

Beneficial Water Use Permit Application 40J 30049508 by Montana, State Board of Land Commissioners.

EA Form R 1/2007

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:* Montana, State Board of Land Commissioners
Trust Land Management Division
PO Box 201601
Helena, MT 59620
2. *Type of action:* : Beneficial Water Use Permit Application No. 40J 30049508
3. *Water source name:* Groundwater
4. *Location affected by project:* The point of diversion is 3,373 feet deep well located in SW NE SW of Section 36, T32N, R19E, Blaine County. The place of use is located located within the Bowes Oil Field generally located within T31N and T32N, R19E and R20E Blaine County.
5. *Narrative summary of the proposed project, purpose, action to be taken, and benefits:*
The Applicant proposes to divert water from groundwater, by means of a well that is approximately 3,373 feet deep, from January 1 through December 31, at 43.75 gallons per minute (GPM) up to 70.40 acre-feet (AF). The diverted water will be injected into a deeper oil and gas bearing formation for the industrial purposes of increasing field pressure and oil production. The water will be conveyed by pipeline, to one of four - 16,800 gallon storage tanks. From these storage tanks water will be piped and injected (pumped) into wells located within the Bowes Oil Field.

The DNRC shall issue a Beneficial Water Use Permit if the applicant proves the criteria in 85-2-311 and 85-20-1001(22), MCA are met.

6. *Agencies consulted during preparation of the Environmental Assessment:*
(include agencies with overlapping jurisdiction)
Montana Natural Heritage Program
Natural Resources Conservation Service (NRCS) Soils Data Website
Dept. of Environmental Quality Website (TMDL 303d listing)
MT Dept. of Fish, Wildlife & Parks Website (Montana Rivers Information System)
National Wetlands Inventory Website
Natural Resource Information System

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.

The proposed appropriation is from a groundwater source.

Determination: Not Applicable

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.

The proposed appropriation is from a groundwater source.

Determination: Not Applicable

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.

Technical information was provided specifically addressing the compact basin closure exception for new groundwater developments under the Fort Belknap Compact. The Applicant found that the well was completed in the Third Cat Creek Unit, which is a member of the Kootenai Formation that outcrops to the south in the Bears Paw Mountains. This probable recharge zone for the aquifer is located several miles to the south of the ZOI. The confined nature, depth to the top of the Third Cat Creek aquifer (2,873 feet bgs), static water levels (1,786.8 and 1,691 feet bgs), gentle dip of the strata in the region and generally flat physiography suggest that there is little to no connection with surface water in the area. Surface water in the area is likely connected to shallower, unconfined aquifers that provide the majority of water for shallower wells in the area. The Applicant asserts that the water found in the Eagle Sandstone Formation and surface water sources are not interconnected to the degree that the Applicant's proposed groundwater use will impact surface water nor will the use of surface water impact the proposed groundwater appropriation.

Determination: No impact to adjacent surface water flows are anticipated by the proposed project.

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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.

The Applicant has provided the proposed construction and completion of the proposed well and the plan view of water transport and storage for the pumping/injection system and has provided the pump curve and specifications for the submersible pump. Water will be pumped from the proposed well at a rate of 43.7 gpm through a 2-inch pipeline and into a storage tank and ultimately an injection well. The applicant has provided a picture showing the pumping well and discharge pipeline set up as well as the totalizing flow meter (NuFlo) used to measure pump discharge rates.

Determination: No significant impacts are anticipated from the proposed means of diversion, construction and operation of the appropriation works of the proposed project.

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.”

According to the information provided by the Montana Natural Heritage program, there is one bird record of species of concern in the vicinity of the proposed project. The species identified is the Great Blue Heron. Four fish records that are species of concern, which are the Iowa Darter, Pearl Dace, Northern Redbelly Dace and the Sauger. The following charts contain specific information about the identified species:

Species of Concern										
5 Species										
Filtered by the following criteria:										
Township = 32 N Range = 19 E										
BIRDS (AVES)										1 SPECIES
										FILTERED BY THE FOLLOWING CRITERIA:
										TOWNSHIP = 32 N RANGE = 19 E
SCIENTIFIC NAME	FAMILY (SCIENTIFIC)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	CFWCS TIER ID	% OF GLOBAL BREEDING RANGE IN MT	% OF MT THAT IS BREEDING RANGE	HABITAT
COMMON NAME	FAMILY (COMMON)	?	?	?	?	?	?	?	?	?
TAXA SORT										
Ardea herodias	Ardeidae	G5	S3				3	3%	100%	Riparian forest
Great Blue Heron	Bitterns / Egrets / Herons / Night-Herons	Species verified in these Counties: Beaverhead, Big Horn, Blaine, Broadwater, Carbon, Carter, Cascade, Chouteau, Custer, Dawson, Deer Lodge, Fallon, Fergus, Flathead, Gallatin, Garfield, Glacier, Golden Valley, Granite, Hill, Jefferson, Judith Basin, Lake, Lewis and Clark, Liberty, Lincoln, Madison, McCone, Meagher, Mineral, Missoula, Musselshell, Park, Petroleum, Phillips, Pondera, Powder River, Powell, Prairie, Ravalli, Richland, Roosevelt, Rosebud, Sanders, Sheridan, Silver Bow, Stillwater, Sweet Grass, Teton, Toole, Treasure, Valley, Wheatland, Wibaux, Yellowstone								
FISH (ACTINOPTERYGII)										4 SPECIES
										FILTERED BY THE FOLLOWING CRITERIA:
										TOWNSHIP = 32 N RANGE = 19 E
SCIENTIFIC NAME	FAMILY (SCIENTIFIC)	GLOBAL RANK	STATE RANK	USFWS	USFS	BLM	CFWCS TIER ID	% OF GLOBAL BREEDING RANGE IN MT	% OF MT THAT IS BREEDING RANGE	HABITAT
COMMON NAME	FAMILY (COMMON)	?	?	?	?	?	?	?	?	?
TAXA SORT										
Etheostoma exile	Percidae	G5	S3				3	1%	9%	Small prairie rivers
Iowa Darter	Perches	Species verified in these Counties: Blaine, Carter, Chouteau, Daniels, Dawson, Hill, Liberty, McCone, Phillips, Powder River, Richland, Roosevelt, Sheridan, Valley, Wibaux								
Margariscus margarita	Cyprinidae	G5	S2			SENSITIVE	1	1%	1%	Small prairie streams
Pearl Dace	Minnnows	Species verified in these Counties: Blaine, Daniels, Hill, McCone, Phillips, Richland, Roosevelt, Sheridan, Valley								
Phoxinus eos	Cyprinidae	G5	S3				3	4%	27%	Small prairie rivers
Northern Redbelly Dace	Minnnows	Species verified in these Counties: Blaine, Cascade, Chouteau, Daniels, Dawson, Fergus, Garfield, Golden Valley, Hill, Judith Basin, Lewis and Clark, McCone, Meagher, Musselshell, Petroleum, Phillips, Pondera, Roosevelt, Sheridan, Stillwater, Sweet Grass, Teton, Toole, Valley, Wheatland, Wibaux								
Sander canadensis	Percidae	G5	S2			SENSITIVE	1	1%	15%	Large prairie rivers
Sauger	Perches	Species verified in these Counties: Big Horn, Blaine, Carbon, Carter, Cascade, Chouteau, Custer, Dawson, Fallon, Fergus, Garfield, Hill, Liberty, McCone, Musselshell, Petroleum, Phillips, Powder River, Prairie, Richland, Roosevelt, Rosebud, Teton, Treasure, Valley, Wibaux, Yellowstone								

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Determination: The proposed project is located in a sparsely populated area primarily composed of dry cropland, it is not anticipated that the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or the species of special concern identified. It is also not anticipated that the proposed project will create a barrier to the migration or movement of fish or wildlife because there is no immediate connection to surface water identified in this permit application.

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

There are no wetlands identified from GIS mapping of the proposed project utilizing NWI data.

Determination: Because there are no wetlands identified within the proposed project area, there are no impacts anticipated.

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

No ponds or reservoirs are associated with the proposed project.

Determination: Not applicable

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.

Data from the NRCS soils website indicate soil types within the proposed project area. Three soil types dominate the proposed project area. The dominate soil types are identified as Zahill clay loam, 25 to 45 percent slopes, Bearpaw clay loam, 0 to 4 percent slopes and Straw and Nesda soils, channeled.

Determination: Degradation of soil quality, alteration of soil stability or moisture content is expected to be minimal to non-existent. Saline seepage in the area does not appear to be problematic nor does the proposed project appear to worsen any saline seepage problems.

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.

There will be some disturbance during the construction process as proposed. The proposed project is located in an area that the current land use is dry cropland.

Determination: The construction of the well and related pipe should not have a significant impact to existing vegetative cover. However, it is the applicant's responsibility to control noxious weeds on their property.

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

The applicant included plans in their application to incorporate electric motor driven submersible and centrifugal pumps.

Determination: No deterioration of air quality or adverse effects on vegetation due to an increase in air pollutants is expected.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.*

The proposed project is located in an area that the current land use is dry cropland.

Determination: According to DNRC TLMD cultural resource staff, only one record of cultural resource inventory work having been conducted of in response to telephone cable R/W which parallels the county road R/W fence. Were ground disturbance has already occurred, then there should be no cultural resource concerns with the proposed project.

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

No additional impacts on other environmental resources were identified.

Determination: No significant impact

HUMAN ENVIRONMENT

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

There are no known environmental plans or goals in this area.

Determination: No significant impact

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.*

The project should have no significant or harmful impact on recreational or wilderness activities.

Determination: No significant impact

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

The development should have no impact on human health.

Determination: No significant impact

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.

No adverse effect on private property rights is anticipated from this development.

Determination: No significant impact

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 as the proposed project is consistent with other land uses in the region.
- (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? No secondary impacts have been identified.

Cumulative Impacts? No cumulative impacts have been identified.

3. ***Describe any mitigation/stipulation measures:*** None

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:***

No action alternative:

The applicant would not be able to develop their project as proposed.

Alternative 1:

Approve the application if the applicant proves the statutory criterion has been met.

PART III. Conclusion

1. ***Preferred Alternative:*** Alternative 1.

2. ***Comments and Responses:*** None

4. ***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: /s/ Matt Miles

Title: Water Resources Specialist

Date: 03/01/2011