

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

**APPLICATION FOR BENEFICIAL
WATER USE PERMIT NO. 42M 30070792)
BY THATCHER COMPANY OF NORTH) PRELIMINARY DETERMINATION TO
DAKOTA INC) GRANT PERMIT**

On September 18, 2014, Thatcher Company of North Dakota Inc (Applicant) submitted Application for Beneficial Water Use Permit No. 42M 30070792 to the Glasgow Water Resources Office of the Department of Natural Resources and Conservation (Department or DNRC) for 79.6 GPM (Gallons per Minute) up to 120.6 AF (acre-feet) diverted volume of groundwater for industrial use. The Department published receipt of the Application on its website. The Application was determined to be correct and complete as of December 29, 2014. A waiver of timeline form was received on February 23, 2015. An Environmental Assessment for this Application was completed on April 6, 2016.

INFORMATION

The Department considered the following information submitted by the Applicants.

Application as filed:

- Application for Beneficial Water Use Permit, Form 600
- Attachments
- Maps: aerial photo with the proposed wells and place of use depicted.
- Electronic copy of Form 633

Information Received after Application Filed

- Waiver of Timeline form received on February 23, 2015. The waiver was requested by the Applicant to take monthly flow measurements in Upper Sevenmile Creek.

- Applicant provided additional information, received on December 28, 2015, which included monthly flow measurements on Upper Sevenmile Creek.

Information within the Department's Possession/Knowledge

- Aquifer Test Report by DNRC ground water Hydrologist Attila Fohnagy, dated January 12, 2015.
- Depletion Report by DNRC ground water Hydrologist Attila Fohnagy, dated October 31, 2014.
- Department record of existing water rights
- USGS records for gaging station #06327500, Yellowstone River near Glendive, MT

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).

PROPOSED APPROPRIATION

FINDINGS OF FACT

1. The Applicant proposes to divert water from a groundwater aquifer by means of two wells (well #1-126 feet deep and Well #2- 160 feet deep) from January 1-December 31 at 79.6 GPM up to 120.6 AF, from points in the SESWNESW and NESWNESW Section 33, T16N, R55E, Dawson County, for industrial use (chemical redistribution plant) from January 1-December 31. The place of use is located in the NESW and NWSWSE Section 33, T16N, R55E, Dawson County.
2. Water from the proposed diversion will be used for blending and diluting chemical products, such as hydrochloric acid and caustic soda. The chemical products will be then trucked to regional customers. The consumptive use of the proposed diversion is considered 100 percent.

3. The Applicant's design plans include the use of totalizing flow meters installed to measure the flow rate and volume diverted. In order to substantiate the beneficial use criteria and ensure that the requested flow rate and volume is not exceeded, flow rate and volume reporting is necessary.

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

GENERAL CONCLUSIONS OF LAW

4. 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 § 85-2-102, 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 . . .

5. 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.

6. 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); Admin. R. Mont. (ARM) 36.12.207.

7. The Montana Supreme Court further recognized in Matter of Beneficial Water Use Permit Numbers 66459-76L, Ciotti: 64988-G76L, Starnier (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).

8. 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.

9. The Department may take notice of judicially cognizable facts and generally recognized technical or scientific facts within the Department's specialized knowledge, as specifically identified in this document. ARM 36.12.221(4).

Physical Availability

FINDINGS OF FACT

10. The Applicant provided aquifer test results for a 72-hour pump test on Well #1. A variance was granted that permitted the Applicant to submit results from an 8-hour drawdown and yield test on Well #2 instead of the required 72-hour aquifer test. An Aquifer Test Report and Depletion Report were completed by DNRC groundwater Hydrologist Attila Fohnagy on January 12, 2015 and October 31, 2014, respectively. The Aquifer Test Report confirmed that the aquifer test and methods utilized were adequate.

11. This project will use two wells located approximately 469 feet apart. Well #1 is 126 feet deep, has a casing diameter of 4.5 inches, and a static water level of 10.5 feet. The screened portion of the well is from 86-121 feet below ground surface (BGS). Well #2 is 160 feet deep, has a casing diameter of 8 inches, and a static water level of 24.3 feet. The screened portion of the well is from 132-152 BGS. The wells are completed in the fine to medium grained sandstone of the confined Fox Hills-Lower Hell Creek Aquifer.

12. Background groundwater monitoring of static water levels was performed on the Well #1, Well #2, and two monitoring wells. A 72-hour aquifer test was conducted on Well #1 with an average flow rate of 48.7 GPM. An eight hour drawdown test was conducted on Well #2.

13. The 72-hour aquifer test started on May 7, 2014, at 9:36 A.M. and continued uninterrupted until 9:59 A.M. on May 10, 2014, at an average flow rate of 48.7 GPM for the duration of the test. Discharge was measured using a 2 inch Seametrics magnetic flow meter with data logger and was conveyed 200 feet down slope away from the site. The maximum drawdown in the pumping well (Well #1) was 60.9 feet from the static water level of 11.4 feet BGS leaving 53.7 feet of available drawdown. Well #2 is located 469 feet from the Well #1 and exhibited a maximum drawdown of 26 feet. The first measurable drawdown in Well #2 did not occur until

45 minutes into the test. The two monitoring wells are 949 and 427 feet from Well #1, did exhibit decreasing water levels during the test; however, the magnitudes of the changes were too small to discern as measurable drawdown or not.

14. AQTESOLV (HydroSOLVE, Inc 2007) was used to analyze drawdown from the aquifer test to obtain estimates of aquifer properties for Well #1. The Theis (1935) Solution for a Pumping Test in a Confined Aquifer was used to analyze Well #2. The recommended aquifer properties are transmissivity = 300 ft²/day and storativity = 5.6 x 10⁻⁴ for the aquifer. Based on the analysis, there is 616,500 ft³/day or 5165.8 AF per year of aquifer flux through the delineated area.

15. The Depletion Report identifies that surface water depletion by the proposed groundwater pumping of the proposed wells will manifest within the Yellowstone River and Upper Sevenmile Creek throughout the year. The total depletion will be equally proportioned between the Yellowstone River and Upper Sevenmile Creek. As the proposed appropriation depletes surface water, physical availability of surface water will be quantified on the depleted sources.

16. The following USGS gage was utilized to quantify median of mean monthly flows and volumes on the Yellowstone River: USGS Station #06327500, Yellowstone River near Glendive, MT. The Yellowstone River portion of the depletion will manifest in the Yellowstone River at a location ¼ mile upstream of the confluence of Upper Sevenmile Creek and the Yellowstone River. The following table shows the median of mean monthly flows (CFS) at the gaging station during the year.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4800	4945	6860	8070	19720	42900	24540	9709	7555	6500	5666	4880

17. A list of all intervening water rights between the USGS gage and the location where the depletion is identified to manifest was generated in order to calculate flow rate and volume physically available.

Yellowstone River Water Rights Between USGS Gage and Point Where Surface Depletions Manifest				
Number	Purpose	Period of Diversion	Flow (CFS)	Volume (AF)
42M 9405 00	IRRIGATION	05/15 to 09/30	0.88	160
42M 56487 00	IRRIGATION	05/01 to 09/01	3.3	82
42M 9938 00	MUNICIPAL	01/01 to 12/31	4.53	3281
42M 163263 00	IRRIGATION	04/01 to 10/31	2.84	225
42M 11245 00	IRRIGATION	04/01 to 10/15	6.66	252
42M 178324 00	IRRIGATION	04/01 to 09/30	2.92	250
42M 51980 00	LAWN AND GARDEN	05/01 to 10/31	0.07	4
42M 206680 00	IRRIGATION	05/01 to 09/20	1.04	41
42M 27405 00	IRRIGATION	04/15 to 10/31	0.05	10
42M 101518 00	IRRIGATION	04/01 to 10/31	0.45	111
42M 163649 00	IRRIGATION	04/01 to 09/30	0.51	34.3
42M 36815 00	LAWN AND GARDEN	01/01 to 12/31	0.33	7.6
42M 11244 00	IRRIGATION	04/01 to 10/15	6.66	84
42M 163311 00	DOMESTIC	04/01 to 11/01	0.06	4
42M 15999 00	IRRIGATION	04/01 to 10/31	11.14	270
42M 17035 00	IRRIGATION	04/01 to 10/31	11.14	90
42M 163637 00	LAWN AND GARDEN	06/01 to 10/01	0.03	2
42M 164209 00	IRRIGATION	04/01 to 09/30	0.47	31.5

18. The following tables show calculated monthly availability of flow and volume at the location where depletions will manifest. The volumes were calculated by multiplying the median of the mean monthly flow rate (CFS) by the number of days in the month by 1.98 AF/CFS/day.

Physical Availability- Flow (CFS)			
Month	Median of Mean Flow	Water Rights Between POD and Gage	Flow Physically Available
January	4800	4.86	4805
February	4945	4.86	4950
March	6860	4.86	6865
April	8070	47.76	8118

May	19720	53.05	19773
June	42900	53.08	42953
July	24540	53.08	24593
August	9709	53.08	9762
September	7555	53.08	7608
October	6500	43.96	6544
November	5666	4.92	5671
December	4880	4.86	4885

Physical Availability- Volume (AF)			
Month	Median of Mean Volume	Water Rights Between POD and Gage	Volume Physically Available
January	294624	274.05	294898
February	274151	274.05	274425
March	421067	274.05	421341
April	479358	476.04	479834
May	1210414	533.31	1210947
June	2548260	533.71	2548794
July	1506265	533.71	1506799
August	595938	533.71	596472
September	448767	533.71	449301
October	398970	424.47	399394
November	336560	274.55	336835
December	299534	274.05	299808

19. Upper Sevenmile Creek is an ungaged, non-perennial stream that drains into the Yellowstone River near Glendive, MT. The Upper Sevenmile Creek portion of the depletions will manifest in Upper Sevenmile Creek downstream of the I-94 Bridge to the confluence with the Yellowstone River.

20. To determine the physical availability of water in Upper Sevenmile Creek at the I-94 Bridge, the method described in the USGS Water Resources Investigation Report 84-4143 (“A Method for Estimating Mean Annual Runoff of Ungaged Streams Based on Characteristics in Central and Eastern Montana”) was used. The analysis showed there was no water physically

available in eleven months of the year. A Technical Report was sent to the Applicant on December 29, 2014 which provided the results of the analysis. The Applicant met with the Department on January 13, 2015 to discuss the application. The Applicant submitted a Waiver of Timeline form on February 23, 2015 in order to collect monthly flow measurements. On March 25, 2015 Nate Ward (DNRC-Water Resource Specialist) and Mike Dailey (DNRC Hydrologist) met with Applicant’s consultant Mike Meredith (HydroSolutions) at a point along Upper Sevenmile Creek, just downstream of the I-94 Bridge in Glendive, MT. The measurement site was selected to coincide with the farthest upstream projected point of depletion (the I-94 Bridge).

21. The table below represents the amount of water physically available in Upper Sevenmile Creek. The table provides the average of the flow measurements taken each month. The measurements were taken an average of 4 times per month.

Upper Sevenmile Creek Streamflow Measurements - 2015 (CFS)	
March	6.2
April	8.9
May	20.8
June	9.7
July	5.5
August	7.1
September	12.9
October	0.7
November	0.7
December	Ice
January	Ice
February	Ice

22. The Department finds that both groundwater and hydraulically connected surface water is physically available in the amount proposed for diversion.

CONCLUSIONS OF LAW

23. 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.”

24. 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).

25. 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).

26. The Applicants have proven that water is physically available at the proposed point of diversion in the amount Applicants seek to appropriate. § 85-2-311(1)(a)(i), MCA. (FOF 10-22)

Legal Availability

FINDINGS OF FACT

27. Modeling results show that the 0.01 foot drawdown contour occurs at 68,500 feet from the Applicant’s wells, not including the area east of the Yellowstone River.

28. There are 545 existing groundwater water rights within the identified zone of influence of 68,500 feet from the wells. After inputting 2 AF and 5 AF for each domestic right and stock right, respectively, that did not have an assigned volume; the groundwater legal demand calculated within the zone of influence is 3423.5 AF per annum. Subtracting the legal demands from the calculated aquifer flux (5165.8 AF) leaves 1742.3 AF of groundwater per annum legally available. The full list of groundwater rights identified within the zone of influence is below.

WRNUMBER	VOLUME	WRNUMBER	VOLUME	WRNUMBER	VOLUME	WRNUMBER	VOLUME
42M 10019 00	2	42M 163739 00	4	42M 30016788	2	42M 46970 00	4
42M 101037 00	4.2	42M 163744 00	5	42M 30016789	2	42M 46972 00	1.5
42M 101054 00	2.25	42M 163746 00	1.5	42M 30017800	5	42M 46978 00	0.5
42M 102461 00	5.2	42M 163758 00	53.7	42M 30017801	5	42M 46980 00	3.52
42M 102766 00	0.98	42M 163759 00	84.4	42M 30018128	5	42M 47455 00	3
42M 102810 00	5	42M 163765 00	5	42M 30018176	2	42M 47459 00	4
42M 104417 00	1.63	42M 163766 00	5	42M 30018278	2	42M 47576 00	5
42M 104478 00	2.2	42M 163767 00	5	42M 30018465	5	42M 47577 00	5
42M 104503 00	1.63	42M 163768 00	2	42M 30018466	5	42M 47872 00	14.5
42M 10480 00	2	42M 163770 00	5	42M 30018498	2	42M 48224 00	40.3
42M 106948 00	1.63	42M 163771 00	2	42M 30020922	2	42M 48225 00	72.6
42M 106954 00	1.63	42M 163783 00	5	42M 30020949	2	42M 48226 00	40.3
42M 106982 00	0.9	42M 163828 00	5	42M 30020954	2	42M 48612 00	1.5
42M 107004 00	1.63	42M 163830 00	1	42M 30021321	2	42M 49179 00	1.5
42M 10750 00	2	42M 164203 00	3	42M 30021383	2	42M 49197 00	1.9
42M 108464 00	2.55	42M 164204 00	5	42M 30021390	2	42M 49232 00	45
42M 1090 00	2	42M 164375 00	1.5	42M 30021428	2	42M 50223 00	45.6
42M 109519 00	1.68	42M 164407 00	2.5	42M 30021475	2	42M 50278 00	2.93
42M 109579 00	1.63	42M 164408 00	5	42M 30021590	2	42M 50344 00	5.04
42M 109596 00	2.29	42M 164409 00	1.5	42M 30021597	2	42M 50346 00	2.6
42M 111326 00	1.63	42M 164440 00	1.5	42M 30021603	2	42M 51835 00	2
42M 111333 00	1.63	42M 164456 00	1.5	42M 30021607	2	42M 51908 00	1.5
42M 111351 00	1	42M 164457 00	5	42M 30021634	2	42M 51940 00	1.75
42M 111391 00	2.63	42M 164458 00	5	42M 30021654	2	42M 51978 00	1.5
42M 111446 00	1	42M 164461 00	1.6	42M 30021656	5	42M 5258 00	2
42M 111454 00	2.15	42M 164487 00	3	42M 30021658	5	42M 53240 00	3
42M 11292 00	2	42M 164918 00	2	42M 30021671	5	42M 53241 00	3
42M 11412 00	2	42M 164919 00	5	42M 30021679	2	42M 53273 00	1.5
42M 114653 00	1.63	42M 16503 00	1.5	42M 30021681	2	42M 53277 00	1.5
42M 114726 00	1.63	42M 16514 00	1.5	42M 30021691	2	42M 55456 00	1.7
42M 114753 00	4.6	42M 165207 00	48	42M 30021696	5	42M 57314 00	1.5
42M 11494 00	5	42M 165732 00	1	42M 30021697	5	42M 57452 00	1.5
42M 116902 00	1.63	42M 165744 00	1.4	42M 30021702	2	42M 59574 00	1.5
42M 117152 00	14.52	42M 165745 00	1.4	42M 30021704	5	42M 59626 00	1.5
42M 117160 00	1	42M 165748 00	10	42M 30021874	0.6	42M 59648 00	1.6
42M 117193 00	1.5	42M 165777 00	5	42M 30021875	1	42M 61793 00	1.5
42M 117194 00	1.5	42M 165781 00	5	42M 30021876	0.6	42M 61794 00	3
42M 117213 00	5	42M 165789 00	1.5	42M 30021923	2	42M 61818 00	2
42M 117214 00	2	42M 165799 00	2	42M 30022662	5	42M 61828 00	3
42M 117218 00	5	42M 165801 00	3	42M 30022814	2	42M 61846 00	1.5
42M 117221 00	1	42M 165802 00	2	42M 30022815	2	42M 61847 00	1.5
42M 117578 00	2	42M 1659 00	1	42M 30026206	5	42M 61883 00	1.5
42M 11820 00	5	42M 16697 00	2	42M 30027291	2	42M 63922 00	1.5
42M 11842 00	2	42M 16817 00	1.5	42M 30027587	2	42M 63925 00	1.5
42M 11909 00	2	42M 16837 00	1.5	42M 30029213	5	42M 63968 00	4.18

42M 11916 00	1.5	42M 16868 00	1.5	42M 30029215	5	42M 64043 00	1.5
42M 12020 00	17	42M 169040 00	4	42M 30029556	2	42M 6571 00	2
42M 12021 00	17	42M 169051 00	1.5	42M 30029883	2	42M 66177 00	12.61
42M 12075 00	2	42M 169065 00	5	42M 30030261	5	42M 66195 00	1.28
42M 12182 00	2	42M 169095 00	9	42M 30030908	2	42M 66261 00	1.5
42M 122074 00	5	42M 169096 00	1	42M 30042593	7	42M 66266 00	1.02
42M 122082 00	5	42M 169099 00	5	42M 30044096	1	42M 66308 00	10.5
42M 122083 00	1.5	42M 169100 00	1	42M 30046315	1	42M 66310 00	1
42M 122117 00	1.5	42M 17270 00	3	42M 30047426	1	42M 66315 00	1.6
42M 12298 00	2	42M 17271 00	1.5	42M 30048781	2.25	42M 6861 00	5
42M 12299 00	5	42M 17272 00	5	42M 30050623	1.25	42M 6920 00	2
42M 12419 00	1.5	42M 178279 00	3	42M 30052008	5.71	42M 69215 00	1.5
42M 12458 00	87.9	42M 178293 00	5	42M 30052298	1	42M 69228 00	1.5
42M 12504 00	240	42M 178301 00	2	42M 30063832	2.98	42M 69243 00	7.25
42M 13108 00	5	42M 178302 00	3	42M 30063890	1.15	42M 69295 00	1.5
42M 133008 00	5	42M 178303 00	3	42M 30064163	1.24	42M 70180 00	4.25
42M 133024 00	1.5	42M 178305 00	5	42M 30066176	3.5	42M 70196 00	1.5
42M 13325 00	87.9	42M 178310 00	5	42M 30069185	1	42M 70261 00	0.5
42M 13458 00	2	42M 178312 00	10	42M 30069578	2	42M 7369 00	5
42M 1353 00	5	42M 178323 00	5	42M 30069581	5	42M 73763 00	1.67
42M 142578 00	1.5	42M 178325 00	2	42M 30069778	2.03	42M 73799 00	2.24
42M 14331 00	0.5	42M 178333 00	2	42M 30069779	5	42M 742 00	2
42M 14478 00	1.5	42M 178334 00	1.5	42M 30069852	3.55	42M 74356 00	2.58
42M 14636 00	1.5	42M 178335 00	1.5	42M 30070141	1.7	42M 74357 00	2.58
42M 14701 00	1.5	42M 178360 00	5	42M 30070500	1.81	42M 74358 00	0.81
42M 14861 00	1.5	42M 178361 00	5	42M 30070790	0.43	42M 74359 00	2.58
42M 14867 00	13.55	42M 178362 00	5	42M 30070791	7.74	42M 74363 00	1.5
42M 15397 00	1.5	42M 178363 00	5	42M 30438 00	3	42M 7446 00	2
42M 15406 00	1.88	42M 178364 00	5	42M 31417 00	2	42M 74608 00	1.5
42M 15620 00	2.25	42M 178365 00	5	42M 31432 00	6	42M 75815 00	2.87
42M 16126 00	1.5	42M 178377 00	5	42M 31433 00	5	42M 75851 00	3.57
42M 16153 00	1.5	42M 178380 00	5	42M 3212 00	2	42M 76542 00	3.58
42M 162502 00	5	42M 17859 00	1.5	42M 32888 00	76.5	42M 7668 00	4.5
42M 162513 00	5	42M 182721 00	1.1	42M 33722 00	1.5	42M 77135 00	2.55
42M 162528 00	2.8	42M 182726 00	1.5	42M 33816 00	9	42M 77522 00	2.41
42M 162529 00	5	42M 18284 00	1.5	42M 33979 00	9	42M 77533 00	1.5
42M 162530 00	3	42M 18320 00	3.27	42M 34102 00	1.5	42M 7772 00	1.5
42M 162532 00	5	42M 187550 00	5	42M 34889 00	40.32	42M 779 00	2
42M 162537 00	5	42M 187551 00	5	42M 34890 00	56.45	42M 79036 00	0.5
42M 162542 00	3	42M 18760 00	1.5	42M 34891 00	70.5	42M 79871 00	1.76
42M 162543 00	5	42M 188023 00	7	42M 34898 00	1.65	42M 80535 00	3.88
42M 162552 00	5	42M 188024 00	1	42M 35103 00	13.5	42M 80547 00	6.1
42M 162562 00	5	42M 19345 00	1.55	42M 35286 00	1.18	42M 81305 00	1
42M 162563 00	2	42M 19613 00	5	42M 35436 00	3	42M 81328 00	3.5
42M 162568 00	5	42M 202501 00	2	42M 35856 00	1.5	42M 81331 00	1
42M 162634 00	2.5	42M 20344 00	1.5	42M 35947 00	9.6	42M 81354 00	3.5

42M 162635 00	1	42M 213192 00	6	42M 37031 00	5	42M 8260 00	2
42M 163135 00	1.5	42M 21322 00	1.5	42M 3759 00	2	42M 8285 00	2
42M 163169 00	5	42M 21451 00	80.5	42M 38146 00	13.5	42M 83044 00	1
42M 163170 00	5	42M 21460 00	1.5	42M 3871 00	2	42M 83058 00	1
42M 163173 00	5	42M 21461 00	1.5	42M 39689 00	6.45	42M 8464 00	2
42M 163175 00	5	42M 21931 00	1.5	42M 39858 00	1.5	42M 84820 00	2.7
42M 163177 00	1.5	42M 2200 00	2	42M 4002 00	2	42M 86165 00	0.88
42M 163183 00	5	42M 22448 00	1.5	42M 40890 00	7.7	42M 86188 00	3.53
42M 163185 00	2	42M 22900 00	2	42M 40972 00	1.5	42M 86190 00	1.7
42M 163187 00	5	42M 23945 00	1.5	42M 41337 00	5	42M 86196 00	0.9
42M 163188 00	2	42M 2402 00	1	42M 4135 00	2	42M 8893 00	1
42M 163189 00	5	42M 24397 00	5	42M 4139 00	7	42M 89114 00	2
42M 163191 00	5	42M 24398 00	1	42M 41500 00	22.5	42M 89843 00	1.68
42M 163192 00	2	42M 24535 00	1.5	42M 41501 00	22.5	42M 89869 00	1.58
42M 163194 00	5	42M 24732 00	6	42M 41509 00	2	42M 89893 00	1.28
42M 163195 00	2	42M 25126 00	1.57	42M 41537 00	1.5	42M 9105 00	5
42M 163196 00	2	42M 2674 00	1.05	42M 4266 00	5	42M 9122 00	2
42M 163197 00	2	42M 27279 00	3	42M 42856 00	1.5	42M 9165 00	2
42M 163215 00	5	42M 27280 00	0.7	42M 43015 00	64.51	42M 9166 00	5
42M 163218 00	5	42M 28857 00	1.5	42M 43016 00	64.51	42M 91915 00	0.34
42M 163219 00	5	42M 29708 00	2.52	42M 43064 00	5	42M 9269 00	2
42M 163222 00	5	42M 30001122	1.63	42M 43297 00	1.5	42M 933 00	215
42M 163233 00	5	42M 30002277	4.9	42M 4373 00	5	42M 9421 00	2
42M 163261 00	3.2	42M 30002713	1.63	42M 44289 00	63	42M 94577 00	7.25
42M 163298 00	2.6	42M 30002808	1.63	42M 44386 00	4	42M 94595 00	0.67
42M 163300 00	5	42M 30002974	7.95	42M 44756 00	1.5	42M 94611 00	1.66
42M 163301 00	1.5	42M 30003057	8.43	42M 44866 00	2	42M 9597 00	5
42M 163302 00	5	42M 30004044	1.63	42M 45379 00	3.5	42M 96394 00	0.17
42M 163307 00	0.4	42M 30004173	1.63	42M 45383 00	3.52	42M 97773 00	1.63
42M 163310 00	0.8	42M 30005634	0.8	42M 45411 00	1.34	42M 97777 00	1
42M 163361 00	5	42M 30006043	1.63	42M 45436 00	0.67	42M 97778 00	2.1
42M 163362 00	1.5	42M 30006061	0.3	42M 45437 00	0.67	42M 97779 00	1.18
42M 163419 00	5	42M 30008320	2	42M 4583 00	2	42M 97780 00	2.68
42M 163447 00	10	42M 30008520	2	42M 45891 00	2.09	42M 97781 00	1.12
42M 163458 00	5	42M 30009326	5	42M 45920 00	61	42M 97803 00	1.7
42M 163463 00	1.7	42M 30009368	2	42M 46173 00	10.65	42M 97820 00	2.91
42M 163464 00	5	42M 30011914	5	42M 46177 00	4.43	42M 97824 00	5.81
42M 163480 00	2	42M 30012106	2	42M 46366 00	2	42M 99028 00	2.5
42M 163555 00	1.5	42M 30012226	5	42M 46547 00	1.5	42M 99029 00	2.5
42M 163597 00	2.6	42M 30013316	2	42M 46649 00	1	42M 99033 00	2.55
42M 163599 00	2.2	42M 30013317	2	42M 46652 00	6	42M 99071 00	1
42M 163600 00	2.2	42M 30013636	2	42M 46654 00	2.23	42M 9983 00	5
42M 163601 00	43	42M 30014957	2	42M 46655 00	3.36	42M 46969 00	5
42M 163602 00	71	42M 30015691	5	42M 46656 00	3.36	42M 30016735	2
42M 163603 00	43	42M 30015984	2	42M 46657 00	1.4	42M 30016380	2
42M 46960 00	2.13					Total (AF)	3423.5

29. The Depletion Report written by DNRC Groundwater Hydrologist Attila Fohnagy identifies that the surface water depletion from pumping the Applicant's wells for the proposed industrial use will manifest in the Yellowstone River and Upper Sevenmile Creek. The total net depletion in the table will be evenly divided between the Yellowstone River and Upper Sevenmile Creek. The depletion for each source will be 37.4 GPM and 5 AF per month.

30. Legal availability of surface water on the Yellowstone River was analyzed from the point where the surface water was to manifest (1/4 mile upstream of the confluence with Upper Sevenmile Creek) to approximately 5 miles downstream.

31. The following tables show the existing legal demands and legal availability of water (flow and volume) after accounting for existing legal demands within the area of potential impact on the Yellowstone River.

Yellowstone River Legal Demands				
Number	Purpose	Period of Diversion	Flow (CFS)	Volume (AF)
42M 9405 00	IRRIGATION	05/15 to 09/30	0.88	160
42M 163718 00	STOCK	01/01 to 12/31		9
42M 163184 00	IRRIGATION	04/01 to 11/01	6.7	531
42M 56487 00	IRRIGATION	05/01 to 09/01	3.3	82
42M 9938 00	MUNICIPAL	01/01 to 12/31	4.53	3281
42M 11245 00	IRRIGATION	04/01 to 10/15	6.66	252
42M 178324 00	IRRIGATION	04/01 to 09/30	2.92	250
42M 101518 00	IRRIGATION	04/01 to 10/31	0.45	111
42M 30006470	LAWN AND GARDEN	03/15 to 11/15	0.06	9.3
42M 163263 00	IRRIGATION	04/01 to 10/31	2.84	225
42M 206680 00	IRRIGATION	05/01 to 09/20	1.04	41
42M 163756 00	MUNICIPAL	01/01 to 12/31	7.58	1952
42M 27405 00	IRRIGATION	04/15 to 10/31	0.05	10
42M 66255 00	LAWN AND GARDEN	04/01 to 12/01	0.03	2.5
42M 51980 00	LAWN AND GARDEN	05/01 to 10/31	0.07	4
42M 163757 00	MUNICIPAL	01/01 to 12/31	4	1116.5
42M 163649 00	IRRIGATION	04/01 to 09/30	0.51	34.25
42M 36815 00	LAWN AND GARDEN	01/01 to 12/31	0.33	7.6

42M 11244 00	IRRIGATION	04/01 to 10/15	6.66	84
42M 163311 00	DOMESTIC	04/01 to 11/01	0.06	4
42M 7421 00	DOMESTIC; IRRIGATION	04/15 to 11/01	0.04	2
42M 15999 00	IRRIGATION	04/01 to 10/31	11.14	270
42M 17035 00	IRRIGATION	04/01 to 10/31	11.14	90
42M 16100 00	IRRIGATION	05/01 to 09/30		1
42M 49235 00	IRRIGATION	04/01 to 10/31	10.91	864
42M 163186 00	STOCK	09/01 to 12/31		2.3
42M 163637 00	LAWN AND GARDEN	06/01 to 10/01	0.03	2
42M 164209 00	IRRIGATION	04/01 to 09/30	0.47	31.5
42M 163478 00	IRRIGATION	04/01 to 10/15	3.94	312

Legal Availability- Flow (CFS)			
Month	Flow Physically Available	Legal Demands	Flow Legally Available
January	4805	16	4789
February	4950	16	4934
March	6865	17	6848
April	8118	81	8037
May	19773	86	19687
June	42953	86	42867
July	24593	86	24507
August	9762	86	9676
September	7608	86	7522
October	6544	77	6467
November	5671	23	5648
December	4885	17	4868

Legal Availability- Volume (AF)			
Month	Volume Physically Available	Legal Demands	Volume Legally Available
January	294898	531	294367

February	274425	531	273894
March	421341	532	420809
April	479834	969	478865
May	1210947	1026	1209921
June	2548794	1027	2547767
July	1506799	1027	1505772
August	596472	1027	595445
September	449301	1027	448274
October	399394	918	398476
November	336835	600	336235
December	299808	531	299277

32. The following tables show the timing and amount of depletion caused by the proposed appropriation compared to flow rate and volume legally available on the Yellowstone River at the point in which the depletion will occur.

Comparison- Flow (CFS)			
Month	Flow Legally Available	Flow Rate of Depletion	Flow Rate Remaining
January	4789	0.1	4788.9
February	4934	0.1	4933.9
March	6848	0.1	6847.9
April	8037	0.1	8036.9
May	19687	0.1	19686.9
June	42867	0.1	42866.9
July	24507	0.1	24506.9
August	9676	0.1	9675.9
September	7522	0.1	7521.9
October	6467	0.1	6466.9
November	5648	0.1	5647.9
December	4868	0.1	4867.9

Comparison- Volume (AF)			
Month	Volume Legally Available	Volume of Depletion	Volume Remaining
January	294367	5	294362
February	273894	5	273889
March	420809	5	420804
April	478865	5	478860
May	1209921	5	1209916
June	2547767	5	2547762
July	1505772	5	1505767
August	595445	5	595440
September	448274	5	448269
October	398476	5	398471
November	336235	5	336230
December	299277	5	299272

33. The following tables show the existing legal demands and legal availability of water (flow and volume) after accounting for existing legal demands within the area of potential impact on the Upper Sevenmile Creek. The flow rates and volumes were extrapolated from the November measurement for the months of December, January and February. This assumption appears to be reasonable based on a United States Geological Survey (USGS) report USGSWRI 94-4098 (Estimated of Monthly Streamflow Characteristics for Selected Sites in the Lower Missouri and Little Missouri River Basins in Montana). The report provides estimated monthly and annual streamflow characteristics for Beaver Creek, approximately 145 miles east of Upper Sevenmile Creek. The data depicts stable stream flows for October through January and increasing slightly in February.

Upper Sevenmile Creek Water Rights Downstream of I-94 Bridge				
Number	Purpose	Period of Diversion	Flow (CFS)	Volume (AF)
42M 32981 00	Irrigation	4/1 - 11/30	2.23	21.3
42M 163260 00	Lawn & Garden	4/1 - 11/30	0.08	1.875
42M 187553 00	Mining	3/1 - 12/31	1.11	32
42M 163772 00	Industrial	3/1 - 12/1	1.11	110

Upper Sevenmile Creek Legal Availability (CFS)			
Month	Flow Rate Physically Available	Downstream Existing Rights	Flow Rate Legally Available
March	6.2	2.22	3.98
April	8.9	4.53	4.37
May	20.8	4.53	16.27
June	9.7	4.53	5.17
July	5.5	4.53	0.97
August	7.1	4.53	2.57
September	12.9	4.53	8.37

Upper Sevenmile Creek Legal Availability (AF)			
Month	Volume Physically Available	Downstream Existing Rights	Volume Legally Available
March	380.5	15.4	365.1
April	528.7	18.33	510.37
May	631.9	18.33	613.57
June	576.2	18.33	557.87
July	337.6	18.33	319.27
August	432.8	18.33	414.47
September	766.3	18.33	747.97

October	0.7	4.53	-3.83
November	0.7	4.53	-3.83
December	0.7	1.11	-0.41
January	0.7	0	0.7
February	0.7	0	0.7

October	43	18.33	24.67
November	43	18.33	24.67
December	43	3.2	39.8
January	43	0	43
February	43	0	43

34. The following tables show the timing and amount of depletion caused by the proposed appropriation compared to the flow rate and volume legally available on Upper Sevenmile Creek at the point in which the depletion will occur.

Comparison- Flow (CFS)			
Month	Flow Legally Available	Flow Rate of Depletion	Flow Rate Remaining
March	3.98	0.08	3.9
April	4.37	0.08	4.29
May	16.27	0.08	16.19
June	5.17	0.08	5.09
July	0.97	0.08	0.89
August	2.57	0.08	2.49
September	8.37	0.08	8.29
October	-3.83	0.08	-3.91
November	-3.83	0.08	-3.91
December	-0.41	0.08	-0.49
January	0.7	0.08	0.62
February	0.7	0.08	0.62

Comparison- Volume (AF)			
Month	Volume Legally Available	Volume of Depletion	Volume Remaining
March	365.1	5	360.1
April	510.37	5	505.37
May	613.57	5	608.57
June	557.87	5	552.87
July	319.27	5	314.27
August	414.47	5	409.47
September	747.97	5	742.97
October	24.67	5	19.67
November	24.67	5	19.67
December	43	5	38
January	43	5	38
February	43	5	38

35. The Department finds that both groundwater and hydraulically connected surface water in the Yellowstone River are legally available in the amount requested. Hydraulically connected surface water in the Upper Sevenmile Creek is legally available in all months in the amount requested except for October, November and December. During those three months the volume

is available but the flow rate is not. Mitigation will be required for October, November and December. The permit will be conditioned that the diversion may not commence until a change application has been authorized to serve as mitigation for the depletion caused by this water use.

CONCLUSIONS OF LAW

36. 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).

37. 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.

38. 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.) 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 ground water. § 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.

39. 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 Fourth 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*.

40. Pending mitigation for the months of October, November and December, Applicants have proven by a preponderance of the evidence that water can reasonably be considered legally available during the period in which the Applicants seek 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 27-35)

Adverse Effect

FINDINGS OF FACT

41. Attila Fohnagy, groundwater Hydrologist for the Water Management Bureau of the DNRC, modeled drawdown of the aquifer by the proposed pumping of the Applicant’s wells. The evaluation of drawdown was completed using the Theis (1935) solution with the following parameters: $T=300 \text{ ft}^2/\text{day}$ and $S=5.6 \times 10^{-5}$. Both wells were modeled as one well with a constant pumping rate due to their close proximity. Drawdown in excess of 1 foot occurs in wells that are within a radius of 20,500 feet from the Applicant’s wells, not including any rights on the east side of the Yellowstone River. There are 320 water rights that are predicted to

experience drawdown greater than 1 foot. Of those, 160 water rights have a known well depth and static water level. Wells predicted to have the least available water level after pumping the Applicant’s wells would have 5.6 feet available water column.

42. One well that had an available water column of -1.8 feet is no longer in use and was not considered in this analysis. Michael Haggerty of H&H Drilling in Glendive confirmed that this well (80 feet deep) was abandoned in 2010 at the time a new well (220 feet deep) was drilled at this site. According to DNRC water right records, while conducting research on return mail in 2015, contact was made with the current owner of the property. Documentation in the file of that contact states this well is no longer in use and that the property owner intends to withdraw the water right.

43. The Depletion Report identifies that the Yellowstone River and Upper Sevenmile Creek are hydraulically connected to the source aquifer and will be subject to surface depletions from pumping the Applicant’s wells. Evaluations of the rate and timing of surface water depletions are based on the assumption that groundwater pumping eventually is offset by an equivalent increase in recharge or decrease in discharge. The source aquifer consists of fine to medium grained sandstone of the confined Fox Hills-Lower Hell Creek Aquifer. Modeling of depletion was carried out using the annual consumption of 120.6 AF. The following table shows the calculated consumption and net depletion. The depletion will be equally divided between the Yellowstone River and Upper Sevenmile Creek.

Month	Consumption (AF)	Depletion (AF)	Depletion (gpm)
January	10.05	10.05	74.8
February	10.05	10.05	74.8
March	10.05	10.05	74.8
April	10.05	10.05	74.8
May	10.05	10.05	74.8
June	10.05	10.05	74.8
July	10.05	10.05	74.8

August	10.05	10.05	74.8
September	10.05	10.05	74.8
October	10.05	10.05	74.8
November	10.05	10.05	74.8
December	10.05	10.05	74.8
Total	120.6	120.6	

44. The Applicant has a plan for the exercise of the permit that demonstrates that the Applicant’s use of water can be controlled so the water rights of a prior appropriator will be satisfied. The Applicant proposes reducing chemical production which would reduce the diversion rate of the wells over a period when there is a water shortage. This proposed appropriation will divert water with an electric pump, and therefore, in the event a valid call is made, this appropriation can be stopped by turning off the electricity to the pump. Water would then have to be hauled in from an off-site location.

45. The Applicant’s plan includes the installation of flow meters that will measure all water diverted. The application will be conditioned that the appropriator must measure and report all usage to the Department regularly. This condition will ensure the total usage does not exceed the permitted amounts.

46. Water is both physically and legally available in the Yellowstone River in the amount which will be depleted. Water is not legally available in Upper Sevenmile Creek during the months of October, November and December. The Applicant proposes to submit a change application to retire all or part of an existing consumptive water right within the Upper Sevenmile Creek basin to the purpose of mitigation. The permit will be conditioned that the Applicant must submit a change application for mitigation as described above no later than three years after the issuance of this application.

47. There are 160 ground water rights that have a known well depth and static water level that are predicted to experience drawdown greater than 1 foot. There are no wells that have an available water column less than 5.6 feet. Subject to the Applicant mitigating the impacts to

Upper Sevenmile Creek, the Department finds that there will be no adverse effect to existing water users due to the proposed appropriation.

CONCLUSIONS OF LAW

48. 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.

49. 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(8).

50. 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.

51. 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.

52. 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.

53. 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.

54. The Applicants have 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 41-47)

Adequate Diversion

FINDINGS OF FACT

55. The Applicant proposes to divert water from a groundwater aquifer by means of two wells (Well #1-126 feet deep and Well #2-160 feet deep) from January 1-December 31 at 79.6 GPM up to 129 AF. The wells were drilled by H&H Drilling, a licensed well driller in the State of Montana (Lic. No. WWC-310). Well #1 has a casing diameter of 4.5 inches and Well #2 has a casing diameter of 8 inches. Well #1 has a static water level of 10.5 feet and the screened portion of the well is from 86-121 feet below ground surface (BGS). Well #2 has a static water level of 24.3 feet and the screened portion of the well is from 132-152 feet below ground surface (BGS). The wells are completed in the fine to medium grained sandstone of the confined Fox Hills-Lower Hell Creek Aquifer.

56. The adequacy of diversion analysis was done by evaluating a one year period of pumping the wells at a combined constant rate of 74.8 GPM. Based on the analysis, after one year of pumping, there would be 32.4 feet of water above the bottom of Well #1 and 10.3 feet above the bottom of Well #2. The drawdown analysis indicates the wells are adequate in providing the requested flow and volume.

57. Water will be pumped from Well #1 using a Grundfos 75S50-8 submersible pump. Water will be pumped from Well #2 using a Grundfos 25S30-15 submersible pump. Water will be conveyed via a 2 inch Schedule 80 PVC pipeline from each of the wells into storage tanks. The volume of water to be stored for plant operations will not exceed 60,000 gallons. Booster pumps will be used to maintain water pressure in the plants distribution system and deliver water to the administration building and the plant building. The majority of the water will be used for blending and dilution of the chemicals. The chemicals are then piped to storage tanks within the plant building or directly into trucks for delivery to customers. A separate 200,000-250,000 gallon storage tank will be filled with water. This tank will serve solely as fire suppression storage.

58. The Applicant provided preliminary design plans of the project developed by JMA Civil, a civil engineering design and consulting firm based out of Pleasanton, California.

CONCLUSIONS OF LAW

59. 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.

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

61. Applicants have 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 55-58)

Beneficial Use

FINDINGS OF FACT

62. The purpose of the proposed diversion is industrial which is a recognized beneficial use (§85-2-102(4), MCA). Thatcher Company of North Dakota market research indicates an unmet demand for a variety of chemicals utilized by the oil and gas industry, including hydrochloric acid and caustic soda. The plant in Glendive will act as a redistribution center to supply regional needs. The majority of the requested volume of 120.6 AF per year will be used for blending and diluting chemicals in preparation for distribution to customers. At full production it is anticipated the plant will operate seven days a week and that approximately six 20,000 gal railcars of chemical concentrate will require dilution at a ratio of one part water to one part concentrate per day (6 railcars x 20,000 gal = 120,000gal/day x 365 days =43,800,000 gal ÷ 325,851 gal/AF = 134.4 AF). However, aquifer testing results indicate the combined long term average sustainable pumping rate for the wells is 74.7 GPM, which equates to an annual diversion of 120.6 AF.

63. A small amount of the water will be used as potable water for drinking, restrooms and showers for up to 15 employees. Additionally, 200,000-250,000 gallons of water will be stored solely for fire suppression.

CONCLUSIONS OF LAW

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

65. 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).

66. Applicant proposes to use water for irrigation which is a recognized beneficial use. § 85-2-102(4), MCA. Applicant has proven by a preponderance of the evidence irrigation is a beneficial use and that 120.6 AF of diverted volume and 79.6 GPM of water requested is the amount needed to sustain the beneficial use. § 85-2-311(1)(d), MCA, (FOF 62-63)

Possessory Interest

FINDINGS OF FACT

67. The Applicant signed and had 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.

CONCLUSIONS OF LAW

68. 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.

69. 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.

The place of use for sale or marketing is the point at which the ownership of the use of the water transfers. *In the Matter of Application Nos. 42B-30011045 and 42B-30014358 for Beneficial Water Use Permit by Fidelity Exploration and Production Company (DNRC 2007), rev'd on other grounds, Northern Plains Resources Council et al. v. Montana Department of Natural Resources et al.*, Cause No. CDV-2007-425, Montana First Judicial District Court *Memorandum and Order on Petition for Judicial Review* (December 15, 2008); see also Masters Report, Water Court Case No. 76HE-166 (“place of use” for water marketing at State-owned Painted Rocks Reservoir is the dam because the ownership of the water transfers at the dam). In this case, this point is the depot where the water trucks are filled. The ultimate place of use of the water is represented in the contracts for sale of the water. The Applicant has provided a general service area to further describe where the water will ultimately be used for oil field production. This water may only be used in the State of Montana.

70. The Applicant has proven by a preponderance of the evidence that they have 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 67)

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. 42M 30070792 should be GRANTED.

The Department determines the Applicant may divert water from a groundwater aquifer, by means of two wells (126 and 160 feet deep), from January 1-December 31 at 79.6 GPM up to 120.6 AF, from points in the SESWNESE and NESWNESE Section 33, T16N, R55E, Dawson County, for industrial use from January 1-December 31. The place of use is located in the NESW and NWSWSE Section 33, T16N, R55E, Dawson County.

The application will be subject to the following conditions, limitations or restrictions.

1. DIVERSION UNDER THIS PERMIT MAY NOT COMMENCE UNTIL A CHANGE APPLICATION HAS BEEN AUTHORIZED TO SERVE AS MITIGATION FOR THE DEPLETION CAUSED BY THIS WATER USE. DIVERSION UNDER THE PERMIT MUST STOP IF THE MITIGATION PLAN AS HEREIN REQUIRED IN AMOUNT, LOCATION, AND DURATION CEASES IN WHOLE OR IN PART.
2. A CORRECT AND COMPLETE APPLICATION FOR CHANGE FOR THE PURPOSE OF MITIGATION MUST BE SUBMITTED WITHIN THREE YEARS AFTER THE ISSUANCE OF THIS PERMIT. FAILURE TO SUBMIT A CORRECT AND COMPLETE APPLICATION WITHIN THIS TIMELINE WILL RESULT IN THE TERMINATION OF THIS PERMIT.
3. THE APPROPRIATOR SHALL INSTALL A DEPARTMENT APPROVED IN-LINE FLOW METER AT A POINT IN THE DELIVERY LINE APPROVED BY THE DEPARTMENT. WATER MUST NOT BE DIVERTED UNTIL THE REQUIRED MEASURING DEVICE IS IN PLACE AND OPERATING. ON A FORM PROVIDED BY THE DEPARTMENT, 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 JANUARY 31ST OF EACH YEAR AND UPON REQUEST AT OTHER TIMES DURING THE YEAR. FAILURE TO SUBMIT REPORTS MAY BE CAUSE FOR REVOCATION OF A PERMIT OR CHANGE. THE RECORDS MUST BE SENT TO THE WATER RESOURCES REGIONAL OFFICE. THE APPROPRIATOR SHALL MAINTAIN THE MEASURING DEVICE SO IT ALWAYS OPERATES PROPERLY AND MEASURES FLOW RATE AND VOLUME ACCURATELY.

NOTICE

This 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 6th day of April, 2016.

Original Signed by Denise Biggar
Denise Biggar, Regional Manager
Glasgow Water Resources Office
Department of Natural Resources and Conservation