



IDAHO STATE DEPARTMENT
OF AGRICULTURE

ENGINEERING SERVICES



December 15, 2004

Ms. Bonnie Sharp
Director
Growth and Development
Elmore County
520 East 2nd South
Mountain Home, ID 83647

RE: Rhead Dairy, Elmore County, CAFO Siting Team Site Suitability Determination

Dear Ms. Sharp:

The Idaho State CAFO Siting Team has completed its review of the application for the Rhead Family Dairy (Robert Rhead) proposed dairy facility, located at Highway 51 and Beet Dump Road, Mountain Home, Idaho in Township 5 South, Range 6 East of Sections 4 and 5, Elmore County. The review was completed in response to a request made by the Elmore County Commissioners in accordance with IDAPA 02.04.18.

The Team, consisting of representatives from the Idaho Department of Environmental Quality (IDEQ), Idaho Department of Water Resources (IDWR) and the Idaho State Department of Agriculture (ISDA) performed a site evaluation (from 9:45 AM to 10:30 AM) on December 13, 2004. A final review meeting was conducted on the same day.

The information evaluated for this facility included the application package provided by Elmore County, IDWR ground water information and water right records, IDWR State-wide Ambient Ground Water Quality Monitoring Program network data, IDEQ map and data, ISDA Regional Agricultural Ground Water Quality Monitoring Program data, well driller reports and discussion with Bob and Daryl Rhead (the owner) and Cheyne Westin during the site review.

The following technical factors contributed in determination of the rating:

- The proposal is to build a new dairy facility with an animal capacity of 7,200 animal units.
- The proposed facility will control 453 irrigated acres for waste utilization according to the unapproved Nutrient Management Plan. According to the Nutrient Management Plan, the dairy needs 3,408 acres to utilize all of the manure and wastewater produced by the facility. Therefore, eighty seven percent (87%) of the solid waste produced from this facility will be exported to neighboring cropland. As part of the application packet, the producer has indicated three farms are willing to take 75,000 tons of manure and 20,000 tons of compost.
- Currently, there are no water rights for commercial dairy use at the proposed site, but there are ground water rights for irrigation. A transfer application has been submitted for this dairy proposal as of the

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date of this letter. Issues involving water availability are matters to be heard and decided by IDWR in a separate water right process prescribed by law. Upon completion of the water right and transfer process, IDWR will make a final determination.

- Average precipitation is 8 inches per year. Groundwater recharge is primarily from precipitation and irrigation.
- The first encountered ground water in the local area is 115 feet below land surface according to a well driller's report in the northwest quarter of Section 5, Township 5 South, Range 6 East.
- The static regional ground water level is approximately 360 to 415 feet below land surface.
- The general regional groundwater flow direction is presumed to be south-southwest towards the Snake River.
- Groundwater quality data suggest median nitrate concentrations to be between 1.0 and 4.0 parts per million in the local area. One well tested in 2003 in the NE corner of Section 1 (Township 5 South, Range 6 East) had a nitrate value of 11.6 ppm (see attached water levels and nitrate concentration map). A trend in nitrate is difficult to determine with the data available, but appears to indicate an increasing trend.
- The nearest §303(d) listed water body is the Snake River which is located approximately 6.5 miles southwest and down gradient from the proposed facility. This section of the Snake River is listed for nutrients as a pollutant of concern. IDEQ has just completed the public comment period for the Draft King Hill-CJ Strike Reservoir Subbasin Assessment and Total Maximum Daily (IDEQ 2004). It is anticipated this document will be approved by the Environmental Protection Agency within the next three months. Rattlesnake Creek is the only other surface water in the immediate area of the proposed facility, but is not a §303(d) listed water body.
- The wastewater will evaporate or be land applied on the 453 irrigated acres owned by the facility.
- Odor Control. Maintaining corral areas in the spring and summer will be important to reduce odor. Additional methods of odor control may need to be implemented.
- Pest Control. It is recommended the producer develop an integrated pest management plan.
- The CAFO Siting Team did not review any information regarding air quality. For a more specific evaluation of air quality concerns, please contact the regional IDEQ office.

There are approximately 41,230 animal units within a five mile radius of the proposed Rhead dairy (this number includes the new Rhead Dairy (7,200 AUs) and the proposed Bernie Brown Dairy (13,949 AUs). According to the IDEQ map, there are approximately 10,500 irrigated acres in the local area. From a nutrient management (phosphorous uptake) perspective, the local area is reaching its maximum threshold to adequately handle the waste produced without excessive hauling.

The final facility engineering and site plans must be submitted to ISDA for final approval before construction can commence. Additionally, ISDA will ensure the waste containment and animal housing activities are a minimum of 100 feet from a well or residence.

The following recommendation is based on the information supplied to the team through the owner and site-specific conditions at the time of the evaluation. However, information used for evaluating the ground water, geology and soils is based on regional information and may not fully characterize the local conditions affecting the specific facility. Any changes or modification in the application or at the site may alter the Suitability Determination. The Suitability Determination, as determined by the Team, is **Moderate Risk**.

This assessment was made using information available as listed above and management practices for the facility described in an unapproved Nutrient Management Plan (NMP). This assessment does not consider practices not contained in the NMP or described during the site visit.

Actions that could be taken by the producer to mitigate some of the risks are as follows:

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- Soil test and have soil tests on file for any non-facility owned land used for manure or lagoon water application
- Increase the amount of cropland the dairy owns to reduce the waste percentage exported.
- Dilute wastewater with greater than 75% irrigation water during wastewater application to cropland.
- Separation system not documented. At a minimum, install a gravity separation system.
- Incorporate an irrigation management program based on daily evapotranspiration or moisture monitoring.

Lastly, this didn't affect the rating but needs to be addressed. On the dairy site (in Section 5), an existing well was deepened. The old well and the test pit well need to be properly and permanently abandoned in accordance with the well construction standards. If the owner chooses to retain the unused well, it should be properly capped and meet all IDWR Well Construction Standards.

The following individuals were present at the CAFO Siting Team evaluation. The names depicted in bold type are the individuals responsible for the suitability determination.

1. **John Bilderback, ISDA, Resource Engineer**
2. Craig Tesch, ISDA, Hydrogeologist
3. **Joe Baldwin, IDEQ, Senior Environmental Hydrogeologist**
4. Dennis Owsley, IDEQ, Environmental Hydrogeologist
5. Mike Ingham, IDEQ, Water Quality Science Officer
6. **Helen Harrington, IDWR, Technical Hydrogeologist**
7. Lin Campbell, IDWR, Technical Hydrogeologist
8. Lori Graves, IDWR, Senior Water Right Agent
9. Bonnie Sharp, Elmore County
10. Bob Rhead, Owner
11. Cheyne Westin, Owner's Consultant
12. Daryl Rhead, Owner's Son

If you require further information regarding this site determination, please feel free to contact us.

John Bilderback, ISDA
(208) 332-8665

Helen Harrington, IDWR
(208) 287-4848

Joe Baldwin, IDEQ
(208) 373-0248

ATTACHMENTS

1. IDEQ produced map (including animal units in the area, public water systems, residential wells, irrigated acres and population)
2. IDWR water levels and nitrate concentration map
3. IDWR groundwater vulnerability map

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