January 22nd, 2025

Hydra MT LLC.
945 Bunker Hill Rd Ste 1200
Houston, TX 77024-1593

Subject: Correct and Complete Application for Beneficial Water Use Permit No. 40S 30164987

Dear Applicant,

The Department of Natural Resources and Conservation (Department) has determined that your application is correct and complete pursuant to ARM 36.12.1601. Please remember that correct and complete **does not mean that your application will be granted.** The purpose of this letter is to indicate that the Department has enough information to analyze your water right application.

The Department will issue a Draft Preliminary Determination document and Technical Analyses within 120 days of the date of this letter per §85-2-307(2)(b), MCA.

Following issuance of the Draft Preliminary Determination, you (Applicant) will have 15 business days to request an extension of time to submit additional information, if desired pursuant to §85-2-307(3)(a), MCA.

If no extension of time is requested and the Draft Preliminary Determination decision is to grant your application or grant your application in modified form, the Department will prepare a notice of opportunity to provide public comment, per §85-2-307(4)(a), MCA.

If no extension of time is requested and the Draft Preliminary Determination decision is to deny your application, the Department will adopt the Draft Preliminary Determination as the final determination per §85-2-307(3)(d)(ii), MCA.

If you have any questions or concerns about the application process, please contact me.

Best,

Kailee Ingalls

Kailee Ingalls | Water Resource Specialist
Water Resources Division, Havre Regional Office
Montana Department of Natural Resources and Conservation
Physical| 210 6th Ave | Havre MT 59501
Mailing| PO Box 1828 | Havre MT 59501
DESK: 406-808-7126 **EMAIL:** kailee.ingalls@mt.gov

Responses to 40S 30164987

Place of Use Clarification:

- POU 5, located NE ¼ NW ¼ Section 16 of T26N R57E, was inaccurately referenced in the map shown in Figure 19A of the application. The map shown in Figure 19D of the application correctly references the POU. See attachment labeled Response A, as a correction the original Figure 19A.

Supplemental and Overlapping Water Rights:

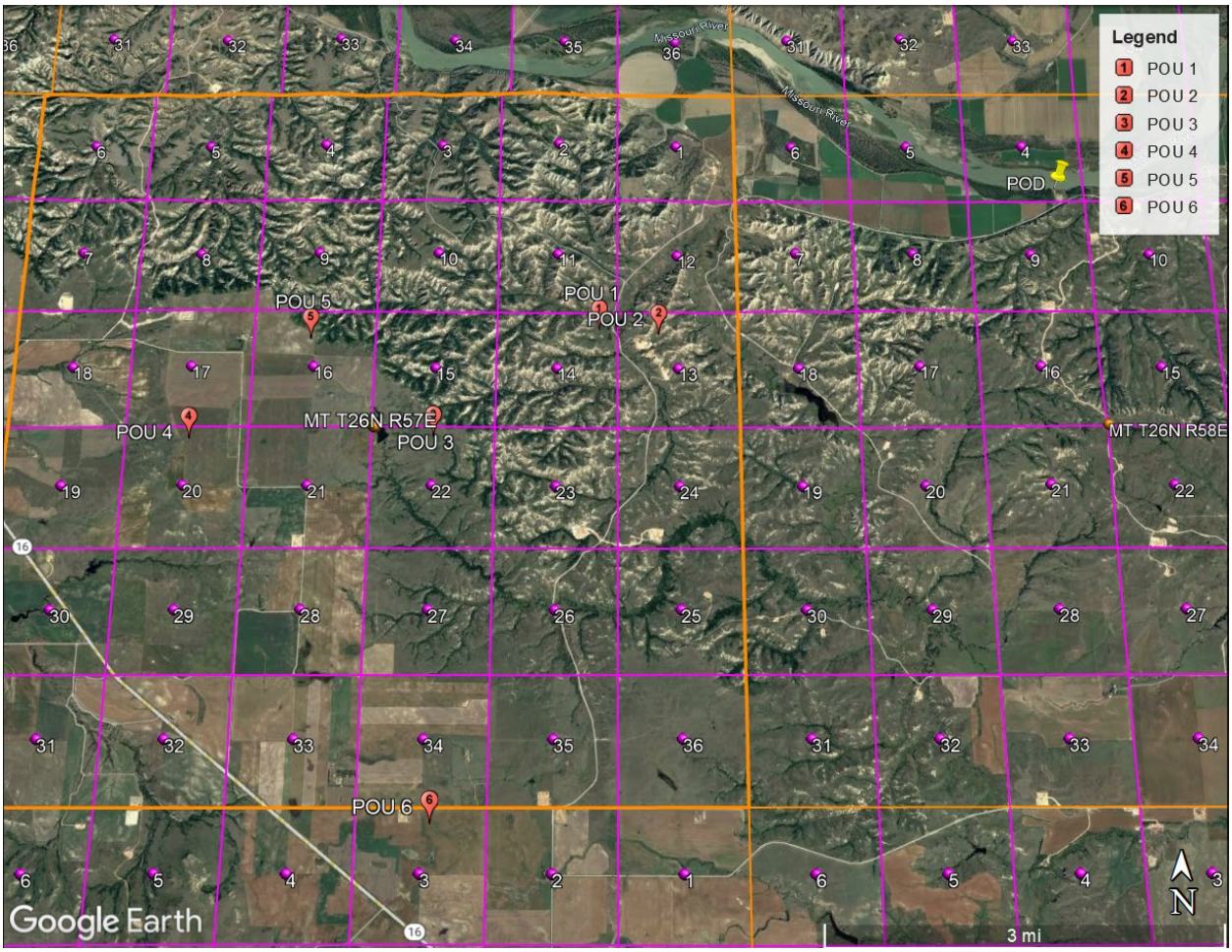
24. (24.1)

- Hydra is not contracting any volume from Sioux pass to supplement the POUs in this application.

Adverse Effect:

35.

- In response to a call being made during a water shortage, pumps can be shut off and appropriation can be ceased. Flow rate can also be choked back as well, as much as necessary. While we have found through experience the requested rate to be the most ideal to ensure sufficient operations, Hydra/Kraken will adjust its operations accordingly in coordination with the DNRC during a water shortage or call being made, so as to not have a negative impact on existing water rights in the area.



Response A (Correction of Application Figure 19A)

Havre Regional Office, Water Resources Division
Physical| 210 6th Ave | Havre MT 59501
Mailing| PO Box 1828 | Havre MT 59501

January 8th, 2024

Hydra MT LLC.
945 Bunker Hill Rd Ste 1200
Houston, TX 77024-1593

Subject: Deficiency Letter for Beneficial Water Use Permit No. 40S 30164987

Dear Applicant,

The Department of Natural Resources and Conservation (DNRC or Department) has begun reviewing your application. This letter is to notify you of the deficiencies in your application as required in ARM 36.12.1501(1) and §85-2-302(5)(b), MCA. An Applicant is required to submit substantial and credible information addressing the rules and statutes that are relative to your application. You must provide the information specified below for your application to be considered correct and complete. "Correct and complete" means all of the information provided is substantial and credible and provides all of the information as required by applicable rules and statutes. The application as submitted contains deficiencies in the following section(s):

PLACE OF USE CLARIFICATION

- ❑ Place of Use:
  - Applicant POU "5" or NE ¼ NW ¼ Section 16 T26N R57E Richland, is located in Section 17 on Applicant provided Figure 19A. Please clarify the place of use location and provide a new map if the current is incorrect.

SUPPLEMENTAL AND OVERLAPPING WATER RIGHTS

- ❑ **24.** ■ **Y** ☐ **N** Will other water rights supplement or overlap the place of use to contribute to the purpose(s)?

- ❑ **24.1.** If yes, summarize how the water rights will be operated as a whole to serve the purpose(s).

  - The Applicant states: "Water right 40S 30063074 is operated by Sioux Pass Water Supply under water marketing purposes as a truck depot. This permit seeks to appropriate water independently from the truck depot, utilizing temporary diversionary equipment to supply water to oil and gas completions in the area for the beneficial use of the applicant."

- Although the existing water right 40S 30063074 (Sioux Pass Water Supply) and the proposed 40S 30164987 permits will share the same point of diversion, it appears that they will not share an overlapping place of use.
- Will Hydra MT LLC be contracting water from Sioux Pass Water Supply to supplement their volume?
  If they are not, this section does not pertain to the application. Please clarify.

ADVERSE EFFECT

☐ 35. Describe your plan to ensure existing water rights will be satisfied during times of water shortage.

ARM 36.12.1706 - An Applicant must include a plan to address adverse effect. The plan must establish how the Applicant will comply with a call and describe how the appropriation can be regulated during times of water shortage so the water rights of prior appropriators will not be adversely affected.

- The application states appropriation "will not be appropriated or marketed" to comply with a call. Please explain how the flow rate can be controlled if a reduced flow rate is needed.

As stated above, the information submitted to address the rules and statutes listed in this deficiency letter must be substantial credible information to be acceptable at the correct and complete determination. §§85-2-102 (9) and (26), MCA.

Please submit the information specified above to the Havre Regional Office by May 8th, 2025. This is the only deficiency letter that will be sent. An application not corrected or completed within 120 days from the date of this letter is terminated per ARM 36.12.1501(2) and §85-2-302(6)(a), MCA.

Please let me know if you have any questions.

Best,

Kailee Ingalls

Kailee Ingalls | Water Resource Specialist
Water Resources Division, Havre Regional Office
Montana Department of Natural Resources and Conservation
Physical| 210 6th Ave | Havre MT 59501
Mailing| PO Box 1828 | Havre MT 59501
DESK: 406-808-7126 **EMAIL:** kailee.ingalls@mt.gov

IMPORTANT NOTICE: This will be the final opportunity for you to provide the required information to the Department. If all of the requested information in this letter is not postmarked or submitted within 120 days of this letter, the application will be terminated within 30 days and the application fee will not be refunded.

APPLICATION FOR BENEFICIAL WATER USE PERMIT

§ 85-2-302

Form No. 600 *(04/2024)*

RECEIVED

For Department Use Only

DEC 09 2024

DNRC WATER RESOURCES
HAVRE REGIONAL OFFICE

FILING FEE

$2900/$1600 – Inside a Basin Closure Area, Controlled Groundwater Area or Compact Closure; without/with filing fee reduction.

$2500/$1200 – Outside a Basin Closure Area; Controlled Groundwater Area or Compact Closure; without/with filing fee reduction.

Application # 30164987 Basin 40S

Priority Date 12/9/24 Time 8:35 AM/PM

Rec'd By KI

Fee Rec'd $ 2500 Check # 2985

Deposit Receipt # GUS2508334

Payor Hydra MT LLC.

Refund $ _____ Date _____

INFORMATION

An application will be eligible for a filing fee reduction and expedited timelines if the applicant completes a preapplication meeting with the Department (ARM 36.12.1302(1)), which includes submitting any follow-up information identified by the Department (ARM 36.12.1302(3)(c)) and receiving either Department-completed technical analyses or Department review of applicant-submitted technical analyses (ARM 36.12.1302(4) and (5)). An application for the proposed project also must be submitted within 180 days of delivery of Department technical analyses or scientific credibility review and no element on the submitted application can be changed from the completed preapplication meeting form (ARM 36.12.1302(6)).

Applicant Information: ***Add more as necessary.***

Applicant Name Hydra MT, LLC

Mailing Address 945 Bunker Hill Rd City Houston State TX Zip 77024

Phone Numbers: Home 713-360-7705 Work _____ Cell _____

Email Address _____

Applicant Name _____

Mailing Address _____ City _____ State _____ Zip _____

Phone Numbers: Home _____ Work _____ Cell _____

Email Address _____

Applicant Name _____

Mailing Address _____ City _____ State _____ Zip _____

Phone Numbers: Home _____ Work _____ Cell _____

Email Address _____

Contact/Representative Information: ***Add more as necessary.***

Contact/Representative is: X Applicant ___ Consultant ___ Attorney ___ Other

Contact/Representative Name Kane Fontenot

Mailing Address 945 Bunker Hill Rd, Ste. 1200 City Houston State TX Zip 77024

Phone Numbers: Home _____ Work _____ Cell 337-277-5884

Email Address kfontenot@krakenoil.com

NOTE: *If a contact person is identified as an attorney, all communication will be sent only to the attorney unless the attorney provides written instruction to the contrary. If a contact person is identified as a consultant, employee, or lessee, the individual filing the water right form or objection form will receive all correspondence and a copy may be sent to the contact person.*

Answer every question and applicable follow-up questions. Use the checkboxes to denote yes ("Y"), no ("N"), or not applicable ("NA"). Questions that require items to be submitted to the Department have a submitted ("S") checkbox, which is checked when the required item is attached to the Application. Label all submitted items with the question number for which they were submitted. Narrative responses that are larger than the space provided can be answered in an attachment. If an attachment is used, specify "see attachment" on this form, and label the attachment with the question number. Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses. Responses in the form of a table may be entered into the table provided on this form or in an attachment. Responses in the form of a table that are larger than the table provided on this form should be placed in an attachment. If an attachment is used, the table must have the exact headings found on this form, and "see attachment" must be placed on this form. For tables on this form, circle correct unit at header of column when table has unit options. For tables in attachments, label all units.

PREAPPLICATION AND TECHNICAL ANALYSIS INFORMATION

1. ☐ **Y** ■ **N** Did you have a preapplication meeting AND complete a Form 600P Permit Preapplication Meeting Form?

IF QUESTION 1 IS YES,

2. ☐ **Y** ☐ **N** Did you elect on Form 600P to have the Department conduct Technical Analysis?

3. ☐ **Y** ☐ **N** Has any element of the application changed from Form 600P or the Technical Analysis conducted as part of the preapplication process? A Technical Analysis Addendum (Form 600-TAA) is required if changes have occurred.

4. Submit the following items:

4.1. ☐ **S** Technical Analysis you would like the Department to use to conduct criteria assessment.

4.2. ☐ **S** ☐ **NA** Scientific Credibility Review, if applicable.

4.3. ☐ **S** ☐ **NA** Technical Analysis Addendum (Form 600-TAA), if applicable, per question 3.

IF QUESTION 1 IS NO,

5. ▣ **S** Submit the Technical Analysis Addendum (Form 600-TAA).

6. ▣ **Y** ☐ **N** Do you elect to have the Department conduct Technical Analysis?

6.1. ☐ **S** If no, submit all the required Technical Analyses. See the Technical Analysis Guide for more information.

APPLICATION ADDENDA AND REVIEW

7. ☐ **S** ■ **NA** If your application is for groundwater and one or more of your points of diversion are in a Basin Closure Area, then submit the Basin Closure Area Addendum (Form 600-BCA).

8. ☐ **S** ■ **NA** If your application is for groundwater and one or more of your points of diversion are in a Basin Closure Area, then you must comply with the requirements of §85-2-360. If you elected to conduct Technical Analysis, you must submit the Hydrogeologic Report Addendum (Form 600-HRA). If you did not have a preapplication meeting AND complete a Form 600P Permit Preapplication Meeting Form, you must submit the Hydrogeologic Report Addendum (Form 600-HRA). If you had a preapplication

meeting, completed a Form 600P Permit Preapplication Meeting Form, and elected DNRC to conduct Technical Analysis, you do not need to submit Form 600-HRA because the Department's Technical Analysis, which you must submit along with this application, meets the requirements of §85-2-360.

9. ☐ **S** ■ **NA** If one or more of your points of diversion are in a Controlled Groundwater Area, then submit the Controlled Groundwater Area Addendum (Form 600-CGWA) and all its required attachments.

10. ☐ **S** ■ **NA** If the project involves an appropriation that is greater than 5.5 CFS and 4,000 acre-feet, then submit a Criteria Addendum Application for Beneficial Water Use Permit for Appropriations Greater than 5.5 CFS and 4,000 AC-FT (Form 600-B).

11. ☐ **S** ■ **NA** If the project involves out-of-state water use, then submit the Out-of-State Use Addendum (Form 600/606-OSA).

12. ☐ **S** ■ **NA** If you require mitigation water to meet the criteria of issuance, then submit a Mitigation Purpose Addendum (Form 600/606-MIT).

13. ☐ **S** ■ **NA** If the proposed purposes include marketing or selling water, then submit the Water Marketing Purpose Addendum (Form 600/606-WMA).

14. ☐ **S** ■ **NA** If the project is in designated sage grouse habitat, then submit a review letter from the Montana Sage Grouse Habitat Conservation Program (https://sagegrouse.mt.gov).

15. ■ **Y** ☐ **N** ☐ **NA** You must provide a written notice of the application to each owner of an appropriation right sharing the point of diversion or means of conveyance (e.g., canal, ditch, flume, pipeline, or constructed waterway). Have you sent this notice to all applicable parties? Your application cannot be deemed correct and complete until you have sent this notice pursuant to §85-2-302(4)(c), MCA.

PURPOSE AND DIVERSION INFORMATION

16. ■ **Y** ☐ **N** Is the proposed use temporary?

16.1. If yes, when will the appropriation cease? 12/31/2031

17. Is the proposed source surface water or groundwater? Surface

18. What is the source name? Missouri River

19. ■ **S** Attach a map utilizing an aerial photograph or topographic map that shows the following: section corners, township and range, a north arrow, all proposed points of diversion labeled with a unique POD ID number, all proposed places of use, all proposed conveyance facilities and or routes, all proposed places of storage, and places of use for all overlapping water rights.

20. Fill out the table below. Means of diversion for surface water includes headgate, pump, dam, and others. Means of diversion for groundwater includes well, developed spring, pit pond, and others.

Purpose	**Means of Diversion**	**Acres Irrigated** (if appl.)	**Period of Diversion** *(Month/Day - Month/Day)*	**Period of Use** *(Month/Day - Month/Day)*	**Flow Rate** *(GPM or CFS)*	**Volume** *(Acre-Feet)*
Industrial-Oil & Gas	Pump		01/01	12/31	4000 GPM	755 AF
				Total Flow Rate and Volume Required		

POINT(S) OF DIVERSION

21. Describe the proposed location of the point(s) diversion to the nearest ¼ ¼ ¼ Section. Label each POD with the POD ID number used for the project map (question 19).

POD #	**¼**	**¼**	**¼**	**Sec.**	**Twp.**	**Rge.**	**County**	**Lot**	**Block**	**Tract**	**Subdivision**	**Gov. Lot**
1	SW	SE	SE	4	26N	58E	Richland					

PLACE OF USE

22. What are the geocodes of the place of use?

-POU 1: 27-3805-14-1-01-01-0000	-POU 5: 27-3805-16-1-01-01-0000
-POU 2: 27-3805-13-2-01-01-0000	-POU 6: 27-3672-03-1-01-01-0000
-POU 3: 27-3805-22-2-01-01-0000	-
-POU 4: 27-3805-20-1-01-01-0000	-

23. Describe the legal land description of the proposed place of use and, if an irrigation or lawn and garden purpose, list the number of irrigated acres.

Acres	Gov. Lot	Block	¼	¼	¼	Sec.	Twp.	Rge.	County
				NE	NE	14	26N	57E	Richland
				NE	NW	13	26N	57E	Richland
				NE	NW	22	26N	57E	Richland
				NW	NE	20	26N	57E	Richland
				NE	NW	16	26N	57E	Richland
	2					3	25N	57E	Richland

SUPPLEMENTAL AND OVERLAPPING WATER RIGHTS

24. ■ **Y** ☐ **N** Will other water rights supplement or overlap the place of use to contribute to the purpose(s)?

24.1. If yes, summarize how the water rights will be operated as a whole to serve the purpose(s).

Water right 40S 30063074 is operated by Sioux Pass Water Supply under water marketing purposes as a truck depot. This permit seeks to appropriate water independently from the truck depot, utilizing temporary diversionary equipment to supply water to oil and gas completions in the area for the beneficial use of the applicant.

25. For each supplemental or overlapping water right, please list the water right number, purpose, typical period of diversion and use (MM/DD-MM/DD), flow rate (GPM or CFS), and the volume of water (AF) contributed to the shared place of use.

Water Right #	Average Period of Diversion	Average Period of Use	Flow Rate	Volume Contributed
40S 30063074	01/01	12/31	4.5 CFS	140 AF

26. ☐ **Y** ■ **N** Will this application supplement contract water from a Federal Project, ditch company, or other source?

26.1. If yes, explain.

OWNERSHIP AND POSSESSORY INTEREST

27. ☐ **Y** ■ **N** Does the Applicant have ownership of all proposed points of diversion and places of use?

27.1. If no, explain.

Hydra has an easement with the landowner at the point of diversion (see attachment for question 27). Kraken Oil and Gas, the parent company of Hydra MT, has active interest in the Bakken spacing units wherein the places of use.

28. ■ **Y** ☐ **N** Do you meet one of the exceptions to possessory interest requirements, pursuant to ARM 36.12.1802? Exceptions include cases 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.

28.1. If yes, explain.

The applicant has an easement with the landowner at the point of diversion (see attachment for question 27). Kraken Oil and Gas, the parent company of Hydra MT, has active interest in the Bakken spacing units in which the places of use are located.

ADVERSE EFFECT

29. ☐ **Y** ■ **N** Do you have evidence that water is physically and/or legally available in the amount required for the proposed flow rate and volume of your project?

29.1. If yes, explain.

Pending Technical Analysis

30. ■ **Y** ☐ **N** If the legal availability criteria assessment finds that water is not legally available throughout the entire proposed period of diversion, do you have a contingency plan to address this?

30.1. If yes, explain.

Water will not be appropriated in said period.

31. ☐ **Y** ■ **N** Are there any factors that would limit your ability to turn off your appropriation in response to a call?

31.1. If yes, explain.

32. Explain how you can control your diversion in response to a call being made.

A licensed water transfer company will be contracted to monitor the entirety of the diversion. The means of diversion is via temporary lay flat pipe and pump, which can be stopped and removed if so deemed necessary.

33. ☐ **Y** ■ **N** Are you aware of any calls that have been made on the source of supply or depleted surface water source?

33.1. If yes, explain.

34. ☐ **Y** ■ **N** Does a water commissioner distribute water or oversee water distribution on your proposed source or any identified depleted surface water sources?

34.1. If yes, list the source(s).

35. Describe your plan to ensure existing water rights will be satisfied during times of water shortage.

In the event of a shortage, water will not be appropriated or marketed if it is shown that doing so will negatively impact senior water rights.

36. ■ **Y** ☐ **N** Do other water rights share any of the proposed points of diversion?

36.1. If yes, describe how the proposed project will not adversely affect these water rights.

The land owner at the point of diversion has an existing water right, 40S 30063074 Hydra has an agreement signed with the landowner where it will be granted access onto the said land with the purpose and intention of diverting water for the means described within this application (See Figure 27). Hydra will prioritize existing water rights if there were to be any negative impacts and cease appropriation if necessary.

37. ☐ **Y** ■ **N** Do other water rights share any conveyance ditch associated with the proposed project? See the list of water rights that share the conveyance ditches in either the Preapplication Meeting Form (Form 600P) or the Technical Analysis Addendum (Form 600-TAA).

37.1. If yes, describe how the proposed project will not adversely affect these water rights.

ADEQUATE MEANS OF DIVERSION AND OPERATION

38. ■ **S** Provide a diagram of how you will operate your system from all proposed points of diversion to all proposed places of use.

39. Describe specific information about the capacity of all proposed diversionary structures. This may include, where applicable: pump curves and total dynamic head calculations, headgate design specifications, and dike or dam height and length.

A screened aluminum pipe will be places in the river at the POD. A portable, 10 x 8" diesel pump will discharge water into a portable filter trailer, passing through an in-line flow meter capable of taking continuous measurement before being discharged into the 10" lay-flat pipeline which will be the diversionary vehicle of the water to a RhinoKore frac tank located at the place of use on a Kraken/Hydra well location. During freezing conditions, a hot oiler will be used to keep the water above freezing before heading into the layflat line. The diesel pump will be capable of pumping 4000 GPM. Depending upon elevation and overall distance for POD to POU, in-line pumps can be installed as needed to maintain flowrate. Equipment like those shown in the appendix section of the attachments will be used as a part of this temporary diversionary system.

40. ■ **Y** ☐ **N** Is the diversion capable of providing the full amount of water requested through the period of diversion?

40.1. If no, explain.

41. Describe the size and configuration of infrastructure to convey water from all proposed points of diversion to all proposed places of use. This may include, where applicable: ditch capacity and/or pipeline size and configuration.

Water will be transported as described in the response to Question 39. Temporary, 10" layflat pipeline will be run from the POD to the POU in order to provide fresh water for the completion of oil and gas wells on a pad at the POU. Each pad takes between 2 to 4 weeks to complete, depending upon the amount of wells on each pad. Upon completion of each pad, the diversionary equipment will be removed until the next pad (POU's) are scheduled to begin completion.

42. Describe any losses related to the proposed conveyance.

Depending on elevation and overall transfer distance, additional in-line pumps may be necessary to transport water at the required rate.

43. ■ **Y** ☐ **N** ☐ **NA** Is the proposed conveyance infrastructure capable of providing the required flow and volume, plus any conveyance losses?

43.1. If no, explain.

44. ■ **Y** ☐ **N** Does the proposed conveyance require easements?

44.1. If yes, explain.

Along the route, Hydra and Kraken will secure easements where appropriate for any rail, county road, state highway, or private land crossings where layflat line will be laid from the respective necessary entity.

45. Describe specific information about how water is delivered within the place of use. This may include, where applicable, the range of flow rates needed for a pivot, output and configuration of sprinkler heads and pipelines within the place of use.

Water will be delivered to the place of use as described in the response to question 39. See attachment for #45 for additional information.

46. ☐ **Y** ■ **N** Will your system be designed to discharge water from the project?

46.1. If yes, explain the way water will be discharged and the disposal method.

46.2. ☐ **Y** ☐ **N** ☐ **Y** Have the necessary permits been obtained to comply with §§ 75-5-410 and 85-2-364, MCA?

47. ☐ **Y** ■ **N** Is the means of diversion for any proposed point of diversion a well?

IF YES,

47.1. ☐ **Y** ☐ **N** Have all wells already been drilled?

47.2. For all wells that have been drilled, what is the name of the well driller and, if available, what is their license number?

47.3. ☐ **Y** ☐ **N** For all wells yet to be drilled, will a licensed well driller construct the wells?

47.4. ☐ **S** ☐ **NA** Submit any additional well logs for wells drilled after submittal of Form 600P.

BENEFICIAL USE

48. Why is the requested flow rate and volume the amount needed for the purpose(s)?

See attachment for #48

49. ☐ **Y** ■ **N** Does the Department have a standard for the purposes for which water is proposed? Department standards can be found in the DNRC Water Calculation Guide, ARM 36.12.112, and ARM 36.12.115.

49.1. ☐ **Y** ☐ **N** If yes, does the proposed beneficial use fall within Department standards?

49.2. If no Department standard exists, or if proposed beneficial use falls outside of Department standards, explain how the use is reasonable for the purpose.

Kraken and Hydra intend to fulfill its water requirement for upcoming oil and gas development in the area by obtaining a beneficial use water permit from the Montana DNRC. This permit will allow Kraken and Hydra to prove new reserves in this previously undeveloped region of Montana, contributing to the local and state economies with jobs and royalties. In addition, it allows for Hydra and Kraken to transport the volume needed to complete these new wells via temporary lay-flat pipeline. By utilizing a pump at the River source, we will be able to keep over 600,000 tons per year off of Roosevelt County roads in water weight alone that would otherwise be trucked.

50. ☐ **Y** ■ **N** Will your proposed project be subject to DEQ requirements for a public water supply (PWS) system or Certificate of Subdivision Approval (COSA)?

50.1. ☐ **Y** ☐ **N** If yes, have you researched or consulted with DEQ regarding those requirements?

51. ☐ **Y** ■ **N** Are you proposing to use surface water for in-house domestic use?

51.1. ☐ **Y** ☐ **N** If yes, does a COSA exist for the proposed place of use?

51.1.1. ☐ **S** ☐ **NA** If yes, please submit the COSA.

51.1.2. ☐ **Y** ☐ **N** If no, have you researched or consulted with DEQ regarding their requirements?

PROPOSED COMPLETION PERIOD

52. How many years will be needed to complete this project and to submit to the DNRC a Project Completion Notice (Form 617)? 5 Years

53. Why is this amount of time needed?

Five years is the time necessary at the current development schedule of the area. See Attachment for #48.

AFFIDAVIT & CERTIFICATION

Read carefully before you sign and review with legal counsel if you have any questions. All owners (or trustees) must sign the form. ***If the owner is a business or trust, include the title of the representative(s) signing the form (i.e., president, trustee, managing partner, etc.) and provide documentation that establishes the authority of the representative to sign the application.*

I affirm the information provided for this application is to the best of my knowledge true and correct. I am aware that my application for this project will not qualify for a discounted filing fee and expedited timelines if upon submittal of the application to the department, I changed any element of the proposed application from the preapplication meeting form and follow-up materials (ARM 36.12.1302(6)(a)).

I affirm I have 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, unless this application meets an exception to the possessory interest requirements in ARM 36.12.1802(1)(b).

I understand that making a false statement under oath or affirmation in this application and official proceedings throughout the examination of my application may subject me to prosecution under §45-7-202, MCA, a misdemeanor punishable by a jail term not to exceed 6 months or a fine not to exceed $500, or both. I have read this Affidavit and understand the terms and conditions.

I declare under penalty of perjury and under the laws of the state of Montana that the foregoing is true and correct.

Applicant Signature Kane Fontenot Digitally signed by Kane Fontenot Date: 2024.12.09 00:25:55 -06'00' Date: _____

Printed Name Kane Fontenot

Title Engineer

Applicant Signature _____ Date: _____

Printed Name _____

Title _____

Applicant Signature _____ Date: _____

Printed Name _____

Title _____

Purpose and Diversion Information

19.

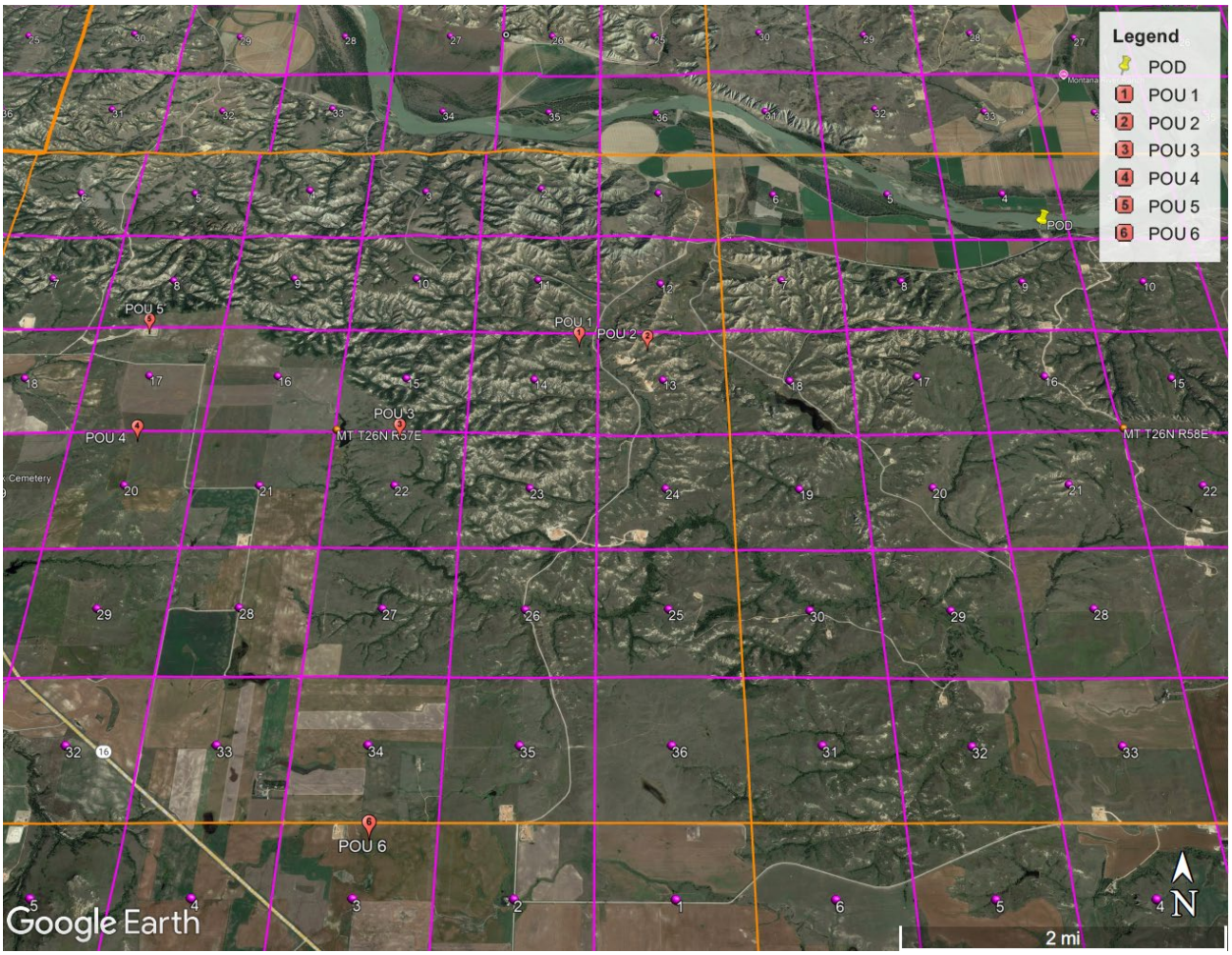


Figure 19A: POD and POUs

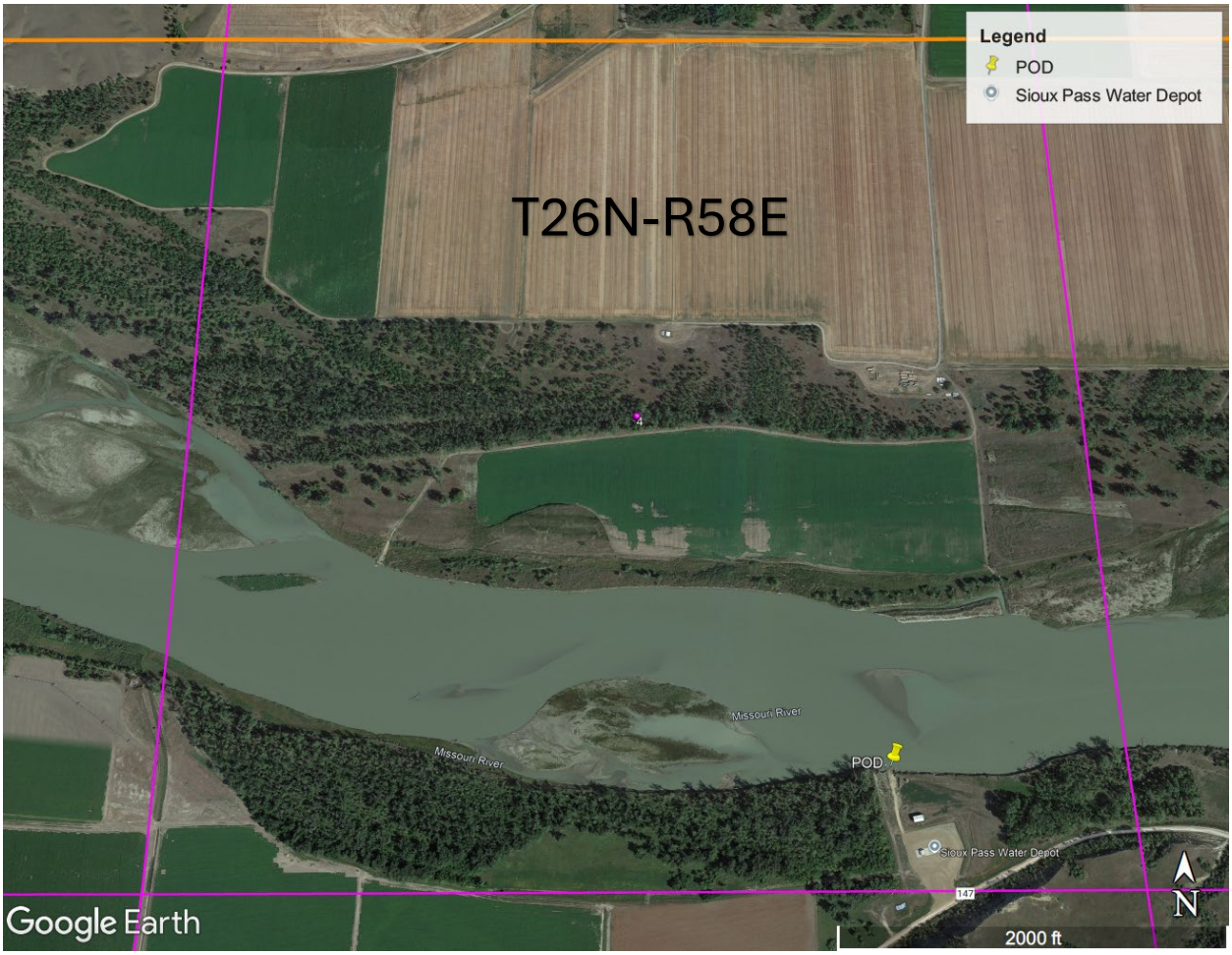
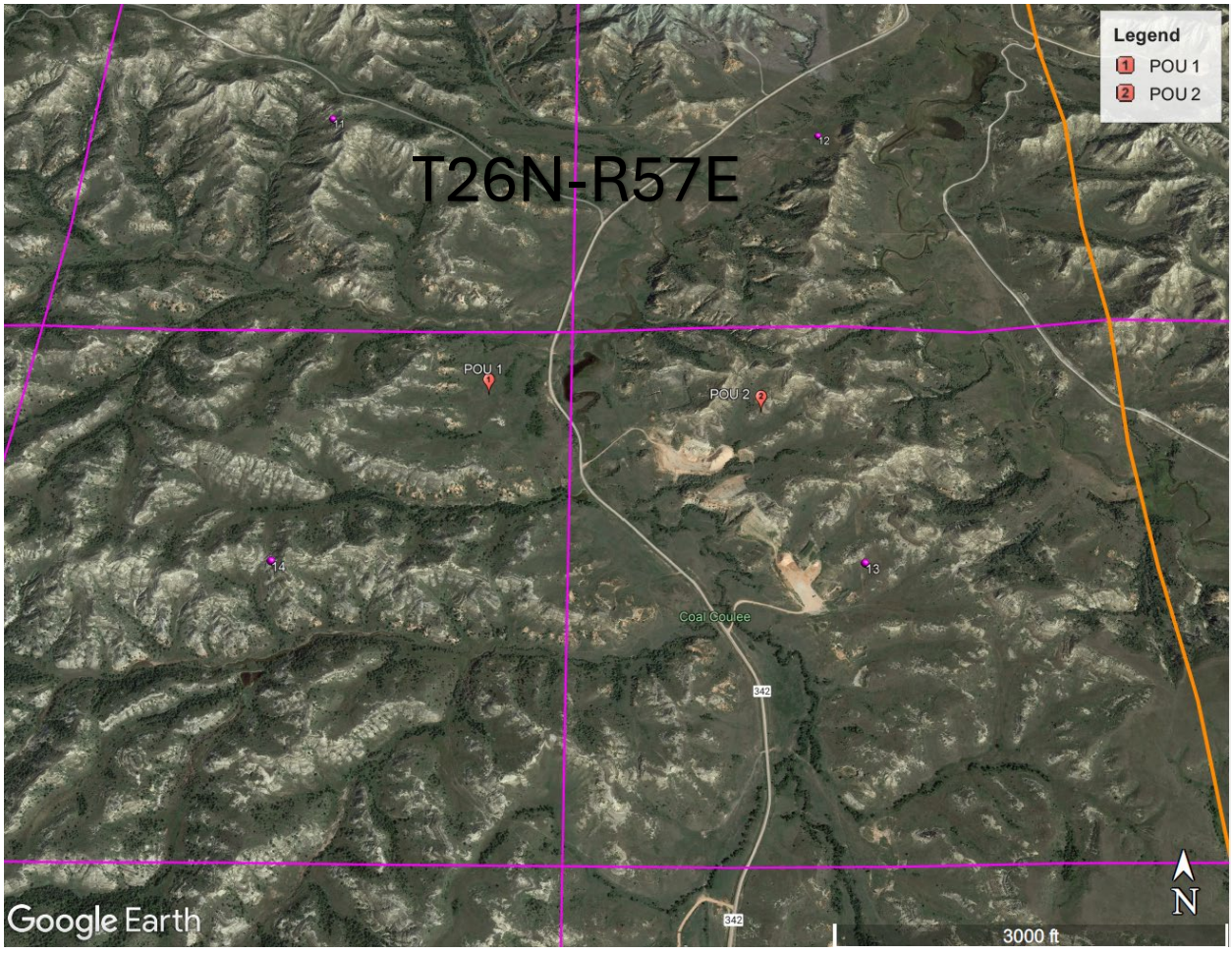


Figure 19B: POD


Legend
POU 1
POU 2
T26N-R57E
POU 1
POU 2
11
12
13
14
Coal Coulee
342
342
Google Earth
3000 ft
N

19C: POU 1 & 2

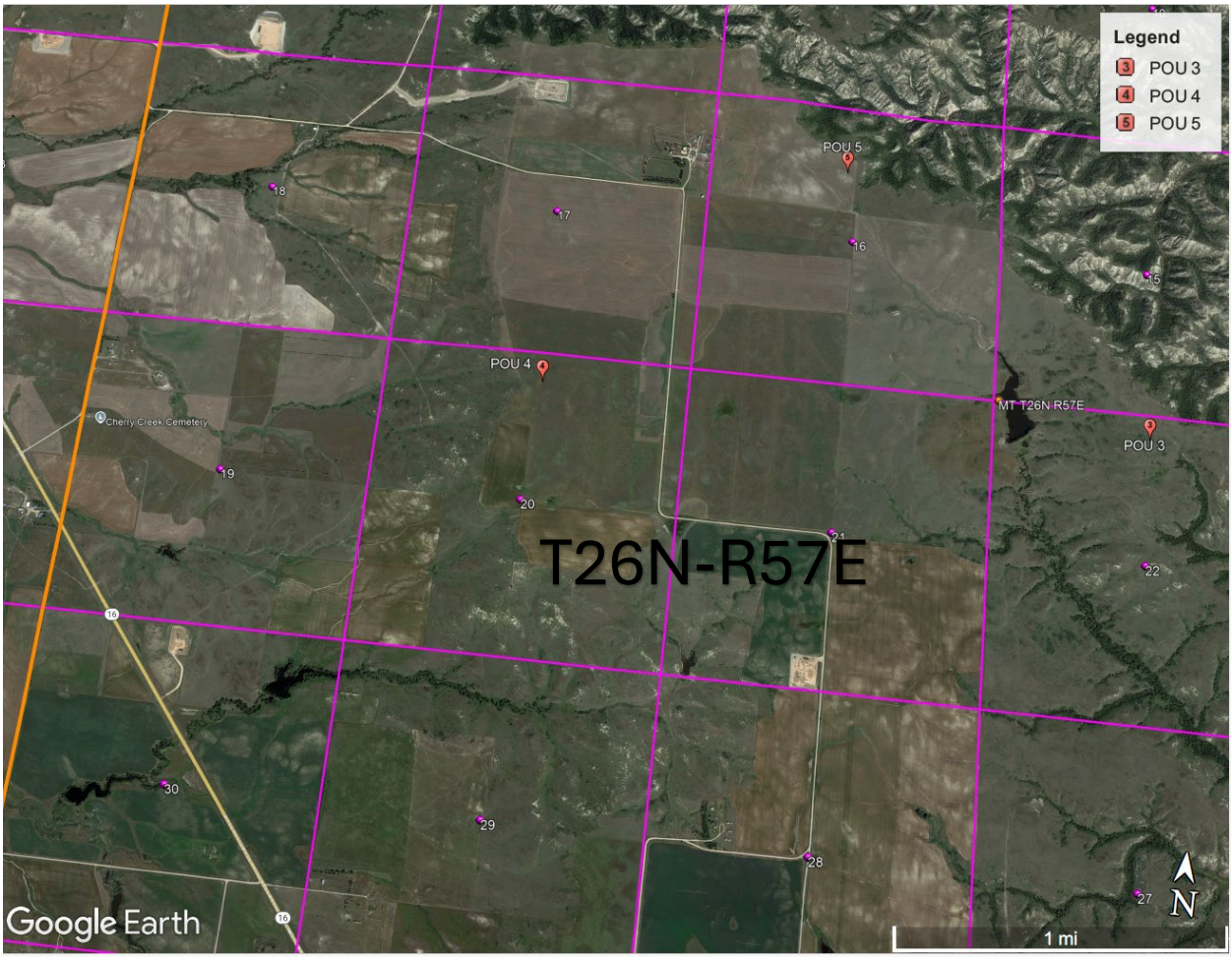


Figure 19D: POU 3, 4 & 5

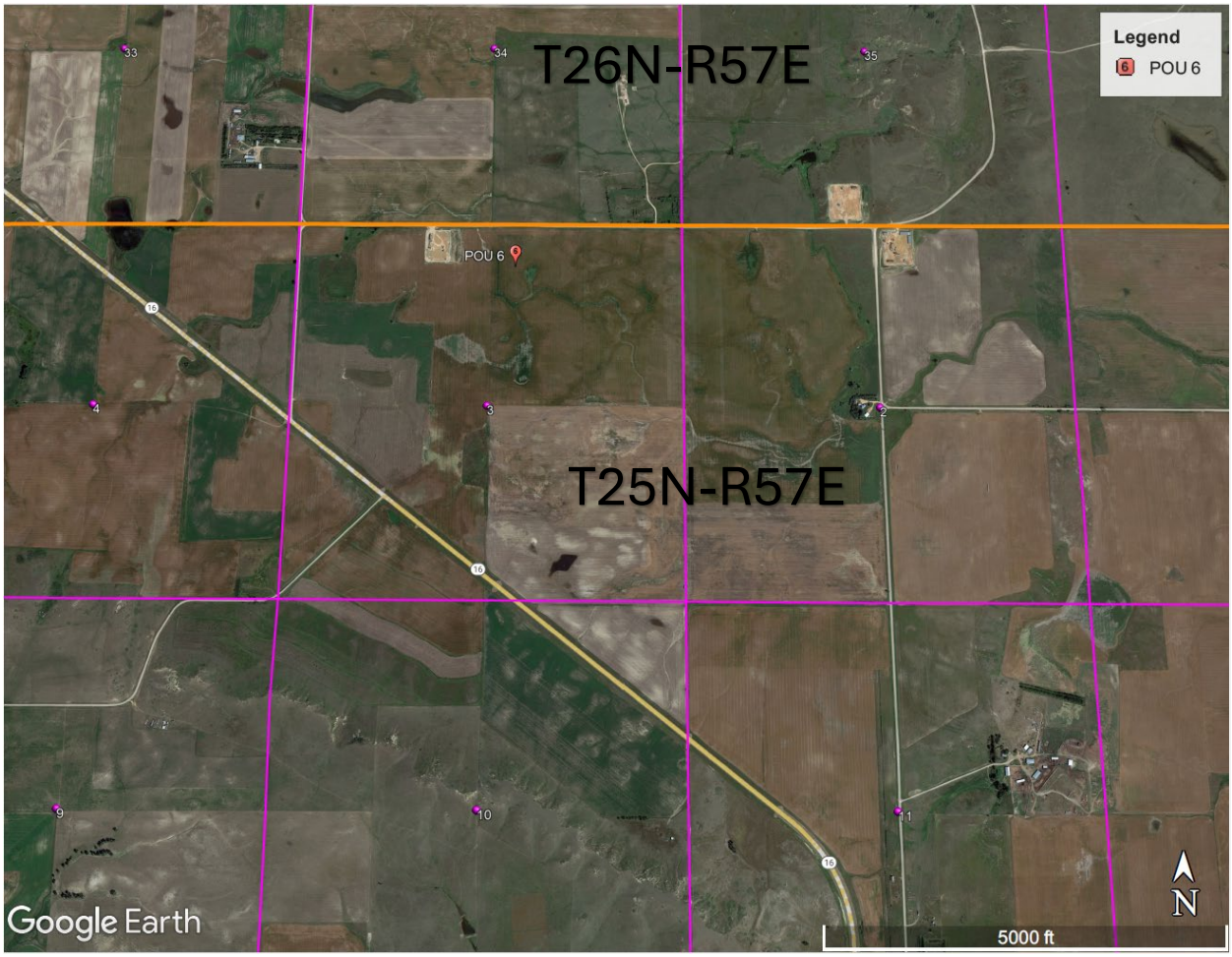
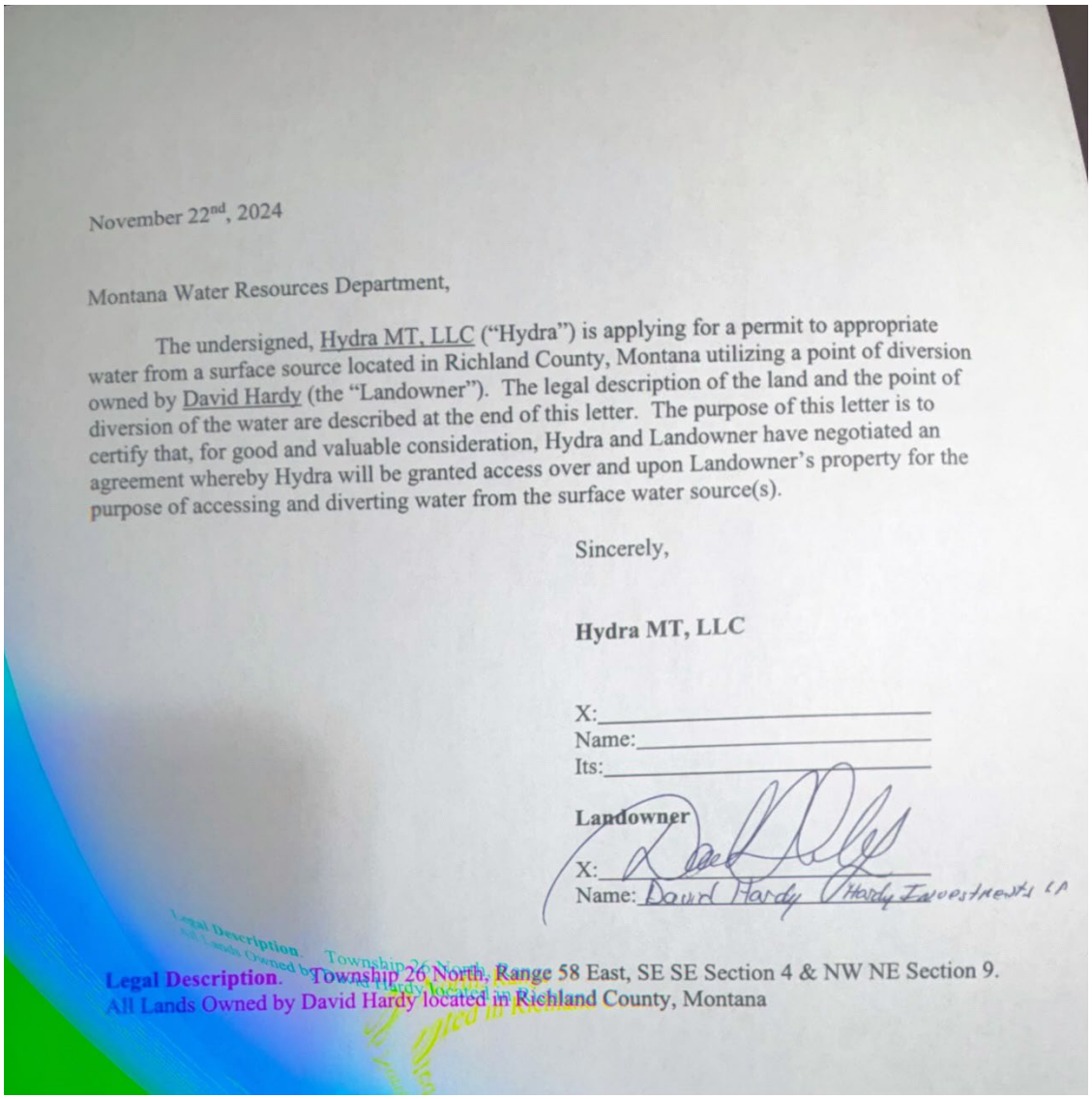


Figure 19E: POU 6

Ownership and Possessory Interest

27.



November 22nd, 2024

Montana Water Resources Department,

The undersigned, Hydra MT, LLC ("Hydra") is applying for a permit to appropriate water from a surface source located in Richland County, Montana utilizing a point of diversion owned by David Hardy (the "Landowner"). The legal description of the land and the point of diversion of the water are described at the end of this letter. The purpose of this letter is to certify that, for good and valuable consideration, Hydra and Landowner have negotiated an agreement whereby Hydra will be granted access over and upon Landowner's property for the purpose of accessing and diverting water from the surface water source(s).

Sincerely,

Hydra MT, LLC

X:_____
Name:_____
Its:_____

Landowner

X:_____
Name: David Hardy Hardy Investments LP

Legal Description. Township 26 North, Range 58 East, SE SE Section 4 & NW NE Section 9.
All Lands Owned by David Hardy located in Richland County, Montana

Figure 27: Photo of Surface Use Agreement with Landowner at POD

Adequate Means of Diversion and Operation

38.

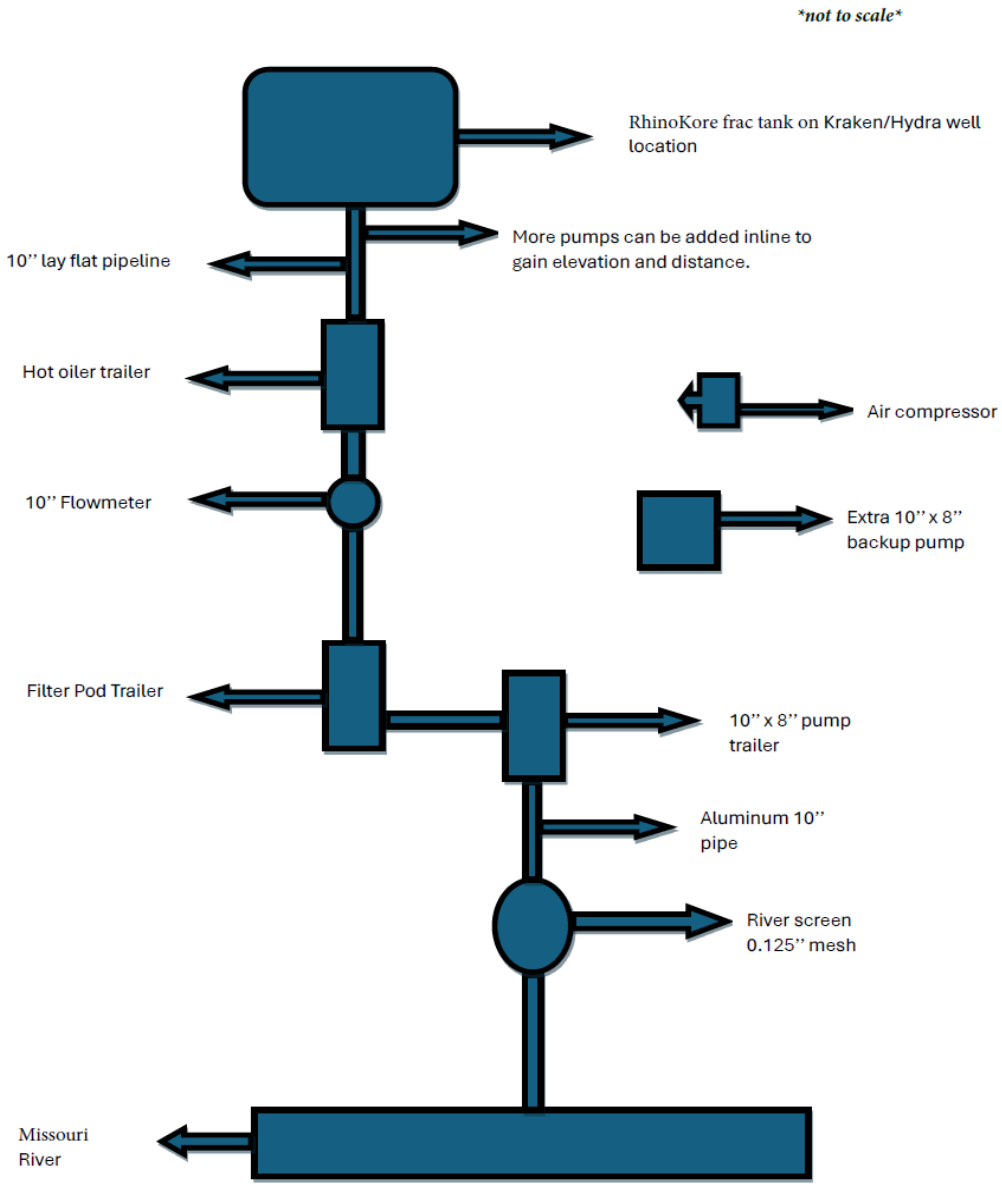


Figure 38: Diversionary Equipment

45.

Water will be transported and delivered to the place(s) of use as described in Question 39.

Once the water reaches the place of use, it is delivered into a portable, 50’ x 200’ 20,000bbl capacity RhinoKore above ground frac tank, one of which will be present at the pad (place of use) during the completion phase of operations. Because of the high rate necessary for completion operations, the RhinoKore acts as a median between the transfer of water to source, and the hydraulic fracturing process. The frac contractor onsite at the place of use pulls water from the RhinoKore which is then mixed with a fine mesh sand while being pumped downhole for the stimulation of the new Bakken wells to be produced at a later date. After completion (frac), the wells on pad are prepared for initial production. Throughout the life of a well, gas, water, and oil are produced from each wellbore where they will then be separated and transported. Produced water (salt water) is transferred to a state approved disposal facility. Depending on the midstream capability at the facility (place of use), this can be via truck or pipeline.

48.

Kraken Oil and Gas, LLC, the parent company of Hydra MT, LLC, needs fresh water to conduct the completion of oil and gas wells in Richland County, Montana.

Kraken Oil and Gas has over 30 new wells with an average lateral length of 15,000 feet that it plans to develop in the nearby area. Kraken's current completion design for a 3-mile (15,000') lateral consists of 90 stages, with each stage roughly 190 feet apart throughout the lateral. Each stage is designed to place roughly 300,000 pounds of proppant (sand) into its respective portion of the lateral. Based on fluid rheology, fresh water is designed to be pumped between 70-80 barrels per minute to prevent the well from sanding off. The concentration of sand is also an important factor and is designed to be kept at a maximum of 3 pounds per gallon. To ensure sufficient operation, each stage is designed to utilize approximately 5,000 barrels of fresh water. Therefore, a typical 3-mile lateral (15,000') requires approximately 450,000 barrels of fresh water per well. Based on the current near term development schedule, Kraken plans to develop as many as thirteen 3-mile wells within a calendar year, requiring roughly 5.85 million barrels of fresh water to support adequate completion.

The following attachment is an example of a pump schedule for the current stage design being utilized for a 3-mile (15,000') lateral.

Double Drop Stage Design

Rate		Clean vol	Clean vol	Slurry vol	Prop Conc.	Prop Vol
bpm		bbl	gal	gal	ppg	lbs
Up to 80 BPM	SW - BIP Pad	107	4,500	4,500		
Up to 80 BPM	SW 100 mesh	90	3,800	3,843	0.25	950
Up to 80 BPM	SW 100 mesh	90	3,800	3,886	0.5	1,900
Up to 80 BPM	SW 100 mesh ramp 1.(	1,167	49,000	53,434	2	98,000
		-		-		-
Up to 80 BPM	SW	71	3,000	3,000		
Up to 80 BPM	Diverter in ~1 gpt FR	25	1,050	1,050		
Up to 80 BPM	SW	60	2,520	2,520		
Up to 80 BPM	SW 100 mesh	90	3,800	3,843	0.25	950
Up to 80 BPM	SW 100 mesh	90	3,800	3,886	0.5	1,900
Up to 80 BPM	SW 100 mesh ramp 1.(	1,167	49,000	53,434	2	98,000
		-		-		-
Up to 80 BPM	SW	71	3,000	3,000		
Up to 80 BPM	Diverter in ~1 gpt FR	25	1,050	1,050		
Up to 80 BPM	SW	60	2,520	2,520		
Up to 80 BPM	SW 100 mesh	90	3,800	3,843	0.25	950
Up to 80 BPM	SW 100 mesh	90	3,800	3,886	0.5	1,900
Up to 80 BPM	SW 100 mesh ramp 1.(	1,167	49,000	53,434	2	98,000
		-		-		-
Up to 80 BPM	SW - Flush	476	20000	20000		
	Stage Total	4,939	207,440	221,129		302,550
	90 Stage Well Total	444,514	18,669,600	19,901,635	-	27,229,500

Figure 48: Completion Design

Appendix

ModMAG®
M-Series™ | Electromagnetic Flow Meters

Electromagnetic Flow Meter

M2000

Badger Meter

MAG-UM-01272-EN-25 (June 2022)

User Manual

Appendix Figure A: Flow Meter

PIONEER PUMP
PERFORMANCE THROUGH INNOVATION™

Standard Centrifugal

SC108S17L71

Typical Pump Configuration

Performance

End suction standard centrifugal pump

Bare shaft, frame mounted, heavy duty, solids handling pump

Size	10" x 8" 250 x 200 mm
Flow, Max	7,600 USgpm 1750 m³/h 480 l/s
Head, Max	450 feet 140 meters
Flow at BEP	4,600 USgpm 1060 m³/h 290 l/s
Efficiency at BEP	80%
Solids Handling, Max	3.5" 89 mm
Operating Speed, Max	2000 rpm
Suction Connection	10" (250 mm) 150 ANSI Flanges
Delivery Connection	8" (200 mm) 150 ANSI Flanges
Bearing Lubrication	Oil STD Grease optional
Fasteners	Imperial

Applications

Dirty water	Raw water pumps
Sewage bypass	Flood pumps
Silt returns	Mine dewatering
Cooling pumps	

PosiValve™ Patent #6,783,730

High pressure, high flow, heavy duty solids handling pump

Designed to run over a broad range of performance while delivering outstanding suction lift, the SC108S17 is the solid choice. The rugged construction and modular design provide proven reliability and flexibility in the most demanding applications.

Optional Priming System

Priming System	Mechanically Driven Diaphragm Style Vacuum Pump
Air Removal Capability	50 CFM
Priming Chamber	Single chamber with positive sealing air separation PosiValve™ with stainless steel float ball & linkage.
Discharge Check Valve	Swing Style - ductile iron with Buna-n Disc

Other Specifications

Mechanical Seal	Single Type Seal w/ Tungsten Carbide vs. Silicon Carbide Seal Faces, Viton Elastomers, 300 Series Stainless Steel Hardware and Spring (Run Dry Option Available).
Pump End Bearing	Single row ball
Drive End Bearing	Double Row Angular Contact
Shaft	17-4 PH Stainless Steel

Construction Materials

	Standard Construction	CD4MCu Stainless Steel
Impeller	CA6NM SS	CD4MCu
Volute	Ductile Iron ASTM A536 65-45-12	CD4MCu
Wear Ring	ASTM A48 Class 40 Gray Iron	316 SS
Suction Cover	Ductile Iron ASTM A536 65-45-12	CD4MCu
Bracket	Ductile Iron ASTM A536 65-45-12	CD4MCu
Backplate	Ductile Iron ASTM A536 65-45-12	CD4MCu

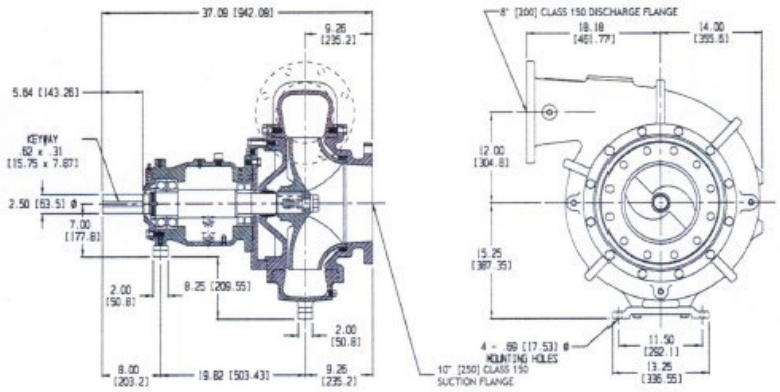
SC108S17L71_06.14

Appendix Figure B: Diesel Pump

Mechanical Dimensions

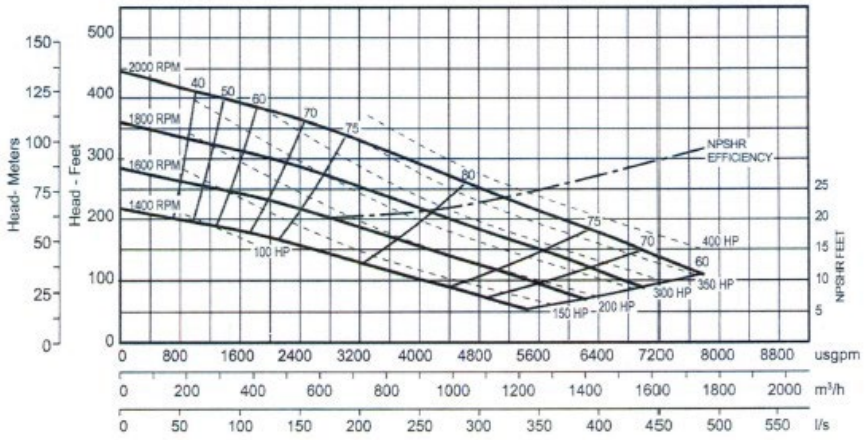
Typical Pump Configuration

SC108S17

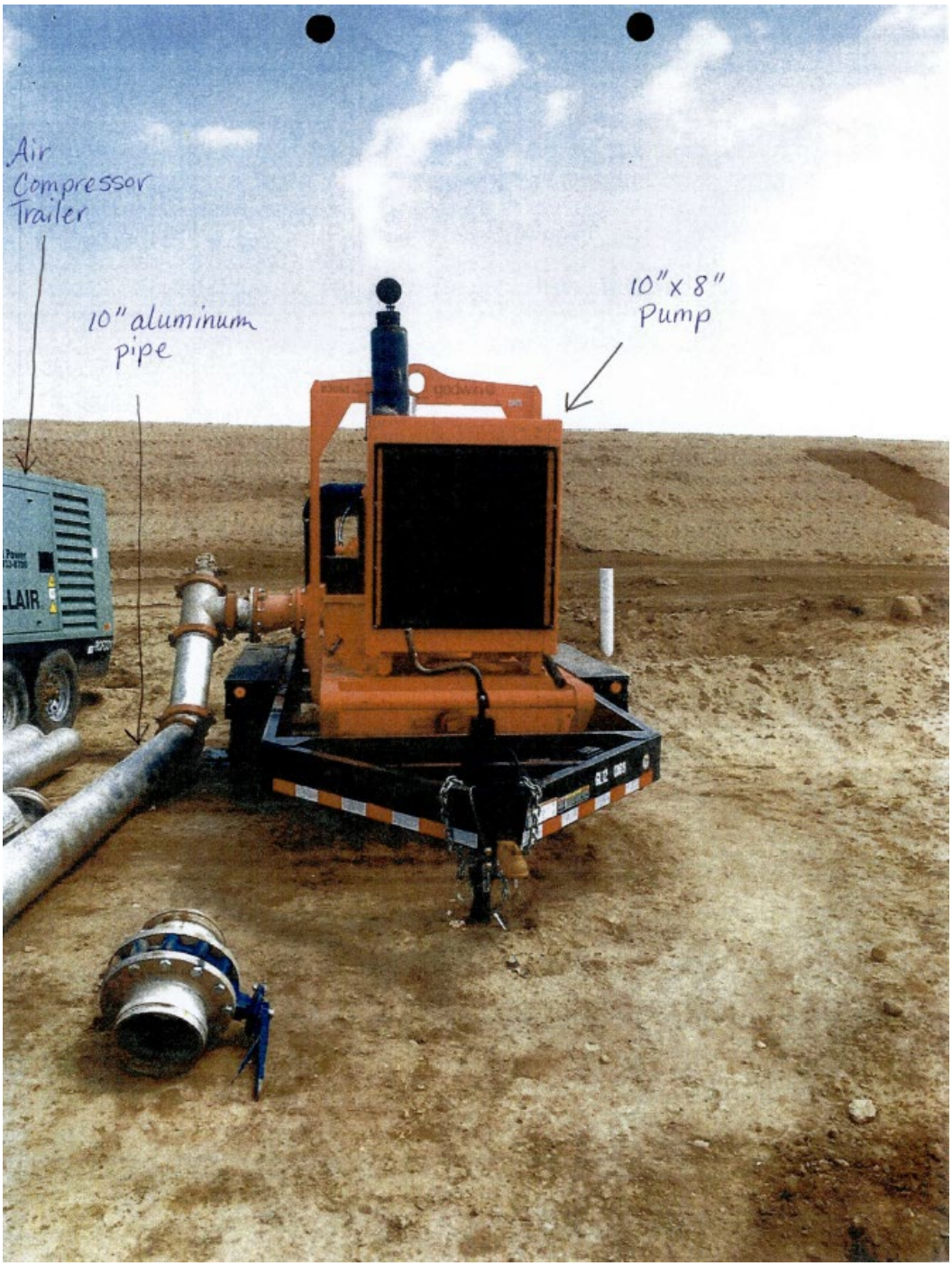


Performance Curve

Model: SC108S17	Impeller Dia: 17.5"	Speed: Variable	Solids Size: 3.5"	Curve #07997HQ



Appendix Figure C: Pump Specs

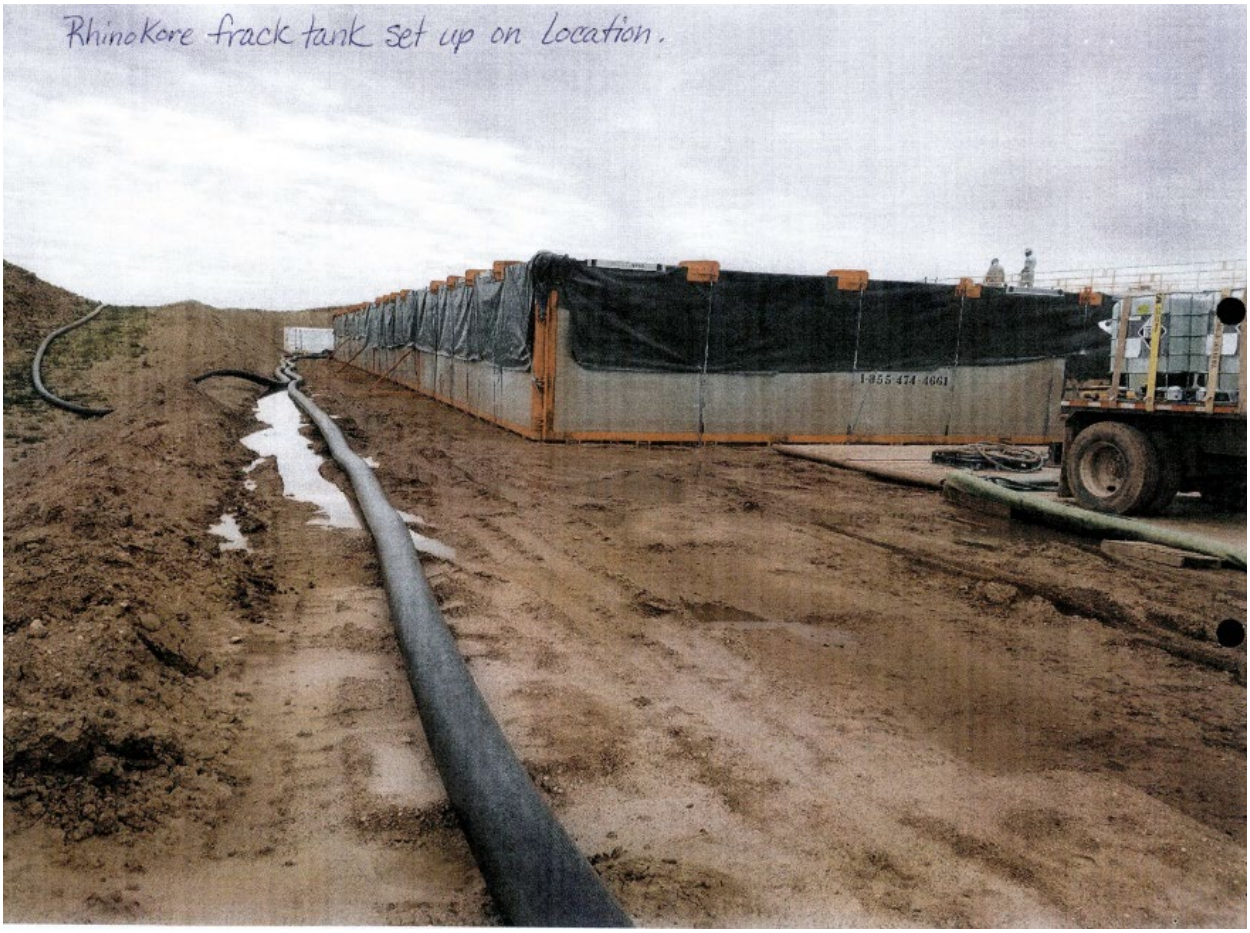


Appendix Figure D: Diversionary Equipment

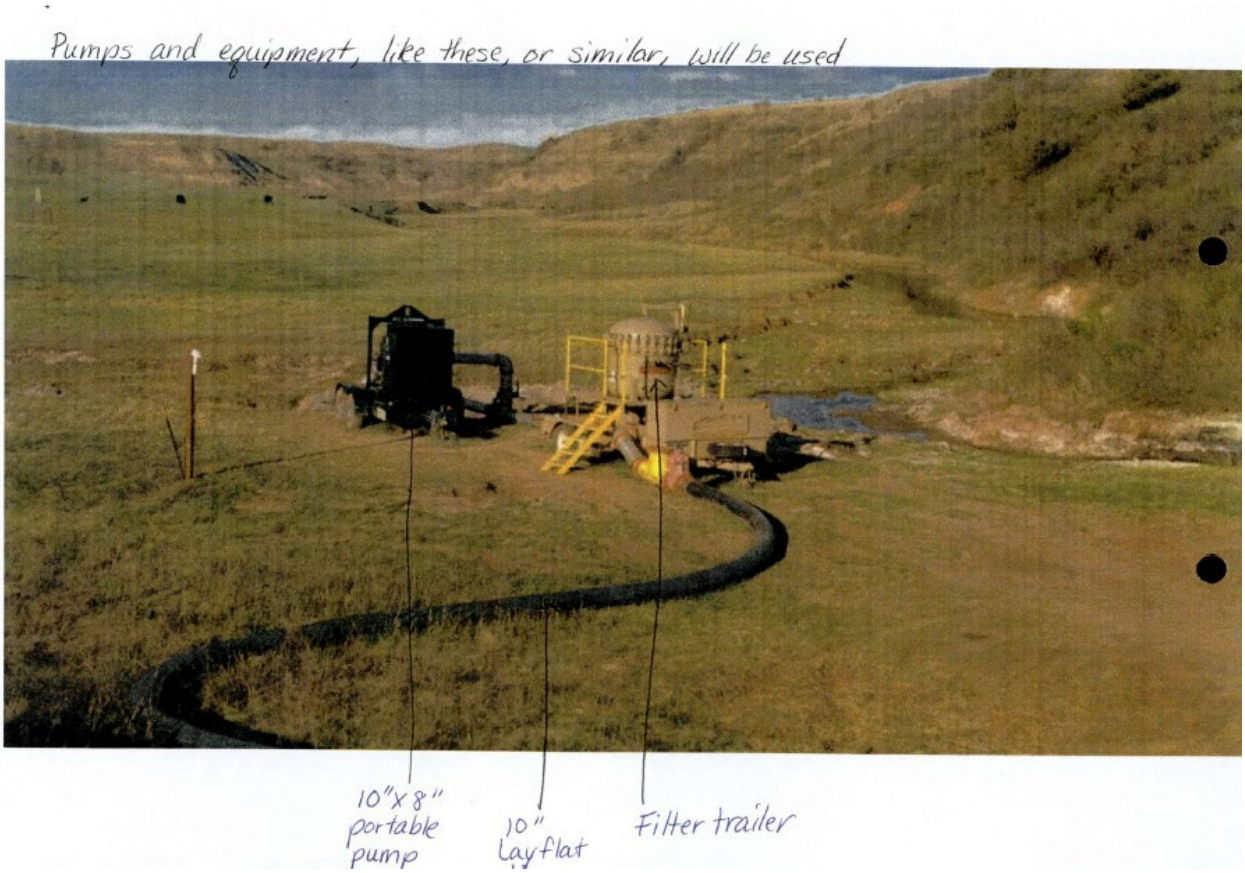
Appendix Figure E: Diversionary Equipment

Appendix Figure F: Diversionary Equipment

Appendix Figure G: Diversionary Equipment



Appendix Figure H: RhinoKore Frac Tank



Appendix Figure I: Diversionary Equipment

Form No. 600-TAA *(Revised 02/2024)* **Applicant Name** Hydra MT, LLC

APPLICATION FOR BENEFICIAL WATER USE PERMIT

TECHNICAL ANALYSIS ADDENDUM

ARM 36.12.1303

Answer every question and applicable follow-up questions. Use the checkboxes to denote yes ("Y") or no ("N"). Questions that require items to be submitted to the Department have a submitted ("S") checkbox, which is checked when the required item is attached to the Technical Analysis Addendum. Label all submitted items with the question number for which they were submitted. Narrative responses that are larger than the space provided can be answered in an attachment. If an attachment is used, mark the see attachment ("A") checkbox on this form and label the attachment with the question number. If no attachment is needed, leave the see attachment ("A) checkbox blank. Constrain narrative responses to the specific question as is asked on the form; do not respond to multiple questions in one narrative. Label units in narrative responses. Responses in the form of a table may be entered into the table provided on this form or in an attachment. Responses in the form of a table that are larger than the table provided on this form should be placed in an attachment. If an attachment is used, the table must have the exact headings found on this form, and the see attachment ("A") checkbox on this form must be marked. For tables on this form, circle correct unit at header of column when table has unit options. For tables in attachments, label all units.

SURFACE WATER

▣ **Applicable**, move on to question 1. ☐ **Not Applicable**, skip to question 14.

The following questions are mandatory for applications for surface water.

Surface Water: Physical Availability

Questions, Narrative Responses, and Tables	**Check-boxes**
1. What is the flow rate (GPM or CFS), volume (AF), period of diversion start date and end date (MM/DD-MM/DD), and source type (e.g., perennial, ephemeral) at each point of diversion? Use the same POD # as the project map (Form No. 600) to label each point of diversion.	☐ A

POD #	Flow Rate (GPM or CFS)	Volume (AF)	Period Start (MM/DD)	Period End (MM/DD)	Source Type
1	4000 GPM	755	01/01	12/31	Missouri River

2. What is the source type of the surface water diversion? Perennial	▣ A

Perennial or Intermittent	Answer questions 3 to 4	**Ephemeral**	Answer questions 5 to 7	**Lake**	Answer question 8	**Other**	Answer question 9

Surface Water: Physical Availability: Perennial or Intermittent

■ Applicable ☐ Not Applicable

3. Is stream gage data available?	■ Y ☐ N
a. If yes, answer the following questions related to the number of stream gages that are available.	
i. One stream gage is available	
1. What is the gage name? Missouri River near Culbertson MT	
2. Who operates and maintains the gage? USGS	
3. Is the stream gage upstream or downstream of the points of diversion? Upstream	
4. Is there a limiting or controlling factor that would make the Drainage Area Method not practical? This includes dams that control the flow and streams with large gaining and/or losing reaches.	☐ Y ■ N
5. Is the period of record greater than or equal to 10 years?	☐ Y ☐ N
6. How frequently is stage data recorded? every 15 minutes	
7. If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	■ Y ☐ N
8. Was the rating curve established and maintained throughout the duration of the period of record using measurements taken near the reference gage and stage recorder according to USGS protocols?	■ Y ☐ N
9. Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	■ Y ☐ N
10. Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion? See the "Department Standard Practice for Determining Physical Surface Water Availability" in the Permit Manual.	☐ Y ☐ N
a. If yes, this section is complete. Skip to question 12.	
b. If no, answer question 3.b.	
ii. More than one stream gage is available	
1. List the gage names. _____ _____	☐ A
2. Who operates and maintains the gages? _____	
3. Is one stream gage upstream and one downstream of the points of diversion?	☐ Y ■ N
4. Do stream gages have similar periods of record?	☐ Y ☐ N

5. Are the periods of record each greater than or equal to 10 years?	☐ Y ☒ N
6. How frequently is stage date recorded at each gage? _____	
7. For each gage, if data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	☐ Y ☐ N
8. Were the rating curves established and maintained throughout the duration of the period of record using measurements taken near the reference gages and stage recorders according to USGS protocols?	☐ Y ☐ N
9. For each gage, were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N
10. Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion? See the "Department Standard Practice for Determining Physical Surface Water Availability" in the Permit Manual.	☐ Y ☒ N
a. If yes, this section is complete. Skip to question 12.	
b. If no, answer question 3.b.	
b. If no gage data is available or if available gage data does not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion, is the source otherwise measured?	☒ Y ☐ N
i. If yes,	
1. Submit available measurements to the Department.	☐ S
2. Who collected the measurements? _____	
3. With what method was the data collected? _____ _____ _____ _____ _____ _____ _____	☐ A
4. What is the period of record? _____	
5. What is the frequency of measurement? _____	
6. Are there gaps in the data?	☒ Y ☐ N
a. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? _____ _____ _____	☐ A

7. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N
a. If yes, explain. _____ _____ _____ _____ _____	☐ A
8. Does available measurement data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of diversion? See the "Department Standard Practice for Determining Physical Surface Water Availability" in the Permit Manual.	☐ Y ☐ N
a. If yes, this section is complete. Skip to question 12.	
b. If no, answer question 4.	
4. Does the available measurement data, gage and/or otherwise measured, include a minimum of high, moderate, and low flows to be used for a Department-accepted estimation technique? If the Department finds that your measurements are not sufficient to validate an estimation technique or that no estimation technique is appropriate for the source characteristics, further measurements may be required. Refer to the "Department Standard Practice for Determining Physical Surface Water Availability" in the Permit Manual for more information.	☑ Y ☐ N
a. If yes,	
i. Describe how your measurements are representative of high, moderate, and low flows. _____ _____ _____ _____	☐ A
ii. If you conducted the Technical Analyses, summarize the estimation technique. If the Department will conduct the Technical Analyses, write N/A. _____ _____ _____ _____	☐ A
b. If no, and one or more Department-accepted estimation techniques are appropriate for the source characteristics.	
i. Did you submit Form No. 653 to request a variance from the requirements of ARM 36.12.1702(1)(b)? Please note that the Department's Technical Analyses or Scientific Credibility Review of your Technical Analyses cannot commence until the Department receives measurements that meet the requirements of ARM 36.12.1702(1) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N

1. If yes, submit a copy of the variance request form and, if available, the Department's decision.	☐ S
c. If no, and you have evidence that no Department-accepted estimation technique is appropriate for the source characteristics.	
i. Describe why no Department-accepted estimation technique is appropriate for the source characteristics. _____ _____ _____ _____ _____ _____ _____	☐ A
ii. Does available measurement data meet the Department's standard of monthly measurements throughout the period of diversion for surface water permits?	☐ Y ☐ N
1. If no, did you submit Form No. 653 to request a variance from the requirements of ARM 36.12.1702(4)? Please note that the Department's Technical Analyses or Scientific Credibility Review of your Technical Analyses cannot commence until the Department receives measurements that meet the requirements of ARM 36.12.1702(4) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N
a. If yes, submit a copy of the variance request form and, if available, the Department's decision.	☐ S

Surface Water: Physical Availability: Ephemeral

☐ Applicable ■ Not Applicable

5. If you have conducted Technical Analyses, summarize the method used to calculate mean annual runoff. If DNRC will conduct Technical Analyses, write N/A. _____ _____ _____	☐ A
6. Submit climate and drainage area data.	☐ S
7. Identify and provide the legal land description for the most downstream point of diversion. This point is used to delineate the drainage basin. _____ _____	☐ A

Surface Water: Physical Availability: Lake

☐ Applicable ■ Not Applicable

8. Do you have a design plan?	■ Y ☐ N
a. If yes, submit the design plans to DNRC	☐ S

b. If no, has the lake volume been quantified by a qualified entity based on bathymetric data?	☐ Y ☐ N
i. If yes, submit this information to DNRC.	☐ S

Surface Water: Physical Availability: Other

☐ Applicable ☐ Not Applicable

9. Submit measurements of the source to the Department.	☒ Y ☐ N
10. With what method was the measurement data collected? _____ _____ _____ _____ _____	☐ A
11. What is the measurement interval? _____	
a. Does the interval meet the requirements of 36.12.1702(4)?	☐ Y ☐ N
i. If no, did you submit Form No. 653 to request a variance from measurement requirements pursuant to ARM 36.12.1702(4)? Please note that the Department's Technical Analyses or Scientific Credibility review of your Technical Analyses cannot commence until the Department receives measurements that meet the requirements of ARM 36.12.1702(4) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N
1. If yes, submit a copy of the variance request form and the Department's decision.	☐ S

Surface Water: Identification of Legal Demands in Area of Potential Impact

12. If you conducted Technical Analysis, describe how you defined the Area of Potential Impact. If Department will conduct Technical Analyses, write N/A. ~~N/A~~ _____ _____ _____ _____ _____ _____	☐ A

Surface Water: Basin Closure Area

13. Is the project located in a Basin Closure Area? If yes, list the Basin Closure Area and answer the follow-up question for Basin Closure Areas in the "Project-Specific Questions: Controlled Groundwater Areas and Basin Closures" section (question 41). More information about basin closures online at: https://dnrc.mt.gov/Water-Resources/Water-Rights/Basin-Closures-Stream-Depletion-Controlled-Ground-Water-Areas. _____	☐ Y ▣ N

GROUNDWATER

☐ **Applicable**, move on to question 14. ▣ **Not Applicable**, skip to question 37.

The following questions are mandatory for applications for groundwater.

Questions, Narrative Responses, and Tables	**Check-boxes**

Groundwater: Physical Availability

14. What is the type of groundwater diversion? _____	

Well/Pit	Answer questions 15 to 18	**Developed Spring**	Answer questions 19 to 23	**Pond**	Answer questions 24 to 28

Groundwater: Physical Availability: Well/Pit

☐ Applicable ☐ Not Applicable

15. Submit the Aquifer Testing Addendum (Form No. 600-ATA).	☐ S
16. Submit the Aquifer Test Data Form (Form No. 633).	☐ S
17. Are variances from the requirements of ARM 36.12.121 needed?	☐ Y ☐ N
a. If yes,	
i. Submit the Variance Request (Form No. 653) to the Department and a record of the Department decision if the form was submitted prior to this application.	☐ S
ii. Do you have aquifer characteristic data available to you that you would like the Department to consider in its decision on the variance request?	☐ Y ☐ N
1. If yes, submit the data.	☐ S
18. Do you have a map with the location of each well/pit labeled and, if available, with the GWIC ID?	☐ Y ☐ N
a. If no, have all the wells/pits been constructed?	☐ Y ☐ N
i. If yes, submit a map with the wells/pits labeled and, if available, with the GWIC ID. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.	☐ S
ii. If no, answer the following questions,	

1. When will the wells/pits be constructed? _____	
2. Do you have an initial map with the proposed location of wells/pits?	☒ Y ☐ N
a. If yes, submit an initial map to the Department. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.	☐ S
3. Is the requested volume for each new well/pit known?	☐ Y ☐ N
a. If no, what is the total requested volume (AF) and the number of new wells? _____ _____	☐ A

Groundwater: Physical Availability: Developed Spring

☐ Applicable ☐ Not Applicable

19. Submit your measurements of the source.	☐ S
20. Do the measurements include flow rate (GPM or CFS) and volume measurements?	☒ Y ☐ N
21. With what method were measurements collected? _____ _____ _____ _____ _____ _____ _____	☐ A
22. What is the interval of measurements? _____	
23. Is the interval of measurements sufficient to comply with ARM 36.12.1703(1)? Please note technical analyses or scientific credibility reviews cannot commence until the Department has measurement data that meets the requirements of ARM 36.12.1703(1).	☐ Y ☐ N

Groundwater: Physical Availability: Pond

☐ Applicable ☐ Not Applicable

24. Do you require a variance from the requirements of ARM 36.12.121?	☐ Y ☐ N
a. If yes, submit a Variance Request (Form No. 653) to the Department and a record of the Department decision if the form was submitted prior to this application.	☐ S
25. Do you have measurements available for pond physical availability?	☐ Y ☐ N
a. If yes, submit the measurements to the Department.	☐ S
26. Submit pond bathymetry data, survey, or engineering plans to the Department.	☐ S
27. Submit a map identifying the location of the proposed pond. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.	☐ S

28. If you conducted Technical Analyses, how did you determine depth, surface area, and net evaporation of the pond? If DNRC will conduct Technical Analyses, write N/A. _____ _____ _____ _____	☐ A

Groundwater: Identification of Groundwater Legal Demands

All information to calculated Zone of Influence was collected in previous questions.

Groundwater: Adverse Effect to Existing Groundwater Rights

All information to calculate One-Foot Drawdown Contour was collected in previous questions.

Groundwater: Physical Availability of Depleted Surface Water Sources

29. If you submitted Technical Analyses with this application, list the hydraulically connected surface water sources and answer questions 30 to 31 one time per source. Use the "Additional Hydraulically Connected Source Sheet (600-TAA)" for each additional source. If you have elected for the Department to conduct the Technical Analyses after application submittal, write N/A and skip to question 33 because the information required to answer questions 30 to 32 is not yet available. If measurements are required to determine availability of depleted surface water sources, you are required to submit measurements sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria. _____ _____	☐ A
30. Name the hydraulically connected surface water source for which you are answering questions 31 and 32. _____	
31. Is stream gage data available?	☐ Y ☐ N
a. If yes, answer the following questions for the number of stream gages that are available.	
i. One stream gage is available	
1. What is the gage name? _____	
2. Who operates and maintains the gage? _____	
3. Is the gage upstream or downstream of the start of the depletion? _____	

4. Is there a limiting or controlling factor that would make the Drainage Area Method not practical? This includes dams that control the flow and streams with large gaining and/or losing reaches.	☐ Y ☐ N
5. Is the period of record greater than or equal to 10 years?	☐ Y ☐ N
6. How frequently is stage data recorded? _____	
7. If data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	☐ Y ☐ N
8. Was the rating curve established and maintained throughout the duration of the period of record using measurements taken near the reference gage and stage recorder according to USGS protocols?	☐ Y ☐ N
9. Were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N
10. Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of depletion? See the "Department Standard Practice for Determining Physical Surface Water Availability" in the Permit Manual.	☐ Y ☐ N
a. If yes, this section is complete. Skip to question 33.	
b. If no, answer question 31.b.	
ii. More than one stream gage is available	
1. List the gage names. _____ _____	☐ A
2. Who operates and maintains the gages? _____	
3. Is one stream gage upstream and one downstream of the start of the depletion?	☐ Y ☐ N
4. Do the stream gages have similar periods of record?	☐ Y ☐ N
5. Are the periods of record greater than or equal to 10 years?	☐ Y ☐ N
6. How frequently is stage date recorded at each gage? _____	
7. For each gage, if data gaps were to occur, are they identified and left unfilled or estimated using interpolation, ice correction, or indirect discharge measurements methods?	☐ Y ☐ N
8. Were the rating curves established and maintained throughout the duration of the period of record using measurements taken near the reference gages and stage recorders according to USGS protocols?	☐ Y ☐ N
9. For each gage, were there requirements for maintaining a permanent gage datum and meeting specified accuracy limits?	☐ Y ☐ N
10. Does the gage data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the proposed months of depletion? If you have questions about this, consult the "Department Standard Practice for Determining Physical Surface Water Availability" found in the Permit Manual.	☐ Y ☐ N
a. If yes, this section is complete. Skip to question 33.	
b. If no, answer question 31.b.	

b. If no gage data is available or if available gage data does not meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months of depletion, is the source otherwise measured?	☐ Y ☐ N
i. If yes,	
1. Submit available measurements to the Department.	☐ S
2. Who collected the measurements? _____	
3. With what method was the data collected? _____ _____ _____ _____ _____ _____ _____	☐ A
4. What is the period of record? _____	
5. What is the frequency of measurement? _____	
6. Are there gaps in the data?	☐ Y ☐ N
a. If yes, what is the nature of the gaps and how are gaps handled to ensure data quality? _____ _____ _____ _____ _____	☐ A
7. Is there a process for maintaining the data and meeting specified accuracy limits?	☐ Y ☐ N
a. If yes, explain. _____ _____ _____ _____ _____	☐ A
8. Does available measurement data meet the Department's standard to be sufficient to calculate the median of the mean monthly flow rate and volume during the months of depletion? See the "Department Standard Practice for Determining Physical Surface Water Availability" in the Permit Manual.	☐ Y ☐ N
a. If yes, this section is complete. Skip to question 33.	

b. If no, answer question 32.	
32. Does the available measurement data, gage and/or otherwise measured, include a minimum of high, moderate, and low flows to be used for a Department-accepted estimation technique? If the Department finds that your measurements are not sufficient to validate an estimation technique or that no estimation technique is appropriate for the source characteristics, further measurements may be required. Refer to the "Department Standard Practice for Determining Physical Surface Water Availability" in the Permit Manual for more information.	☐ Y ☐ N
a. If yes,	
i. Describe how your measurements are representative of high, moderate, and low flows. _____ _____ _____ _____	☐ A
ii. If you conducted the Technical Analyses, summarize the estimation technique. If the Department will conduct the Technical Analyses, write N/A. _____ _____ _____ _____	☐ A
b. If no, and one or more Department-accepted estimation techniques are appropriate for the source characteristics.	
i. Did you request to depart from the requirements of "Department Standard Practice for Determining Physical Surface Water Availability" found in the Permit Manual? Please note that the Department's Technical Analyses or Scientific Credibility Review of your Technical Analyses cannot commence until the Department receives measurements that meet these requirements or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N
1. If yes, submit a copy of the request to depart and, if available, the Department's decision.	☐ S
c. If no, and you have evidence that no Department-accepted estimation technique is appropriate for the source characteristics.	
i. Describe why no Department-accepted estimation technique is appropriate for the source characteristics. _____ _____ _____ _____ _____ _____ _____	☐ A

ii. Does available measurement data meet the Department's standard of monthly measurements throughout the period of net depletion for groundwater permits?	☐ Y ☐ N
1. If no, did you submit Form No. 653 to request a variance from the requirements of ARM 36.12.1702(4)? Please note that the Department's Technical Analyses or Scientific Credibility Review of your Technical Analyses cannot commence until the Department receives measurements that meet the requirements of ARM 36.12.1702(4) or, in combination with an approved variance request, are sufficient to complete any necessary technical analyses or scientific credibility reviews and to evaluate the applicable criteria.	☐ Y ☐ N
a. If yes, submit a copy of the variance request form and, if available, the Department's decision.	☐ S

Groundwater: Legal Availability of Depleted Surface Water Source(s)

All information to determine legal demands for depleted surface water source(s) was collected in previous questions.

Groundwater: Adequacy of Diversion

Questions, Narrative Responses, and Tables	**Check-boxes**
33. What is the flow rate (GPM or CFS), volume (AF), and period of diversion required (MM/DD-MM/DD) at each groundwater point of diversion? If the POD is a well, provide the well depth (FT), if available, or estimated well depth (FT). Please use the same POD # as the project map (Form No. 600) to match this information with the location information.	☐ A

POD #	Flow Rate (GPM or CFS)	Volume (AF)	Period of Diversion (MM/DD-MM/DD)	Well Depth (FT)	Measured or Estimated

34. Will the monthly pumping schedule differ from an allocation of diverted volume by the number of days in the month for year-round uses or the IWR 80% net irrigation requirements for irrigation/lawn & garden uses (IWR, NRCS 2003)?	☐ Y ☐ N
a. If yes, provide the alternative pumping schedule in the table below. Use the same POD # as the project map (Form No. 600).	☐ A

Month	POD #	Volume (AF)	Month	POD #	Volume (AF)
January			**July**		
February			**August**		
March			**September**		
April			**October**		
May			**November**		
June			**December**		

Groundwater: Basin Closure or Controlled Groundwater Area

35. Are any of the points of diversion located in a basin closure area?	☐ Y ☐ N
a. If yes,	
i. Submit the Basin Closure Area Addendum (Form 600-BCA), Hydrogeologic Report Addendum (Form 600-HRA), and Hydrogeologic Report.	☐ S
ii. If the Hydrogeologic Report indicates that the proposed groundwater use will impact a surface water source, which of the following three options best describe your plan to mitigate depletions of hydraulically connected surface water?	
1. Application to Change a Water Right to mitigate the adverse effects created.	☐ Y ☐ N
2. Alternative mitigation plan.	☐ Y ☐ N
3. Documentation to show a mitigation plan is not required.	☐ Y ☐ N
36. Are any of the points of diversion located in a controlled groundwater area? If yes, answer "Project-Specific Questions: Controlled Groundwater Areas and Basin Closures" section (questions 37 to 40).	☐ Y ☐ N

PROJECT-SPECIFIC QUESTIONS

Controlled Groundwater Areas and Basin Closures

37. Is the project located in the East Valley Controlled Groundwater Area?	☐ Y ■ N
a. If yes,	
i. Do you have written approval from (1) Lewis and Clark County Board of Health, (2) Lewis and Clark County Water Quality Protection Bureau, (3) the U.S. Environmental Protection Agency, (4) the Montana State Dept. of Environmental Quality and (5) the Montana State Dept. of Natural Resources and Conservation? If the agencies have established a Technical Advisory Group, prior approval by the Technical Advisory Group satisfies this requirement.	☐ Y ☐ N
ii. Is the project in Zone 2?	☐ Y ☐ N
1. If yes, submit in the written approval the following recommendations which will also be included as conditions on the appropriation. a. Well design and construction requirements necessary to measure the water level and water quality for any well; b. Water level measurement and water quality sample reporting requirements for any new well; c. Any other requirements necessary to ensure new wells can be operated in a manner consistent with purpose of the EVCGWA.	☐ S
iii. Is the project in Zone 1? If yes, a Form No. 600 cannot be accepted by the Department.	☐ Y ☐ N
38. Is the project located in the South Pine Controlled Groundwater Area?	☐ Y ■ N
a. If yes, submit the Application for Beneficial Water Use Permit South Pine Controlled Groundwater Area Addendum.	☐ S
39. Is the project located in the Yellowstone Controlled Groundwater Area?	☐ Y ■ N
i. If yes, submit a Yellowstone Controlled Groundwater Area Addendum (Form No. 600-Y over35).	☐ S
40. Is the project located in one of the other Controlled Groundwater Areas listed on the Department's website (https://dnrc.mt.gov/Water-Resources/Water-Rights/Basin-Closures-Stream-Depletion-Controlled-Ground-Water-Areas)?	☐ Y ■ N

a. If yes, list which one and describe how the proposed project meets the requirements of the Controlled Groundwater Area. _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	☐ A
41. Is the project located in one of the basin closures or stream depletion zones listed on the Department's website (https://dnrc.mt.gov/Water-Resources/Water-Rights/Basin-Closures-Stream-Depletion-Controlled-Ground-Water-Areas)?	☐ Y ■ N
a. If yes, list which one and describe how the proposed project meet the requirements of the basin closure or stream depletion zone. _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	☐ A

Place of Storage

42. Does the proposal include at least one place of storage? If yes, answer questions 43 to 50 for each individual place of storage (use "Additional Place of Storage Sheet (600-TAA)" for additional places of storage). If no, this section is complete, and you can skip to question 51.	☐ Y ■ N
43. Submit a map showing the location of the place of storage. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.	☐ S
44. Is this application to enlarge an existing reservoir?	☐ Y ☐ N
a. If yes, what is the water right number for the existing reservoir? _____	
45. Is the place of storage located on-stream?	☐ Y ☐ N

a. If no, explain the conveyance means to and from the off-stream place of storage and any losses that may occur with that conveyance. _____ _____ _____ _____ _____ _____ _____	☐ A
46. What is the capacity of the proposed place of storage or the existing place of storage after it is enlarged? Use bathymetry data, survey, or engineering plans for capacity. Submit the data source used with this form. In lieu of these data sources, use the following equation: *Surface Acres x Maximum Depth (FT) x 0.5 (0.4-0.6 depending on side slope) = Capacity (AF)* _____ _____ _____	☐ A
47. Will the place of storage include primary and/or emergency spillways?	☐ Y ☐ N
a. If yes, submit preliminary design specifications for primary and emergency spillways (ARM 36.12.113).	☐ S
48. Will the place of storage be lined?	☐ Y ☐ N
49. What is the annual net evaporation of water from the place of storage using the standards in ARM 36.12.116(1)? Gridded net evaporation layer is available from DNRC upon request. _____ _____	☐ A
50. Is the place of storage capacity calculated to be greater than 50 acre-feet?	☐ Y ☐ N
a. If yes, have you made an application to the DNRC Water Operations Bureau for a determination of whether the dam or reservoir is a high-hazard dam?	☐ Y ☐ N

Ditch-Specific Questions

51. Does the proposal include at least one conveyance ditch? If yes, answer question 52 and, for each ditch, answer question 53. If no, this section is complete, and you can skip to question 54.	☐ Y ■ N
52. Submit a Ditch Map that shows every ditch conveying water for the proposed project. Label the ditch name(s), POD(s), the POU(s), and the ditch measurement locations (requested in question 53.c). The map should be created on an aerial photograph or topographic map with the following: section corners, township and range, and a north arrow.	☐ S
53. For each conveyance ditch, answer the following. If there is more than one conveyance ditch, use an “Additional Ditch Sheet (600-TAA)” for each additional conveyance ditch.	
a. What is the ditch name? _____	

b. What is the distance water will be carried by the conveyance ditch? Only include segments between the POD and start of the POU; do not include segments within the POU. ☐ A

_____
_____
_____
_____

c. Provide at least one set of ditch measurements, which include width (FT), depth (FT), and slope (%). Discuss ditch characteristics with DNRC to determine the minimum number of ditch measurements. Include the location of each measurement, labeled with the 2-digit measurement ID number, used on the map submitted for question 52. ☐ A

ID #	Width (FT)	Depth (FT)	Slope (%)	Date of Measurement

d. What is a reasonable Manning's n value? List the factors used for estimation. If you do not know this value, please work through estimation with the Department. ☐ A

_____
_____
_____

e. What type of soils compose the proposed conveyance ditch? For lined ditches, write "lined" instead. ☐ A

_____
_____
_____

f. Are other water rights conveyed by the conveyance ditch? ☐ Y ☐ N

i. If yes,

1. List the water right numbers. ☐ A

_____
_____
_____
_____
_____

2. What is the sum of the flow rates (GPM or CFS) for water rights conveyed? ☐ A

_____
_____

3. Submit a map with your best estimate of where the existing POUs begin for the other water rights conveyed by the conveyance ditch for all POUs between the proposed POD and your proposed POU. Create map on an aerial photograph or topographic map that also includes the following: section corners, township and range, and a north arrow.	☐ S

Water Marketing

54. Does the proposal include water marketing? If yes, please answer the questions in this section (questions 55 to 60). If no, this section is complete.	☐ Y ■ N
55. Identify the flow rate (GPM or CFS) and volume (AF) of water that will be marketed. _____ _____	☐ A
56. Will the marketed water return to the source?	☐ Y ☐ N
a. Explain how this determination was made. _____ _____ _____ _____ _____ _____	☐ A
57. For what purposes will the marketed water be used? _____ _____ _____	☐ A
58. How will you control or limit access to the water? _____ _____ _____ _____	☐ A
59. Do you have contracts for the entire volume and flow rate sought?	☐ Y ☐ N
60. Submit a service area map. Create map on an aerial photograph or topographic map and shows the following: general service area boundary, section corners, township and range, and a north arrow.	☐ S

TAA Attachments

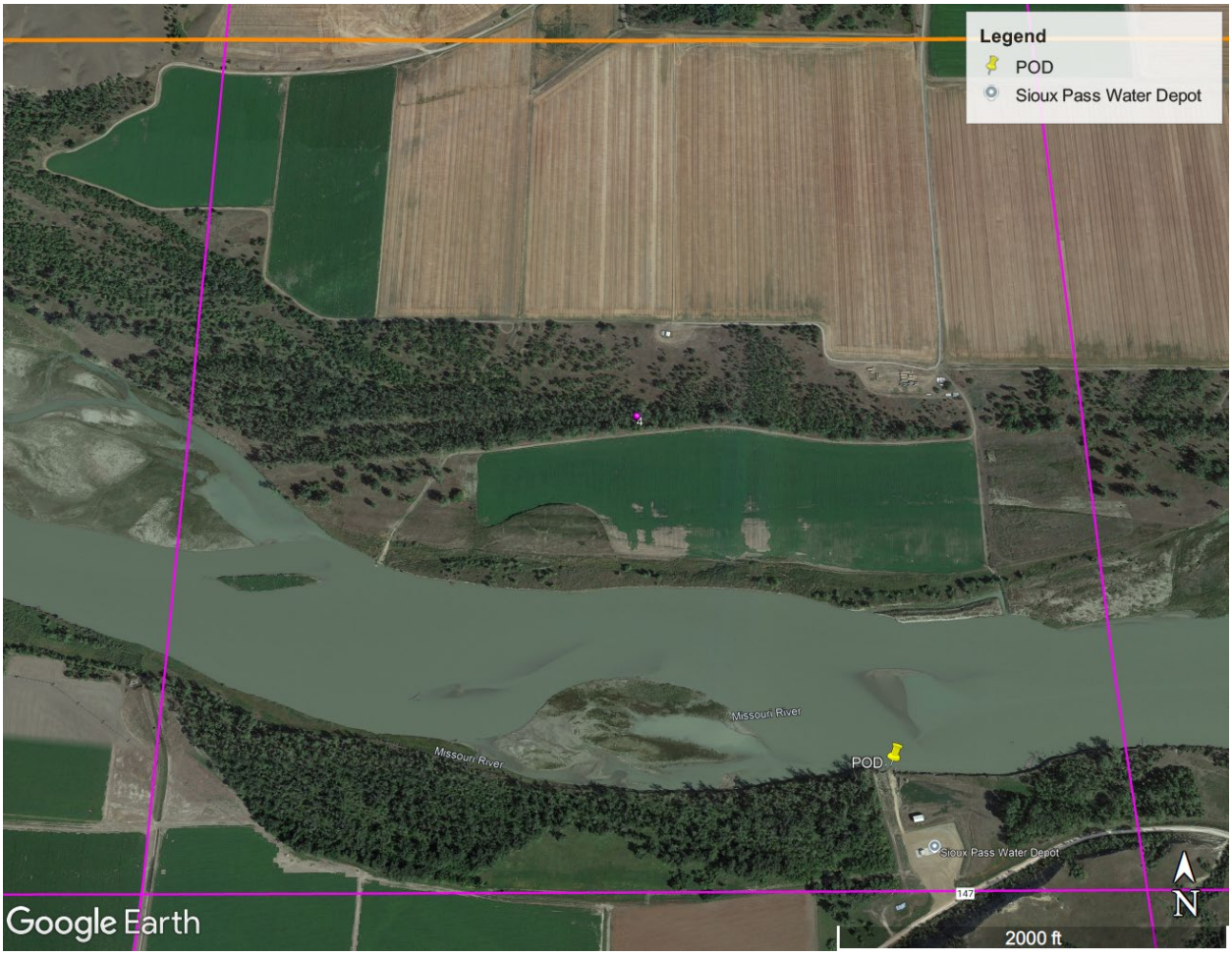


Figure 1: Proposed POD