
b) I do not oppose approval of this application if it is conditioned as follows:

c) I oppose approval of this application for the following reasons:

d) Additional Comment:

Dated this 21ST day of May, 2008.

Water District No: 170



Watermaster's Signature

MEMORANDUM

DATE: April 16, 2001

TO: Norm Young

FROM: Shelley W. Keen *SWK*

RE: Cyprus Thompson Creek Mining Co.

On July 25, 2000, Cyprus Thompson Creek Mining Co., through attorney Scott Campbell, submitted a motion to amend Water Right License 72-7414. Cyprus would like IDWR to change the condition limiting the annual diversion volume, when combined with rights 72-7193 and 72-7257, to an annual consumptive volume limit for all three rights combined. The limit is set at 2916 acre-feet per year. IDWR does not put an annual consumptive volume limit on its water right licenses because such a limit would not be valuable for administration of the water right. IDWR, does however, use annual diversion volume limits to facilitate water right administration. Therefore, we agreed to review the annual diversion volume limit to determine if it is consistent with the historic water use by Cyprus at the Thompson Creek mine.

At IDWR's request, Cyprus submitted water diversion data for 1991 through 1998. The authorized development period for Permit 72-7414 ended in January of 1991, but IDWR agreed to review the data anyway because it is the only data available. The reports submitted by Cyprus list a number of distribution points in the Cyprus system. After some discussion with Cyprus, we determined that the water input figures are listed under RIS to Pond, Pit De-Water, and Fresh Water. RIS to Pond is the diversion from Bruno Creek under Water Right 72-7257. Fresh Water is the diversion from the Salmon River under Water Right 72-7193. Pit De-Water is the diversion of ground water under Water Right 72-7414.

With Jeff's help, I summarized the data in my own spreadsheets, which I have attached. The data show that the maximum volume of water diverted under the three water rights combined was 3108 acre-feet in 1995. That is 7% greater than the combined limit of 2916 acre-feet listed as a condition on water right 72-7414. The totals in the remaining years are far below 2916 acre-feet.

As you suggested, I attempted to compare the water diverted to the amount that was consumed in the mining process. My calculations assume that 35% of the concentrated ore is water, as Cyprus suggested. The consumption figure also includes evaporation from the tailings pond and the seepage return pond. Because the size of the tailings pond is a moving target, I did two sets of

Memo Re: Cyprus Thompson Creek Mining Co.
March 14, 2001
Page 2 of 2

calculations. One set assumes the maximum potential size of the tailings pond -- 310 acres. The second set of calculations assumes the tailings pond to be 95 acres, which is still probably in excess of historic proportions.

Under the first set of calculations, the amount of water consumed consistently exceeded the amount of water diverted. The difference is almost certainly due to the 310-acre pond size, which is far larger than has been attained historically. Similarly, the amount of water consumed appears to exceed the annual volume limit of the water rights by as much as 13%. Dave Hollingshead said the tailings pond is unlikely to ever actually reach a size of 310 acres, so I would not rely too heavily on the first set of calculations.

Under the second set of calculations, the volume consumed tends to exceed the volume diverted by a small amount, but the water consumed never exceeds the annual volume limit on the water right. The pond size is probably inflated in this example also.

Finally, I compared the use of water from the two surface water sources, Bruno Creek and the Salmon River, to the total annual diversion volume. In some years the surface water contributes nearly 100% of the total volume used, but it never reaches more than 88% of the total annual volume authorized under the water rights. From this I conclude that an annual volume limit of 2916 acre-feet for the two surface water rights, as licensed and recommended for decree in the SRBA, is adequate. The most ground water ever used was 555 acre-feet in 1995, which is the only year that the three rights combined exceed the 2916 acre-foot limit for the water rights. The total in 1995 was 3108 acre-feet.

Based on this analysis of the data, and assuming that it is representative of operations during the authorized development period for right 72-7414, I conclude that a combined annual volume limit of 2916 acre-feet is appropriate for rights 72-7193 and 72-7257 combined. I also conclude that the combined limit for rights 72-7193, 72-7257, and 72-7414 could be raised to 3108 acre-feet by adjusting the combined limit condition on Water Right License 72-7414.

72-7219
7193
7220
7257

Notes from Telephone
Conference
2/9/01

1991

3 sources
to the
mill

Reclaim - Water coming from the tailings pond to tank
out mill. From Pump Barge. Top of
Diagram just tailings, not GPM.

SRD - Seepage Return Dam. From seepage pond to mill.

Fresh Water = Salmon River to mill

→ All three measured in the mill

Only 1 line out - Tailings + Water. About 35% water.

Main Drain GPM - Through tailings dam down to seepage
return pond.

Rt. Abutment GPM - Part of Main Drain

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Pit Devata -
Measured at mine.

might go to freshwater line - if clean
go to tailings pond if dirty in spring.
Put road in fresh water line to minimize
S. River use. 100% this year. During low period
it will

RIS System = Bruno Creek

May - July around the ponds
Rest of year into tailings pond.

Total input = Bruno Creek + Salmon River + Pit Dewater

1997 RIS = what went into the pond.

Pit Dewater - Not millions of Gallons

Plan

Annual Volume should be:

- + Bruno Creek Water diverted into the pond (RIS)
- + Fresh Water diverted from the Salmon River
- + Pit dewatering
- Total Annual input

Compare the value computed above to:

Output Volume 35% of tailings + water
+ evaporation from the ponds at their
maximum size

by weight
35% = water
and evap

PHOTOCOPIED
SEP 25 2001

PIT DEWATER 1999 GALLONS PER MONTH

JAN	42,600
FEB	42,300
MAR	46,200
APR	19,900
MAY	360,600
JUNE	17,668,500
JULY	9,716,600
AUG	15,798,700
SEPT	15,823,600
OCT	16,699,600
NOV	25,058,400
DEC	15,107,700
<u>TOTAL</u>	<u>116,384,700</u>

THIS DOES NOT TAKE INTO ACCOUNT:

- > TIMES WHEN THE MILL IS SHUT DOWN
- > TIMES WHEN THE TOTALIZER IS NOT WORKING

COMPILED 2-24-00 JCL

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TOTAL P.03

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SEP 15 1988

Department of Water Resources
Southern Region Office

IDAHO DEPARTMENT OF FISH AND GAME
REGION 6
1515 Lincoln Road
Idaho Falls • Idaho • 83401

September 14, 1988

Mr. Loren O. Holmes, P.E.
Southern Region Manager
Department of Water Resources
2148 4th Avenue East
Twin Falls, Idaho 83301

RE: Application No. 72-07414
Cyprus Mining Company

Dear Loren:

Department of Fish and Game personnel have reviewed the above referenced application and have no objection to the issuance of a permit to Cyprus Mining Company, as described, for the use of ground water seepage for milling molybdenum ore.

Thank you for the opportunity to comment on this application.

Sincerely,



Herbert A. Pollard, II
Regional Supervisor
Region 6

HAP:JRL:dk

cc: U.S. Fish & Wildlife Service
Bureau of Program Coordination
Bureau of Fisheries
James R. Lukens

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SEP 25 1989

Molybdenum

Molybdenum Properties

Molybdenum Mining & Processing

Mining

Processing

Molybdenum Products

Molybdenum Market Information

Molybdenum History

Mining

Molybdenum is contained in various minerals, but only molybdenite (MoS_2) is suitable for the industrial production of marketable molybdenum products. Molybdenite can occur as the sole mineralization in an ore body, but is often associated with the sulphide minerals of other metals, notably copper. The Mo content of viable ore bodies ranges between 0.01 and 0.25%,

Depending upon the minerals contained in the ore body and their quality, molybdenum mines are grouped in three classes:

- Primary mines, where the recovery of molybdenite is the sole objective;

- By-product mines, where the recovery of copper-bearing ores is the primary objective, and molybdenite recovery provides additional economic value; and

- Co-product mines, where the commercial viability of the mine requires that both molybdenite and copper-bearing minerals be recovered.

If the ore lies close to the surface, open cast pit technology is employed. Here the overburden is excavated to reveal the ore body for easy extraction. If the ore lies deep underground, the underground block caving technique is employed. Here large blocks of ore are undercut and allowed to collapse under their own weight. The resulting rock is removed to the surface for processing.



Molybdenum ore; dark gray areas are MoS_2 , while light areas are worthless rock called gangue





**Thompson Creek open pit molybdenum
mine (Courtesy of Thompson Creek
Metals Company, Idaho, USA)**

Molybdenum

Molybdenum Properties

Molybdenum Mining & Processing

Mining

Processing

Molybdenum Products

Molybdenum Market Information

Molybdenum History

Sustainable Design Workshop



Workshop for architects:

Sustainable Design in Stainless Steel
November 9, 2010
New York, NY

» [Workshop flyer](#)
» [Register online](#)

NEW PUBLICATIONS



Practical Guidelines for the Fabrication of High Performance Austenitic Stainless Steels

» [English PDF \(3.4 MB\)](#)



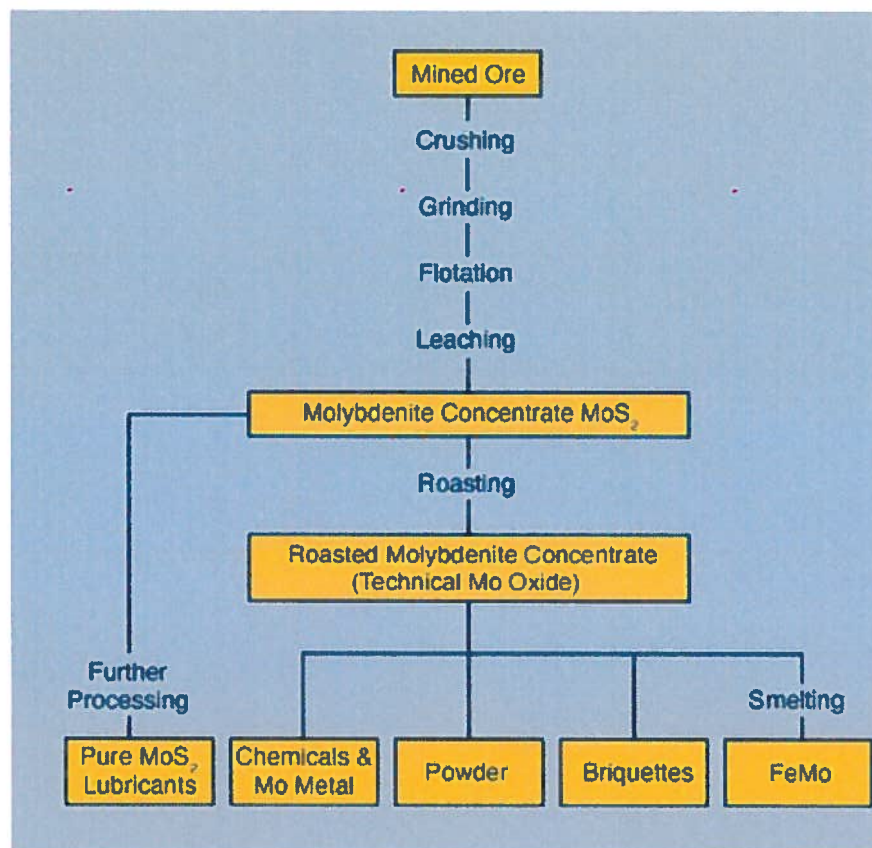
2010 International Seminar on Applications of Mo in Steels

Download Proceedings

» [English PDF \(5.1 MB\)](#)

» [Chinese PDF \(5.0 MB\)](#)

Processing



Molybdenum processing flowsheet

Milling

Ball or rod mills crush and grind the mined ore to fine particles that may be only microns (10^{-3} mm) in diameter, releasing molybdenite from the gangue (worthless rock).

The grinding mills on the right reduce rocks the size of soccer balls to the size of gravel. Further ball milling reduces the material to the consistency of face powder, .



(Photo courtesy of Kennecott Utah Copper Corporation, USA)

Flotation

The milled ore/gangue powder is mixed with a liquid and aerated in the

flotation step. The less dense ore rises in the froth to be collected, while the gangue sinks to be discarded. Flotation separates the metallic minerals from the gangue this way and – in the case of copper/ molybdenum ores – separates molybdenite from copper sulphide.

The resulting MoS_2 concentrate contains between 85% and 92% MoS_2 . Further treatment by acid leaching can be used to dissolve impurities like copper and lead if necessary.



Close-up of flotation cell



Production of molybdenum concentrate



Overview of banks of flotation cells
(Photos courtesy of Kennecott Utah
Copper Corporation, USA)

Roasting

Roasting in air at temperatures between 500 and 650 °C converts MoS_2 concentrate into roasted molybdenite (MoO_3) concentrate (also known as technical mo oxide, or tech oxide) by the chemical reactions:



Roasters are multi-level hearth furnaces, in which molybdenite concentrates move from top to bottom against a current of heated air and gases blown from the bottom. The image on the right shows one of the levels in a typical roaster. Large rotary rakes move the molybdenite concentrate to promote the chemical reaction.

Desulfurisation systems such as sulfuric acid plants or lime scrubbers remove sulfur dioxide from the effluent roaster gases.

The resulting roasted molybdenite concentrate typically contains a minimum of 57% molybdenum, and less than 0.1% sulfur.



Interior of a roasting furnace
(Courtesy of Molymet, Chile)

Rhenium recovery

Some of the by-product molybdenite concentrates from copper mines contain small quantities (<0.10%) of rhenium. Molybdenum roasters equipped to recover rhenium are one of the principal commercial sources for this rare metal.

Smelting Ferromolybdenum

Between thirty and forty percent of tech oxide production is processed into ferromolybdenum (FeMo). The oxide is mixed with iron oxide and reduced by aluminium in a thermite reaction, producing a ferromolybdenum ingot weighing several hundred kilograms. The product contains between 60 and 75% molybdenum, balance

essentially iron. After air cooling, the ingot is crushed and screened to meet specified ferromolybdenum particle size ranges.



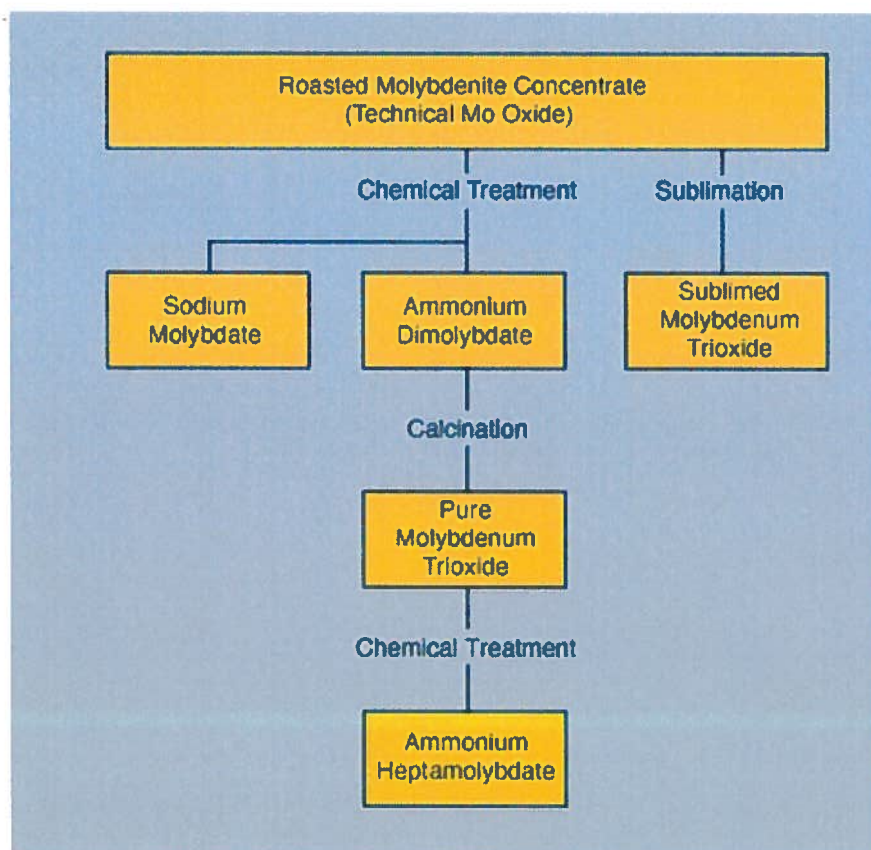
Ferromolybdenum smelting
(Courtesy of Treibacher, Austria)

Upgrading from Tech Oxide

About 25% of the roasted molybdenite concentrate produced worldwide is

processed into a number of chemical products. Upgrading is performed
by sublimation to produce pure molybdic oxide (MoO_3)
by wet chemical processes to produce a wide range of pure molybdenum
chemicals (mainly molybdic oxides and molybdates).

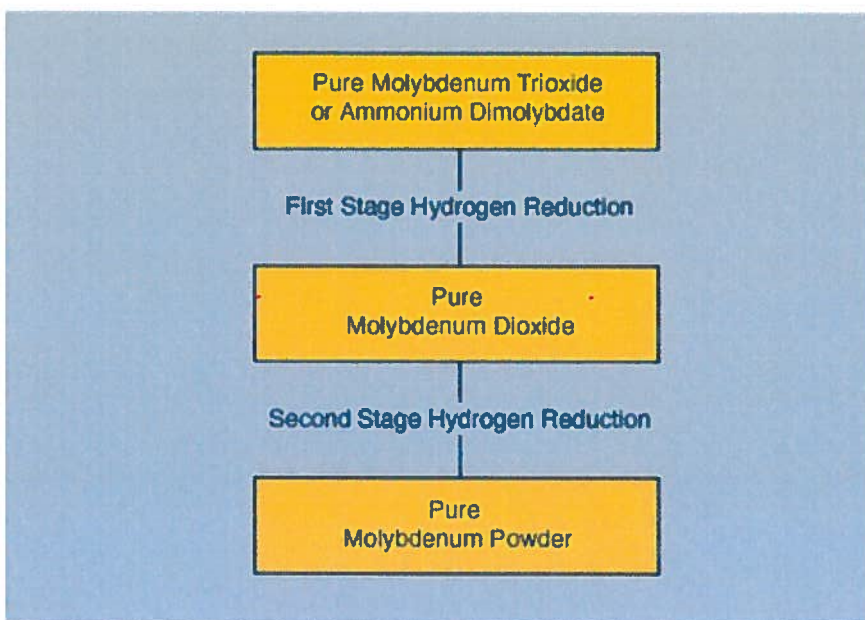
The latter involves dissolution of the roasted concentrate in an alkaline medium (ammonium or sodium hydroxide), followed by removal of impurities by precipitation and filtration and/or solvent extraction. The resulting ammonium molybdate solution is then converted to any one of a number of molybdate products by crystallisation or acid precipitation. These can be further processed by calcination to pure molybdenum trioxide.



Overview of processes to upgrade Molybdenite Concentrate

Molybdenum Metal Production

Molybdenum metal is produced by hydrogen reduction of pure molybdic oxide or ammonium molybdate.



Molybdenum metal powder production

The chemical reduction of pure molybdenum trioxide or ammonium dimolybdate to metal requires two stages because conversion directly to metal releases heat that inhibits the process. The first stage reduction to MoO_2 is performed in the 450-650 °C range. Molybdenum dioxide is then reduced to molybdenum metal in second stage reduction, using temperatures in the 1,000-1,100 °C range. Historically, both stages were accomplished by pushing boats loaded with powder through tube furnaces containing a flowing hydrogen atmosphere. Rotary furnaces, where powder is fed continuously through a rotating inclined tube in a flowing hydrogen atmosphere, are becoming common in first stage reduction operations, where they provide increased production efficiencies.

RECEIVED

MAY 25 1989

RECEIVED

MAY 31 1989

Department of Water Resources
Southern Region Office

In the matter of protest)
against application for) Department of Water Resources
Permit No. 72-7414) Agreement for withdrawal of protest
filed in the name of Cyprus)
Thompson Creek Mining Co.)

This agreement, between the U.S. Forest Service and Cyprus Thompson Creek Mining Company, is entered into for the purposes of: 1) Identifying in-stream flow changes associated with inter-basin transfer of water from the Cyprus pit in the Thompson Creek drainage to the Mill/tailing areas in the Squaw Creek drainage and, 2) Providing augmentation to Thompson Creek when flows drop below the historic low flow level.

The U.S. Forest Service agrees to:

- 1) Provide stage/discharge relationships for Thompson Creek at the USGS station annually.
- 2) Monitor winter stream flow by receiving USGS data on a monthly basis, if agreeable with USGS.

Cyprus Thompson Creek Mining Company agrees to:

- 1) Read stage gauge at the USGS Thompson Creek station weekly, beginning on August 1, until ice renders stage guage unreliable.
- 2) Read stage gauge at the USGS Thompson Creek station daily when stream flow is 2.5 cubic feet per second (CFS) or less. The U.S. Forest Service will be notified when this flow is reached.
- 3) Augment in-stream flow when Thompson Creek flow at the USGS station is 2.1 CFS or less.

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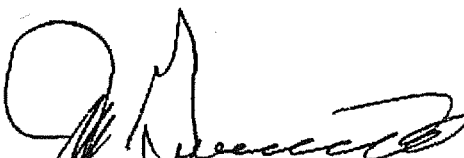
SEP 25 1989

72-7414

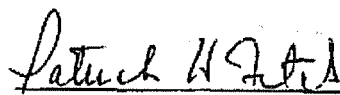
It is mutually agreed that:

- 1) Augmentation will begin within two days of a recorded reading of 2.1 CFS or less and will continue for a period of two addition days once the in-stream flow at the USGS Thompson Creek station exceeds 2.1 CFS.
- 2) Augmentation will be at a rate in gallons per minute (GPM) of the previous month average for water diverted from the pit to the Squaw Creek drainage. (448.8 GPM equals one CFS)
- 3) Water used in augmentation will meet applicable water quality standards.
- 4) Point of augmentation may be anywhere between and including the Buckskin and Cherry Creek drainages.
- 5) Augmentation will be done in a manner which will not create an environmental problem.
- 6) In the event augmentation is indicated, but water had not been diverted for at least the last month, both parties will meet and decide on the course of action.
- 7) In the event augmentation is indicated, but either party feels there may be unusual circumstances, both parties will meet and decide on the course of action.

In witness whereof, the parties hereto, through their duly authorized officials, have executed this agreement on the respective dates indicated below:

 4/26/89

Jack Griswold Date
Forest Supervisor
Challis National Forest

 4/24/89

Pat H. Fitch Date
General Manager
Cyprus Thompson Creek

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SEP 25 1989



IDAHO SECRETARY OF STATE Search Results

Ben Ysursa, Secretary of State

Search Result Summary

[[New Search](#)]

Search Results 1 through 2

(CYPRUS THOMPSON CREEK MINING COMPANY ... THOMPSON CREEK MINING COMPANY)

CYPRUS THOMPSON CREEK MINING COMPANY [[View Details](#)]

Organizational ID / Filing number: C42614
26 W DRY CREEK CIRCLE
SUITE 810
LITTLETON, CO 80120

Filed 27 Jul 1970
CORPORATION
GOODSTANDING

THOMPSON CREEK MINING COMPANY [[View Details](#)]

Organizational ID / Filing number: D123362
945 W KENYON AVE UNIT B
ENGLEWOOD, CO 80110

Filed 17 Jul 2008
ASSUMED BUSINESS NAME
CURRENT

[Idaho Secretary of State's Main Page](#)

[State of Idaho Home Page](#)

Comments, questions or suggestions can be emailed to: sosinfo@sos.idaho.gov

Kevin Loughrey
Senior Vice President
and General Counsel

By Facsimile and E-mail

June 11, 1999

Angela D. Schaer
Elam & Burke
Key Financial Center, 702 West Idaho
Boise, ID 83701

**Re: Thompson Creek Mining Co. Water Rights
Applications for Transfer and for Permit**

Dear Ms. Schaer:

In response to your letter of June 11, 1999, listed below are the names and addresses of the corporate officers for Thompson Creek Mining Co.

<u>Office</u>	<u>Name and Mailing Address</u>
President	Richard J. Fiorini 945 West Kenyon Avenue Englewood, CO 80110
Senior Vice President, General Counsel, and Secretary	Kevin Loughrey 945 West Kenyon Avenue Englewood, CO 80110
Vice President	Kent Watson P. O. Box 62, 35 miles SW of Challis Clayton, ID 83227
Vice President, Treasurer, and Assistant Secretary	Vicki P. Byrne 945 West Kenyon Avenue Englewood, CO 80110
Vice President	Richard S. DeCesare 945 West Kenyon Avenue Englewood, CO 80110

Sincerely,

Kevin Loughrey

KL:je

MICROFILMED
JUN 23 1999

72-07573
ATTACHMENT D

MEMORANDUM

DATE: February 1, 2011

TO: Water Right File 72-7573

FROM: Shelley W. Keen 

RE: Annual Diversion Volume

IDWR places an annual diversion volume on all water right licenses except those for municipal use and those for fire protection. Establishing an annual diversion volume limit for the industrial use authorized by Right 72-7573 is proving difficult. The right authorizes the diversion of ground water from a mine pit. Surface runoff, snowmelt, and direct precipitation also collect in the mine pit and are pumped out with the ground water. Some of the water from the combined sources is directed to storage tanks and on to the milling operation. If the mine pit contains more water than is needed for milling, the excess water is directed to the tailings pond. If needed, water is sometimes routed from the tailings pond to the milling operation. Because the amount of surface runoff, snowmelt, and direct precipitation varies from year to year, the amount of water pumped from the mine pit can be highly variable. The water right holder is concerned that the annual diversion volume on the license will be less than the volume accumulating in the mine pit in wet years and that the water right limit will prohibit the right holder from dewatering the mine pit.

There are three keys to evaluating this situation.

- The water right is for ground water. It does not authorize the diversion of surface runoff, snowmelt, or direct precipitation.
- Surface runoff, snowmelt, and precipitation collecting in the mine pit are not public resources because they have not entered a natural watercourse. They are still private resources. Therefore, a water right is not needed for collection and use of them. This is akin to collecting rainwater in a barrel.¹ A water right is also not required to dispose of surface runoff, snowmelt, and precipitation.
- Establishing a water right requires beneficial use of the water. Water pumped from the mine pit to the milling process is beneficially used. Water pumped from the mine pit solely for dewatering purposes is not beneficially used.

Based on these three keys, the license should be issued for the amount of ground water that is diverted to the milling process. Current water rights authorize 3108 AF to be diverted for milling

¹ Deputy A.G. Phil Rassier concluded in his August 11, 2008, letter to Senator Gary Schroeder, stated, "Generally, a person in Idaho has the right to collect diffused surface waters, which include rainwater, on his or her property so long as it does not cause injury to the existing water rights of others."

Memo to Water Right File 72-7573
February 1, 2011
Page 2

purposes. Bert Doughty of Thompson Creek Mining Co. told Sandy Hemenway on 1/10/2011 that the company continues to mine and mill about the same amount of ore as it did when the 3108 AF limit was established. Therefore, the beneficial use is the same, and the overall diversion volume should be the same – a combined total of 3108 AF. The only difference is that with the addition of Right 72-7573, a greater portion of the 3108 AF can be ground water diverted from the mine pit.

In 2009 Thompson Creek pumped 487.4 AF of water from the mine pit. Previously, Right 72-7414 authorized the diversion of 192 AF from the mine pit. Right 72-7573 should authorize the difference between 487.4 AF and the 192 AF already authorized, or 295.4 AF, minus the amount attributable to runoff, snowmelt, and direct precipitation, which will have to be estimated separately.

Subtracting the volume attributable to runoff, snowmelt, and direct precipitation, should not be neglected. Otherwise, the volume of ground water diverted and used by the right holder would appear inflated, and the right holder could make delivery calls for the inflated volume against junior ground water users in future conjunctive management scenarios. If we cannot effectively estimate the portion of 2009 mine pit water attributable to runoff, snowmelt, and direct precipitation, then I recommend that License 72-7573 have a condition requiring Thompson Creek Mining Co. to rely on its other sources of industrial water, to the extent they are available, before making a call for ground water against junior appropriators.

Thompson Creek Mining Co. can pump surface runoff, snowmelt, and direct precipitation from the mine without a water right.

MEMORANDUM

Date: January 10, 2011
To: Water Right File 72-7573
From: shemenway
Re: Phone Conversation with Mine Contact Person

On 1/10/2011 Bert Doughty, Supervisor Environmental Offices contact at the mine (208) 838-2200, stated that the only flow meter on the system is located at the pit. He stated that they have dug deeper in the pit during the mining process, which has increased the amount of ground water seepage into the pit. He stated that the pumps run at capacity 3/4 of the year, and that they are not using as much surface water from their Salmon River source (72-7193) due to the amount of seepage in the pit that they continue to pump out. They did not add any additional Beneficial Use, since they are continuing to mine the same amount, and mill the same amount. He stated that the same amount of water is being pumped to the Mill for processing, but instead of surface water (which is their primary source) they are using the pit seepage groundwater to dewater the pit. The water from the tailing ponds to the storage tank can be metered with an hourly meter, but no permanent flow meter has been installed to date.