



Jackson Dairy, LLC

2023 Annual Report

<input checked="" type="checkbox"/> Report Form	<input type="checkbox"/> NA Attachment H
<input checked="" type="checkbox"/> Attachment A	<input type="checkbox"/> NA Attachment I
<input checked="" type="checkbox"/> Attachment B	<input type="checkbox"/> NA Attachment J
<input checked="" type="checkbox"/> Attachment C	<input type="checkbox"/> NA Manure Tracking Manifests
<input checked="" type="checkbox"/> Attachment D	<input type="checkbox"/> NA 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 type="checkbox"/> NA Monitoring Well Report
<input checked="" type="checkbox"/> Attachment G	<input type="checkbox"/> NA 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

Jackson Dairy, LLC 2023

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

Facility Information:

Name of Dairy	Jackson Dairy, LLC
Facility Address	8637 Jackson Ave, Hanford CA 93230

Owner/Operator as of 12/31/2023

Operator Name	Edwardo Sr., Maria, & Mike Valadao
Operator Phone	(559) 707-2291
Owner Name	Valadao Bros Dairy
Owner Phone	(559) 584-9108

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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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:

Mike Valadao

5522F12BEDEC4DF...
Signature of Operator of Facility

DocuSigned by:

Mike Valadao

5522F12BEDEC4DF...
Signature of Owner of Facility

Edwardo Sr., Maria, & Mike Valadao

Print Name

6/24/2024

Title and Date

Valadao Bros Dairy

Print Name

6/24/2024

Title and Date



INNOVATIVE AG SERVICES

Jackson Dairy, LLC 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	1,115	1,087	Milk Flushed Lane	1,400	27,586.85	392,787.45	67,448.35	91,253.65	716,539.53
Hol Dry Cows	90	87	Flushed	1,450	1,269.51	15,877.50	2,222.85	10,479.15	22,406.33
Hol Heifers(15-24)	200	195	Dry Scrape	1,000	2,035.51	27,046.50	4,270.50	12,811.50	50,221.08
Hol Calves (4-6)	695	677	Dry Scrape	300	2,347.50	34,594.70	9,884.20	19,768.40	16,210.09
	2,100	2,046			33,239.38	470,306.15	83,825.90	134,312.70	805,377.03

* 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)**
10,750,387	414.75	80.38	511.00	3,522.50	37,141.16	7,197.64	45,760.42	315,442.44

* 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).



Jackson Dairy, LLC 2023

Nutrient Applications (Attachment B)

Field Name: 1A

Wheat, 75 Acres Planted on 12/20/2022

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					
01/08/2023	Ground Water: Well Avg	4.77 Acre Inches	0.45	mg/L						37	0	0	23,062	
01/08/2023	Waste Water: Main Lagoon	0.80 Acre Inches	980.00	163.00	1,080.0	mg/L			1,629,258	13,300	2,212	14,657	78,038	
05/24/2023	Harvest	19.50 Tons	65.40	1.53	0.36	2.43 %								15,484
Acre Inches Applied:		5.57	Totals:					1,629,258	14,387	2,212	14,657	101,100	15,484	
Season Nitrogen Ratio:		0.93	Lbs Per Acre:							192	30	195	1,348	206

Field Name: 1A

Corn, 75 Acres Planted on 06/27/2023

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)
05/30/2023	Corral Solids: Main Corral	8.00 Tons	36.40	1.89	0.83	2.96	%	600		14,425	6,365	22,591	0	
06/08/2023	Ground Water: Well Avg	5.31 Acre Inches		0.45			mg/L			40	0	0	25,673	
07/12/2023	Ground Water: Well Avg	6.40 Acre Inches		0.45			mg/L			49	0	0	30,944	
07/12/2023	Waste Water: Main Lagoon	0.85 Acre Inches		242.00	89.80	537.00	mg/L		1,731,087	3,490	1,295	7,744	64,313	
08/03/2023	Ground Water: Well Avg	5.38 Acre Inches		0.45			mg/L			41	0	0	26,012	
08/03/2023	Waste Water: Main Lagoon	0.86 Acre Inches		242.00	89.80	537.00	mg/L		1,751,452	3,531	1,310	7,834	65,069	
08/20/2023	Ground Water: Well Avg	6.48 Acre Inches		0.45			mg/L			50	0	0	31,330	
09/03/2023	Ground Water: Well Avg	6.00 Acre Inches		0.45			mg/L			46	0	0	29,009	
09/15/2023	Ground Water: Well Avg	6.00 Acre Inches		0.45			mg/L			46	0	0	29,009	
09/26/2023	Harvest	30.00 Tons	68.80	1.23	0.28	1.29	%							17,270
Acre Inches Applied:		37.28	Totals:					600	3,482,539	21,717	8,971	38,169	301,360	17,270
Season Nitrogen Ratio:		1.26	Lbs Per Acre:							290	120	509	4,018	230



**Jackson Dairy, LLC 2023
Nutrient Applications (Attachment B)**

Field Name: 1B

Wheat, 70 Acres Planted on 12/21/2022

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 %					980					
01/14/2023	Ground Water: Well Avg	4.38 Acre Inches	0.45 mg/L					32	0	0	19,765		
01/14/2023	Waste Water: Main Lagoon	0.48 Acre Inches	980.00 163.00 1,080.0 mg/L				912,384	7,448	1,239	8,208	43,701		
05/24/2023	Harvest	19.20 Tons	65.40	1.42	0.36	2.46 %							13,207
Acre Inches Applied: 4.86			Totals:				912,384	8,460	1,239	8,208	63,466		13,207
Season Nitrogen Ratio: 0.64			Lbs Per Acre:					121	18	117	907		189

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Nutrient Applications (Attachment B)

Field Name: 1B

Corn, 70 Acres Planted on 07/09/2023

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)
06/01/2023	Corral Solids: Main Corral	8.00	Tons	36.40	1.89	0.83	2.96	%	560		13,463	5,941	21,085	0	
06/27/2023	Ground Water: Well Avg	5.32	Acre Inches		0.45			mg/L			38	0	0	24,007	
07/19/2023	Ground Water: Well Avg	5.32	Acre Inches		0.45			mg/L			38	0	0	24,007	
07/19/2023	Waste Water: Main Lagoon	0.85	Acre Inches	242.00	89.80	537.00		mg/L		1,615,681	3,257	1,209	7,228	60,026	
08/03/2023	Ground Water: Well Avg	6.43	Acre Inches		0.45			mg/L			46	0	0	29,016	
08/18/2023	Ground Water: Well Avg	5.39	Acre Inches		0.45			mg/L			38	0	0	24,323	
08/18/2023	Waste Water: Main Lagoon	0.87	Acre Inches	242.00	89.80	537.00		mg/L		1,653,697	3,333	1,237	7,398	61,438	
09/01/2023	Ground Water: Well Avg	6.51	Acre Inches		0.45			mg/L			46	0	0	29,377	
09/11/2023	Ground Water: Well Avg	6.00	Acre Inches		0.45			mg/L			43	0	0	27,075	
09/23/2023	Ground Water: Well Avg	6.00	Acre Inches		0.45			mg/L			43	0	0	27,075	
10/06/2023	Harvest	30.50	Tons	71.10	1.28	0.28	1.41	%							15,796
Acre Inches Applied:		42.69		Totals:					560	3,269,378	20,345	8,387	35,710	306,344	15,796
Season Nitrogen Ratio:		1.29		Lbs Per Acre:							291	120	510	4,376	226

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Nutrient Applications (Attachment B)

Field Name: 2A

Wheat, 37 Acres Planted on 12/22/2022

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 %					518					
01/15/2023	Ground Water: Well Avg	3.67 Acre Inches	0.45 mg/L						14	0	0	8,754	
01/15/2023	Waste Water: Main Lagoon	1.06 Acre Inches	980.00 163.00 1,080.0 mg/L					1,064,992	8,694	1,446	9,581	51,010	
05/25/2023	Harvest	19.70 Tons	63.10 1.48 0.42 1.99 %										7,961
Acre Inches Applied:		4.73	Totals:				1,064,992	9,226	1,446	9,581	59,764	7,961	
Season Nitrogen Ratio:		1.16	Lbs Per Acre:						249	39	259	1,615	215

Field Name: 2A

Corn, 37 Acres Planted on 07/07/2023

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)
05/30/2023	Corral Solids: Main Corral	8.00 Tons	36.40 1.89 0.83 2.96 %				296		7,116	3,140	11,145	0	
06/15/2023	Ground Water: Well Avg	5.45 Acre Inches	0.45 mg/L						20	0	0	13,000	
07/21/2023	Ground Water: Well Avg	5.45 Acre Inches	0.45 mg/L						20	0	0	13,000	
08/05/2023	Ground Water: Well Avg	6.81 Acre Inches	0.45 mg/L						26	0	0	16,243	
08/19/2023	Ground Water: Well Avg	5.59 Acre Inches	0.45 mg/L						21	0	0	13,333	
08/19/2023	Waste Water: Main Lagoon	0.39 Acre Inches	242.00 89.80 537.00 mg/L					391,837	790	293	1,753	14,557	
09/01/2023	Ground Water: Well Avg	6.97 Acre Inches	0.45 mg/L						26	0	0	16,625	
09/11/2023	Ground Water: Well Avg	5.45 Acre Inches	0.45 mg/L						20	0	0	13,000	
09/22/2023	Ground Water: Well Avg	6.00 Acre Inches	0.45 mg/L						23	0	0	14,311	
10/06/2023	Harvest	30.90 Tons	70.10 1.37 0.26 1.34 %										9,367
Acre Inches Applied:		42.11	Totals:				296	391,837	8,063	3,433	12,897	114,069	9,367
Season Nitrogen Ratio:		0.86	Lbs Per Acre:						218	93	349	3,083	253



Jackson Dairy, LLC 2023
Nutrient Applications (Attachment B)

Field Name: 2B

Almonds, 60 Acres Planted on 01/17/2017

Date	Event/Source	Amount Applied/Yield (per Acre)	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
			Units	%	Moist.	Nitrogen	Phos.	Potass.	Units				
01/01/2023	Atmospheric Deposit	14.00 Pounds		100.00		%			840				
01/22/2023	Ground Water: Well Avg	3.14 Acre Inches		0.45		mg/L			19	0	0	12,145	
02/19/2023	Ground Water: Well Avg	3.36 Acre Inches		0.45		mg/L			20	0	0	12,996	
03/18/2023	Fertilize - UN32	15.00 Gallons		32.00	0.00	0.00	%		2,399	0	0	0	0
03/18/2023	Ground Water: Well Avg	3.30 Acre Inches		0.45		mg/L			20	0	0	12,764	
04/15/2023	Ground Water: Well Avg	3.25 Acre Inches		0.45		mg/L			20	0	0	12,571	
05/10/2023	Fertilize - UN32	15.00 Gallons		32.00	0.00	0.00	%		2,399	0	0	0	0
05/10/2023	Ground Water: Well Avg	3.47 Acre Inches		0.45		mg/L			21	0	0	13,422	
06/04/2023	Ground Water: Well Avg	3.52 Acre Inches		0.45		mg/L			22	0	0	13,615	
06/29/2023	Ground Water: Well Avg	3.36 Acre Inches		0.45		mg/L			20	0	0	12,996	
07/24/2023	Ground Water: Well Avg	2.98 Acre Inches		0.45		mg/L			18	0	0	11,527	
08/18/2023	Ground Water: Well Avg	3.30 Acre Inches		0.45		mg/L			20	0	0	12,764	
09/14/2023	Harvest	2.80 Tons		9.51	2.15	0.27	1.98	%					6,537
Acre Inches Applied:		29.68	Totals:						5,819	0	0	114,800	6,537
Season Nitrogen Ratio:		0.90	Lbs Per Acre:						97	0	0	1,913	109

Jackson Dairy, LLC 2023

Nutrient Applications (Attachment B)

Field Name: 2C

Almonds, 43 Acres Planted on 02/01/2020

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)
11/13/2022	Ground Water: Well Avg	3.40	Acre Inches	0.00		mg/L				0	0	0	8,929	
12/20/2022	Fertilize (10-34-0)	15.00	Pounds	10.00	34.00	0.00	%			64	219	0	0	
12/20/2022	Ground Water: Well Avg	3.33	Acre Inches	0.00		mg/L				0	0	0	8,745	
01/01/2023	Atmospheric Deposit	14.00	Pounds	100.00		%				602				
01/24/2023	Ground Water: Well Avg	3.10	Acre Inches	0.45		mg/L				14	0	0	8,593	
02/21/2023	Ground Water: Well Avg	3.40	Acre Inches	0.45		mg/L				15	0	0	9,425	
03/20/2023	Fertilize - UN32	15.00	Gallons	32.00	0.00	0.00	%			1,719	0	0	0	
03/20/2023	Ground Water: Well Avg	3.33	Acre Inches	0.45		mg/L				15	0	0	9,231	
04/17/2023	Ground Water: Well Avg	3.25	Acre Inches	0.45		mg/L				14	0	0	9,009	
05/12/2023	Fertilize - UN32	15.00	Gallons	32.00	0.00	0.00	%			1,719	0	0	0	
05/12/2023	Ground Water: Well Avg	3.55	Acre Inches	0.45		mg/L				15	0	0	9,841	
06/06/2023	Ground Water: Well Avg	3.63	Acre Inches	0.45		mg/L				16	0	0	10,062	
07/01/2023	Ground Water: Well Avg	3.40	Acre Inches	0.45		mg/L				15	0	0	9,425	
07/26/2023	Ground Water: Well Avg	2.87	Acre Inches	0.45		mg/L				12	0	0	7,956	
08/20/2023	Ground Water: Well Avg	3.33	Acre Inches	0.45		mg/L				15	0	0	9,231	
09/14/2023	Harvest	2.50	Tons	11.50	1.69	0.28	2.28 %							3,216
Acre Inches Applied:		36.59		Totals:						4,236	219	0	100,446	3,216
Season Nitrogen Ratio:		1.32		Lbs Per Acre:						99	5	0	2,336	75

**Jackson Dairy, LLC 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	35,004.06	15,446.34	54,820.22	0.00	1,456.00 tons
Process Wastewater	43,843.59	10,241.80	64,402.64	438,152.00	10,750,387.37 gallons
Irrigation Water	1,113.50				
Fertilizer / Total Imports	8,390.38				
Atmospheric Deposition	3,990.00				
Total Nitrogen Applied	92,341.53				
Crop Nitrogen Removal	88,836.78				
Nitrogen Balance	3,504.75				
Nitrogen Ratio	1.04				

- 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.

Jackson Dairy, LLC 2023 Nutrient Applications (Attachment B)

FIELD NITROGEN RATIO Calculation:

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

ATMOSPHERIC 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



Jackson Dairy, LLC 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.



Jackson Dairy, LLC 2023
Land Application Area Description Technical Report (Attachment D)

Field Name	Assessor Parcel Number(s)	Acres	Type of Waste Applied
1A	x028 x040 x017 x000	75	Both
1B	x028 x090 x007 x000	70	Both
2A	x028 x090 x013 x000	37	Both
2B	x028 x090 x013 x000	60	None
2C	x028 x090 x013 x000	43	None
		285	

Production Area APN(s): x028 x090 x007 x000



Jackson Dairy, LLC 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
02/16/2023	980.00	163.00	1,080.00	8,670	239.00		5,750.00								
04/25/2023	278.00	36.80	192.00	2,110	56.20	0.00	1,400.00	6.94							
07/13/2023	242.00	89.80	537.00	6,720	98.50		4,460.00								
11/07/2023	159.00	31.90	235.00	3,730	157.00		2,480.00								
Averages:	414.75	80.38	511.00	5,308	137.68	0.00	3,522.50	6.94							

Manure - Corral Solids

(Dry Weight Basis)

Sample Date:	TN	TP	TK	Moisture	Ash	CA	MG	NA	S	CL
06/02/2023	1.89	0.83	2.96	36.40						%
11/08/2023	2.57	0.92	3.10	33.80						%
Averages:	2.23	0.87	3.03	35.10						

Plant Tissue

(Dry Weight Basis)

Field:	Crop #:	Crop	Sample Date:	TN (lbs/ton)	TP (lbs/ton)	TK (lbs/ton)	Moisture (%)	Ash (%)
1A	1	Wheat	05/24/2023	30.60	7.26	48.60	65.40	9.31
1A	2	Corn	09/26/2023	24.60	5.60	25.80	68.80	7.80



**Jackson Dairy, LLC 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 (%)
1B	1	Wheat	05/24/2023	28.40	7.28	49.20	65.40	9.58
1B	2	Corn	10/06/2023	25.60	5.58	28.20	71.10	7.07
2A	1	Wheat	05/25/2023	29.60	8.48	39.80	63.10	10.70
2A	2	Corn	10/06/2023	27.40	5.22	26.80	70.10	7.75
2B	1	Almonds	09/14/2023	43.00	5.36	39.60	9.51	12.30
2C	1	Almonds	09/14/2023	33.80	5.68	45.60	11.50	14.60

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	CL
Dairy														
Backup Dom	12/14/2023	1.30		1,000		670.00		64.00	3.00	112.00	80.00	0.00	21.60	240.00
Hay Barn Dom								Out of service.						
Main Well Dom	04/05/2023	2.20		1,010		680.00		70.00	6.00	127.00	80.00	0.00	20.30	218.00
Averages:		1.75		1,005		675.00		67.00	4.50	119.50	80.00	0.00	20.95	229.00

**Jackson Dairy, LLC 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
Domestic															
Blue House Dom	12/14/2023	14.00		701		470.00		50.00	4.00	74.00	190.00	0.00	11.80	76.00	
Averages:		14.00		701		470.00		50.00	4.00	74.00	190.00	0.00	11.80	76.00	
Irrigation															
1	10/31/2023	0.10		546		310.00	0.00	20.00	0.00	92.00	100.00	0.00	5.90	100.00	
2W	10/26/2023	0.80		459		260.00	0.80	15.00	0.00	82.00	110.00	0.00	5.60	74.00	
Jackson Ag								Out of service.							
South Ag								Out of service.							
Averages:		0.45		502		285.00	0.40	17.50	0.00	87.00	105.00	0.00	5.75	87.00	

* NH4N was non-detectable unless a value is shown

Soils

Field	Sample Date:	PO4P (ppm)
1A	11/20/2023	114.00
1B	11/20/2023	166.00
2B	11/20/2023	11.60



Jackson Dairy, LLC 2023
Planting and Harvest Information (Attachment F)

Crop #	Crop	Acres Planted	Plant Date	Harvest Date	Estimated Yield (tons)	Tons Harvested	Actual Yield
Field:	1A						
	1 Wheat	75	12/20/2022	05/24/2023	19.6	1462.5	19.5
	2 Corn	75	06/27/2023	09/26/2023	29.8	2250.0	30.0
Field:	1B						
	1 Wheat	70	12/21/2022	05/24/2023	18.5	1344.0	19.2
	2 Corn	70	07/09/2023	10/06/2023	30.8	2135.0	30.5
Field:	2A						
	1 Wheat	37	12/22/2022	05/25/2023	19.2	728.9	19.7
	2 Corn	37	07/07/2023	10/06/2023	30.5	1143.3	30.9
Field:	2B						
	1 Almonds	60	01/17/2017	09/14/2023	2.6	168.0	2.8
Field:	2C						
	1 Almonds	43	02/01/2020	09/14/2023	2.6	107.5	2.5



Jackson Dairy, LLC 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





April 26, 2023

Lab No. : VI 2342061**Customer No.** : 4018573**Reference** : 40361

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

Laboratory Report

Introduction: This report package contains a total of 4 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 | (2 pages) | : 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
Main Dom Well	04/05/2023	04/05/2023	VI 2342061-001	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 200.7	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
EPA 300.0	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)

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: 2023-04-26



April 26, 2023

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

Description : Main Dom Well
 Project : 0210 Jackson Dairy

Lab No. : VI 2342061-001
 Customer No.: 4018573
 Reference : 40361
 Sampled On : April 5, 2023 at 12:30
 Sampled By : Henry
 Received On : April 5, 2023 at 16:05
 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													
Alkalinity (as CaCO ₃)	70	10	mg/L		1		04/16/2023	16:18	amm	SM 4500-H+B	04/16/2023	20:26	amm
Bicarbonate	80	10	mg/L		1		04/16/2023	16:18	amm	SM 4500-H+B	04/16/2023	20:26	amm
Carbonate	ND	10	mg/L		1	U	04/16/2023	16:18	amm	SM 4500-H+B	04/16/2023	20:26	amm
Hydroxide	ND	10	mg/L		1	U	04/16/2023	16:18	amm	SM 4500-H+B	04/16/2023	20:26	amm
Chloride	218	5*	mg/L		5		04/19/2023	14:34	ldm	EPA 300.0	04/21/2023	06:01	ldm
Nitrate Nitrogen	2.2	0.1	mg/L		1		04/06/2023	16:30	ldm	EPA 300.0	04/07/2023	00:30	krh
Conductivity	1010	1	umhos/cm		1		04/16/2023	16:18	amm	SM 4500-H+B	04/16/2023	20:26	amm
Sulfate Sulfur	20.3	0.17	mg/L		1	1	04/06/2023	16:30	ldm	EPA 300.0	04/07/2023	00:30	krh
Solids, Total Dissolved (TDS)	680	20	mg/L		1		04/10/2023	10:07	ctl	SM 2540 C	04/11/2023	11:00	ctl
Calcium	70	1	mg/L		1		04/13/2023	07:45	ejc	EPA 200.7	04/14/2023	20:26	ac
Magnesium	6	1	mg/L		1		04/13/2023	07:45	ejc	EPA 200.7	04/17/2023	15:34	ac
Potassium	1	1	mg/L		1		04/13/2023	07:45	ejc	EPA 200.7	04/14/2023	20:26	ac
Sodium	127	1	mg/L		1		04/13/2023	07:45	ejc	EPA 200.7	04/17/2023	15:34	ac

DQF Flags Definition:

U Constituent results were non-detect.

1 The MS/MSD did not meet QC criteria.

ND=Non-Detected, RL=Reporting Level * RL adjusted for dilution, Dil.=Dilution



April 26, 2023

Innovative Ag Services, LLC

Lab No. : VI 2342061

Customer No. : 4018573

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Calcium	200.7	04/13/2023:203926EJC	Blank	mg/L		ND	<1	
		(CC 2381066-001)	LCS	mg/L	12.00	109 %	85-115	
			MS	mg/L	12.00	112 %	75-125	
			MSD	mg/L	12.00	70.6 %	<1/4	
		(SP 2305365-001)	MSRPD	mg/L	4.000	4.1%	≤20.0	
			MS	mg/L	12.00	79.9 %	75-125	
			MSD	mg/L	12.00	117 %	75-125	
			MSRPD	mg/L	4.000	4.6%	≤20.0	
Magnesium	200.7	04/13/2023:203926EJC	Blank	mg/L		ND	<1	
		(CC 2381066-001)	LCS	mg/L	12.00	112 %	85-115	
			MS	mg/L	12.00	116 %	75-125	
			MSD	mg/L	12.00	106 %	75-125	
		(SP 2305365-001)	MSRPD	mg/L	4.000	2.9%	≤20	
			MS	mg/L	12.00	105 %	75-125	
			MSD	mg/L	12.00	120 %	75-125	
			MSRPD	mg/L	4.000	3.9%	≤20	
Potassium	200.7	04/13/2023:203926EJC	Blank	mg/L		ND	<1	
		(CC 2381066-001)	LCS	mg/L	12.00	110 %	85-115	
			MS	mg/L	12.00	112 %	75-125	
			MSD	mg/L	12.00	109 %	75-125	
		(SP 2305365-001)	MSRPD	mg/L	4.000	2.5%	≤20.0	
			MS	mg/L	12.00	104 %	75-125	
			MSD	mg/L	12.00	115 %	75-125	
			MSRPD	mg/L	4.000	3.5%	≤20.0	
Sodium	200.7	04/13/2023:203926EJC	Blank	mg/L		ND	<1	
		(CC 2381066-001)	LCS	mg/L	12.00	110 %	85-115	
			MS	mg/L	12.00	121 %	75-125	
			MSD	mg/L	12.00	109 %	75-125	
		(SP 2305365-001)	MSRPD	mg/L	4.000	2.2%	≤20.0	
			MS	mg/L	12.00	114 %	75-125	
			MSD	mg/L	12.00	175 %	<1/4	
			MSRPD	mg/L	4.000	4.5%	≤20.0	

Definition

- <1/4 : High Sample Background - Spike concentration was less than one forth of the sample concentration.
- 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.
- 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.

April 26, 2023
Innovative Ag Services, LLC

Lab No. : VI 2342061
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Alkalinity (as CaCO3)	2320B	04/16/2023:204032AMM	ND	mg/L		1.69%	10	
Bicarbonate	2320B	(SP 2305485-007)	Dup	mg/L		1.60%	10	
E. C.	2320B	(SP 2305485-007)	Dup	umhos/cm		0.3%	5	
Solids, Total Dissolved	2540CE	04/10/2023:203770CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	993.4	103%	90-110	
		(VI 2342061-001)	Dup	mg/L		0.3%	5	
		(VI 2342061-001)	Dup	mg/L		2.46%	5	
Chloride	300.0	04/19/2023:204209LDM	Blank	mg/L		ND	<1	
			LCS	mg/L	25.00	99.8 %	90-110	
		(VI 2342268-003)	MS	mg/L	50.00	94.0 %	85-121	
			MSD	mg/L	50.00	98.9 %	85-121	
			MSRPD	mg/L	10.00	4.4%	≤19	
		(VI 2342271-001)	MS	mg/L	50.00	93.3 %	85-121	
			MSD	mg/L	50.00	100 %	85-121	
			MSRPD	mg/L	10.00	5.4%	≤19	
Nitrate Nitrogen	300.0	04/06/2023:203791LDM	Blank	mg/L		ND	<0.4	
			LCS	mg/L	20.00	98.2 %	90-110	
		(CC 2381030-002)	MS	mg/L	40.00	99.5 %	85-119	
			MSD	mg/L	40.00	104 %	85-119	
			MSRPD	mg/L	100.0	3.5%	≤19	
		(SP 2304942-001)	MS	mg/L	40.00	97.3 %	85-119	
			MSD	mg/L	40.00	101 %	85-119	
			MSRPD	mg/L	100.0	2.7%	≤19	
Sulfate Sulfur	300.0	04/06/2023:203791LDM	Blank	mg/L		ND	<0.5	
			LCS	mg/L	50.00	99.0 %	90-110	
		(CC 2381030-002)	MS	mg/L	100.0	95.7 %	82-124	
			MSD	mg/L	100.0	100 %	82-124	
			MSRPD	mg/L	100.0	3.9%	≤23	
		(SP 2304942-001)	MS	mg/L	100.0	112 %	82-124	435
			MSD	mg/L	100.0	9.9 %	82-124	435
			MSRPD	mg/L	100.0	38.2%	≤23	435

Definition

- Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
- 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.

Explanation

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



Laboratory Analysis Work Order

Nº 40361

ID: # 02102342061SITE NAME: Parkland Jackson CountyBilling: IAS
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: _____

pd 13.9
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	Main Well Drip Dom	W4	12:30 4:5	Henry	—		
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	2:00	9-5-23
2 nd		FGC	9-5-23 15:55	
3 rd		FGC		9-5-23 16:05
4 th			9/5/23 16:05	

LABORATORY USE ONLY

Logged In By: GDTotal Samples: 12/23Laboratory #: 1240



November 15, 2023

Lab No. : VI 2347290**Customer No.** : 4018573**Reference** : 41698

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

Laboratory Report

Introduction: This report package contains a total of 5 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 | (3 pages) | : 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
2W	10/26/2023	10/26/2023	VI 2347290-001	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 200.7	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
EPA 300.0	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
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)

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: 2023-11-15



November 15, 2023

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

Description : 2W
 Project : 0210 Jackson Dairy, LLC

Lab No. : VI 2347290-001
 Customer No.: 4018573
 Reference : 41698
 Sampled On : October 26, 2023 at 12:20
 Sampled By : Zeke
 Received On : October 26, 2023 at 16:12
 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													
Alkalinity (as CaCO ₃)	90	10	mg/L		1		10/30/2023	18:19	amm	SM 4500-H+B	10/31/2023	03:10	amm
Bicarbonate	110	10	mg/L		1		10/30/2023	18:19	amm	SM 4500-H+B	10/31/2023	03:10	amm
Carbonate	ND	10	mg/L		1	U	10/30/2023	18:19	amm	SM 4500-H+B	10/31/2023	03:10	amm
Hydroxide	ND	10	mg/L		1	U	10/30/2023	18:19	amm	SM 4500-H+B	10/31/2023	03:10	amm
Chloride	74	1	mg/L		1		10/27/2023	14:58	ldm	EPA 300.0	10/27/2023	16:18	ldm
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U1	11/08/2023	07:53	sta	EPA 351.2	11/12/2023	18:23	lcr
Nitrate Nitrogen	0.8	0.1	mg/L		1		10/27/2023	14:58	ldm	EPA 300.0	10/27/2023	16:18	ldm
Nitrogen, Total as Nitrogen	0.8	0.5	mg/L		1	1	11/08/2023	07:53	sta	Calc.	11/12/2023	18:23	lcr
Nitrate + Nitrite as N	0.8	0.1	mg/L		1		10/27/2023	14:58	ldm	EPA 300.0	10/27/2023	16:18	ldm
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U1	11/08/2023	07:53	sta	EPA 351.2	11/12/2023	18:23	lcr
Conductivity	459	1	umhos/cm		1		10/30/2023	18:19	amm	SM 4500-H+B	10/31/2023	03:10	amm
Sulfate Sulfur	5.6	0.17	mg/L		1		10/27/2023	14:58	ldm	EPA 300.0	10/27/2023	16:18	ldm
Solids, Total Dissolved (TDS)	260	20	mg/L		1		10/30/2023	14:15	ctl	SM 2540 C	10/31/2023	10:00	ctl
Calcium	15	1	mg/L		1		11/01/2023	06:08	ejc	EPA 200.7	11/01/2023	16:05	ac
Magnesium	ND	1	mg/L		1	J	11/01/2023	06:08	ejc	EPA 200.7	11/01/2023	16:05	ac
Sodium	82	1	mg/L		1		11/01/2023	06:08	ejc	EPA 200.7	11/01/2023	16:05	ac

DQF Flags Definition:

U Constituent results were non-detect.

1 The MS/MSD did not meet QC criteria.

J Reported value is estimated; detected at a concentration below the RL and above the laboratory MDL.

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



November 15, 2023

Innovative Ag Services, LLC

Lab No. : VI 2347290

Customer No. : 4018573

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Calcium	200.7	11/01/2023:212374EJC	Blank	mg/L		ND	<1	
		(SP 2318228-001)	LCS	mg/L	12.00	102%	85-115	
			MS	mg/L	12.00	93.6%	75-125	
			MSD	mg/L	12.00	112%	75-125	
			MSRPD	mg/L		7.3%	≤20.0	
		(SP 2318229-001)	MS	mg/L	12.00	67.1%	<1/4	406
			MSD	mg/L	12.00	-69.4%	<1/4	
			MSRPD	mg/L		5.2%	≤20.0	
Magnesium	200.7	11/01/2023:212374EJC	Blank	mg/L		ND	<1	
		(SP 2318228-001)	LCS	mg/L	12.00	106%	85-115	
			MS	mg/L	12.00	101%	75-125	
			MSD	mg/L	12.00	110%	75-125	
			MSRPD	mg/L		7.1%	≤20	
		(SP 2318229-001)	MS	mg/L	12.00	-11200%	<1/4	406
			MSD	mg/L	12.00	-11200%	<1/4	
			MSRPD	mg/L		2.8%	≤20	
Sodium	200.7	11/01/2023:212374EJC	Blank	mg/L		ND	<1	
		(SP 2318228-001)	LCS	mg/L	12.00	103%	85-115	
			MS	mg/L	12.00	92.5%	75-125	
			MSD	mg/L	12.00	147%	<1/4	
			MSRPD	mg/L		6.9%	≤20.0	
		(SP 2318229-001)	MS	mg/L	12.00	-18900%	<1/4	406
			MSD	mg/L	12.00	-22700%	<1/4	
			MSRPD	mg/L		5.1%	≤20.0	

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.

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.

Explanation

406 : Matrix Spike (MS) not within the Acceptance Range (AR) because of high analyte concentration in the sample. Data was accepted based on the LCS or CCV recovery.

November 15, 2023

Innovative Ag Services, LLC

Lab No. : VI 2347290
 Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Alkalinity (as CaCO3)	2320B	10/30/2023:211869AMM	ND	mg/L		0.5%	10	406
Bicarbonate	2320B	(VI 2347236-005)	Dup	mg/L		0.6%	10	
E. C.	2320B	(VI 2347236-005)	Dup	umhos/cm		0.4%	5	
Solids, Total Dissolved	2540CE	10/30/2023:212294CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	991.5	99.7%	90-110	
		(SP 2318131-001)	Dup	mg/L		1.04%	5	
		(SP 2318131-001)	Dup	mg/L		0.3%	5	
Chloride	300.0	10/27/2023:212229LDM	Blank	mg/L		ND	<1	
			LCS	mg/L	25.00	102%	90-110	
			MS	mg/L		71.1%	67-117	
		(VI 2347290-001)	MSD	mg/L		72.3%	67-117	
			MSRPD	mg/L		0.5%	≤7	
			MS	mg/L		102%	67-117	
		(CH 2379298-001)	MSD	mg/L		102%	67-117	
			MSRPD	mg/L		0.3%	≤7	
Nitrate + Nitrite as N	300.0	10/27/2023:212229LDM	Blank	mg/L		ND	<0.4	
			LCS	mg/L	20.00	101%	90-110	
			MS	mg/L		102%	86-112	
		(VI 2347290-001)	MSD	mg/L		102%	86-112	
			MSRPD	mg/L		0.1%	≤7	
			MS	mg/L		102%	86-112	
		(CH 2379298-001)	MSD	mg/L		102%	86-112	
			MSRPD	mg/L		0.1%	≤7	
Nitrate Nitrogen	300.0	10/27/2023:212229LDM	Blank	mg/L		ND	<0.4	
			LCS	mg/L	20.00	101%	90-110	
			MS	mg/L		102%	86-112	
		(VI 2347290-001)	MSD	mg/L		102%	86-112	
			MSRPD	mg/L		0.1%	≤7	
			MS	mg/L		102%	86-112	
		(CH 2379298-001)	MSD	mg/L		102%	86-112	
			MSRPD	mg/L		0.1%	≤7	
Sulfate Sulfur	300.0	10/27/2023:212229LDM	Blank	mg/L		ND	<0.5	
			LCS	mg/L	50.00	103%	90-110	
			MS	mg/L		99.6%	18-165	
		(VI 2347290-001)	MSD	mg/L		99.9%	18-165	
			MSRPD	mg/L		0.3%	≤7	
			MS	mg/L		101%	18-165	
		(CH 2379298-001)	MSD	mg/L		102%	18-165	
			MSRPD	mg/L		0.2%	≤7	
Nitrogen, Total Kjeldahl	351.2	11/08/2023:212672STA	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	90.4%	73-124	
			MS	mg/L		86.6%	90-110	435
		(CH 2379367-003)	MSD	mg/L		87.0%	90-110	435
			MSRPD	mg/L		0.4%	≤20	
			MS	mg/L		85.9%	90-110	435
		(CH 2379367-005)	MSD	mg/L		86.9%	90-110	435
			MSRPD	mg/L		1.1%	≤20	

Definition

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

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.

Explanation

406 : Matrix Spike (MS) not within the Acceptance Range (AR) because of high analyte concentration in the sample. Data was accepted based on the LCS or CCV recovery.

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



Laboratory Analysis Work Order

Nº 41698

ID: # 02102347290SITE NAME: JACKSON DAIRYBilling: IASLABORATORY: FGL

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: _____

Sample ID	Description	Analysis	Date/Time	Sampled by	IAS USE ONLY: FIELD TESTS		
					NH ₃ N *	pH	Temp
1	ZW	IHR	WS	10-26/12:20	Zekc		
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	<u>EIA</u>	<u>IAS</u>		10-26-23 / 2:15
2 nd	<u>EMA</u>	<u>FGL</u>	10/26/23 15:55	
3 rd	<u>EMA</u>	<u>FGL</u>		10/26/23 16:12
4 th	<u>GA</u>		10/26/23 16:12	

LABORATORY USE ONLY

Logged In By: 61Total Samples: 1

Laboratory #: _____

ALS 10/27/23 12:30 SAW 10/27/23 12:30



November 15, 2023

Lab No. : VI 2347356**Customer No.** : 4018573**Reference** : 41551

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

Laboratory Report

Introduction: This report package contains a total of 5 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 | (3 pages) | : 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	10/31/2023	10/31/2023	VI 2347356-001	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 200.7	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
EPA 300.0	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
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)

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: 2023-11-16



November 15, 2023

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

Description : 1
 Project : 0210 Jackson Dairy

Lab No. : VI 2347356-001
 Customer No.: 4018573
 Reference : 41551
 Sampled On : October 31, 2023 at 13:15
 Sampled By : Zeke
 Received On : October 31, 2023 at 16:04
 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													
Alkalinity (as CaCO ₃)	80	10	mg/L		1		11/05/2023	15:11	amm	SM 4500-H+B	11/06/2023	04:07	amm
Bicarbonate	100	10	mg/L		1		11/05/2023	15:11	amm	SM 4500-H+B	11/06/2023	04:07	amm
Carbonate	ND	10	mg/L		1	J	11/05/2023	15:11	amm	SM 4500-H+B	11/06/2023	04:07	amm
Hydroxide	ND	10	mg/L		1	J	11/05/2023	15:11	amm	SM 4500-H+B	11/06/2023	04:07	amm
Chloride	100	2*	mg/L		2		11/06/2023	13:31	ldm	EPA 300.0	11/06/2023	21:45	ldm
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U1	11/10/2023	12:12	sta	EPA 351.2	11/14/2023	19:55	lcr
Nitrate Nitrogen	0.1	0.1	mg/L		1		11/01/2023	11:58	ldm	EPA 300.0	11/01/2023	19:33	ldm
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U1	11/10/2023	12:12	sta	Calc.	11/14/2023	19:55	lcr
Nitrate + Nitrite as N	0.1	0.1	mg/L		1		11/01/2023	11:58	ldm	EPA 300.0	11/01/2023	19:33	ldm
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U1	11/10/2023	12:12	sta	EPA 351.2	11/14/2023	19:55	lcr
Conductivity	546	1	umhos/cm		1		11/05/2023	15:11	amm	SM 4500-H+B	11/06/2023	04:07	amm
Sulfate Sulfur	5.9	0.17	mg/L		1		11/01/2023	11:58	ldm	EPA 300.0	11/01/2023	19:33	ldm
Solids, Total Dissolved (TDS)	310	20	mg/L		1		11/02/2023	09:40	ctl	SM 2540 C	11/03/2023	11:00	ctl
Calcium	20	1	mg/L		1	h	11/03/2023	04:13	ejc	EPA 200.7	11/03/2023	15:26	ac
Magnesium	ND	1	mg/L		1	Uh	11/03/2023	04:13	ejc	EPA 200.7	11/03/2023	15:26	ac
Sodium	92	1	mg/L		1		11/03/2023	04:13	ejc	EPA 200.7	11/03/2023	15:26	ac

DQF Flags Definition:

J Reported value is estimated; detected at a concentration below the RL and above the laboratory MDL.

U Constituent results were non-detect.

I The MS/MSD did not meet QC criteria.

h The MS/MSD did not meet QC criteria.

ND=Non-Detected, RL=Reporting Level * RL adjusted for dilution, Dil.=Dilution



November 15, 2023

Innovative Ag Services, LLC

Lab No. : VI 2347356

Customer No. : 4018573

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Calcium	200.7	11/03/2023:212469EJC	Blank	mg/L		ND	<1	
		(SP 2318401-001)	LCS	mg/L	12.00	93.4%	85-115	
			MS	mg/L	12.00	844%	75-125	435
			MSD	mg/L	12.00	860%	75-125	435
			MSRPD	mg/L		1.3%	≤20.0	
		(SP 2318395-002)	MS	mg/L	12.00	126%	<1/4	406
			MSD	mg/L	12.00	133%	<1/4	
			MSRPD	mg/L		1.1%	≤20.0	
Magnesium	200.7	11/03/2023:212469EJC	Blank	mg/L		ND	<1	
		(SP 2318401-001)	LCS	mg/L	12.00	95.5%	85-115	
			MS	mg/L	12.00	372%	75-125	435
			MSD	mg/L	12.00	379%	75-125	435
			MSRPD	mg/L		1.2%	≤20	
		(SP 2318395-002)	MS	mg/L	12.00	117%	75-125	
			MSD	mg/L	12.00	121%	75-125	
			MSRPD	mg/L		0.9%	≤20	
Sodium	200.7	11/03/2023:212469EJC	Blank	mg/L		ND	<1	
		(SP 2318401-001)	LCS	mg/L	12.00	90.2%	85-115	
			MS	mg/L	12.00	166%	<1/4	406
			MSD	mg/L	12.00	175%	<1/4	
			MSRPD	mg/L		0.6%	≤20.0	
		(SP 2318395-002)	MS	mg/L	12.00	153%	<1/4	406
			MSD	mg/L	12.00	179%	<1/4	
			MSRPD	mg/L		1.6%	≤20.0	

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.

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.

Explanation

406 : Matrix Spike (MS) not within the Acceptance Range (AR) because of high analyte concentration in the sample. Data was accepted based on the LCS or CCV recovery.

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

November 15, 2023

Innovative Ag Services, LLC

Lab No. : VI 2347356
 Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Alkalinity (as CaCO3)	2320B	11/05/2023:212549AMM	ND	mg/L		0.008%	10	435
Bicarbonate	2320B	(SP 2318398-006)	Dup	mg/L		0%	10	
E. C.	2320B	(SP 2318398-006)	Dup	umhos/cm		0.2%	5	
Solids, Total Dissolved	2540CE	11/02/2023:212436CTL (VI 2347344-001) (VI 2347344-001)	Blank LCS Dup Dup	mg/L mg/L mg/L mg/L	991.5	ND 96.7% 0.2% 0.1%	<20 90-110 5 5	
Chloride	300.0	11/06/2023:212615LDM (CH 2379032-008) (STK2354964-004)	Blank LCS MS MSD MSRPD MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	25.00 50.00 50.00 50.00 50.00 50.00 50.00 50.00	ND 102% 102% 102% 0.0% 103% 103% 0.2%	<1 90-110 67-117 67-117 ≤7 67-117 67-117 ≤7	
Nitrate + Nitrite as N	300.0	11/01/2023:212422LDM (STK2354963-002) (STK2354963-003)	Blank LCS MS MSD MSRPD MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	20.00 40.00 40.00 40.00 40.00 40.00 40.00 40.00	ND 95.2% 94.3% 94.3% 0.0% 99.1% 99.9% 0.8%	<0.4 90-110 86-112 86-112 ≤7 86-112 86-112 ≤7	
Nitrate Nitrogen	300.0	11/01/2023:212422LDM (STK2354963-002) (STK2354963-003)	Blank LCS MS MSD MSRPD MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	20.00 40.00 40.00 40.00 40.00 40.00 40.00 40.00	ND 95.2% 94.3% 94.3% 0.0% 99.1% 99.9% 0.8%	<0.4 90-110 86-112 86-112 ≤7 86-112 86-112 ≤7	
Sulfate Sulfur	300.0	11/01/2023:212422LDM (STK2354963-002) (STK2354963-003)	Blank LCS MS MSD MSRPD MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	50.00 100.0 100.0 100.0 100.0 100.0 100.0 100.0	ND 95.9% 95.2% 95.3% 0.1% 99.1% 99.4% 0.3%	<0.5 90-110 18-165 18-165 ≤7 18-165 18-165 ≤7	
Nitrogen, Total Kjeldahl	351.2	11/10/2023:212776STA (CH 2379424-001) (VI 2347389-004)	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 12.00 12.00 12.00 12.00	ND 91.1% 88.5% 85.8% 3.0% 84.2% 86.0% 2.1%	<0.5 73-124 90-110 90-110 ≤20 <1/4 <1/4 ≤20	435 435 406

Definition

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.

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.

Explanation

406 : Matrix Spike (MS) not within the Acceptance Range (AR) because of high analyte concentration in the sample. Data was accepted based on the LCS or CCV recovery.

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



Laboratory Analysis Work Order

Nº 41551

ID: # 0210SITE NAME: JACKSON DAIRYBilling: IAS
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 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	ILR	PWS	10-31/11:15	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 & 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#TTT407

13.1 °C

CHAIN OF CUSTODY RECORDING

Signature	Company	Received Date & Time	Relinquished Date & Time
<u>E</u>	<u>IAS</u>		10-31-23 / 2:15
<u>AJB</u>	<u>FGL</u>	10/31/23 1549	
<u>AJB</u>	<u>FGL</u>		10/31/23 1604
<u>SRO</u>	<u>FGL</u>	10/31/23 1604	
<u>SRO</u>	<u>FGL</u>	10/31/23 1730	
<u>GLS</u>	<u>GLS</u>	10/31/23 1730	
LABORATORY USE ONLY			
Logged In By: _____	Total Samples: _____	Laboratory #: _____	

GLS 11/1/23 11:40

JAW 11/1/23 11:40



December 22, 2023

Lab No. : VI 2348569**Customer No.** : 4018573**Reference** : 42181

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

Laboratory Report

Introduction: This report package contains a total of 6 pages divided into 3 sections:

- | | | |
|-----------------|-----------|---|
| Case Narrative | (1 page) | : An overview of the work performed at FGL. |
| Sample Results | (2 pages) | : Results for each sample submitted. |
| Quality Control | (3 pages) | : 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
Backup Dom	12/14/2023	12/14/2023	VI 2348569-001	DW
Bluehouse Dom	12/14/2023	12/14/2023	VI 2348569-002	DW

Sampling and Receipt Information:

All samples were received in acceptable condition and within temperature requirements, unless noted on the Condition Upon Receipt (CUR) form. All samples were 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 200.7	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
EPA 300.0	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)

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: 2023-12-26



December 22, 2023

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

Description : Backup Dom
 Project : 0210 Jackson Dairy, LLC

Lab No. : VI 2348569-001
 Customer No.: 4018573
 Reference : 42181
 Sampled On : December 14, 2023 at 09:45
 Sampled By : Zeke
 Received On : December 14, 2023 at 15:50
 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													
Alkalinity (as CaCO ₃)	60	10	mg/L		1		12/19/2023	17:12	amm	SM 4500-H+B	12/20/2023	06:56	amm
Bicarbonate	80	10	mg/L		1		12/19/2023	17:12	amm	SM 4500-H+B	12/20/2023	06:56	amm
Carbonate	ND	10	mg/L		1	U	12/19/2023	17:12	amm	SM 4500-H+B	12/20/2023	06:56	amm
Hydroxide	ND	10	mg/L		1	U	12/19/2023	17:12	amm	SM 4500-H+B	12/20/2023	06:56	amm
Chloride	240	5*	mg/L	500 ²	5		12/15/2023	14:32	ldm	EPA 300.0	12/16/2023	20:25	ldm
Nitrate Nitrogen	1.3	0.1	mg/L	10	1		12/15/2023	14:32	ldm	EPA 300.0	12/16/2023	07:12	ldm
Conductivity	1000	1	umhos/cm	1600 ²	1		12/19/2023	17:12	amm	SM 4500-H+B	12/20/2023	06:56	amm
Sulfate Sulfur	21.6	0.17	mg/L		1		12/15/2023	14:32	ldm	EPA 300.0	12/16/2023	07:12	ldm
Solids, Total Dissolved (TDS)	670	20	mg/L	1000 ²	1		12/18/2023	11:45	ctl	SM 2540 C	12/19/2023	10:45	ctl
Calcium	64	1	mg/L		1	h	12/20/2023	07:00	ac	EPA 200.7	12/20/2023	20:24	ac
Magnesium	3	1	mg/L		1		12/20/2023	07:00	ac	EPA 200.7	12/20/2023	20:24	ac
Potassium	1	1	mg/L		1		12/20/2023	07:00	ac	EPA 200.7	12/20/2023	20:24	ac
Sodium	112	1	mg/L		1	hl	12/20/2023	07:00	ac	EPA 200.7	12/20/2023	20:24	ac

DQF Flags Definition:

U Constituent results were non-detect.

h The MS/MSD did not meet QC criteria.

l The MS/MSD did not meet QC criteria.

ND=Non-Detected, RL=Reporting Level * RL adjusted for dilution, Dil.=Dilution

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



December 22, 2023

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

Description : Bluehouse Dom
 Project : 0210 Jackson Dairy, LLC

Lab No. : VI 2348569-002
 Customer No.: 4018573
 Reference : 42181
 Sampled On : December 14, 2023 at 09:30
 Sampled By : Zeke
 Received On : December 14, 2023 at 15:50
 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													
Alkalinity (as CaCO ₃)	160	10	mg/L		1		12/19/2023	17:12	amm	SM 4500-H+B	12/20/2023	03:56	amm
Bicarbonate	190	10	mg/L		1		12/19/2023	17:12	amm	SM 4500-H+B	12/20/2023	03:56	amm
Carbonate	ND	10	mg/L		1	U	12/19/2023	17:12	amm	SM 4500-H+B	12/20/2023	03:56	amm
Hydroxide	ND	10	mg/L		1	U	12/19/2023	17:12	amm	SM 4500-H+B	12/20/2023	03:56	amm
Chloride	76	1	mg/L	500 ²	1		12/15/2023	14:32	ldm	EPA 300.0	12/16/2023	09:18	ldm
Nitrate Nitrogen	14	0.1	mg/L	10	1		12/15/2023	14:32	ldm	EPA 300.0	12/16/2023	09:18	ldm
Conductivity	701	1	umhos/cm	1600 ²	1		12/19/2023	17:12	amm	SM 4500-H+B	12/20/2023	03:56	amm
Sulfate Sulfur	11.8	0.17	mg/L		1		12/15/2023	14:32	ldm	EPA 300.0	12/16/2023	09:18	ldm
Solids, Total Dissolved (TDS)	470	20	mg/L	1000 ²	1		12/18/2023	11:45	ctl	SM 2540 C	12/19/2023	10:45	ctl
Calcium	50	1	mg/L		1		12/18/2023	07:55	ejc	EPA 200.7	12/19/2023	12:12	ac
Magnesium	4	1	mg/L		1		12/18/2023	07:55	ejc	EPA 200.7	12/19/2023	12:12	ac
Potassium	ND	1	mg/L		1	U	12/18/2023	07:55	ejc	EPA 200.7	12/19/2023	12:12	ac
Sodium	74	1	mg/L		1		12/18/2023	07:55	ejc	EPA 200.7	12/19/2023	12:12	ac

DQF Flags Definition:

U Constituent results were non-detect.

ND=Non-Detected, RL=Reporting Level * RL adjusted for dilution, Dil.=Dilution

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



December 22, 2023

Innovative Ag Services, LLC

Lab No. : VI 2348569

Customer No. : 4018573

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Calcium	200.7	12/18/2023:214203EJC	Blank	mg/L		ND	<1	
		(VI 2348524-001)	LCS	mg/L	12.00	99.1%	85-115	
			MS	mg/L	12.00	95.7%	75-125	
			MSD	mg/L	12.00	75.8%	75-125	
			MSRPD	mg/L		3.1%	≤20.0	
		(SP 2320618-001)	MS	mg/L	12.00	123%	75-125	
			MSD	mg/L	12.00	92.7%	75-125	
			MSRPD	mg/L		3.2%	≤20.0	
	200.7	12/20/2023:214322AC	Blank	mg/L		ND	<1	
		(VI 2348243-001)	LCS	mg/L	12.00	102%	85-115	
			MS	mg/L	12.00	135%	<1/4	406
			MSD	mg/L	12.00	108%	75-125	
			MSRPD	mg/L		4.0%	≤20.0	
		(VI 2348281-001)	MS	mg/L	12.00	153%	75-125	435
			MSD	mg/L	12.00	88.7%	75-125	
			MSRPD	mg/L		15.2%	≤20.0	
Magnesium	200.7	12/18/2023:214203EJC	Blank	mg/L		ND	<1	
		(VI 2348524-001)	LCS	mg/L	12.00	97.8%	85-115	
			MS	mg/L	12.00	103%	75-125	
			MSD	mg/L	12.00	99.2%	75-125	
			MSRPD	mg/L		3.1%	≤20	
		(SP 2320618-001)	MS	mg/L	12.00	112%	75-125	
			MSD	mg/L	12.00	92.4%	75-125	
			MSRPD	mg/L		5.1%	≤20	
	200.7	12/20/2023:214322AC	Blank	mg/L		ND	<1	
		(VI 2348243-001)	LCS	mg/L	12.00	98.7%	85-115	
			MS	mg/L	12.00	102%	75-125	
			MSD	mg/L	12.00	95.7%	75-125	
			MSRPD	mg/L		5.1%	≤20	
		(VI 2348281-001)	MS	mg/L	12.00	114%	75-125	
			MSD	mg/L	12.00	104%	75-125	
			MSRPD	mg/L		6.0%	≤20	
Potassium	200.7	12/18/2023:214203EJC	Blank	mg/L		ND	<1	
		(VI 2348524-001)	LCS	mg/L	12.00	98.4%	85-115	
			MS	mg/L	12.00	100%	75-125	
			MSD	mg/L	12.00	97.3%	75-125	
			MSRPD	mg/L		3.0%	≤20.0	
		(SP 2320618-001)	MS	mg/L	12.00	105%	75-125	
			MSD	mg/L	12.00	100%	75-125	
			MSRPD	mg/L		3.0%	≤20.0	
	200.7	12/20/2023:214322AC	Blank	mg/L		ND	<1	
		(VI 2348243-001)	LCS	mg/L	12.00	101%	85-115	
			MS	mg/L	12.00	105%	75-125	
			MSD	mg/L	12.00	100%	75-125	
			MSRPD	mg/L		4.9%	≤20.0	
			MS	mg/L	12.00	111%	75-125	

December 22, 2023

Innovative Ag Services, LLC

Lab No. : VI 2348569

Customer No. : 4018573

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
		(VI 2348281-001)	MSD	mg/L	12.00	104%	75-125	
			MSRPD	mg/L		5.0%	≤20.0	
Sodium	200.7	12/18/2023:214203EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	93.7%	85-115	
			MS	mg/L	12.00	101%	75-125	
		(VI 2348524-001)	MSD	mg/L	12.00	85.0%	75-125	
			MSRPD	mg/L		2.9%	≤20.0	
			MS	mg/L	12.00	158%	<1/4	406
		(SP 2320618-001)	MSD	mg/L	12.00	56.2%	<1/4	
			MSRPD	mg/L		6.2%	≤20.0	
	200.7	12/20/2023:214322AC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	95.8%	85-115	
			MS	mg/L	12.00	130%	<1/4	406
		(VI 2348243-001)	MSD	mg/L	12.00	91.8%	75-125	
			MSRPD	mg/L		4.4%	≤20.0	
			MS	mg/L	12.00	154%	75-125	435
		(VI 2348281-001)	MSD	mg/L	12.00	69.1%	75-125	435
			MSRPD	mg/L		18.5%	≤20.0	

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.
- 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.

Explanation

- 406 : Matrix Spike (MS) not within the Acceptance Range (AR) because of high analyte concentration in the sample. Data was accepted based on the LCS or CCV recovery.
- 435 : Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

December 22, 2023

Innovative Ag Services, LLC

Lab No. : VI 2348569
 Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Alkalinity (as CaCO3)	2320B	12/19/2023:214317AMM	ND	mg/L		0.9%	10	435
Bicarbonate	2320B	(STK2356929-003)	Dup	mg/L		0.9%	10	
E. C.	2320B	(STK2356929-003)	Dup	umhos/cm		0.7%	5	
Solids, Total Dissolved	2540CE	12/18/2023:214216CTL	Blank	mg/L		ND	<20	
		(VI 2348568-001)	LCS	mg/L	991.5	99.9%	90-110	
		(VI 2348568-001)	Dup	mg/L		0.2%	5	
		(VI 2348568-001)	Dup	mg/L		2.01%	5	
Chloride	300.0	12/15/2023:214302LDM	Blank	mg/L		ND	<1	
		(VI 2348570-001)	LCS	mg/L	25.00	101%	90-110	
		(VI 2348570-001)	MS	mg/L	50.00	90.2%	67-117	
		(VI 2348570-001)	MSD	mg/L	50.00	89.6%	67-117	
		(VI 2348570-002)	MSRPD	mg/L		0.4%	≤7	
		(VI 2348570-002)	MS	mg/L	50.00	88.1%	67-117	
		(VI 2348570-002)	MSD	mg/L	50.00	89.1%	67-117	
		(VI 2348570-002)	MSRPD	mg/L		0.5%	≤7	
Nitrate Nitrogen	300.0	12/15/2023:214302LDM	Blank	mg/L		ND	<0.4	
		(VI 2348570-001)	LCS	mg/L	20.00	102%	90-110	
		(VI 2348570-001)	MS	mg/L	40.00	104%	86-112	
		(VI 2348570-001)	MSD	mg/L	40.00	103%	86-112	
		(VI 2348570-002)	MSRPD	mg/L		0.3%	≤7	
		(VI 2348570-002)	MS	mg/L	40.00	102%	86-112	
		(VI 2348570-002)	MSD	mg/L	40.00	102%	86-112	
		(VI 2348570-002)	MSRPD	mg/L		0.3%	≤7	
Sulfate Sulfur	300.0	12/15/2023:214302LDM	Blank	mg/L		ND	<0.5	
		(VI 2348570-001)	LCS	mg/L	50.00	102%	90-110	
		(VI 2348570-001)	MS	mg/L	100.0	104%	18-165	
		(VI 2348570-001)	MSD	mg/L	100.0	103%	18-165	
		(VI 2348570-002)	MSRPD	mg/L		0.3%	≤7	
		(VI 2348570-002)	MS	mg/L	100.0	91.1%	18-165	
		(VI 2348570-002)	MSD	mg/L	100.0	91.6%	18-165	
		(VI 2348570-002)	MSRPD	mg/L		0.3%	≤7	

Definition

- Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
- 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.

Explanation

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



Laboratory Analysis Work Order

Nº 42181

ID: # 0210

2348569

SITE NAME: Jackson Dairy

Billing: IAS

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: _____

Q1 Q1
Q1 Q1

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 Backup Dom	Dom	w4	12-14 9:45	Zoke			
2 BlueHouse Dom	Dom	w4	12-14 9:30	Zoke			
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		12-14-23 7:00
2 nd		FGL	12-14-23 15:56	
3 rd		FGL		12-14-23 16:08
4 th			12-14-23 16:08	

LABORATORY USE ONLY
Logged In By: GID

Total Samples:

2/14/23 7:30 Laboratory #: 501 1015103 1155