

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Revised 11-00

Note: Instructions to DNRC staff for preparing this EA can be found at:
http://www.dnrc.state.mt.us/eis_ea.html

Part I. Proposed Action Description

1. *Applicant/Contact name and address:* Kjeld Jonsson
34379 County Rd 110
Savage, MT 59262
2. *Type of action:* Application for Beneficial Water Use Permit No. 42M-30047258
3. *Water source name:* Groundwater
4. *Location affected by action:* SENWNE, Section 19, T21N, R58E, Richland County
5. *Narrative summary of the proposed project, purpose, action to be taken, and benefits:*
This project is for a well that will be used to supply water to 136 acres of sprinkler irrigation. The center pivot will be located within the W2SE and the E2SW of section 19, T21N, R58E, Richland County. The location of the well is in the SENWNE, Section 19, T21N, R58E, Richland County.

The DNRC shall issue a water use permit if the 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)

Montana Natural Heritage Program
National Wetlands Inventory – Website
Richland County Soil Survey

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: This permit application will be utilizing groundwater from a depth of 180 feet at a rate of 900 gpm. There are no surface water sources within the area that are identified by FWP as chronically or periodically dewatered.

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: This permit application will be utilizing groundwater from a depth of 180 feet at a rate of 900 gpm. The project will have no impact on any listed (water quality impaired or threatened) streams.

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.

The well was drilled and pump tested in April 2009. The Applicant predicted the maximum drawdown expected in other wells within the zone of influence after five years of pumping using the AQTESOLV forward solution. The closest well is located well is 2100 feet from the proposed well and has about 100 feet of head. The AQTESOLV model showed a 0.75 foot drawdown in this well. Impacts to all other wells within the zone of influence were predicted to be between 0.1 feet and 0.3 feet. The Applicant identified a 0.27 CFS (121.4 GPM) depletion to the Yellowstone River and provided a legal availability analysis (See FOF 23). The modeling and analysis were prepared by Jon Reiten, hydrogeologist for the Montana Bureau of Mines and Geology. The Department finds that existing water users with diversions on the Yellowstone River may reasonably exercise their water rights should the potential maximum depletion result from the proposed appropriation. It is unlikely that this groundwater appropriation would significantly impact adjacent surface water flows.

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: The well was drilled and pump tested at a rate of 900 gpm. The diversion structure has been designed and will be constructed by Agri-Industries of Williston, North Dakota. Agri-Industries is licensed in the State of Montana to drill water wells. This well will have no channel impacts, will not create flow modifications or barriers, or have any impact to riparian areas.

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 a report from the Montana Natural Heritage Program (MNHP) there are four species of special concern in the general project area. The Loggerhead Shrike, Long-billed Curlew, Sprague's Pipit, and the Meadow Jumping Mouse are classified as sensitive by the Bureau of Land Management. All of these species are distributed over multiple counties. Additionally, the irrigation well will not create a barrier to the migration or movement of fish or wildlife. The applicant did identify a potential maximum depletion of 121 gpm to the Yellowstone River. This will not have a significant impact on the flows of the river or the species dependent on it.

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: According to the National Wetlands Inventory (website), there are no wetlands located near the 136 acres that will be irrigated.

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

Determination: Not applicable. This permit application will be using groundwater.

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: According to the Richland County Soil Survey, the soils within the 136 acres, that are to be irrigated with the groundwater, are predominately Vida clay loam. The Vida series consists of deep, well drained soils on glaciated uplands. Permeability is moderately slow and available water capacity is high. Surface runoff is slow to medium, depending on the slope. The hazard erosion is slight to moderate.

With sprinkler irrigation, the soil can be irrigated at very slow rates to allow for complete water intake with minimal runoff and ponding. Irrigation enhances crop cover during the growing season and provides more protection from wind and water erosion. Irrigation also increases plant residues returned to the soil. Soil structure is improved, microbe populations benefit from the added food source, and nitrogen fertility is enhanced. In general irrigation can be good for the soil if it is managed to minimize the hazards of wind and water erosion.

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: The land is currently used as dry-land farm ground and has been farmed for many years. The 136 acres will be cropped with sugar beets, corn, alfalfa and small grains. The location of the pipeline should be re-seeded with native grasses after installation to provide cover and reduce the growth of weeds in the disturbed area. 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 impacts to air quality are expected due to this project.

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

Determination: According to the Montana State Historic Preservation Office (SHPO), there are no previously recorded cultural sites within the area. SHPO feels there is a low likelihood that cultural properties will be impacted and that a cultural resource inventory is unwarranted at this time. The project is located on private property and any inventory that might be conducted in the future would be at the property owner's discretion.

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.

HUMAN ENVIRONMENT

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 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: This project will have no significant impact on recreational or wilderness activities.

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

Determination: This application 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: There are no additional government regulatory impacts on private property rights associated with this application.

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:** No secondary or 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:** Under the no action alternative, the applicant would not have the benefits of being able to irrigate. The applicant could apply to use a portion of the Richland County Conservation District's water reservation but it would be cost prohibitive due to the distance from the Yellowstone River and the difference in the elevation needed to pump the water.

PART III. Conclusion

Based on the significance criteria evaluated in this EA, is an EIS required? No

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: Denise Biggar
Title: Unit Manager
Date: April 5, 2010