

**BEFORE THE DEPARTMENT OF  
NATURAL RESOURCES AND CONSERVATION  
OF THE STATE OF MONTANA**

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<b>APPLICATION FOR BENEFICIAL WATER USE PERMIT NO. 41J 30116562 BY TINTINA MONTANA, INC.</b>	}	<b>PRELIMINARY DETERMINATION TO GRANT PERMIT</b>
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On September 7, 2018, Tintina Montana, Inc. (Applicant) submitted Groundwater Application for Beneficial Water Use Permit No. 41J 30116562 to the Lewistown Water Resources Regional Office of the Department of Natural Resources and Conservation (Department or DNRC) to appropriate 1.11 cubic feet per second and 350 acre-feet for industrial purposes. Applicant also submitted the following applications for purposes of mitigating potential adverse effects resulting from this proposed Permit: Application for Beneficial Water Use Permit No. 41J 30116563; and Application to Change Existing Irrigation Water Right Nos. 41J 30116553, 41J 30116554, 41J 30116556, 41J 30116557, 41J 30116558, and 41J 30116559. The Department published receipt of the Application on its website. The Department sent Applicant a deficiency letter under § 85-2-302, Montana Code Annotated (MCA), dated March 5, 2019. The Applicant responded with information dated April 19, 2019. The Application was determined to be correct and complete as of January 29, 2020. An Environmental Assessment for this Application was completed and posted on March 13, 2020. In addition, an Environmental Impact Statement for Tintina Montana’s Black Butte Copper Project was issued by the Montana Department of Environmental Quality on March 13, 2020.

**INFORMATION**

The Department considered the following information submitted by the Applicant, which is contained in the administrative record.

Application as filed:

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- Application for Beneficial Water Use Permit, Form 600 and narrative/attachments
  - Maps and schematics of the proposed project, point of diversion, place of use, place of storage, water balance, mitigated stream reaches, etc.
  - Addendums: Basin Closure (Groundwater); Aquifer Testing; Reservoir/Place of Storage
  - Hydrogeologic Assessment Report (“Groundwater Modeling Assessment for the Black Butte Copper Project, Meagher County, MT (Hydrometrics, Inc., 2016”)
  - Report - “Baseline Water Resources Monitoring and Hydrogeologic Investigations Report, Tintina Resources, Black Butte Project,” Hydrometrics, Inc.
  - Applicant’s Mitigation Plan

Information Received after Application Filed

- Applicant’s deficiency response dated April 19, 2019.
- Letter dated October 17, 2019 regarding modifications to Applicant’s mitigation plan
- Applicants’ February 18, 2020 letter to the Department providing minor comments and clarifications to the Department’s technical report for the proposed application
- Department Memorandum – Clarification of Tietz 2/14/2020 Marketing Letter, dated February 20, 2020
- Multiple email communications with Applicant’s consultant and/or attorney

Information within the Department’s Possession/Knowledge

- Department Technical Report
- Water right records, including but not limited to, application files and existing water rights associated with the Applicant’s mitigation plan: 41J 30116563 (permit application); and 41J 30116553, 41J 30116554, 41J 30116556, 41J 30116557, 41J 30116558, and 41J 30116559 (water right change application files)
- U.S. Geological Survey stream gaging records
- Department Environmental Assessment, March 13, 2020

- Black Butte Copper Project Final Environmental Impact Statement, Montana Department of Environmental Quality (DEQ) Environmental Impact Statement, March 13, 2020.
- Department Aquifer Test Report and Stream Depletion Report, Attila Fohnagy, Department Groundwater Hydrologist
- Department Mitigation and Return Flow Summary Report, Attila Fohnagy, January 28, 2020
- Written Consent to Approval of Applications for Beneficial Water Use Permit Nos. 41J 30116562 and 41J 30116563, by Barbara Jean Russell, Managing Member, Thorson Ranch, LLC
- Department Memo dated January 16, 2020 regarding discharge permit and compliance with 85-2-364, MCA
- Memo dated January 28, 2020 from Attila Fohnagy, summarizing Applicant's Mitigation and Return Flow plans.

The Department also routinely considers the following information. The following information is not included in the administrative file for this Application but is available upon request. Please contact the Lewistown Regional Office at (406)-538-7459 to request copies of the following documents.

- Technical Memo: Pond and Wetland Evaporation/Evapotranspiration

The Department has fully reviewed and considered the evidence and argument submitted in this Application and preliminarily determines the following pursuant to the Montana Water Use Act (Title 85, chapter 2, part 3, MCA).

### **CONCURRENT PROCEEDINGS**

#### **FINDINGS OF FACT**

1. The proposed permit application is part of a bundle of eight water right applications related to the Black Butte Copper Project in Meagher County. The Project is a proposed underground copper mine generally located about 15 miles north of White Sulphur Springs in the Sheep Creek drainage, in Sections 19, 29, 30, 31 and 32, T12N R7E, and Sections 24, 25 and 36 in T12N, R6E. The Preliminary Determinations for all eight applications (two permit

applications and six applications to change irrigation water rights) must be read in conjunction with one another to understand the full scope of the proposal. The Preliminary Determinations and associated application numbers are 41J 30116563, 41J 30116562, 41J 30116553, 41J 30116554, 41J 30116556, 41J 30116557, 41J 30116558, and 41J 30116559.

### **PROPOSED APPROPRIATION**

2. The proposed source is groundwater and the source aquifer is the Newland Formation of the Belt Supergroup. The Applicant proposes to appropriate groundwater for Industrial purposes from the mine workings developed for the Black Butte Copper Project (underground copper mine), during the period January 1 through December 31, at a flow rate of 1.11 cubic feet per second (CFS) and annual volume of up to 350 acre-feet (AF).<sup>1</sup> The proposed point of diversion is the mine portal in the NENESE Section 25, T12N, R6E, and the place of use is in Sections 29, 30, and 31, T12N R7E; and Sections 25 and 36 in T12N, R6E, Meagher County. A storage reservoir (162.0 acre-feet in operating capacity), referred to as the Process Water Pond (or PWP), is also proposed for storing groundwater appropriations and managing water use within the mine site. The Industrial purpose generally includes water use in the underground mining operation, and around the mine site in the mill, tailings paste plant, and miscellaneous uses such as dust suppression, ice abatement, and in equipment wash bays. During pre-mill operations, groundwater removed from the mine works will be conveyed from the portal to the PWP and then distributed for beneficial use. During the operational phase water will primarily be removed from the mine and conveyed to a water treatment plant, and then distributed for beneficial use or injected into the ground via an underground infiltration gallery. When additional water is needed to fill the PWP it will be piped to that impoundment facility during the operational phase as well.

Application.

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<sup>1</sup> The amount of water proposed in this application represents only that amount anticipated to be beneficially used for industrial purposes. An additional withdrawal is expected to occur for dewatering of the mine, and that portion will be injected into underground infiltration galleries, eventually returning to surface water. The Montana Department of Environmental Quality regulates the non-beneficial portion of Tintina's groundwater withdrawal.

3. There are multiple surface water sources situated near the mine site and near the point where groundwater will be extracted. The Applicant projects that Black Butte Creek, Coon Creek, and Sheep Creek will experience surface water depletions or effects due to the hydraulic connection between those sources and groundwater.<sup>2</sup> The seven other applications noted in Finding of Fact No. 1 serve as mitigation proposals to offset depletions to surface water caused by this proposed groundwater appropriation. Application; Department Technical Report.

4. The volume of water projected to be consumed under the proposed industrial use is 340.3 AF, with the remaining 9.7 AF to be treated and returned to the aquifer. The consumed volume of 340.3 AF will be offset or mitigated in full by the proposed mitigation water rights. Application; Department Technical Report.

5. The Applicant plans on measuring its groundwater diversions from the mine and will mitigate all consumptive depletions to area surface water sources caused by the appropriation. Application. The Department has imposed measuring conditions in this Preliminary Determination so that the Applicant can track appropriations, implement its mitigation plan, and for the protection of existing water rights. The conditions are incorporated below in the Conditions section.

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<sup>2</sup> Coon Creek is a colloquial name for an unnamed tributary of Sheep Creek. It is located mostly in Sec 25, T12N, R6E, Meagher County, below the confluence of Little Sheep Creek with Sheep Creek.

A schematic of the mine site and general area of industrial use follows.



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## BASIN CLOSURE

6. This application is for Industrial purposes and the source is groundwater. The project is located in the Sheep Creek drainage of Basin 41J (Smith River Basin), which is within the Upper Missouri River Basin Closure Area. Application.

7. The application was submitted with an accompanying hydrogeologic report and mitigation plan, which includes purchasing water from six existing irrigation water rights proposed to be changed and marketed to the project, and a proposed permit to appropriate water from Sheep Creek during high spring flows. Applicant plans to mitigate adverse effects by offsetting depletions to surface water sources caused by its groundwater appropriation. Application file.

### CONCLUSIONS OF LAW

8. Except in limited circumstances, DNRC cannot grant an application for a permit to appropriate water within the upper Missouri River basin until final decrees have been issued in accordance with Title 85, chapter 2, part 2, MCA, for all of the sub-basins of the upper Missouri River basin. § 85-2-343(1), MCA. The upper Missouri River basin consists of the drainage area of the Missouri River and its tributaries above Morony Dam. § 85-2-342(3), MCA. The proposed appropriation is located within the Upper Missouri River Basin Closure Area.

9. The application is for groundwater purposes and includes an accompanying hydrogeologic assessment and mitigation plan. The application complies with the provisions of § 85-2-360, MCA. The application falls under the exceptions for the basin closure. § 85-2-343(2)(a), MCA.

10. In reviewing an application for groundwater in a closed basin, the District Court in Sitz Ranch v. DNRC observed:

The basin from which applicants wish to pump water is closed to further appropriations by the legislature. The tasks before an applicant to become eligible for an exception are daunting. The legislature set out the criteria discussed above (§85-2-311, MCA) and placed the burden of proof squarely on the applicant. The Supreme Court has instructed that those burdens are exacting. It is inescapable that an applicant to appropriate water in a closed basin must withstand strict scrutiny of each of the legislatively required factors.

Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7.

A basin closure exception does not relieve the Department of analyzing § 85-2-311, MCA criteria. Qualification under a basin closure exception allows the Department to accept an application for processing. The Applicant must still prove the requisite criteria. *E.g., In the Matter of Application for Beneficial Water Use Permit No. 41K-30043385 by Marc E. Lee* (DNRC Final Order 2011); *In the Matter of Application for Beneficial Water Use Permit No. 41K-30045713 by Nicholas D. Konen*, (DNRC Final Order 2011).

### **§ 85-2-311, MCA, BENEFICIAL WATER USE PERMIT CRITERIA**

#### **GENERAL CONCLUSIONS OF LAW**

11. The Montana Constitution expressly recognizes in relevant part that:

- (1) All existing rights to the use of any waters for any useful or beneficial purpose are hereby recognized and confirmed.
- (2) The use of all water that is now or may hereafter be appropriated for sale, rent, distribution, or other beneficial use . . . shall be held to be a public use.
- (3) All surface, underground, flood, and atmospheric waters within the boundaries of the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided by law.

Mont. Const. Art. IX, §3. While the Montana Constitution recognizes the need to protect senior appropriators, it also recognizes a policy to promote the development and use of the waters of the state by the public. This policy is further expressly recognized in the water policy adopted by the Legislature codified at § 85-2-101, MCA, which states in relevant part:

- (1) Pursuant to Article IX of the Montana constitution, the legislature declares that any use of water is a public use and that the waters within the state are the property of the state for the use of its people and are subject to appropriation for beneficial uses as provided in this chapter. . . .
- (3) It is the policy of this state and a purpose of this chapter to encourage the wise use of the state's water resources by making them available for appropriation consistent with this chapter and to provide for the wise utilization, development, and conservation of the waters of the state for the maximum benefit of its people with the least possible degradation of the natural aquatic ecosystems. In pursuit of this policy, the state encourages the development



of facilities that store and conserve waters for beneficial use, for the maximization of the use of those waters in Montana . . .

12. Pursuant to § 85-2-302(1), MCA, except as provided in §§ 85-2-306 and 85-2-369, MCA, a person may not appropriate water or commence construction of diversion, impoundment, withdrawal, or related distribution works except by applying for and receiving a permit from the Department. See § 85-2-102(1), MCA. An applicant in a beneficial water use permit proceeding must affirmatively prove all of the applicable criteria in § 85-2-311, MCA. Section § 85-2-311(1) states in relevant part:

... the department shall issue a permit if the applicant proves by a preponderance of evidence that the following criteria are met:

(a) (i) there is water physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate; and

(ii) water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:

(A) identification of physical water availability;

(B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and

(C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

(b) the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. In this subsection (1)(b), adverse effect must be determined based on a consideration of an applicant's plan for the exercise of the permit that demonstrates that the applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied;

(c) the proposed means of diversion, construction, and operation of the appropriation works are adequate;

(d) the proposed use of water is a beneficial use;

(e) the applicant has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit;

(f) the water quality of a prior appropriator will not be adversely affected;

(g) the proposed use will be substantially in accordance with the classification of water

set for the source of supply pursuant to 75-5-301(1); and

(h) the ability of a discharge permit holder to satisfy effluent limitations of a permit issued in accordance with Title 75, chapter 5, part 4, will not be adversely affected.

(2) The applicant is required to prove that the criteria in subsections (1)(f) through (1)(h) have been met only if a valid objection is filed. A valid objection must contain substantial credible information establishing to the satisfaction of the department that the criteria in subsection (1)(f), (1)(g), or (1)(h), as applicable, may not be met. For the criteria set forth in subsection (1)(g), only the department of environmental quality or a local water quality district established under Title 7, chapter 13, part 45, may file a valid objection.

To meet the preponderance of evidence standard, “the applicant, in addition to other evidence demonstrating that the criteria of subsection (1) have been met, shall submit hydrologic or other evidence, including but not limited to water supply data, field reports, and other information developed by the applicant, the department, the U.S. geological survey, or the U.S. natural resources conservation service and other specific field studies.” § 85-2-311(5), MCA (emphasis added). The determination of whether an application has satisfied the § 85-2-311, MCA criteria is committed to the discretion of the Department. Bostwick Properties, Inc. v. Montana Dept. of Natural Resources and Conservation, 2009 MT 181, ¶ 21. The Department is required grant a permit only if the § 85-2-311, MCA, criteria are proven by the applicant by a preponderance of the evidence. Id. A preponderance of evidence is “more probably than not.” Hohenlohe v. DNRC, 2010 MT 203, ¶¶ 33, 35.

13. Pursuant to § 85-2-311(8), MCA, for an application for ground water in a basin closed to new appropriations pursuant to § 85-2-343, the applicant shall also comply with the provisions of § 85-2-360, MCA.

14. Pursuant to § 85-2-312, MCA, the Department may condition permits as it deems necessary to meet the statutory criteria:

(1) (a) The department may issue a permit for less than the amount of water requested, but may not issue a permit for more water than is requested or than can be beneficially used without waste for the purpose stated in the application. The department may require modification of plans and specifications for the appropriation or related diversion or construction. The department may issue a permit subject to terms, conditions, restrictions, and limitations it considers necessary to satisfy the criteria listed in 85-2-311 and subject to subsection (1)(b), and it may issue temporary or seasonal permits. A permit must be issued

subject to existing rights and any final determination of those rights made under this chapter.

E.g., Montana Power Co. v. Carey (1984), 211 Mont. 91, 96, 685 P.2d 336, 339 (requirement to grant applications as applied for, would result in, “uncontrolled development of a valuable natural resource” which “contradicts the spirit and purpose underlying the Water Use Act.”); see also, *In the Matter of Application for Beneficial Water Use Permit No. 65779-76M by Barbara L. Sowers* (DNRC Final Order 1988)(conditions in stipulations may be included if it further compliance with statutory criteria); *In the Matter of Application for Beneficial Water Use Permit No. 42M-80600 and Application for Change of Appropriation Water Right No. 42M-036242 by Donald H. Wyrick* (DNRC Final Order 1994); ARM 36.12.207.

15. The Montana Supreme Court further recognized in Matter of Beneficial Water Use Permit Numbers 66459-76L, Ciotti: 64988-G76L, Starner (1996), 278 Mont. 50, 60-61, 923 P.2d 1073, 1079, 1080, *superseded by legislation on another issue*:

Nothing in that section [85-2-313], however, relieves an applicant of his burden to meet the statutory requirements of § 85-2-311, MCA, before DNRC may issue that provisional permit. Instead of resolving doubts in favor of appropriation, the Montana Water Use Act requires an applicant to make explicit statutory showings that there are unappropriated waters in the source of supply, that the water rights of a prior appropriator will not be adversely affected, and that the proposed use will not unreasonably interfere with a planned use for which water has been reserved.

See also, Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court,

*Memorandum and Order* (2011). The Supreme Court likewise explained that:

.... unambiguous language of the legislature promotes the understanding that the Water Use Act was designed to protect senior water rights holders from encroachment by junior appropriators adversely affecting those senior rights.

Montana Power Co., 211 Mont. at 97-98, 685 P.2d at 340; see also Mont. Const. art. IX §3(1).

16. An appropriation, diversion, impoundment, use, restraint, or attempted appropriation, diversion, impoundment, use, or restraint contrary to the provisions of § 85-2-311, MCA, is

invalid. An officer, agent, agency, or employee of the state may not knowingly permit, aid, or assist in any manner an unauthorized appropriation, diversion, impoundment, use, or other restraint. A person or corporation may not, directly or indirectly, personally or through an agent, officer, or employee, attempt to appropriate, divert, impound, use, or otherwise restrain or control waters within the boundaries of this state except in accordance with this § 85-2-311, MCA. § 85-2-311(6), MCA.

### **Physical Availability**

#### **FINDINGS OF FACT**

17. The source is groundwater to be diverted from the mine workings of the Black Butte Copper Project (Project or Mine), through the mine portal. The Project is generally on the southwest side of the Little Belt Mountain Range, in the Sheep Creek drainage. The mine workings are projected to range between depths of 460 to 1,640 feet below ground surface, and groundwater is anticipated to infiltrate into the mine anywhere within its depths. The proposed industrial appropriation consists of a flow rate of 1.11 CFS and volume of 350 AF, annually. The period of appropriation is January 1 through December 31. Application File.

18. Because of the atypical nature of the physical setting (developed mine) and because conducting a standard aquifer test on a mine decline of its size is not feasible, an aquifer testing variance for the procedures outlined in ARM 36.12.121 was granted to the Applicant on July 27, 2017. In lieu of standard testing and reporting, the Applicant's consultant presented information in its Hydrogeologic Assessment Report and groundwater modeling in a document titled "*Groundwater Modeling Assessment for the Black Butte Copper Project, Meagher County, MT (Hydrometrics, Inc., 2016)*." The technical reports and other information in the application materials comply with the minimum requirements outlined in § 85-2-361, MCA. Department Groundwater Hydrologist, Attila Felnagy, analyzed Applicant's information and modeling and documented his assessment in an Aquifer Test Report dated September 30, 2019. Department Aquifer Test Report.

19. The proposed source aquifer(s) is a confined or leaky-confined aquifer(s) in the Proterozoic Newland Formation of the Belt Supergroup. The aquifer is primarily recharged from stream losses, snowmelt and precipitation infiltration in areas where bedrock is exposed, and leakage from overlying or adjacent deposits. The lower Newland Formation is greater than 2,500 feet thick in the area and consists mainly of gray dolomitic and non-dolomitic shales that dip gently to the south/southwest. There is a large degree of structural deformation in the area and it's likely there is hydraulic connection between the source aquifer in the Newland Formation and other aquifers, due to large fracture permeability such as along fault lines. This structural setting makes it such that the aquifers can be evaluated as one interconnected aquifer. Department Aquifer Test Report.

20. The Department typically employs analytical models to determine drawdown effects of diversions. However, in more complex geological environments where sufficient data exists, numerical groundwater models may be used, provided they have been constructed in an appropriate manner. The complex nature of fracturing and faulting of the ore body and surrounding rock does not lend itself to a standard modeling method. Consequently, the Department finds it appropriate to use the results of the three-dimensional finite difference groundwater flow model developed by the Applicant's consultant and documented in Applicant's report. Fohnagy noted in his Aquifer Test Report that Applicant's "model was constructed based on a conceptual model developed from the collection of baseline surface water and groundwater data and provides a reasonable basis for evaluating permitting criteria." Department Aquifer Test Report; Groundwater Modeling Assessment for the Black Butte Copper Project, Meagher County, MT (Hydrometrics, Inc., 2016).

21. Flow Rate - Applicant's groundwater modeling predicts that an average rate of about 217 gallons per minute will enter the mine in the first year, increasing to around 500 gallons per minute (1.11 CFS) by the fourth year, and then decreasing to 420 gallons per minute during the last year of mining (projected at year 16). The modeled rates are average values that do not account for short-term variations. Department expert Fohnagy concluded that Applicant's modeling effort is an acceptable method of determining water infiltration into the mine.

Therefore, the Department finds the Applicant has proven a flow rate of up to 500 gallons per minute, or 1.11 CFS is physically available. Department Aquifer Test Report.

22. Volume - The predicted zone of influence (ZOI) was determined by estimating the areal extent of groundwater drawdown to the 0.01-foot contour. The source aquifer boundary distance was determined to be limited on the north and south by geological formations and extends farther west than east, as the east side is limited by geological structure (faults and dikes). The average width of the ZOI is calculated to be 35,000 feet. Department Aquifer Test Report.

23. Groundwater flux (the rate of discharge or flow of groundwater through a porous or fractured media) of 1,430 AF per year was calculated through the ZOI using Darcy's Law by Department expert Fohnagy. Flux was calculated by multiplying the width of the ZOI (35,000 feet) by the aquifer transmissivity (75 ft<sup>2</sup>/day) and groundwater gradient (0.065 ft/ft). Department Aquifer Test Report; Groundwater Modeling Assessment for the Black Butte Copper Project, Meagher County, MT (Hydrometrics, Inc., 2016).

24. The volume of water physically available through the ZOI is 1,430 AF per year.<sup>3</sup> Department Aquifer Test Report; Groundwater Modeling Assessment for the Black Butte Copper Project, Meagher County, MT (Hydrometrics, Inc., 2016).

#### CONCLUSIONS OF LAW

25. Pursuant to § 85-2-311(1)(a)(i), MCA, an applicant must prove by a preponderance of the evidence that "there is water physically available at the proposed point of diversion in the amount that the applicant seeks to appropriate."

26. It is the applicant's burden to produce the required evidence. *In the Matter of Application for Beneficial Water Use Permit No. 27665-411 by Anson* (DNRC Final Order 1987)(applicant produced no flow measurements or any other information to show the availability of water; permit denied); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005).

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<sup>3</sup> In response to Attila Fohnagy's calculation of groundwater flux through the ZOI, Greg Bryce, Hydrometrics, Inc. (Applicant's consultant), provided a Technical Memorandum on January 13, 2020 estimating a flux of 6,833 AF per year. Bryce used a different method to calculate flux than Fohnagy and expressed concern that the Department's method is exceedingly conservative. Fohnagy communicated to Scott Irvin via a phone call on January 14 that Bryce's method is an alternative to his. Both methods result in a calculation of flux that exceeds legal demands.

27. An applicant must prove that at least in some years there is water physically available at the point of diversion in the amount the applicant seeks to appropriate. *In the Matter of Application for Beneficial Water Use Permit No. 72662s76G by John Fee and Don Carlson* (DNRC Final Order 1990); *In the Matter of Application for Beneficial Water Use Permit No. 85184s76F by Wills Cattle Co. and Ed McLean* (DNRC Final Order 1994).

28. An application for a ground water appropriation right in a basin closed pursuant to 85-2-343 must be accompanied by a hydrogeologic report conducted pursuant to 85-2-361, an aquifer recharge or mitigation plan if required, and an application for a change in appropriation right or rights if necessary.

29. The Applicant has proven that water is physically available at the proposed point of diversion in the amount Applicant seeks to appropriate. § 85-2-311(1)(a)(i), MCA. (FOF's 17-24)

### **Legal Availability:**

#### **FINDINGS OF FACT**

30. Groundwater - Based on groundwater drawdown to the 0.01-foot contour, the predicted average width of the zone-of-influence extends 35,000 feet from the point of diversion. The areal extent of drawdown is truncated on the north and south by geological formations as well as to the east by geologic structure (faults and dikes). Groundwater flux through the ZOI is calculated to be 1,430 AF per year. Department Aquifer Test Report.

31. According to Department records, there are 91 water rights within the ZOI that appropriate groundwater, including wells and springs. Water right records. The total volume associated with the 91 rights is 715.52 AF. Generally, volume for stock water rights was calculated at 30 gallons per day per animal unit, and volume for irrigation and domestic water rights was accounted for by that claimed for adjudication purposes. By comparison, the estimated flux through the ZOI, or volume of water physically available annually, is 1,430 AF. The following table displays a comparison of physical availability to existing legal demands. Department Technical Report.

**TABLE 1 - PHYSICAL AVAILABILITY COMPARED TO LEGAL DEMANDS  
(GROUNDWATER)**

Groundwater Physical Availability (AF/year)	Existing Legal Demands (AF/year)	Physical Availability minus Existing Legal Demands (AF/year)
<b>1430</b>	<b>715.52</b>	<b>714.48</b>

32. The Applicant’s beneficial use request is 350.0 AF per year. According to the Department’s calculations water physically available through the ZOI exceeds water right legal demands by 714 AF. The Applicant’s consultant provided an alternative method of calculating flux that results in physical water availability exceeding demands by over 6,100 AF. Finding of Fact No. 24. Therefore, the Department finds that groundwater is legally available in the amount proposed. Department Aquifer Test Report; Department Technical Report.

33. Surface Water – The location of potentially-affected surface water depends on propagation of drawdown to locations where surface water is hydraulically connected to groundwater. The rate and timing of depletions caused by pumping groundwater may be modeled using a variety of analytical and numerical models selected to fit site-specific conditions and needs. The Department typically uses standard models to predict depletion effects to one source with simple aquifer boundaries. In more complex geological environments numerical groundwater models may be used provided they’ve been constructed in a manner appropriate for that purpose. In this instance, the geological environment surrounding the Project is complex and does not lend itself to standard modeling. Applicant’s consultant conducted its own numerical modeling and provided its results to the Department. Department expert Fohnagy concluded that Applicant’s modeling is appropriate for this circumstance. Department Aquifer Test Report.

34. Based on projections by Applicant’s consultant, water intercepted and diverted from the Mine will deplete surface water in Black Butte Creek, Coon Creek, and Sheep Creek downstream of Little Sheep Creek. Total net depletions of 340.3 AF from the industrial use appropriation will accrue to Sheep Creek downstream of Black Butte Creek. The geology and hydraulic connections are complex and present some uncertainty, however, Department expert



Folnagy concludes the consultant’s projections are reasonable. Table 2 displays the predicted rate and timing of depletions to each source. Department Depletion Report.

**TABLE 2 - NET DEPLETION TO SURFACE WATER RESULTING FROM BENEFICIAL USE OF WATER**

Month	Consumption (AF)	Depletion- Sheep Creek Between Little Sheep Creek and Black Butte Creek (AF)	Depletion- Coon Creek (AF)	Depletion- Black Butte Creek (AF)	*Net Depletion- Sheep Creek downstream of Black Butte Creek (AF)
January	27.6	11.9	9.6	6.2	27.7
February	25.0	10.7	8.7	5.6	25.0
March	27.6	11.9	9.6	6.2	27.7
April	27.9	12.8	9.3	6.0	28.1
May	29.0	14.0	9.6	6.2	29.8
June	28.5	13.8	9.3	6.0	29.1
July	30.9	15.0	9.6	6.2	30.8
August	31.0	14.6	9.6	6.2	30.4
September	29.1	13.2	9.3	6.0	28.5
October	29.4	12.8	9.6	6.2	28.6
November	26.8	11.5	9.3	6.0	26.8
December	27.6	11.9	9.6	6.2	27.7
<b>Total</b>	<b>340.3</b>	<b>154.1</b>	<b>113.1</b>	<b>73.1</b>	<b>340.3</b>

\*Net depletion in this table refers to the cumulative depletions to Sheep Creek downstream of the Black Butte Creek confluence.

35. Applicant proposes to mitigate all depletions resulting from its beneficial use appropriation to ensure that no adverse effects result. Generally, depletions of 340.3 AF will be replaced or offset in the affected drainages of Coon Creek, Black Butte Creek, and Sheep Creek. The mitigation plan includes the following two scenarios: 1) water will be diverted during high spring flows under permit application number 41J 30116563 and stored in a 291.9 AF capacity off-stream reservoir for later release into the drainages; and 2) water will be purchased under a

marketing for mitigation option. In the second scenario, two area water right owners have proposed to retire six existing irrigation rights and leave water instream to offset the mine's depletions, or the marketed water will be diverted from Sheep Creek and placed into the off-stream storage reservoir (NCWR) for later release into the affected drainages.<sup>4</sup> The amounts of water associated with each of the existing irrigation water rights to be used for mitigation purposes (marketing for mitigation) are evaluated in the following Preliminary Determination to Grant Change Nos.: 41J 30116553, 41J 30116554, 41J 30116556, 41J 30116557, 41J 30116558, and 41J 30116559. Collectively, all water rights to be changed and permitted will provide sufficient volume to fully mitigate the 340.3 AF in depletions.

36. *Coon Creek Legal Availability* - According to the Department's database there are two water rights on Coon Creek with a combined appropriation of 1.30 CFS and 114.4 AF. One is an irrigation right with a period of appropriation of May 1 through October 15, and the other is a year-round, instream stock water right.<sup>5</sup> Depletions to the source from groundwater pumping are predicted to be in the amount of 113.1 AF, or a year-round, average depletion rate of 70 gallons per minute. Applicant will mitigate the full depletion to Coon Creek from January 1 through December 31, in flow rate and volume. Seventy gallons per minute will be continuously released from the NCWR into the head of Coon Creek to offset depletions and be available to prior appropriators. Accordingly, the Department finds water to be legally available in Coon Creek, based on Applicant's plan to fully mitigate depletions in timing and amount. Water right records; Application; Applicant's Deficiency Response dated April 19, 2019.

37. *Black Butte Creek Legal Availability* - There are six water rights on Black Butte Creek with a combined appropriation of 3.39 CFS up to 490.0 AF per year. Five of the water rights are instream stock rights, with periods of appropriation ranging throughout the year, and a combined appropriation of 0.39 CFS and 38.6 AF. The other water right, an irrigation right with a flow rate of 3.0 CFS and volume of 451.4 AF, is appropriated from April 20 through October 10.

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<sup>4</sup> The 291.9 AF off-stream reservoir is known as the Non-Contact Water Reservoir, or NCWR. It is a vital component of the Applicant's mitigation plan to offset depletions in timing, amount and location.

<sup>5</sup> The irrigation water right on Coon Creek (41J 198907) is owned by the Bar Z Ranch and accounts for the vast majority of legal demands on the source. It is one of the water rights proposed to be changed by Bar Z Ranch in a concurrent process and marketed to Tintina.

Depletions to Black Butte Creek from groundwater pumping are predicted to be in the amount of 73.1 AF annually, for an average depletion rate of 45 gallons per minute. During the irrigation period, the Applicant plans on offsetting/mitigating the entire predicted depletion of 45 gallons per minute, up to 34.4 AF, so that the same amount of water is available to all water rights in the stream as historically and under pre-mine conditions. During the non-irrigation season, Applicant does not plan on offsetting depletions in Black Butte Creek because no adverse effects will result in the source. Rather, it will replace the 45-gallon per minute depletion (38.7 AF) directly to Sheep Creek between October 11 and April 19. Applicant's streamflow analysis shows there is sufficient water available in Black Butte Creek in the non-irrigation period to meet the five instream stock water rights, despite the depletion.<sup>6</sup> As proof of existing stream conditions Applicant collected flow data from three sites in Black Butte Creek as part of its baseline water resource monitoring program, from 2011-2017. Applicant's data show the mean annual flow in the perennial stream at the three sites is 1.5 CFS, 1.7 CFS and 2.4 CFS. The Department's records reflect stock water appropriations during the October through April period in the amount of 0.39 CFS up to 19.3 AF. Therefore, Applicant's measurements show that stream flows exceed the amount necessary to fulfill instream stock water rights during the non-irrigation period.

38. The Department finds that water is legally available in Black Butte Creek based on Applicant's plan to off-set all depletions during the irrigation season and based on Applicant's evidence of stream flows (and the resulting comparison to legal demands) during the non-irrigation season. Applicant's plan to replace non-irrigation season depletions directly to Sheep Creek, rather than Black Butte Creek, is acceptable. Water right records; Application File; Department Technical Report.

39. *Sheep Creek Legal Availability* - There are sixteen water rights/reservations on Sheep Creek downstream of the location where depletions will accrue, with a combined appropriation

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<sup>6</sup> The Applicant does not plan on releasing mitigation water into Black Butte Creek during the non-irrigation season, because existing water rights can be exercised without it. However, the non-irrigation season replacement water will be released directly into the mainstem Sheep Creek. Therefore, the mitigation plan for depletions to Black Butte Creek includes replacing all depletions in the Sheep Creek drainage.

of 84.9 CFS and 27,114 AF annually. Applicant's groundwater appropriation is predicted to deplete surface water in the mainstem of Sheep Creek in the amount of 96 GPM and 154.1 AF. Downstream of the confluence of Black Butte Creek, depletions will accumulate from Black Butte Creek, Coon Creek, and upgradient depletions in Sheep Creek, for a total average depletion rate of 211 GPM (45 GPM + 70 GPM + 96 GPM = 211 GPM), or 340.3 AF in volume.

40. Applicant's mitigation plan for Sheep Creek is two-fold: 1) release stored water from its NCWR directly into Sheep Creek between the Little Sheep Creek and Coon Creek confluences; and 2) purchase water from water right owners who propose to retire six existing irrigation water rights and leave instream during the irrigation season to offset depletions. Alternatively, the retired irrigation rights may be diverted into Applicant's NCWR for later releases during the non-irrigation period. Mitigation in the amount of at least 96 gallons per minute must occur in Sheep Creek year-round, either through retirement of existing rights or discharges from the NCWR, to replace depletions to the source and prevent adverse effects. As noted in Finding of Fact No. 37, an additional amount of 45 gallons per minute will be supplied to Sheep Creek in the non-irrigation season to account for depletions realized, but not replaced, in Black Butte Creek. The additional 45 gallons per minute discharge to Sheep Creek will ensure the depletion is replaced within the drainage below the point where all depletions accrue. Water right records; Application File; Department Technical Report.

41. The Department finds that water is legally available in Sheep Creek based on Applicant's plan to off-set all depletions either through discharges from the NCWR or the purchase of water marketed for mitigation. Application; Applicant's Deficiency Response dated April 19, 2019.

42. Applicant has addressed legal availability of surface water by providing a mitigation plan which proposes to mitigate depletions to affected surface waters in full. A map of the mitigated reaches of stream is displayed below in Finding of Fact No. 61 of this Preliminary Determination (the map displays the service area for the marketing for mitigation water rights, which is also the place of use for Tintina's high spring flow permit proposal). The plan meets the requirements outlined in § 85-2-362, MCA. The area of potential impact extends from each of the depleted tributary sources, and Sheep Creek, to Black Butte Creek's confluence with Sheep Creek. The

Sheep Creek drainage is included in the Upper Missouri River Basin Closure Area. § 85-2-343, MCA. Since the Applicant proposes to mitigate the entire consumed volume of 340.3 AF within the Sheep Creek drainage, the Department limits its legal availability analysis to Black Butte Creek, Coon Creek and Sheep Creek.

#### CONCLUSIONS OF LAW

43. Pursuant to § 85-2-311(1)(a), MCA, an applicant must prove by a preponderance of the evidence that:

(ii) water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the department and other evidence provided to the department. Legal availability is determined using an analysis involving the following factors:

(A) identification of physical water availability;

(B) identification of existing legal demands on the source of supply throughout the area of potential impact by the proposed use; and

(C) analysis of the evidence on physical water availability and the existing legal demands, including but not limited to a comparison of the physical water supply at the proposed point of diversion with the existing legal demands on the supply of water.

E.g., ARM 36.12.101 and 36.12.120; Montana Power Co., 211 Mont. 91, 685 P.2d 336 (Permit granted to include only early irrigation season because no water legally available in late irrigation season); *In the Matter of Application for Beneficial Water Use Permit No. 81705-g76F by Hanson* (DNRC Final Order 1992).

44. It is the applicant's burden to present evidence to prove water can be reasonably considered legally available. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7 (the legislature set out the criteria (§ 85-2-311, MCA) and placed the burden of proof squarely on the applicant. The Supreme Court has instructed that those burdens are exacting.); see also Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston (1991), 249 Mont. 425, 816 P.2d 1054 (burden of proof on applicant in a change proceeding to prove required criteria); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005) (it is the applicant's burden to produce the required evidence.); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions, LLC*

(DNRC Final Order 2007)(permit denied for failure to prove legal availability); see also ARM 36.12.1705.

45. Pursuant to Montana Trout Unlimited v. DNRC, 2006 MT 72, 331 Mont. 483, 133 P.3d 224, the Department recognizes the connectivity between surface water and ground water and the effect of pre-stream capture on surface water. E.g., Wesmont Developers v. DNRC, CDV-2009-823, Montana First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 7-8; *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility Solutions LLC* (DNRC Final Order 2006)(mitigation of depletion required), *affirmed*, Faust v. DNRC et al., Cause No. CDV-2006-886, Montana First Judicial District (2008); see also Robert and Marlene Takle v. DNRC et al., Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994) (affirming DNRC denial of Applications for Beneficial Water Use Permit Nos. 76691-76H, 72842-76H, 76692-76H and 76070-76H; underground tributary flow cannot be taken to the detriment of other appropriators including surface appropriators and ground water appropriators must prove unappropriated surface water, *citing* Smith v. Duff, 39 Mont. 382, 102 P. 984 (1909), and Perkins v. Kramer, 148 Mont. 355, 423 P.2d 587 (1966)); *In the Matter of Beneficial Water Use Permit No. 80175-s76H by Tintzman* (DNRC Final Order 1993)(prior appropriators on a stream gain right to natural flows of all tributaries in so far as may be necessary to afford the amount of water to which they are entitled, *citing* Loyning v. Rankin (1946), 118 Mont. 235, 165 P.2d 1006; Granite Ditch Co. v. Anderson (1983), 204 Mont. 10, 662 P.2d 1312; Beaverhead Canal Co. v. Dillon Electric Light & Power Co. (1906), 34 Mont. 135, 85 P. 880); *In the Matter of Beneficial Water Use Permit No. 63997-42M by Joseph F. Crisafulli* (DNRC Final Order 1990)(since there is a relationship between surface flows and the ground water source proposed for appropriation, and since diversion by applicant's well appears to influence surface flows, the ranking of the proposed appropriation in priority must be as against all rights to surface water as well as against all groundwater rights in the drainage.)

46. Because the applicant bears the burden of proof as to legal availability, the applicant must prove that the proposed appropriation will not result in prestream capture or induced infiltration

and cannot limit its analysis to groundwater. § 85-2-311(a)(ii), MCA. Absent such proof, the applicant must analyze the legal availability of surface water in light of the proposed ground water appropriation. *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 By Utility Solutions LLC* (DNRC Final Order 2007) (permit denied); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009); Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5; Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12.

47. Where a proposed ground water appropriation depletes surface water, applicant must prove legal availability of amount of depletion of surface water throughout the period of diversion either through a mitigation /aquifer recharge plan to offset depletions or by analysis of the legal demands on, and availability of, water in the surface water source. Robert and Marlene Takle v. DNRC et al., Cause No. DV-92-323, Montana Twenty-First Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994); *In the Matter of Beneficial Water Use Permit Nos. 41H 30012025 and 41H 30013629 by Utility Solutions LLC* (DNRC Final Order 2006)(permits granted), *affirmed*, Faust v. DNRC et al., Cause No. CDV-2006-886, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit 41H 30019215 by Utility Solutions LLC* (DNRC Final Order 2007)(permit granted), *affirmed*, Montana River Action Network et al. v. DNRC et al., Cause No. CDV-2007-602, Montana First Judicial District (2008); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30023457 by Utility Solutions LLC* (DNRC Final Order 2007) (permit denied for failure to analyze legal availability outside of irrigation season (where mitigation applied)); *In the Matter of Application for Beneficial Water Use Permit No. 41H 30026244 by Utility Solutions LLC* (DNRC Final Order 2008); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (DNRC Final Order 2009)(permit denied in part for failure to analyze legal availability for surface water depletion); Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 5 (Court affirmed denial of permit in part for failure to prove legal availability of stream depletion to slough and

Beaverhead River); Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pgs. 11-12 (“DNRC properly determined that Wesmont cannot be authorized to divert, either directly or indirectly, 205.09 acre-feet from the Bitterroot River without establishing that the water does not belong to a senior appropriator”; applicant failed to analyze legal availability of surface water where projected surface water depletion from groundwater pumping); *In the Matter of Application for Beneficial Water Use Permit No. 76D-30045578 by GBCI Other Real Estate, LLC* (DNRC Final Order 2011) (in an open basin, applicant for a new water right can show legal availability by using a mitigation/aquifer recharge plan or by showing that any depletion to surface water by groundwater pumping will not take water already appropriated; development next to Lake Koocanusa will not take previously appropriated water). Applicant may use water right claims of potentially affected appropriators as a substitute for “historic beneficial use” in analyzing legal availability of surface water under § 85-2-360(5), MCA. Royston, *supra*.

48. In analyzing legal availability for surface water, applicant was required to evaluate legal demands on the source of supply throughout the “area of potential impact” by the proposed use under § 85-2-311(1)(a)(ii), MCA, not just within the “zone of influence.” Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 6.

49. An application for a ground water appropriation right in a basin closed pursuant to 85-2-343 must be accompanied by a hydrogeologic report conducted pursuant to 85-2-361, an aquifer recharge or mitigation plan if required, and an application for a change in appropriation right or rights if necessary.

50. Based on the Applicant’s proposed mitigation plan, the Department finds that Applicant has proven by a preponderance of evidence that surface water can reasonably be considered legally available during the proposed period of appropriation. (FOF’s 33-42)

51. Applicant has proven by a preponderance of the evidence that water can reasonably be considered legally available during the period in which the applicant seeks to appropriate, in the amount requested, based on the records of the Department and other evidence provided to the Department § 85-2-311(1)(a)(ii), MCA. (FOF’s 30-42)



## **Adverse Effect**

### **FINDINGS OF FACT**

52. Groundwater - The average width of the zone-of-influence (ZOI), or the modeled areal extent of groundwater drawdown to the 0.01-foot contour, extends 35,000 feet from the point of diversion. There are 91 water rights within the ZOI that appropriate groundwater, and the volume associated with the 91 rights is 715.52 AF. Department Technical Report. By comparison, the estimated flux through the ZOI, or volume of groundwater physically available annually, is 1,430 AF. The volume of groundwater physically available exceeds legal demands within the ZOI by over 714 AF (1,430 AF – 715.52 AF = 714.5 AF). Water right records; Department Technical Report.

53. The Applicant conducted groundwater modeling to estimate drawdown of 1-foot or greater in developments within 30,000 feet of the mine portal. The results are based on modeling four years of pumping at yearly constant rates ranging from 223 GPM to 497 GPM (1.11 CFS), which is larger than the anticipated average year-round pumping rate of 217 GPM. Appendix A of the Department’s Aquifer Test Report shows twenty-five groundwater rights within the 1-foot drawdown contour. Twenty-three of the 25 water rights were modeled to experience 5 feet or less of drawdown, and two water rights were predicted to experience 10 feet and 40 feet of drawdown. The means of diversion for 23 of the groundwater rights are developed springs, and 2 are wells. Department Aquifer Test Report; Department Technical Report.

**TABLE 3 – GROUNDWATER RIGHTS WITHIN THE ZOI PREDICTED TO EXPERIENCE 1-FOOT OF DRAWDOWN OR MORE**

<b>WRNUMBER</b>	<b>ALL_OWNERS</b>	<b>MEANOFDIV</b>	<b>Predicted Drawdown (ft)</b>
41J 30105574	CASTLE MOUNTAIN RANCH INC	DEVELOPED SPRING	5
41J 30105575	CASTLE MOUNTAIN RANCH INC	DEVELOPED SPRING	10
41J 44692 00	KENNEDY PROPERTIES LLC	SPRING BOX	1
41J 56411 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	5
41J 56412 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	3
41J 56413 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	40
41J 56421 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	1
41J 56422 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	2

41J 56423 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	3
41J 56424 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	3
41J 56425 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	3
41J 56427 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	2
41J 56428 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	1
41J 56429 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	3
41J 56430 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	3
41J 56433 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	2
41J 56434 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	1
41J 56435 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	2
41J 56497 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	1
41J 56521 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	WELL	3
41J 56522 00	USA (DEPT OF AGRICULTURE FOREST SERVICE)	SPRING BOX	5
41J 77286 00	JOHN E MADER; KAY L MADER	WELL	4
41J 30125143	BAR Z RANCH INC	SPRING BOX	1
41J 30125150	BAR Z RANCH INC	SPRING BOX	4
41J 30125151	BAR Z RANCH INC	SPRING BOX	3

54. Applicant’s consultant initiated a program in 2011 to collect background data and monitor water resources around the project site. The investigation included baseline monitoring of flow, water levels, and water quality of surface water, groundwater and spring and seep sites. In relation to the shallow groundwater system, monitoring occurred at nine seeps and thirteen springs.<sup>7</sup> All monitoring results are documented in a report contained in the record and titled, “*Baseline Water Resources Monitoring and Hydrogeologic Investigations Report, Tintina Resources Black Butte Project*” (hereafter referred to as Monitoring Report). Generally, the Applicant’s investigations show that springs and seeps in the Project vicinity are derived from localized, shallow (perched) groundwater systems. Data for the developed springs show the intermittency and seasonal changes in spring discharge related to snow melt and precipitation events. Additionally, elevations where the developed springs issue are 20 to 120 feet above the

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<sup>7</sup> The majority of sites monitored included small springs and seeps that form boggy areas with limited flow, that re-infiltrate within a few hundred feet downstream. Most are located in ephemeral channels in the headwaters of unnamed tributaries. A number of the springs have been developed for stock watering purposes. Some of the monitored springs are larger than others and located along Coon Creek and Little Sheep Creek.

elevation of the potentiometric surface of the source aquifer at the mine. Some of the developed springs are located near fault traces that may be conduits of drawdown propagation from the mine workings, however, these springs become dry in late summer and are considered part of a perched aquifer system. Applicant asserts these factors result in the improbability that its appropriation of groundwater will adversely affect area springs and seeps. Department expert Fohnagy's assessment is that the site-specific information on timing of spring flow and elevation difference between the springs and source aquifer are evidence that the springs issue from perched water sources that are unconnected to the deeper aquifer. Department Aquifer Test Report; Application File; Applicant's deficiency response dated April 19, 2019; Report - "Baseline Water Resources Monitoring and Hydrogeologic Investigations Report, Tintina Resources, Black Butte Project," Hydrometrics, Inc.

55. Long-term aquifer testing of 31 days and 19 days in 2014 on two groundwater wells drilled by the Applicant, referred to in the application as PW-8 and PW-9, was completed to assess how extended pumping would affect groundwater levels. Both test wells are completed in the mine workings area and pull groundwater from the deeper aquifer system that is anticipated to drain into the mine. PW-8 (175.5 feet in depth) was pumped at up to 10 gallons per minute during the test, and PW-9 (255.5 feet in depth) was pumped at up to 6 gallons per minute. Water levels were monitored using datalogger transducers at the observation sites, and manual water levels were collected at more distant sites. The results of the long-term testing on developed and naturally occurring springs and seeps did not show any drawdown, further suggesting that the springs are disconnected from the mine's deeper groundwater aquifer. The testing did show that some deeper and more distant groundwater wells experienced drawdown, corroborating the expectation that wells appropriating water from the same formation as the mine workings are hydraulically-connected, however, drawdown is minimal. Application File.

56. Two wells shown in Table 3 are within the 1-foot drawdown contour and are predicted to experience 3-4 feet of drawdown. The Mader well is 191 feet deep and the static water level is 122 feet deep, leaving a water column of 69 feet. With a predicted drawdown of 4 feet, there will be 65 feet of water column in the well after depletions are incurred. There is no data

available for the U.S. Forest Service well, but it is only expected to experience 3 feet of drawdown. File.

57. Based on the Applicant's monitoring efforts, the evidence shows that water flowing from area springs generally originates from shallow, perched groundwater systems that are disconnected from the deeper aquifer. Groundwater modeling shows that area wells will experience minimal drawdown and contain sufficient water column to pull from. Additionally, groundwater flux exceeds legal demands with the ZOI. Based on these factors the Department finds that groundwater rights will not be adversely affected by the proposed appropriation.

58. Surface Water - Black Butte Creek, Coon Creek, and Sheep Creek downstream of Little Sheep Creek will experience depletions due to groundwater appropriations associated with the proposed project. Applicant has a plan to prevent adverse effects by off-setting or mitigating depletions to the affected surface water sources, in timing, amount and location.<sup>8</sup> All 340.3 AF depleted from this groundwater appropriation will be replaced from water stored during high spring flows under a separate permit (Preliminary Determination to Grant Permit No. 41J 30116563), and/or the purchase of water marketed for mitigation. The plan provides for the entirety of depletions to be replaced even during periods when water may be legally available in the drainage. The plan must be considered in context with the other seven pending water right applications for the project. Application File.

59. The Applicant's mitigation plan is to utilize stored water under Application for Beneficial Water Use Permit No. 41J 30116563 (application to store water from Sheep Creek during high spring flows), and purchase water retired from the following existing irrigation water rights through separate change application processes: 41J 29449 (Jumping Creek), 41J 29450 (Sheep Creek), 41J 29451 (Wolsey Creek), 41J 29452 (Adams Creek), 41J 198907 (Coon Creek), and

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<sup>8</sup> The exception to offsetting depletions in timing, amount and location is during the period October 11 to April 19 in Black Butte Creek. During that period, water is legally available in Black Butte Creek to satisfy the five instream stockwater rights, and therefore, no adverse effects will result from depletions. Rather than offset depletions in Black Butte Creek from October 11 to April 19, however, Tintina will offset those depletions in Sheep Creek during the period.

41J 198908 (Little Sheep Creek). Claimed elements of the existing water rights to be changed and the proposed permit application are described in Table 3 (mitigation water rights).

**TABLE 3 – WATER RIGHTS TO BE USED FOR MITIGATION PURPOSES\***

WR Number	Purpose	Source	Flow Rate*	Period of Diversion	Point of Diversion	Place of Use	Priority Date	Acres Irr
41J 198907	Irr	UT of Sheep Creek (Coon Creek)	1.25 CFS	May 1 to Oct 15	SENESE Sec 25 T12N, R6E 6E	Sec 24 & 25 T12N, R6E and Sec 19 & 30 T12N R7E	Feb 3, 1903	30.5
41J 198908	Irr	Little Sheep Creek	6.50 CFS	May 1 to Oct 15	SESENE Sec 30 T12N, R7E	Sec 24 T12N, R6E and Sec 19 & 30 T12N R7E	Sept 30, 1888	80.7
41J 29449	Irr	Jumping Creek	7.50 CFS	May 1 to Sept 30	SESESE Sec 25 T12N, R7E & NENWNW Sec 30 T12N, R8E	Sec 25, 26, and 36 T12N, R7E	July 25, 1889	171.0
41J 29450	Irr	Sheep Creek	2.00 CFS	May 1 to Sept 30	SESESW Sec 26 T12N, R7E	Sec 27 T12N, R7E	Sept 20, 1900	20.0
41J 29451	Irr	Wolsey Creek (Ryan Creek)	10.00 CFS	May 1 to Sept 30	NESWNE and NESWNE Sec 27 T12N, R7E	Sec 27 T12N, R7E	June 28, 1889	85.0
41J 29452	Irr	Adams Creek (Deer Creek)	7.50 CFS	May 1 to Sept 30	NENENE and SENENE Sec 26 T12N, R7E	Sec 25, 26, and 27 T12N, R7E	June 27, 1890	222.0
41J 30116563 (Permit)	Mit	Sheep Creek	7.50 CFS	May 1 to July 31	SWNENW Sec 30, T12N, R7E	T12N, R7E; T12N, R6E & T12N, R5E	Sept 7, 2018	N/A

\*The elements indicated in the table for the Statements of Claim are as decreed in the Basin 41J Preliminary Decree

60. Application for Beneficial Water Use Permit No. 41J 30116563 proposes to appropriate and store water from Sheep Creek during high spring flows, at a rate of 7.5 CFS up to 291.9 AF. Stored water will be used to help offset depletions caused by the groundwater appropriation by being redirected from the NCWR into the affected sources within the Sheep Creek drainage. Concurrent with this application process the Department has evaluated Applicant’s high spring

flow permit application and found the amount of water requested to be available during the period of May 1 through July 31. Applicant's plan to appropriate water during high spring flows is credible and vital to the success of the mitigation plan. Preliminary Determination No. 41J 30116563.

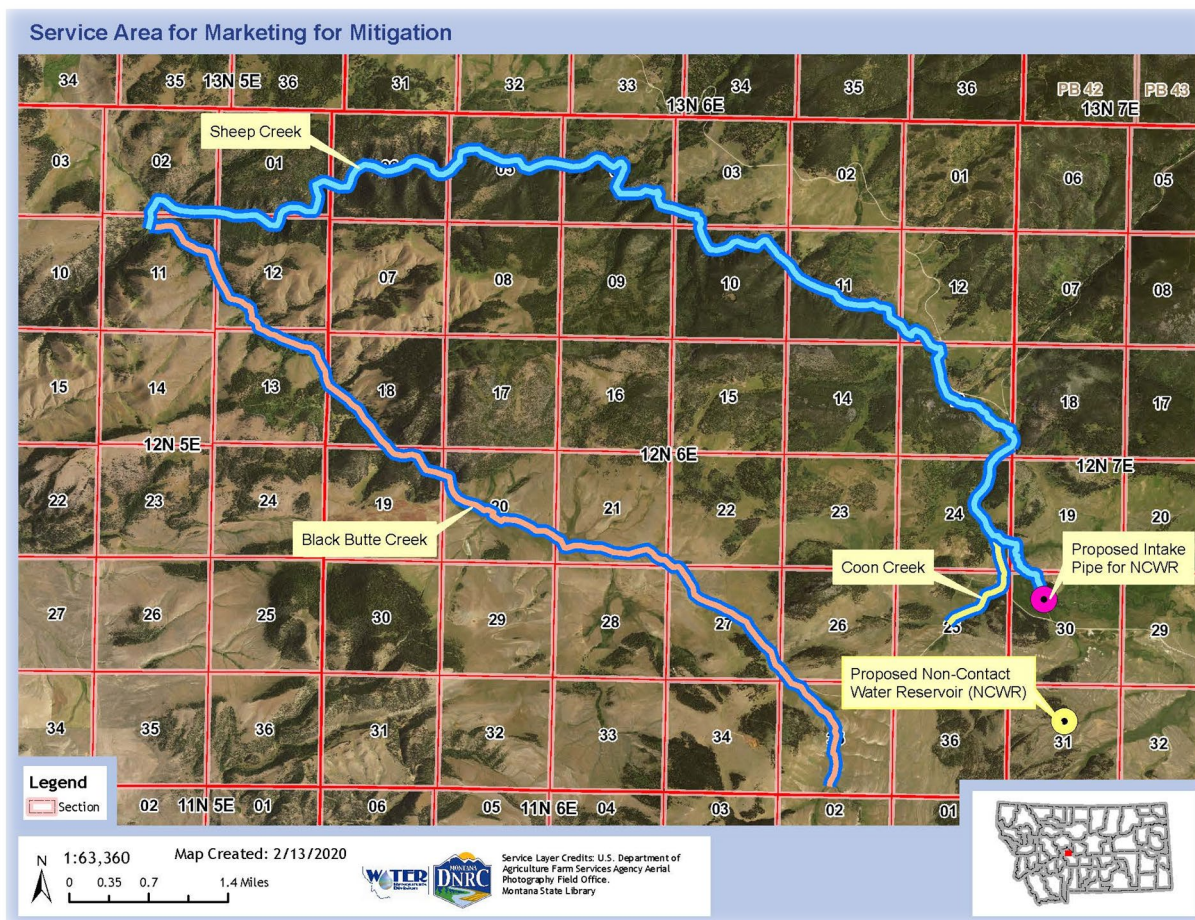
61. Statement of Claim Nos. 41J 29449 (Jumping Creek), 41J 29451 (Wolsey Creek), 41J 29452 (Adams Creek), 41J 198907 (Coon Creek), and 41J 198908 (Little Sheep Creek) are all the most senior water rights on their respective sources, and are the only irrigation water rights identified in the Department's records on their sources (the only other water rights on the sources are instream stock water rights). Most of the tributary water rights are senior in comparison to existing water rights on Sheep Creek as well. Statement of Claim No. 41J 29450 (Sheep Creek) is the fifth-most senior water right on its source, and third-most senior irrigation right (there are two instream stock water rights senior to the appropriation, in addition to the three irrigation rights). Each water right is proposed for a change in purpose to marketing for mitigation, and the applications are being processed concurrent to this permit application. The water rights are proposed to either be retired and left instream to off-set depletions during the irrigation season or diverted to the Applicant's storage reservoir (NCWR) to be released later for mitigation purposes during the non-irrigation season.<sup>9</sup> Cumulatively, the water rights account for a flow rate of 34.75 CFS, a diverted volume of 6490.2 AF, and consumed volume of 477.9 AF. The owners of each existing water right assert there has never been a call or curtailment of the water right, and that water has been appropriated at the maximum flow rate throughout the period of diversion. Department expert Attila Fohnagy evaluated the effectiveness of the Applicant's mitigation plan, including evidence associated with the water rights to be changed, and determined the plan to be sufficient to offset the timing and amount of monthly net depletion caused by its groundwater appropriation. Water right records; Files for Application to Change an Irrigation Water Right

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<sup>9</sup> The proposed plan of operation for the six existing water rights to be changed is to rotate use in any given year, and as necessary to meet the obligation of mitigating the entire appropriation associated with this permit application (340.3 AF of consumptive depletions). The existing water rights may be used in any combination. If any individual existing right is not needed for mitigation during any given year, it may be used for irrigation purposes as it historically has.

Nos. 41J 30116553, 41J 30116554, 41J 30116556, 41J 30116557, 41J 30116558, and 41J 30116559; Department Mitigation and Return Flow Summary Report.

A map of the service area for the water rights proposed for marketing for mitigation follows:



62. The combined flow rate associated with the existing water rights to be changed is 34.75 CFS and the consumed volume is 477 AF.<sup>10</sup> The proposed amount of water under Applicant’s high spring flow appropriation is 7.5 CFS up to 291.9 AF. The combined volume of water

<sup>10</sup> In the concurrent change application processes, the Applicant chose to accept the methodology used by the Department to calculate consumed volume per its standard methodology set out in its administrative rules. ARM 36.12.1902. The consumed volume is being used to offset or mitigate 340.3 AF of depletions as set out in this groundwater appropriation.

available for mitigation purposes is 768.9 AF, which exceeds the 340.3 AF proposed in this groundwater permit application. The exact combination of water rights used to mitigate depletions will be determined and rotated on a yearly basis, and as necessary to offset depletions in timing, location and amount. The Department finds the combination of water rights to be changed and permitted are adequate in timing and amount to offset the 340.3 AF of consumed depletions to Black Butte Creek, Coon Creek, and Sheep Creek downstream of Little Sheep Creek. Surface water rights will not be adversely affected by the proposed appropriation because of Applicant's mitigation plan. Applicant must release mitigation water into Coon Creek and Black Butte Creek upstream of affected existing water rights, and in Sheep Creek in the SWNENW Section 30, T12N, 7E, for the plan to be effective. To ensure protection for other water rights, the Department has imposed conditions for water measurement and record keeping in this Preliminary Determination and has imposed appropriate conditions in all water rights used for mitigation purposes. Preliminary Determination to Grant Change Nos. 41J 30116553, 41J 30116554, 41J 30116556, 41J 30116557, 41J 30116558, and 41J 30116559; and Preliminary Determination to Grant Permit No. 41J 30116563; Conditions Section.

63. Pursuant to § 85-2-364, MCA, the Department may not grant a new appropriation right pursuant to § 85-2-360, MCA, unless a copy of a relevant discharge permit from the Montana Department of Environmental Quality has been obtained. In this instance, no discharge permit is required for the portion of water beneficially used. Department Memo regarding necessity for a discharge permit and compliance with § 85-2-364, MCA.

#### CONCLUSIONS OF LAW

64. Pursuant to § 85-2-311(1)(b), MCA, the Applicant bears the affirmative burden of proving by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. Analysis of adverse effect must be determined based on a consideration of an applicant's plan for the exercise of the permit that demonstrates that the applicant's use of the water will be controlled so the water right of a prior appropriator will be satisfied. See Montana Power Co.



(1984), 211 Mont. 91, 685 P.2d 336 (purpose of the Water Use Act is to protect senior appropriators from encroachment by junior users); Bostwick Properties, Inc. ¶ 21.

65. An applicant must analyze the full area of potential impact under the § 85-2-311, MCA criteria. *In the Matter of Beneficial Water Use Permit No. 76N-30010429 by Thompson River Lumber Company* (DNRC Final Order 2006). While § 85-2-361, MCA, limits the boundaries expressly required for compliance with the hydrogeologic assessment requirement, an applicant is required to analyze the full area of potential impact for adverse effect in addition to the requirement of a hydrogeologic assessment. Id. ARM 36.12.120(5).

66. Applicant must prove that no prior appropriator will be adversely affected, not just the objectors. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 4.

67. In analyzing adverse effect to other appropriators, an applicant may use the water rights claims of potentially affected appropriators as evidence of their “historic beneficial use.” See Matter of Application for Change of Appropriation Water Rights Nos. 101960-41S and 101967-41S by Royston (1991), 249 Mont. 425, 816 P.2d 1054.

68. It is the applicant’s burden to produce the required evidence. E.g., Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7 (legislature has placed the burden of proof squarely on the applicant); *In the Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC.*, (DNRC Final Order 2005). (DNRC Final Order 2005). The Department is required to grant a permit only if the § 85-2-311, MCA, criteria are proven by the applicant by a preponderance of the evidence. Bostwick Properties, Inc. ¶ 21.

69. Section 85-2-311 (1)(b) of the Water Use Act does not contemplate a de minimis level of adverse effect on prior appropriators. Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pg. 8.

70. The Department can and routinely does, condition a new permit’s use on use of that special management, technology or measurement such as augmentation now generally known as mitigation and aquifer recharge. See § 85-2-312; § 85-2-360 et seq., MCA; see, e.g., In the

*Matter of Beneficial Water Use Permit No. 107-411 by Diehl Development* (DNRC Final Order 1974) (No adverse effect if permit conditions to allow specific flow past point of diversion.); *In the Matter of Combined Application for Beneficial Water Use Permit No. 76H- 30043133 and Application No. 76H-30043132 to Change Water Right Nos. 76H-121640-00, 76H-131641-00 and 76H-131642-00 by the Town of Stevensville* (DNRC Final Order 2011).

71. Adverse effect not required to be measurable but must be calculable. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7 (DNRC permit denial affirmed; 3 gpm and 9 gpm depletion to surface water not addressed in legal availability or mitigation plan.); Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pg. 12 (“DNRC properly determined that Wesmont cannot be authorized to divert, either directly or indirectly, 205.09 acre-feet from the Bitterroot River without establishing that the water does not belong to a senior appropriator”); applicant failed to analyze legal availability of surface water where projected depletion from groundwater pumping); *In the Matter of Beneficial Water Use Permit No. 76N-30010429 by Thompson River Lumber Company* (DNRC Final Order 2006); see also Robert and Marlene Tackle v. DNRC et al., Cause No. DV-92-323, Montana Fourth Judicial District for Ravalli County, *Opinion and Order* (June 23, 1994). Artesian pressure is not protectable and a reduction by a junior appropriator is not considered an adverse effect. See In re Application No. 72948-G76L by Cross, (DNRC Final Order 1991); see also In re Application No. 75997-G76L by Carr, (DNRC Final Order 1991).

72. The department may not grant a new appropriation right pursuant to § 85-2-360, MCA, that involves aquifer recharge or mitigation until any relevant discharge permit, if necessary, has been obtained and presented to the department. § 85-2-364, MCA.

73. A plan to prove legal availability and prevent adverse effect can be to use mitigation or augmentation. § 85-2-360, MCA; e.g., *In the Matter of Beneficial Water Use Permit Application Nos. 41H 30012025 and 41H 30013629 by Utility Solutions, LLC*, (DNRC Final Order 2006)( permit conditioned to mitigate/augment depletions to the Gallatin River by use of infiltration galleries in the amount of .55 cfs and 124 AF), *affirmed*, Faust v. DNRC et al., Cause No. CDV-

2006-886, Montana First Judicial District (2008); *In the Matter of Beneficial Water Use Permit Application Nos. 41H 30019215 by Utility Solutions, LLC*, (DNRC Final Order 2007)(permit conditioned to mitigate 6 gpm up to 9.73 AF of potential depletion to the Gallatin River), affirmed, Montana River Action Network v. DNRC, Cause No. CDV-2007-602, Montana First Judicial District Court, (2008); Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7; Wesmont Developers v. DNRC, CDV-2009-823, First Judicial District Court, *Memorandum and Order*, (2011) Pg. 12; *In the Matter of Application for Beneficial Water Use Permit No. 41H 30026244 By Utility Solutions LLC* (DNRC 2008)(permit conditioned on mitigation of 3.2 gpm up to 5.18 AF of depletion to the Gallatin River); *In the Matter of Application for Beneficial Water Use Permit No. 76H-30028713 by Patricia Skergan and Jim Helmer* (HB 831, DNRC Final Order 2009) (permit denied in part for failure to analyze legal availability for surface water for depletion of 1.31 AF to Bitterroot River)§ 85-2-360, MCA. The Department has a history of approving new appropriations where applicant will mitigate/augment to offset depletions caused by the new appropriation. *In the Matter of Beneficial Water Use Permit Application No. 41I-104667 by Woods and Application to Change Water Right No 41I-G(W) 125497 by Ronald J. Woods*, (DNRC Final Order 2000); *In The Matter of Application To Change Appropriation Water Right 76GJ 110821 by Peterson and MT Department of Transportation*, DNRC Final Order (2001); *In The Matter of Application To Change Appropriation Water Right No. 76G-3235699 by Arco Environmental Remediation LLC*.(DNRC Final Order 2003) (allows water under claim 76G-32356 to be exchanged for water appropriated out of priority by permits at the wet closures and wildlife to offset consumption). *In The Matter of Designation of the Larsen Creek Controlled Groundwater Area as Permanent, Board of Natural Resources Final Order* (1988).

Montana case law also provides a history of mitigation, including mitigation by new or untried methods. See Thompson v. Harvey (1974),154 Mont. 133, 519 P.2d 963; Perkins v. Kramer (1966), 148 Mont. 355, 423 P.2d 587. Augmentation/ mitigation is also recognized in other prior appropriation states for various purposes. E.g. C.R.S.A. § 37-92-302 (Colorado); A.R.S. § 45-561 (Arizona); RCWA 90.46.100 (Washington); ID ST § 42-1763B and § 42-4201A (Idaho).

The requirement for mitigation in closed basins has been codified in § 85-2-360, *et seq.*, MCA. Section 85-2-360(5), MCA provides in relevant part:

A determination of whether or not there is an adverse effect on a prior appropriator as the result of a new appropriation right is a determination that must be made by the *department based on the amount*, location, and duration of the amount of net depletion that causes the adverse effect relative to the historic beneficial use of the appropriation right that may be adversely affected.

(Emphasis added.)

74. Pursuant to § 85-2-362, MCA, a mitigation plan must include: where and how the water in the plan will be put to beneficial use; when and where, generally, water reallocated through exchange or substitution will be required; the amount of water reallocated through exchange or substitution that is required; how the proposed project or beneficial use for which the mitigation plan is required will be operated; evidence that an application for a change in appropriation right, if necessary, has been submitted; evidence of water availability; and evidence of how the mitigation plan will offset the required amount of net depletion of surface water in a manner that will offset an adverse effect on a prior appropriator.

75. Pursuant to § 85-2-362, MCA, an aquifer recharge plan must include: evidence that the appropriate water quality related permits have been granted pursuant to Title 75, chapter 5, and pursuant to §§ 75-5-410 and 85-2-364, MCA; where and how the water in the plan will be put to beneficial use when and where, generally, water reallocated through exchange or substitution will be required; the amount of water reallocated through exchange or substitution that is required; how the proposed project or beneficial use for which the aquifer recharge plan is required will be operated; evidence that an application for a change in appropriation right, if necessary, has been submitted; a description of the process by which water will be reintroduced to the aquifer; evidence of water availability; and evidence of how the aquifer recharge plan will offset the required amount of net depletion of surface water in a manner that will offset any adverse effect on a prior appropriator.

76. In this case, Applicant proposes to mitigate its full consumptive use under the proposed appropriation. This plan provides mitigation of full depletion of surface waters by the proposed appropriation in amount, location, and duration of the depletion. Because Applicant proposes to

mitigate the full amount of its consumptive use, there is no adverse effect from depletion of surface waters to the historic beneficial use of surface water rights. E.g., *In the Matter of Application for Beneficial Water Use Permit No. 41H 30026244 By Utility Solutions LLC* (DNRC Final Order 2008).

77. The Applicant has proven by a preponderance of the evidence that the water rights of a prior appropriator under an existing water right, a certificate, a permit, or a state water reservation will not be adversely affected. § 85-2-311(1)(b) , MCA. (FOF's 52-63)

### **Adequate Diversion**

#### **FINDINGS OF FACT**

78. The proposed amount of water to be beneficially used is a flow rate of 1.11 CFS and volume of 350 AF. The water management plan for the mine and mill consists of two phases – pre-mill operations and full operation. During pre-mill operations groundwater removed from the mine workings will be conveyed from the portal to the process water pond (PWP) via an 8-inch steel pipeline at a rate not to exceed 1.11 CFS. Water in the PWP will be stored for later use in the mill, however any water removed from the mine that exceeds 1.11 CFS will be conveyed to the water treatment plant (WTP) and discharged back into the ground through an underground infiltration gallery (UIG), and not be put to beneficial use. During the operational phase water will primarily be removed from the mine and conveyed directly to the WTP through an 8-inch steel pipeline, although it may be directed to the PWP when the facility is not full. The method of water collection inside the mine and means of diversion generally consists of water collecting in sumps within the workings, and then pumped to a main sump near the mine's access ramp. From that point, a high-pressure multistage pump will divert up to 2.23 CFS from the mine, but only 1.11 CFS will be stored in either the PWP or treated in the WTP and put to beneficial use. The balance or excess water will be conveyed to the WTP, treated, and discharged through the UIG into the drainage (it may also be routed to the treated water storage pond before discharge). The schematic in Finding of Fact No. 5 of this Preliminary

Determination shows the various facilities used in the mining operation. Application; Department Technical Report.

79. The following water balance schematic is contained in the application materials and shows a flow diagram for the proposed mine operations.<sup>11</sup>

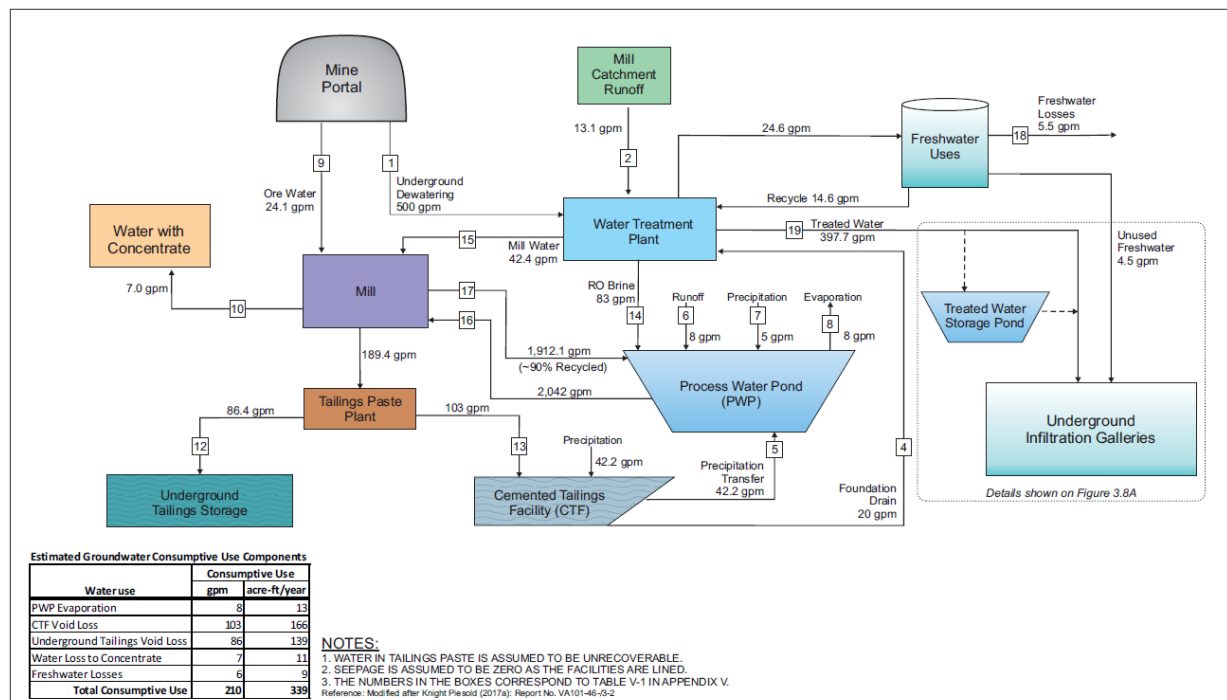


FIGURE 3.8  
 Annual Water Balance Schematic for Mean Case - Year 6  
 Mine Operating Permit Application  
 Black Butte Copper Project  
 Meagher County, Montana

80. The Department finds the proposed means of diversion, construction, and operation of the appropriation works are adequate. Department File.

### CONCLUSIONS OF LAW

81. Pursuant to § 85-2-311(1)(c), MCA, an Applicant must demonstrate that the proposed means of diversion, construction, and operation of the appropriation works are adequate.

82. The adequate means of diversion statutory test merely codifies and encapsulates the case law notion of appropriation to the effect that the means of diversion must be reasonably effective, i.e., must not result in a waste of the resource. *In the Matter of Application for*

<sup>11</sup> The Department found consumptive use for the Industrial purpose to be 340.3 AF instead of 339 AF, as indicated in the diagram, because of a slight difference in surface evaporation assigned to the process water pond.

*Beneficial Water Use Permit No. 33983s41Q by Hoyt* (DNRC Final Order 1981); § 85-2-312(1)(a), MCA.

83. Applicant has proven by a preponderance of the evidence that the proposed means of diversion, construction, and operation of the appropriation works are adequate for the proposed beneficial use. § 85-2-311(1)(c), MCA (FOF's 78-80).

### **Beneficial Use**

#### **FINDINGS OF FACT**

84. The proposed beneficial purpose of use is industrial, and the amount of water beneficially used is a flow rate of 1.11 CFS and volume of 350 AF. An estimated 340.3 AF of the diverted volume will be consumed. Components of the industrial purpose generally include water used in the underground mining operation, the mill, tailings paste plant, and other miscellaneous uses such as dust suppression, ice abatement, and equipment wash bays. Mill water requirements and miscellaneous requirements were quantified by a consultant based on the milling processes and production rates of the mine. The mill design is based upon industry standard processing methods to separate and concentrate copper minerals. Mine production is projected at 3,640 tons of ore per day, and the milling process requires the largest quantity of water within the industrial component of water use. Miscellaneous water uses like dust control, ice abatement and equipment washing will occur as needed. The dust suppression volume is based on an estimated average of 25,000 gallons per day for 90 days, while the ice abatement use equates to applying 3,000 gallons per day for 100 days per year mainly to the mill conveyor and jaw crusher. Equipment washing will include both high and low pressure washing protocols with an estimated 97% of the water being treated and reused. An operational water balance model was developed to assess mean hydrologic characteristics and variability of flows for all proposed mining facilities. The water balance schematic in Finding of Fact No. 80 generally shows flow rate requirements of each component of the industrial process, and the consumptive volume. Application.

85. The Applicant has submitted an application to the Montana Department of Environmental Quality for permitting of the Black Butte Copper Project under the statutory requirements of the Metal Mine Reclamation Act (Mine Operating Permit Application No. 00188).

86. The Department finds the proposed use of water for industrial purposes to be a beneficial use, and the amount of water needed to sustain the beneficial use is 1.11 CFS up to 350 AF per year.

#### CONCLUSIONS OF LAW

87. Under § 85-2-311(1)(d), MCA, an Applicant must prove by a preponderance of the evidence the proposed use is a beneficial use.

88. An appropriator may appropriate water only for a beneficial use. See also, § 85-2-301 MCA. It is a fundamental premise of Montana water law that beneficial use is the basis, measure, and limit of the use. E.g., McDonald, supra; Toohey v. Campbell (1900), 24 Mont. 13, 60 P. 396. The amount of water under a water right is limited to the amount of water necessary to sustain the beneficial use. E.g., Bitterroot River Protective Association v. Siebel, Order on Petition for Judicial Review, Cause No. BDV-2002-519, Montana First Judicial District Court, Lewis and Clark County (2003), *affirmed on other grounds*, 2005 MT 60, 326 Mont. 241, 108 P.3d 518; *In The Matter Of Application For Beneficial Water Use Permit No. 43C 30007297 by Dee Deaterly* (DNRC Final Order), *affirmed other grounds, Dee Deaterly v. DNRC et al*, Cause No. 2007-186, Montana First Judicial District, *Order Nunc Pro Tunc on Petition for Judicial Review* (2009); Worden v. Alexander (1939), 108 Mont. 208, 90 P.2d 160; Allen v. Petrick (1924), 69 Mont. 373, 222 P. 451; *In the Matter of Application for Beneficial Water Use Permit No. 41S-105823 by French* (DNRC Final Order 2000).

Amount of water to be diverted must be shown precisely. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 3 (citing BRPA v. Siebel, 2005 MT 60, and rejecting applicant's argument that it be allowed to appropriate 800 acre-feet when a typical year would require 200-300 acre-feet).

89. It is the applicant's burden to produce the required evidence. Sitz Ranch v. DNRC, DV-10-13390, Fifth Judicial District Court, *Order Affirming DNRC Decision*, (2011) Pg. 7; *In the*



*Matter of Application to Change Water Right No. 41H 1223599 by MGRR #1, LLC., (DNRC Final Order 2005); see also Royston; Ciotti.*

90. Applicant proposes to use water for an industrial purpose which is a recognized beneficial use. § 85-2-102(5), MCA. Applicant has proven by a preponderance of the evidence industrial use is a beneficial use and that a flow rate of 1.11 CFS and diverted volume of 350.0 AF of water is the amount needed to sustain the beneficial use. § 85-2-311(1)(d), MCA (FOF's 84-86)

### **Possessory Interest**

#### **FINDINGS OF FACT**

91. The Applicant signed the affidavit on the application form affirming the Applicant has possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. Jerry Zieg, Senior Vice President of Tintina Montana, Inc. signed the application.

#### **CONCLUSIONS OF LAW**

92. Pursuant to § 85-2-311(1)(e), MCA, an Applicant must prove by a preponderance of the evidence that it has a possessory interest or the written consent of the person with the possessory interest in the property where the water is to be put to beneficial use, or if the proposed use has a point of diversion, conveyance, or place of use on national forest system lands, the applicant has any written special use authorization required by federal law to occupy, use, or traverse national forest system lands for the purpose of diversion, impoundment, storage, transportation, withdrawal, use, or distribution of water under the permit.

93. Pursuant to ARM 36.12.1802:

(1) An applicant or a representative shall sign the application affidavit to affirm the following:

(a) the statements on the application and all information submitted with the application are true and correct and

(b) except in cases of an instream flow application, or where the application is for sale, rental, distribution, or is a municipal use, or in any other context in which water is being supplied to another and it is clear that the ultimate user will not accept the supply without consenting to the use of water on the user's place of use, the applicant has possessory

interest in the property where the water is to be put to beneficial use or has the written consent of the person having the possessory interest.

(2) If a representative of the applicant signs the application form affidavit, the representative shall state the relationship of the representative to the applicant on the form, such as president of the corporation, and provide documentation that establishes the authority of the representative to sign the application, such as a copy of a power of attorney.

(3) The department may require a copy of the written consent of the person having the possessory interest.

94. The Applicant has proven by a preponderance of the evidence that it has a possessory interest, or the written consent of the person with the possessory interest, in the property where the water is to be put to beneficial use. § 85-2-311(1)(e), MCA. (FOF 91)

### **PRELIMINARY DETERMINATION**

Subject to the terms, analysis, and conditions in this Order, the Department preliminarily determines that this Application for Beneficial Water Use Permit No. 41J 30116562 should be GRANTED.

The Department determines the Applicant may divert groundwater (Lower Newland Formation) for industrial purposes by means of a pump, from January 1 through December 31, at a flow rate of 1.11 CFS up to 350.0 AF in diverted volume. The point of diversion is in the NENESE Section 25, T12N, R6E (mine portal) and the place of use includes the area within the mine boundary in Sections 19, 29, 30, 31 and 32, T12N R7E; and Sections 24, 25 and 36 in T12N, R6E, Meagher County.

Applicant shall offset depletions to surface water caused by its groundwater appropriation in the amount of 340.3 AF. The surface water sources that will be depleted, and the flow rate and volume that shall be replaced in each source, including the period of time are: Black Butte Creek (45 GPM and 34.8 AF between April 20 and October 10), Coon Creek (70 GPM and 113.1 AF between January 1 and December 31), and Sheep Creek downstream of Little Sheep Creek (96 GPM between April 20 and October 10, and 141 GPM between October 11 and April 19, for a total annual volume of 192.4 AF). 340.3 AF in volume shall be replaced based on

Preliminary Determination Nos. 41J 30116563, 41J 30116553, 41J 30116554, 41J 30116556, 41J 30116557, 41J 30116558, and 41J 30116559. These preliminary determinations have been issued concurrent with this preliminary determination, and if any combination of mitigation permits or authorizations are subsequently invalidated, such that less than 340.3 AF are available for mitigation purposes, this permit shall likewise be invalidated. The combined amount of water issued for mitigation of this permit must be at least 340.3 AF for the mitigation plan to be effective.

### **CONDITIONS**

This Preliminary Determination is subject to the following conditions, limitations or restrictions. Diversion under this Permit may not commence until the mitigation or aquifer recharge plan described in this decision is implemented. Diversion under this Permit must stop if the mitigation or aquifer recharge plan as herein required in amount, location and duration ceases in whole or in part.

1. **WATER MEASUREMENT REQUIRED**

THE APPROPRIATOR SHALL INSTALL A DEPARTMENT-APPROVED WATER USE MEASURING DEVICE IN THE DIVERSION WORKS THAT APPROPRIATES WATER FROM THE MINE PORTAL. WATER MUST NOT BE DIVERTED UNTIL THE REQUIRED MEASURING DEVICE IS IN PLACE AND OPERATING. THE APPROPRIATOR SHALL KEEP A WRITTEN MONTHLY RECORD OF THE FLOW RATE AND VOLUME OF ALL WATER DIVERTED, INCLUDING THE PERIOD OF TIME.

RECORDS SHALL BE SUBMITTED BY DECEMBER 31 OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR. FAILURE TO SUBMIT RECORDS MAY BE CAUSE FOR REVOCATION OF THE PERMIT. THE RECORDS MUST BE SENT TO THE WATER RESOURCES REGIONAL OFFICE LISTED BELOW. THE APPROPRIATOR SHALL MAINTAIN THE MEASURING DEVICE SO IT ALWAYS OPERATES PROPERLY AND MEASURES FLOW RATE ACCURATELY. SUBMIT RECORDS TO:

LEWISTOWN WATER RESOURCES OFFICE  
613 NE MAIN ST, SUITE E  
LEWISTOWN, MT  
PHONE: 406-538-7459

2. MITIGATION PLAN

THIS GROUNDWATER PERMIT IS ASSOCIATED TO PERMIT NO. 41J 30116563, AND CHANGE AUTHORIZATION NOS. 41J 30116553, 41J 30116554, 41J 30116556, 41J 30116557, 41J 30116558, AND 41J 30116559. PERMIT NO. 41J 30116563 INCLUDES A SURFACE WATER APPROPRIATION TO STORE WATER, AND THE REMAINING CHANGE AUTHORIZATIONS INCLUDE CHANGES TO EXISTING IRRIGATION WATER RIGHTS, ALL FOR PURPOSES OF MITIGATING SURFACE WATER DEPLETIONS CAUSED BY THIS GROUNDWATER PERMIT. ADMINISTRATION OF THE WATER RIGHTS MUST BE COORDINATED TO PROPERLY EXECUTE THE APPROPRIATOR'S MITIGATION PLAN.

WHEN BENEFICIALLY USING WATER UNDER THIS GROUNDWATER PERMIT THE APPROPRIATOR'S APPROVED MITIGATION PLAN FOR SHEEP CREEK, BLACK BUTTE CREEK, AND COON CREEK IS AS FOLLOWS. APPROPRIATOR SHALL DISCHARGE WATER FROM ITS NON-CONTACT WATER RESERVOIR (AUTHORIZED IN PERMIT NO. 41J 30116563) IN THE FOLLOWING AMOUNT AND TIMING: 70 GALLONS PER MINUTE AND 113.1 ACRE-FEET, FROM JANUARY 1 THROUGH DECEMBER 31, IN COON CREEK; 45 GALLONS PER MINUTE AND 34.4 ACRE-FEET, FROM APRIL 20 THROUGH OCTOBER 10, IN BLACK BUTTE CREEK. FOR SHEEP CREEK, THE APPROPRIATOR SHALL DISCHARGE THE FOLLOWING AMOUNT AND/OR PROVIDE MITIGATION WATER FROM THE PURCHASE OF WATER MARKETED FROM EXISTING WATER RIGHTS: 96 GALLONS PER MINUTE FROM APRIL 20 THROUGH OCTOBER 10, AND 141 GALLONS PER MINUTE FROM OCTOBER 11 THROUGH APRIL 19, FOR A TOTAL VOLUME OF 192.4 ACRE-FEET. MITIGATION WATER MUST BE RELEASED INTO COON CREEK AND BLACK BUTTE CREEK AND IN THE FOLLOWING DISCHARGE LOCATION IN SHEEP CREEK: SWNENW SECTION 30, T12N, 7E.

ACCOUNTING OF ALL WATER DISCHARGED FROM THE NON-CONTACT RESERVOIR AND PURCHASED FOR MITIGATION PURPOSES SHALL BE RECORDED, INCLUDING THE PERIOD OF TIME, AND SHALL BE SUBMITTED BY DECEMBER 31 OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR. THE AMOUNT OF WATER REQUIRED FOR MITIGATION PURPOSES IS 340.3 ACRE-FEET ANNUALLY. FAILURE TO EXECUTE THE MITIGATION PLAN AS OUTLINED IN THIS PRELIMINARY DETERMINATION,

OR FAILURE TO SUBMIT RECORDS, SHALL BE CAUSE FOR REVOCATION OF THE PERMIT. THE RECORDS MUST BE SENT TO THE WATER RESOURCES REGIONAL OFFICE LISTED BELOW.

LEWISTOWN WATER RESOURCES OFFICE  
613 NE MAIN ST, SUITE E  
LEWISTOWN, MT  
PHONE: 406-538-7459

**NOTICE**

The Department will provide public notice of this Application and the Department's Preliminary Determination to Grant pursuant to § 85-2-307, MCA. The Department will set a deadline for objections to this Application pursuant to §§ 85-2-307, and -308, MCA. If this Application receives no valid objection or all valid objections are unconditionally withdrawn, the Department will grant this Application as herein approved. If this Application receives a valid objection, the application and objection will proceed to a contested case proceeding pursuant to Title 2 Chapter 4 Part 6, MCA, and § 85-2-309, MCA. If valid objections to an application are received and withdrawn with stipulated conditions and the Department preliminarily determined to grant the permit or change in appropriation right, the Department will grant the permit or change subject to conditions necessary to satisfy applicable criteria.

DATED this 13<sup>th</sup> day of March 2020

/Original signed by Scott Irvin/  
Scott Irvin, Regional Manager  
Lewistown Regional Office  
Department of Natural Resources and Conservation

**CERTIFICATE OF SERVICE**

This certifies that a true and correct copy of the PRELIMINARY DETERMINATION TO GRANT was served upon all parties listed below on this 13<sup>th</sup> day of March 2020 by first class United States mail.

JOHN TIETZ  
PO BOX 1697  
HELENA, MT 59624

\_\_\_\_\_  
NAME

\_\_\_\_\_  
DATE