

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: **5 Rockin MS Angus Ranch, Inc.
PO Box 685
Bridgeport TX 76426-0685**
2. Type of action: **Water Right Change Application No. 76G 30047515**
3. Water source name: **Dempsey Creek**
4. Location affected by action: **NWNW, Sec 9, Twp 6N, Rge 10W, Powell County**
5. Narrative summary of the proposed project, purpose, action to be taken, and objectives:
This change application proposes to add a 15.5 acre-foot reservoir on a branch of the Ryan Ditch which diverts water from Dempsey Creek. The reservoir will provide a sump for two irrigation pumps that will divert water to two center pivots on currently irrigated land in Secs 9 and 10, T6N, R10W, Powell Co. The reservoir will dampen fluctuations in the ditch flow and allow for a permanent, low maintenance, pump station.

The DNRC shall issue an Authorization to Change if the criteria in 85-2-402, MCA are met.

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

**Karen Laitala, Powell County Weed Supervisor
Ron Hanson, Powell County Planner
Montana Dept. of Fish, Wildlife & Parks web site
Montana Natural Heritage Program
Montana Department of Environmental Quality (TMDL listing 2008(d)(list)**

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: **No significant adverse impact.**

MFISH shows a chronic dewatering problem from mile 0 to river mile 8.1. Chronic dewatering is a significant problem in virtually all years. The proposed project would not create an additional burden on the source of supply because no additional water will be diverted.

Water to fill the proposed reservoir will be diverted from Dempsey Creek, into the Ryan Ditch, in the same location as it has in the past. A branch of the Ryan Ditch will convey water to the reservoir. The storage volume of the proposed reservoir and the associated evaporation will be offset by the retirement of 41.0 acres of currently irrigated land. Water diverted from the pond will be used for irrigation on the same land and in the same manner as it has in the past.

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 adverse impact.**

Dempsey Creek is on the TMDL water quality impaired list. This proposed project would not have an adverse effect on water quality.

The use of the water diverted from Dempsey Creek will remain the same – irrigation of parts of Secs 3, 4, 5, 9, 10, 15, and 16, T6N, R10W, Powell Co. The proposed reservoir will be placed in one branch of the Ryan Ditch. When the irrigation pumping station is in use, water will be entering and exiting the reservoir at the same rate as it is being pumped. When water is not being pumped from the reservoir, ground water flow accumulating in and around the reservoir will be discharging into the drainage downstream from the reservoir, either through overflow from the reservoir or from elevated ground water levels at the lower end of the reservoir enhancing seepage in the downstream drainage.

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: **No significant adverse impact.**

The application includes only surface water from Dempsey Creek. There is ground water that accumulates in and around the proposed reservoir. The applicant plans to make accommodations in the construction and operation of the outlet works of the reservoir to allow the ground water to pass through the reservoir.

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 adverse impact.**

The primary diversion from Dempsey Creek, for the Ryan Ditch, is a headgate control structure. The headgate, in some form, has been used by the Applicant, Douglas S. and Lena Tamcke, the appointed water commissioner(s), and their predecessors to control the flow into the ditch over the past 100 plus years. The upstream branch of the Ryan Ditch has a capacity of 35 cfs based on the limitation of the 3-foot throat width Parshall

flume installed in the ditch. The other branch, also known as the Sawmill Ditch, has a capacity of 9 cfs, based on a Bentley FloMaster ditch capacity calculation

The pond was excavated from the soils in and around a branch of the Ryan Ditch in the SWNWNW Sec 9, T6N, R10W. Material was imported to construct a dike on the low end of the excavation. A drop inlet structure can be used both to regulate outflows and to provide the primary spillway over the top of the check boards. Near the drop inlet is a rock armored channel that is a secondary spillway. At the northeast corner of the dam is a natural grassed overflow, tertiary spillway. Along the south side of the pond is a screened concrete well which serves as a pump sump for two deep well, mixed flow, irrigation pumps. The pumps convey water, via a buried pipeline, to center pivots in Secs 9 & 10, T6N, R10W, Powell Co.

An area of about 5 acres in the NWNW Sec 9, T6N, R10W, Powell Co. will be disturbed during the excavation/construction of the proposed reservoir. There is well established grass in and around the footprint of the area proposed for excavation. The down slope area is a grassy channel with slow moving water and some ground water seepage along the banks. Water flowing in that channel can be diverted onto irrigated fields of the applicant or it may flow beyond the Applicant's property, and eventually back to Dempsey Creek. If the change is granted and construction of the proposed reservoir has been completed the dam will be vegetated so there should not be additional sediment generated. For diversions during high water, when there is more sediment in the water, the reservoir may act as a settling pond.

During the construction of the proposed reservoir, there will be disturbances to the natural flow of ground water, either sub-surface, or ground water that seeps into the ditch channel. Once the reservoir is in operation, the applicant has a plan in place to pass the accumulating ground water through the reservoir and into the downstream channel.

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 adverse impact.**

According to MTNHP there are several species of special concern in the area. The following are species of special concern: Oncorhynchus clarkia lewisi or Westslope Cutthroat Trout; Salvelinus confluentus or Bull Trout; Canis lupus or Gray Wolf. None of the species are located in the immediate proposed project area.

The proposed pond is in an area that has been in pasture and hay ground for over 100 years. Cultivation and grazing activities in the area are the dominant influence on the flora and fauna of the area. The construction of the pond may introduce new type of habitat to the area, allowing for additional diversity, however many wetland plant species are already in the area.

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 adverse impact.**

There are some seeps along the channel where the reservoir is planned for placement. In the undisturbed areas the seeps will continue to flow, much as they have in the past. In the area excavated for the reservoir, the seeps may have potential to flow at a faster rate, adding water to the reservoir. The proposed reservoir will cover about 5 acres. The seeps that are excavated or inundated will be replaced by the open water surface of the reservoir. During steady state conditions of the reservoir, the ground water will exit the reservoir via the stop log outlet structure.

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

Determination: **No significant adverse impact.**

The proposed pond will be located on an existing channel that has historically conveyed irrigation water. It will be located in an irrigated hay/pasture meadow south of Dempsey Creek. The proposed reservoir will be large enough (5 surface acres) that there should be opportunities for waterfowl to use the reservoir. Fish will not be stocked in the reservoir. Wildlife will be able to drink from the pond; however, there are also opportunities to water from natural holes in the nearby channel to the east and west of the proposed reservoir. The reservoir is small enough that wildlife will not have to walk out of their way more than 600 feet to avoid the reservoir and cross the valley through the hay/pasture meadow.

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 adverse impact.**

The valley where the pond is proposed has a variable depth layer of finer grained top soil, probably containing some rock and gravel, over a gravel base. If the vegetation is removed from the top soil, it can be used as a core for a dam or berm for the pond. The coarser material can be used on the faces of the dam/berm for wave and erosion protection.

There is no surface evidence of saline soils in the area proposed for construction of the reservoir.

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 adverse impact.**

During telephone discussions with Karen Laitala, Powell County Weed Supervisor, she noted that there are not weed infestations of concern in the vicinity of the proposed pond. She said that the land owner (Applicant) has a weed control plan and the plan is being implemented and is meeting its goals. There will be some disturbance associated with construction, which likely lead to small areas of weed infestation. With a weed control plan in place, the localized weed infestations should be controlled as part of the ongoing weed control program.

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 adverse impact.**

There will only be minimal affects to the air quality as a result of the proposed reservoir development and construction. Once the reservoir is constructed, there will not be any affects on air quality from the reservoir.

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 adverse impact.**

The proposed pond is in an area that has been in pasture and hay ground for over 100 years. Cultivation, irrigation, and grazing activities in the area have disturbed most of the area in and around the proposed pond location. Any historical or archeological sites have likely been disturbed or obliterated.

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 adverse impact.**

There will be no additional impacts on land and water. The purpose of the reservoir is to provide a sump for a permanent pump station. This pump station will be powered by electrically driven pumps, which will replace fuel-powered pumps that were historically used. The total energy used for pumping will remain much the same, but the source of the energy used will change. At least locally, the proposed pumping facility will reduce exhaust emissions and noise levels.

HUMAN ENVIRONMENT

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

Determination: **Ron Hanson, Powell County Planner, said that there are no local plans or goals for the area of the proposed pond location.**

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 adverse impact.**

The proposed reservoir is located on private irrigated land with controlled access across the property. The only recreation likely in this area would be owner approved hunting or hiking. The proposed reservoir would have a minimal affect on hiking and may enhance hunting opportunities, particularly waterfowl hunting.

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

Determination: **There will be no impact to human health from the proposed project.**

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 associated with this change 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. One irrigation diversion system will be replaced with another of approximately equal value.**
- (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? **Three phase electric energy will have to be made available to the proposed reservoir area to supply energy to pump station. Utility lines are available within 1.5 miles to the east and to the north of the proposed site. The power lines can be buried or overhead lines can be run at the edge of sprinkler irrigated fields or across flood irrigated fields.**
- (i) Transportation? **No significant impact.**
- (j) Safety? **No significant impact. The pond is in an area accessible only through property owned by the Applicant and will not be open to public recreation.**
- (k) Other appropriate social and economic circumstances? **No significant impact.**

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

Secondary Impacts

There are no known secondary impacts on the physical environment and human population identified due to the proposed reservoir construction.

Cumulative Impacts

There are no cumulative impacts associated with the proposed action. The pump station at this pond serves several hundred acres of irrigation. Even on a large farm/ranch there would rarely be a need for more than one or two of this type of pond.

3. Describe any mitigation/stipulation measures: **The applicant has included a plan for managing the reservoir to allow the ground water that accumulates in and around the reservoir to be passed through the dam and into the downstream channel. Once in the channel the water can make its way to any potential users as it has historically.**
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: **There are two other alternatives that would accomplish the irrigation of the lands in Secs 9 and 10, T6N, R10W, Powell Co.**
 1. **Retain the portable, engine driven, pump system that diverted water from the Ryan Ditch farther downstream. Because of the longer ditch and the limited storage capacity (cushion) in the ditch, this alternative requires more intensive management of the water and additional pump maintenance. With proper management, crop yields under this alternative would be about the same as with the proposed alternative.**
 2. **The subject lands could be flood irrigated from the extend Ryan Ditch branches that flows through Secs 9 and 10, T6N, R10W, Powell Co. Flood irrigation would reduce pumping costs over the other alternatives, but the labor and ditch maintenance costs would be higher. Additionally, the crop yield would likely be reduced from the other alternatives.**

PART III. Conclusion

1. Preferred Alternative: **Issue the authorization as applied for by the applicant, or in some modified form considered reasonable.**
2. Comments and Responses: **There have not been comments or responses at this time.**
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 were identified, therefore and EIS is not necessary.**

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

Name: **Jim Beck**

Title: **Civil Engineering Specialist**

Helena/Bozeman Water Resources Regional Offices

Date: **December 16, 2010**