



Valadao Dairy

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 type="checkbox"/> X 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

Valadao Dairy 2023

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

Facility Information:

Name of Dairy	Valadao Dairy
Facility Address	17293 9 1/2 Avenue, Hanford CA 93230

Owner/Operator as of 12/31/2023

Operator Name	Mike Valadao
Operator Phone	(559) 584-0860
Owner Name	Mike Valadao
Owner Phone	(559) 584-0860

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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CENTRAL VALLEY REGION

17. Record-Keeping Results

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

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

18. Groundwater Monitoring Section

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."

Same as owner

Signature of Operator of Facility

Mike Valadao

Print Name

Title and Date

DocuSigned by:
Mike Valadao

5522F12BEDEC4DF...
Signature of Owner of Facility

Mike Valadao

Print Name

6/25/2024

Title and Date



INNOVATIVE AG SERVICES

Valadao 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	2,025	1,974	Milk Freestall -	1,400	50,097.92	713,304.90	122,486.70	165,717.30	1,301,241.06
Hol Dry Cows	100	97	Flushed	1,450	1,415.44	17,702.50	2,478.35	11,683.65	24,981.77
Hol Heifers(15-24)	1,245	1,213	Dry Scrape	1,000	12,661.93	168,243.10	26,564.70	79,694.10	312,400.87
Hol Heifers (7-14)	1,365	1,330	Dry Scrape	750	12,790.98	126,217.00	21,359.80	72,817.50	160,562.59
Hol Calves (4-6)	485	472	Dry Scrape	300	1,636.66	24,119.20	6,891.20	13,782.40	11,301.57
	5,220	5,086			78,602.93	1,049,586.70	179,780.75	343,694.95	1,810,487.86

* 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)**
44,788,302	510.25	85.15	783.25	6,512.50	190,367.42	31,768.32	292,220.05	2,429,726.2

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

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

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



Valadao Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 1

Almonds, 48 Acres Planted on 03/01/2019

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		%				672				
02/18/2023	Ground Water: Well Avg	4.50	Acre Inches	0.00		mg/L				0	0	0	11,970	
03/20/2023	Ground Water: Well Avg	4.50	Acre Inches	0.00		mg/L				0	0	0	11,970	
04/19/2023	Ground Water: Well Avg	4.50	Acre Inches	0.00		mg/L				0	0	0	11,970	
05/06/2023	Ground Water: Well Avg	5.50	Acre Inches	0.00		mg/L				0	0	0	14,630	
06/16/2023	Ground Water: Well Avg	5.50	Acre Inches	0.00		mg/L				0	0	0	14,630	
07/13/2023	Ground Water: Well Avg	5.50	Acre Inches	0.00		mg/L				0	0	0	14,630	
08/16/2023	Ground Water: Well Avg	5.00	Acre Inches	0.00		mg/L				0	0	0	13,300	
09/14/2023	Harvest	1.90	Tons	7.84	3.32	0.34	1.90	%						5,581
Acre Inches Applied:		35.00		Totals:						672	0	0	93,102	5,581
Season Nitrogen Ratio:		0.12		Lbs Per Acre:						14	0	0	1,940	116



Valadao Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 2

Wheat, 42 Acres Planted on 11/14/2022

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 %					588					
04/23/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					43	0	0	4,275		
05/08/2023	Harvest	16.00 Tons	62.90	1.60	0.44	2.28 %							7,978
Acre Inches Applied:		5.00	Totals:					631	0	0	4,275		7,978
Season Nitrogen Ratio:		0.08	Lbs Per Acre:					15	0	0	102		190

Field Name: 2

Corn, 42 Acres Planted on 06/13/2023

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)
05/27/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					43	0	0	4,275		
06/20/2023	Surface Water: Lakeside	5.50 Acre Inches	0.90 mg/L					47	0	0	4,703		
07/15/2023	Surface Water: Lakeside	5.75 Acre Inches	0.90 mg/L					49	0	0	4,917		
07/28/2023	Surface Water: Lakeside	6.00 Acre Inches	0.90 mg/L					51	0	0	5,130		
07/28/2023	Waste Water: Main Lagoon	1.00 Acre Inches	472.00	55.00	693.00	mg/L	1,140,481	4,484	522	6,584	70,302		
08/07/2023	Surface Water: Lakeside	5.80 Acre Inches	0.90 mg/L					50	0	0	4,959		
08/07/2023	Waste Water: Main Lagoon	1.00 Acre Inches	472.00	55.00	693.00	mg/L	1,140,481	4,484	522	6,584	70,302		
08/15/2023	Surface Water: Lakeside	5.75 Acre Inches	0.90 mg/L					49	0	0	4,917		
08/26/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					43	0	0	4,275		
09/11/2023	Harvest	28.70 Tons	68.30	1.45	0.34	2.25 %							11,081
Acre Inches Applied:		40.80	Totals:					2,280,961	9,300	1,045	13,167	173,779	11,081
Season Nitrogen Ratio:		0.84	Lbs Per Acre:					221	25	314	4,138		264



INNOVATIVE AG SERVICES

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Nutrient Applications (Attachment B)

Field Name: 3

Wheat, 50 Acres Planted on 11/16/2022

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 %					700					
04/21/2023	Surface Water: Lakeside	6.00 Acre Inches	0.90 mg/L					61	0	0	6,108		
05/09/2023	Harvest	16.10 Tons	71.70	1.46	0.39	2.18 %							6,652
Acre Inches Applied:		6.00	Totals:					761	0	0	6,108		6,652
Season Nitrogen Ratio:		0.11	Lbs Per Acre:					15	0	0	122		133

Field Name: 3

Corn, 50 Acres Planted on 06/15/2023

Date	Event/Source	Amount Applied/Yield (per Acre) Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
05/29/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					51	0	0	5,090		
07/13/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					51	0	0	5,090		
07/21/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					51	0	0	5,090		
07/30/2023	Surface Water: Lakeside	5.50 Acre Inches	0.90 mg/L					56	0	0	5,598		
07/30/2023	Waste Water: Main Lagoon	1.00 Acre Inches	472.00	55.00	693.00	mg/L	1,357,715	5,338	622	7,838	83,692		
08/09/2023	Surface Water: Lakeside	5.50 Acre Inches	0.90 mg/L					56	0	0	5,598		
08/09/2023	Waste Water: Main Lagoon	1.00 Acre Inches	472.00	55.00	693.00	mg/L	1,357,715	5,338	622	7,838	83,692		
08/17/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					51	0	0	5,090		
08/27/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					51	0	0	5,090		
09/11/2023	Harvest	30.10 Tons	66.40	1.50	0.33	2.22 %							15,170
Acre Inches Applied:		38.00	Totals:					2,715,430	11,043	1,244	15,675	204,030	15,170
Season Nitrogen Ratio:		0.73	Lbs Per Acre:					221	25	314	4,081		303



INNOVATIVE AG SERVICES

Valadao Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 4A

Wheat, 54 Acres Planted on 11/14/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
12/07/2022	Surface Water: Lakeside	5.00	Acre Inches	0.90			mg/L			55	0	0	5,497	
01/01/2023	Atmospheric Deposit	14.00	Pounds	100.00			%			756				
01/06/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90			mg/L			55	0	0	5,497	
01/06/2023	Waste Water: Main Lagoon	1.00	Acre Inches	486.00	115.00	855.00	mg/L		1,466,332	5,936	1,405	10,444	72,676	
04/17/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90			mg/L			55	0	0	5,497	
04/17/2023	Waste Water: Main Lagoon	0.60	Acre Inches	551.00	92.40	887.00	mg/L		879,799	4,038	677	6,501	51,008	
05/08/2023	Harvest	20.50	Tons	63.30	1.59	0.48	2.45	%						12,920
Acre Inches Applied:		16.60		Totals:					2,346,132	10,896	2,082	16,944	140,174	12,920
Season Nitrogen Ratio:		0.84		Lbs Per Acre:						202	39	314	2,596	239



Valadao Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 4A

Corn, 54 Acres Planted on 06/16/2023

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							
05/12/2023	Corral Solids: Main Corral	8.00	Tons	21.00	1.40	0.23	0.26	%	432		9,556	1,577	1,809	0	
05/23/2023	Surface Water: Lakeside	5.50	Acre Inches		0.90			mg/L			60	0	0	6,046	
07/05/2023	Surface Water: Lakeside	5.00	Acre Inches		0.90			mg/L			55	0	0	5,497	
07/16/2023	Surface Water: Lakeside	5.00	Acre Inches		0.90			mg/L			55	0	0	5,497	
07/24/2023	Surface Water: Lakeside	5.00	Acre Inches		0.90			mg/L			55	0	0	5,497	
08/01/2023	Surface Water: Lakeside	5.00	Acre Inches		0.90			mg/L			55	0	0	5,497	
08/08/2023	Surface Water: Lakeside	5.00	Acre Inches		0.90			mg/L			55	0	0	5,497	
08/15/2023	Surface Water: Lakeside	5.00	Acre Inches		0.90			mg/L			55	0	0	5,497	
08/25/2023	Surface Water: Lakeside	5.00	Acre Inches		0.90			mg/L			55	0	0	5,497	
09/07/2023	Harvest	25.10	Tons	69.70	1.13	0.28	1.85	%							9,282
Acre Inches Applied:		40.50		Totals:					432		10,002	1,577	1,809	44,523	9,282
Season Nitrogen Ratio:		1.08		Lbs Per Acre:							185	29	34	824	172



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Nutrient Applications (Attachment B)

Field Name: 4B

Wheat, 55 Acres Planted on 11/15/2022

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		%			770					
01/06/2023	Surface Water: Lakeside	6.00 Acre Inches	0.90		mg/L			67	0	0	0	6,718	
01/06/2023	Waste Water: Main Lagoon	1.00 Acre Inches	486.00	115.00	855.00	mg/L		1,493,486	6,046	1,431	10,637	74,022	
04/18/2023	Surface Water: Lakeside	6.00 Acre Inches	0.90		mg/L			67	0	0	0	6,718	
04/18/2023	Waste Water: Main Lagoon	0.60 Acre Inches	551.00	92.40	887.00	mg/L		896,092	4,113	690	6,621	51,952	
05/08/2023	Harvest	18.90 Tons	57.20	1.53	0.43	2.35 %							13,614
Acre Inches Applied:		13.60	Totals:					2,389,578	11,063	2,120	17,258	139,411	13,614
Season Nitrogen Ratio:		0.81	Lbs Per Acre:					201	39	314	2,535	248	



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Nutrient Applications (Attachment B)

Field Name: 4B

Corn, 55 Acres Planted on 06/16/2023

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)
05/21/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90			mg/L			56	0	0	5,598	
05/21/2023	Waste Water: Main Lagoon	1.25 Acre Inches	551.00	92.40	887.00	mg/L	1,866,858	8,568	1,437	13,793	108,234		
07/03/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90			mg/L			56	0	0	5,598	
07/15/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90			mg/L			56	0	0	5,598	
07/22/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90			mg/L			56	0	0	5,598	
07/29/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90			mg/L			56	0	0	5,598	
08/05/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90			mg/L			56	0	0	5,598	
08/13/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90			mg/L			56	0	0	5,598	
08/24/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90			mg/L			56	0	0	5,598	
09/07/2023	Harvest	24.80 Tons	68.30	1.22	0.27	1.56 %							10,550
Acre Inches Applied:		41.25	Totals:				1,866,858	9,017	1,437	13,793	153,022	10,550	
Season Nitrogen Ratio:		0.85	Lbs Per Acre:				164	26	251	2,782	192		



Valadao Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 4W
Wheat, 17 Acres Planted on 11/16/2022

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		%				238				
01/08/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L				17	0	0	1,730	
01/08/2023	Waste Water: Main Lagoon	1.00	Acre Inches	486.00	115.00	855.00	mg/L	461,623	1,869	442	3,288	22,880		
02/09/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L				17	0	0	1,730	
03/21/2023	Surface Water: Lakeside	4.50	Acre Inches	0.90		mg/L				16	0	0	1,557	
04/21/2023	Surface Water: Lakeside	4.50	Acre Inches	0.90		mg/L				16	0	0	1,557	
05/08/2023	Harvest	17.90	Tons	60.80	1.51	0.38	2.25	%						3,602
Acre Inches Applied:			20.00	Totals:				461,623	2,173	442	3,288	29,455	3,602	
Season Nitrogen Ratio:				Lbs Per Acre:						128	26	193	1,733	212



INNOVATIVE AG SERVICES

Valadao Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 4W

Corn, 17 Acres Planted on 06/18/2023

Date	Event/Source	Amount Applied/Yield (per Acre) Units	Lab Sample Data					Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
05/12/2023	Corral Solids: Main Corral	8.00 Tons	21.00	1.40	0.23	0.26	%	136		3,008	496	570	0	
05/29/2023	Surface Water: Lakeside	5.00 Acre Inches		0.90			mg/L			17	0	0	1,730	
07/01/2023	Surface Water: Lakeside	5.00 Acre Inches		0.90			mg/L			17	0	0	1,730	
07/10/2023	Surface Water: Lakeside	5.00 Acre Inches		0.90			mg/L			17	0	0	1,730	
07/19/2023	Surface Water: Lakeside	5.00 Acre Inches		0.90			mg/L			17	0	0	1,730	
07/27/2023	Surface Water: Lakeside	5.00 Acre Inches		0.90			mg/L			17	0	0	1,730	
08/03/2023	Surface Water: Lakeside	5.00 Acre Inches		0.90			mg/L			17	0	0	1,730	
08/11/2023	Surface Water: Lakeside	5.00 Acre Inches		0.90			mg/L			17	0	0	1,730	
08/22/2023	Surface Water: Lakeside	5.00 Acre Inches		0.90			mg/L			17	0	0	1,730	
09/07/2023	Harvest	24.70 Tons	70.20	1.36	0.36	1.81	%							3,404
Acre Inches Applied:		40.00	Totals:					136		3,147	496	570	13,843	3,404
Season Nitrogen Ratio:		0.92	Lbs Per Acre:							185	29	34	814	200



INNOVATIVE AG SERVICES

Valadao Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 5

Wheat, 60 Acres Planted on 11/17/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
12/15/2022	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			61	0	0	6,107		
01/01/2023	Atmospheric Deposit	14.00	Pounds	100.00		%			840					
01/09/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			61	0	0	6,107		
01/09/2023	Waste Water: Main Lagoon	1.00	Acre Inches	486.00	115.00	855.00	mg/L	1,629,258	6,596	1,561	11,604	80,752		
04/09/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			61	0	0	6,107		
05/08/2023	Harvest	18.60	Tons	60.70	1.58	0.36	2.10 %							13,859
Acre Inches Applied:		16.00		Totals:				1,629,258	7,619	1,561	11,604	99,074		13,859
Season Nitrogen Ratio:		0.55		Lbs Per Acre:					127	26	193	1,651		231



Valadao Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 5

Corn, 60 Acres Planted on 06/13/2023

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)
05/17/2023	Surface Water: Lakeside	4.50	Acre Inches	0.90			mg/L			55	0	0	5,497	
05/17/2023	Waste Water: Main Lagoon	0.65	Acre Inches	551.00	92.40	887.00	mg/L		1,059,018	4,861	815	7,825	61,399	
07/01/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90			mg/L			61	0	0	6,107	
07/10/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90			mg/L			61	0	0	6,107	
07/19/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90			mg/L			61	0	0	6,107	
07/27/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90			mg/L			61	0	0	6,107	
07/27/2023	Waste Water: Main Lagoon	0.65	Acre Inches	472.00	55.00	693.00	mg/L		1,059,018	4,164	485	6,113	65,280	
08/03/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90			mg/L			61	0	0	6,107	
08/10/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90			mg/L			61	0	0	6,107	
08/22/2023	Surface Water: Lakeside	4.50	Acre Inches	0.90			mg/L			55	0	0	5,497	
09/07/2023	Harvest	25.20	Tons	68.40	1.14	0.29	1.65	%						10,894
Acre Inches Applied:		40.30		Totals:					2,118,035	9,502	1,301	13,938	174,316	10,894
Season Nitrogen Ratio:		0.87		Lbs Per Acre:					158	22	232	2,905	182	



Valadao Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 6

Alfalfa, 91 Acres Planted on 10/01/2017

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	%			1,274					
04/19/2023	Ground Water: Well Avg	6.00	Acre Inches	0.00	mg/L			0	0	0	30,258		
05/18/2023	Surface Water: Lakeside	6.00	Acre Inches	0.90	mg/L			111	0	0	11,116		
06/22/2023	Surface Water: Lakeside	7.00	Acre Inches	0.90	mg/L			130	0	0	12,968		
07/03/2023	Ground Water: Well Avg	7.00	Acre Inches	0.00	mg/L			0	0	0	35,301		
07/19/2023	Ground Water: Well Avg	7.00	Acre Inches	0.00	mg/L			0	0	0	35,301		
08/01/2023	Ground Water: Well Avg	5.50	Acre Inches	0.00	mg/L			0	0	0	27,737		
08/30/2023	Ground Water: Well Avg	5.00	Acre Inches	0.00	mg/L			0	0	0	25,215		
09/15/2023	Ground Water: Well Avg	5.00	Acre Inches	0.00	mg/L			0	0	0	25,215		
12/11/2023	Harvest	8.50	Tons	16.40	2.82	0.18	2.09	%					36,471
Acre Inches Applied:		48.50		Totals:				1,515	0	0	203,110		36,471
Season Nitrogen Ratio:		0.04		Lbs Per Acre:				17	0	0	2,232		401



INNOVATIVE AG SERVICES

Valadao Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 7

Rye Grass, 71 Acres Planted on 11/13/2022

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		%			994					
01/11/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			72	0	0	0	7,227	
01/11/2023	Waste Water: Main Lagoon	1.00	Acre Inches	486.00	115.00	855.00	mg/L		1,927,955	7,805	1,847	13,731	95,556	
02/12/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			72	0	0	0	7,227	
02/12/2023	Waste Water: Main Lagoon	1.00	Acre Inches	486.00	115.00	855.00	mg/L		1,927,955	7,805	1,847	13,731	95,556	
03/13/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			72	0	0	0	7,227	
03/13/2023	Waste Water: Main Lagoon	0.50	Acre Inches	486.00	115.00	855.00	mg/L		963,978	3,903	924	6,866	47,778	
04/23/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			72	0	0	0	7,227	
05/24/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			72	0	0	0	7,227	
06/20/2023	Harvest	15.00	Tons	7.07	1.44	0.34	3.16	%						28,504
Acre Inches Applied:		27.50		Totals:				4,819,888	20,869	4,617	34,328	275,026	28,504	
Season Nitrogen Ratio:		0.73		Lbs Per Acre:				294	65	484	3,874	401		



Valadao Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 7

Corn, 71 Acres Planted on 07/02/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/22/2023	Corral Solids: Main Corral	7.00	Tons	21.00	1.40	0.23	0.26	%	497		10,994	1,814	2,081	0
06/25/2023	Surface Water: Lakeside	6.00	Acre Inches		0.90			mg/L		87	0	0	8,673	
07/26/2023	Surface Water: Lakeside	7.00	Acre Inches		0.90			mg/L		102	0	0	10,118	
08/09/2023	Surface Water: Lakeside	7.00	Acre Inches		0.90			mg/L		102	0	0	10,118	
08/19/2023	Surface Water: Lakeside	7.00	Acre Inches		0.90			mg/L		102	0	0	10,118	
08/29/2023	Surface Water: Lakeside	6.50	Acre Inches		0.90			mg/L		94	0	0	9,395	
09/06/2023	Surface Water: Lakeside	6.50	Acre Inches		0.90			mg/L		94	0	0	9,395	
10/10/2023	Harvest	24.30	Tons	68.90	1.26	0.28	1.43	%						13,521
Acre Inches Applied:		40.00		Totals:				497		11,572	1,814	2,081	57,815	13,521
Season Nitrogen Ratio:		0.86		Lbs Per Acre:						163	26	29	814	190



Valadao Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 8N

Rye Grass, 62 Acres Planted on 11/13/2022

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		%				868					
01/13/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L				63	0	0	6,311		
01/13/2023	Waste Water: Main Lagoon	1.00	Acre Inches	486.00	115.00	855.00	mg/L			1,683,567	6,816	1,613	11,991	83,443	
02/13/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L				63	0	0	6,311		
02/13/2023	Waste Water: Main Lagoon	1.00	Acre Inches	486.00	115.00	855.00	mg/L			1,683,567	6,816	1,613	11,991	83,443	
03/15/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L				63	0	0	6,311		
03/15/2023	Waste Water: Main Lagoon	0.50	Acre Inches	486.00	115.00	855.00	mg/L			841,783	3,408	807	5,995	41,722	
04/17/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L				63	0	0	6,311		
05/18/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L				63	0	0	6,311		
06/20/2023	Harvest	15.50	Tons	7.49	1.32	0.31	2.84	%						23,470	
Acre Inches Applied:		27.50		Totals:						4,208,916	18,224	4,032	29,977	240,163	23,470
Season Nitrogen Ratio:		0.78		Lbs Per Acre:						294	65	484	3,874	379	



INNOVATIVE AG SERVICES

Valadao Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 8N

Milo, 62 Acres Planted on 07/08/2023

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)
06/22/2023	Corral Solids: Main Corral	7.00 Tons	21.00 %	1.40	0.23	0.26		434		9,600	1,584	1,817	0	
06/25/2023	Surface Water: Lakeside	5.00 Acre Inches		0.90			mg/L			63	0	0	6,311	
08/09/2023	Surface Water: Lakeside	7.00 Acre Inches		0.90			mg/L			89	0	0	8,835	
09/01/2023	Surface Water: Lakeside	6.00 Acre Inches		0.90			mg/L			76	0	0	7,573	
10/05/2023	Surface Water: Lakeside	5.00 Acre Inches		0.90			mg/L			63	0	0	6,311	
10/31/2023	Harvest	23.00 Tons	76.30 %	1.57	0.36	2.21								10,612
Acre Inches Applied:		23.00	Totals:					434		9,891	1,584	1,817	29,030	10,612
Season Nitrogen Ratio:		0.93	Lbs Per Acre:							160	26	29	468	171



Valadao Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 8S

Rye Grass, 24 Acres Planted on 11/12/2022

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 %					336					
01/15/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					24	0	0	2,443		
01/15/2023	Waste Water: Main Lagoon	1.00 Acre Inches	486.00 115.00 855.00 mg/L					651,703	2,638	624	4,642	32,301	
02/16/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					24	0	0	2,443		
02/16/2023	Waste Water: Main Lagoon	0.50 Acre Inches	486.00 115.00 855.00 mg/L					325,852	1,319	312	2,321	16,150	
04/20/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					24	0	0	2,443		
05/21/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					24	0	0	2,443		
06/20/2023	Harvest	14.90 Tons	6.85 1.29 0.30 2.72 %										8,594
Acre Inches Applied:		21.50	Totals:					977,555	4,392	936	6,962	58,223	8,594
Season Nitrogen Ratio:		0.51	Lbs Per Acre:					183	39	290	2,426	358	

Field Name: 8S

Milo, 24 Acres Planted on 07/16/2023

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)
06/25/2023	Corral Solids: Main Corral	7.00 Tons	21.00 1.40 0.23 0.26 %				168		3,716	613	703	0	
06/28/2023	Surface Water: Lakeside	5.50 Acre Inches	0.90 mg/L					27	0	0	2,687		
08/12/2023	Surface Water: Lakeside	6.00 Acre Inches	0.90 mg/L					29	0	0	2,932		
09/04/2023	Surface Water: Lakeside	6.00 Acre Inches	0.90 mg/L					29	0	0	2,932		
10/08/2023	Surface Water: Lakeside	5.25 Acre Inches	0.90 mg/L					26	0	0	2,565		
11/01/2023	Harvest	23.60 Tons	69.60 1.29 0.32 1.80 %										4,442
Acre Inches Applied:		22.75	Totals:				168	3,827	613	703	11,116	4,442	
Season Nitrogen Ratio:		0.86	Lbs Per Acre:					159	26	29	463	185	



Valadao Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 9

Wheat, 81 Acres Planted on 11/12/2022

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		%				1,134				
01/16/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L				83	0	0	0	8,245
01/16/2023	Waste Water: Main Lagoon	0.60	Acre Inches	486.00	115.00	855.00	mg/L			1,319,699	5,343	1,264	9,399	65,409
03/18/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L				83	0	0	0	8,245
03/18/2023	Waste Water: Main Lagoon	0.65	Acre Inches	486.00	115.00	855.00	mg/L			1,429,674	5,788	1,370	10,183	70,860
04/11/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L				83	0	0	0	8,245
04/11/2023	Waste Water: Main Lagoon	0.50	Acre Inches	551.00	92.40	887.00	mg/L			1,099,749	5,048	846	8,126	63,760
05/08/2023	Harvest	20.40	Tons	60.70	1.61	0.34	2.07	%						20,910
Acre Inches Applied:		16.75		Totals:				3,849,122	17,561	3,481	27,708	224,764	20,910	
Season Nitrogen Ratio:		0.84		Lbs Per Acre:						217	43	342	2,775	258



Valadao Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 9

Corn, 81 Acres Planted on 06/15/2023

Date	Event/Source	Amount Applied/Yield (per Acre) Units	Lab Sample Data					Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
05/21/2023	Corral Solids: Main Corral	8.00 Tons	21.00	1.40	0.23	0.26	%	648		14,334	2,365	2,714	0	
05/23/2023	Surface Water: Lakeside	7.00 Acre Inches		0.90			mg/L			116	0	0	11,542	
07/07/2023	Surface Water: Lakeside	4.20 Acre Inches		0.90			mg/L			70	0	0	6,926	
07/16/2023	Surface Water: Lakeside	4.00 Acre Inches		0.90			mg/L			66	0	0	6,596	
07/24/2023	Surface Water: Lakeside	6.00 Acre Inches		0.90			mg/L			99	0	0	9,894	
08/02/2023	Surface Water: Lakeside	5.00 Acre Inches		0.90			mg/L			83	0	0	8,245	
08/13/2023	Surface Water: Lakeside	5.00 Acre Inches		0.90			mg/L			83	0	0	8,245	
08/22/2023	Surface Water: Lakeside	4.00 Acre Inches		0.90			mg/L			66	0	0	6,596	
09/11/2023	Harvest	27.20 Tons	68.20	1.49	0.34	2.39	%							20,879
Acre Inches Applied:		35.20	Totals:					648		14,915	2,365	2,714	58,044	20,879
Season Nitrogen Ratio:		0.71	Lbs Per Acre:							184	29	34	717	258



Valadao Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 10

Rye Grass, 85 Acres Planted on 11/19/2022

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		%				1,190				
01/18/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L				87	0	0	8,652	
01/18/2023	Waste Water: Main Lagoon	1.00	Acre Inches	486.00	115.00	855.00	mg/L		2,308,116	9,344	2,211	16,439	114,398	
02/15/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L				87	0	0	8,652	
02/15/2023	Waste Water: Main Lagoon	1.00	Acre Inches	486.00	115.00	855.00	mg/L		2,308,116	9,344	2,211	16,439	114,398	
03/20/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L				87	0	0	8,652	
03/20/2023	Waste Water: Main Lagoon	1.00	Acre Inches	486.00	115.00	855.00	mg/L		2,308,116	9,344	2,211	16,439	114,398	
04/21/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L				87	0	0	8,652	
04/21/2023	Waste Water: Main Lagoon	0.50	Acre Inches	551.00	92.40	887.00	mg/L		1,154,058	5,297	888	8,527	66,909	
05/23/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L				87	0	0	8,652	
06/20/2023	Harvest	15.20	Tons	8.13	2.58	0.43	3.70	%						61,247
Acre Inches Applied:		28.50		Totals:					8,078,404	34,953	7,521	57,844	453,364	61,247
Season Nitrogen Ratio:		0.57		Lbs Per Acre:					411	88	681	5,334	721	



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Valadao Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 10

Corn, 85 Acres Planted on 07/03/2023

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)
06/23/2023	Corral Solids: Main Corral	6.50	Tons	21.00	1.40	0.23	0.26	%	552		12,221	2,016	2,314	0	
06/27/2023	Surface Water: Lakeside	5.50	Acre Inches		0.90			mg/L			95	0	0	9,517	
07/20/2023	Surface Water: Lakeside	6.00	Acre Inches		0.90			mg/L			104	0	0	10,383	
07/20/2023	Waste Water: Main Lagoon	0.50	Acre Inches	472.00	55.00	693.00		mg/L		1,154,058	4,537	529	6,662	71,138	
08/02/2023	Surface Water: Lakeside	5.50	Acre Inches		0.90			mg/L			95	0	0	9,517	
08/16/2023	Surface Water: Lakeside	5.00	Acre Inches		0.90			mg/L			87	0	0	8,652	
08/27/2023	Surface Water: Lakeside	5.00	Acre Inches		0.90			mg/L			87	0	0	8,652	
09/12/2023	Surface Water: Lakeside	5.00	Acre Inches		0.90			mg/L			87	0	0	8,652	
10/18/2023	Harvest	26.10	Tons	68.90	1.25	0.28	1.35	%						17,249	
Acre Inches Applied:		32.50		Totals:					552	1,154,058	17,313	2,545	8,976	126,512	17,249
Season Nitrogen Ratio:		1.00		Lbs Per Acre:							204	30	106	1,488	203



Valadao Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 11

Rye Grass, 20 Acres Planted on 11/17/2022

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 %					280					
01/21/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					20	0	0	0	2,036	
01/21/2023	Waste Water: Main Lagoon	1.00 Acre Inches	486.00 115.00 855.00 mg/L				543,086	2,199	520	3,868	26,917		
02/20/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					20	0	0	0	2,036	
02/20/2023	Waste Water: Main Lagoon	1.00 Acre Inches	486.00 115.00 855.00 mg/L				543,086	2,199	520	3,868	26,917		
04/24/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					20	0	0	0	2,036	
05/17/2023	Surface Water: Lakeside	5.00 Acre Inches	0.90 mg/L					20	0	0	0	2,036	
06/20/2023	Harvest	14.20 Tons	6.35 1.59 0.36 3.06 %										8,458
Acre Inches Applied:		22.00	Totals:				1,086,172	4,759	1,040	7,736	61,978	8,458	
Season Nitrogen Ratio:		0.56	Lbs Per Acre:				238	52	387	3,099	423		

Field Name: 11

Milo, 20 Acres Planted on 07/03/2023

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)
06/24/2023	Corral Solids: Main Corral	7.00 Tons	21.00 1.40 0.23 0.26 %				140		3,097	511	586	0	
06/27/2023	Surface Water: Lakeside	6.00 Acre Inches	0.90 mg/L					24	0	0	0	2,443	
08/01/2023	Surface Water: Lakeside	6.00 Acre Inches	0.90 mg/L					24	0	0	0	2,443	
08/14/2023	Surface Water: Lakeside	6.00 Acre Inches	0.90 mg/L					24	0	0	0	2,443	
09/06/2023	Surface Water: Lakeside	6.00 Acre Inches	0.90 mg/L					24	0	0	0	2,443	
11/01/2023	Harvest	20.80 Tons	68.60 1.45 0.32 1.86 %										3,788
Acre Inches Applied:		24.00	Totals:				140	3,194	511	586	9,772	9,772	3,788
Season Nitrogen Ratio:		0.84	Lbs Per Acre:					160	26	29	489	189	



INNOVATIVE AG SERVICES

Valadao Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 12

Wheat, 23 Acres Planted on 11/19/2022

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		%			322				
01/19/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			23	0	0	2,341	
01/19/2023	Waste Water: Main Lagoon	1.00	Acre Inches	486.00	115.00	855.00	mg/L		624,549	2,528	598	4,448	30,955
03/20/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			23	0	0	2,341	
03/20/2023	Waste Water: Main Lagoon	1.00	Acre Inches	486.00	115.00	855.00	mg/L		624,549	2,528	598	4,448	30,955
04/27/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			23	0	0	2,341	
05/26/2023	Harvest	18.70	Tons	59.90	2.06	0.45	3.04	%					7,106
Acre Inches Applied:		17.00		Totals:					1,249,098	5,449	1,196	8,896	68,933
Season Nitrogen Ratio:		0.77		Lbs Per Acre:					237	52	387	2,997	309



Valadao Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 12

Corn, 23 Acres Planted on 06/14/2023

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)
06/04/2023	Surface Water: Lakeside	6.00	Acre Inches	0.90		mg/L			28	0	0	2,809	
06/04/2023	Waste Water: Main Lagoon	1.00	Acre Inches	472.00	55.00	693.00	mg/L	624,549	2,455	286	3,605	38,499	
07/20/2023	Surface Water: Lakeside	7.00	Acre Inches	0.90		mg/L			33	0	0	3,278	
08/01/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			23	0	0	2,341	
08/15/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			23	0	0	2,341	
08/23/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			23	0	0	2,341	
09/05/2023	Surface Water: Lakeside	7.00	Acre Inches	0.90		mg/L			33	0	0	3,278	
09/26/2023	Harvest	27.80	Tons	69.10	0.94	0.32	1.65 %						3,726
Acre Inches Applied:		36.00		Totals:				624,549	2,620	286	3,605	54,887	3,726
Season Nitrogen Ratio:		0.70		Lbs Per Acre:					114	12	157	2,386	162



Valadao Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 13

Wheat, 36 Acres Planted on 11/15/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data				Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
01/01/2023	Atmospheric Deposit	14.00	Pounds	100.00		%			504					
01/20/2023	Surface Water: Lakeside	6.00	Acre Inches	0.90		mg/L			44	0	0	4,397		
01/20/2023	Waste Water: Main Lagoon	1.00	Acre Inches	486.00	115.00	855.00	mg/L		977,555	3,957	936	6,962	48,451	
04/21/2023	Surface Water: Lakeside	6.00	Acre Inches	0.90		mg/L			44	0	0	4,397		
04/21/2023	Waste Water: Main Lagoon	1.00	Acre Inches	551.00	92.40	887.00	mg/L		977,555	4,487	752	7,223	56,676	
05/26/2023	Harvest	17.00	Tons	57.20	2.01	0.41	2.63	%						10,530
Acre Inches Applied:		14.00		Totals:					1,955,110	9,036	1,689	14,185	113,921	10,530
Season Nitrogen Ratio:		0.86		Lbs Per Acre:					251	47	394	3,164	292	

Field Name: 13

Corn, 36 Acres Planted on 06/11/2023

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	Surface Water: Lakeside	6.00	Acre Inches	0.90		mg/L			44	0	0	4,397		
06/01/2023	Waste Water: Main Lagoon	1.00	Acre Inches	551.00	92.40	887.00	mg/L		977,555	4,487	752	7,223	56,676	
07/21/2023	Surface Water: Lakeside	7.00	Acre Inches	0.90		mg/L			51	0	0	5,130		
08/03/2023	Surface Water: Lakeside	6.00	Acre Inches	0.90		mg/L			44	0	0	4,397		
08/17/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			37	0	0	3,664		
08/25/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			37	0	0	3,664		
09/03/2023	Surface Water: Lakeside	5.00	Acre Inches	0.90		mg/L			37	0	0	3,664		
09/26/2023	Harvest	27.40	Tons	70.50	0.97	0.34	1.79	%						5,634
Acre Inches Applied:		35.00		Totals:					977,555	4,736	752	7,223	81,594	5,634
Season Nitrogen Ratio:		0.84		Lbs Per Acre:					132	21	201	2,266	156	



Valadao Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 14

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 %					28				
	Acre Inches Applied:	0.00		Totals:					28				
	Season Nitrogen Ratio:			Lbs Per Acre:					14				

Season Notes: Fallow.

Valadao 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	66,525.90	10,976.95	12,593.57	0.00	3,007.50	tons
Process Wastewater	185,230.77	37,311.31	310,795.47	2,389,455.48	44,788,302.42	gallons
Irrigation Water	7,428.17					
Fertilizer / Total Imports	0.00					
Atmospheric Deposition	11,494.00					
Total Nitrogen Applied	270,678.84					
Crop Nitrogen Removal	409,727.44					
Nitrogen Balance	(139,048.60)					
Nitrogen Ratio	0.66					

- 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.



Valadao 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

Valadao 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)**
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* 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)**
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* 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.

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

Field Name	Assessor Parcel Number(s)	Acres	Type of Waste Applied
1	x028 x202 x002 x000	48	None
2	x028 x202 x023 x000	42	Process Wastewater
3	x028 x202 x028 x000	50	Process Wastewater
4A	x028 x201 x006 x000	54	Both
4B	x028 x201 x007 x000, x028 x201 x008 x000	55	Process Wastewater
4W	x028 x201 x009 x000	17	Both
5	x028 x202 x019 x000, x028 x202 x032 x000	60	Process Wastewater
6	x028 x206 x015 x000	91	None
7	x028 x206 x011 x000, x028 x206 x013 x000, x028 x206 x015 x000	71	Both
8N	x028 x206 x006 x000, x028 x206 x015 x000, x028 x206 x017 x000	62	Both
8S	x028 x206 x006 x000, x028 x206 x015 x000	24	Both
9	x028 x206 x015 x000	81	Both
10	x028 x206 x015 x000	85	Both
11	x028 x206 x015 x000	20	Both
12	x028 x206 x005 x000, x028 x206 x007 x000	23	Process Wastewater
13	x028 x206 x005 x000	36	Process Wastewater
14	x028 x202 x023 x000	2	None
		821	

Production Area APN(s): x028 x202 x023 x000, x028 x202 x028 x000, x028 x206 x005 x000, x028 x206 x007 x000



Valadao Dairy 2023
Lab Results Summary (Attachment E)

Process Wastewater

(mg/l/ppm unless noted otherwise)

Sample Date:	TKN	TP	TK	EC (umhos/cm)	NH4N	NO3N	TDS	pH (units)	General Minerals						
									CA	MG	NA	HCO3	CO3	SO4	CL
03/09/2023	486.00	115.00	855.00	8,960	429.00		5,950.00								
04/25/2023	551.00	92.40	887.00	10,500	484.00	0.00	6,960.00	7.50							
07/13/2023	472.00	55.00	693.00	11,200	432.00		7,400.00								
11/07/2023	532.00	78.20	698.00	8,650	527.00		5,740.00								
Averages:	510.25	85.15	783.25	9,828	468.00	0.00	6,512.50	7.50							

Manure - Corral Solids

(Dry Weight Basis)

Sample Date:	TN	TP	TK	Moisture	Ash	CA	MG	NA	S	CL
06/02/2023	1.40	0.23	0.26	21.00						%
11/07/2023	2.19	0.81	3.94	27.50						%
Averages:	1.80	0.52	2.10	24.25						

Plant Tissue

(Dry Weight Basis)

Field:	Crop #:	Crop	Sample Date:	TN (lbs/ton)	TP (lbs/ton)	TK (lbs/ton)	Moisture (%)	Ash (%)
1	1	Almonds	09/14/2023	66.40	6.74	38.00	7.84	13.30
2	1	Wheat	05/08/2023	32.00	8.90	45.60	62.90	8.18



INNOVATIVE AG SERVICES

Valadao Dairy 2023
Lab Results Summary (Attachment E)

Plant Tissue
(Dry Weight Basis)

Field:	Crop #:	Crop	Sample Date:	TN (lbs/ton)	TP (lbs/ton)	TK (lbs/ton)	Moisture (%)	Ash (%)
2	2	Corn	09/11/2023	29.00	6.86	45.00	68.30	7.38
3	1	Wheat	05/09/2023	29.20	7.88	43.60	71.70	9.05
3	2	Corn	09/11/2023	30.00	6.56	44.40	66.40	7.76
4A	1	Wheat	05/08/2023	31.80	9.60	49.00	63.30	8.54
4A	2	Corn	09/07/2023	22.60	5.62	37.00	69.70	6.89
4B	1	Wheat	05/08/2023	30.60	8.62	47.00	57.20	8.50
4B	2	Corn	09/07/2023	24.40	5.48	31.20	68.30	6.26
4W	1	Wheat	05/08/2023	30.20	7.50	45.00	60.80	8.37
4W	2	Corn	09/07/2023	27.20	7.10	36.20	70.20	6.40
5	1	Wheat	05/08/2023	31.60	7.22	42.00	60.70	8.27
5	2	Corn	09/07/2023	22.80	5.88	33.00	68.40	6.76
6	1	Alfalfa	12/11/2023	56.40	3.58	41.80	16.40	9.43
7	1	Rye Grass	06/20/2023	28.80	6.84	63.20	7.07	11.30
7	2	Corn	10/10/2023	25.20	5.66	28.60	68.90	7.61
8N	1	Rye Grass	06/20/2023	26.40	6.26	56.80	7.49	10.40
8N	2	Milo	10/31/2023	31.40	7.24	44.20	76.30	12.40
8S	1	Rye Grass	06/20/2023	25.80	6.04	54.40	6.85	10.30
8S	2	Milo	11/01/2023	25.80	6.32	36.00	69.60	27.30



INNOVATIVE AG SERVICES

Valadao 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 (%)
9	1	Wheat	05/08/2023	32.20	6.88	41.40	60.70	8.23
9	2	Corn	09/11/2023	29.80	6.70	47.80	68.20	7.44
10	1	Rye Grass	06/20/2023	51.60	8.64	74.00	8.13	12.80
10	2	Corn	10/18/2023	25.00	5.66	27.00	68.90	7.51
11	1	Rye Grass	06/20/2023	31.80	7.20	61.20	6.35	12.00
11	2	Milo	11/01/2023	29.00	6.36	37.20	68.60	26.40
12	1	Wheat	05/26/2023	41.20	9.02	60.80	59.90	11.80
12	2	Corn	09/26/2023	18.86	6.44	33.00	69.10	6.77
13	1	Wheat	05/26/2023	40.20	8.12	52.60	57.20	10.60
13	2	Corn	09/26/2023	19.36	6.80	35.80	70.50	7.41
14	1	FALLOW						

Well / Irrigation Water
(mg/l/ppm unless noted otherwise)

Dairy	Sample Date:	NO3N	TP (umhos/cm)	EC (umhos/cm)	NH4N *	TDS	TN	General Minerals						
								CA	MG	NA	HCO3	CO3	SO4	CL
Dom2	12/21/2023	0.00			439									



INNOVATIVE AG SERVICES

Valadao Dairy 2023
Lab Results Summary (Attachment E)

Well / Irrigation Water

(mg/l/ppm unless noted otherwise)

	Sample Date:	NO3N	TP	EC (umhos/cm)	NH4N *	TDS	TN	General Minerals											
								CA	MG	NA	HCO3	CO3	SO4	CL					
Dairy																			
Dom3								Out of service.											
Averages:																			
Domestic																			
Dom1	03/17/2023	32.20		1,600		1,030.00		183.00	12.00	155.00	400.00	0.00	32.70	188.00					
Dom4	03/17/2023	5.20		1,120															
Dom5	04/05/2023	5.40		1,090															
Dom6	04/05/2023	0.70		862															
Averages:														10.88					
1,168														1,030.00					



INNOVATIVE AG SERVICES

Valadao Dairy 2023
Lab Results Summary (Attachment E)

Well / Irrigation Water

(mg/l/ppm unless noted otherwise)

	Sample Date:	NO3N	TP	EC (umhos/cm)	NH4N *	TDS	TN	General Minerals							
								CA	MG	NA	HCO3	CO3	SO4	CL	
Irrigation															
Ag1								Out of service.							
Ag2								Did not run.							
Ag3								Out of service.							
Ag4								Out of service.							
Ag5								Out of service.							
Ag6								Did not run.							
Ag7								Did not run.							
Ag8								Out of service.							
Ag9	10/31/2023	0.00		325		200.00		0.00							
Ag10	11/14/2023	0.00		381		250.00		0.00							
Ag11	08/25/2023	0.00		305		210.00		0.00							
Ag12	10/31/2023	0.00		445		280.00		0.00	6.00	0.00	84.00	120.00	0.00	5.10	63.00
Ag13	12/04/2023	0.00		468		280.00		0.00							
Ag14	10/19/2023	0.00		372		250.00		0.00							
Averages:		0.00		383		245.00		0.00	6.00	0.00	84.00	120.00	0.00	5.10	63.00
Surface Water															
Lakeside (General)	06/28/2023	0.90		158		90.00		0.90							
Averages:		0.90		158		90.00		0.90							



INNOVATIVE AG SERVICES

Valadao Dairy 2023 Lab Results Summary (Attachment E)

* NH4N was non-detectable unless a value is shown

Soils

Field	Sample Date:	PO4P (ppm)
1	09/20/2023	61.70
6	11/20/2023	31.90

Valadao Dairy 2023
Planting and Harvest Information (Attachment F)

Crop #	Crop	Acres Planted	Plant Date	Harvest Date	Estimated Yield (tons)	Tons Harvested	Actual Yield
Field: 1	1 Almonds	48	03/01/2019	09/14/2023	2.5	91.2	1.9
Field: 2	1 Wheat	42	11/14/2022	05/08/2023	18.0	672.0	16.0
	2 Corn	42	06/13/2023	09/11/2023	29.5	1205.4	28.7
Field: 3	1 Wheat	50	11/16/2022	05/09/2023	18.0	805.0	16.1
	2 Corn	50	06/15/2023	09/11/2023	29.6	1505.0	30.1
Field: 4A	1 Wheat	54	11/14/2022	05/08/2023	18.0	1107.0	20.5
	2 Corn	54	06/16/2023	09/07/2023	30.0	1355.4	25.1
Field: 4B	1 Wheat	55	11/15/2022	05/08/2023	18.0	1039.5	18.9
	2 Corn	55	06/16/2023	09/07/2023	30.0	1364.0	24.8
Field: 4W	1 Wheat	17	11/16/2022	05/08/2023	18.0	304.3	17.9
	2 Corn	17	06/18/2023	09/07/2023	27.5	419.9	24.7
Field: 5	1 Wheat	60	11/17/2022	05/08/2023	18.6	1116.0	18.6
	2 Corn	60	06/13/2023	09/07/2023	27.2	1512.0	25.2
Field: 6	1 Alfalfa	91	10/01/2017	12/11/2023	8.0	773.5	8.5
Field: 7	1 Rye Grass	71	11/13/2022	06/20/2023	14.3	1065.0	15.0
	2 Corn	71	07/02/2023	10/10/2023	29.1	1725.3	24.3



Valadao Dairy 2023
Planting and Harvest Information (Attachment F)

Crop #	Crop	Acres Planted	Plant Date	Harvest Date	Estimated Yield (tons)	Tons Harvested	Actual Yield
Field: 8N							
	1 Rye Grass	62	11/13/2022	06/20/2023	16.0	961.0	15.5
	2 Milo	62	07/08/2023	10/31/2023	25.0	1426.0	23.0
Field: 8S							
	1 Rye Grass	24	11/12/2022	06/20/2023	16.0	357.6	14.9
	2 Milo	24	07/16/2023	11/01/2023	25.0	566.4	23.6
Field: 9							
	1 Wheat	81	11/12/2022	05/08/2023	19.0	1652.4	20.4
	2 Corn	81	06/15/2023	09/11/2023	28.2	2203.2	27.2
Field: 10							
	1 Rye Grass	85	11/19/2022	06/20/2023	16.0	1292.0	15.2
	2 Corn	85	07/03/2023	10/18/2023	29.6	2218.5	26.1
Field: 11							
	1 Rye Grass	20	11/17/2022	06/20/2023	13.2	284.0	14.2
	2 Milo	20	07/03/2023	11/01/2023	25.0	416.0	20.8
Field: 12							
	1 Wheat	23	11/19/2022	05/26/2023	18.0	430.1	18.7
	2 Corn	23	06/14/2023	09/26/2023	28.6	639.4	27.8
Field: 13							
	1 Wheat	36	11/15/2022	05/26/2023	18.0	612.0	17.0
	2 Corn	36	06/11/2023	09/26/2023	28.6	986.4	27.4



Valadao 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



April 11, 2023

Lab No. : VI 2341631
Customer No. : 4018573
Reference : 40340

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 | (2 pages) | : 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
Dom 1	03/17/2023	03/17/2023	VI 2341631-001	DW
Dom 4	03/17/2023	03/17/2023	VI 2341631-002	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)
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: 2023-04-11

Section: Case Narrative

Page 1 of 5

Page 1 of 5

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)382-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No. 1573	Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563	Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670	Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775	Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-8435 CA ELAP Certification No. 2810
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April 11, 2023

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

Description : Dom 1
Project : 0323 Valadao Dairy

Lab No. : VI 2341631-001
Customer No.: 4018573
Reference : 40340
Sampled On : March 17, 2023 at 13:00
Sampled By : Sean
Received On : March 17, 2023 at 15:55
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)	320	10	mg/L		1		03/20/2023	17:36	amm	SM 4500-H+B	03/20/2023	19:43	amm
Bicarbonate	400	10	mg/L		1		03/20/2023	17:36	amm	SM 4500-H+B	03/20/2023	19:43	amm
Carbonate	ND	10	mg/L		1	U	03/20/2023	17:36	amm	SM 4500-H+B	03/20/2023	19:43	amm
Hydroxide	ND	10	mg/L		1	U	03/20/2023	17:36	amm	SM 4500-H+B	03/20/2023	19:43	amm
Chloride	188	4*	mg/L	500 ²	4	b	03/21/2023	14:28	ldm	EPA 300.0	03/22/2023	03:13	ldm
Nitrate Nitrogen	32.2	0.4	mg/L	10	1		03/23/2023	13:20	lfs	SM 4500-NO3 F	03/23/2023	14:58	lfs
Conductivity	1600	1	umhos/cm	1600 ²	1		03/20/2023	17:36	amm	SM 4500-H+B	03/20/2023	19:43	amm
Sulfate Sulfur	32.7	0.17	mg/L		1	B	03/21/2023	14:28	ldm	EPA 300.0	03/21/2023	21:15	ldm
Solids, Total Dissolved (TDS)	1030	20	mg/L	1000 ²	1		03/20/2023	12:45	ctl	SM 2540 C	03/21/2023	10:45	ctl
Calcium	183	1	mg/L		1		03/23/2023	04:45	ejc	EPA 200.7	03/24/2023	11:30	ac
Magnesium	12	1	mg/L		1		03/23/2023	04:45	ejc	EPA 200.7	03/24/2023	11:30	ac
Potassium	ND	1	mg/L		1	J	03/23/2023	04:45	ejc	EPA 200.7	03/24/2023	11:30	ac
Sodium	155	1	mg/L		1		03/23/2023	04:45	ejc	EPA 200.7	03/24/2023	11:30	ac

DQF Flags Definition:

- U Constituent results were non-detect.
- b The Blank was positive for constituent but less than the PQL
- B The Blank was positive for constituent either greater than the PQL
- J Reported value is estimated; detected at a concentration below the RL and above the laboratory MDL.

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.

April 11, 2023

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

Description : Dom 4
Project : 0323 Valadao Dairy

Lab No. : VI 2341631-002
Customer No.: 4018573
Reference : 40340
Sampled On : March 17, 2023 at 13:10
Sampled By : Sean
Received On : March 17, 2023 at 15:55
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	5.2	0.4	mg/L	10	1		04/05/2023	12:00	Ifs	SM 4500-NO3 F	04/05/2023	12:56	Ifs	
Conductivity	1120	1	umhos/cm	1600 ²	1		03/27/2023	15:05	amm	SM 4500-H+B	03/27/2023	16:05	amm	

DQF Flags Definition:

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.

April 11, 2023
Innovative Ag Services, LLC

Lab No. : VI 2341631
 Customer No. : 4018573

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Calcium	200.7	03/23/2023:203101EJC (VI 2341610-001)	Blank LCS MS MSD MSRPD (SP 2304002-001)	mg/L mg/L mg/L mg/L mg/L mg/L	12.00 12.00 12.00 0.8000 12.00 12.00	ND 106 % 117 % 119 % 0.8% 84.2 %	<1 85-115 75-125 75-125 ≤20.0 75-125	
Magnesium	200.7	03/23/2023:203101EJC (VI 2341610-001)	Blank LCS MS MSD MSRPD (SP 2304002-001)	mg/L mg/L mg/L mg/L mg/L mg/L	12.00 12.00 12.00 0.8000 12.00 12.00	ND 107 % 115 % 118 % 2.2% 106 %	<1 85-115 75-125 75-125 ≤20 75-125	
Potassium	200.7	03/23/2023:203101EJC (VI 2341610-001)	Blank LCS MS MSD MSRPD (SP 2304002-001)	mg/L mg/L mg/L mg/L mg/L mg/L	12.00 12.00 12.00 0.8000 12.00 12.00	ND 103 % 118 % 120 % 0.9% 108 %	<1 85-115 75-125 75-125 ≤20.0 75-125	
Sodium	200.7	03/23/2023:203101EJC (VI 2341610-001)	Blank LCS MS MSD MSRPD (SP 2304002-001)	mg/L mg/L mg/L mg/L mg/L mg/L	12.00 12.00 12.00 0.8000 12.00 12.00	ND 101 % 139 % 136 % 0.2% 90.8 %	<1 85-115 <1/4 <1/4 ≤20.0 75-125	

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 11, 2023
Innovative Ag Services, LLC

Lab No. : VI 2341631
 Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Alkalinity (as CaCO3)	2320B	03/20/2023:202964AMM	ND	mg/L		3.70%	10	
Bicarbonate	2320B	(SP 2303993-001)	Dup	mg/L		3.74%	10	
E. C.	2320B	(SP 2303993-001)	Dup	umhos/cm		0.2%	5	
	2320B	(SP 2303531-003)	Dup	umhos/cm		0.05%	5	
Solids, Total Dissolved	2540CE	03/20/2023:202956CTL	Blank	mg/L		ND	<20	
		(STK2333320-005)	LCS	mg/L	993.3	98.2%	90-110	
		(STK2333320-005)	Dup	mg/L		1.05%	5	
		(STK2333320-005)	Dup	mg/L		0.5%	5	
Chloride	300.0	03/21/2023:203281LDM	Blank	mg/L		1	<1	
		(VI 2341521-003)	LCS	mg/L	25.00	101 %	90-110	
		(VI 2341521-003)	MS	mg/L	50.00	95.7 %	85-121	
		(VI 2341521-003)	MSD	mg/L	50.00	102 %	85-121	
		(VI 2341521-003)	MSRPD	mg/L	100.0	5.8%	≤19	
		(VI 2341503-001)	MS	mg/L	50.00	103 %	85-121	
		(VI 2341503-001)	MSD	mg/L	50.00	98.4 %	85-121	
		(VI 2341503-001)	MSRPD	mg/L	100.0	3.9%	≤19	
Sulfate Sulfur	300.0	03/21/2023:203281LDM	Blank	mg/L		1.012	0.5	
		(VI 2341521-003)	LCS	mg/L	50.00	102 %	90-110	
		(VI 2341521-003)	MS	mg/L	100.0	96.8 %	82-124	
		(VI 2341521-003)	MSD	mg/L	100.0	103 %	82-124	
		(VI 2341521-003)	MSRPD	mg/L	100.0	6.4%	≤23	
		(VI 2341503-001)	MS	mg/L	100.0	104 %	82-124	
		(VI 2341503-001)	MSD	mg/L	100.0	99.5 %	82-124	
		(VI 2341503-001)	MSRPD	mg/L	100.0	3.9%	≤23	
Nitrate Nitrogen	4500NO3F	03/23/2023:203149LFS	Blank	mg/L		ND	<0.4	
		(SP 2304158-001)	LCS	mg/L	11.22	99.8%	80-120	
		(SP 2304158-001)	MS	mg/L	5.609	99.8%	66-125	
		(SP 2304158-001)	MSD	mg/L	5.609	102%	66-125	
		(SP 2304158-001)	MSRPD	mg/L	5.609	1.4%	≤30.4	
	4500NO3F	04/05/2023:203618LFS	Blank	mg/L		ND	<0.4	
		(CC 2380037-001)	LCS	mg/L	11.22	95.9%	80-120	
		(CC 2380037-001)	MS	mg/L	5.609	94.0%	66-125	
		(CC 2380037-001)	MSD	mg/L	5.609	96.7%	66-125	
		(CC 2380037-001)	MSRPD	mg/L	5.609	1.1%	≤30.4	

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.



Laboratory Analysis Work Order

Nº 40340

ID: # 0323

11.4 °ROI 2341681

LABORATORY: FGLSITE NAME: Valadas 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 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, SO₄S
S2 S1 + CEC, CaCO₃, OM, C:N, TN
S3 NO₃N, NH₄N
S4 Other: _____

Sample ID	Description	Analysis	Date/Time	Sampled by	IAS USE ONLY: FIELD TESTS		
					NH ₃ N *	pH	Temp
1	Dom 1	Dom	W4	1:00PM	Sean		
2	Dom 4	Dom	W1	1:10PM	Sean		
3	Dom	W1	1:20 PM	Sean			
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	Karen Smith	IAS		2:00 pm
2 nd	AJB	FGL	3/17/23 1540	
3 rd	AJB	FGL		3/17/23 1555
4 th	Coop	FGL	3-17-2023 1555	

LABORATORY USE ONLY
Logged In By: GJS

3-17-2023 1730

Total Samples: _____

Laboratory #: GJS 3/17/23 1020

April 19, 2023

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

Lab No. : VI 2342059
Customer No. : 4018573
Reference : 40363

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 | (2 pages) | : 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
Dom 6	04/05/2023	04/05/2023	VI 2342059-001	AGW
Dom 5	04/05/2023	04/05/2023	VI 2342059-002	AGW

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

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: 2023-04-20

April 19, 2023

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

Description : Dom 6
Project : 0323 Valado Dairy

Lab No. : VI 2342059-001
Customer No.: 4018573
Reference : 40363
Sampled On : April 5, 2023 at 13:15
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													
Nitrate Nitrogen	0.7	0.4	mg/L		1		04/06/2023	14:00	Ifs	SM 4500-NO3 F	04/06/2023	15:13	Ifs
Conductivity	862	1	umhos/cm		1	I	04/17/2023	15:05	amm	SM 4500-H+B	04/17/2023	19:06	amm

DQF Flags Definition:

I The RPD for the laboratory duplicate exceeded laboratory criteria.

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

April 19, 2023

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

Description : Dom 5
Project : 0323 Valado Dairy

Lab No. : VI 2342059-002
Customer No.: 4018573
Reference : 40363
Sampled On : April 5, 2023 at 13:30
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													
Nitrate Nitrogen	5.4	0.4	mg/L		1		04/06/2023	14:00	lfs	SM 4500-NO3 F	04/06/2023	15:16	lfs
Conductivity	1090	1	umhos/cm		1		04/17/2023	19:02	amm	SM 4500-H+B	04/17/2023	22:53	amm

DQF Flags Definition:

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

April 19, 2023
Innovative Ag Services, LLC

Lab No. : VI 2342059
 Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(STK2334117-001) (STK2334160-001)	Dup Dup	umhos/cm umhos/cm		44.4% 1.80%	5 5	440
Nitrate Nitrogen	4500NO3F	04/06/2023:203679LFS (CH 2372099-001)	Blank LCS MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L	11.22 5.609 5.609 5.609 5.609	ND 100% 97.9% 99.9% 1.1%	<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.

Explanation

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



Laboratory Analysis Work Order

ID: # 0323

Nº 40363

2342059

SITE NAME: Valadero 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: _____

JUL 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	Dom 6	Dom	W1	1:15 4-5	Henry	~	
2	Dom 5	1	1:30	4-5	1	~	
3	Dom 6	Dom	1:30	4-5	1	~	
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:

GLS 4/6/23

CDA 1240

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1 st		IAS		2:00 4-5-23
2 nd		EGL	4-5-23 15:55	
3 rd		EGL		4-5-23 16:05
4 th			4/5/23 16:05	

LABORATORY USE ONLY

Logged In By:

Total Samples: 15/03

Laboratory #: 110

September 14, 2023

Lab No. : VI 2345660
Customer No. : 4018573
Reference : 41268

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
Ag11	08/25/2023	08/25/2023	VI 2345660-001	AGW

Sampling and Receipt Information:

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

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

Test Summary

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

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

KD: EHB

Approved By **Kelly A. Dunnahoo, B.S.**  Digitally signed by Kelly A. Dunnahoo, B.S.
 Title: Laboratory Director
 Date: 2023-09-15

Section: Case Narrative

Page 1 of 3

Page 1 of 3

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No. 1573	Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563	Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670	Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775	Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-8435 CA ELAP Certification No. 2810
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September 14, 2023

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

Description : Ag11
Project : 0323 Valadao Dairy

Lab No. : VI 2345660-001
Customer No.: 4018573
Reference : 41268
Sampled On : August 25, 2023 at 13:55
Sampled By : Alex
Received On : August 25, 2023 at 15:34
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	09/08/2023	09:16	sta	EPA 351.2	09/11/2023	21:41	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	08/29/2023	12:15	lfs	SM 4500-NO3 F	08/29/2023	15:39	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U1	09/08/2023	09:16	sta	Calc.	09/11/2023	21:41	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	08/29/2023	12:15	lfs	SM 4500-NO3 F	08/29/2023	15:39	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U1	09/08/2023	09:16	sta	EPA 351.2	09/11/2023	21:41	lcr
Conductivity	305	1	umhos/cm		1		09/08/2023	11:31	krh	SM 4500-H+B	09/08/2023	15:19	krh
Solids, Total Dissolved (TDS)	210	20	mg/L		1		08/30/2023	11:10	ctl	SM 2540 C	08/31/2023	11:20	ctl

DQF Flags Definition:

U Constituent results were non-detect.
l The MS/MSD did not meet QC criteria.

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

September 14, 2023

Innovative Ag Services, LLC

Lab No. : VI 2345660

Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(CC 2383009-001)	Dup	umhos/cm		0.3%	5	
Solids, Total Dissolved	2540CE	08/30/2023:209732CTL (STK2351705-001) (STK2351705-001)	Blank LCS Dup Dup	mg/L mg/L mg/L mg/L	991.5	ND 101 % 0.7% 0.9%	<20 90-110 5 5	
Nitrogen, Total Kjeldahl	351.2	09/08/2023:210053STA (STK2351641-005) (STK2351641-008)	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 7.7% 12.00 12.00 12.00	ND 93.0% 97.5% 82.0% 7.7% 91.6% 90.9% 0.7%	<0.5 73-124 90-110 90-110 ≤20 90-110 90-110 ≤20	435
Nitrate + Nitrite as N	4500NO3F	08/29/2023:209702LFS (CH 2377212-001)	Blank LCS MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L	11.22 5.609 5.609 5.609 0.2%	ND 97.6% 99.1% 99.4% 0.2%	<0.4 80-120 66-125 66-125 ≤30.4	
Nitrate Nitrogen	4500NO3F	08/29/2023:209702LFS (CH 2377212-001)	Blank LCS MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L	11.22 5.609 5.609 5.609 0.2%	ND 97.6% 99.1% 99.4% 0.2%	<0.4 80-120 66-125 66-125 ≤30.4	

Definition

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

DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

Dup : Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.

LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.

MS : Matrix Spikes - A random sample is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.

MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.

MSRPD : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.

ND : Non-detect - Result was below the DQO listed for the analyte.

Explanation

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



Laboratory Analysis Work Order

Nº 41268

ID: # 0323

2345660

LABORATORY: FGL

SITE NAME: Valadao 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: _____
- 2011.06 2017*

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 Ag 11	Irr	WZ	8/25 1:55	Alex	—		
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	Abby Rn	IAS		8/25/23 3:00
2 nd	AB	FGL	8/25/23 1525	
3 rd	AB	FGL		8/25/23 1534
4 th	ADT		8/25/23 1534	

LABORATORY USE ONLY

Logged In By: EJ

Total Samples: 125/25

Laboratory #: 173

November 7, 2023

Lab No. : VI 2347121
Customer No. : 4018573
Reference : 41632

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
AG14	10/19/2023	10/19/2023	VI 2347121-001	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: 2023-11-09

Section: Case Narrative

Page 1 of 3

Page 1 of 3

Corporate Offices & Laboratory 853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No. 1573	Office & Laboratory 2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423	Office & Laboratory 563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807	Office & Laboratory 3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912	Office & Laboratory 9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-8435
			CA ELAP Certification No. 2670	CA ELAP Certification No. 2775

November 7, 2023

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

Description : AG14
Project : 0323 Valadao Dairy

Lab No. : VI 2347121-001
Customer No.: 4018573
Reference : 41632
Sampled On : October 19, 2023 at 10:15
Sampled By : Zeke
Received On : October 19, 2023 at 16:53
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	11/01/2023	13:01	sta	EPA 351.2	11/06/2023	19:13	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	10/20/2023	12:00	lfs	SM 4500-NO3 F	10/20/2023	13:28	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U1	11/01/2023	13:01	sta	Calc.	11/06/2023	19:13	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	10/20/2023	12:00	lfs	SM 4500-NO3 F	10/20/2023	13:28	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U1	11/01/2023	13:01	sta	EPA 351.2	11/06/2023	19:13	lcr
Conductivity	372	1	umhos/cm		1		11/02/2023	09:02	krh	SM 4500-H+B	11/02/2023	13:15	krh
Solids, Total Dissolved (TDS)	250	20	mg/L		1		10/23/2023	10:20	ctl	SM 2540 C	10/24/2023	11:15	ctl

DQF Flags Definition:

U Constituent results were non-detect.

l The MS/MSD did not meet QC criteria.

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

November 7, 2023
Innovative Ag Services, LLC

Lab No. : VI 2347121
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(CH 2378562-001)	Dup	umhos/cm		0.3%	5	
Solids, Total Dissolved	2540CE	10/23/2023:211936CTL (CC 2383715-001) (CC 2383715-001)	Blank LCS Dup Dup	mg/L mg/L mg/L mg/L	991.5	ND 100% 2.84% 3.59%	<20 90-110 5 5	
Nitrogen, Total Kjeldahl	351.2	11/01/2023:212413STA (CC 2383712-004) (CC 2383712-005)	Blank LCS MS MSDP MS MSDP	mg/L mg/L mg/L mg/L mg/L mg/L	12.00 12.00 12.00 3.1% 12.00 12.00	ND 90.8% 87.1% 84.4% 85.0% 85.0%	<0.5 73-124 90-110 435 90-110 435 90-110 435 90-110 435	
Nitrate + Nitrite as N	4500NO3F	10/20/2023:211903LFS (SP 2317766-001)	Blank LCS MS MSDP	mg/L mg/L mg/L mg/L	11.22 5.609 5.609 5.609	ND 99.1% 90.6% 91.1% 0.2%	<0.4 80-120 66-125 66-125 ≤30.4	
Nitrate Nitrogen	4500NO3F	10/20/2023:211903LFS (SP 2317766-001)	Blank LCS MS MSDP	mg/L mg/L mg/L mg/L	11.22 5.609 5.609 5.609	ND 99.1% 90.6% 91.1% 0.2%	<0.4 80-120 66-125 66-125 ≤30.4	

Definition

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

Explanation

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



Laboratory Analysis Work Order

Nº 41632

ID: # 0323

2347121

SITE NAME: VALADAO DAIRY

Billing: JAS

ANALYSIS TO BE COMPLETED:

Irrigation/Ground Water (ELAP Standards)

- W1 EC, NO₃N (Dom)
- W2 EC, NO₃N, TDS, TN (Irr) *201 S. 201 N. 101*
- 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 A6 14	Irr	W2	10-19/10:15	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: _____

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1 st	<i>Q</i>	JAS		10-19-23 / 1:50
2 nd	AJB	FGL	10/19/23 16:53	
3 rd	AJB	FGL		10/19/23 17:07
4 th	AJB		10/19/23 17:07	

LABORATORY USE ONLY

Logged In By: *GLS*

Total Samples: *10/03*

Laboratory #: *750*

GLS Inc 10/20/23 11:00

November 21, 2023

Lab No. : VI 2347357
Customer No. : 4018573
Reference : 41552

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
Ag 9	10/31/2023	10/31/2023	VI 2347357-001	AGW
Ag 12	10/31/2023	10/31/2023	VI 2347357-002	AGW

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

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

KD: EHB

Approved By **Kelly A. Dunnahoo, B.S.**  Digitally signed by Kelly A. Dunnahoo, B.S.
 Title: Laboratory Director
 Date: 2023-11-21

Section: Case Narrative

Page 1 of 6

Page 1 of 6

Corporate Offices & Laboratory	Office & Laboratory	Office & Laboratory	Office & Laboratory	Office & Laboratory
853 Corporation Street Santa Paula, CA 93060 TEL: (805)392-2000 Env FAX: (805)525-4172 / Ag FAX: (805)392-2063 CA ELAP Certification No. 1573	2500 Stagecoach Road Stockton, CA 95215 TEL: (209)942-0182 FAX: (209)942-0423 CA ELAP Certification No. 1563	563 E. Lindo Avenue Chico, CA 95926 TEL: (530)343-5818 FAX: (530)343-3807 CA ELAP Certification No. 2670	3442 Empresa Drive, Suite D San Luis Obispo, CA 93401 TEL: (805)783-2940 FAX: (805)783-2912 CA ELAP Certification No. 2775	9415 W. Goshen Avenue Visalia, CA 93291 TEL: (559)734-9473 FAX: (559)734-8435 CA ELAP Certification No. 2810

November 21, 2023

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

Description : Ag 9
Project : 0323 Valadao Dairy

Lab No. : VI 2347357-001
Customer No.: 4018573
Reference : 41552
Sampled On : October 31, 2023 at 12:45
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													
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U1	11/10/2023	12:12	sta	EPA 351.2	11/14/2023	20:04	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	11/01/2023	13:00	lfs	SM 4500-NO3 F	11/01/2023	14:35	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U1	11/10/2023	12:12	sta	Calc.	11/14/2023	20:04	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	11/01/2023	13:00	lfs	SM 4500-NO3 F	11/01/2023	14:35	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U1	11/10/2023	12:12	sta	EPA 351.2	11/14/2023	20:04	lcr
Conductivity	325	1	umhos/cm		1		11/08/2023	08:11	krh	SM 4500-H+B	11/08/2023	09:19	krh
Solids, Total Dissolved (TDS)	200	20	mg/L		1		11/02/2023	09:40	ctl	SM 2540 C	11/03/2023	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

November 21, 2023

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

Description : Ag 12
 Project : 0323 Valadao Dairy

Lab No. : VI 2347357-002
 Customer No.: 4018573
 Reference : 41552
 Sampled On : October 31, 2023 at 12:55
 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)	110	10	mg/L		1		11/05/2023	15:11	amm	SM 4500-H+B	11/06/2023	03:57	amm
Bicarbonate	120	10	mg/L		1		11/05/2023	15:11	amm	SM 4500-H+B	11/06/2023	03:57	amm
Carbonate	ND	10	mg/L		1	J	11/05/2023	15:11	amm	SM 4500-H+B	11/06/2023	03:57	amm
Hydroxide	ND	10	mg/L		1	J	11/05/2023	15:11	amm	SM 4500-H+B	11/06/2023	03:57	amm
Chloride	63	1	mg/L		1		11/01/2023	11:58	ldm	EPA 300.0	11/01/2023	20:36	ldm
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U	11/10/2023	12:12	sta	EPA 351.2	11/14/2023	20:17	lcr
Nitrate Nitrogen	ND	0.1	mg/L		1	U	11/01/2023	11:58	ldm	EPA 300.0	11/01/2023	20:36	ldm
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	UJ	11/10/2023	12:12	sta	Calc.	11/14/2023	20:17	lcr
Nitrate + Nitrite as N	ND	0.1	mg/L		1	J	11/01/2023	11:58	ldm	EPA 300.0	11/01/2023	20:36	ldm
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	11/10/2023	12:12	sta	EPA 351.2	11/14/2023	20:17	lcr
Conductivity	445	1	umhos/cm		1		11/05/2023	15:11	amm	SM 4500-H+B	11/06/2023	03:57	amm
Sulfate Sulfur	5.1	0.17	mg/L		1		11/01/2023	11:58	ldm	EPA 300.0	11/01/2023	20:36	ldm
Solids, Total Dissolved (TDS)	280	20	mg/L		1		11/02/2023	09:40	ctl	SM 2540 C	11/03/2023	11:00	ctl
Calcium	6	1	mg/L		1		11/09/2023	07:35	ejc	EPA 200.7	11/09/2023	17:42	ac
Magnesium	ND	1	mg/L		1	U	11/09/2023	07:35	ejc	EPA 200.7	11/09/2023	17:42	ac
Sodium	84	1	mg/L		1		11/09/2023	07:35	ejc	EPA 200.7	11/09/2023	17:42	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.

1 The MS/MSD did not meet QC criteria.

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

November 21, 2023

Innovative Ag Services, LLC

Lab No. : VI 2347357
Customer No. : 4018573

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Calcium	200.7	11/09/2023:212722EJC	Blank	mg/L		ND	<1	
		(SP 2318714-001)	LCS	mg/L	12.00	94.6%	85-115	
			MS	mg/L	12.00	86.2%	75-125	
			MSD	mg/L	12.00	116%	75-125	
			MSRPD	mg/L		8.0%	≤20.0	
		(CC 2383940-001)	MS	mg/L	12.00	114%	75-125	
			MSD	mg/L	12.00	81.4%	75-125	
			MSRPD	mg/L		6.4%	≤20.0	
Magnesium	200.7	11/09/2023:212722EJC	Blank	mg/L		ND	<1	
		(SP 2318714-001)	LCS	mg/L	12.00	99.6%	85-115	
			MS	mg/L	12.00	92.4%	75-125	
			MSD	mg/L	12.00	113%	75-125	
			MSRPD	mg/L		7.4%	≤20	
		(CC 2383940-001)	MS	mg/L	12.00	111%	75-125	
			MSD	mg/L	12.00	83.8%	75-125	
			MSRPD	mg/L		6.1%	≤20	
Sodium	200.7	11/09/2023:212722EJC	Blank	mg/L		ND	<1	
		(SP 2318714-001)	LCS	mg/L	12.00	94.5%	85-115	
			MS	mg/L	12.00	49.5%	<1/4	406
			MSD	mg/L	12.00	141%	<1/4	
			MSRPD	mg/L		8.5%	≤20.0	
		(CC 2383940-001)	MS	mg/L	12.00	122%	75-125	
			MSD	mg/L	12.00	51.6%	<1/4	
			MSRPD	mg/L		7.8%	≤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 21, 2023
Innovative Ag Services, LLC

Lab No. : VI 2347357
 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	406
Bicarbonate	2320B	(SP 2318398-006)	Dup	mg/L		0%	10	
E. C.	2320B	(SP 2318398-006)	Dup	umhos/cm		0.2%	5	
	2320B	(STK2354710-006)	Dup	umhos/cm		0.4%	5	
Solids, Total Dissolved	2540CE	11/02/2023:212436CTL	Blank	mg/L		ND	<20	
		(VI 2347344-001)	LCS	mg/L	991.5	96.7%	90-110	
		(VI 2347344-001)	Dup	mg/L		0.2%	5	
			Dup	mg/L		0.1%	5	
Chloride	300.0	11/01/2023:212422LDM	Blank	mg/L		ND	<1	
		(STK2354963-002)	LCS	mg/L	25.00	95.5%	90-110	
			MS	mg/L	50.00	96.5%	67-117	
			MSD	mg/L	50.00	96.5%	67-117	
			MSRPD	mg/L		0.0%	≤7	
		(STK2354963-003)	MS	mg/L	50.00	98.0%	67-117	
			MSD	mg/L	50.00	98.2%	67-117	
			MSRPD	mg/L		0.2%	≤7	
Nitrate + Nitrite as N	300.0	11/01/2023:212422LDM	Blank	mg/L		ND	<0.4	
		(STK2354963-002)	LCS	mg/L	20.00	95.2%	90-110	
			MS	mg/L	40.00	94.3%	86-112	
			MSD	mg/L	40.00	94.3%	86-112	
			MSRPD	mg/L		0.0%	≤7	
		(STK2354963-003)	MS	mg/L	40.00	99.1%	86-112	
			MSD	mg/L	40.00	99.9%	86-112	
			MSRPD	mg/L		0.8%	≤7	
Nitrate Nitrogen	300.0	11/01/2023:212422LDM	Blank	mg/L		ND	<0.4	
		(STK2354963-002)	LCS	mg/L	20.00	95.2%	90-110	
			MS	mg/L	40.00	94.3%	86-112	
			MSD	mg/L	40.00	94.3%	86-112	
			MSRPD	mg/L		0.0%	≤7	
		(STK2354963-003)	MS	mg/L	40.00	99.1%	86-112	
			MSD	mg/L	40.00	99.9%	86-112	
			MSRPD	mg/L		0.8%	≤7	
Sulfate Sulfur	300.0	11/01/2023:212422LDM	Blank	mg/L		ND	<0.5	
		(STK2354963-002)	LCS	mg/L	50.00	95.9%	90-110	
			MS	mg/L	100.0	95.2%	18-165	
			MSD	mg/L	100.0	95.3%	18-165	
			MSRPD	mg/L		0.1%	≤7	
		(STK2354963-003)	MS	mg/L	100.0	99.1%	18-165	
			MSD	mg/L	100.0	99.4%	18-165	
			MSRPD	mg/L		0.3%	≤7	
Nitrogen, Total Kjeldahl	351.2	11/10/2023:212776STA	Blank	mg/L		ND	<0.5	
		(CH 2379424-001)	LCS	mg/L	12.00	91.1%	73-124	
			MS	mg/L	12.00	88.5%	90-110	435
			MSD	mg/L	12.00	85.8%	90-110	435
			MSRPD	mg/L		3.0%	≤20	
		(VI 2347389-004)	MS	mg/L	12.00	84.2%	<1/4	406
			MSD	mg/L	12.00	86.0%	<1/4	
			MSRPD	mg/L		2.1%	≤20	
Nitrate + Nitrite as N	4500NO3F	11/01/2023:212407LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	96.1%	80-120	

November 21, 2023

Innovative Ag Services, LLC

Lab No. : VI 2347357
 Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
		(SP 2318292-001)	MS	mg/L	5.609	93.5%	66-125	
			MSD	mg/L	5.609	95.7%	66-125	
			MSRPD	mg/L	2.0%		≤30.4	
Nitrate Nitrogen	4500NO3F	11/01/2023:212407LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	96.1%	80-120	
		(SP 2318292-001)	MS	mg/L	5.609	93.5%	66-125	
			MSD	mg/L	5.609	95.7%	66-125	
			MSRPD	mg/L	2.0%		≤30.4	

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 41552

ID: # D323

2347357

LABORATORY: FGL

Authorized Copy Release to:

Innovative Ag Services LLC

(559) 587-2800

SITE NAME: VALADAO 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: _____

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, SO₄S

S2 S1 + CEC, CaCO₃, OM, C:N, TN

S3 NO₃N, NH₄N

S4 Other: _____

Sample ID	Description	Analysis	Date/Time	Sampled by	IAS USE ONLY: FIELD TESTS		
					NH ₃ N *	pH	Temp
1 Ag 9	IRR	W2	10-31 12:45	Zek			
2 Ag 12	IRR	W5	10-31 12:55	Zek			
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 D#171407
13.1°C

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1 st		IAS		10-31-23 / 2:15
2 nd	AJB	FGL	10-31-23 1549	
3 rd	AJB	FGL		10-31-23 1604
4 th	SPD	FGL	10-31-23 1604	
LABORATORY USE ONLY	SPD	FGL	10-31-23 1730	
Logged In By:	GLS	GLS	10-31-23 1720	
		Total Samples:		Laboratory #:

CLS 11/1/23 11:40 JAW 11/1/23 11:40

THE PRINTER INC. - 559-992-5127

November 28, 2023

Lab No. : VI 2347722
Customer No. : 4018573
Reference : 42044

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
Ag10	11/14/2023	11/14/2023	VI 2347722-001	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

November 28, 2023

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

Description : Ag10
Project : 0323 Valadao Dairy

Lab No. : VI 2347722-001
Customer No.: 4018573
Reference : 42044
Sampled On : November 14, 2023 at 10:55
Sampled By : Zeke
Received On : November 14, 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													
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U	11/21/2023	14:22	sta	EPA 351.2	11/26/2023	20:08	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	11/15/2023	16:15	lfs	SM 4500-NO3 F	11/15/2023	15:27	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U	11/21/2023	14:22	sta	Calc.	11/26/2023	20:08	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	11/15/2023	16:15	lfs	SM 4500-NO3 F	11/15/2023	15:27	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	11/21/2023	14:22	sta	EPA 351.2	11/26/2023	20:08	lcr
Conductivity	381	1	umhos/cm		1		11/17/2023	12:02	krh	SM 4500-H+B	11/17/2023	13:17	krh
Solids, Total Dissolved (TDS)	250	20	mg/L		1		11/16/2023	10:20	ctl	SM 2540 C	11/17/2023	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

November 28, 2023

Innovative Ag Services, LLC

Lab No. : VI 2347722

Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(VI 2347762-003)	Dup	umhos/cm		0.4%	5	
Solids, Total Dissolved	2540CE	11/16/2023:213071CTL (SP 2319182-001) (SP 2319182-001)	Blank LCS Dup Dup	mg/L mg/L mg/L mg/L	991.5	ND 102% 1.50% 0.4%	<20 90-110 5 5	
Nitrogen, Total Kjeldahl	351.2	11/21/2023:213242STA (VI 2347721-001) (VI 2347722-001)	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 12.00 12.00 12.00 12.00	ND 95.5% 82.4% 85.9% 4.0% 89.1% 86.7% 2.7%	<0.5 73-124 90-110 435 90-110 435 ≤20 90-110 435 90-110 435 ≤20	
Nitrate + Nitrite as N	4500NO3F	11/15/2023:213023LFS (STK2355877-001)	Blank LCS MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L	11.22 5.609 5.609 5.609 5.609	ND 98.1% 91.4% 92.6% 0.5%	<0.4 80-120 66-125 66-125 ≤30.4	
Nitrate Nitrogen	4500NO3F	11/15/2023:213023LFS (STK2355877-001)	Blank LCS MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L	11.22 5.609 5.609 5.609 5.609	ND 98.1% 91.4% 92.6% 0.5%	<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.

Explanation

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



Laboratory Analysis Work Order

Nº 42044

ID: # 0323

SITE NAME: VALADAO DAM

Billing: TAS

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 Ag 10	JAR	W2	11-14 / 10:55	Zke			
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: ROI 19.8°C

1047407

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1 st		TAS		11-14-23 / 10:55
2 nd		FGL	11-14-23 15:58	
3 rd		FGL		11-14-23 16:05
4 th		FGL	11-14-23 16:05	
		GLS	11-14-23 17:30	11-14-23 17:30

LABORATORY USE ONLY

Logged In By: _____

Total Samples: _____

Laboratory #: _____

Q1
11/15/23
10:55

January 2, 2024

Lab No. : VI 2348785
Customer No. : 4018573
Reference : 42240

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
Dom 2	12/21/2023	12/21/2023	VI 2348785-001	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 : Dom 2
Project : 0323 Valadao Dairy

Lab No. : VI 2348785-001
Customer No.: 4018573
Reference : 42240
Sampled On : December 21, 2023 at 14:30
Sampled By : Alex
Received On : December 21, 2023 at 15:57
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	12/22/2023	12:30	lfs	SM 4500-NO3 F	12/22/2023	15:33	lfs
Conductivity	439	1	umhos/cm	1600 ²	1		12/28/2023	09:35	krh	SM 4500-H+B	12/28/2023	12:10	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 2348785
 Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(VI 2348779-001)	Dup	umhos/cm		0.3%	5	
Nitrate Nitrogen	4500NO3F	12/22/2023:214459LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	98.5%	80-120	
		(VI 2348765-001)	MS	mg/L	5.609	99.8%	66-125	
			MSD	mg/L	5.609	99.1%	66-125	
			MSRPD	mg/L		0.7%	≤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 42240

ID: # 03232348785SITE NAME: Valadan DairyBilling: IAS

ANALYSIS TO BE COMPLETED:

Irrigation/Ground Water (ELAP Standards)

- W1 EC, NO₃N (Dom) *(Handwritten notes: QCL, 30, PPT, TDS)*
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 Dom 2	Dom	W1	12/21 2:30	Alex	—		
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>Abub Khan</u>	IAS		12/21/23 3:30
2 nd	<u>AJB</u>	FGL	12/21/23 1535	
3 rd	<u>AJB</u>	FGL		12/21/23 1557
4 th	<u>OT</u>		12/21/23 1557	

LABORATORY USE ONLY

Logged In By: EIS

Total Samples: 20/109

Laboratory #: 1111

December 18, 2023

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

Lab No. : VI 2348142
Customer No. : 4018573
Reference : 42123

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
Ag13	12/04/2023	12/04/2023	VI 2348142-001	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: 2023-12-18

December 18, 2023

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

Description : Ag13
Project : 0323 Valadao Dairy

Lab No. : VI 2348142-001
Customer No.: 4018573
Reference : 42123
Sampled On : December 4, 2023 at 07:10
Sampled By : Zeke
Received On : December 4, 2023 at 16:10
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	12/14/2023	07:10	lcr	EPA 351.2	12/17/2023	17:57	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	12/05/2023	13:30	lfs	SM 4500-NO3 F	12/05/2023	15:27	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U1	12/14/2023	07:10	lcr	Calc.	12/17/2023	17:57	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	12/05/2023	13:30	lfs	SM 4500-NO3 F	12/05/2023	15:27	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U1	12/14/2023	07:10	lcr	EPA 351.2	12/17/2023	17:57	lcr
Conductivity	468	1	umhos/cm		1		12/07/2023	07:47	krh	SM 4500-H+B	12/07/2023	10:40	krh
Solids, Total Dissolved (TDS)	280	20	mg/L		1		12/06/2023	11:00	ctl	SM 2540 C	12/07/2023	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

December 18, 2023
Innovative Ag Services, LLC

Lab No. : VI 2348142
 Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(VI 2348142-001)	Dup	umhos/cm		0.2%	5	
Solids, Total Dissolved	2540CE	12/06/2023:213726CTL (CC 2384245-003) (CC 2384245-003)	Blank LCS Dup Dup	mg/L mg/L mg/L mg/L	991.5	ND 101% 2.09% 0.3%	<20 90-110 5 5	
Nitrogen, Total Kjeldahl	351.2	12/14/2023:214086LCR (VI 2348210-001) (VI 2348215-001)	Blank LCS MS MSRPD MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	12.00 12.00 12.00 4.2% 12.00 12.00 1.5%	ND 91.0% 82.9% 86.4% 85.6% 84.4% ≤20	<0.5 73-124 <1/4 <1/4 90-110 90-110 90-110	406 435 435
Nitrate + Nitrite as N	4500NO3F	12/05/2023:213707LFS (VI 2348086-001)	Blank LCS MS MSDP MSRPD	mg/L mg/L mg/L mg/L mg/L	11.22 5.609 5.609 5.609 5.609	ND 96.6% 93.5% 95.9% 2.5%	<0.4 80-120 66-125 66-125 ≤30.4	
Nitrate Nitrogen	4500NO3F	12/05/2023:213707LFS (VI 2348086-001)	Blank LCS MS MSD MSRPD	mg/L mg/L mg/L mg/L mg/L	11.22 5.609 5.609 5.609 5.609	ND 96.6% 93.5% 95.9% 2.5%	<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.

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 42123

ID: # 0323

2348142

SITE NAME: VIALADAO DAIRY

Billing: IAS

LABORATORY: 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)

201
2/20/23

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: _____

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, SO₄S

S2 S1 + CEC, CaCO₃, OM, C:N, TN

S3 NO₃N, NH₄N

S4 Other: _____

Sample ID	Description	Analysis	Date/Time	Sampled by	IAS USE ONLY: FIELD TESTS		
					NH ₃ N *	pH	Temp
1	A913	IAS	W2	12-4 / 7:10	Zeke		
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
1st		IAS		12-4-23 / 2:55
2nd		FGL	12-4-23 15:50	
3rd		FGL		12-4-23 16:10
4th			12-4-23 16:10	

LABORATORY USE ONLY

Logged In By:

Total Samples:

24/23 7/10

Laboratory #:

GCS Inc 12/5/23 11:55