



Little Rock Dairy

2023 Annual Report

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

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

Little Rock Dairy 2023

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

Facility Information:

Name of Dairy	Little Rock Dairy
Facility Address	13955 Road 80, Tipton CA 93272

Owner/Operator as of 12/31/2023

Operator Name	Anthony Gorzeman
Operator Phone	(559) 679-0848
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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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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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

- 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

- 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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"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."

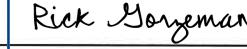
DocuSigned by:



389CED27BD694B2

Signature of Operator of Facility

DocuSigned by:



EA668323272147

Signature of Owner of Facility

Anthony Gorzeman

Rick Gorzeman

Print Name

Print Name

6/19/2024

6/18/2024

Title and Date

Title and Date



INNOVATIVE AG SERVICES

Little Rock 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	1,985	1,935	Milk Freestall -	1,400	49,108.15	699,212.25	120,066.75	162,443.25	1,275,532.65
Hol Dry Cows	260	253	Flushed	1,450	3,691.81	46,172.50	6,464.15	30,473.85	65,158.63
Hol Heifers(15-24)	650	633	Flushed	1,000	6,607.59	87,797.10	13,862.70	41,588.10	163,025.35
Hol Heifers (7-14)	635	619	Flushed	750	5,953.09	58,743.10	9,941.14	33,890.25	74,728.00
Hol Calves (4-6)	475	463	Flushed	300	1,605.45	23,659.30	6,759.80	13,519.60	11,086.07
Hol Calves (0-3)	40	39	Calves Dry Scrape	150	135.23	284.70	142.35	569.40	342.64
	4,045	3,942			67,101.32	915,868.95	157,236.89	282,484.45	1,589,873.34

* 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)**
41,858,353	506.25	53.52	542.00	3,800.00	176,519.29	18,663.10	188,984.61	1,324,984.3

* 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).



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Nutrient Applications (Attachment B)

Field Name: 2

Wheat, 75 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)
01/01/2023	Atmospheric Deposit	14.00	Pounds	100.00		%				1,050				
01/21/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L				0	0	0	3,393	
02/20/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L				0	0	0	3,393	
03/08/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L				0	0	0	3,393	
03/08/2023	Waste Water: Main Lagoon	1.00	Acre Inches	544.00	76.50	639.00	mg/L		2,036,572	9,229	1,298	10,840	76,172	
04/05/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L				0	0	0	3,393	
05/17/2023	Harvest	20.20	Tons	62.40	1.66	0.42	2.37	%						18,912
Acre Inches Applied:		21.00		Totals:				2,036,572	10,279	1,298	10,840	89,744	18,912	
Season Nitrogen Ratio:		0.54		Lbs Per Acre:						137	17	145	1,197	252

Little Rock Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 2

Corn, 75 Acres Planted on 07/06/2023

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)
07/23/2023	Surface Water: Lower Tule	6.00	Acre Inches	0.00			mg/L			0	0	0	4,072	
07/31/2023	Surface Water: Lower Tule	6.50	Acre Inches	0.00			mg/L			0	0	0	4,411	
07/31/2023	Waste Water: Main Lagoon	1.00	Acre Inches	494.00	24.90	466.00	mg/L	2,036,572	8,380	422	7,906	76,680		
08/10/2023	Surface Water: Lower Tule	5.50	Acre Inches	0.00			mg/L			0	0	0	3,732	
08/24/2023	Surface Water: Lower Tule	6.00	Acre Inches	0.00			mg/L			0	0	0	4,072	
09/11/2023	Surface Water: Lower Tule	6.00	Acre Inches	0.00			mg/L			0	0	0	4,072	
09/11/2023	Waste Water: Main Lagoon	1.25	Acre Inches	442.00	26.40	465.00	mg/L	2,545,716	9,373	560	9,861	82,702		
10/10/2023	Harvest	29.80	Tons	59.50	1.12	0.21	1.05 %							20,276
Acre Inches Applied:		32.25		Totals:				4,582,288	17,753	982	17,767	179,740	20,276	
Season Nitrogen Ratio:		0.88		Lbs Per Acre:				237	13	237	2,397	270		

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Nutrient Applications (Attachment B)

Field Name: 3

Wheat, 47 Acres Planted on 10/26/2022

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		%				658				
02/06/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L				0	0	0	2,126	
03/03/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L				0	0	0	2,126	
04/11/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L				0	0	0	2,126	
04/11/2023	Waste Water: Main Lagoon	1.00	Acre Inches	545.00	86.30	598.00	mg/L		1,276,252	5,794	917	6,357	24,346	
05/17/2023	Harvest	19.40	Tons	62.80	1.55	0.41	2.19	%						10,515
Acre Inches Applied:		16.00		Totals:				1,276,252	6,452	917	6,357	30,724	10,515	
Season Nitrogen Ratio:		0.61		Lbs Per Acre:				137	20	135	654	224		

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Nutrient Applications (Attachment B)

Field Name: 3

Corn, 47 Acres Planted on 06/12/2023

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)
06/16/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L			0	0	0	2,126	
06/26/2023	Surface Water: Lower Tule	4.00	Acre Inches	0.00		mg/L			0	0	0	1,701	
06/26/2023	Waste Water: Main Lagoon	1.25	Acre Inches	494.00	24.90	466.00	mg/L	1,595,315	6,565	331	6,193	60,066	
07/06/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L			0	0	0	2,126	
07/16/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L			0	0	0	2,126	
07/27/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L			0	0	0	2,126	
08/03/2023	Surface Water: Lower Tule	4.00	Acre Inches	0.00		mg/L			0	0	0	1,701	
08/03/2023	Waste Water: Main Lagoon	1.25	Acre Inches	494.00	24.90	466.00	mg/L	1,595,315	6,565	331	6,193	60,066	
08/21/2023	Surface Water: Lower Tule	4.00	Acre Inches	0.00		mg/L			0	0	0	1,701	
08/31/2023	Surface Water: Lower Tule	4.00	Acre Inches	0.00		mg/L			0	0	0	1,701	
10/06/2023	Harvest	30.10	Tons	65.20	1.12	0.24	0.78	%					11,028
Acre Inches Applied:		38.50		Totals:			3,190,630	13,130	662	12,385	135,441	11,028	
Season Nitrogen Ratio:		1.19		Lbs Per Acre:			279	14	264	2,882	235		



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Nutrient Applications (Attachment B)

Field Name: 4

Wheat, 45 Acres Planted on 10/25/2022

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		%			630				
02/02/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L			0	0	0	2,036	
03/01/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L			0	0	0	2,036	
03/01/2023	Waste Water: Main Lagoon	1.00	Acre Inches	544.00	76.50	639.00	mg/L	1,221,944	5,537	778	6,504	45,703	
04/05/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L			0	0	0	2,036	
05/04/2023	Harvest	19.80	Tons	75.50	1.70	0.40	1.38	%					7,422
Acre Inches Applied:		16.00		Totals:			1,221,944	6,167	778	6,504	51,810		7,422
Season Nitrogen Ratio:		0.83		Lbs Per Acre:					137	17	145	1,151	165

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Nutrient Applications (Attachment B)

Field Name: 4

Corn, 45 Acres Planted on 05/20/2023

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)	
				% Moist.	Nitrogen	Phos.								
05/10/2023	Surface Water: Lower Tule	4.00	Acre Inches		0.00				0	0	0	1,629		
05/10/2023	Waste Water: Main Lagoon	1.00	Acre Inches		545.00	86.30	598.00	mg/L	1,221,944	5,548	878	6,087	23,310	
06/09/2023	Surface Water: Lower Tule	5.00	Acre Inches		0.00			mg/L		0	0	0	2,036	
06/22/2023	Surface Water: Lower Tule	5.00	Acre Inches		0.00			mg/L		0	0	0	2,036	
06/22/2023	Waste Water: Main Lagoon	0.75	Acre Inches		494.00	24.90	466.00	mg/L	916,458	3,771	190	3,558	34,506	
07/01/2023	Surface Water: Lower Tule	3.00	Acre Inches		0.00			mg/L		0	0	0	1,221	
07/15/2023	Surface Water: Lower Tule	3.50	Acre Inches		0.00			mg/L		0	0	0	1,425	
07/31/2023	Surface Water: Lower Tule	3.50	Acre Inches		0.00			mg/L		0	0	0	1,425	
07/31/2023	Waste Water: Main Lagoon	0.50	Acre Inches		494.00	24.90	466.00	mg/L	610,972	2,514	127	2,372	23,004	
08/14/2023	Surface Water: Lower Tule	5.00	Acre Inches		0.00			mg/L		0	0	0	2,036	
09/25/2023	Surface Water: Lower Tule	5.00	Acre Inches		0.00			mg/L		0	0	0	2,036	
10/06/2023	Harvest	29.30	Tons	65.80	1.13	0.24	0.87	%					10,191	
Acre Inches Applied:		36.25						Totals:	2,749,373	11,833	1,195	12,016	94,663	10,191
Season Nitrogen Ratio:		1.16						Lbs Per Acre:	263	27	267	2,104	226	

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Nutrient Applications (Attachment B)

Field Name: 5

Wheat, 78 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)
01/01/2023	Atmospheric Deposit	14.00	Pounds	100.00			%			1,092				
01/12/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00			mg/L			0	0	0	3,529	
01/12/2023	Waste Water: Main Lagoon	1.00	Acre Inches	432.00	75.00	584.00	mg/L		2,118,035	7,622	1,323	10,304	114,681	
03/10/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00			mg/L			0	0	0	3,529	
03/10/2023	Waste Water: Main Lagoon	1.00	Acre Inches	544.00	76.50	639.00	mg/L		2,118,035	9,598	1,349	11,274	79,218	
04/12/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00			mg/L			0	0	0	3,529	
05/19/2023	Surface Water: Lower Tule	4.00	Acre Inches	0.00			mg/L			0	0	0	2,823	
05/22/2023	Harvest	18.30	Tons	60.70	1.57	0.39	1.88 %							17,615
Acre Inches Applied:		21.00		Totals:				4,236,071	18,312	2,672	21,578	207,308	17,615	
Season Nitrogen Ratio:		1.04		Lbs Per Acre:				235	34	277	2,658	226		

Little Rock Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 5

Corn, 78 Acres Planted on 06/28/2023

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)
06/18/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00			mg/L			0	0	0	3,529	
07/01/2023	Surface Water: Lower Tule	4.00	Acre Inches	0.00			mg/L			0	0	0	2,823	
07/01/2023	Waste Water: Main Lagoon	1.00	Acre Inches	494.00	24.90	466.00	mg/L		2,118,035	8,716	439	8,222	79,747	
07/16/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00			mg/L			0	0	0	3,529	
07/27/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00			mg/L			0	0	0	3,529	
08/10/2023	Surface Water: Lower Tule	4.00	Acre Inches	0.00			mg/L			0	0	0	2,823	
08/10/2023	Waste Water: Main Lagoon	1.00	Acre Inches	494.00	24.90	466.00	mg/L		2,118,035	8,716	439	8,222	79,747	
08/22/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00			mg/L			0	0	0	3,529	
09/05/2023	Surface Water: Lower Tule	4.00	Acre Inches	0.00			mg/L			0	0	0	2,823	
09/05/2023	Waste Water: Main Lagoon	1.00	Acre Inches	494.00	24.90	466.00	mg/L		2,118,035	8,716	439	8,222	79,747	
09/26/2023	Surface Water: Lower Tule	4.00	Acre Inches	0.00			mg/L			0	0	0	2,823	
10/05/2023	Harvest	30.90	Tons	62.50	1.14	0.23	0.96	%						20,607
Acre Inches Applied:		39.00		Totals:				6,354,106	26,147	1,317	24,666	264,648	20,607	
Season Nitrogen Ratio:		1.27		Lbs Per Acre:				335	17	316	3,393	264		



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Nutrient Applications (Attachment B)

Field Name: 6

Wheat, 78 Acres Planted on 11/18/2022

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		%			1,092					
01/16/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L			0	0	0	0	3,529	
01/16/2023	Waste Water: Main Lagoon	1.00	Acre Inches	544.00	76.50	639.00	mg/L	2,118,035	9,598	1,349	11,274	79,218		
03/20/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L			0	0	0	0	3,529	
04/17/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00		mg/L			0	0	0	0	3,529	
04/17/2023	Waste Water: Main Lagoon	1.00	Acre Inches	545.00	86.30	598.00	mg/L	2,118,035	9,616	1,523	10,550	40,403		
05/22/2023	Harvest	20.70	Tons	60.60	1.45	0.41	1.95	%						18,449
Acre Inches Applied:		17.00		Totals:				4,236,071	20,306	2,872	21,824	130,208	18,449	
Season Nitrogen Ratio:		1.10		Lbs Per Acre:				260	37	280	1,669	237		



Little Rock Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 6

Corn, 78 Acres Planted on 06/22/2023

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							
05/29/2023	Surface Water: Lower Tule	5.00	Acre Inches		0.00			mg/L		0	0	0	3,529		
05/29/2023	Waste Water: Main Lagoon	0.50	Acre Inches		545.00	86.30	598.00	mg/L		1,059,018	4,808	761	5,275		
06/30/2023	Surface Water: Lower Tule	5.00	Acre Inches		0.00			mg/L		0	0	0	3,529		
07/15/2023	Surface Water: Lower Tule	5.00	Acre Inches		0.00			mg/L		0	0	0	3,529		
07/15/2023	Waste Water: Main Lagoon	1.00	Acre Inches		494.00	24.90	466.00	mg/L		2,118,035	8,716	439	8,222		
08/03/2023	Surface Water: Lower Tule	5.00	Acre Inches		0.00			mg/L		0	0	0	3,529		
08/15/2023	Surface Water: Lower Tule	5.00	Acre Inches		0.00			mg/L		0	0	0	3,529		
08/15/2023	Waste Water: Main Lagoon	1.00	Acre Inches		494.00	24.90	466.00	mg/L		2,118,035	8,716	439	8,222		
08/29/2023	Surface Water: Lower Tule	5.50	Acre Inches		0.00			mg/L		0	0	0	3,881		
08/29/2023	Waste Water: Main Lagoon	0.75	Acre Inches		494.00	24.90	466.00	mg/L		1,588,527	6,537	329	6,167		
09/12/2023	Surface Water: Lower Tule	5.50	Acre Inches		0.00			mg/L		0	0	0	3,881		
10/05/2023	Harvest	31.10	Tons	61.90	1.15	0.22	0.90	%					21,257		
Acre Inches Applied:		39.25							Totals:	6,883,615	28,777	1,969	27,886	264,912	21,257
Season Nitrogen Ratio:		1.35							Lbs Per Acre:	369	25	358	3,396	273	

Little Rock Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 7

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)
				% Moist.	Nitrogen	Phos.	Potass.	Units							
09/27/2022	Corral Solids: Main Corral	5.00	Tons	13.90	2.20	0.89	2.05	%	375		14,206	5,728	13,238	0	
10/12/2022	Ground Water: Well Avg	4.00	Acre Inches		0.43			mg/L			29	0	0	11,988	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			1,050				
01/30/2023	Surface Water: Lower Tule	4.00	Acre Inches		0.00			mg/L			0	0	0	2,714	
03/25/2023	Surface Water: Lower Tule	5.00	Acre Inches		0.00			mg/L			0	0	0	3,393	
04/05/2023	Surface Water: Lower Tule	3.00	Acre Inches		0.00			mg/L			0	0	0	2,036	
04/22/2023	Surface Water: Lower Tule	3.00	Acre Inches		0.00			mg/L			0	0	0	2,036	
05/30/2023	Harvest	19.20	Tons	66.00	1.17	0.21	0.61	%							11,457
Acre Inches Applied:		19.00							Totals:	375	15,286	5,728	13,238	22,166	11,457
Season Nitrogen Ratio:		1.33							Lbs Per Acre:		204	76	176	296	153

Little Rock Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 7

Corn, 75 Acres Planted on 07/01/2023

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)
06/12/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00			mg/L			0	0	0	3,393	
06/12/2023	Waste Water: Main Lagoon	1.00	Acre Inches	494.00	24.90	466.00	mg/L	2,036,572	8,380	422	7,906	76,680		
07/07/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00			mg/L			0	0	0	3,393	
07/23/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00			mg/L			0	0	0	3,393	
07/23/2023	Waste Water: Main Lagoon	0.80	Acre Inches	494.00	24.90	466.00	mg/L	1,629,258	6,704	338	6,325	61,344		
08/10/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00			mg/L			0	0	0	3,393	
08/22/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00			mg/L			0	0	0	3,393	
08/22/2023	Waste Water: Main Lagoon	0.70	Acre Inches	494.00	24.90	466.00	mg/L	1,425,601	5,866	296	5,534	53,676		
09/02/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00			mg/L			0	0	0	3,393	
09/15/2023	Surface Water: Lower Tule	5.00	Acre Inches	0.00			mg/L			0	0	0	3,393	
10/05/2023	Harvest	31.30	Tons	61.30	1.19	0.22	0.93 %							21,622
Acre Inches Applied:		37.50		Totals:				5,091,431	20,951	1,056	19,764	215,451	21,622	
Season Nitrogen Ratio:		0.97		Lbs Per Acre:				279	14	264	2,873	288		



Little Rock 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	14,206.50	5,727.75	13,237.50	0.00	375.00 tons
Process Wastewater	175,585.28	15,718.53	181,588.15	1,490,522.60	41,858,353.45 gallons
Irrigation Water	29.25				
Fertilizer / Total Imports	0.00				
Atmospheric Deposition	5,572.00				
Total Nitrogen Applied	195,393.03				
Crop Nitrogen Removal	189,350.38				
Nitrogen Balance	6,042.65				
Nitrogen Ratio	1.03				

- 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.

Little Rock 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

Little Rock 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 (NO₃-N or TKN, P, K, TDS) x 10-6 using the samples closest in date to the export event.



Little Rock Dairy 2023 Land Application Area Description Technical Report (Attachment D)

Field Name	Assessor Parcel Number(s)	Acres	Type of Waste Applied
2	x293 x060 x002 xxxx	75	Process Wastewater
3	x293 x060 x014 xxxx	47	Process Wastewater
4	x293 x060 x014 xxxx	45	Process Wastewater
5	x293 x070 x010 xxxx	78	Process Wastewater
6	x293 x070 x010 xxxx	78	Process Wastewater
7	x293 x080 x009 xxxx	75	Both
			398

Production Area APN(s): x293 x060 x014 xxxx



Little Rock 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
03/09/2023	544.00	76.50	639.00	6,760	309.00		4,490.00							
04/19/2023	545.00	86.30	598.00	3,450	459.00	0.40	2,290.00	7.37						
07/18/2023	494.00	24.90	466.00	6,810	483.00		4,520.00							
11/02/2023	442.00	26.40	465.00	5,880	441.00		3,900.00							
Averages:	506.25	53.52	542.00	5,725	423.00	0.40	3,800.00	7.37						

Manure - Corral Solids

(Dry Weight Basis)

Sample Date:	TN	TP	TK	Moisture	Ash	CA	MG	NA	S	CL
06/14/2023	1.80	0.45	0.87	8.45						%
11/02/2023	2.68	0.87	2.98	37.00						%
Averages:	2.24	0.66	1.93	22.72						

Plant Tissue

(Dry Weight Basis)

Field:	Crop #:	Crop	Sample Date:	TN (lbs/ton)	TP (lbs/ton)	TK (lbs/ton)	Moisture (%)	Ash (%)
2	1	Wheat	05/17/2023	33.20	8.38	47.40	62.40	8.96
2	2	Corn	10/10/2023	22.40	4.26	21.00	59.50	5.76



Little Rock 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 (%)
3	1	Wheat	05/17/2023	31.00	8.18	43.80	62.80	8.66
3	2	Corn	10/06/2023	22.40	4.82	15.68	65.20	4.94
4	1	Wheat	05/04/2023	34.00	8.08	27.60	75.50	18.80
4	2	Corn	10/06/2023	22.60	4.80	17.46	65.80	4.83
5	1	Wheat	05/22/2023	31.40	7.82	37.60	60.70	8.49
5	2	Corn	10/05/2023	22.80	4.66	19.22	62.50	5.37
6	1	Wheat	05/22/2023	29.00	8.18	39.00	60.60	8.63
6	2	Corn	10/05/2023	23.00	4.32	17.96	61.90	5.19
7	1	Wheat	05/30/2023	23.40	4.20	12.20	66.00	8.82
7	2	Corn	10/05/2023	23.80	4.48	18.54	61.30	5.09

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
Dairy													
Dairy	02/02/2023	0.00		216									
Averages:		0.00		216									



Little Rock 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	CA	MG	NA	HCO3	CO3	SO4	CL	General Minerals
Domestic															
5	12/20/2023	0.00		214											
Averages:		0.00		214											
Irrigation															
1	11/15/2023	2.10		278		190.00	2.10								
3	Out of Service								Out of service						
4									Did not Run						
6	Out of Service								Out of service						
7									Did not Run						
8	11/21/2023	0.00		218		160.00	0.00								
Averages:		1.05		248		175.00	1.05								
Surface Water															
Lower Tule (General)	06/28/2023	0.00		52		40.00	0.00								
Averages:		0.00		52		40.00	0.00								

* NH4N was non-detectable unless a value is shown

Little Rock Dairy 2023

Planting and Harvest Information (Attachment F)

Crop #	Crop	Acres Planted	Plant Date	Harvest Date	Estimated Yield (tons)	Tons Harvested	Actual Yield
Field: 2							
	1 Wheat	75	11/05/2022	05/17/2023	18.2	1515.0	20.2
	2 Corn	75	07/06/2023	10/10/2023	27.0	2235.0	29.8
Field: 3							
	1 Wheat	47	10/26/2022	05/17/2023	18.8	911.8	19.4
	2 Corn	47	06/12/2023	10/06/2023	28.8	1414.7	30.1
Field: 4							
	1 Wheat	45	10/25/2022	05/04/2023	17.9	891.0	19.8
	2 Corn	45	05/20/2023	10/06/2023	26.6	1318.5	29.3
Field: 5							
	1 Wheat	78	11/01/2022	05/22/2023	17.8	1427.4	18.3
	2 Corn	78	06/28/2023	10/05/2023	29.1	2410.2	30.9
Field: 6							
	1 Wheat	78	11/18/2022	05/22/2023	17.7	1614.6	20.7
	2 Corn	78	06/22/2023	10/05/2023	28.3	2425.8	31.1
Field: 7							
	1 Wheat	75	11/01/2022	05/30/2023	18.0	1440.0	19.2
	2 Corn	75	07/01/2023	10/05/2023	30.0	2347.5	31.3

Little Rock 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 16, 2023

Lab No. : VI 2340652
Customer No. : 4018573
Reference : 40141

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
Dairy	02/02/2023	02/02/2023	VI 2340652-001	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: 2023-02-17

Section: Case Narrative

Page 1 of 3

Page 1 of 3

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 CA ELAP Certification No. 2810



February 16, 2023

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

Description : Dairy
 Project : 0207 Little Rock Dairy

Lab No. : VI 2340652-001
 Customer No. : 4018573
 Reference : 40141
 Sampled On : February 2, 2023 at 14:00
 Sampled By : Sean
 Received On : February 2, 2023 at 15:00
 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
Dairy Analysis													
Nitrate Nitrogen	ND	0.4	mg/L	10	1	U	02/03/2023	13:30	lfs	SM 4500-NO3 F	02/03/2023	14:19	lfs
Conductivity	216	1	umhos/cm	1600 ²	1		02/15/2023	13:59	sta		02/15/2023	13:59	sta

DQF Flags Definition:

U Constituent results were non-detect.

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

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



February 16, 2023

Innovative Ag Services, LLC

Lab No. : VI 2340652

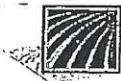
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2510B	02/15/2023:201667STA (STK2331416-001)	Blank Dup	umhos/cm umhos/cm		ND 0.9%	<1 5	
Nitrate Nitrogen	4500NO3F	02/03/2023:201232LFS (SP 2301611-001)	Blank LCS MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L	11.22 5.609 5.609 5.609	91.0% 91.4% 90.2% 0.9%	<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

Nº 40141

ID: # 02072340652LABORATORY: FGCSITE NAME: LITTLE ROCK DAIRY
Billing: TAS**ANALYSIS TO BE COMPLETED:****Irrigation/Ground Water (ELAP Standards)**

- W1** EC, NO₃N (Dom) 201 19.2
W2 EC, NO₃N, TDS, TN (Irr)
W3 NH₄-N (Ammonium)
W4 EC, NO₃N, Ca, Mg, Na, K, HCO₃, CO₃, SO₄S, Cl, TDS (Dom, GM)
W5 EC, NO₃N, TDS, TN, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Irr, GM)
W6 NO₃N, NO₂ (Dom ILRP, Annually)
W7 Ca, Mg, Na, K, HCO₃, CO₃, SO₄, Cl + Lab Filtering (GWM)
W8 Other: _____

Plant Tissue

- P1** TN, NO₃N, PO₄P, 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
1	Dairy	W1	2/2/23 2:00	STAN
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 & 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 st		TAS	2/2/23 1500	2/2/23 3:00
2 nd		FGC	2/2/23 1500	2/2/23 1700
3 rd			2/2/23 1730	2/2/23 1730
4 th				

LABORATORY USE ONLY

Logged In By: _____

Total Samples: _____

Laboratory #: _____

GLS ml 2/3/23 1200



November 28, 2023

Lab No. : VI 2347758**Customer No.** : 4018573**Reference** : 42050

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
1	11/15/2023	11/15/2023	VI 2347758-001	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: 2023-11-28

Section: Case Narrative

Page 1 of 3

Page 1 of 3

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November 28, 2023

Innovative Ag Services, LLC

1201 Delta View Road
Suite 5
Hanford, CA 93230

Description : 1
Project : 0207 Little Rock Dairy

Lab No. : VI 2347758-001

Customer No. : 4018573

Reference : 42050

Sampled On : November 15, 2023 at 09:15

Sampled By : Zeke

Received On : November 15, 2023 at 15:58

Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
							Date	Time	Who	Method	Date	Time	Who
Dairy Analysis													
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U1	11/21/2023	14:22	sta	EPA 351.2	11/25/2023	13:30	lcr
Nitrate Nitrogen	2.1	0.4	mg/L		1		11/16/2023	13:00	lfs	SM 4500-NO3 F	11/16/2023	14:18	lfs
Nitrogen, Total as Nitrogen	2.1	0.5	mg/L		1	1	11/21/2023	14:22	sta	Calc.	11/25/2023	13:30	lcr
Nitrate + Nitrite as N	2.1	0.4	mg/L		1		11/16/2023	13:00	lfs	SM 4500-NO3 F	11/16/2023	14:18	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U1	11/21/2023	14:22	sta	EPA 351.2	11/25/2023	13:30	lcr
Conductivity	278	1	umhos/cm		1		11/17/2023	12:02	krh	SM 4500-H+B	11/17/2023	13:54	krh
Solids, Total Dissolved (TDS)	190	20	mg/L		1		11/17/2023	10:15	ctl	SM 2540 C	11/20/2023	10:00	ctl

DQF Flags Definition:

U Constituent results were non-detect.

I The MS/MSD did not meet QC criteria.

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

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CA ELAP Certification No. 2810



November 28, 2023

Innovative Ag Services, LLC

Lab No. : VI 2347758

Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(VI 2347735-001)	Dup	umhos/cm		1.04%	5	
Solids, Total Dissolved	2540CE	11/17/2023:213117CTL	Blank	mg/L	991.5	ND	<20	
		(CC 2384099-001)	LCS	mg/L		102%	90-110	
		(CC 2384099-001)	Dup	mg/L		0.7%	5	
		(CC 2384099-001)	Dup	mg/L		1.78%	5	
Nitrogen, Total Kjeldahl	351.2	11/21/2023:213242STA (VI 2347758-001)	Blank	mg/L	12.00	ND	<0.5	
			LCS	mg/L		82.1%	73-124	
			MS	mg/L	12.00	82.9%	90-110	435
			MSD	mg/L		82.1%	90-110	435
			MSRPD	mg/L	0.9%	≤20		
			MS	mg/L	12.00	80.2%	90-110	435
			MSD	mg/L	12.00	79.8%	90-110	435
			MSRPD	mg/L	0.4%	≤20		
Nitrate + Nitrite as N	4500NO3F	11/16/2023:213081LFS (SP 2319151-001)	Blank	mg/L	11.22	ND	<0.4	
			LCS	mg/L		95.6%	80-120	
			MS	mg/L	5.609	90.6%	66-125	
			MSD	mg/L	5.609	88.9%	66-125	
			MSRPD	mg/L	0.9%	≤30.4		
Nitrate Nitrogen	4500NO3F	11/16/2023:213081LFS (SP 2319151-001)	Blank	mg/L	11.22	ND	<0.4	
			LCS	mg/L		95.6%	80-120	
			MS	mg/L	5.609	90.6%	66-125	
			MSD	mg/L	5.609	88.9%	66-125	
			MSRPD	mg/L	0.9%	≤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 analyted. 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

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



Laboratory Analysis Work Order

Nº 42050

ID: # 42072347758LABORATORY: FCLSITE NAME: LITTLE ROCK DAIRYBilling: IAS

Authorized Copy Release to:

Innovative Ag Services LLC

(559) 587-2800

ANALYSIS TO BE COMPLETED:

Irrigation/Ground Water (ELAP Standards)

W1 EC, NO₃N (Dom)*R.O.J. 8.3 °C*W2 EC, NO₃N, TDS, TN (Irr)W3 NH₄-N (Ammonium)*1/15/2023*W4 EC, NO₃N, Ca, Mg, Na, K, HCO₃, CO₃, SO₄S, Cl, TDS (Dom, GM)W5 EC, NO₃N, TDS, TN, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Irr, GM)W6 NO₃N, NO₂ (Dom ILRP, Annually)W7 Ca, Mg, Na, K, HCO₃, CO₃, SO₄, Cl + Lab Filtering (GWM)

W8 Other: _____

Plant Tissue

P1 TN, NO₃N, PO₄P, 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, NH₄N, TKN, TP, TK, TDS (Quarterly)L2 EC, NO₃N, NH₄N, TKN, TP, TK, TDS, pH (Annually)L3 L1 + Ca, Mg, Na, HCO₃, CO₃, SO₄S, 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, NO₃N, PO₄P, K-AA, Zn, Mn, Fe, Cu, SO₄SS2 S1 + CEC, CaCO₃, OM, C:N, TNS3 NO₃N, NH₄N

S4 Other: _____

Sample ID	Description	Analysis	Date/Time	Sampled by	IAS USE ONLY: FIELD TESTS		
					NH ₃ N*	pH	Temp
1	1re	W2	11-15/ 9:15	Zak.			
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 & 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 st	<i>E</i>	<i>IAS</i>		11-15-23 / 10:30
2 nd	<i>ENA</i>	<i>FCL</i>	11/15/23 15:42	
3 rd	<i>ENA</i>	<i>FCL</i>		11/15/23 15:58
4 th	<i>(initials)</i>	<i>J</i>	11/15/23 1558	

LABORATORY USE ONLY

Logged In By: *EN*Total Samples: *5/27*Laboratory #: *173*

CLS 11/16/23 1200

JAW 11/16/23 1200

1200



December 5, 2023

Lab No. : VI 2347916**Customer No.** : 4018573**Reference** : 42085

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
8	11/21/2023	11/21/2023	VI 2347916-001	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: 2023-12-06

Section: Case Narrative

Page 1 of 3

Page 1 of 3

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December 5, 2023

Innovative Ag Services, LLC

1201 Delta View Road
Suite 5
Hanford, CA 93230

Description : 8
Project : 0207 Little Rock Dairy

Lab No. : VI 2347916-001

Customer No.: 4018573

Reference : 42085

Sampled On : November 21, 2023 at 08:50

Sampled By : Zeke

Received On : November 21, 2023 at 16:00

Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
							Date	Time	Who	Method	Date	Time	Who
Dairy Analysis													
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U	11/26/2023	13:50	sta	EPA 351.2	12/01/2023	14:28	lfs
Nitrate Nitrogen	ND	0.4	mg/L		1	U	11/22/2023	13:00	lfs	SM 4500-NO3 F	11/22/2023	14:28	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U	11/26/2023	13:50	sta	Calc.	12/01/2023	14:28	lfs
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	11/22/2023	13:00	lfs	SM 4500-NO3 F	11/22/2023	14:28	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	11/26/2023	13:50	sta	EPA 351.2	12/01/2023	14:28	lfs
Conductivity	218	1	umhos/cm		1		11/27/2023	09:13	krh	SM 4500-H+B	11/27/2023	11:20	krh
Solids, Total Dissolved (TDS)	160	20	mg/L		1		11/22/2023	17:00	ctl	SM 2540 C	11/27/2023	11:00	ctl

DQF Flags Definition:

U Constituent results were non-detect.

I The MS/MSD did not meet QC criteria.

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

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CA ELAP Certification No. 2810



December 5, 2023

Innovative Ag Services, LLC

Lab No. : VI 2347916

Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(STK2355955-003)	Dup	umhos/cm		0.03%	5	
Solids, Total Dissolved	2540CE	11/22/2023:213308CTL (STK2356079-001) (STK2356079-001)	Blank LCS Dup Dup	mg/L mg/L mg/L mg/L	991.5	ND 105% 3.33% 2.08%	<20 90-110 5 5	
Nitrogen, Total Kjeldahl	351.2	11/26/2023:213368STA (SP 2319454-001) (VI 2348003-001)	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 12.00 0.5% 12.00 12.00 12.00	ND 94.1% 88.9% 88.4% ≤20 89.1% 91.2% 2.3%	<0.5 73-124 90-110 435 90-110 435 90-110 435 ≤20	
Nitrate + Nitrite as N	4500NO3F	11/22/2023:213299LFS (SP 2319436-001)	Blank LCS MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L	11.22 5.609 5.609 5.609	ND 96.8% 91.8% 93.6% 1.7%	<0.4 80-120 66-125 66-125 ≤30.4	
Nitrate Nitrogen	4500NO3F	11/22/2023:213299LFS (SP 2319436-001)	Blank LCS MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L	11.22 5.609 5.609 5.609	ND 96.8% 91.8% 93.6% 1.7%	<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 analyted. 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

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



Laboratory Analysis Work Order

Nº 42085

ID: # 0207

2347916

LABORATORY: FGLSITE NAME: Little Rock DairyBilling: IAS

Authorized Copy Release to:

Innovative Ag Services LLC

(559) 587-2800

ANALYSIS TO BE COMPLETED:**Irrigation/Ground Water (ELAP Standards)**W1 EC, NO₃N (Dom)(W2) EC, NO₃N, TDS, TN (Irr)W3 NH₄-N (Ammonium)W4 EC, NO₃N, Ca, Mg, Na, K, HCO₃, CO₃, SO₄S, Cl, TDS (Dom, GM)W5 EC, NO₃N, TDS, TN, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Irr, GM)W6 NO₃N, NO₂ (Dom ILRP, Annually)W7 Ca, Mg, Na, K, HCO₃, CO₃, SO₄, Cl + Lab Filtering (GWM)

W8 Other: _____

Plant TissueP1 TN, NO₃N, PO₄P, 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, NH₄N, TKN, TP, TK, TDS (Quarterly)L2 EC, NO₃N, NH₄N, TKN, TP, TK, TDS, pH (Annually)L3 L1 + Ca, Mg, Na, HCO₃, CO₃, SO₄S, 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: _____

SoilS1 SP%, pH, EC, Ca, Mg, Na, K, ESP, LP, B, NO₃N, PO₄P, K-AA, Zn, Mn, Fe, Cu, SO₄SS2 S1 + CEC, CaCO₃, OM, C:N, TNS3 NO₃N, NH₄N

S4 Other: _____

Sample ID	Description	Analysis	Date/Time	Sampled by	IAS USE ONLY: FIELD TESTS		
					NH ₃ N*	pH	Temp
1	LB	IRR	W2 11-21/ 8:50	Zake			
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 & 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 st		IAS		11-21-23 / 2:15
2 nd		FGL	11-21-23 15:45	
3 rd		FGL		11-21-23 16:00
4 th		FGL	11-21-2023 16:00	

Ref# 008
Ref# G1S
Logged In By: _____11-21-2023 1730
Total Samples: _____

Laboratory #: _____

THE PRINTER INC. - 559-992-5127

ID# 401407

ROI 84°C



January 2, 2024

Lab No. : VI 2348758**Customer No.** : 4018573**Reference** : 42228

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
5	12/20/2023	12/20/2023	VI 2348758-001	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

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: 2024-01-03



January 2, 2024

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

Description : 5
 Project : 0207 Little Rock Dairy

Lab No. : VI 2348758-001
 Customer No. : 4018573
 Reference : 42228
 Sampled On : December 20, 2023 at 14:46
 Sampled By : Frank
 Received On : December 20, 2023 at 16:04
 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
Dairy Analysis													
Nitrate Nitrogen	ND	0.4	mg/L	10	1	U	12/21/2023	13:00	lfs	SM 4500-NO3 F	12/21/2023	15:46	lfs
Conductivity	214	1	umhos/cm	1600 ²	1		12/22/2023	09:20	krh	SM 4500-H+B	12/22/2023	12:22	krh

DQF Flags Definition:

U Constituent results were non-detect.

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

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



January 2, 2024

Innovative Ag Services, LLC

Lab No. : VI 2348758

Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(VI 2348803-002)	Dup	umhos/cm		0.1%	5	
Nitrate Nitrogen	4500NO3F	12/21/2023:214418LFS (CH 2390646-001)	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	101%	80-120	
			MS	mg/L	5.609	98.0%	66-125	
			MSD	mg/L	5.609	98.0%	66-125	
			MSRPD	mg/L		0.0%	≤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.
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- 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

Nº 42228

ID: # 0207

2348758

LABORATORY: FGL

SITE NAME: Little Rock Dairy
Billing: IAS

Authorized Copy Release to:

Innovative Ag Services LLC
(559) 587-2800**ANALYSIS TO BE COMPLETED:****Irrigation/Ground Water (ELAP Standards)**

- W1** EC, NO₃N (Dom)
W2 EC, NO₃N, TDS, TN (Irr)
W3 NH₄-N (Ammonium)
W4 EC, NO₃N, Ca, Mg, Na, K, HCO₃, CO₃, SO₄S, Cl, TDS (Dom, GM)
W5 EC, NO₃N, TDS, TN, Ca, Mg, Na, HCO₃, CO₃, SO₄S, Cl (Irr, GM)
W6 NO₃N, NO₂ (Dom ILRP, Annually)
W7 Ca, Mg, Na, K, HCO₃, CO₃, SO₄, Cl + Lab Filtering (GWM)
W8 Other: _____

201 7.50 11/14/23

Plant Tissue

- P1** TN, NO₃N, PO₄P, 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 ₃ N *	pH	Temp
1	Dom	W1	12/20 2:46	Frank			
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 & 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 st		IAS		12/20/23 3:30
2 nd	AJB	FGL	12/20/23 1532	
3 rd	AJB	FGL		12/20/23 1604
4 th			12/20/23 1604	

LABORATORY USE ONLY

Logged In By:

Total Samples:

Laboratory #: