

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:

Pease Ranch Inc., Applicant
13005 County Rd 319
Lambert, MT 59243

2. Type of action: Application for Beneficial Use, Application 40P 30063842

3. Water source name: Groundwater, Fox Hills – Hell Creek Formation

4. Locations affected by project:

T27N R52E – Richland Co.
Sections: 22, 23, 24, 25, 26,
27, 28, 29, 31, 32, 33, 34, 35,
36

27, 28, 29, 30, 31, 32, 33, 34,
35, 36

T26N R52E – Richland Co.
Sections: ALL

T27N R53E – Richland Co.
Sections: 13, 14, 15, 16, 17,
19, 20, 21, 22, 23, 24, 25, 26,
27, 28, 29, 30, 31, 32, 33, 34,
35, 36

T26N R53E – Richland Co.
Sections: ALL

T26N R54E – Richland Co.
Sections: ALL

T27N R54E – Richland Co.
Sections: 18, 19, 20, 21, 22,
23, 25, 26, 27, 28, 29, 30, 31,
32, 33, 34, 35, 36

T26N R55E – Richland Co.
Sections: 2, 3, 4, 5, 6, 7, 8, 9,
10, 11, 12, 13, 14, 15, 16, 17,
18, 19, 20, 21, 22, 23, 24, 25,
26, 27, 28, 29, 30, 31, 32, 33,
34, 35, 36

T27N R55E – Richland Co.
Sections: 29, 30, 31, 32, 33

T26N R50E – McCone Co.
Section: 36

T26N R56E – Richland Co.
Sections: 18, 19, 20, 28, 29,
30, 31, 32, 33, 34

T26N R51E – Richland Co.
Sections: 13, 14, 15, 16, 17,
19, 20, 21, 22, 23, 24, 25, 26,

T25N R50E – McCone Co.
Sections: 1, 11, 12, 13, 14,
15, 22, 23, 24, 25, 26, 27, 33,
34, 35, 36

T25N R51E - Richland Co.
Sections: ALL

T25N R52E - Richland Co.
Sections: ALL

T25N R53E - Richland Co.
Sections: ALL

T25N R54E - Richland Co.
Sections: ALL

T26N R55E - Richland Co.
Sections: ALL

T25N R56E - Richland Co.
Sections: 3, 4, 5, 6, 7, 8, 9,
10, 11, 14, 15, 16, 17, 18, 19,
20, 21, 22, 23, 24, 25, 26, 27,
28, 29, 30, 31, 32, 33, 34, 35,
36

T24N R50E – McCone Co.
Sections: 1, 2, 11, 12, 13, 14,
23, 24, 25, 26, 35, 36

T24N R51E - Richland Co.
Sections: ALL

T24N R52E - Richland Co.
Sections: ALL

T24N R53E - Richland Co.
Sections: ALL

T24N R54E - Richland Co.
Sections: ALL

T24N R55E - Richland Co.
Sections: ALL

T24N R56E - Richland Co.
Sections: ALL

T24N R57E - Richland Co.
Sections: 4, 5, 6, 7, 8, 9, 16,
17, 18, 19, 20, 21, 28, 29, 30,
31, 32, 33

T23N R50E – Dawson Co.
Sections: 1, 2, 11, 12, 13, 14,
23, 24, 25, 26, 35, 36

T23N R51E - Richland Co.
Sections: ALL

T23N R52E - Richland Co.
Sections: ALL

T23N R53E - Richland Co.
Sections: ALL

T23N R54E - Richland Co.
Sections: ALL

T23N R55E - Richland Co.
Sections: ALL

T23N R56E - Richland Co.
Sections: ALL

T23N R57E - Richland Co.
Sections: 4, 5, 6, 7, 8, 9, 16,
17, 18, 19, 20, 21, 28, 29, 30,
31, 32

T22N R50E – Dawson Co.
Sections: 1, 12, 13

T22N R51E – Dawson Co.
Sections: 1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19
20 21 22 23 24 25 26 27 28
29 32 33 34 35 36

T22N R52E – Dawson Co.
Sections: ALL

T22N R53E - Richland Co.
Sections: ALL

T22N R54E - Richland Co.

Sections: ALL

T22N R55E - Richland Co.

Sections: ALL

T22N R56E - Richland Co.

Sections: ALL

T22N R57E - Richland Co.

Sections: 5, 6, 7, 8, 18, 19

T21N R51E – Dawson Co.

Sections: 1, 2, 3, 4, 10, 11,
12, 13, 14, 24

T21N R52E – Dawson Co.

Sections: 1, 2, 3, 4, 5, 6, 7, 8,
9, 10, 11, 12, 13, 14, 15, 16,
17, 18, 19, 20, 21, 22, 23, 24,
25, 26, 27, 28, 29, 30, 33, 34,
35, 36

T21N R53E – Dawson Co.

Sections: ALL

T21N R54E – Dawson Co.

Sections: ALL

T21N R55E – Dawson Co.

Sections: 1, 2, 3, 4, 5, 6, 7, 8,
9, 10, 11, 12, 13, 14, 15, 16,
17, 18, 19, 20, 21, 22, 23, 24,
25, 26, 27, 28, 29, 30, 31, 32,
33, 34, 35

T21N R56E - Richland Co.

Sections: 2, 3, 4, 5, 6, 7, 8, 9,
10, 16, 17, 18, 19, 20, 31

T20N R53E – Dawson Co.

Sections: 1, 2, 3, 4, 5, 6, 9,
10, 11, 12

T20N R54E – Dawson Co.

Sections: 1, 2, 3, 4, 5, 6, 7, 8,
9, 10, 11, 12

T20N R55E – Dawson Co.

Sections: 2, 3, 4, 5, 6, 7, 8, 9

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits: The DNRC shall issue a water use permit if an applicant proves the criteria in 85-2-311 MCA are met.

This project is to pump groundwater from two points in the NWSWSW section 29, T24N, R54E and another point in the SESESE of section 30, T24N, R54E for the purpose of water marketing. The application is for a maximum rate of 351 gpm up to a volume of 566 AF annually from the Fox Hills – Hell Creek aquifer. The primary purpose of this application is the sale of water to the oil industry. The applicant intends to sell water through the use of a water depot (bulk water sales dispensary) to contracted buyers. The use should be considered 100% consumptive, as return flows are not anticipated to occur.

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

Montana Natural Heritage Program
Montana Fish, Wildlife & Parks
United States Fish & Wildlife Service National Wetlands Inventory

Part II. Environmental Review

1. Environmental Impact Checklist:

<h2>PHYSICAL ENVIRONMENT</h2>

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: The proposed appropriation is sourced from a deep aquifer, and is not anticipated to have significant impacts to any surface water source. The applicant demonstrated possible connection to the Missouri River through an outcropping approximately 20 miles from the well, however the Missouri River is not a dewatered source.

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 proposed appropriation draws from groundwater sources, and is expected to have no significant impact on surface water sources.

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: This proposed appropriation draws groundwater sourced from the Fox Hills – Hell Creek aquifer; the wells used in this project are in excess of 1400 feet deep, with pumps set near the bottom. Water in this aquifer is known to be sodium rich, however there is little expected exposure with more shallow aquifers given the screened portions of the well. The water will typically be used for drilling and hydraulic fracturing fluids, disposed far underground.

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 diversion works for this project consist of pumps set in deep wells, there are no anticipated impacts to channels, riparian areas, or dams. Few wells within this aquifer are present within the zone of influence, each of which has been identified by the applicant and will be noticed. The wells have been installed since 2005 & 2010 respectively, and had been in use prior to the application process, as a result, the impacts to the surrounding wells should be known.

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: This project utilizes a deep aquifer with limited connectivity to surface water flowing over the zone of influence due to a thick confining layer, according to the applicant. Located approximately 20 miles to the north, the Missouri River will experience drawdown through an outcropped section of the aquifer. The Yellowstone River is approximately more than 30 miles from the wells, and the Cedar Creek Anticline connection between the Fox Hills aquifer and Yellowstone River is 40 to 50 miles away. Based on the zone of influence (0.01 feet of drawdown) boundary, this appropriation should only be considered to affect the Missouri River.

Three endangered species utilize the characteristic habitat as found at the hydrologic connection to the Missouri River and the source aquifer for the proposed project. The Pallid Sturgeon, Whooping Crane, and Least Tern represent these species.

The Pallid Sturgeon utilizes turbid rivers with fine sandy-silty substrates, such as the stretch of the Missouri River where the proposed project is found. Due to the nature of the depletion, water drawn through porous rock, the impacts to the Pallid Sturgeon are expected to be minimal, limited only to the depletion of water. Water is physically and legally available on this source, which includes a 5178cfs instream flow reservation by the Montana Department of Fish, Wildlife & Parks designed for habitat conservation.

As this proposed appropriation has only a hydrologic connection with the Missouri River, expected disturbances to Whooping Crane, Least Tern, and other animal species – as well as plant species are not expected to be significant.

A review of the Montana Natural Heritage Program Plant and Animal Species of Concern database revealed no plant or animal species of concern within the township which the wells are located.

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: Open Freshwater aquatic habitat and Freshwater Emergent wetland habitat was identified using the USFWS National Wetlands Inventory utility, and is found in Latka Reservoir several hundred yards from the two wells. Due to the hydrological setting if the proposed appropriation, there is no anticipated affect to either of these habitat types.

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

Determination: This application does not pertain to any ponds, lakes, or reservoirs.

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: The project is supplied by wells sourced in the Fox Hills – Hell Creek aquifer, each is completed some 1400 feet below the surface. The Applicant requests a substantial volume of water from an aquifer known to bear substantial sodium and bicarbonate levels; however, the intended use of this water right is for drilling and hydraulic fracturing fluids that will not see substantial land application. Significant impacts to soil structure, nutrient availability, or surface salinity are not anticipated. This aquifer is losing potentiometric head, resulting from increased uses such as this application, where there are no return flows (Honeyman, 2007).

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: As this is a groundwater application, there are no anticipated impacts to vegetation.

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

Determination: Air quality reduction may occur as a secondary effect of idling trucks waiting to fill at the depot, however significant effects are not anticipated to occur on this site at this time.

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: Not Applicable. The project is 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: Water is currently legally available in the zone of influence within the Fox Hills – Hell Creek aquifer, including all senior. This development is relatively minor within this context, and is not anticipated to pose significant impacts to this resource.

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 inconsistencies were identified with locally adopted environmental plans or goals.

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: As a groundwater application, there are no anticipated impacts to recreational or wilderness activities.

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

Determination: No known impacts are anticipated to affect 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: NA

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 anticipated
- (b) Local and state tax base and tax revenues? Project will provide income tax revenue through bulk water sales.
- (c) Existing land uses? Small loss of farmland for the depot site and truck staging area & access.
- (d) Quantity and distribution of employment? None anticipated
- (e) Distribution and density of population and housing? None anticipated
- (f) Demands for government services? None anticipated
- (g) Industrial and commercial activity? Purpose is to provide available water for oilfield development & servicing.
- (h) Utilities? No significant impact anticipated.
- (i) Transportation? Site will increase truck traffic on local roads, if the appropriation reaches the scale necessary for the full volume requested, there would be 101 trucks per day, every day of the year entering and leaving this site. This equates to 36, 865 truckloads per year. Actual appropriation is based on industrial demand, and the full requested volume may never be appropriated annually.
- (j) Safety? None anticipated, although increased truck traffic has the potential to detrimentally affect safety on public roads.

(k) Other appropriate social and economic circumstances? None anticipated

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

Secondary Impacts: **None anticipated**

Cumulative Impacts: **Impact to human health and safety is anticipated to be relatively minor.**

3. ***Describe any mitigation/stipulation measures:***

No mitigation measures have been planned.

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:***

The Applicant who owns the land at the site of this project plans to seek a similar installation at a site nearby that may have less impacts, however this is sought not as an alternative, rather as an additional appropriation. Another alternative is the no action alternative, which eliminates further impacts to wetland resources and lessens traffic on local roads.

PART III. Conclusion

1. ***Preferred Alternative***

There is not a department preferred alternative for this project. To meet the volume gals of the Applicant, both wells are utilized at full capacity. Realistically, the actual averaged appropriation will be substantially lower than 566 AF, which will be addressed upon project completion.

2. ***Comments and Responses***

None available.

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:

An EIS is not required because the level of impact is not anticipated to be found significant. The term 'significant impact' has some level of subjectivity, in this context the level of significance is

assessed from the paradigm of the responsibilities of a Water Resource Specialist. Other agencies and entities may find the proposed developments to be significant.

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

Name: Jonathan Staldine

Title: water Resource Specialist

Date: December 27, 2012

References:

Honeyman, R.P. (2007). Pressure Head Fluctuations of the Fox Hills – Hell Creek Aquifer in Billings, Golden Valley, and Slope counties, North Dakota. Water Resources Investigation No. 42, North Dakota State Water Commission. Accessed online December 26, 2012. <<http://www.swc.nd.gov/4dlink9/4dcgi/GetSubContentPDF/PB-1562/BillGVSlpReport.pdf>>.