

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: **Town of Melstone  
P.O. Box 237  
Melstone, MT 59054**
2. Type of action: **Application for Beneficial Use Permit (40C 30063239)**
3. Water source name: **Groundwater (Fort Union Formation)**
4. Location affected by project: **Townships 9 & 10 North - Range 31 East, Musselshell County**
5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

**The Applicant proposes to divert groundwater from the Fort Union Formation by means of two wells located in Musselshell County and identified in the application materials as Well #9 (W-9) and Well #11 (W-11). The requested appropriation of 24.3 gallons per minute (GPM) up to 39.2 acre-feet (AF) per year will be used to supplement municipal purposes in the Town of Melstone. W-9 was drilled to 320 feet below ground surface (bgs), but was backfilled and has a current total depth of 222 feet bgs. W-11 has a total depth bgs of 220 feet and will be used as the primary supply well. Both wells are located in the SW NW SW Section 29 T9N R31E, about 120 feet apart and 6 miles south of Melstone. The municipal use will take place year round in the Town of Melstone, located in Sections 30 and 31 T10N R31E.**

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:  
(include agencies with overlapping jurisdiction)

**Dept. of Environmental Quality Website - TMDL 303d listing  
MT. National Heritage Program Website - Species of Concern  
USDI Fish & Wildlife Service Website - Endangered and Threatened Species  
MT State Historic Preservation Office - Archeological/Historical Sites  
USDA Natural Resources Conservation Service – Web Soil Survey  
USDI Fish & Wildlife Service – Wetlands Online Mapper  
Montana Fish, Wildlife & Parks – MFISH Website**

**Part II. Environmental Review**

**1. Environmental Impact Checklist:**

<b>PHYSICAL ENVIRONMENT</b>
-----------------------------

**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:*           **No Significant Impact**

**The source of supply for this proposed appropriation is groundwater from the Tongue River Member of the Fort Union Formation.**

**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:*           **No Significant Impact**

**The source of supply for this proposed appropriation is groundwater from the Tongue River Member of the Fort Union Formation.**

**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:*           **Minor Impact**

**The proposed groundwater appropriation is from the Tongue River Member of the Fort Union Formation at a flow rate of 24.3 GPM and volume of 39.2 AF per year. No impacts to groundwater quality or supply are expected because of this project, Applicant's aquifer/pump test and flux calculations through the zone-of-influence show that groundwater is physically available in the requested amount.**

**The nearby Lost Horse Creek drainage is an ephemeral or intermittent source that typically only flows in response to snowmelt or runoff derived from significant precipitation events between March and June. The lack of perennial flow in the adjacent drainage infers that the ephemeral stream is predominately supplied by runoff instead of groundwater recharge and surface water impacts would only occur during times water is abundant and Lost Horse Creek is flowing to the Musselshell River. When Lost Horse Creek is flowing, other ephemeral drainages in the area are flowing as well, often in combination with snowmelt runoff in the Musselshell River. During these times, Lost Horse Creek and the Musselshell River below the confluence of the creek are expected to be flowing in an amount sufficient to satisfy existing legal demands.**

**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:           **No Significant Impact**

Water will be appropriated via two groundwater wells completed into the Fort Union Formation at an approximate depth of 220 feet. The wells were drilled by Agri Industries, a licensed well driller in the state of Montana. Both wells are equipped with 3-phase 1.5-horsepower Goulds 33GS15 submersible pumps, each capable of producing 24 GPM with 190 feet of total dynamic head.

**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:           **No Significant Impact**

The Montana National Heritage Program lists four species as Species of Concern within Township 9 North Range 31 East. Common names for these species are the Black-tailed Prairie Dog, the Greater Sage-Grouse, the Spiny Softshell (Turtle) and the Sauger. The Plains Minnow is listed as a Potential Species of Concern. No plant species are listed. The USDI Fish & Wildlife Service Website shows that Musselshell County has two species listed as candidates for the Endangered Species Act; the Greater Sage-Grouse and Sprague's Pipit. The website also lists the Black-footed Ferret as endangered in Musselshell County. The project could cause temporary displacement of wildlife during construction, with a return to historic patterns upon completion.

**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:           **No Significant Impact**

The National Wetlands Inventory does not show any wetland areas in the near vicinity of the wellheads. The website program does show Freshwater Emergent type wetlands to the north of the proposed project on the Lost Horse Creek drainage; however, impacts to this ephemeral source and its associated wetlands from this groundwater development are not expected to be significant.

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

Determination:           **No Significant Impact**

**There are no known ponds associated with this application.**

**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:*           **No Significant Impact**

**The predominant soil type at the proposed wellhead locations is the Twilight-Blacksheep-Rock outcrop complex, a well-drained soil composition that generally has a low available water capacity. This soil profile is largely nonsaline; impacts to soil quality, stability and moisture content are not expected because of the proposed project.**

**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:*           **No Significant Impact**

**Other than the temporary construction associated with tying the new wells into the existing pipeline conveying water to Melstone, no new permanent impacts to vegetative cover are expected. It is the responsibility of the property owner 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.*

*Determination:*           **No Significant Impact**

**No impacts to air quality have been identified. Each pump in the wells will be powered by an electric motor.**

**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:*           **No Significant Impact**

**Not Applicable – Project not located on State or Federal Lands.**

**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 Significant Impact**

**No significant impacts are anticipated. There will be an increase in electrical energy consumption associated with new well operations.**

## HUMAN ENVIRONMENT

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

Determination: **No Significant Impact**

**No local environmental plans or goals have been identified.**

**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: **No Significant Impact**

**The proposed action should not negatively affect recreational activities in the area.**

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

Determination: **No Significant Impact**

**No impacts to human health have been identified.**

**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: **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? **None**
- (b) Local and state tax base and tax revenues? **None**
- (c) Existing land uses? **None**
- (d) Quantity and distribution of employment? **None**
- (e) Distribution and density of population and housing? **None**
- (f) Demands for government services? **None**

- (g) Industrial and commercial activity? **None**
- (h) Utilities? **Pumps will be powered by electric motors.**
- (i) Transportation? **None**
- (j) Safety? **None**
- (k) Other appropriate social and economic circumstances? **None**

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

Secondary Impacts:

**Secondary impacts from this project are expected to be minor; year round groundwater depletions from the Fort Union Formation will generally affect Lost Horse Creek only when it contributes consistent flows to the Musselshell River. As mentioned above, this would occur during times of increased water availability derived from spring and early summer snowmelt and precipitation events.**

Cumulative Impacts:

**To date, groundwater pumping in the vicinity of Melstone is relatively small in comparison to water physically available from associated aquifer testing. However, as more development takes place in the area, there will be increased demands of water for domestic, irrigation, stock, recreation and other uses. This increased demand will eventually have a higher potential for significant impacts to regional surface water sources, already considered periodically or chronically dewatered.**

3. *Describe any mitigation/stipulation measures:*

**The Department will likely deem a specific measurement condition necessary to meet the statutory criteria for new permits set forth at § 85-2-311, MCA. This condition would be required in the Departments' preliminary determination and permit authorization, if applicable.**

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: Deny the permit application. This alternative would result in no beneficial use to the Applicant.**

*PART III. Conclusion*

1. *Preferred Alternative:*

**The preferred alternative is the proposed action.**

2 *Comments and Responses:*

**None Received.**

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:*

**None of the identified impacts for any of the alternatives are significant as defined in ARM 36.2.524.**

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

*Name:* **Douglas Mann**

*Title:* **Water Resources Specialist**

*Date:* **8/5/2013**