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*: Jonald & Deanne Jorgensen
11375 County RD 345
Sidney, MT 59262

2. *Type of action*: Application for Beneficial Water Use Permit No. 42M 30147170

3. *Water source name*: Groundwater

4. *Location affected by project*: Section 7, T20N R58E, Richland County

5. *Narrative summary of the proposed project, purpose, action to be taken, and benefits*: The application is for a groundwater appropriation of 1,420 GPM up to 710 Acre-Feet (AF) of water for the irrigation of 306 acres annually from April 1st to October 31st. The point of diversion is located in the SWNWSE Section 7, T20N, R58E, Richland County, and the place of use includes 306 acres located in the Section, T20N, R58E, Richland County.

6. The DNRC shall issue a water use permit if the applicant proves the criteria in 85-2-311, MCA are met.

7. *Agencies consulted during preparation of the Environmental Assessment: (include agencies with overlapping jurisdiction)*

Montana Department of Environmental Quality – Website
Montana Department of Fish, Wildlife & Parks – Website
National Wetlands Inventory – Website
Montana Natural Heritage Program – Website
USDA Web Soil Survey – Website

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 Department showed that the zone of influence for these wells intersect the Yellowstone River and Burns Creek. The Department determined that this groundwater appropriation will deplete a reach of water from Burns Creek downstream of the western edge of the northeast quarter of Section 33 in Township 19 North, Range 57 East. The Depletion Report identified a potential maximum depletion of 0.03 CFS in all months to Burns Creek and 1.11 CFS in October and November to the Yellowstone River. The reaches of Burns Creek and the Yellowstone River that are included in the zone of influence are not identified as a chronically or periodically dewatered stream by the Montana Department of Fish, Wildlife & Parks. The DFWP has a water reservation on this portion of the Yellowstone River that ranges from 2,670 CFS in August to 25,140 CFS in June to maintain instream flows. Water is both physically and legally available for appropriation in all months from the Yellowstone river.

Determination: No significant impact

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 Lower Yellowstone River is listed on the 2018 Montana 303(d) list as fully supporting agriculture, drinking water, and primary contact recreation, and not fully supporting aquatic life. Causes of impairment for aquatic life are alterations in stream-side or littoral vegetative covers, fish passage barriers, and chemical and mineral levels. Probable sources of the impairment are the impacts from fish passage barrier, flow regulation/modification, and natural or unknown sources of chemical or mineral properties.

Burns Creek is listed on the 2018 Montana 303(d) list as not fully supporting aquatic life or recreation. Agriculture and Drinking Water were not assessed. Probable sources of the impairment are the impacts from fish passage barrier, flow regulation/modification, and natural or unknown sources of chemical or mineral properties.

Determination: No significant impact

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 in October 9, 2019. The Applicant conducted a 72-hour aquifer test on the well at a pumping rate of 1,420 GPM from October 17 through October 20, 2019. Modeling analysis by the Department shows that there is groundwater physically and legally available for appropriation in the amount requested during the period of diversion requested. Modeling also predicts that drawdown in excess of 1 foot would occur within 6,500 feet of the proposed well and affect zero existing wells. The Department has also determined that hydraulically connected surface water of the Yellowstone River and Burns Creek is physically and legally available in the

amount in which depletions will occur. Based on these findings, there will be no significant impact to the groundwater aquifer or hydraulically connected surface waters.

Determination: No significant impact

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.*

Water will be diverted from the ground via a 12 inch well. The well was completed to a depth of 260 feet, screened from 240 to 260 feet, with a static water level (SWL) of 155 feet. Water will be piped through buried PVC pipes that has a diameter of 10 inches and extends 1,400 feet from the well to the first two pivots and 1,600 feet further to the third pivot. The well will use a Franklin 9" STS Series 2 stage submersible turbine with a 150hp Franklin submersible motor. The two pivots will cover a total of 306 acres using Nelson R3030 Rotators. The rotators will be 5ft above the ground and use pressure regulators to maximize efficiency.

The well was drilled and pump tested at a rate of 1,420 gpm. The diversion structure has been designed and will be constructed by Agri-Industries of Williston, North Dakota. Agri-Industries is a Montana licensed water well driller. This well will have no channel impacts, will not create any significant flow modifications or barriers, or have any impact to riparian areas.

Determination: No significant impact

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 Montana Natural Heritage Program website, The Bureau of Land Management, (BLM), lists Veery, Spiny Softshell, Snapping Turtle, Sturgeon Chub, Paddlefish, and Sauger as Sensitive. Both the US Forest Service and the US Fish & Wildlife Service list the Whooping Crane, Least Tern and the Pallid Sturgeon as Endangered and BLM lists them as Special Status. There are no federally-listed plant species within the Project area.

Whooping Crane

Whooping cranes migrating between Canada and Texas frequently stop in northeastern Montana. Although no birds were observed there in 1995, in 1994 two whooping cranes were seen near Fort Peck and one in Sheridan County. In addition, cranes from southeastern Idaho occasionally wander west of Yellowstone Park to the Centennial Valley and Red Rock Lakes National Wildlife Refuge. The last several years a single whooper has visited this refuge with a flock of sandhill cranes.

Least Tern
The Least Tern prefers unvegetated sand-pebble beaches and islands of large reservoirs and rivers in northeastern and southeastern Montana; specifically, the Yellowstone and Missouri River systems.

Pallid Sturgeon
Pallid Sturgeon are found in the Yellowstone River and use large, turbid rivers over sand and gravel bottoms, usually in strong current. They use all channel types, but primarily use straight reaches with islands.

No plant species were identified as species of special concern within the identified project area.

This is a groundwater development on an area that has been historically been used for agricultural purposes. The irrigation well will not create a barrier to the migration or movement of fish or wildlife. The Depletion Report identified a potential maximum depletion of 1.11 CFS in October and November to the Yellowstone River. This will not have a significant impact on the flows of the river or the species dependent on it. Therefore, the Project will likely have no effect on endangered and threatened species.

Determination: No significant impact

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

According to the national Wetlands Inventory (website) there are no wetlands in or near the proposed place of use or point of diversion.

Determination: No significant impact

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

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.*

According to USDA Web Soil Survey, the soils within the 306 acres to be irrigated are predominately Williams loam. The Williams 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. This soil is classified as nonsaline to slightly saline (0.0 to 4.0 mmhos/cm). No permanent degradation to soil quality, stability or moisture content is anticipated.

Determination: No significant impact

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.*

The proposed irrigated land has been utilized as unirrigated cropland for at least 60 years. The addition of a groundwater well and three center pivots should not have a significant impact on the vegetative cover. No vegetation was listed as endangered or threatened by the USFWS for the project area. The control of noxious weeds is the responsibility of the property owner.

Determination: No significant impact

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

Determination: There will be no deterioration of air quality as a result of this appropriation.

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

Determination: NA- 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 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 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 is 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:*

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 a well for irrigation. This alternative would not have any direct impacts that are typically associated with irrigation. 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: Issue a water use permit if the applicant proves the criteria in 85-2-311, MCA are met.

2 Comments and Responses

3. *Finding:*
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: Todd Netto
Title: Water Resource Specialist
Date: February 12, 2020