



STATE OF NEVADA

Department of Conservation & Natural Resources

Brian Sandoval, Governor

Leo M. Drozdoff, P.E., Director

DIVISION OF ENVIRONMENTAL PROTECTION

Colleen Cripps, Ph.D., Administrator

FACTSHEET (PURSUANT TO NAC 445A.236)

PERMITTEE NAME: Jessie Rose Dairy
5175 Schurz Hwy
Fallon, NV 89406

PERMIT NUMBER: NV0023850

LOCATION: Jessie Rose Dairy
5175 Schurz Hwy
Fallon, Churchill County, NV 89406

FLOW: Authorized discharges would be only those which result from storm events in excess of a **25-year, 24-hour storm**.

PUBLIC WATER SUPPLY: There are no public supply wells within one (1) mile of this facility.

GENERAL: The applicant has applied for a National Pollutant Discharge Elimination System (NPDES) Permit - **NV0023850**, to discharge manure, process water and storm water from its **Jessie Rose Dairy (JRD)** facility from storm events in excess of a **25-year, 24-hour storm event**. The facility is located in Fallon, Nevada.

JRD intends to have 800 milking cows, 350 heifers and 50 calves. The proposed operation would produce an estimated 10,000 gallons of process water along with 200 cubic feet of manure daily. 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 milking barn has a concrete waste storage pit which has an 18,500 gallon volume capacity; this volume would be approximately enough to hold two (2) days of process water. **JRD's** lined process water storage lagoon has an approximate 7.0 acre-feet volume. This volume capacity would be enough to hold about 5 months of process water to be later utilized for feed crop irrigation. Manure solids would be separated from the process water in the concrete waste storage pit by the solid separators which are part of this nutrient collection system; separation will take place prior to its transfer into the storage lagoon. Solids may be land applied as established in the facility's Nutrients Management Plan **NMP**.

JRD is bordered on its North side by drainage ditches which are part of the Carson River, Stillwater Marsh, the Truckee/Carson Irrigation District at Fallon, Nevada - **Waters of the U.S.** In order to prevent manure pollution, **JRD** will not store manure within 30 feet of any waterway as part of its operation.

As per **JRD's** Animal Mortality Management Plan (**AMMP**), this facility expects an annual mortality

rate of 20 to 40 animals; dead animals will be transferred to a Reno rendering company for disposal.

This CAFO facility was designed to contain, without discharge, all production area runoff resulting from a **25-year, 24-hour storm event**. To prevent rain run-off, the facility was designed with a 1.0 % slope - the **24 hour - 25 year storm event** is approximately 1.9 inches of water - the annual precipitation in this area is less than 4.8 inches of water.

PROPOSED OPERATIONAL LIMITATIONS:

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. Field where manure and/or process water are applied - Outfall - **O001**.

Table 1: Operational Monitoring

Parameters	Discharge Limitations	Monitoring Requirements		
		Sample Location	Measuring Frequency	Sample Type
Number of animals,	Monitor & Report	a.	Daily	Count
Manure production, (tons)	Monitor & Report	a.	Monthly	Estimate
Flow into pond ¹ , (MGD)	Monitor & Report	b.	Daily	Flow meter ⁵
pH (standard units)	Monitor & Report	b.	Annually ³	Composite
Chlorides (mg/L, mg/kg) ²	Monitor & Report	b.	Annually ³	Composite
Total Dissolved Solids (mg/L, mg/kg) ²	Monitor & Report	b.	Annually ³	Composite
Total Suspended Solids (mg/L)	Monitor & Report	b.	Annually ³	Composite
5-day Biological Oxygen Demand (mg/L)	Monitor & Report	b.	Annually ³	Composite
Total Nitrogen -N (mg/L, mg/Kg) ²	Monitor & Report	b.	Annually ³	Composite
Total Kjeldahl Nitrogen -N (mg/L, mg/kg) ²	Monitor & Report	b.	Annually ³	Composite
Nitrate -N (mg/L, mg/kg) ²	Monitor & Report	b.	Annually ³	Composite
Ammonia -N (mg/L, mg/kg) ²	Monitor & Report	b.	Annually ³	Composite
Total Phosphorus - P (mg/L, mg/kg) ²	Monitor & Report	b.	Annually ³	Composite

Fecal Coliform (CFU or MPN/100 mL)	Monitor & Report	b.	Annually ³	Composite
Total Phosphorus - P Applied (lbs/acre)	NMP Limit/Values ⁴	c.	Annually ³	Composite
Total Nitrogen -N Applied (lbs/acre)	NMP Limit/Values ⁴	c.	Annually ³	Composite
Individual Crop Yield (tons/acre)	Monitor & Report	c.	Annually ³	Estimate

Notes:

1. Report 30 day average,
2. Report the date and time of sample collection,
3. Annual characterizations shall be 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. Estimate value acceptable if flow meter not available.

mg/L:	Milligram per liter.	mg/kg:	Milligrams per kilogram
MPN:	Most Probable Number.	-N:	As nitrogen.
mL:	Milliliter.	-P:	As phosphorus (P) or P205
MGD:	Million gallons per day.	CFU:	Colony Forming Unit.

Discharge Event Monitoring: Discharge water samples shall be monitored as specified below in **Table 2 - Discharge Event Monitoring**. Samples shall be taken from:

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

Table 2: Discharge Event Monitoring

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

Notes:

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 unreasonable due to adverse weather conditions, collect the sample as soon as possible after suitable conditions occur, and document the reason for delay. Also, report the date and time of each discharge along with sample location,
3. Testing protocol in case of a discharge event - the Permittee is only authorized discharges from storm events in excess of a **25-year, 24-hour storm event**.

mg/L:	Milligram per liter.	CFU:	Colony Forming Unit.
MPN:	Most Probable Number.	-N:	As nitrogen.
mL:	Milliliter	-P:	As phosphorus (P) or P205
MG:	Million gallons		

Nutrient Management Plan (NMP): The facility shall be operated in accordance with a Division approved Nutrient Management Plan (**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:

1. The **NMP** shall be signed by the Permittee;
2. The **NMP** shall contain provisions that:
 - a. Ensure adequate storage and handling of manure and process wastewater including procedures to ensure proper operation and maintenance of the storage facilities;
 - b. Ensure that storm water or other water run-on is diverted from the production area;
 - c. Prevent direct contact of confined animals with any **Water of the State**;
 - d. 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;
 - e. Identify site specific conservation practices to be implemented, including as appropriate buffers or equivalent practices to control runoff to waters of the State;
 - f. Identify protocols for appropriate testing of manure, process wastewater, and soil;
 - g. 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;
 - h. Identify specific records that shall be maintained to document the implementation and management of the minimum elements described in the **NMP** and this part.
 - i. Ensure that Animal Mortality Plan (**AMP**) is in place in order to properly address the disposal of dead animals; and
 - j. 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.

Crop Rotation - The following table summarizes the Permittee's proposed crops for the five-year term of the permit:

Table 3 - Crop Rotation

Field	Area (acres)	Year				
		2011	2012	2013	2014	2015
1	33	Alfalfa ¹	Corn Silage ¹	Sorghum ¹	Corn Silage ¹	Sorghum ¹

Notes:

1. 2 crop cycles.

Nitrogen Application - Nitrogen shall be applied in accordance with the Division approved **NMP** and the following table:

Table 4 - Nitrogen Application Rates

Field	Area (acres)	Crop	Design Yield (tons/ac)	P Hazard Class ⁵	Liquid Applied (MG)	Nitrogen Applied (lb/A)	Irrigation Method	Other N Sources	Application Times
1	33	1.	6	Medium	3.85 ⁴	283	Spray	Manure ⁶	S/W
1	33	2.	25	Medium	0.52 ⁴	207	Spray	Manure ⁷	S/W
1	33	3.	10	Medium	0.28	272	Spray	Manure ⁸	S/W
1	33	2.	25	Medium	0.52 ⁴	207	Spray	Manure ⁷	S/W
1	33	3.	10	Medium	0.28	272	Spray	Manure ⁸	S/W

Notes:

1. Alfalfa - 2011 - 2 crop cycles.
 2. Corn Silage - 2012 & 2014 - 2 crop cycles.
 3. Sorghum - 2013 & 2015 - 2 crop cycles.
 4. Process water may not be available for irrigation all year.
 5. All phosphorous values are reported as P205 not P,
 6. Alfalfa - based on 6 ton/acre crop yield.
 7. Corn Silage - based on 23 ton/acre crop yield.
 8. Sorghum - based on 10 ton/acre crop yield.
- lb/A:** Pounds per acre. **MG:** Million gallons.
S: Summer. **W:** Winter.

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 phosphorous levels reach 50 mg/Kg - or higher, nutrient application rates shall be based on crop phosphorous removal;

Manure Testing & Transfer Protocol - Manure shall be analyzed 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,

Table 5: Manure Testing & Transfer Protocol.

Parameters	Discharge	Monitoring Requirements
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RECEIVING WATER CHARACTERISTICS: Discharges from this property would flow to the Carson River, Stillwater Marsh, the Truckee/Carson Irrigation District at Fallon, Nevada & ground Waters of the State of Nevada.

Groundwater is normally encountered between 6 and 13 feet below ground surface; flow is generally to the southeast. Groundwater analysis in the general area has shown poor water quality for the shallow aquifer with elevated total dissolved solids, pH and nitrogen.

RATIONALE FOR PERMIT REQUIREMENTS:

Discharge Limitations and monitoring requirements 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 U.S.** that may occur in response to a discharge.

Manure nutrient data, nitrogen and phosphorus, is required for the proper & beneficial utilization of the manure; this data is mainly used 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 species, 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

OPERATION REQUIREMENTS:

The Permittee shall operate the facility in compliance with permit provisions and requirements and in accordance with the Division approved Nutrient Management Plan (**NMP**). The **NMP** shall contain information required to comply with this permit.

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 large concentrated animal feeding operation (**CAFO**) that discharges less than 100,000 gallons daily.

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 & Lahontan 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 is **September, 30th, 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, Nutrient Management Plan (**NMP**) and proposed permit are 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. 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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