



# STATE OF NEVADA

Department of Conservation & Natural Resources

DIVISION OF ENVIRONMENTAL PROTECTION

Brian Sandoval, Governor

Leo M. Drozdoff, P.E., Director

Colleen Cripps, Ph.D., Administrator

## FACTSHEET (PURSUANT TO NAC 445A.236)

- PERMITTEE NAME:** **Desert Hills Dairy**  
350 Campbell Lane  
Yerington, Nevada 89447
- PERMIT NUMBER:** **NEV99000**
- LOCATION:** **Desert Hills Dairy**  
350 Campbell Lane  
Yerington, Lyon County, Nevada 89447  
  
Latitude: 39.09924° N; Longitude: 119.24917° W  
Township 14 N, Range 24 E, Section 12 MDB&M
- FLOW:** Authorized discharges would be only those which result from a **25-year, 24-hour storm event**.
- PUBLIC WATER SUPPLY:** There are no public supply wells within one (1) mile of this facility.
- CORRECTIVE ACTIONS SITES:** There are no Bureau of Corrective Actions remediation sites located within a five-mile radius of this facility.
- WELLHEAD PROTECTION AREA:** This facility is not located within a Drinking Water Protection Area (**DWPA**).

### GENERAL:

The Permittee has applied for a renewal of its water pollution control discharge permit, **NEV99000**, to discharge manure and process water to ground waters of the State in response to storms in excess of a **25-year, 24-hour storm event** from the **Desert Hills Dairy** located in Yerington, Lyon County, Nevada. Per FEMA determination, this facility is located outside the 500 year flood plain. The 24 hour 25 year precipitation event for this location is approximately 2.1 inches; annual precipitation is less than eight (8) inches.

This facility is defined as a concentrated animal feeding operation (CAFO) because the facility confines at least 700 cows for 45 days or more in a 12-month period in an area devoid of vegetation during the normal growing season.

The existing 320 -acre dairy facility is owned and operated by the Permittee. The facility was designed and constructed to confine an approximate herd size of **15,000** head in open containment; current operational conditions show approximately **10,000 dairy cows, 1,200 dry**

**cows and 2,500 calves.** The Permittee owns a 6,000 acre ranch; 700 of these acres are currently used for land application of nutrients produced by this operation.

Desert Hills Dairy typically produces 0.150 million gallons per day of process water; the dairy process water flows to one of four clay-lined process water ponds. Ponds one and two are 100-feet by 600-feet by 15-feet deep and pond three is 100-feet by 270-feet by 20-foot deep, with the clarified water flowing to the 270-foot by 420-foot by 25-foot deep fourth pond for evaporation, storage and irrigation. This process water is then used for cropland irrigation during the growing season (April through November). March through October, manure from the corrals is scraped into the center of the corral and used for bedding through the winter.

Per facility's Annual Mortality Management Plan (**AMMP**), annual mortality is about 3% to 8% a year. Desert Hills Dairy can remove the mortalities by sending them to the county dump, burying the mortality or having Reno Rendering Co. pick them up. Desert Hills Dairy shall follow Natural Resources conservation service practice standard, animal mortality facility (code 316) or NDEP standard.

The definition of CAFO process water includes any water directly or indirectly used in the operation of the facility including spillage or overflow from animal watering systems; washing, cleaning, or flushing pens, barns, manure pits, or other process components; direct contact: swimming, washing, or spray cooling of animals; dust control, not including uncontaminated groundwater used outside of the production area; or any water which comes into contact with, or is a constituent of, any raw materials, products, or byproducts including manure, feed, milk, or bedding.

The production area means the portion of the facility that is not used for land application and includes all areas used for animal product production activities. This includes, but is not limited to, the animal confinement areas, the manure storage areas, the raw materials storage areas, and the waste containment areas.

**FLOW:** 0.150 million gallons per day (**MGD**) - 30 day average

The proposed permit would only authorize the discharge of an overflow of storm water in response to storms that exceed a **25-year, 24-hour storm event**. Land application of process water nutrients shall be done under the Division-approved **NPM**.

**RECEIVING WATER CHARACTERISTICS:** Static groundwater is generally 125 feet below surface and general groundwater flow is towards the East. NDEP requires groundwater monitoring wells to track groundwater quality. This permit does not authorize discharges to surface waters.

**OPERATIONAL MONITORING:** Process water samples and manure samples shall be monitored as specified below in **Table 1: Operational Monitoring**. Samples shall be taken from:

- a. Main corrals - Monitoring Point - MP001;
- b. Process water flow into collection pond - Monitoring Point - MP002;
- c. **Table 1: Operational Monitoring**

Parameters	Discharge Limitations	Monitoring Requirements		
		Sample Location	Measuring Frequency	Sample Type
Number of animals <sup>1</sup> ,	Monitor & Report	a.	Daily	Count
Manure production, (tons)	Monitor & Report	a.	Monthly	Estimate
Manure Transfer to other parties, (tons)	Monitor & Report	a.	Monthly	Estimate
Flow into pond <sup>1</sup> , (MGD)	Monitor & Report	b.	Daily	Flow meter <sup>5</sup>
pH (standard units)	Monitor & Report	b.	Annually <sup>3</sup>	Composite
Chlorides (mg/L, mg/kg) <sup>2</sup>	Monitor & Report	b.	Annually <sup>3</sup>	Composite
Total Dissolved Solids (mg/L, mg/kg) <sup>2</sup>	Monitor & Report	b.	Annually <sup>3</sup>	Composite
Total Suspended Solids (mg/L)	Monitor & Report	b.	Annually <sup>3</sup>	Composite
5-day Bichemical Oxygen Demand (mg/L)	Monitor & Report	b.	Annually <sup>3</sup>	Composite
Total Nitrogen -N (mg/L, mg/Kg) <sup>2</sup>	Monitor & Report	b.	Annually <sup>3</sup>	Composite
Total Phosphorus - P (mg/L, mg/kg) <sup>2</sup>	Monitor & Report	b.	Annually <sup>3</sup>	Composite
Fecal Coliform (CFU or MPN/100 mL)	Monitor & Report	b.	Annually <sup>3</sup>	Composite
Total Phosphorus - P Applied (lbs/acre)	NMP Limit/Values <sup>4</sup>	-	Annually <sup>3</sup>	Composite
Total Nitrogen -N Applied (lbs/acre)	NMP Limit/Values <sup>4</sup>	-	Annually <sup>3</sup>	Composite
Actual Crop Yield (tons/acre)	Monitor & Report	-	Annually <sup>3</sup>	Production Record

**d. Definitions**

1. Report 30 day average,
2. Report the date and time of sample collection,
3. Annual characterizations shall be conducted in the first or third quarters and reported in the appropriate DMR,
4. Report calculated allowable nutrient application rate per the NMP as well as the actual application rate. Include calculations used to determine the total nitrogen and total phosphorus loadings from all sources,
5. Estimated value is acceptable if flow meter not available.

**DISCHARGE EVENT MONITORING:** Discharge water samples shall be monitored as specified in [Table 2 - Discharge Event Monitoring](#). Samples shall be taken from:

- a. Storm related discharge from collection pond - Outfall - 0002;

**b. Table 2: Discharge Event Monitoring**

Parameters <sup>3</sup>	Discharge Limitations	Monitoring Requirements		
		Sample Location	Measuring Frequency	Sample Type
Volume of Discharge (MG) <sup>1</sup>	Monitor & Report	a	Each discharge <sup>2</sup>	Estimate
pH (standard units)	Monitor & Report	a	Each discharge <sup>2</sup>	Discrete
Chlorides (mg/L, mg/kg)	Monitor & Report	a	Each discharge <sup>2</sup>	Discrete
Total Dissolved Solids (mg/L, mg/kg)	Monitor & Report	a	Each discharge <sup>2</sup>	Discrete
Total Suspended Solids (mg/L)	Monitor & Report	a	Each discharge <sup>2</sup>	Discrete
5-day Biochemical Oxygen Demand (mg/L)	Monitor & Report	a	Each discharge <sup>2</sup>	Discrete
Total Nitrogen- N(mg/L, mg/kg)	Monitor & Report	a	Each discharge <sup>2</sup>	Discrete
Fecal Coliform (CFU or MPN/100 mL)	Monitor & Report	a	Each discharge <sup>2</sup>	Discrete

**c. Definitions**

1. Approximation,
2. The Permittee shall collect the sample within 30 minutes of the first knowledge of the discharge. If sampling in that period is inappropriate due to dangerous weather conditions, collect the sample as soon as possible after suitable conditions occur, and document the reason for delay.

**NUTRIENTS APPLICATION:** Nutrients shall be applied to all productions fields in accordance with the Division approved Nutrient Management Plan (NMP).

**a. Table 3: Nutrient Application Summary**

Field	Area (acres)	Crop	Design Yield (tons/ac)	P Hazard Class	Liquid Applied (MG)	Nitrogen Applied (lb/A)	Irrigation Method	Other N Sources	Crop Season
2	57	alfalfa	6	High	3.33	127	Flood	Manure <sup>3</sup>	Spring/Winter
2	57	Triticale/Corn silage	22	High	3.88	57	Flood	Manure <sup>3</sup>	Spring/Winter
3	87	alfalfa	6	Medium	10.18	243	Flood	Manure <sup>3</sup>	Spring/Winter
3	87	Triticale/Corn silage	22	Medium	11.31	107	Flood	Manure <sup>3</sup>	Spring/Winter
4	87	alfalfa	6	Low	28.36	253	Flood	Manure <sup>3</sup>	Spring/Winter
4	87	Triticale/Corn silage	22	Low	12.7	113	Flood	Manure <sup>3</sup>	Spring/Winter
5	120	alfalfa	6	Low	37.92	248	Flood	Manure	Spring/Winter
5	120	Triticale/Corn silage	22	Low	16.44	108	Flood	Manure	Spring/Winter

6	154	alfalfa	6	Low	49.74	257	Flood	Manure	Spring/Winter
6	154	Triticale/Corn silage	22	Low	22.02	115	Flood	Manure	Spring/Winter
7	77	alfalfa	6	Low	23.87	249	Flood	Manure	Spring/Winter
7	77	Triticale/Corn silage	22	Low	10.01	107	Flood	Manure	Spring/Winter
8	73	alfalfa	6	Low	23.65	247	Flood	Manure	Spring/Winter
8	73	Triticale/Corn silage	22	Low	10.51	107	Flood	Manure	Spring/Winter

- b. As defined in **Part I.A.7.c and Part I.A.11** of the permit, changes to the proposed nutrient application rates may be done under minor or major modification of the permit depending on the nature of the proposed change.

**CROP ROTATION:** The Permittee shall follow the crop rotation as defined in its Division approved Nutrient Management Plan.

a. **Table 4: Crop Rotation Summary**

Field	Area (acres)	Year					
		2012	2013	2014	2015	2016	2017
2	57	Triticala/Corn Silage	Triticala/Corn Silage	Alfalfa	Alfalfa	Alfalfa	Triticala/Corn Silage
3	87	Triticala/Corn Silage	Triticala/Corn Silage	Alfalfa	Alfalfa	Alfalfa	Triticala/Corn Silage
4	87	Triticala/Corn Silage	Alfalfa	Alfalfa	Alfalfa	Triticala/Corn Silage	Triticala/Corn Silage
5	120	Alfalfa	Alfalfa	Triticala/Corn Silage	Triticala/Corn Silage	Alfalfa	Alfalfa
6	154	Triticala/Corn Silage	Triticala/Corn Silage	Alfalfa	Alfalfa	Alfalfa	Triticala/Corn Silage
7	77	Alfalfa	Alfalfa	Triticala/Corn Silage	Triticala/Corn Silage	Alfalfa	Alfalfa
8	73	Alfalfa	Alfalfa	Triticala/Corn Silage	Triticala/Corn Silage	Alfalfa	Alfalfa

- b. As defined in **Part I.A.7.c and Part I.A.11** of this permit, changes to the proposed crop rotation may be done under minor or major modification of the permit depending on the nature of the proposed change.

**NMP PROVISIONS & CONDITIONS:** The following provisions and considerations should be taken into account when manure application rates are based on soils nitrogen levels:

- a. Nutrient loading based on nitrogen levels normally result in increasing phosphorous levels; when these levels become higher than 50 mg/L, nutrient application rates should be based on crop phosphorous removal;

- b. Nutrient application may not be done within 200 feet of a domestic well or within 30 feet of an open drainage system.

**MANURE TESTING & TRANSFER PROTOCOL:** Manure shall be analyzed for as established in **Table 5: Manure Testing & Transfer Protocol** prior to its transfer to any party. Test results shall be provided to the receiving parties at the time of the actual manure transfer:

- a. Main manure collection point - Monitoring Point - MP003,
- b. **Table 5: Manure Testing & Transfer Protocol.**

Parameters	Discharge Limitations	Monitoring Requirements		
		Sample Location	Measuring Frequency	Sample Type
Material Transferred to Other Parties (tons) <sup>1</sup>	Monitor & Report	a	Each transfer event	Estimate <sup>2</sup>
Total Phosphorus - P (mg/kg)	Monitor & Report	a	Biannually <sup>1</sup>	Composite
Total Nitrogen - N (mg/Kg)	Monitor & Report	a	Biannually <sup>1</sup>	Composite
Fecal Coliform (CFU or MPN/100 mL)	Monitor & Report	a	Biannually <sup>1</sup>	Composite

**c. Table 5: Applicable Definitions:**

1. Manure testing shall be done prior to any transfer to other parties;
2. Tons - Based on truck loads or similar.

**MANURE TRANSFER REQUIREMENTS:** If the manure or process water is sold, given away, or otherwise transferred to another party, the Permittee shall comply with the following conditions:

- a. Maintain records showing the date and amount of manure and/or process water that leaves the permitted facility;
- b. Record the name and address of the recipient;
- c. Provide the recipient(s) with representative information that includes the most recent analyses of the nutrient content of the manure; and
- d. Records shall be retained on-site, for a period of at least five years, and shall submitted to the Division upon request;
- e. This part does not apply to solid manure that may be transferred to other parties for personal use in volumes of five cubic yard or less.

**NUTRIENT MANAGEMENT PLAN (NMP):** The facility shall be operated in accordance with a Division-approved **NMP**. The **NMP** shall be prepared in accordance with Natural Resource Conservation Service (**NRCS**) Conservation Practice Standard Code 590 Nutrient Management, June 2002 or more

recent, and **NRCS** Conservation Practice Standard Code 633 Waste Utilization, October 2003 or more recent, and with all other requirements of this permit.

- a. The **NMP** shall be signed by the Permittee;
- b. The **NMP** shall contain provisions that:
  - c. Ensure adequate storage and handling of manure and process wastewater including procedures to ensure proper operation and maintenance of the storage facilities;
  - d. Ensure that storm water or other water run-on is diverted from the production area;
  - e. Prevent direct contact of confined animals with any **Water of the State**;
  - f. Ensure that chemicals and other contaminants handled at the facility are not disposed in any manure, process wastewater, or storm water storage or treatment system unless specifically designed to treat such chemicals and other contaminants;
  - g. Identify site specific conservation practices to be implemented, including as appropriate buffers or equivalent practices to control runoff to waters of the State;
  - h. Identify protocols for appropriate testing of manure, process wastewater, and soil;
  - i. Establish protocols to land apply manure or process wastewater in accordance with site specific nutrient management practices that ensure appropriate agricultural utilization of the nutrients in the manure or process wastewater; and
  - j. Identify specific records that shall be maintained to document the implementation and management of the minimum elements described in the **NMP** and this part.

The Permittee shall amend the **NMP** as necessary whenever the facility makes a substantive change in how it manages the operation, including the location, method, timing, or frequency of land application so that the **NMP** reflects the current operational characteristics and practices of the facility. These changes may require a major modification of the permit;

**SCHEDULE OF COMPLIANCE:** The Permittee shall implement and comply with the provisions of the schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications which the Administrator may make in approving the schedule of compliance.

- a. The Permittee shall achieve compliance with the effluent limitations upon issuance of the permit.

**RATIONALE FOR PERMIT REQUIREMENTS:**

Discharge Limitations are being proposed to ensure that the Applicant has appropriate manure data to comply with the manure transfer requirements and to determine any potential impact to **Waters of the State** that may occur in response to a discharge.

Manure nutrient data, nitrogen and phosphorus, is required for the proper beneficial use of the manure; used primarily to determine manure application rates. The concentration of chlorides in the manure may determine, or at least be a factor in determining, the beneficial uses of this material.

Monitoring of the nitrogen, total phosphorus, pH, chlorides, total dissolved solids, total suspended solids, and fecal coliform of the discharge is required because these are the parameters most likely to be present in the discharge. These parameters are not limited because **NDEP** has determined there is no reasonable potential for the discharge to cause or contribute to a violation of water quality standards

#### **PROPOSED DETERMINATION:**

The division has made the tentative determination to issue the proposed permit, under the provisions prescribed, for a 5-year period. Under **NAC 445A.232**, this permit is classified as a permit for a concentrated animal feeding operation that does not discharge - CAFO whose animal holding area is five (5) acres or more.

#### **PROCEDURES FOR PUBLIC COMMENT:**

The Notice of the Division's intent to issue a discharge permit to the applicant, subject to the conditions contained within the permit is being sent to the **Reno Gazette Journal & Mason Valley News** for publication. The notice is being mailed to interested persons on our mailing list. Anyone wishing to comment on the proposed permit can do so in writing for a period of thirty (30) days following the date of publication of the public notice in the newspaper. The comment period can be extended at the discretion of the Administrator. The deadline date and time by which all comments are to be submitted (via postmarked mail or time-stamped faxes, e-mails, or hand-delivered items) to the Division **June 25<sup>th</sup>, 2012 by 5:00 P.M.**

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected interstate agency, the Regional Administrator or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with **NAC 445A.238**. The final determination of the Administrator may be appealed to the State Environmental Commission pursuant to **NRS 445A.605**.

The application and proposed permit on file and may be copied or copies may be obtained by writing or by calling **Alexi Lanza, P.E.**, Bureau of Water Pollution Control at **(775)687-9468**; fax: **(775)687-4684**; or email: [alanza@ndep.nv.gov](mailto:alanza@ndep.nv.gov). This notice and the fact sheet can be viewed online at the following web address: <http://ndep.nv.gov/admin/public.htm>

Prepared by:

**Alexi Lanza, P.E.**

Nevada Division of Environmental Protection  
Bureau of Water Pollution Control - Permits Branch  
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