



# Blue Moon Dairy

## 2023 Annual Report

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<u><input checked="" type="checkbox"/></u> Report Form	<u><input type="checkbox"/></u> Attachment H
<u><input checked="" type="checkbox"/></u> Attachment A	<u><input type="checkbox"/></u> Attachment I
<u><input checked="" type="checkbox"/></u> Attachment B	<u><input type="checkbox"/></u> Attachment J
<u><input checked="" type="checkbox"/></u> Attachment C	<u><input type="checkbox"/></u> Manure Tracking Manifests
<u><input checked="" type="checkbox"/></u> Attachment D	<u><input type="checkbox"/></u> New or Revised Waste Water Agreements
<u><input checked="" type="checkbox"/></u> Attachment E	<u><input checked="" type="checkbox"/></u> Groundwater Monitoring Samples
<u><input checked="" type="checkbox"/></u> Attachment F	<u><input type="checkbox"/></u> Monitoring Well Report
<u><input checked="" type="checkbox"/></u> Attachment G	<u><input type="checkbox"/></u> Owner/Operator Change Form

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Enclosed are the required documents to be submitted to the Regional Water Quality Control Board Central Valley Region in compliance with Order No. R5-2013-0122 Waste Discharge Requirements, General Order for Existing Milk Cow Dairies for July 1, 2024.

(See attached delivery confirmation)

# Annual Report

## Blue Moon Dairy 2023

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

### Facility Information:

Name of Dairy	Blue Moon Dairy
Facility Address	13213 Road 80, Tipton CA 93272

### Owner/Operator as of 12/31/2023

Operator Name	Rick Gorzeman
Operator Phone	559-804-9413
Owner Name	Rick Gorzeman
Owner Phone	559-804-9413

1. Beginning and end dates of the annual reporting period: crops harvested January 1, 2023 through December 31, 2023.
2. Maximum and average number and type of animals (see Attachment A).
3. Estimated amount of total manure and process wastewater generated by the facility (see Attachment A).
4. Estimated amount of total manure and process wastewater applied to each land application area (see Attachment B).
5. Quantified ratio of total nitrogen applied to land application areas and total nitrogen removed by crop harvest (see Attachment B).
6. Estimated amount of total manure and process wastewater transferred to other persons by the facility (see Attachment C).
7. Total number of acres and the Assessor Parcel Numbers for all land application areas that were not used for application of manure or process wastewater (see Attachment D).
8. Total number of acres and the Assessor Parcel Numbers for all land application areas that were used for land application of manure and process wastewater (see Attachment D).

### 9. Summary of manure and process wastewater discharges from the production area

Provide a summary of all manure and wastewater discharges from the production area to surface water or to land areas (land application areas or otherwise) when not in accordance with the facility's Nutrient Management Plan, that occurred during the annual reporting period, including the date, time, location, approximate volume, a map showing discharge and sample locations, rationale for sample locations, and method of measuring discharge flows:

- No discharges occurred during the reporting period.  
 Yes. \_\_\_\_\_ Number of discharges occurred (see Attachment H).

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**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**  
**CENTRAL VALLEY REGION**

**10. Summary of storm water discharges from the production area**

Provide a summary of all storm water discharges from the production area to surface water, that occurred during the annual reporting period, including the date, time, approximate volume, duration, location, a map showing discharge and sample locations, rationale for sample locations, and method of measuring discharge flows:

No discharges occurred during the reporting period.

Yes. \_\_\_\_\_ Number of discharges occurred (see Attachment I).

**11. Summary of discharges from the land application area**

Provide a summary of all discharges from the land application area to surface water, that occurred during the annual reporting period, including the date, time, approximate volume, location, source of discharge (i.e. tailwater, wastewater or blended wastewater), a map showing discharge and sample locations, rationale for sample locations, and method of measuring discharge flows:

No discharges occurred during the reporting period.

Yes. \_\_\_\_\_ Number of discharges occurred (see Attachment J).

**12. Nutrient Management Plan update**

Has the NMP been updated, and if so, was it updated by a Certified Nutrient Management Specialist?

No.

Yes, the new NMP was developed and approved by a Certified Nutrient Management Specialist.

**13. Manure/Process Wastewater Tracking Manifests**

Did you sell, give away, or otherwise remove manure or process wastewater from your property?

No.

Yes, see attached manifests.

**14. Written Agreements**

Any process wastewater transferred to a third party that receives process wastewater from your dairy for its own use must have a written agreement consistent with State requirements. Attach copies of revised and/or new agreements not submitted previously. Do not resubmit agreements submitted previously.

Not applicable; no written agreements.

No changes in agreement(s).

Yes, a new or revised agreement is attached.

**15. Laboratory Analyses for Discharges**

If you answered Yes to items #9, 10, or 11 above, attach copies of all laboratory analyses for all discharges (manure, process wastewater or tailwater), surface water (upstream and downstream of a discharge), and storm water, including chain-of-custody forms and laboratory quality assurance/quality control results, as applicable. (Results for Manure and process wastewater, storm water, and/or storm water are provided).

Not Applicable.

Yes, provided with Attachment H, I, or J for #9, 10 and 11, respectively.

**16. Tabulated Nutrient Analytical Data**

Attach tabulated analytical data for samples of manure, process wastewater, irrigation water, soil, and plant tissue. The data shall be tabulated to clearly show sample dates, constituents analyzed, constituent concentrations, and detection limits (see Attachment E).



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**CENTRAL VALLEY REGION**

**17. Record-Keeping Results**

Attach results of the Record-Keeping Requirements for the production and land application areas specified in Record-Keeping Requirements. These include:

- \* Records documenting any corrective actions taken to correct deficiencies noted as a result of the inspections required in the Monitoring Requirements. Deficiencies not corrected in 30 days must be accompanied by an explanation of the factors preventing immediate correction.
- \* Records of the date, time, and estimated volume of any overflow or bypass of the wastewater storage or conveyance structures.
- \* Expected and actual crop yields (see Attachment F).
- \* Identification of crop, acreage, and dates of planting and harvest for each field (see Attachment F).
- \* Dates, locations, and approximate weight and moisture content of manure applied to each field (see Attachment B).
- \* Dates, locations, and volume of process wastewater applied to each field (see Attachment B).
- \* Whether precipitation occurred, or standing water was present at the time of manure and process wastewater applications and for 24 hours prior to and following applications (see Attachment G).
- \* Total amount of nitrogen, phosphorus, and potassium actually applied to each field, including documentation of calculations for the total amount applied (see Attachment B).

**18. Groundwater Monitoring Section**

- X Groundwater monitoring results are attached.  
— Monitoring Well results are attached, if applicable.

A. All dischargers must attach groundwater information for supply wells and subsurface (tile) drainage systems including the location of sample collection and all field and laboratory data, including all laboratory analyses (including chain-of-custody forms and laboratory quality assurance/quality control results).

B. Dischargers who have monitoring well systems shall include all laboratory analyses (including chain-of-custody forms and laboratory quality assurance/quality control results) and tabular and graphical summaries of the monitoring data. Data shall be tabulated to clearly show the sample dates, constituents analyzed, constituent concentrations, detection limits, depth to groundwater and groundwater elevations. Graphical summaries of groundwater gradients and flow directions shall also be included. Each groundwater monitoring report shall include a summary data table for all historical and current groundwater elevations and analytical results. The groundwater monitoring results shall be certified by a California registered professional.

**19. Storm Water Reporting Section**

- X No significant discharges of storm water occurred from the land application areas.  
— Yes, significant discharge(s) of storm water occurred from land application areas. The following information shall be submitted for those discharges.  
— It was not possible to collect any of the required samples or perform visual observations due to adverse climatic conditions.

**20. Mortality Management Practices**

- \* Dead cows are picked up and disposed of by rendering service.

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CENTRAL VALLEY REGION

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

Same as owner

Signature of Operator of Facility

Rick Gorzeman

Print Name

Title and Date

DocuSigned by:

Rick Gorzeman

EA6683232721477...  
Signature of Owner of Facility

Rick Gorzeman

Print Name

6/18/2024

Title and Date



INNOVATIVE AG SERVICES

**Blue Moon Dairy 2023**  
**Estimated Manure and Nutrients Generated (Attachment A)**

Animal Type	Maximum No. of Head	Average No. of Head*	Housing Type	Weight	Total Manure Produced (tons/year)	NITROGEN	PHOSPHORUS	POTASSIUM	SALTS
						Net (LB) Available for Land Application			
Hol Milk Cows	1,582	1,542	Milk Freestall -	1,400	39,134.25	557,201.70	95,681.10	129,450.90	1,016,470.98
Hol Dry Cows	175	170	Flushed	1,450	2,480.66	31,025.00	4,343.50	20,476.50	43,782.48
Hol Heifers(15-24)	600	585	Flushed	1,000	6,106.54	81,139.50	12,811.50	38,434.50	150,663.24
Hol Heifers (7-14)	522	508	Flushed	750	4,885.58	48,209.20	8,158.48	27,813.00	61,327.66
Hol Calves (4-6)	400	390	Flushed	300	1,352.32	19,929.00	5,694.00	11,388.00	9,338.16
Hol Calves (0-3)	155	151	Calves Dry Scrape	150	523.59	1,102.30	551.15	2,204.60	1,326.62
	3,434	3,346			54,482.94	738,606.70	127,239.73	229,767.50	1,282,909.14

\* The Average No. of Head is used to calculate manure and nutrient production

**Estimated Amount of Total Process Wastewater and Nutrients Generated**

Total Gallons of Process Wastewater Generated***	Average TKN Concentration (mg/L)*	Average Total Phosphorus Concentration (mg/L)*	Average Potassium Concentration (mg/L)*	Average Total Dissolved Solids (mg/L)*	Total Nitrogen Generated (lb)**	Total Phosphorus Generated (lb)**	Total Potassium Generated (lb)**	Total Salt Generated (lb)**
48,486,718	478.50	46.72	586.75	3,860.00	193,263.45	18,871.96	236,985.02	1,559,032.2

\* The average Total Kjeldahl Nitrogen, Total Phosphorus, Total Potassium, and Total Salt concentrations are based on an average of all process wastewater sample results for the year.

\*\* The total pounds of Nitrogen, Phosphorus, Potassium and Total Dissolved Solids generated = Average Concentration (mg/L) X Total Gallons of Wastewater Generated X 8.33 X 0.000001.

\*\*\* The total gallons of process wastewater generated is calculated as the total gallons of process wastewater applied to all land application areas (Attachment B) plus the total gallons of process wastewater transferred offsite (Attachment C).



INNOVATIVE AG SERVICES

**Blue Moon Dairy 2023**  
**Nutrient Applications (Attachment B)**

**Field Name:** 1

Wheat, 36 Acres Planted on 11/02/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
01/01/2023	Atmospheric Deposit	14.00	Pounds	100.00		%			504					
01/03/2023	Ground Water: Well Avg	4.00	Acre Inches	1.35		mg/L			44	0	0	0	6,189	
01/03/2023	Waste Water: Main Lagoon	1.00	Acre Inches	387.00	49.30	556.00	mg/L	977,555	3,151	401	4,527	50,649		
01/23/2023	Ground Water: Well Avg	4.00	Acre Inches	1.35		mg/L			44	0	0	0	6,189	
02/06/2023	Ground Water: Well Avg	4.00	Acre Inches	1.35		mg/L			44	0	0	0	6,189	
02/06/2023	Waste Water: Main Lagoon	0.50	Acre Inches	552.00	48.60	521.00	mg/L	488,777	2,247	198	2,121	14,535		
02/24/2023	Ground Water: Well Avg	4.00	Acre Inches	1.35		mg/L			44	0	0	0	6,189	
03/31/2023	Ground Water: Well Avg	4.00	Acre Inches	1.35		mg/L			44	0	0	0	6,189	
03/31/2023	Waste Water: Main Lagoon	0.50	Acre Inches	512.00	58.90	664.00	mg/L	488,777	2,085	240	2,704	9,935		
05/04/2023	Harvest	24.59	Tons	78.50	1.69	0.42	1.73 %							6,433
<b>Acre Inches Applied:</b>		<b>22.00</b>		<b>Totals:</b>				<b>1,955,110</b>	<b>8,207</b>	<b>839</b>	<b>9,352</b>	<b>106,063</b>	<b>6,433</b>	
<b>Season Nitrogen Ratio:</b>		<b>1.28</b>		<b>Lbs Per Acre:</b>				<b>228</b>	<b>23</b>	<b>260</b>	<b>2,946</b>	<b>179</b>		



INNOVATIVE AG SERVICES

**Blue Moon Dairy 2023  
Nutrient Applications (Attachment B)**

Field Name: 1

Corn, 36 Acres Planted on 06/02/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
				%	Moist.	Nitrogen	Phos.	Potass.	Units					
05/16/2023	Ground Water: Well Avg	7.00	Acre Inches			1.35			mg/L		77	0	0	10,830
06/28/2023	Ground Water: Well Avg	6.00	Acre Inches			1.35			mg/L		66	0	0	9,283
06/28/2023	Waste Water: Main Lagoon	1.00	Acre Inches		382.00	24.60	588.00		mg/L	977,555	3,111	200	4,788	39,005
07/14/2023	Ground Water: Well Avg	6.00	Acre Inches			1.35			mg/L		66	0	0	9,283
07/14/2023	Waste Water: Main Lagoon	1.00	Acre Inches		382.00	24.60	588.00		mg/L	977,555	3,111	200	4,788	39,005
07/26/2023	Ground Water: Well Avg	6.00	Acre Inches			1.35			mg/L		66	0	0	9,283
07/26/2023	Waste Water: Main Lagoon	0.85	Acre Inches		382.00	24.60	588.00		mg/L	830,922	2,644	170	4,070	33,154
09/13/2023	Harvest	20.46	Tons		66.90	1.36	0.25	1.23	%					6,632
<b>Acre Inches Applied:</b>		<b>27.85</b>		<b>Totals:</b>				<b>2,786,031</b>	<b>9,140</b>	<b>571</b>	<b>13,646</b>	<b>149,844</b>	<b>6,632</b>	
<b>Season Nitrogen Ratio:</b>		<b>1.38</b>		<b>Lbs Per Acre:</b>				<b>254</b>	<b>16</b>	<b>379</b>	<b>4,162</b>	<b>184</b>		



**Blue Moon Dairy 2023  
Nutrient Applications (Attachment B)**

**Field Name:** 2

Wheat, 84 Acres Planted on 11/05/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
12/12/2022	Ground Water: Well Avg	4.00	Acre Inches	0.67		mg/L			50	0	0	10,894		
12/12/2022	Waste Water: Main Lagoon	1.50	Acre Inches	387.00	49.30	556.00	mg/L	3,421,442	11,030	1,405	15,847	177,274		
01/01/2023	Atmospheric Deposit	14.00	Pounds	100.00		%			1,176					
01/12/2023	Ground Water: Well Avg	4.00	Acre Inches	1.35		mg/L			102	0	0	14,440		
02/20/2023	Ground Water: Well Avg	4.00	Acre Inches	1.35		mg/L			102	0	0	14,440		
02/20/2023	Waste Water: Main Lagoon	1.00	Acre Inches	552.00	48.60	521.00	mg/L	2,280,961	10,488	923	9,899	67,832		
04/02/2023	Ground Water: Well Avg	4.00	Acre Inches	1.35		mg/L			102	0	0	14,440		
04/10/2023	Ground Water: Well Avg	4.00	Acre Inches	1.35		mg/L			102	0	0	14,440		
04/10/2023	Waste Water: Main Lagoon	1.00	Acre Inches	512.00	58.90	664.00	mg/L	2,280,961	9,728	1,119	12,616	46,361		
04/25/2023	Harvest	26.47	Tons	63.70	1.55	0.34	2.04	%						25,021
<b>Acre Inches Applied:</b>		<b>23.50</b>		<b>Totals:</b>				<b>7,983,364</b>	<b>32,883</b>	<b>3,447</b>	<b>38,362</b>	<b>360,122</b>	<b>25,021</b>	
<b>Season Nitrogen Ratio:</b>		<b>1.31</b>		<b>Lbs Per Acre:</b>				<b>391</b>	<b>41</b>	<b>457</b>	<b>4,287</b>	<b>298</b>		

**Blue Moon Dairy 2023**  
**Nutrient Applications (Attachment B)**

**Field Name:** 2

Corn, 84 Acres Planted on 05/30/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
05/09/2023	Ground Water: Well Avg	6.00	Acre Inches	1.35			mg/L			154	0	0	21,660	
05/09/2023	Waste Water: Main Lagoon	1.00	Acre Inches	512.00	58.90	664.00	mg/L		2,280,961	9,728	1,119	12,616	46,361	
07/06/2023	Ground Water: Well Avg	6.00	Acre Inches	1.35			mg/L			154	0	0	21,660	
07/06/2023	Waste Water: Main Lagoon	1.00	Acre Inches	382.00	24.60	588.00	mg/L		2,280,961	7,258	467	11,172	91,012	
07/22/2023	Ground Water: Well Avg	6.00	Acre Inches	1.35			mg/L			154	0	0	21,660	
07/22/2023	Waste Water: Main Lagoon	1.00	Acre Inches	382.00	24.60	588.00	mg/L		2,280,961	7,258	467	11,172	91,012	
09/13/2023	Harvest	25.14	Tons	63.70	1.30	0.25	1.01	%						19,931
<b>Acre Inches Applied:</b>		<b>21.00</b>		<b>Totals:</b>					<b>6,842,884</b>	<b>24,706</b>	<b>2,053</b>	<b>34,960</b>	<b>293,367</b>	<b>19,931</b>
<b>Season Nitrogen Ratio:</b>		<b>1.24</b>		<b>Lbs Per Acre:</b>					<b>294</b>	<b>24</b>	<b>416</b>	<b>3,492</b>	<b>237</b>	



INNOVATIVE AG SERVICES

**Blue Moon Dairy 2023  
Nutrient Applications (Attachment B)**

Field Name: 3

Date	Event/Source	Amount Applied/Yield (per Acre) Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
01/01/2023	Atmospheric Deposit	14.00 Pounds	100.00 %						154				
	Acre Inches Applied:	0.00	Totals:						154				
Season Nitrogen Ratio:			Lbs Per Acre:						14				
Season Notes:	Fallow												



INNOVATIVE AG SERVICES

**Blue Moon Dairy 2023  
Nutrient Applications (Attachment B)**

Field Name: 4

Wheat, 38 Acres Planted on 11/01/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
11/21/2022	Ground Water: Well Avg	4.00	Acre Inches	0.67			mg/L			23	0	0	4,928	
11/21/2022	Waste Water: Main Lagoon	1.00	Acre Inches	387.00	49.30	556.00	mg/L	1,031,863	3,327	424	4,779	53,463		
01/01/2023	Atmospheric Deposit	14.00	Pounds	100.00			%			532				
02/22/2023	Ground Water: Well Avg	4.00	Acre Inches	1.35			mg/L			46	0	0	6,533	
02/22/2023	Waste Water: Main Lagoon	1.00	Acre Inches	552.00	48.60	521.00	mg/L	1,031,863	4,745	418	4,478	30,686		
04/12/2023	Ground Water: Well Avg	4.00	Acre Inches	1.35			mg/L			46	0	0	6,533	
04/12/2023	Waste Water: Main Lagoon	1.00	Acre Inches	512.00	58.90	664.00	mg/L	1,031,863	4,401	506	5,707	20,973		
05/22/2023	Harvest	23.20	Tons	59.10	1.60	0.36	1.74 %							11,538
<b>Acre Inches Applied:</b>		<b>15.00</b>		<b>Totals:</b>				<b>3,095,590</b>	<b>13,120</b>	<b>1,347</b>	<b>14,964</b>	<b>123,115</b>	<b>11,538</b>	
<b>Season Nitrogen Ratio:</b>		<b>1.14</b>		<b>Lbs Per Acre:</b>						<b>345</b>	<b>35</b>	<b>394</b>	<b>3,240</b>	<b>304</b>



INNOVATIVE AG SERVICES

**Blue Moon Dairy 2023  
Nutrient Applications (Attachment B)**

**Field Name:** 4

Corn, 38 Acres Planted on 06/15/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)	
				% Moist.	Nitrogen	Phos.	Potass.								
05/30/2023	Corral Solids: Main Corral	3.50	Tons	17.20	0.99	0.26	1.51	%	133	2,187	579	3,326	0		
07/03/2023	Ground Water: Well Avg	5.00	Acre Inches		1.35			mg/L		58	0	0	8,166		
07/03/2023	Waste Water: Main Lagoon	0.50	Acre Inches	382.00	24.60	588.00	mg/L		515,932	1,642	106	2,527	20,586		
07/29/2023	Ground Water: Well Avg	5.00	Acre Inches		1.35			mg/L		58	0	0	8,166		
07/29/2023	Waste Water: Main Lagoon	0.50	Acre Inches	382.00	24.60	588.00	mg/L		515,932	1,642	106	2,527	20,586		
09/05/2023	Ground Water: Well Avg	5.00	Acre Inches		1.35			mg/L		58	0	0	8,166		
09/05/2023	Waste Water: Main Lagoon	0.50	Acre Inches	382.00	24.60	588.00	mg/L		515,932	1,642	106	2,527	20,586		
10/06/2023	Harvest	21.09	Tons	67.90	1.09	0.23	0.94	%						5,608	
<b>Acre Inches Applied:</b>		<b>16.50</b>		<b>Totals:</b>					133	1,547,795	7,286	896	10,907	86,256	<b>5,608</b>
<b>Season Nitrogen Ratio:</b>		<b>1.30</b>		<b>Lbs Per Acre:</b>						192	24	287	2,270	148	

**Blue Moon Dairy 2023  
Nutrient Applications (Attachment B)**

Field Name: 10

Wheat, 73 Acres Planted on 11/01/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
				% Moist.	Nitrogen	Phos.	Potass.	Units						
10/03/2022	Ground Water: Well Avg	5.00	Acre Inches		0.67			mg/L		55	0	0	11,834	
10/03/2022	Waste Water: Main Lagoon	1.00	Acre Inches		387.00	49.30	556.00	mg/L	1,982,264	6,390	814	9,180	102,706	
12/20/2022	Ground Water: Well Avg	5.00	Acre Inches		0.67			mg/L		55	0	0	11,834	
12/20/2022	Waste Water: Main Lagoon	1.00	Acre Inches		387.00	49.30	556.00	mg/L	1,982,264	6,390	814	9,180	102,706	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%		1,022				
03/24/2023	Ground Water: Well Avg	5.00	Acre Inches		1.35			mg/L		112	0	0	15,687	
03/24/2023	Waste Water: Main Lagoon	1.00	Acre Inches		552.00	48.60	521.00	mg/L	1,982,264	9,115	802	8,603	58,949	
05/25/2023	Harvest	23.40	Tons		63.40	1.46	0.35	1.98 %						18,256
<b>Acre Inches Applied:</b>		<b>18.00</b>		<b>Totals:</b>					<b>5,946,792</b>	<b>23,139</b>	<b>2,430</b>	<b>26,964</b>	<b>303,716</b>	<b>18,256</b>
<b>Season Nitrogen Ratio:</b>		<b>1.27</b>		<b>Lbs Per Acre:</b>					<b>317</b>	<b>33</b>	<b>369</b>	<b>4,160</b>	<b>250</b>	



INNOVATIVE AG SERVICES

**Blue Moon Dairy 2023  
Nutrient Applications (Attachment B)**

**Field Name:** 10

Corn, 73 Acres Planted on 06/18/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/02/2023	Ground Water: Well Avg	5.00	Acre Inches	1.35			mg/L			112	0	0	15,687	
06/02/2023	Waste Water: Main Lagoon	1.00	Acre Inches	512.00	58.90	664.00	mg/L		1,982,264	8,454	972	10,964	40,290	
07/05/2023	Ground Water: Well Avg	6.00	Acre Inches	1.35			mg/L			134	0	0	18,824	
07/27/2023	Ground Water: Well Avg	5.00	Acre Inches	1.35			mg/L			112	0	0	15,687	
07/27/2023	Waste Water: Main Lagoon	1.00	Acre Inches	382.00	24.60	588.00	mg/L		1,982,264	6,308	406	9,709	79,094	
08/16/2023	Ground Water: Well Avg	5.00	Acre Inches	1.35			mg/L			112	0	0	15,687	
08/16/2023	Waste Water: Main Lagoon	1.00	Acre Inches	382.00	24.60	588.00	mg/L		1,982,264	6,308	406	9,709	79,094	
09/07/2023	Ground Water: Well Avg	6.00	Acre Inches	1.35			mg/L			134	0	0	18,824	
09/27/2023	Ground Water: Well Avg	6.00	Acre Inches	1.35			mg/L			134	0	0	18,824	
10/24/2023	Harvest	29.80	Tons	61.20	1.10	0.21	0.95	%						18,569
<b>Acre Inches Applied:</b>		<b>36.00</b>		<b>Totals:</b>					<b>5,946,792</b>	<b>21,806</b>	<b>1,784</b>	<b>30,382</b>	<b>302,010</b>	<b>18,569</b>
<b>Season Nitrogen Ratio:</b>		<b>1.17</b>		<b>Lbs Per Acre:</b>					<b>299</b>	<b>24</b>	<b>416</b>	<b>4,137</b>	<b>254</b>	

**Blue Moon Dairy 2023  
Nutrient Applications (Attachment B)**

**Field Name:** 11

Wheat, 75 Acres Planted on 11/01/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
10/07/2022	Corral Solids: Main Corral	7.00	Tons	23.50	1.69	0.38	0.63	%	525	13,575	3,068	5,036	0	
10/17/2022	Ground Water: Well Avg	5.00	Acre Inches		0.67			mg/L		56	0	0	12,158	
12/22/2022	Ground Water: Well Avg	5.00	Acre Inches		0.67			mg/L		56	0	0	12,158	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%		1,050				
05/25/2023	Harvest	19.40	Tons	63.10	1.49	0.35	1.82	%						16,000
<b>Acre Inches Applied:</b>		<b>10.00</b>		<b>Totals:</b>				<b>525</b>	<b>14,738</b>	<b>3,068</b>	<b>5,036</b>	<b>24,316</b>	<b>16,000</b>	
<b>Season Nitrogen Ratio:</b>		<b>0.92</b>		<b>Lbs Per Acre:</b>						<b>196</b>	<b>41</b>	<b>67</b>	<b>324</b>	<b>213</b>

**Blue Moon Dairy 2023**  
**Nutrient Applications (Attachment B)**

Field Name: 11

Corn, 75 Acres Planted on 06/20/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
07/03/2023	Ground Water: Well Avg	5.00	Acre Inches	1.35			mg/L		115	0	0	0	16,117	
07/03/2023	Waste Water: Main Lagoon	1.00	Acre Inches	382.00	24.60	588.00	mg/L	2,036,572	6,481	417	9,975	81,261		
07/26/2023	Ground Water: Well Avg	6.00	Acre Inches	1.35			mg/L		137	0	0	0	19,340	
08/08/2023	Ground Water: Well Avg	5.00	Acre Inches	1.35			mg/L		115	0	0	0	16,117	
08/08/2023	Waste Water: Main Lagoon	1.00	Acre Inches	382.00	24.60	588.00	mg/L	2,036,572	6,481	417	9,975	81,261		
08/30/2023	Ground Water: Well Avg	6.00	Acre Inches	1.35			mg/L		137	0	0	0	19,340	
09/14/2023	Ground Water: Well Avg	5.00	Acre Inches	1.35			mg/L		115	0	0	0	16,117	
09/14/2023	Waste Water: Main Lagoon	1.00	Acre Inches	468.00	54.80	574.00	mg/L	2,036,572	7,940	930	9,738	78,716		
09/25/2023	Ground Water: Well Avg	6.00	Acre Inches	1.35			mg/L		137	0	0	0	19,340	
10/06/2023	Harvest	28.70	Tons	65.90	1.32	0.27	1.15	%						19,378
<b>Acre Inches Applied:</b>		<b>36.00</b>		<b>Totals:</b>				<b>6,109,718</b>	<b>21,657</b>	<b>1,764</b>	<b>29,688</b>	<b>347,607</b>	<b>19,378</b>	
<b>Season Nitrogen Ratio:</b>		<b>1.12</b>		<b>Lbs Per Acre:</b>				<b>289</b>	<b>24</b>	<b>396</b>	<b>4,635</b>	<b>258</b>		



INNOVATIVE AG SERVICES

**Blue Moon Dairy 2023**  
**Nutrient Applications (Attachment B)**

**Field Name:** 12

Wheat, 77 Acres Planted on 11/01/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
10/18/2022	Corral Solids: Main Corral	5.00	Tons	23.50	1.69	0.38	0.63	%	385	9,955	2,250	3,694	0	
10/21/2022	Ground Water: Well Avg	5.00	Acre Inches		0.67			mg/L		58	0	0	12,482	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%		1,078				
01/09/2023	Ground Water: Well Avg	5.00	Acre Inches		1.35			mg/L		118	0	0	16,547	
01/09/2023	Waste Water: Main Lagoon	1.00	Acre Inches	387.00	49.30	556.00	mg/L		2,090,881	6,741	859	9,684	108,334	
05/25/2023	Harvest	17.90	Tons	63.20	1.46	0.32	1.91	%						14,811
<b>Acre Inches Applied:</b>		<b>11.00</b>		<b>Totals:</b>				<b>385</b>	<b>2,090,881</b>	<b>17,949</b>	<b>3,108</b>	<b>13,377</b>	<b>137,363</b>	<b>14,811</b>
<b>Season Nitrogen Ratio:</b>		<b>1.21</b>		<b>Lbs Per Acre:</b>						<b>233</b>	<b>40</b>	<b>174</b>	<b>1,784</b>	<b>192</b>

**Field Name:** 12

Corn, 77 Acres Planted on 06/23/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/05/2023	Ground Water: Well Avg	4.50	Acre Inches		1.35			mg/L		105	0	0	14,892	
06/05/2023	Waste Water: Main Lagoon	2.00	Acre Inches	382.00	24.60	588.00	mg/L		4,181,762	13,306	857	20,483	166,855	
07/14/2023	Ground Water: Well Avg	6.50	Acre Inches		1.35			mg/L		152	0	0	21,510	
08/04/2023	Ground Water: Well Avg	7.00	Acre Inches		1.35			mg/L		165	0	0	23,165	
08/25/2023	Ground Water: Well Avg	6.50	Acre Inches		1.35			mg/L		152	0	0	21,510	
09/14/2023	Ground Water: Well Avg	6.00	Acre Inches		1.35			mg/L		141	0	0	19,855	
10/09/2023	Ground Water: Well Avg	6.00	Acre Inches		1.35			mg/L		141	0	0	19,855	
10/24/2023	Harvest	26.10	Tons	60.80	1.13	0.21	0.94	%						17,805
<b>Acre Inches Applied:</b>		<b>38.50</b>		<b>Totals:</b>				<b>4,181,762</b>	<b>14,163</b>	<b>857</b>	<b>20,483</b>	<b>287,642</b>	<b>17,805</b>	
<b>Season Nitrogen Ratio:</b>		<b>0.80</b>		<b>Lbs Per Acre:</b>						<b>184</b>	<b>11</b>	<b>266</b>	<b>3,736</b>	<b>231</b>



INNOVATIVE AG SERVICES

**Blue Moon Dairy 2023  
Nutrient Applications (Attachment B)**

***Summary of Nutrient Applications, Removal, and Balance***

	<u>Total N (Lbs)</u>	<u>Total P (Lbs)</u>	<u>Total K (Lbs)</u>	<u>Total Salts (Lbs)</u>	<u>Total Manure Applied</u>	
Solid Manure	25,717.23	5,897.31	12,055.70	0.00	1,043.00	tons
Process Wastewater	173,150.98	16,268.33	236,065.37	1,852,283.05	48,486,718.08	gallons
Irrigation Water	4,563.80					
Fertilizer / Total Imports	0.00					
Atmospheric Deposition	5,516.00					
<b>Total Nitrogen Applied</b>	<b>208,948.01</b>					
Crop Nitrogen Removal	179,980.89					
<b>Nitrogen Balance</b>	<b>28,967.12</b>					
<b>Nitrogen Ratio</b>	<b>1.16</b>					

- Nutrient applications shown in Attachment B are on a crop year basis.
- Lab sample data results for applications are based on the sample taken closest to the application date. Lab sample data results are shown on 100% dry basis for manure applications and harvest events.
- Well Avg: Irrigation source representing the average nutrient values of all irrigation wells sampled for the facility during the reporting year.

\*\* Book Value: No sample data results were available. For manure applications and plant tissue harvests, the calculations were based off book values.



## Blue Moon Dairy 2023 Nutrient Applications (Attachment B)

### FIELD NITROGEN RATIO Calculation:

"Field Nitrogen Ratio" = "Total Nitrogen Applied to Field" / "Total Nitrogen Extracted from Field at Harvest"

### ATMOSHERIC DEPOSITION Applied (lbs) Calculation:

"Nitrogen Applied (Lbs)" = "14 Lbs (per year) \* "Acres Planted"

### HARVEST Nitrogen Extraction (Lbs) Calculation:

"Nitrogen Extracted (Lbs)" = ("Yield" (tons per acre) \* 2000) \* ((100 - "% Moisture") / 100 \* "Lab Sample Data Nitrogen Value" / 100) \* "Acres Planted"

### IRRIGATION Nitrogen and Salts Applied (Lbs) Calculations:

"Nitrogen Applied (Lbs)" = "Lbs Applied per Acre" (see below) \* ("Lab Sample Data Nitrogen Value" \* 0.000001) \* "Acres Planted"

"Salts Applied (Lbs)" = "Lbs Applied per Acre" (see below) \* ("Lab Sample Data TDS Value" \* 0.000001) \* "Acres Planted"

### PROCESS WASTEWATER Nitrogen, Phosphorus, Potassium and Salts Applied (Lbs) Calculations:

"Nitrogen Applied (Lbs)" = "Lbs Applied per Acre" (see below) \* ("Lab Sample Data Nitrogen Value" \* 0.000001) \* "Acres Planted"

"Phosphorus Applied (Lbs)" = "Lbs Applied per Acre" (see below) \* ("Lab Sample Data Phosphorus Value" \* 0.000001) \* "Acres Planted"

"Potassium Applied (Lbs)" = "Lbs Applied per Acre" (see below) \* ("Lab Sample Data Potassium Value" \* 0.000001) \* "Acres Planted"

"Salt Applied (Lbs)" = "Lbs Applied per Acre" (see below) \* ("Lab Sample Data TDS Value" \* 0.000001) \* "Acres Planted"

### SOLID MANURE (Corral, Separator, or Compost) Nitrogen, Phosphorus, Potassium and Salts Applied (Lbs) Calculations:

"Nitrogen Applied (Lbs)" = "Lbs Applied per Acre" (see below) \* ((100 - "% Moisture")/100 \* "Lab Sample Data Nitrogen Value"/100) \* "Acres Planted"

"Phosphorus Applied (Lbs)" = "Lbs Applied per Acre" (see below) \* ((100 - "% Moisture")/100 \* "Lab Sample Data Phosphorus Value"/100) \* "Acres Planted"

"Potassium Applied (Lbs)" = "Lbs Applied per Acre" (see below) \* ((100 - "% Moisture")/100 \* "Lab Sample Data Potassium Value"/100) \* "Acres Planted"

"Salt Applied (Lbs)" = "Lbs Applied per Acre" (see below) \* ((100 - "% Moisture")/100 \* "Lab Sample Data Ash Value"/100) \* "Acres Planted"

### "Lbs Applied per Acre" Calculations:

If "Application Units" = Tons, Then "Lbs Applied per Acre" = "Application Amount" (per Acre) \* 2000

If "Application Units" = Acres Inches, Then "Lbs Applied per Acre" = "Application Amount" (per Acre) \* 8.33 \* 27,154.3

If "Application Units" = Acre Feet, Then Lbs Applied per Acre" = "Application Amount" (per Acre) \* 8.33 \* 325,851

If "Application Units" = Gallons, Then "Lbs Applied per Acre" = "Application Amount" (per Acre) \* 8.33



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**Blue Moon Dairy 2023**  
**Estimated Manure and Process Wastewater/Nutrients Transferred Off-Site (Attachment C)**

**A. ESTIMATED TOTAL MANURE TRANSFERRED OFFSITE**

Total Manure Exported (tons)*	Total Nitrogen Exported (lbs)**	Total Phosphorus Exported (lbs)**	Total Potassium Exported (lbs)**	Total Salts Exported (lbs)**

\* The Total Manure (tons) should be calculated as the sum of all manure transferred offsite as reported in all the Manure/Process Wastewater Tracking Manifests for the reporting period.

\*\* Total (N, P, K, Salts) (lbs) = Sum of (N, P, K, Salts) for each manure export event based on (Manure(tons) x 2000lb/ton) x ((100-moisture%)/100) x (N, P, K, and Ash) Concentration (%, dry weight) / 100 using the samples closest in date to the export event.

**B. ESTIMATED TOTAL PROCESS WASTEWATER TRANSFERRED OFFSITE**

Total Process Wastewater Exported (gal)*	Total Nitrogen Exported (lbs)**	Total Phosphorus Exported (lbs)**	Total Potassium Exported (lbs)**	Total TDS Exported (lbs)**

\* The Total Manure (gals) should be calculated as the sum of all manure transferred offsite as reported in all the Manure/Process Wastewater Tracking Manifests for the reporting period.

\*\* Total (Nitrogen, Phosphorus, Potassium, TDS) (lbs) = Sum of (Nitrogen, Phosphorus, Potassium, TDS) for each wastewater export event based on (Process Wastewater(gals) x 8.33lb/gal) x (NO<sub>3</sub>-N or TKN, P, K, TDS) x 10-6 using the samples closest in date to the export event.

**Blue Moon Dairy 2023**  
**Land Application Area Description Technical Report (Attachment D)**

Field Name	Assessor Parcel Number(s)	Acres	Type of Waste Applied
1	x293 x060 x004 xxxx	36	Process Wastewater
2	x293 x060 x004 xxxx	84	Process Wastewater
3	x293 x060 x004 xxxx	11	None
4	x293 x060 x002 xxxx	38	Both
10	x293 x080 x010 xxxx	73	Process Wastewater
11	x293 x080 x010 xxxx	75	Both
12	x293 x080 x009 xxxx	77	Both
			<b>394</b>

Production Area APN(s): x293 x060 x004 xxxx

**Blue Moon Dairy 2023  
Lab Results Summary (Attachment E)**

**Process Wastewater**

(mg/l/ppm unless noted otherwise)

Sample Date:	TKN	TP	TK	EC (umhos/cm)	NH4N	NO3N	TDS	pH (units)	General Minerals						
									CA	MG	NA	HCO3	CO3	SO4	CL
03/09/2023	552.00	48.60	521.00	5,370	240.00		3,570.00								
04/19/2023	512.00	58.90	664.00	3,670	499.00	0.57	2,440.00	7.66							
07/18/2023	382.00	24.60	588.00	7,210	377.00		4,790.00								
11/02/2023	468.00	54.80	574.00	6,990	450.00		4,640.00								
<b>Averages:</b>	<b>478.50</b>	<b>46.72</b>	<b>586.75</b>	<b>5,810</b>	<b>391.50</b>	<b>0.57</b>	<b>3,860.00</b>	<b>7.66</b>							

**Manure - Corral Solids**

(Dry Weight Basis)

Sample Date:	TN	TP	TK	Moisture	Ash	CA	MG	NA	S	CL
06/14/2023	0.99	0.26	1.51	17.20					%	
11/02/2023	2.24	0.69	1.09	63.70					%	
<b>Averages:</b>	<b>1.62</b>	<b>0.48</b>	<b>1.30</b>	<b>40.45</b>						

**Plant Tissue**

(Dry Weight Basis)

Field:	Crop #:	Crop	Sample Date:	TN (lbs/ton)	TP (lbs/ton)	TK (lbs/ton)	Moisture (%)	Ash (%)
1	1	Wheat	05/04/2023	33.80	8.30	34.60	78.50	9.87
1	2	Corn	09/13/2023	27.20	4.94	24.60	66.90	5.22



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**Blue Moon Dairy 2023  
Lab Results Summary (Attachment E)**

**Plant Tissue**

(Dry Weight Basis)

Field:	Crop #:	Crop	Sample Date:	TN (lbs/ton)	TP (lbs/ton)	TK (lbs/ton)	Moisture (%)	Ash (%)
2	1	Wheat	05/25/2023	31.00	6.70	40.80	63.70	9.42
2	2	Corn	09/13/2023	26.00	4.94	20.20	63.70	5.31
3	1	FALLOW						
4	1	Wheat	05/22/2023	32.00	7.20	34.80	59.10	8.49
4	2	Corn	10/06/2023	21.80	4.56	18.80	67.90	4.96
10	1	Wheat	05/25/2023	29.20	6.96	39.60	63.40	8.34
10	2	Corn	10/24/2023	22.00	4.28	19.06	61.20	4.87
11	1	Wheat	05/25/2023	29.80	6.94	36.40	63.10	8.00
11	2	Corn	10/06/2023	26.40	5.34	23.00	65.90	6.29
12	1	Wheat	05/25/2023	29.20	6.36	38.20	63.20	9.36
12	2	Corn	10/24/2023	22.60	4.20	18.74	60.80	4.80

**Well / Irrigation Water**

(mg/l/ppm unless noted otherwise)

Domestic	Sample Date:	NO3N	TP	EC (umhos/cm)	NH4N *	TDS	TN	General Minerals					
								CA	MG	NA	HCO3	CO3	SO4
East Barn	Out of Service						Out of service						



INNOVATIVE AG SERVICES

**Blue Moon Dairy 2023  
Lab Results Summary (Attachment E)**

**Well / Irrigation Water**

(mg/l/ppm unless noted otherwise)

	Sample Date:	NO3N	TP	EC (umhos/cm)	NH4N *	TDS	TN	General Minerals					
								CA	MG	NA	HCO3	CO3	SO4
<b>Domestic</b>													
North Barn		Out of Service						Out of service					
South Barn		Out of Service						Out of service					
West Barn	01/24/2023	17.40		613									
	Averages:	17.40		613									
<b>Irrigation</b>													
AW2								Out of service					
Well 1	09/27/2023	2.70		290		220.00	2.70						
Well 2								Did not Run					
Well 7	09/25/2023	0.00		202		160.00	0.00						
Well 2a	Out of Service							Out of service					
	Averages:	1.35		246		190.00	1.35						

\* NH4N was non-detectable unless a value is shown

**Blue Moon Dairy 2023**  
**Planting and Harvest Information (Attachment F)**

Crop #	Crop	Acres Planted	Plant Date	Harvest Date	Estimated Yield (tons)	Tons Harvested	Actual Yield
Field: 1							
	1 Wheat	36	11/02/2022	05/04/2023	18.4	885.2	24.6
	2 Corn	36	06/02/2023	09/13/2023	28.6	736.6	20.5
Field: 2							
	1 Wheat	84	11/05/2022	04/25/2023	18.0	2223.5	26.5
	2 Corn	84	05/30/2023	09/13/2023	28.2	2111.8	25.1
Field: 4							
	1 Wheat	38	11/01/2022	05/22/2023	22.0	881.6	23.2
	2 Corn	38	06/15/2023	10/06/2023	38.0	801.4	21.1
Field: 10							
	1 Wheat	73	11/01/2022	05/25/2023	22.0	1708.2	23.4
	2 Corn	73	06/18/2023	10/24/2023	30.0	2175.4	29.8
Field: 11							
	1 Wheat	75	11/01/2022	05/25/2023	22.0	1455.0	19.4
	2 Corn	75	06/20/2023	10/06/2023	30.0	2152.5	28.7
Field: 12							
	1 Wheat	77	11/01/2022	05/25/2023	22.0	1378.3	17.9
	2 Corn	77	06/23/2023	10/24/2023	30.0	2009.7	26.1



**INNOVATIVE AG SERVICES**

# Blue Moon Dairy 2023

## Weather Data (Attachment G)

Day	January	February	March	April	May	June	July	August	September	October	November	December
1	Light	None	Light	None	None	None	None	None	None	None	None	None
2	Light	None	None	None	None	None	None	None	None	None	None	None
3	None	None	None	None	None	None	None	None	None	None	None	None
4	Light	None	None	None	Light	None	None	None	None	None	None	None
5	Heavy	Light	Light	None	None	None	None	None	None	None	None	None
6	None	None	None	None	None	None	None	None	None	None	None	None
7	None	None	None	None	None	SWP	None	None	None	None	None	None
8	None	None	None	None	None	None	None	None	None	None	None	None
9	SWP	None	Light	None	None	None	None	None	None	None	None	None
10	Light	None	SWP	None	None	None	None	None	None	None	None	None
11	None	None	None	None	None	None	None	None	None	None	None	None
12	None	None	None	None	None	None	None	None	None	None	None	None
13	None	None	None	None	None	None	None	None	None	None	None	None
14	Heavy	None	SWP	None	None	None	None	None	None	None	None	None
15	Light	None	Heavy	None	None	None	None	None	None	None	None	None
16	Heavy	None	None	None	None	None	None	None	None	None	None	None
17	None	None	None	None	None	None	None	None	None	None	None	None
18	None	None	None	None	None	None	None	None	None	None	None	None
19	None	None	Light	None	None	None	None	Light	None	None	None	None
20	None	None	None	None	None	None	None	SWP	None	None	None	None
21	None	None	SWP	None	None	None	None	None	None	None	None	None
22	None	Light	Light	None	None	None	None	None	None	None	None	None
23	None	None	None	None	None	None	None	None	None	Heavy	None	None
24	None	SWP	None	None	None	None	None	None	None	None	None	None
25	None	SWP	None	None	None	None	None	None	None	None	None	None
26	None	None	None	None	None	None	None	None	None	None	None	None
27	None	Light	None	None	None	None	None	None	None	None	None	None
28	None	Heavy	Light	None	None	None	None	None	None	None	None	None
29	Light		Heavy	None	None	None	None	None	None	None	None	None
30	None		Light	None	None	None	None	None	None	None	None	Light
31	None		None		None		None	None		None		None

\*Note: SWP = Standing Water Present



February 2, 2023

**Innovative Ag Services, LLC**  
1201 Delta View Road Suite 5  
Hanford, CA 93230

**Lab No.** : VI 2340441  
**Customer No.** : 4018573  
**Reference** : 40136

### Laboratory Report

**Introduction:** This report package contains a total of 3 pages divided into 3 sections:

- |                 |          |   |
|-----------------|----------|---|
| Case Narrative  | (1 page) | : An overview of the work performed at FGL. |
| Sample Results  | (1 page) | : Results for each sample submitted.        |
| Quality Control | (1 page) | : Supporting Quality Control (QC) results.  |

### Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab No.	Matrix
West Barn	01/24/2023	01/24/2023	VI 2340441-001	DW

### Sampling and Receipt Information:

The Sample was received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. The Sample was received, prepared and analyzed within the method specified holding times. All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the associated Chain of Custody and Condition Upon Receipt Form.

**Quality Control:** All samples were prepared and analyzed according to established quality control criteria. Any exceptions are noted in the Quality Control Section of this report.

### Test Summary

Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-NO3 F Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)

**Certification:** I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above and in the QC Section. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature. This report shall not be reproduced except in full, without the written approval of the laboratory.

KD: JRD

Approved By **Kelly A. Dunnahoo, B.S.**  Digitally signed by Kelly A. Dunnahoo, B.S.  
Title: Laboratory Director  
Date: 2023-02-03

Section: Case Narrative

Page 1 of 3

Page 1 of 3

**Corporate Offices & Laboratory**  
853 Corporation Street  
Santa Paula, CA 93060  
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**Office & Laboratory**  
2500 Stagecoach Road  
Stockton, CA 95215  
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**Office & Laboratory**  
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CA ELAP Certification No. 2670

**Office & Laboratory**  
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FAX: (805)783-2912  
CA ELAP Certification No. 2775

**Office & Laboratory**  
9415 W. Goshen Avenue  
Visalia, CA 93291  
TEL: (559)734-9473  
FAX: (559)734-8435  
CA ELAP Certification No. 2810



February 2, 2023

**Innovative Ag Services, LLC**  
 1201 Delta View Road Suite 5  
 Hanford, CA 93230

Description : West Barn  
 Project : 0456 Blue Moon Dairy

Lab No. : VI 2340441-001  
 Customer No. : 4018573  
 Reference : 40136  
 Sampled On : January 24, 2023 at 14:20  
 Sampled By : Sean  
 Received On : January 24, 2023 at 15:15  
 Matrix : Drinking Water

### Sample Results - Inorganic

Constituent	Result	RL	Units	MCL/AL	Dil.	DQF	Sample Preparation			Sample Analysis			
							Date	Time	Who	Method	Date	Time	Who
<b>Dairy Analysis</b>													
Nitrate Nitrogen	17.4	0.4	mg/L	10	1		01/25/2023	12:45	lfs	SM 4500-NO3 F	01/25/2023	15:57	lfs
Conductivity	613	1	umhos/cm	1600 <sup>2</sup>	1		01/27/2023	12:47	sta		01/27/2023	12:47	sta

DQF Flags Definition:

ND=Non-Detected, RL=Reporting Level , Dil.=Dilution

MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.



February 2, 2023

**Innovative Ag Services, LLC**

Lab No. : VI 2340441

Customer No. : 4018573

**Quality Control - Wet Chem**

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
<b>Wet Chem</b>								
E. C.	2510B	01/27/2023:200907STA (STK2331009-007)	Blank Dup	umhos/cm umhos/cm		ND 1.30%	<1 5	
Nitrate Nitrogen	4500NO3F	01/25/2023:200843LFS  (SP 2301099-001)	Blank LCS MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L	11.22 5.609 5.609 95.8% 5.609	96.2% 96.2% 95.8% 0.2%	<0.4 80-120 66-125 66-125 ≤30.4	

**Definition**

- Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
- DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.
- Dup : Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.
- LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
- MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
- MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
- MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
- ND : Non-detect - Result was below the DQO listed for the analyte.

**Laboratory Analysis Work Order**ID: # 04562340441

Nº 40136

SITE NAME: BLUE MOON DAIRYBilling: IAS**ANALYSIS TO BE COMPLETED:****Irrigation/Ground Water (ELAP Standards)**W1 EC, NO<sub>3</sub>N (Dom)W2 EC, NO<sub>3</sub>N, TDS, TN (Irr)W3 NH<sub>4</sub>-N (Ammonium)W4 EC, NO<sub>3</sub>N, Ca, Mg, Na, K, HCO<sub>3</sub>, CO<sub>3</sub>, SO<sub>4</sub>S, Cl, TDS (Dom, GM)W5 EC, NO<sub>3</sub>N, TDS, TN, Ca, Mg, Na, HCO<sub>3</sub>, CO<sub>3</sub>, SO<sub>4</sub>S, Cl (Irr, GM)W6 NO<sub>3</sub>N, NO<sub>2</sub> (Dom ILRP, Annually)W7 Ca, Mg, Na, K, HCO<sub>3</sub>, CO<sub>3</sub>, SO<sub>4</sub>, Cl + Lab Filtering (GWM)

W8 Other: \_\_\_\_\_

POL 17.0**Plant Tissue**P1 TN, NO<sub>3</sub>N, PO<sub>4</sub>P, K (Mid Season - Wheat)

P2 TN, P, K (Mid-season - Corn)

P3 TN, TP, TK, Ash, %M (At Harvest)

P4 TN, %M

P5 % Moisture

P6 NIR

P7 Other: \_\_\_\_\_

**Process Waste Water (lagoon)**L1 EC, NH<sub>4</sub>N, TKN, TP, TK, TDS (Quarterly)L2 EC, NO<sub>3</sub>N, NH<sub>4</sub>N, TKN, TP, TK, TDS, pH (Annually)L3 L1 + Ca, Mg, Na, HCO<sub>3</sub>, CO<sub>3</sub>, SO<sub>4</sub>S, Cl (Biennially)

L4 Other: \_\_\_\_\_

**Manure**

M1 TN, TP, TK, %M (2/year)

M2 TN, TP, K, %M, Ca, Mg, Na, S, Cl, ash (Biennially)

M3 Other: \_\_\_\_\_

**Soil**S1 SP%, pH, EC, Ca, Mg, Na, K, ESP, LP, B, NO<sub>3</sub>N, PO<sub>4</sub>P, K-AA, Zn, Mn, Fe, Cu, SO<sub>4</sub>SS2 S1 + CEC, CaCO<sub>3</sub>, OM, C:N, TNS3 NO<sub>3</sub>N, NH<sub>4</sub>N

S4 Other: \_\_\_\_\_

Sample ID	Description	Analysis	Date/Time	Sampled by	IAS USE ONLY: FIELD TESTS		
					NH <sub>3</sub> N*	pH	Temp
1 WEST BARN	Dom	W1	1/24/23 2:26	SEAN	0		
2							
3							
4							
5							
6							
7							
8							

\* Field Test of ammonium nitrogen may only be made by a trained technician. Positive test to be analyzed for ammonium nitrogen by the laboratory.

All samples are to follow the procedures noted in the Sampling &amp; Analysis Plan of the NMP and the RWQCB specifications. Any samples taken outside of these procedures shall provide the procedures on the notes below. Additionally, if any preservatives are used in the collections or processing of samples, please note below.

**NOTES:****CHAIN OF CUSTODY RECORDING**

	Signature	Company	Received Date & Time	Relinquished Date & Time
1 <sup>st</sup>	<u>IAS</u>	<u>FCL</u>	<u>1/24/23 15:15</u>	<u>1/24/23 3:15</u>
2 <sup>nd</sup>				<u>1/24/23 17:30</u>
3 <sup>rd</sup>				<u>1/24/23 17:30</u>
4 <sup>th</sup>			<u>1/24/23 17:30</u>	<u>1/25/23 11:00</u>

LABORATORY USE ONLY

Logged In By: \_\_\_\_\_

Total Samples: \_\_\_\_\_

Laboratory: \_\_\_\_\_



October 12, 2023

**Lab No.** : VI 2346463

**Innovative Ag Services, LLC**  
 1201 Delta View Road  
 Suite 5  
 Hanford, CA 93230

**Customer No.** : 4018573  
**Reference** : 41405

### Laboratory Report

**Introduction:** This report package contains a total of 3 pages divided into 3 sections:

- |                 |          |   |
|-----------------|----------|---|
| Case Narrative  | (1 page) | : An overview of the work performed at FGL. |
| Sample Results  | (1 page) | : Results for each sample submitted.        |
| Quality Control | (1 page) | : Supporting Quality Control (QC) results.  |

### Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab No.	Matrix
7	09/25/2023	09/25/2023	VI 2346463-001	AGW

### Sampling and Receipt Information:

The Sample was received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. The Sample was received, prepared and analyzed within the method specified holding times. All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the associated Chain of Custody and Condition Upon Receipt Form.

**Quality Control:** All samples were prepared and analyzed according to established quality control criteria. Any exceptions are noted in the Quality Control Section of this report.

### Test Summary

EPA 351.2	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 2540 C	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-H+B	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-NO3 F	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)

**Certification:** I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above and in the QC Section. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature. This report shall not be reproduced except in full, without the written approval of the laboratory.

KD: JRD

Approved By **Kelly A. Dunnahoo, B.S.**
 Digitally signed by Kelly A. Dunnahoo, B.S.  
 Title: Laboratory Director  
 Date: 2023-10-12

Section: Case Narrative

Page 1 of 3

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**Corporate Offices & Laboratory**

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**Office & Laboratory**

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**Office & Laboratory**

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**Office & Laboratory**

9415 W. GOSHEN AVENUE  
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 TEL: (559)734-9473  
 FAX: (559)734-8435

CA ELAP Certification No. 2670

CA ELAP Certification No. 2775

CA ELAP Certification No. 2810



October 12, 2023

**Innovative Ag Services, LLC**  
 1201 Delta View Road  
 Suite 5  
 Hanford, CA 93230

Description : 7  
 Project : 0456 Blue Moon Dairy

Lab No. : VI 2346463-001  
 Customer No. : 4018573  
 Reference : 41405  
 Sampled On : September 25, 2023 at 14:10  
 Sampled By : Zeke  
 Received On : September 25, 2023 at 15:59  
 Matrix : Ag Water

### Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
							Date	Time	Who	Method	Date	Time	Who
<b>Dairy Analysis</b>													
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U	10/06/2023	09:12	sta	EPA 351.2	10/10/2023	16:49	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	09/26/2023	13:15	lfs	SM 4500-NO3 F	09/26/2023	14:03	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U	10/06/2023	09:12	sta	Calc.	10/10/2023	16:49	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	09/26/2023	13:15	lfs	SM 4500-NO3 F	09/26/2023	14:03	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	10/06/2023	09:12	sta	EPA 351.2	10/10/2023	16:49	lcr
Conductivity	202	1	umhos/cm		1		10/05/2023	10:18	krh	SM 4500-H+B	10/05/2023	14:54	krh
Solids, Total Dissolved (TDS)	160	20	mg/L		1		09/28/2023	10:00	ctl	SM 2540 C	09/29/2023	15:00	ctl

DQF Flags Definition:

U Constituent results were non-detect.

ND=Non-Detected, RL=Reporting Level , Dil.=Dilution



October 12, 2023

**Innovative Ag Services, LLC**

Lab No. : VI 2346463

Customer No. : 4018573

**Quality Control - Wet Chem**

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
<b>Wet Chem</b>								
E. C.	2320B	(VI 2346312-001)	Dup	umhos/cm		0.1%	5	
Solids, Total Dissolved	2540CE	09/28/2023:210921CTL (SP 2316295-001) (SP 2316295-001)	Blank LCS Dup Dup	mg/L mg/L mg/L mg/L	991.5	ND 101% 0.3% 1.87%	<20 90-110 5 5	
Nitrogen, Total Kjeldahl	351.2	10/06/2023:211241STA (CH 2378308-009) (CH 2378308-010)	Blank LCS MS MSD MSRPD MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	12.00 12.00 12.00 3.3% 12.00 12.00 5.4%	ND 93.9% 90.9% 93.9% 90.1% 95.2% ≤20	<0.5 73-124 90-110 90-110 90-110 90-110 ≤20	
Nitrate + Nitrite as N	4500NO3F	09/26/2023:210826LFS (SP 2316218-001)	Blank LCS MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L	11.22 5.609 5.609	ND 98.7% 94.3% 94.0% 0.2%	<0.4 80-120 66-125 66-125 ≤30.4	
Nitrate Nitrogen	4500NO3F	09/26/2023:210826LFS (SP 2316218-001)	Blank LCS MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L	11.22 5.609 5.609	ND 98.7% 94.3% 94.0% 0.2%	<0.4 80-120 66-125 66-125 ≤30.4	

**Definition**

- Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
- DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.
- Dup : Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.
- LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
- MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
- MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
- MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
- ND : Non-detect - Result was below the DQO listed for the analyte.



# Laboratory Analysis Work Order

ID: # 045623464603

Nº 41405

SITE NAME: BLUE moon DAIRYBilling: IAS
**ANALYSIS TO BE COMPLETED:**
**Irrigation/Ground Water (ELAP Standards)**
W1 EC, NO<sub>3</sub>N (Dom)W2 EC, NO<sub>3</sub>N, TDS, TN (Irr)W3 NH<sub>4</sub>-N (Ammonium)W4 EC, NO<sub>3</sub>N, Ca, Mg, Na, K, HCO<sub>3</sub>, CO<sub>3</sub>, SO<sub>4</sub>S, Cl, TDS (Dom, GM)W5 EC, NO<sub>3</sub>N, TDS, TN, Ca, Mg, Na, HCO<sub>3</sub>, CO<sub>3</sub>, SO<sub>4</sub>S, Cl (Irr, GM)W6 NO<sub>3</sub>N, NO<sub>2</sub> (Dom ILRP, Annually)W7 Ca, Mg, Na, K, HCO<sub>3</sub>, CO<sub>3</sub>, SO<sub>4</sub>, Cl + Lab Filtering (GWM)

W8 Other: \_\_\_\_\_

*Jul 11.3°C 2023*

**Plant Tissue**
P1 TN, NO<sub>3</sub>N, PO<sub>4</sub>P, K (Mid Season - Wheat)

P2 TN, P, K (Mid-season - Corn)

P3 TN, TP, TK, Ash, %M (At Harvest)

P4 TN, %M

P5 % Moisture

P6 NIR

P7 Other: \_\_\_\_\_

**Process Waste Water (lagoon)**
L1 EC, NH<sub>4</sub>N, TKN, TP, TK, TDS (Quarterly)L2 EC, NO<sub>3</sub>N, NH<sub>4</sub>N, TKN, TP, TK, TDS, pH (Annually)L3 L1 + Ca, Mg, Na, HCO<sub>3</sub>, CO<sub>3</sub>, SO<sub>4</sub>S, Cl (Biennially)

L4 Other: \_\_\_\_\_

**Manure**

M1 TN, TP, TK, %M (2/year)

M2 TN, TP, K, %M, Ca, Mg, Na, S, Cl, ash (Biennially)

M3 Other: \_\_\_\_\_

**Soil**
S1 SP%, pH, EC, Ca, Mg, Na, K, ESP, LP, B, NO<sub>3</sub>N, PO<sub>4</sub>P, K-AA, Zn, Mn, Fe, Cu, SO<sub>4</sub>SS2 S1 + CEC, CaCO<sub>3</sub>, OM, C:N, TNS3 NO<sub>3</sub>N, NH<sub>4</sub>N

S4 Other: \_\_\_\_\_

Sample ID	Description	Analysis	Date/Time	Sampled by	IAS USE ONLY: FIELD TESTS		
					NH <sub>3</sub> N *	pH	Temp
1	7	IRR	W2 2:10	Zek			
2							
3							
4							
5							
6							
7							
8							

\* Field Test of ammonium nitrogen may only be made by a trained technician. Positive test to be analyzed for ammonium nitrogen by the laboratory.

All samples are to follow the procedures noted in the Sampling &amp; Analysis Plan of the NMP and the RWQCB specifications. Any samples taken outside of these procedures shall provide the procedures on the notes below. Additionally, if any preservatives are used in the collections or processing of samples, please note below.

**NOTES:**
**CHAIN OF CUSTODY RECORDING**

	Signature	Company	Received Date & Time	Relinquished Date & Time
1 <sup>st</sup>	<i>[Signature]</i>	IAS		9-25-23 / 3:40
2 <sup>nd</sup>	<i>AB</i>	FGL	9/25/23 1542	
3 <sup>rd</sup>	<i>AB</i>	FGL		9/25/23 1559
4 <sup>th</sup>	<i>[Signature]</i>		9/25/23 1559	

LABORATORY USE ONLY

Logged In By: *[Signature]*Total Samples: *10/103*Laboratory #: *69-440000028*



October 13, 2023

**Lab No.** : VI 2346543**Customer No.** : 4018573**Reference** : 41415

**Innovative Ag Services, LLC**  
 1201 Delta View Road  
 Suite 5  
 Hanford, CA 93230

### Laboratory Report

**Introduction:** This report package contains a total of 3 pages divided into 3 sections:

- |                 |          |   |
|-----------------|----------|---|
| Case Narrative  | (1 page) | : An overview of the work performed at FGL. |
| Sample Results  | (1 page) | : Results for each sample submitted.        |
| Quality Control | (1 page) | : Supporting Quality Control (QC) results.  |

### Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab No.	Matrix
Well 1	09/27/2023	09/27/2023	VI 2346543-001	AGW

### Sampling and Receipt Information:

The Sample was received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. The Sample was received, prepared and analyzed within the method specified holding times. All samples arrived on ice. All samples were checked for pH if acid or base preservation is required (except for VOAs). For details of sample receipt information, please see the associated Chain of Custody and Condition Upon Receipt Form.

**Quality Control:** All samples were prepared and analyzed according to established quality control criteria. Any exceptions are noted in the Quality Control Section of this report.

### Test Summary

EPA 351.2	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 2540 C	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-H+B	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-NO3 F	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)

**Certification:** I certify that this data package is in compliance with ELAP standards, both technically and for completeness, except for any conditions listed above and in the QC Section. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following electronic signature. This report shall not be reproduced except in full, without the written approval of the laboratory.

KD: EHB

Approved By **Kelly A. Dunnahoo, B.S.**  Digitally signed by Kelly A. Dunnahoo, B.S.  
 Title: Laboratory Director  
 Date: 2023-10-13

Section: Case Narrative

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October 13, 2023

**Innovative Ag Services, LLC**  
 1201 Delta View Road  
 Suite 5  
 Hanford, CA 93230

Description : Well 1  
 Project : 0456 Blue Moon Dairy

Lab No. : VI 2346543-001  
 Customer No.: 4018573  
 Reference : 41415  
 Sampled On : September 27, 2023 at 12:50  
 Sampled By : Zeke  
 Received On : September 27, 2023 at 16:20  
 Matrix : Ag Water

### Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
							Date	Time	Who	Method	Date	Time	Who
<b>Dairy Analysis</b>													
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U	10/06/2023	09:12	sta	EPA 351.2	10/10/2023	17:26	lcr
Nitrate Nitrogen	2.7	0.4	mg/L		1		09/28/2023	13:50	lfs	SM 4500-NO3 F	09/28/2023	14:42	lfs
Nitrogen, Total as Nitrogen	2.7	0.5	mg/L		1		10/06/2023	09:12	sta	Calc.	10/10/2023	17:26	lcr
Nitrate + Nitrite as N	2.7	0.4	mg/L		1		09/28/2023	13:50	lfs	SM 4500-NO3 F	09/28/2023	14:42	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	10/06/2023	09:12	sta	EPA 351.2	10/10/2023	17:26	lcr
Conductivity	290	1	umhos/cm		1	I	10/12/2023	08:04	krh	SM 4500-H+B	10/12/2023	11:15	krh
Solids, Total Dissolved (TDS)	220	20	mg/L		1		09/29/2023	13:20	ctl	SM 2540 C	10/02/2023	11:20	ctl

DQF Flags Definition:

U Constituent results were non-detect.

I The RPD for the laboratory duplicate exceeded laboratory criteria.

ND=Non-Detected, RL=Reporting Level , Dil.=Dilution



October 13, 2023

**Innovative Ag Services, LLC**

Lab No. : VI 2346543  
 Customer No. : 4018573

**Quality Control - Wet Chem**

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
<b>Wet Chem</b>								
E. C.	2320B	(VI 2346626-002)	Dup	umhos/cm		55.0%	5	440
Solids, Total Dissolved	2540CE	09/29/2023:210994CTL (SP 2316390-002) (SP 2316390-002)	Blank LCS Dup Dup	mg/L mg/L mg/L mg/L	991.5	ND 102% 2.49% 2.42%	<20 90-110 5 5	
Nitrogen, Total Kjeldahl	351.2	10/06/2023:211241STA (CH 2378308-009) (CH 2378308-010)	Blank LCS MS MSDP MS MSDP	mg/L mg/L mg/L mg/L mg/L mg/L	12.00 12.00 12.00 3.3% 93.9% 90.9%	ND 93.9% 90.9% 93.9% ≤20 73-124	<0.5 90-110 5 5	
Nitrate + Nitrite as N	4500NO3F	09/28/2023:210952LFS (VI 2346538-001)	Blank LCS MS MSDP	mg/L mg/L mg/L mg/L	11.22 5.609 5.609 5.609	ND 102% 102% 103%	<0.4 80-120 66-125 66-125	
Nitrate Nitrogen	4500NO3F	09/28/2023:210952LFS (VI 2346538-001)	Blank LCS MS MSDP	mg/L mg/L mg/L mg/L	11.22 5.609 5.609 5.609	ND 102% 102% 103%	<0.4 80-120 66-125 66-125	
						0.4%	≤30.4	

**Definition**

- Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
- DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.
- Dup : Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.
- LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
- MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
- MSDP : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
- MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
- ND : Non-detect - Result was below the DQO listed for the analyte.

**Explanation**

- 440 : Sample nonhomogeneity may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.



# Laboratory Analysis Work Order

ID: # 0456SITE NAME: BLUES moon DAIRYBilling: IAS

## ANALYSIS TO BE COMPLETED:

### Irrigation/Ground Water (ELAP Standards)

W1 EC, NO<sub>3</sub>N (Dom)(W2) EC, NO<sub>3</sub>N, TDS, TN (Irr)W3 NH<sub>4</sub>-N (Ammonium)W4 EC, NO<sub>3</sub>N, Ca, Mg, Na, K, HCO<sub>3</sub>, CO<sub>3</sub>, SO<sub>4</sub>S, Cl, TDS (Dom, GM)W5 EC, NO<sub>3</sub>N, TDS, TN, Ca, Mg, Na, HCO<sub>3</sub>, CO<sub>3</sub>, SO<sub>4</sub>S, Cl (Irr, GM)W6 NO<sub>3</sub>N, NO<sub>2</sub> (Dom ILRP, Annually)W7 Ca, Mg, Na, K, HCO<sub>3</sub>, CO<sub>3</sub>, SO<sub>4</sub>, Cl + Lab Filtering (GWM)

W8 Other: \_\_\_\_\_

### Plant Tissue

P1 TN, NO<sub>3</sub>N, PO<sub>4</sub>P, K (Mid Season - Wheat)

P2 TN, P, K (Mid-season - Corn)

P3 TN, TP, TK, Ash, %M (At Harvest)

P4 TN, %M

P5 % Moisture

P6 NIR

P7 Other: \_\_\_\_\_

Sample ID	Description	Analysis	Date/Time	Sampled by	IAS USE ONLY: FIELD TESTS		
					NH <sub>3</sub> N*	pH	Temp
1	WELL 1	IRR	9-27-23 12:50	Zeks			
2							
3							
4							
5							
6							
7							
8							

\* Field Test of ammonium nitrogen may only be made by a trained technician. Positive test to be analyzed for ammonium nitrogen by the laboratory.

All samples are to follow the procedures noted in the Sampling &amp; Analysis Plan of the NMP and the RWQCB specifications. Any samples taken outside of these procedures shall provide the procedures on the notes below. Additionally, if any preservatives are used in the collections or processing of samples, please note below.

NOTES: R01 10.9 °C10/27/23 14:07

## CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1 <sup>st</sup>	<u>E</u>	IAS		9-27-23 / 7:00
2 <sup>nd</sup>	<u>AJB</u>	FGL	9/27/23 1600	
3 <sup>rd</sup>	<u>AJB</u>	FGL		9/27/23 1620
4 <sup>th</sup>	<u>SBO</u>	FGL	9-27-23 1620	
LABORATORY USE ONLY		GLS	9-27-23 1730	9-27-23 1730
Logged In By: _____				<u>6.5 q hrs</u>
Total Samples: _____				Laboratory #: <u>1001</u>