

Montana Department of Natural Resources and Conservation  
Water Resources Division  
Water Rights Bureau

**ENVIRONMENTAL ASSESSMENT**  
**For Routine Actions with Limited Environmental Impact**

**Part I. Proposed Action Description**

1. Applicant/Contact name and address: Exploration Drilling, Inc.  
12653 County Rd. 352  
Sidney, MT 59270
2. Type of action: Application for Beneficial Water Use Permit No. 42M 30065439
3. Water source name: Groundwater and Yellowstone River
4. Location affected by project: SE 1/4, NE 1/4, Section 22, T23N R59E, Richland County
5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:  
This project is to divert groundwater for the purposes of water marketing and irrigation. The application is for 570GPM up to 609.7 AF of water annually from January 1 thru December 31. The point of diversion and the place of use are located in the S1/2 of the SE ¼ S 22 T23N R59E, Richland County. The service area is generally located in all of Richland, Dawson, McCone, and Roosevelt Counties. The water will primarily be marketed to the oil industry for the purpose of formation fracturing. The water depot will have three load- outs that can simultaneously fill water tankers. The well will also be used to irrigate a small parcel adjacent to the water marketing facilities.  
The DNRC shall issue a water use permit if an applicant proves the criteria in 85-2-311 MCA are met.
6. Agencies consulted during preparation of the Environmental Assessment:  
  
Montana Department of Environmental Quality – Web site  
Montana Department of Fish, Wildlife & Parks  
National Wetlands Inventory  
Montana Natural Heritage Program

**Part II. Environmental Review**

**1. Environmental Impact Checklist:**

**PHYSICAL ENVIRONMENT**

**WATER QUANTITY, QUALITY AND DISTRIBUTION**

**Water quantity** - Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.

*Determination:* The Department has shown that the zone of influence (ZOI) of the well intersects the Yellowstone River. The reach of the Yellowstone River that is included in the ZOI is not identified as a chronically or periodically dewatered stream by the Montana Department of Fish, Wildlife & Parks. The requested appropriation is generally constant year-round so the timing of total depletion is generally constant at 609.7 AF per year and a rate of 570 GPM. Eventually, the depletion rate will equal the pumping rate. This reach of the stream is not identified as being dewatered and a diversion rate of 570 GPM will likely not have a noticeable effect on the Yellowstone River.

**Water quality** - Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.

*Determination:* The lower Yellowstone River is listed on the 2010 Montana 303(d) list as fully supporting agriculture, drinking water industrial uses and primary contact recreation and partially supporting aquatic life and warm water fishery. Probable causes of impairment are alterations in stream-side or littoral vegetative covers, fish passage barriers and chemical and mineral levels. Probable sources are the impacts from irrigation crop productions, rangeland grazing, streambank modification/destabilization, hydro-structure flow regulation/modification and natural or unknown sources of chemical or mineral properties.

This project will not likely have a significant or long term impact water quality.

**Groundwater** - Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.

*Determination:* The well was drilled July 2009 and an aquifer test was conducted on September 10, 2012. Using aquifer properties generated from the aquifer test, the Department used the Theis (1935) model to determine a zone of influence (ZOI) of 28,000 feet, but the ZOI extends past the aquifer boundaries; therefore the radius was truncated to the contact of the alluvium and the Tongue River Member of the Fort Union Formation which is 15,000 feet from the pumping well. Using AQTESOLV Pro analytical software, a forward solution with five years of pumping predicted that drawdown in excess of 1 foot would occur in 70 wells that are within 8,000 feet of the proposed well. A department hydrogeologist identified a connection between the source aquifer and the Yellowstone River. Eventually, the depletion rate will equal the pumping rate. The Applicant provided a legal availability analysis on the Yellowstone River.

**DIVERSION WORKS** - Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.

*Determination:* Water will be diverted from the ground via a 12 inch well. The well is constructed of a 12” welded steel casing from 2 feet above ground to 100 feet below ground surface. The well is screened with stainless steel screen from 80 to 100 ft. The well is equipped with a 500 GPM Model 7TLC Gould pump. The well pumps into a 4” supply line and through an in-line flow meter into nine manifold storage tanks, including four 400 barrel tanks and five 500 barrel tanks. Total storage is equal to 172, 200 gallons. The storage tanks will be plumbed so that they operate as one tank. There will be 3 load outs that will allow water truck drivers to load water into their tankers, each load out will be metered for billing purposes. The main line will be equipped with a totalizing meter that will measure flow rate and total volume diverted. There will also be a valve and totalizing meter that leads to the irrigated portion of the place of use.

### **UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES**

***Endangered and threatened species*** - Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any “species of special concern,” or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or “species of special concern.”

*Determination:* According to the Montana Natural Heritage Program website, The Bureau of Land Management, (BLM), lists the Townsend’s Big Eared Bat, Black-tailed Prairie Dog, Spiny Softshell, Blue Sucker, Sturgeon Chub, Paddlefish, and Sauger as sensitive. The Whooping Crane and the Pallid Sturgeon are listed by BLM as Special Status. The US Forest Service, (USFS), lists the Townsend’s Big-eared Bat and the Black-tailed Prairie Dog as sensitive. Both the US Forest Service and the US Fish & Wildlife Service list the Whooping Crane and the Pallid Sturgeon as Endangered. No federally-listed threatened or endangered plant species exist within the Project area.

The well and storage and distribution facilities and irrigated field are located adjacent to a regularly traveled county road and railroad right-of-way. It is unlikely that any of the above listed wildlife would be present.

The Project will likely have no effect on endangered and threatened species.

***Wetlands*** - Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.

*Determination:* There are no wetlands claimed in the project area.

The Project will likely have no significant impact on wetlands outside.

***Ponds*** - For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.

*Determination:* This project does not involve ponds.

**GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE** - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

*Determination:* Water diverted for this project will not impact soils. This water is for formation fracturing.

The Project will likely have no impacts on soils in the project area.

**VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS** - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

*Determination:* This project will cause minor disturbances to the area. With the additional thru-truck traffic, the project area may see an increase in the introduction of noxious weeds.

The Applicant will be responsible for monitoring and controlling the establishment or spread of noxious weeds.

**AIR QUALITY** - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

*Determination:* The additional traffic may increase dust disturbance in the area. The Applicant will be responsible for the control of fugitive dust.

The Project will likely have no significant effects to air quality.

**HISTORICAL AND ARCHEOLOGICAL SITES** - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands. If it is not on State or Federal Lands simply state NA-project not located on State or Federal Lands.*

*Determination:* Not applicable; this project is not located on State Trust or Federal lands.

The Project will likely have no impact on historical, cultural or archeological sites.

**DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY** - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

*Determination:* No additional impacts on other environmental resources were identified.

<b>HUMAN ENVIRONMENT</b>
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**LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS** - Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.

*Determination:* There are no known local environmental plans or goals in this area.

**ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES** - Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.

*Determination:* The project is located in a rural area that has historically been used for agricultural purposes and will not have an impact on recreation or wilderness activities

**HUMAN HEALTH** - Assess whether the proposed project impacts on human health.

*Determination:* This project will have no impact on human health.

**PRIVATE PROPERTY** - Assess whether there are any government regulatory impacts on private property rights.

Yes \_\_\_ No X If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.

*Determination:*

**OTHER HUMAN ENVIRONMENTAL ISSUES** - For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.

*Impacts on:*

- (a) Cultural uniqueness and diversity? No Significant Impact
- (b) Local and state tax base and tax revenues? No Significant Impact
- (c) Existing land uses? No Significant Impact
- (d) Quantity and distribution of employment? No Significant Impact
- (e) Distribution and density of population and housing? No Significant Impact
- (f) Demands for government services? No Significant Impact
- (g) Industrial and commercial activity? No Significant Impact
- (h) Utilities? No Significant Impact
- (i) Transportation? No Significant Impact
- (j) Safety? No Significant Impact
- (k) Other appropriate social and economic circumstances? No Significant Impact

2. ***Secondary and cumulative impacts on the physical environment and human population:***

Secondary Impacts This assessment does not indicate possible secondary impacts on the physical environment and/or the local human population.

Cumulative Impacts This assessment does not indicate possible cumulative impacts on the physical environment and/or the local human population.

3. ***Describe any mitigation/stipulation measures:*** N/A

4. ***Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*** An alternative analysis of the project identified a no action alternative to the construction of the Depot project. This alternative would not have any direct impacts that are typically associated with construction and operation of the Depot. The no-action alternative would not allow the Applicant to meet the purpose of and need for the project

*PART III. Conclusion*

1. ***Preferred Alternative*** Construct the Exploration Drilling Water Depot is the preferred alternative.

2 ***Comments and Responses***

3. ***Finding:***

Yes\_\_\_ No\_**X**\_\_ Based on the significance criteria evaluated in this EA, is an EIS required?

*If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:*

No significant impacts have been identified; therefore an EIS is not necessary.

*Name of person(s) responsible for preparation of EA:*

*Name:* Martin Balukas

*Title:* Water Resource Specialist

*Date:* 6/4/13