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INNOVATIVE
AG SERVICES

Maple Dairy (Zonneveld)

2023 Annual Report

X	Report Form	NA	Attachment H
X	Attachment A	NA	Attachment I
X	Attachment B	NA	Attachment J
X	Attachment C	X	Manure Tracking Manifests
X	Attachment D	NA	New or Revised Waste Water Agreements
X	Attachment E	X	Groundwater Monitoring Samples
X	Attachment F	NA	Monitoring Well Report
X	Attachment G	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)

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Annual Report

Maple Dairy 2023

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

Facility Information:

Name of Dairy	Maple Dairy
Facility Address	19860 S. Maple Avenue, Laton CA 93242

Owner/Operator as of 12/31/2023

Operator Name	Zonneveld Dairies, Inc.
Operator Phone	(559) 923-4546
Owner Name	Zonneveld Dairies, Inc.
Owner Phone	(559) 923-4546

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:

X No discharges occurred during the reporting period.

__ Yes. ____ Number of discharges occurred (see Attachment H).

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Maple Dairy 2023

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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

X 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:

X 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.

X 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.

X 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.

X 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).

X 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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Maple Dairy 2023

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

17. Record-Keeping Results

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

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

18. Groundwater Monitoring Section

X Groundwater monitoring results are attached.

__ Monitoring Well results are attached, if applicable.

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

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

19. Storm Water Reporting Section

X No significant discharges of storm water occurred from the land application areas.

__ Yes, significant discharge(s) of storm water occurred from land application areas. The following information shall be submitted for those discharges.

__ It was not possible to collect any of the required samples or perform visual observations due to adverse climatic conditions.

20. Mortality Management Practices

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

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

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

DocuSigned by:
4C4A48EC17AE47B...
Signature of Operator of Facility

Zonneveld Dairies, Inc.
Print Name

6/25/2024
Title and Date

DocuSigned by:
4C4A48EC17AE47B...
Signature of Owner of Facility

Zonneveld Dairies, Inc.
Print Name

6/25/2024
Title and Date

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Maple 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 Net (LB) Available for Land Application	PHOSPHORUS Net (LB) Available for Land Application	POTASSIUM Net (LB) Available for Land Application	SALTS Net (LB) Available for Land Application
Hol Milk Cows	2,353	2,294	Milk Freestall -	1,400	58,219.17	828,936.90	142,342.70	192,581.30	1,512,181.86
Hol Dry Cows	403	392	Flushed	1,450	5,720.11	71,540.00	10,015.60	47,216.40	100,957.25
Hol Heifers(15-24)	1,445	1,408	Dry Scrape	1,000	14,697.44	195,289.60	30,835.20	92,505.60	362,621.95
Hol Heifers (7-14)	231	225	Dry Scrape	700	2,126.93	21,352.50	3,613.50	12,318.75	27,162.84
Hol Calves (4-6)	1,394	1,359	Dry Scrape	300	4,712.33	69,444.90	19,841.40	39,682.80	32,539.90
	5,826	**5,678**			**85,475.99**	**1,186,563.90**	**206,648.40**	**384,304.85**	**2,035,463.80**

* 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)**
66,325,735	485.75	76.62	718.00	5,530.00	268,373.66	42,334.80	396,690.24	3,055,288.3

* The average Total Kjeldahl Nitrogen, Total Phosphorus, Total Potassium, and Total Salt concentrations are based on an average of all process wastewater sample results for the year.
** The total pounds of Nitrogen, Phosphorus, Potassium and Total Dissolved Solids generated = Average Concentration (mg/L) X Total Gallons of Wastewater Generated X 8.33 X 0.000001.
*** The total gallons of process wastewater generated is calculated as the total gallons of process wastewater applied to all land application areas (Attachment B) plus the total gallons of process wastewater transferred offsite (Attachment C).

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 402

Wheat, 64 Acres Planted on 11/14/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	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			%			896				
02/20/2023	Surface Water: Laguna	5.00	Acre Inches		0.00			mg/L			0	0	0	0	
02/20/2023	Waste Water: Main Lagoon	0.40	Acre Inches		533.00	138.00	893.00	mg/L		695,150	3,086	799	5,171	32,543	
03/20/2023	Surface Water: Laguna	5.00	Acre Inches		0.00			mg/L			0	0	0	0	
03/20/2023	Waste Water: Main Lagoon	0.40	Acre Inches		533.00	138.00	893.00	mg/L		695,150	3,086	799	5,171	32,543	
05/23/2023	Harvest	20.50	Tons	68.50	1.80	0.40	3.10	%							14,878
	Acre Inches Applied:	**10.80**						**Totals:**		**1,390,300**	**7,068**	**1,599**	**10,342**	**65,087**	**14,878**
Season Nitrogen Ratio:	0.48							**Lbs Per Acre:**			**110**	**25**	**162**	**1,017**	**232**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 402

Corn, 64 Acres Planted on 06/24/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/30/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			365	0	0	16,855	
06/30/2023	Waste Water: Main Lagoon	0.80	Acre Inches		465.00	66.60	789.00	mg/L		1,390,300	5,385	771	9,137	66,708	
07/15/2023	Fertilize - UN32	25.00	Gallons		32.00	0.00	0.00	%			4,265	0	0	0	
07/15/2023	Ground Water: Well Avg	5.50	Acre Inches		5.04			mg/L			401	0	0	18,540	
07/30/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			365	0	0	16,855	
07/30/2023	Waste Water: Main Lagoon	0.80	Acre Inches		497.00	54.20	600.00	mg/L		1,390,300	5,756	628	6,948	68,213	
08/14/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			365	0	0	16,855	
09/13/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			365	0	0	16,855	
10/04/2023	Harvest	32.80	Tons	71.40	1.21	0.28	1.22	%							14,529
	Acre Inches Applied:	**27.10**						**Totals:**		**2,780,600**	**17,267**	**1,399**	**16,086**	**220,881**	**14,529**
Season Nitrogen Ratio:	1.19							**Lbs Per Acre:**			**270**	**22**	**251**	**3,451**	**227**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 403

Wheat, 78 Acres Planted on 11/05/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			1,092				
02/26/2023	Surface Water: Laguna	5.00	Acre Inches		0.00			mg/L			0	0	0	0	
02/26/2023	Waste Water: Main Lagoon	0.40	Acre Inches		533.00	138.00	893.00	mg/L		847,214	3,761	974	6,302	39,662	
04/08/2023	Surface Water: Laguna	5.00	Acre Inches		0.00			mg/L			0	0	0	0	
04/08/2023	Waste Water: Main Lagoon	0.40	Acre Inches		533.00	138.00	893.00	mg/L		847,214	3,761	974	6,302	39,662	
05/19/2023	Harvest	21.50	Tons	70.50	1.77	0.43	2.81	%							17,513
	Acre Inches Applied:	**10.80**						**Totals:**		**1,694,428**	**8,614**	**1,948**	**12,605**	**79,324**	**17,513**
Season Nitrogen Ratio:	0.49							**Lbs Per Acre:**			**110**	**25**	**162**	**1,017**	**225**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 403

Corn, 78 Acres Planted on 06/23/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	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: Laguna	6.00	Acre Inches		0.00			mg/L			0	0	0	0	
06/01/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		1,059,018	4,102	587	6,960	50,812	
07/10/2023	Fertilize - UN32	25.00	Gallons		32.00	0.00	0.00	%			5,198	0	0	0	
07/10/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			445	0	0	20,542	
07/28/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			445	0	0	20,542	
07/28/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		1,059,018	4,384	478	5,293	51,960	
08/15/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			445	0	0	20,542	
08/15/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		1,059,018	4,384	478	5,293	51,960	
09/01/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			445	0	0	20,542	
09/29/2023	Harvest	32.00	Tons	71.80	1.21	0.23	1.60	%							17,034
	Acre Inches Applied:	**27.50**						**Totals:**		**3,177,053**	**19,847**	**1,544**	**17,546**	**236,900**	**17,034**
Season Nitrogen Ratio:	1.17							**Lbs Per Acre:**			**254**	**20**	**225**	**3,037**	**218**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 404

Wheat, 18 Acres Planted on 11/28/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	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			%			252				
02/27/2023	Surface Water: Laguna	4.50	Acre Inches		0.00			mg/L			0	0	0	0	
02/27/2023	Waste Water: Main Lagoon	0.80	Acre Inches		533.00	138.00	893.00	mg/L		391,022	1,736	449	2,909	18,305	
03/28/2023	Surface Water: Laguna	5.00	Acre Inches		0.00			mg/L			0	0	0	0	
03/28/2023	Waste Water: Main Lagoon	0.75	Acre Inches		533.00	138.00	893.00	mg/L		366,583	1,628	421	2,727	17,161	
05/19/2023	Harvest	21.90	Tons	63.90	1.79	0.34	2.29	%							5,095
	Acre Inches Applied:	**11.05**						**Totals:**		**757,605**	**3,616**	**871**	**5,635**	**35,467**	**5,095**
Season Nitrogen Ratio:	0.71							**Lbs Per Acre:**			**201**	**48**	**313**	**1,970**	**283**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 404

Corn, 18 Acres Planted on 06/23/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
05/24/2023	Surface Water: Laguna	6.00	Acre Inches		0.00			mg/L			0	0	0	0	
05/24/2023	Waste Water: Main Lagoon	1.00	Acre Inches		465.00	66.60	789.00	mg/L		488,777	1,893	271	3,212	23,452	
06/30/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			103	0	0	4,740	
06/30/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		244,389	947	136	1,606	11,726	
07/09/2023	Ground Water: Well Avg	6.00	Acre Inches		5.04			mg/L			123	0	0	5,689	
07/19/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			103	0	0	4,740	
07/19/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		244,389	1,012	110	1,221	11,991	
08/23/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			103	0	0	4,740	
08/23/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		244,389	1,012	110	1,221	11,991	
09/29/2023	Harvest	31.30	Tons	70.70	1.27	0.23	1.49	%							4,193
	Acre Inches Applied:	**29.50**						**Totals:**		**1,221,944**	**5,294**	**627**	**7,262**	**79,069**	**4,193**
Season Nitrogen Ratio:	1.26							**Lbs Per Acre:**			**294**	**35**	**403**	**4,393**	**233**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 405

Wheat, 39 Acres Planted on 11/29/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	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			%			546				
02/24/2023	Surface Water: Laguna	4.80	Acre Inches		0.00			mg/L			0	0	0	0	
02/24/2023	Waste Water: Main Lagoon	0.75	Acre Inches		533.00	138.00	893.00	mg/L		794,263	3,526	913	5,908	37,183	
03/27/2023	Surface Water: Laguna	5.50	Acre Inches		0.00			mg/L			0	0	0	0	
03/27/2023	Waste Water: Main Lagoon	0.60	Acre Inches		533.00	138.00	893.00	mg/L		635,411	2,821	730	4,727	29,746	
05/16/2023	Harvest	21.40	Tons	64.20	1.78	0.40	2.14	%							10,637
	Acre Inches Applied:	**11.65**						**Totals:**		**1,429,674**	**6,894**	**1,643**	**10,635**	**66,929**	**10,637**
Season Nitrogen Ratio:	0.65							**Lbs Per Acre:**			**177**	**42**	**273**	**1,716**	**273**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 405

Corn, 39 Acres Planted on 06/15/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
05/23/2023	Surface Water: Laguna	6.00	Acre Inches		0.00			mg/L			0	0	0	0	
05/23/2023	Waste Water: Main Lagoon	0.75	Acre Inches		465.00	66.60	789.00	mg/L		794,263	3,077	441	5,220	38,109	
06/28/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			222	0	0	10,271	
06/28/2023	Waste Water: Main Lagoon	0.40	Acre Inches		465.00	66.60	789.00	mg/L		423,607	1,641	235	2,784	20,325	
07/10/2023	Ground Water: Well Avg	6.00	Acre Inches		5.04			mg/L			267	0	0	12,325	
07/19/2023	Fertilize - UN32	25.00	Gallons		32.00	0.00	0.00	%			2,599	0	0	0	
07/19/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			222	0	0	10,271	
07/19/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		529,509	2,192	239	2,647	25,980	
08/23/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			222	0	0	10,271	
09/29/2023	Harvest	31.00	Tons	69.80	1.09	0.26	1.56	%							7,960
	Acre Inches Applied:	**28.65**						**Totals:**		**1,747,379**	**10,442**	**915**	**10,651**	**127,552**	**7,960**
Season Nitrogen Ratio:	1.31							**Lbs Per Acre:**			**268**	**23**	**273**	**3,271**	**204**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 412

Wheat, 65 Acres Planted on 11/12/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	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			%			910				
02/27/2023	Surface Water: Laguna	5.50	Acre Inches		0.00			mg/L			0	0	0	0	
02/27/2023	Waste Water: Main Lagoon	0.75	Acre Inches		533.00	138.00	893.00	mg/L		1,323,772	5,877	1,522	9,847	61,972	
04/02/2023	Surface Water: Laguna	5.00	Acre Inches		0.00			mg/L			0	0	0	0	
04/02/2023	Waste Water: Main Lagoon	0.75	Acre Inches		533.00	138.00	893.00	mg/L		1,323,772	5,877	1,522	9,847	61,972	
05/02/2023	Harvest	20.90	Tons	71.80	1.87	0.44	2.83	%							14,328
	Acre Inches Applied:	**12.00**						**Totals:**		**2,647,544**	**12,665**	**3,043**	**19,694**	**123,943**	**14,328**
Season Nitrogen Ratio:	0.88							**Lbs Per Acre:**			**195**	**47**	**303**	**1,907**	**220**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 412

Corn, 65 Acres Planted on 06/20/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
05/24/2023	Surface Water: Laguna	6.00	Acre Inches		0.00			mg/L			0	0	0	0	
05/24/2023	Waste Water: Main Lagoon	1.00	Acre Inches		465.00	66.60	789.00	mg/L		1,765,030	6,837	979	11,601	84,688	
06/30/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			370	0	0	17,118	
06/30/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		882,515	3,418	489	5,800	42,344	
07/09/2023	Ground Water: Well Avg	6.00	Acre Inches		5.04			mg/L			445	0	0	20,542	
07/15/2023	Fertilize - UN32	25.00	Gallons		32.00	0.00	0.00	%			4,332	0	0	0	
07/19/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			370	0	0	17,118	
07/19/2023	Waste Water: Main Lagoon	0.25	Acre Inches		497.00	54.20	600.00	mg/L		441,257	1,826	199	2,205	21,650	
08/23/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			370	0	0	17,118	
08/23/2023	Waste Water: Main Lagoon	0.25	Acre Inches		497.00	54.20	600.00	mg/L		441,257	1,826	199	2,205	21,650	
09/29/2023	Harvest	31.80	Tons	70.60	1.26	0.25	1.64	%							15,314
	Acre Inches Applied:	**29.00**						**Totals:**		**3,530,059**	**19,796**	**1,866**	**21,811**	**242,228**	**15,314**
Season Nitrogen Ratio:	1.29							**Lbs Per Acre:**			**305**	**29**	**336**	**3,727**	**236**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 415

Wheat, 29 Acres Planted on 11/28/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	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			%			406				
02/21/2023	Surface Water: Laguna	5.50	Acre Inches		0.00			mg/L			0	0	0	0	
02/21/2023	Waste Water: Main Lagoon	0.70	Acre Inches		533.00	138.00	893.00	mg/L		551,232	2,447	634	4,100	25,806	
03/23/2023	Surface Water: Laguna	5.80	Acre Inches		0.00			mg/L			0	0	0	0	
03/23/2023	Waste Water: Main Lagoon	1.00	Acre Inches		533.00	138.00	893.00	mg/L		787,475	3,496	905	5,858	36,865	
05/19/2023	Harvest	21.00	Tons	66.70	1.77	0.35	2.53	%							7,179
	Acre Inches Applied:	**13.00**						**Totals:**		**1,338,707**	**6,350**	**1,539**	**9,958**	**62,671**	**7,179**
Season Nitrogen Ratio:	0.88							**Lbs Per Acre:**			**219**	**53**	**343**	**2,161**	**248**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 415

Corn, 29 Acres Planted on 06/22/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
05/25/2023	Surface Water: Laguna	6.00	Acre Inches		0.00			mg/L			0	0	0	0	
05/25/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		393,737	1,525	218	2,588	18,892	
07/01/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			165	0	0	7,637	
07/01/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		393,737	1,630	178	1,968	19,318	
07/09/2023	Fertilize - UN32	25.00	Gallons		32.00	0.00	0.00	%			1,933	0	0	0	
07/09/2023	Ground Water: Well Avg	6.00	Acre Inches		5.04			mg/L			198	0	0	9,165	
07/21/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			165	0	0	7,637	
07/21/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		393,737	1,630	178	1,968	19,318	
08/25/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			165	0	0	7,637	
08/25/2023	Waste Water: Main Lagoon	0.25	Acre Inches		497.00	54.20	600.00	mg/L		196,869	815	89	984	9,659	
09/29/2023	Harvest	30.90	Tons	70.40	1.27	0.26	1.52	%							6,737
	Acre Inches Applied:	**28.75**						**Totals:**		**1,378,081**	**8,227**	**663**	**7,508**	**99,265**	**6,737**
Season Nitrogen Ratio:	1.22							**Lbs Per Acre:**			**284**	**23**	**259**	**3,423**	**232**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 418

Wheat, 17 Acres Planted on 11/28/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	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				
02/18/2023	Surface Water: Laguna	5.50	Acre Inches		0.00			mg/L			0	0	0	0	
02/18/2023	Waste Water: Main Lagoon	0.75	Acre Inches		533.00	138.00	893.00	mg/L		346,217	1,537	398	2,575	16,208	
04/02/2023	Surface Water: Laguna	5.00	Acre Inches		0.00			mg/L			0	0	0	0	
04/02/2023	Waste Water: Main Lagoon	1.00	Acre Inches		533.00	138.00	893.00	mg/L		461,623	2,050	531	3,434	21,611	
05/19/2023	Harvest	19.00	Tons	68.50	1.87	0.43	2.77	%							3,805
	Acre Inches Applied:	**12.25**						**Totals:**		**807,840**	**3,825**	**929**	**6,009**	**37,819**	**3,805**
Season Nitrogen Ratio:	1.01							**Lbs Per Acre:**			**225**	**55**	**353**	**2,225**	**224**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 418

Corn, 17 Acres Planted on 06/22/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
05/28/2023	Surface Water: Laguna	6.00	Acre Inches		0.00			mg/L			0	0	0	0	
05/28/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		230,812	894	128	1,517	11,074	
07/03/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			97	0	0	4,477	
07/03/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		230,812	956	104	1,154	11,325	
07/13/2023	Fertilize - UN32	25.00	Gallons		32.00	0.00	0.00	%			1,133	0	0	0	
07/13/2023	Ground Water: Well Avg	6.00	Acre Inches		5.04			mg/L			116	0	0	5,373	
07/29/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			97	0	0	4,477	
07/29/2023	Waste Water: Main Lagoon	0.40	Acre Inches		497.00	54.20	600.00	mg/L		184,649	764	83	923	9,060	
08/31/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			97	0	0	4,477	
08/31/2023	Waste Water: Main Lagoon	0.40	Acre Inches		497.00	54.20	600.00	mg/L		184,649	764	83	923	9,060	
09/29/2023	Harvest	31.40	Tons	69.40	1.15	0.25	1.55	%							3,757
	Acre Inches Applied:	**28.80**						**Totals:**		**830,922**	**4,918**	**399**	**4,516**	**59,322**	**3,757**
Season Nitrogen Ratio:	1.31							**Lbs Per Acre:**			**289**	**23**	**266**	**3,490**	**221**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 452

Wheat, 74 Acres Planted on 11/04/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	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			%			1,036				
02/25/2023	Surface Water: Laguna	4.50	Acre Inches		0.00			mg/L			0	0	0	0	
02/25/2023	Waste Water: Main Lagoon	0.60	Acre Inches		533.00	138.00	893.00	mg/L		1,205,651	5,353	1,386	8,969	56,442	
03/26/2023	Surface Water: Laguna	5.00	Acre Inches		0.00			mg/L			0	0	0	0	
03/26/2023	Waste Water: Main Lagoon	0.60	Acre Inches		533.00	138.00	893.00	mg/L		1,205,651	5,353	1,386	8,969	56,442	
05/15/2023	Harvest	18.40	Tons	72.20	1.98	0.47	2.75	%							14,989
	Acre Inches Applied:	**10.70**						**Totals:**		**2,411,302**	**11,742**	**2,772**	**17,938**	**112,884**	**14,989**
Season Nitrogen Ratio:	0.78							**Lbs Per Acre:**			**159**	**37**	**242**	**1,525**	**203**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 452

Corn, 74 Acres Planted on 06/24/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
05/30/2023	Surface Water: Laguna	6.00	Acre Inches		0.00			mg/L			0	0	0	0	
05/30/2023	Waste Water: Main Lagoon	0.60	Acre Inches		465.00	66.60	789.00	mg/L		1,205,651	4,670	669	7,924	57,848	
07/02/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			422	0	0	19,489	
07/02/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		1,004,709	4,160	454	5,022	49,295	
07/11/2023	Fertilize - UN32	25.00	Gallons		32.00	0.00	0.00	%			4,931	0	0	0	
07/11/2023	Ground Water: Well Avg	6.00	Acre Inches		5.04			mg/L			506	0	0	23,386	
07/26/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			422	0	0	19,489	
07/26/2023	Waste Water: Main Lagoon	0.40	Acre Inches		497.00	54.20	600.00	mg/L		803,767	3,328	363	4,017	39,436	
08/29/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			422	0	0	19,489	
08/29/2023	Waste Water: Main Lagoon	0.40	Acre Inches		497.00	54.20	600.00	mg/L		803,767	3,328	363	4,017	39,436	
09/29/2023	Harvest	30.60	Tons	69.00	1.19	0.23	1.56	%							16,707
	Acre Inches Applied:	**28.90**						**Totals:**		**3,817,895**	**22,188**	**1,848**	**20,980**	**267,867**	**16,707**
Season Nitrogen Ratio:	1.33							**Lbs Per Acre:**			**300**	**25**	**284**	**3,620**	**226**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-01

Wheat, 22 Acres Planted on 09/23/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
09/14/2022	Ground Water: Well Avg	5.00	Acre Inches		7.71			mg/L			192	0	0	6,576	
09/17/2022	Waste Water: Main Lagoon	0.50	Acre Inches		521.00	35.40	686.00	mg/L		298,697	1,296	88	1,707	12,466	
10/17/2022	Ground Water: Well Avg	5.00	Acre Inches		7.71			mg/L			192	0	0	6,576	
10/17/2022	Waste Water: Main Lagoon	0.45	Acre Inches		551.00	68.70	772.00	mg/L		268,828	1,234	154	1,729	17,377	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			308				
05/17/2023	Harvest	18.90	Tons	65.00	1.70	0.36	2.46	%							4,948
	Acre Inches Applied:	**10.95**						**Totals:**		**567,525**	**3,222**	**242**	**3,436**	**42,994**	**4,948**
Season Nitrogen Ratio:	0.65							**Lbs Per Acre:**			**146**	**11**	**156**	**1,954**	**225**

Field Name: S-01

Corn, 22 Acres Planted on 07/05/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/29/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			113	0	0	5,214	
06/29/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		298,697	1,157	166	1,963	14,332	
07/07/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			125	0	0	5,794	
07/07/2023	Waste Water: Main Lagoon	1.00	Acre Inches		497.00	54.20	600.00	mg/L		597,395	2,473	270	2,986	29,310	
07/16/2023	Ground Water: Well Avg	5.50	Acre Inches		5.04			mg/L			138	0	0	6,373	
07/16/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		298,697	1,237	135	1,493	14,655	
08/14/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			125	0	0	5,794	
09/29/2023	Harvest	30.00	Tons	71.50	1.21	0.27	1.22	%							4,552
	Acre Inches Applied:	**22.00**						**Totals:**		**1,194,789**	**5,368**	**570**	**6,442**	**81,473**	**4,552**
Season Nitrogen Ratio:	1.18							**Lbs Per Acre:**			**244**	**26**	**293**	**3,703**	**207**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-02

Wheat, 18 Acres Planted on 09/24/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
09/13/2022	Ground Water: Well Avg	5.00	Acre Inches		7.71			mg/L			157	0	0	5,380	
09/13/2022	Waste Water: Main Lagoon	0.80	Acre Inches		521.00	35.40	686.00	mg/L		391,022	1,697	115	2,235	16,319	
10/19/2022	Ground Water: Well Avg	5.00	Acre Inches		7.71			mg/L			157	0	0	5,380	
10/19/2022	Waste Water: Main Lagoon	0.80	Acre Inches		551.00	68.70	772.00	mg/L		391,022	1,795	224	2,515	25,276	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			252				
05/17/2023	Harvest	20.20	Tons	64.90	1.77	0.38	2.50	%							4,518
	Acre Inches Applied:	**11.60**						**Totals:**		**782,044**	**4,058**	**339**	**4,749**	**52,355**	**4,518**
Season Nitrogen Ratio:	0.90							**Lbs Per Acre:**			**225**	**19**	**264**	**2,909**	**251**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-02

Corn, 18 Acres Planted on 07/05/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/29/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			92	0	0	4,266	
06/29/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		244,389	947	136	1,606	11,726	
07/07/2023	Ground Water: Well Avg	5.50	Acre Inches		5.04			mg/L			113	0	0	5,214	
07/07/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		244,389	1,012	110	1,221	11,991	
07/16/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			103	0	0	4,740	
07/16/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		244,389	1,012	110	1,221	11,991	
08/14/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			103	0	0	4,740	
09/04/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			103	0	0	4,740	
09/29/2023	Harvest	29.90	Tons	69.90	1.16	0.27	1.61	%							3,758
	Acre Inches Applied:	**26.50**						**Totals:**		**733,166**	**3,483**	**356**	**4,049**	**59,410**	**3,758**
Season Nitrogen Ratio:	0.93							**Lbs Per Acre:**			**194**	**20**	**225**	**3,301**	**209**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-03

Wheat, 27 Acres Planted on 11/22/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
10/13/2022	Ground Water: Well Avg	5.00	Acre Inches		7.71			mg/L			235	0	0	8,070	
10/13/2022	Waste Water: Main Lagoon	0.70	Acre Inches		551.00	68.70	772.00	mg/L		513,216	2,355	294	3,300	33,175	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			378				
04/13/2023	Surface Water: Laguna	5.50	Acre Inches		0.00			mg/L			0	0	0	0	
04/13/2023	Waste Water: Main Lagoon	0.75	Acre Inches		533.00	138.00	893.00	mg/L		549,875	2,441	632	4,090	25,742	
05/17/2023	Harvest	21.00	Tons	67.60	1.86	0.42	2.51	%							6,834
	Acre Inches Applied:	**11.95**						**Totals:**		**1,063,091**	**5,410**	**926**	**7,391**	**66,987**	**6,834**
Season Nitrogen Ratio:	0.79							**Lbs Per Acre:**			**200**	**34**	**274**	**2,481**	**253**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-03

Corn, 27 Acres Planted on 07/01/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/30/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			139	0	0	6,400	
06/30/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		366,583	1,420	203	2,409	17,589	
07/09/2023	Ground Water: Well Avg	5.50	Acre Inches		5.04			mg/L			169	0	0	7,822	
07/09/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		366,583	1,518	166	1,832	17,986	
07/18/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			154	0	0	7,111	
07/18/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		366,583	1,518	166	1,832	17,986	
08/16/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			154	0	0	7,111	
09/14/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			154	0	0	7,111	
10/04/2023	Harvest	29.80	Tons	70.80	1.35	0.28	1.16	%							6,343
	Acre Inches Applied:	**26.50**						**Totals:**		**1,099,749**	**5,225**	**534**	**6,074**	**89,114**	**6,343**
Season Nitrogen Ratio:	0.82							**Lbs Per Acre:**			**194**	**20**	**225**	**3,301**	**235**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-04

Wheat, 18 Acres Planted on 11/22/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	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			%			252				
04/13/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			92	0	0	4,266	
04/13/2023	Waste Water: Main Lagoon	0.80	Acre Inches		533.00	138.00	893.00	mg/L		391,022	1,736	449	2,909	18,305	
05/17/2023	Harvest	17.90	Tons	67.70	1.86	0.32	2.52	%							3,871
	Acre Inches Applied:	**5.30**						**Totals:**		**391,022**	**2,080**	**449**	**2,909**	**22,572**	**3,871**
Season Nitrogen Ratio:	0.54							**Lbs Per Acre:**			**116**	**25**	**162**	**1,254**	**215**

Field Name: S-04

Corn, 18 Acres Planted on 07/05/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/14/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			92	0	0	4,266	
06/14/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		244,389	947	136	1,606	11,726	
07/19/2023	Ground Water: Well Avg	5.50	Acre Inches		5.04			mg/L			113	0	0	5,214	
07/19/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		244,389	1,012	110	1,221	11,991	
07/27/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			103	0	0	4,740	
07/27/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		244,389	1,012	110	1,221	11,991	
08/18/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			103	0	0	4,740	
09/16/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			103	0	0	4,740	
10/04/2023	Harvest	30.70	Tons	73.80	1.29	0.25	1.44	%							3,735
	Acre Inches Applied:	**26.50**						**Totals:**		**733,166**	**3,483**	**356**	**4,049**	**59,410**	**3,735**
Season Nitrogen Ratio:	0.93							**Lbs Per Acre:**			**194**	**20**	**225**	**3,301**	**208**

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Nutrient Applications (Attachment B)

Field Name: S-05

Wheat, 28 Acres Planted on 09/30/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
09/14/2022	Ground Water: Well Avg	5.00	Acre Inches		7.71			mg/L			244	0	0	8,369	
11/03/2022	Ground Water: Well Avg	5.00	Acre Inches		7.71			mg/L			244	0	0	8,369	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			392				
05/21/2023	Harvest	19.10	Tons	68.60	1.94	0.41	3.10	%							6,516
	Acre Inches Applied:	**10.00**						**Totals:**			**880**	**0**	**0**	**16,738**	**6,516**
Season Nitrogen Ratio:	0.14							**Lbs Per Acre:**			**31**	**0**	**0**	**598**	**233**

Field Name: S-05

Corn, 28 Acres Planted on 07/01/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/05/2023	Corral Solids: Main Corral	10.00	Tons	22.80	1.16	0.32	0.64	%	280		5,015	1,362	2,780	0	
06/12/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			144	0	0	6,637	
07/07/2023	Ground Water: Well Avg	5.50	Acre Inches		5.04			mg/L			176	0	0	8,111	
07/07/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			144	0	0	6,637	
07/14/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			160	0	0	7,374	
07/16/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			144	0	0	6,637	
07/31/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			160	0	0	7,374	
09/29/2023	Harvest	30.70	Tons	70.10	1.24	0.24	1.46	%							6,374
	Acre Inches Applied:	**29.00**						**Totals:**	**280**		**5,940**	**1,362**	**2,780**	**42,769**	**6,374**
Season Nitrogen Ratio:	0.93							**Lbs Per Acre:**			**212**	**49**	**99**	**1,527**	**228**

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Nutrient Applications (Attachment B)

Field Name: S-06

Wheat, 7 Acres Planted on 11/22/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
10/16/2022	Ground Water: Well Avg	4.00	Acre Inches		7.71			mg/L			49	0	0	1,674	
10/16/2022	Waste Water: Main Lagoon	0.80	Acre Inches		551.00	68.70	772.00	mg/L		152,064	698	87	978	9,830	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			98				
03/15/2023	Surface Water: Laguna	5.00	Acre Inches		0.00			mg/L			0	0	0	0	
03/15/2023	Waste Water: Main Lagoon	0.70	Acre Inches		533.00	138.00	893.00	mg/L		133,056	591	153	990	6,229	
05/17/2023	Harvest	20.80	Tons	68.50	1.87	0.44	2.35	%							1,715
	Acre Inches Applied:	**10.50**						**Totals:**		**285,120**	**1,436**	**240**	**1,968**	**17,732**	**1,715**
Season Nitrogen Ratio:	0.84							**Lbs Per Acre:**			**205**	**34**	**281**	**2,533**	**245**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-06

Corn, 7 Acres Planted on 07/05/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
05/25/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			36	0	0	1,659	
05/25/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		95,040	368	53	625	4,560	
07/20/2023	Ground Water: Well Avg	5.50	Acre Inches		5.04			mg/L			44	0	0	2,028	
07/20/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		95,040	393	43	475	4,663	
07/29/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			40	0	0	1,844	
07/29/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		95,040	393	43	475	4,663	
08/18/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			40	0	0	1,844	
09/17/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			40	0	0	1,844	
10/04/2023	Harvest	31.00	Tons	70.90	1.25	0.27	1.29	%							1,579
	Acre Inches Applied:	**26.50**						**Totals:**		**285,120**	**1,355**	**139**	**1,575**	**23,104**	**1,579**
Season Nitrogen Ratio:	0.86							**Lbs Per Acre:**			**194**	**20**	**225**	**3,301**	**226**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-07

Wheat, 42 Acres Planted on 09/30/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	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				
02/14/2023	Surface Water: Laguna	6.00	Acre Inches		0.00			mg/L			0	0	0	0	
02/14/2023	Waste Water: Main Lagoon	0.80	Acre Inches		533.00	138.00	893.00	mg/L		912,384	4,051	1,049	6,787	42,713	
04/08/2023	Surface Water: Laguna	5.00	Acre Inches		0.00			mg/L			0	0	0	0	
04/08/2023	Waste Water: Main Lagoon	0.75	Acre Inches		533.00	138.00	893.00	mg/L		855,360	3,798	983	6,363	40,043	
05/21/2023	Harvest	21.00	Tons	68.10	2.05	0.54	3.21	%							11,536
	Acre Inches Applied:	**12.55**						**Totals:**		**1,767,745**	**8,437**	**2,032**	**13,149**	**82,756**	**11,536**
Season Nitrogen Ratio:	0.73							**Lbs Per Acre:**			**201**	**48**	**313**	**1,970**	**275**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-07

Corn, 42 Acres Planted on 07/01/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/29/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			215	0	0	9,955	
06/29/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		570,240	2,209	316	3,748	27,360	
07/07/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			239	0	0	11,061	
07/07/2023	Waste Water: Main Lagoon	0.75	Acre Inches		497.00	54.20	600.00	mg/L		855,360	3,541	386	4,275	41,967	
07/16/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			239	0	0	11,061	
07/16/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		570,240	2,361	257	2,850	27,978	
07/31/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			239	0	0	11,061	
07/31/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		570,240	2,361	257	2,850	27,978	
08/20/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			215	0	0	9,955	
09/29/2023	Harvest	31.00	Tons	71.50	1.26	0.26	1.53	%							9,351
	Acre Inches Applied:	**26.25**						**Totals:**		**2,566,081**	**11,621**	**1,217**	**13,723**	**178,377**	**9,351**
Season Nitrogen Ratio:	1.24							**Lbs Per Acre:**			**277**	**29**	**327**	**4,247**	**223**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-08

Wheat, 18 Acres Planted on 10/28/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	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			%			252				
02/18/2023	Surface Water: Laguna	5.00	Acre Inches		0.00			mg/L			0	0	0	0	
02/18/2023	Waste Water: Main Lagoon	0.75	Acre Inches		533.00	138.00	893.00	mg/L		366,583	1,628	421	2,727	17,161	
04/10/2023	Surface Water: Laguna	5.00	Acre Inches		0.00			mg/L			0	0	0	0	
04/10/2023	Waste Water: Main Lagoon	0.75	Acre Inches		533.00	138.00	893.00	mg/L		366,583	1,628	421	2,727	17,161	
05/23/2023	Harvest	20.70	Tons	67.50	2.05	0.56	3.23	%							4,965
	Acre Inches Applied:	**11.50**						**Totals:**		**733,166**	**3,507**	**843**	**5,454**	**34,323**	**4,965**
Season Nitrogen Ratio:	0.71							**Lbs Per Acre:**			**195**	**47**	**303**	**1,907**	**276**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-08

Corn, 18 Acres Planted on 07/01/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/23/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			92	0	0	4,266	
06/23/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		244,389	947	136	1,606	11,726	
07/12/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			103	0	0	4,740	
07/12/2023	Waste Water: Main Lagoon	0.75	Acre Inches		497.00	54.20	600.00	mg/L		366,583	1,518	165	1,832	17,986	
07/26/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			103	0	0	4,740	
07/26/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		244,389	1,012	110	1,221	11,991	
08/15/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			103	0	0	4,740	
08/15/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		244,389	1,012	110	1,221	11,991	
09/15/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			92	0	0	4,266	
10/17/2023	Harvest	31.00	Tons	73.60	1.28	0.21	1.46	%							3,771
	Acre Inches Applied:	**26.25**						**Totals:**		**1,099,749**	**4,980**	**522**	**5,881**	**76,447**	**3,771**
Season Nitrogen Ratio:	1.32							**Lbs Per Acre:**			**277**	**29**	**327**	**4,247**	**210**

INNOVATIVE AG SERVICES

Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-09

Wheat, 58 Acres Planted on 11/01/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	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			%			812				
04/12/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			298	0	0	13,747	
04/12/2023	Waste Water: Main Lagoon	0.60	Acre Inches		533.00	138.00	893.00	mg/L		944,970	4,196	1,086	7,030	44,238	
05/22/2023	Harvest	20.10	Tons	68.40	1.83	0.42	3.13	%							13,483
	Acre Inches Applied:	**5.10**						**Totals:**		**944,970**	**5,305**	**1,086**	**7,030**	**57,986**	**13,483**
Season Nitrogen Ratio: 0.39								**Lbs Per Acre:**			**91**	**19**	**121**	**1,000**	**232**

Field Name: S-09

Corn, 58 Acres Planted on 07/01/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/10/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			298	0	0	13,747	
06/10/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		787,475	3,050	437	5,175	37,784	
07/20/2023	Ground Water: Well Avg	5.50	Acre Inches		5.04			mg/L			364	0	0	16,802	
07/20/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		787,475	3,260	356	3,936	38,637	
07/31/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			331	0	0	15,275	
07/31/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		787,475	3,260	356	3,936	38,637	
08/18/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			331	0	0	15,275	
09/17/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			331	0	0	15,275	
09/17/2023	Waste Water: Main Lagoon	0.50	Acre Inches		448.00	47.70	590.00	mg/L		787,475	2,939	313	3,870	31,814	
10/17/2023	Harvest	30.90	Tons	73.30	1.24	0.22	1.42	%							11,867
	Acre Inches Applied:	**27.00**						**Totals:**		**3,149,899**	**14,162**	**1,460**	**16,917**	**223,245**	**11,867**
Season Nitrogen Ratio: 1.19								**Lbs Per Acre:**			**244**	**25**	**292**	**3,849**	**205**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-10

Wheat, 19 Acres Planted on 10/27/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	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			%			266				
04/12/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			97	0	0	4,503	
04/12/2023	Waste Water: Main Lagoon	0.80	Acre Inches		533.00	138.00	893.00	mg/L		412,745	1,833	474	3,070	19,322	
05/22/2023	Harvest	20.90	Tons	64.60	1.81	0.49	3.33	%							5,089
	Acre Inches Applied:	**5.30**						**Totals:**		**412,745**	**2,196**	**474**	**3,070**	**23,826**	**5,089**
Season Nitrogen Ratio:	0.43							**Lbs Per Acre:**			**116**	**25**	**162**	**1,254**	**268**

Field Name: S-10

Corn, 19 Acres Planted on 07/03/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/11/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			97	0	0	4,503	
06/11/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		257,966	999	143	1,695	12,377	
07/21/2023	Ground Water: Well Avg	5.50	Acre Inches		5.04			mg/L			119	0	0	5,504	
07/21/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		257,966	1,068	116	1,289	12,657	
08/01/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			108	0	0	5,004	
08/01/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		257,966	1,068	116	1,289	12,657	
08/19/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			108	0	0	5,004	
09/19/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			108	0	0	5,004	
09/19/2023	Waste Water: Main Lagoon	0.40	Acre Inches		448.00	47.70	590.00	mg/L		206,373	770	82	1,014	8,338	
10/18/2023	Harvest	28.00	Tons	74.70	1.29	0.22	1.67	%							3,473
	Acre Inches Applied:	**26.90**						**Totals:**		**980,270**	**4,447**	**458**	**5,288**	**71,048**	**3,473**
Season Nitrogen Ratio:	1.28							**Lbs Per Acre:**			**234**	**24**	**278**	**3,739**	**183**

INNOVATIVE AG SERVICES

Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-11

Wheat, 23 Acres Planted on 10/27/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	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				
04/12/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			118	0	0	5,451	
04/12/2023	Waste Water: Main Lagoon	0.80	Acre Inches		533.00	138.00	893.00	mg/L		499,639	2,218	574	3,717	23,390	
05/22/2023	Harvest	19.70	Tons	72.80	1.66	0.48	2.68	%							4,092
	Acre Inches Applied:	**5.30**						**Totals:**		**499,639**	**2,658**	**574**	**3,717**	**28,842**	**4,092**
Season Nitrogen Ratio:	0.65							**Lbs Per Acre:**			**116**	**25**	**162**	**1,254**	**178**

Field Name: S-11

Corn, 23 Acres Planted on 07/01/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/10/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			118	0	0	5,451	
06/10/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		312,274	1,210	173	2,052	14,983	
07/20/2023	Ground Water: Well Avg	5.50	Acre Inches		5.04			mg/L			144	0	0	6,663	
07/20/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		312,274	1,293	141	1,561	15,321	
07/31/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			131	0	0	6,057	
07/31/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		312,274	1,293	141	1,561	15,321	
08/18/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			131	0	0	6,057	
09/17/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			131	0	0	6,057	
09/17/2023	Waste Water: Main Lagoon	0.50	Acre Inches		448.00	47.70	590.00	mg/L		312,274	1,165	124	1,535	12,616	
10/18/2023	Harvest	29.70	Tons	74.20	1.31	0.23	1.54	%							4,617
	Acre Inches Applied:	**27.00**						**Totals:**		**1,249,098**	**5,616**	**579**	**6,709**	**88,528**	**4,617**
Season Nitrogen Ratio:	1.22							**Lbs Per Acre:**			**244**	**25**	**292**	**3,849**	**201**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-12

Wheat, 44 Acres Planted on 10/18/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
11/02/2022	Ground Water: Well Avg	4.00	Acre Inches		7.71			mg/L			307	0	0	10,521	
11/02/2022	Waste Water: Main Lagoon	0.80	Acre Inches		551.00	68.70	772.00	mg/L		955,831	4,387	547	6,147	61,786	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			616				
03/18/2023	Ground Water: Well Avg	4.00	Acre Inches		5.04			mg/L			201	0	0	9,270	
03/18/2023	Waste Water: Main Lagoon	0.50	Acre Inches		533.00	138.00	893.00	mg/L		597,395	2,652	687	4,444	27,967	
05/22/2023	Harvest	19.40	Tons	62.20	1.06	0.28	0.77	%							6,840
	Acre Inches Applied:	**9.30**						**Totals:**		**1,553,226**	**8,163**	**1,234**	**10,591**	**109,544**	**6,840**
Season Nitrogen Ratio:	1.19							**Lbs Per Acre:**			**186**	**28**	**241**	**2,490**	**155**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-12

Corn, 44 Acres Planted on 06/25/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/11/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			226	0	0	10,429	
06/11/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		597,395	2,314	331	3,926	28,663	
07/15/2023	Ground Water: Well Avg	5.50	Acre Inches		5.04			mg/L			276	0	0	12,746	
07/15/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		597,395	2,473	270	2,986	29,311	
07/30/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			251	0	0	11,588	
07/30/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		597,395	2,473	270	2,986	29,311	
08/12/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			251	0	0	11,588	
09/07/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			251	0	0	11,588	
09/07/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		597,395	2,473	270	2,986	29,311	
10/04/2023	Harvest	29.50	Tons	72.40	1.18	0.25	1.10	%							8,455
	Acre Inches Applied:	**27.00**						**Totals:**		**2,389,578**	**10,988**	**1,140**	**12,884**	**174,534**	**8,455**
Season Nitrogen Ratio:	1.30							**Lbs Per Acre:**			**250**	**26**	**293**	**3,967**	**192**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-13

Wheat, 24 Acres Planted on 11/30/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
11/16/2022	Ground Water: Well Avg	4.00	Acre Inches		7.71			mg/L			168	0	0	5,739	
11/16/2022	Waste Water: Main Lagoon	0.75	Acre Inches		551.00	68.70	772.00	mg/L		488,777	2,244	280	3,143	31,595	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			336				
03/18/2023	Surface Water: Laguna	5.00	Acre Inches		0.00			mg/L			0	0	0	0	
03/18/2023	Waste Water: Main Lagoon	0.50	Acre Inches		533.00	138.00	893.00	mg/L		325,852	1,447	375	2,424	15,255	
05/22/2023	Harvest	19.10	Tons	62.60	1.00	0.27	0.89	%							3,429
	Acre Inches Applied:	**10.25**						**Totals:**		**814,629**	**4,194**	**654**	**5,567**	**52,589**	**3,429**
Season Nitrogen Ratio:	1.22							**Lbs Per Acre:**			**175**	**27**	**232**	**2,191**	**143**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-13

Corn, 24 Acres Planted on 07/03/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/12/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			123	0	0	5,688	
06/12/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		325,852	1,262	181	2,142	15,635	
07/20/2023	Ground Water: Well Avg	5.50	Acre Inches		5.04			mg/L			150	0	0	6,953	
07/20/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		325,852	1,349	147	1,629	15,988	
08/02/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			137	0	0	6,321	
08/02/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		325,852	1,349	147	1,629	15,988	
08/20/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			137	0	0	6,321	
09/15/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			137	0	0	6,321	
09/15/2023	Waste Water: Main Lagoon	0.50	Acre Inches		448.00	47.70	590.00	mg/L		325,852	1,216	129	1,602	13,164	
10/17/2023	Harvest	30.00	Tons	74.20	1.24	0.23	1.55	%							4,607
	Acre Inches Applied:	**27.00**						**Totals:**		**1,303,406**	**5,860**	**604**	**7,000**	**92,377**	**4,607**
Season Nitrogen Ratio:	1.27							**Lbs Per Acre:**			**244**	**25**	**292**	**3,849**	**192**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-14

Wheat, 43 Acres Planted on 11/25/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
11/13/2022	Ground Water: Well Avg	4.00	Acre Inches		7.71			mg/L			300	0	0	10,282	
11/13/2022	Waste Water: Main Lagoon	0.80	Acre Inches		551.00	68.70	772.00	mg/L		934,108	4,288	534	6,007	60,381	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			602				
03/20/2023	Ground Water: Well Avg	4.00	Acre Inches		5.04			mg/L			196	0	0	9,059	
03/20/2023	Waste Water: Main Lagoon	0.50	Acre Inches		533.00	138.00	893.00	mg/L		583,817	2,592	671	4,343	27,331	
05/22/2023	Harvest	19.00	Tons	62.60	1.12	0.29	0.81	%							6,844
	Acre Inches Applied:	**9.30**						**Totals:**		**1,517,925**	**7,978**	**1,206**	**10,350**	**107,054**	**6,844**
Season Nitrogen Ratio:	1.17							**Lbs Per Acre:**			**186**	**28**	**241**	**2,490**	**159**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-14

Corn, 43 Acres Planted on 07/02/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/10/2023	Ground Water: Well Avg	6.00	Acre Inches		5.04			mg/L			294	0	0	13,589	
06/10/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		583,817	2,261	324	3,837	28,012	
07/20/2023	Ground Water: Well Avg	6.00	Acre Inches		5.04			mg/L			294	0	0	13,589	
07/20/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		583,817	2,417	264	2,918	28,644	
07/31/2023	Ground Water: Well Avg	6.00	Acre Inches		5.04			mg/L			294	0	0	13,589	
07/31/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		583,817	2,417	264	2,918	28,644	
08/18/2023	Ground Water: Well Avg	7.00	Acre Inches		5.04			mg/L			343	0	0	15,854	
09/17/2023	Ground Water: Well Avg	6.00	Acre Inches		5.04			mg/L			294	0	0	13,589	
09/17/2023	Waste Water: Main Lagoon	0.50	Acre Inches		448.00	47.70	590.00	mg/L		583,817	2,179	232	2,869	23,586	
10/17/2023	Harvest	31.10	Tons	73.00	1.28	0.23	1.51	%							9,243
	Acre Inches Applied:	**33.00**						**Totals:**		**2,335,270**	**10,794**	**1,083**	**12,542**	**179,098**	**9,243**
Season Nitrogen Ratio:	1.17							**Lbs Per Acre:**			**251**	**25**	**292**	**4,165**	**215**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-15

Wheat, 67 Acres Planted on 11/21/2022

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	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			%			938				
04/17/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			382	0	0	17,645	
04/17/2023	Waste Water: Main Lagoon	0.80	Acre Inches		533.00	138.00	893.00	mg/L		1,455,470	6,462	1,673	10,827	68,137	
05/22/2023	Harvest	18.90	Tons	61.90	1.15	0.27	0.86	%							11,097
	Acre Inches Applied:	**5.80**						**Totals:**		**1,455,470**	**7,782**	**1,673**	**10,827**	**85,782**	**11,097**
Season Nitrogen Ratio:	0.70							**Lbs Per Acre:**			**116**	**25**	**162**	**1,280**	**166**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Field Name: S-15

Corn, 67 Acres Planted on 07/02/2023

Date	Event/Source	Amount Applied/Yield (per Acre)	Units	Lab Sample Data % Moist.	Nitrogen	Phos.	Potass.	Units	Manure Applied (Tons)	Wastewater Applied (Gallons)	Nitrogen Applied (Lbs)	Phosphorus Applied (Lbs)	Potassium Applied (Lbs)	Salt Applied (Lbs)	Nitrogen Extracted (Lbs)
06/10/2023	Ground Water: Well Avg	4.50	Acre Inches		5.04			mg/L			344	0	0	15,880	
06/10/2023	Waste Water: Main Lagoon	0.50	Acre Inches		465.00	66.60	789.00	mg/L		909,669	3,524	505	5,978	43,646	
07/22/2023	Ground Water: Well Avg	5.50	Acre Inches		5.04			mg/L			420	0	0	19,409	
07/22/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		909,669	3,766	411	4,547	44,632	
08/03/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			382	0	0	17,645	
08/03/2023	Waste Water: Main Lagoon	0.50	Acre Inches		497.00	54.20	600.00	mg/L		909,669	3,766	411	4,547	44,632	
08/12/2023	Ground Water: Well Avg	5.50	Acre Inches		5.04			mg/L			420	0	0	19,409	
08/20/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			382	0	0	17,645	
09/10/2023	Ground Water: Well Avg	5.00	Acre Inches		5.04			mg/L			382	0	0	17,645	
09/10/2023	Waste Water: Main Lagoon	0.40	Acre Inches		497.00	54.20	600.00	mg/L		727,735	3,013	328	3,637	35,706	
10/17/2023	Harvest	30.40	Tons	75.40	1.30	0.26	1.51	%							13,027
	Acre Inches Applied:	**32.40**						**Totals:**		**3,456,742**	**16,398**	**1,654**	**18,709**	**276,250**	**13,027**
Season Nitrogen Ratio:	1.26							**Lbs Per Acre:**			**245**	**25**	**279**	**4,123**	**194**

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Maple Dairy 2023

Nutrient Applications (Attachment B)

Summary of Nutrient Applications, Removal, and Balance

	Total N (Lbs)	Total P (Lbs)	Total K (Lbs)	Total Salts (Lbs)	Total Manure Applied	
Solid Manure	5,014.80	1,361.92	2,779.84	0.00	280.00	tons
Process Wastewater	277,824.36	46,250.82	411,224.18	3,224,753.08	66,325,735.46	gallons
Irrigation Water	26,762.41					
Fertilizer / Total Imports	24,390.24					
Atmospheric Deposition	11,788.00					
Total Nitrogen Applied	**345,779.81**					
Crop Nitrogen Removal	365,184.30					
Nitrogen Balance	**(19,404.49)**					
Nitrogen Ratio	**0.95**					

- **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.**

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Maple Dairy 2023
Nutrient Applications (Attachment B)

FIELD NITROGEN RATIO Calculation:

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

ATMOSHERIC DEPOSITION Applied (lbs) Calculation:

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

HARVEST Nitrogen Extraction (Lbs) Calculation:

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

IRRIGATION Nitrogen and Salts Applied (Lbs) Calculations:

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

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

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

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

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

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

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

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

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

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

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

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

"Lbs Applied per Acre" Calculations:

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

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

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

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

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Maple 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)**
4,671	155,910.78	54,960.33	225,679.07	0.00

* The Total Manure (tons) should be calculated as the sum of all manure transferred offsite as reported in all the Manure/Process Wastewater Tracking Manifests for the reporting period.
** Total (N, P, K, Salts) (lbs) = Sum of (N, P, K, Salts) for each manure export event based on (Manure(tons) x 2000lb/ton) x ((100-moisture%)/100) x (N, P, K, and Ash) Concentration (%, dry weight) / 100 using the samples closest in date to the export event.

B. ESTIMATED TOTAL PROCESS WASTEWATER TRANSFERRED OFFSITE

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

* The Total Manure (gals) should be calculated as the sum of all manure transferred offsite as reported in all the Manure/Process Wastewater Tracking Manifests for the reporting period.
** Total (Nitrogen, Phosphorus, Potassium, TDS) (lbs) = Sum of (Nitrogen, Phosphorus, Potassium, TDS) for each wastewater export event based on (Process Wastewater(gals) x 8.33lb/gal) x (N03-N or TKN, P, K, TDS) x 10-6 using the samples closest in date to the export event.

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Maple Dairy 2023

Land Application Area Description Technical Report (Attachment D)

Field Name	Assessor Parcel Number(s)	Acres	Type of Waste Applied
402	x055 x150 x17S xxxx, x055 x150 x22S xxxx, x055 x150 xx15 xxxx	64	Process Wastewater
403	x055 x150 x01S xxxx, x055 x150 x22S xxxx	78	Process Wastewater
404	x055 x370 x01S xxxx	18	Process Wastewater
405	x055 x140 x01S xxxx	39	Process Wastewater
412	x055 x370 x13S xxxx, x055 x370 x19S xxxx	65	Process Wastewater
415	x055 x140 x11S xxxx, x055 x140 xx10 xxxx	29	Process Wastewater
418	x055 x370 x02S xxxx	17	Process Wastewater
452	x055 x370 x15S xxxx	75	Process Wastewater
S-01	x055 x330 xx06 xxxx	22	Process Wastewater
S-02	x055 x330 xx06 xxxx, x055 x330 xx14 xxxx	18	Process Wastewater
S-03	x055 x140 x18S xxxx	27	Process Wastewater
S-04	x055 x140 x15S xxxx	18	Process Wastewater
S-05	x055 x140 x18S xxxx	28	Manure
S-06	x055 x140 x18S xxxx, x055 x140 xx21 xxxx	7	Process Wastewater
S-07	x055 x140 x14S xxxx, x055 x140 x15S xxxx, x055 x140 x18S xxxx, x055 x140 xx20 xxxx	42	Process Wastewater
S-08	x055 x150 x14S xxxx	18	Process Wastewater
S-09	x056 x100 x10S xxxx	58	Process Wastewater
S-10	x056 x100 x08S xxxx	19	Process Wastewater
S-11	x056 x100 x10S xxxx	23	Process Wastewater
S-12	x056 x060 x16S xxxx	44	Process Wastewater
S-13	x056 x060 x16S xxxx	24	Process Wastewater
S-14	x056 x060 x16S xxxx	43	Process Wastewater
S-15	x056 x060 x16S xxxx, x056 x110 x17S xxxx	67	Process Wastewater
		843	

Production Area APN(s): x055 x150 x01S xxxx, x055 x150 x22S xxxx

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Maple Dairy 2023
Lab Results Summary (Attachment E)

Process Wastewater
(mgl/ppm unless noted otherwise)

									General Minerals						
Sample Date:	**TKN**	**TP**	**TK**	**EC (umhos/cm)**	**NH4N**	**NO3N**	**TDS**	**pH (units)**	**CA**	**MG**	**NA**	**HCO3**	**CO3**	**SO4**	**CL**
03/09/2023	533.00	138.00	893.00	8,460	430.00		5,620.00								
06/16/2023	465.00	66.60	789.00	8,680	437.00	0.00	5,760.00	7.61							
07/14/2023	497.00	54.20	600.00	8,870	477.00		5,890.00								
11/09/2023	448.00	47.70	590.00	7,310	443.00		4,850.00								
Averages:	485.75	76.62	718.00	8,330	446.75	0.00	5,530.00	7.61							

Manure - Compost Solids
(Dry Weight Basis)

Sample Date:	**TN**	**TP**	**TK**	**Moisture**	**Ash**	**CA**	**MG**	**NA**	**S**	**CL**
06/05/2023	2.92	1.29	2.96	15.70						%
Averages:	2.92	1.29	2.96	15.70						

Manure - Corral Solids
(Dry Weight Basis)

Sample Date:	**TN**	**TP**	**TK**	**Moisture**	**Ash**	**CA**	**MG**	**NA**	**S**	**CL**
06/05/2023	1.16	0.32	0.64	22.80						%
11/09/2023	2.45	1.05	1.85	23.80						%
Averages:	1.80	0.68	1.25	23.30						

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Maple 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 (%)
402	1	Wheat	05/23/2023	36.00	8.10	62.00	68.50	9.84
402	2	Corn	10/04/2023	24.20	5.54	24.40	71.40	5.44
403	1	Wheat	05/19/2023	35.40	8.54	56.20	70.50	9.12
403	2	Corn	09/29/2023	24.20	4.58	32.00	71.80	6.18
404	1	Wheat	05/19/2023	35.80	6.76	45.80	63.90	8.09
404	2	Corn	09/29/2023	25.40	4.60	29.80	70.70	6.02
405	1	Wheat	05/16/2023	35.60	7.98	42.80	64.20	7.49
405	2	Corn	09/29/2023	21.80	5.10	31.20	69.80	6.81
412	1	Wheat	05/02/2023	37.40	8.82	56.60	71.80	9.30
412	2	Corn	09/29/2023	25.20	4.92	32.80	70.60	6.14
415	1	Wheat	05/19/2023	35.40	7.02	50.60	66.70	8.16
415	2	Corn	09/29/2023	25.40	5.14	30.40	70.40	6.24
418	1	Wheat	05/19/2023	37.40	8.54	55.40	68.50	12.60
418	2	Corn	09/29/2023	23.00	5.00	31.00	69.40	6.77
452	1	Wheat	05/15/2023	39.60	9.36	55.00	72.20	9.34
452	2	Corn	09/29/2023	23.80	4.54	31.20	69.00	5.81
S-01	1	Wheat	05/17/2023	34.00	7.20	49.20	65.00	7.94
S-01	2	Corn	09/29/2023	24.20	5.44	24.40	71.50	6.00

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Maple 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 (%)
S-02	1	Wheat	05/17/2023	35.40	7.54	50.00	64.90	8.36
S-02	2	Corn	09/29/2023	23.20	5.40	32.20	69.90	6.48
S-03	1	Wheat	05/17/2023	37.20	8.30	50.20	67.60	10.60
S-03	2	Corn	10/04/2023	27.00	5.64	23.20	70.80	4.90
S-04	1	Wheat	05/17/2023	37.20	6.50	50.40	67.70	8.51
S-04	2	Corn	10/04/2023	25.80	5.08	28.80	73.80	6.58
S-05	1	Wheat	05/21/2023	38.80	8.18	62.00	68.60	9.90
S-05	2	Corn	09/29/2023	24.80	4.88	29.20	70.10	6.26
S-06	1	Wheat	05/17/2023	37.40	8.80	47.00	68.50	9.04
S-06	2	Corn	10/04/2023	25.00	5.34	25.80	70.90	6.23
S-07	1	Wheat	05/21/2023	41.00	10.82	64.20	68.10	11.70
S-07	2	Corn	09/29/2023	25.20	5.14	30.60	71.50	6.33
S-08	1	Wheat	05/23/2023	41.00	11.20	64.60	67.50	11.80
S-08	2	Corn	10/17/2023	25.60	4.14	29.20	73.60	7.16
S-09	1	Wheat	05/22/2023	36.60	8.50	62.60	68.40	9.87
S-09	2	Corn	10/17/2023	24.80	4.46	28.40	73.30	6.79
S-10	1	Wheat	05/22/2023	36.20	9.74	66.60	64.60	9.98
S-10	2	Corn	10/18/2023	25.80	4.36	33.40	74.70	8.09

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Maple 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 (%)
S-11	1	Wheat	05/22/2023	33.20	9.56	53.60	72.80	12.40
S-11	2	Corn	10/18/2023	26.20	4.56	30.80	74.20	7.36
S-12	1	Wheat	05/22/2023	21.20	5.50	15.32	62.20	6.64
S-12	2	Corn	10/04/2023	23.60	5.08	22.00	72.40	6.26
S-13	1	Wheat	05/22/2023	20.00	5.36	17.88	62.60	7.59
S-13	2	Corn	10/17/2023	24.80	4.54	31.00	74.20	7.29
S-14	1	Wheat	05/22/2023	22.40	5.74	16.22	62.60	6.74
S-14	2	Corn	10/17/2023	25.60	4.68	30.20	73.00	7.14
S-15	1	Wheat	05/22/2023	23.00	5.32	17.30	61.90	7.46
S-15	2	Corn	10/17/2023	26.00	5.30	30.20	75.40	7.80

Well / Irrigation Water

(mgl/ppm unless noted otherwise)

	Sample Date:	NO3N	TP	EC (umhos/cm)	NH4N *	TDS	TN	General Minerals CA	MG	NA	HCO3	CO3	SO4	CL
Dairy														
MD1	12/11/2023	8.90		354		220.00		5.00	0.00	69.00	90.00	10.00	9.70	13.00
	Averages:	8.90		354		220.00		5.00	0.00	69.00	90.00	10.00	9.70	13.00

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Maple Dairy 2023
Lab Results Summary (Attachment E)

Well / Irrigation Water
(mgl/ppm unless noted otherwise)

	Sample Date:	NO3N	TP	EC (umhos/cm)	NH4N *	TDS	TN	General Minerals CA	MG	NA	HCO3	CO3	SO4	CL
Domestic														
MD2	12/11/2023	9.40		359		170.00		5.00	0.00	73.00	90.00	10.00	9.80	13.00
MD3	12/11/2023	9.50		358		230.00		5.00	0.00	64.00	90.00	10.00	9.90	13.00
MD5	12/11/2023	40.00		1,110		770.00		110.00	3.00	101.00	330.00	0.00	30.70	50.00
MD6	12/11/2023	9.40		354		230.00		5.00	0.00	73.00	100.00	0.00	9.90	13.00
	Averages:	17.08		545		350.00		31.25	0.75	77.75	152.50	5.00	15.08	22.25
Irrigation														
P-2	10/12/2023	0.70		265		180.00	0.70							
P-6	10/12/2023	17.00		532		360.00	17.00	21.00	0.00	95.00	140.00	0.00	13.40	22.00
P-7	10/12/2023	12.60		395		310.00	12.60							
P-8							Out of service.							
P-13	10/12/2023	0.00		267		190.00	0.00							
S7							Out of service.							
S8	11/13/2023	0.00		283		200.00	0.00							
S11							Did not run.							
S13	08/18/2023	0.80		218		140.00	0.80							
S14	08/18/2023	4.20		351		250.00	4.20							
	Averages:	5.04		330		232.86	5.04	21.00	0.00	95.00	140.00	0.00	13.40	22.00

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Maple Dairy 2023

Lab Results Summary (Attachment E)

Well / Irrigation Water

(mgl/ppm unless noted otherwise)

								General Minerals						
	Sample Date:	**NO3N**	**TP**	**EC (umhos/cm)**	**NH4N ***	**TDS**	**TN**	**CA**	**MG**	**NA**	**HCO3**	**CO3**	**SO4**	**CL**
Surface Water														
Laguna (General)	07/06/2023	0.00		26		0.00	0.00							
	Averages:	0.00		26		0.00	0.00							

* NH4N was non-detectable unless a value is shown

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Maple Dairy 2023

Planting and Harvest Information (Attachment F)

	Crop #	Crop	Acres Planted	Plant Date	Harvest Date	Estimated Yield (tons)	Tons Harvested	Actual Yield
Field: 402								
	1	Wheat	64	11/14/2022	05/23/2023	21.8	1312.0	20.5
	2	Corn	64	06/24/2023	10/04/2023	33.5	2099.2	32.8
Field: 403								
	1	Wheat	78	11/05/2022	05/19/2023	21.7	1677.0	21.5
	2	Corn	78	06/23/2023	09/29/2023	31.0	2496.0	32.0
Field: 404								
	1	Wheat	18	11/28/2022	05/19/2023	22.2	394.2	21.9
	2	Corn	18	06/23/2023	09/29/2023	32.5	563.4	31.3
Field: 405								
	1	Wheat	39	11/29/2022	05/16/2023	21.8	834.6	21.4
	2	Corn	39	06/15/2023	09/29/2023	31.7	1209.0	31.0
Field: 412								
	1	Wheat	65	11/12/2022	05/02/2023	21.5	1358.5	20.9
	2	Corn	65	06/20/2023	09/29/2023	31.7	2067.0	31.8
Field: 415								
	1	Wheat	29	11/28/2022	05/19/2023	22.0	609.0	21.0
	2	Corn	29	06/22/2023	09/29/2023	31.5	896.1	30.9
Field: 418								
	1	Wheat	17	11/28/2022	05/19/2023	18.2	323.0	19.0
	2	Corn	17	06/22/2023	09/29/2023	31.6	533.8	31.4
Field: 452								
	1	Wheat	74	11/04/2022	05/15/2023	18.2	1361.6	18.4
	2	Corn	74	06/24/2023	09/29/2023	29.1	2264.4	30.6

INNOVATIVE AG SERVICES

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Maple Dairy 2023

Planting and Harvest Information (Attachment F)

	Crop #	Crop	Acres Planted	Plant Date	Harvest Date	Estimated Yield (tons)	Tons Harvested	Actual Yield
Field: S-01								
	1	Wheat	22	09/23/2022	05/17/2023	21.4	415.8	18.9
	2	Corn	22	07/05/2023	09/29/2023	30.3	660.0	30.0
Field: S-02								
	1	Wheat	18	09/24/2022	05/17/2023	21.4	363.6	20.2
	2	Corn	18	07/05/2023	09/29/2023	30.3	538.2	29.9
Field: S-03								
	1	Wheat	27	11/22/2022	05/17/2023	20.4	567.0	21.0
	2	Corn	27	07/01/2023	10/04/2023	30.8	804.6	29.8
Field: S-04								
	1	Wheat	18	11/22/2022	05/17/2023	20.7	322.2	17.9
	2	Corn	18	07/05/2023	10/04/2023	30.8	552.6	30.7
Field: S-05								
	1	Wheat	28	09/30/2022	05/21/2023	18.7	534.8	19.1
	2	Corn	28	07/01/2023	09/29/2023	30.6	859.6	30.7
Field: S-06								
	1	Wheat	7	11/22/2022	05/17/2023	21.0	145.6	20.8
	2	Corn	7	07/05/2023	10/04/2023	30.8	217.0	31.0
Field: S-07								
	1	Wheat	42	09/30/2022	05/21/2023	20.7	882.0	21.0
	2	Corn	42	07/01/2023	09/29/2023	30.8	1302.0	31.0
Field: S-08								
	1	Wheat	18	10/28/2022	05/23/2023	21.9	372.6	20.7
	2	Corn	18	07/01/2023	10/17/2023	30.8	558.0	31.0

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Maple Dairy 2023

Planting and Harvest Information (Attachment F)

	Crop #	Crop	Acres Planted	Plant Date	Harvest Date	Estimated Yield (tons)	Tons Harvested	Actual Yield
Field: S-09								
	1	Wheat	58	11/01/2022	05/22/2023	21.6	1165.8	20.1
	2	Corn	58	07/01/2023	10/17/2023	30.8	1792.2	30.9
Field: S-10								
	1	Wheat	19	10/27/2022	05/22/2023	21.4	397.1	20.9
	2	Corn	19	07/03/2023	10/18/2023	30.1	532.0	28.0
Field: S-11								
	1	Wheat	23	10/27/2022	05/22/2023	21.5	453.1	19.7
	2	Corn	23	07/01/2023	10/18/2023	29.0	683.1	29.7
Field: S-12								
	1	Wheat	44	10/18/2022	05/22/2023	18.7	853.6	19.4
	2	Corn	44	06/25/2023	10/04/2023	30.6	1298.0	29.5
Field: S-13								
	1	Wheat	24	11/30/2022	05/22/2023	18.5	458.4	19.1
	2	Corn	24	07/03/2023	10/17/2023	30.8	720.0	30.0
Field: S-14								
	1	Wheat	43	11/25/2022	05/22/2023	18.0	817.0	19.0
	2	Corn	43	07/02/2023	10/17/2023	30.0	1337.3	31.1
Field: S-15								
	1	Wheat	67	11/21/2022	05/22/2023	19.5	1266.3	18.9
	2	Corn	67	07/02/2023	10/17/2023	30.8	2036.8	30.4

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Maple 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

INNOVATIVE AG SERVICES

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ATTACHMENT D

Manure/Process Wastewater Tracking Manifest
For
Existing Milk Cow Dairies

Instructions:

1) Complete one manifest for each hauling event, for each destination. A hauling event may last for several days, as long as the manure is being hauled to the same destination.
2) If there are multiple destinations, **complete a separate form for each destination**.
3) The operator must obtain the signature of the hauler upon completion of each manure-hauling event.
4) The operator shall submit copies of manure/process wastewater tracking manifest(s) with the Annual Monitoring Report for Existing Milk Cow Dairies.

Operator Information:

Name of Operator: Josh Zonneveld

Name of Dairy Facility: Maple Dairy

Facility Address: 19860 S. Maple Avenue (Number and Street) Laton (City) 93242 (Zip Code)

Contact Person Name and Phone Number: Josh Zonneveld (Name) (559) 923-4546 (Phone Number)

Manure/Process Wastewater Hauler Information:

Name of Hauling Company/Person: Zonneveld Daries

Address of Hauling Company /Person: 1560 E. Cerini (Number and Street) Laton (City) 93242 (Zip Code)

Contact Person: Josh Zonneveld (Name) (559) 923-4546 (Phone Number)

Destination Information:

Composting Facility / Broker / Farmer / Other (identify) Farmer (please circle one)

Contact information of Composting Facility, Broker, Farmer, or Other (as identified above):

Zonneveld Farms (Name) 1560 E. Cerini (Number and Street) Laton (City) 93242 (Zip Code) (Phone Number)

Manure/Process Wastewater Destination Address or Assessor's Parcel Number:

1560 E. Cerini (Number and Street) Laton (City) 93242 (Zip Code) (Assessor's Parcel Number)

Dates Hauled: 1/12/23 - 12/15/23

Amount Hauled:

Enter the amount of manure hauled in tons or cubic yards (indicate the units used), the manure solids content (if amount reported in tons) or manure density (if amount reported in cubic yards), and the method used to calculate the amount:

Manure: 4671.4 Tons or Cubic Yards (indicate which units used)

Manure Solids Content (if amount reported in tons): 76.2%

Manure Density (if amount reported in cubic yards): _____

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Method used to determine amount of manure: _____

_____

Enter the amount of process wastewater hauled in gallons and the method used to determine the amount.

Process Wastewater: _____ Gallons

Method used to determine volume of process wastewater: _____

_____

Written Agreement:
Does the Operator have a written agreement (in compliance with Land Application Specification E.3 of Reissued Waste Discharge Requirements General Order No. R5-2013-0122) with any party that receives process wastewater from the Operator for its own use? (please check one)

____ Yes _____ No

If the answer is no, the Operator agrees to have such a written agreement with any such party for any process wastewater transferred after **31 December 2007** to such party.
_____ (Operator shall provide initials here to acknowledge this requirement).

Certification:
I declare under the penalty of law that I personally examined and am familiar with the information submitted in this document, 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 a fine and imprisonment for knowing violations.

Operator's Signature: DocuSigned by: 4C4A48EC17AE47B... Date: 6/25/2024

Hauler's Signature: DocuSigned by: 4C4A48EC17AE47B... Date: 6/25/2024

DocuSign Envelope ID: 1FCB215C-915D-4BC2-813F-3D6759E4D99F

Laboratory Analysis Work Order

Nº 41719

ID: # 0525

SITE NAME: Bar VP Feedlot

Billing: IAS

LABORATORY: VT

Authorized Copy Release to:

Innnovative Ag Services LLC

(559) 587-2800

ANALYSIS TO BE COMPLETED:

Irrigation/Ground Water (ELAP Standards)

W1 EC, NO_3N (Dom)
W2 EC, NO_3N, TDS, TN (Irr)
W3 NH_4-N (Ammonium)
W4 EC, NO_3N, Ca, Mg, Na, K, HCO_3, CO_3, SO_4S, Cl, TDS (Dom, GM)
W5 EC, NO_3N, TDS, TN, Ca, Mg, Na, HCO_3, CO_3, SO_4S, Cl (Irr, GM)
W6 NO_3N, NO_2 (Dom ILRP, Annually)
W7 Ca, Mg, Na, K, HCO_3, CO_3, SO_4, Cl + Lab Filtering (GWM)
W8 Other: _____

Process Waste Water (lagoon)

L1 EC, NH_4N, TKN, TP, TK, TDS (Quarterly)
L2 EC, NO_3N, NH_4N, TKN, TP, TK, TDS, pH (Annually)
L3 L1 + Ca, Mg, Na, HCO_3,CO_3, SO_4S, 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: _____

Plant Tissue

P1 TN, NO_3N, PO_4P, 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: _____

Soil

S1 SP%, pH, EC, Ca, Mg, Na, K, ESP, LP, B, NO_3N, PO_4P, K-AA, Zn, Mn, Fe, Cu, SO_4S
S2 S1 + CEC, CaCO3, OM, C:N, TN
S3 NO_3N, NH_4N
S4 Other: _____

	Sample ID	Description	Analysis	Date/Time	Sampled by	IAS USE ONLY: FIELD TESTS NH_3N *	pH	Temp
1	BVP-1	Corn	P3	8/16	Farmer			
2	BVP-3							
3	BVP-4							
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 sampes, please note below.

NOTES:

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st		IAS		10/31/23 4:00
2nd	K.L.	VT	11/1/23 2:30	
3rd				
4th				

LABORATORY USE ONLY

Logged In By: _____ Total Samples: 3 Laboratory #: H 71544

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

September 7, 2023

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

Lab No. : **VI 2345517**
Customer No. : **4018573**
Reference : **41244**

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
S13	08/18/2023	08/18/2023	VI 2345517-001	AGW
S14	08/18/2023	08/18/2023	VI 2345517-002	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 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: 2023-09-08

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

September 7, 2023

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

Description : S13
Project : 0217 Maple Dairy (Zonneveld)

Lab No. : VI 2345517-001
Customer No. : 4018573
Reference : 41244
Sampled On : August 18, 2023 at 14:25
Sampled By : Alex
Received On : August 18, 2023 at 15:44
Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	Ul	08/30/2023	08:34	sta	EPA 351.2	09/05/2023	19:19	lcr
Nitrate Nitrogen	0.8	0.4	mg/L		1		08/22/2023	12:00	lfs	SM 4500-NO3 F	08/22/2023	13:00	lfs
Nitrogen, Total as Nitrogen	0.8	0.5	mg/L		1	l	08/30/2023	08:34	sta	Calc.	09/05/2023	19:19	lcr
Nitrate + Nitrite as N	0.8	0.4	mg/L		1		08/22/2023	12:00	lfs	SM 4500-NO3 F	08/22/2023	13:00	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	Ul	08/30/2023	08:34	sta	EPA 351.2	09/05/2023	19:19	lcr
Conductivity	218	1	umhos/cm		1		08/22/2023	15:45	amm	SM 4500-H+B	08/22/2023	16:33	amm
Solids, Total Dissolved (TDS)	140	20	mg/L		1		08/22/2023	14:50	ctl	SM 2540 C	08/23/2023	11:40	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

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

September 7, 2023

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

Description : S14
Project : 0217 Maple Dairy (Zonneveld)

Lab No. : VI 2345517-002
Customer No. : 4018573
Reference : 41244
Sampled On : August 18, 2023 at 14:20
Sampled By : Alex
Received On : August 18, 2023 at 15:44
Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	Ul	08/30/2023	08:34	sta	EPA 351.2	09/05/2023	19:22	lcr
Nitrate Nitrogen	4.2	0.4	mg/L		1		08/22/2023	12:00	lfs	SM 4500-NO3 F	08/22/2023	13:02	lfs
Nitrogen, Total as Nitrogen	4.2	0.5	mg/L		1	l	08/30/2023	08:34	sta	Calc.	09/05/2023	19:22	lcr
Nitrate + Nitrite as N	4.2	0.4	mg/L		1		08/22/2023	12:00	lfs	SM 4500-NO3 F	08/22/2023	13:02	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	Ul	08/30/2023	08:34	sta	EPA 351.2	09/05/2023	19:22	lcr
Conductivity	351	1	umhos/cm		1		08/22/2023	15:45	amm	SM 4500-H+B	08/22/2023	18:32	amm
Solids, Total Dissolved (TDS)	250	20	mg/L		1		08/22/2023	12:50	ctl	SM 2540 C	08/23/2023	11:40	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

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

September 7, 2023
Innovative Ag Services, LLC

Lab No. : VI 2345517
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(SP 2314332-003)	Dup	umhos/cm		0%	5	
		(VI 2345478-003)	Dup	umhos/cm		0.5%	5	
Solids, Total Dissolved	2540CE	08/22/2023:209429CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	991.5	98.3%	90-110	
		(VI 2345488-001)	Dup	mg/L		1.55%	5	
		(VI 2345488-001)	Dup	mg/L		0.9%	5	
			Blank	mg/L		ND	<20	
			LCS	mg/L	991.5	98.0%	90-110	
		(SP 2314248-001)	Dup	mg/L		2.14%	5	
		(SP 2314248-001)	Dup	mg/L		0.2%	5	
Nitrogen, Total Kjeldahl	351.2	08/30/2023:209713STA	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	97.1%	73-124	
			MS	mg/L	12.00	88.0%	90-110	435
		(STK2351326-005)	MSD	mg/L	12.00	87.1%	90-110	435
			MSRPD	mg/L		1.0%	≤20	
			MS	mg/L	12.00	90.3%	90-110	
		(CH 2376855-001)	MSD	mg/L	12.00	90.1%	90-110	
			MSRPD	mg/L		0.3%	≤20	
Nitrate + Nitrite as N	4500NO3F	08/22/2023:209438LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	97.9%	80-120	
			MS	mg/L	5.609	95.3%	66-125	
		(CH 2376853-001)	MSD	mg/L	5.609	99.5%	66-125	
			MSRPD	mg/L		3.6%	≤30.4	
Nitrate Nitrogen	4500NO3F	08/22/2023:209438LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	97.9%	80-120	
			MS	mg/L	5.609	95.3%	66-125	
		(CH 2376853-001)	MSD	mg/L	5.609	99.5%	66-125	
			MSRPD	mg/L		3.6%	≤30.4	

Definition

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

Explanation

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

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Laboratory Analysis Work Order

Nº 41244

ID: # 0217 2345517

SITE NAME: Maple Dairy

Billing: IAS

LABORATORY: FGL

Authorized Copy Release to:

Innnovative Ag Services LLC

(559) 587-2800

ANALYSIS TO BE COMPLETED:

Irrigation/Ground Water (ELAP Standards)

W1 EC, NO_3N (Dom)
W2 EC, NO_3N, TDS, TN (Irr)
W3 NH_4-N (Ammonium)
W4 EC, NO_3N, Ca, Mg, Na, K, HCO_3, CO_3, SO_4S, Cl, TDS (Dom, GM)
W5 EC, NO_3N, TDS, TN, Ca, Mg, Na, HCO_3, CO_3, SO_4S, Cl (Irr, GM)
W6 NO_3N, NO_2 (Dom ILRP, Annually)
W7 Ca, Mg, Na, K, HCO_3, CO_3, SO_4, Cl + Lab Filtering (GWM)
W8 Other: _____

Pd 10.5 = D# 7H40

Process Waste Water (lagoon)

L1 EC, NH_4N, TKN, TP, TK, TDS (Quarterly)
L2 EC, NO_3N, NH_4N, TKN, TP, TK, TDS, pH (Annually)
L3 L1 + Ca, Mg, Na, HCO_3,CO_3, SO_4S, 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: _____

Plant Tissue

P1 TN, NO_3N, PO_4P, 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: _____

Soil

S1 SP%, pH, EC, Ca, Mg, Na, K, ESP, LP, B, NO_3N, PO_4P, K-AA, Zn, Mn, Fe, Cu, SO_4S
S2 S1 + CEC, CaCO3, OM, C:N, TN
S3 NO_3N, NH_4N
S4 Other: _____

	Sample ID	Description	Analysis	Date/Time	Sampled by	IAS USE ONLY: FIELD TESTS NH_3N *	pH	Temp
1	S13	Irr	W2	8/18 2:25	Alex	—		
2	S14	⊥	⊥	8/18 2:20	⊥	—		
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 sampes, please note below.

NOTES:

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st	[illegible]	IAS		8/18/23 3:00
2nd	AJB	FGL	8/18/23 1530	
3rd	AJB	FGL		8/18/23 1544
4th	ADH		8/18/23 1541	

LABORATORY USE ONLY

Logged In By: GL

Total Samples: 8/18/23 1745

Laboratory #: [illegible] 8/18/23

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

November 2, 2023

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

Lab No. : **VI 2346938**
Customer No. : **4018573**
Reference : **41495**

Laboratory Report

Introduction: This report package contains a total of 7 pages divided into 3 sections:

Case Narrative	(1 page)	: An overview of the work performed at FGL.
Sample Results	(3 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
P6	10/12/2023	10/12/2023	VI 2346938-001	AGW
P13	10/12/2023	10/12/2023	VI 2346938-002	AGW
P7	10/12/2023	10/12/2023	VI 2346938-003	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: JRD

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2023-11-03

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

November 2, 2023

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

Description : P6
Project : 0217 Maple Dairy (Zonneveld)

Lab No. : VI 2346938-001
Customer No. : 4018573
Reference : 41495
Sampled On : October 12, 2023 at 11:30
Sampled By : Zeke
Received On : October 12, 2023 at 16:04
Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Alkalinity (as CaCO3)	110	10	mg/L		1		10/16/2023	15:10	amm	SM 4500-H+B	10/16/2023	22:38	amm
Bicarbonate	140	10	mg/L		1		10/16/2023	15:10	amm	SM 4500-H+B	10/16/2023	22:38	amm
Carbonate	ND	10	mg/L		1	U	10/16/2023	15:10	amm	SM 4500-H+B	10/16/2023	22:38	amm
Hydroxide	ND	10	mg/L		1	U	10/16/2023	15:10	amm	SM 4500-H+B	10/16/2023	22:38	amm
Chloride	22	1	mg/L		1		10/13/2023	13:57	ldm	EPA 300.0	10/14/2023	01:47	ldm
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	Ul	10/25/2023	12:24	sta	EPA 351.2	10/29/2023	18:09	lcr
Nitrate Nitrogen	17.0	0.2*	mg/L		2	l	10/13/2023	13:57	ldm	EPA 300.0	10/14/2023	11:45	ldm
Nitrogen, Total as Nitrogen	17.0	0.5	mg/L		1	l	10/25/2023	12:24	sta	Calc.	10/29/2023	18:09	lcr
Nitrate + Nitrite as N	17.0	0.1*	mg/L		2	l	10/13/2023	13:57	ldm	EPA 300.0	10/14/2023	11:45	ldm
Kjeldahl Nitrogen	ND	0.5	mg/L		1	Ul	10/25/2023	12:24	sta	EPA 351.2	10/29/2023	18:09	lcr
Conductivity	532	1	umhos/cm		1		10/16/2023	15:10	amm	SM 4500-H+B	10/16/2023	22:38	amm
Sulfate Sulfur	13.4	0.17	mg/L		1		10/13/2023	13:57	ldm	EPA 300.0	10/14/2023	01:47	ldm
Solids, Total Dissolved (TDS)	360	20	mg/L		1		10/16/2023	13:30	ctl	SM 2540 C	10/17/2023	11:00	ctl
Calcium	21	1	mg/L		1		10/17/2023	07:45	ejc	EPA 200.7	10/23/2023	11:04	ac
Magnesium	ND	1	mg/L		1	U	10/17/2023	07:45	ejc	EPA 200.7	10/23/2023	11:04	ac
Sodium	95	1	mg/L		1		10/17/2023	07:45	ejc	EPA 200.7	10/23/2023	11:04	ac

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

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

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

November 2, 2023

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

Description : P13
Project : 0217 Maple Dairy (Zonneveld)

Lab No. : VI 2346938-002
Customer No. : 4018573
Reference : 41495
Sampled On : October 12, 2023 at 11:45
Sampled By : Zeke
Received On : October 12, 2023 at 16:04
Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	Ul	10/25/2023	12:24	sta	EPA 351.2	10/29/2023	18:11	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	10/13/2023	12:30	lfs	SM 4500-NO3 F	10/13/2023	15:35	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	Ul	10/25/2023	12:24	sta	Calc.	10/29/2023	18:11	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	10/13/2023	12:30	lfs	SM 4500-NO3 F	10/13/2023	15:35	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	Ul	10/25/2023	12:24	sta	EPA 351.2	10/29/2023	18:11	lcr
Conductivity	267	1	umhos/cm		1		11/02/2023	09:02	krh	SM 4500-H+B	11/02/2023	14:20	krh
Solids, Total Dissolved (TDS)	190	20	mg/L		1		10/16/2023	13:30	ctl	SM 2540 C	10/17/2023	11:00	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 * RL adjusted for dilution, Dil.=Dilution

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Analytical Chemists

November 2, 2023

Innovative Ag Services, LLC
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Hanford, CA 93230

Description : P7
Project : 0217 Maple Dairy (Zonneveld)

Lab No. : VI 2346938-003
Customer No. : 4018573
Reference : 41495
Sampled On : October 12, 2023 at 11:55
Sampled By : Zeke
Received On : October 12, 2023 at 16:04
Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	Ul	10/25/2023	12:24	sta	EPA 351.2	10/29/2023	18:23	lcr
Nitrate Nitrogen	12.6	0.4	mg/L		1		10/13/2023	12:30	lfs	SM 4500-NO3 F	10/13/2023	15:37	lfs
Nitrogen, Total as Nitrogen	12.6	0.5	mg/L		1	l	10/25/2023	12:24	sta	Calc.	10/29/2023	18:23	lcr
Nitrate + Nitrite as N	12.6	0.4	mg/L		1		10/13/2023	12:30	lfs	SM 4500-NO3 F	10/13/2023	15:37	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	Ul	10/25/2023	12:24	sta	EPA 351.2	10/29/2023	18:23	lcr
Conductivity	395	1	umhos/cm		1		10/19/2023	09:41	krh	SM 4500-H+B	10/19/2023	14:19	krh
Solids, Total Dissolved (TDS)	310	20	mg/L		1		10/17/2023	10:30	ctl	SM 2540 C	10/18/2023	11:00	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 * RL adjusted for dilution, Dil.=Dilution

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

November 2, 2023
Innovative Ag Services, LLC

Lab No. : VI 2346938
Customer No. : 4018573

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Calcium	200.7	10/17/2023:211718EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	107%	85-115	
			MS	mg/L	12.00	96.4%	75-125	
		(CH 2378614-003)	MSD	mg/L	12.00	111%	75-125	
			MSRPD	mg/L		8.6%	≤20.0	
			MS	mg/L	12.00	-9.33%	<¼	406
		(CC 2383622-001)	MSD	mg/L	12.00	89.9%	75-125	
			MSRPD	mg/L		5.6%	≤20.0	
Magnesium	200.7	10/17/2023:211718EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	110%	85-115	
			MS	mg/L	12.00	103%	75-125	
		(CH 2378614-003)	MSD	mg/L	12.00	114%	75-125	
			MSRPD	mg/L		8.4%	≤20	
			MS	mg/L	12.00	31.8%	<¼	406
		(CC 2383622-001)	MSD	mg/L	12.00	100%	75-125	
			MSRPD	mg/L		6.1%	≤20	
Sodium	200.7	10/17/2023:211718EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	107%	85-115	
			MS	mg/L	12.00	100%	75-125	
		(CH 2378614-003)	MSD	mg/L	12.00	111%	75-125	
			MSRPD	mg/L		7.7%	≤20.0	
			MS	mg/L	12.00	-63.9%	<¼	406
		(CC 2383622-001)	MSD	mg/L	12.00	52.3%	<1/4	
			MSRPD	mg/L		5.3%	≤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 analyted. The recoveries are an indication of how that sample matrix affects analyte recovery.

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

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

Explanation

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.

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November 2, 2023
Innovative Ag Services, LLC

Lab No. : VI 2346938
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Alkalinity (as CaCO3)	2320B	10/16/2023:211677AMM	ND	mg/L		1.36%	10	406
Bicarbonate	2320B	(VI 2346885-001)	Dup	mg/L		0.8%	10	
Carbonate	2320B	(VI 2346885-001)	Dup	mg/L		2.20%	10	
E. C.	2320B	(VI 2346885-001)	Dup	umhos/cm		0.3%	5	
	2320B	(VI 2346815-001)	Dup	umhos/cm		0.1%	5	
	2320B	(CC 2383609-002)	Dup	umhos/cm		0.1%	5	
Solids, Total Dissolved	2540CE	10/16/2023:211599CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	991.5	102%	90-110	
		(SP 2317343-001)	Dup	mg/L		0.9%	5	
		(SP 2317343-001)	Dup	mg/L		0.8%	5	
	2540CE	10/17/2023:211713CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	991.5	102%	90-110	
		(SP 2317465-001)	Dup	mg/L		0.3%	5	
		(SP 2317465-001)	Dup	mg/L		1.91%	5	
Chloride	300.0	10/13/2023:211644LDM	Blank	mg/L		ND	<1	
			LCS	mg/L	25.00	103%	90-110	
			MS	mg/L	50.00	96.7%	67-117	
		(VI 2346938-001)	MSD	mg/L	50.00	96.4%	67-117	
			MSRPD	mg/L		0.2%	≤7	
			MS	mg/L	50.00	104%	67-117	
		(ch 2378869-001)	MSD	mg/L	50.00	104%	67-117	
			MSRPD	mg/L		0.5%	≤7	
Nitrate + Nitrite as N	300.0	10/13/2023:211644LDM	Blank	mg/L		ND	<0.4	
			LCS	mg/L	20.00	101%	90-110	
			MS	mg/L	40.00	60.5%	86-112	435
		(VI 2346938-001)	MSD	mg/L	40.00	59.3%	86-112	435
			MSRPD	mg/L		0.5%	≤7	
			MS	mg/L	40.00	104%	86-112	
		(ch 2378869-001)	MSD	mg/L	40.00	104%	86-112	
			MSRPD	mg/L		0.7%	≤7	
Nitrate Nitrogen	300.0	10/13/2023:211644LDM	Blank	mg/L		ND	<0.4	
			LCS	mg/L	20.00	101%	90-110	
			MS	mg/L	40.00	60.5%	86-112	435
		(VI 2346938-001)	MSD	mg/L	40.00	59.3%	86-112	435
			MSRPD	mg/L		0.5%	≤7	
			MS	mg/L	40.00	104%	86-112	
		(ch 2378869-001)	MSD	mg/L	40.00	104%	86-112	
			MSRPD	mg/L		0.7%	≤7	
Sulfate Sulfur	300.0	10/13/2023:211644LDM	Blank	mg/L		ND	<0.5	
			LCS	mg/L	50.00	103%	90-110	
			MS	mg/L	100.0	97.1%	18-165	
		(VI 2346938-001)	MSD	mg/L	100.0	96.8%	18-165	
			MSRPD	mg/L		0.2%	≤7	
			MS	mg/L	100.0	104%	18-165	
		(ch 2378869-001)	MSD	mg/L	100.0	104%	18-165	
			MSRPD	mg/L		0.4%	≤7	
Nitrogen, Total Kjeldahl	351.2	10/25/2023:212045STA	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	85.2%	73-124	
			MS	mg/L	12.00	82.9%	90-110	435
		(VI 2346889-002)	MSD	mg/L	12.00	84.1%	90-110	435

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November 2, 2023
Innovative Ag Services, LLC

Lab No. : VI 2346938
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
			MSRPD	mg/L		1.4%	≤20	
			MS	mg/L	12.00	80.5%	90-110	435
		(VI 2346889-003)	MSD	mg/L	12.00	83.2%	90-110	435
			MSRPD	mg/L		3.3%	≤20	
Nitrate + Nitrite as N	4500NO3F	10/13/2023:211567LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	95.3%	80-120	
			MS	mg/L	5.609	90.2%	66-125	
		(VI 2346895-001)	MSD	mg/L	5.609	93.7%	66-125	
			MSRPD	mg/L		2.5%	≤30.4	
Nitrate Nitrogen	4500NO3F	10/13/2023:211567LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	95.3%	80-120	
			MS	mg/L	5.609	90.2%	66-125	
		(VI 2346895-001)	MSD	mg/L	5.609	93.7%	66-125	
			MSRPD	mg/L		2.5%	≤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 analyted. The recoveries are an indication of how that sample matrix affects analyte recovery.

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

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

Explanation

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.

Page 7 of 7

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Laboratory Analysis Work Order

Nº 41495

23469338

ID: # 0217

LABORATORY: FGL

SITE NAME: MAPLE DAIRY

Billing: IAS

Authorized Copy Release to:

Innnovative Ag Services LLC

(559) 587-2800

ANALYSIS TO BE COMPLETED:

Irrigation/Ground Water (ELAP Standards)

W1 EC, NO_3N (Dom)
W2 EC, NO_3N, TDS, TN (Irr)
W3 NH_4-N (Ammonium)
W4 EC, NO_3N, Ca, Mg, Na, K, HCO_3, CO_3, SO_4S, Cl, TDS (Dom, GM)
W5 EC, NO_3N, TDS, TN, Ca, Mg, Na, HCO_3, CO_3, SO_4S, Cl (Irr, GM)
W6 NO_3N, NO_2 (Dom ILRP, Annually)
W7 Ca, Mg, Na, K, HCO_3, CO_3, SO_4, Cl + Lab Filtering (GWM)
W8 Other: _____

Plant Tissue

P1 TN, NO_3N, PO_4P, K (Mid Season - Wheat)
P2 TN, P, K (Mid-season - Corn)
P3 TN, TP, TK, Ash, %M (At Harvest)
P4 TN, %M
P5 % Moisture
P6 NIR
P7 Other: _____

Process Waste Water (lagoon)

L1 EC, NH_4N, TKN, TP, TK, TDS (Quarterly)
L2 EC, NO_3N, NH_4N, TKN, TP, TK, TDS, pH (Annually)
L3 L1 + Ca, Mg, Na, HCO_3,CO_3, SO_4S, Cl (Biennially)
L4 Other: _____

Manure

M1 TN, TP, TK, %M (2/year)
M2 TN, TP, K, %M, Ca, Mg, Na, S, Cl, ash (Biennially)
M3 Other: _____

Soil

S1 SP%, pH, EC, Ca, Mg, Na, K, ESP, LP, B, NO_3N, PO_4P, K-AA, Zn, Mn, Fe, Cu, SO_4S
S2 S1 + CEC, CaCO3, OM, C:N, TN
S3 NO_3N, NH_4N
S4 Other: _____

	Sample ID	Description	Analysis	Date/Time	Sampled by	IAS USE ONLY: FIELD TESTS NH_3N *	pH	Temp
1	P6	IRR	W5	10-12 / 11:30	Zeke			
2	P13	IRR	W2	10-12 / 11:45	Zeke			
3	P7	IRR	W2	10-12 / 11:55	Zeke			
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 sampes, please note below.

NOTES:

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st		IAS		10-12-23 / 3:20
2nd	AJB	FGL	10/12/23 1545	
3rd	AJB	FGL		10/12/23 1604
4th	AJH		10/12/23 1604	

LABORATORY USE ONLY

Logged In By: DH GD

Total Samples: 10/12/23 7 26

Laboratory #: 10/12/23 MU

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

November 2, 2023

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

Lab No. : **VI 2346902**
Customer No. : **4018573**
Reference : **41529**

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
P2	10/12/2023	10/12/2023	VI 2346902-001	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: 2023-11-03

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

November 2, 2023

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

Description : P2
Project : 0217 Maple Dairy (Zonneveld)

Lab No. : VI 2346902-001
Customer No. : 4018573
Reference : 41529
Sampled On : October 12, 2023 at 12:00
Sampled By : Zeek
Received On : October 12, 2023 at 16:04
Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	Ul	10/25/2023	12:24	sta	EPA 351.2	10/29/2023	18:42	lcr
Nitrate Nitrogen	0.7	0.4	mg/L		1		10/13/2023	12:30	lfs	SM 4500-NO3 F	10/13/2023	15:43	lfs
Nitrogen, Total as Nitrogen	0.7	0.5	mg/L		1	l	10/25/2023	12:24	sta	Calc.	10/29/2023	18:42	lcr
Nitrate + Nitrite as N	0.7	0.4	mg/L		1		10/13/2023	12:30	lfs	SM 4500-NO3 F	10/13/2023	15:43	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	Ul	10/25/2023	12:24	sta	EPA 351.2	10/29/2023	18:42	lcr
Conductivity	265	1	umhos/cm		1		11/02/2023	09:02	krh	SM 4500-H+B	11/02/2023	13:32	krh
Solids, Total Dissolved (TDS)	180	20	mg/L		1		10/16/2023	13:30	ctl	SM 2540 C	10/17/2023	11:00	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

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

November 2, 2023
Innovative Ag Services, LLC

Lab No. : VI 2346902
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	10/16/2023:211599CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	991.5	102%	90-110	
		(SP 2317343-001)	Dup	mg/L		0.9%	5	
		(SP 2317343-001)	Dup	mg/L		0.8%	5	
Nitrogen, Total Kjeldahl	351.2	10/25/2023:212045STA	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	85.2%	73-124	
			MS	mg/L	12.00	82.9%	90-110	435
		(VI 2346889-002)	MSD	mg/L	12.00	84.1%	90-110	435
			MSRPD	mg/L		1.4%	≤20	
			MS	mg/L	12.00	80.5%	90-110	435
		(VI 2346889-003)	MSD	mg/L	12.00	83.2%	90-110	435
			MSRPD	mg/L		3.3%	≤20	
Nitrate + Nitrite as N	4500NO3F	10/13/2023:211567LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	95.3%	80-120	
			MS	mg/L	5.609	90.2%	66-125	
		(VI 2346895-001)	MSD	mg/L	5.609	93.7%	66-125	
			MSRPD	mg/L		2.5%	≤30.4	
Nitrate Nitrogen	4500NO3F	10/13/2023:211567LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	95.3%	80-120	
			MS	mg/L	5.609	90.2%	66-125	
		(VI 2346895-001)	MSD	mg/L	5.609	93.7%	66-125	
			MSRPD	mg/L		2.5%	≤30.4	

Definition

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

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

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

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

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

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

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

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

Explanation

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

Page 3 of 3

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Laboratory Analysis Work Order

Nº 41529

ID: # 0217 23416962

LABORATORY: FGL

SITE NAME: Maple Dairy

Billing: IAS

Authorized Copy Release to:

Innnovative Ag Services LLC

(559) 587-2800

ANALYSIS TO BE COMPLETED:

Irrigation/Ground Water (ELAP Standards)

W1 EC, NO_3N (Dom)
W2 EC, NO_3N, TDS, TN (Irr)
W3 NH_4-N (Ammonium)
W4 EC, NO_3N, Ca, Mg, Na, K, HCO_3, CO_3, SO_4S, Cl, TDS (Dom, GM)
W5 EC, NO_3N, TDS, TN, Ca, Mg, Na, HCO_3, CO_3, SO_4S, Cl (Irr, GM)
W6 NO_3N, NO_2 (Dom ILRP, Annually)
W7 Ca, Mg, Na, K, HCO_3, CO_3, SO_4, Cl + Lab Filtering (GWM)
W8 Other: _____

pH 15.2°C TH#

Process Waste Water (lagoon)

L1 EC, NH_4N, TKN, TP, TK, TDS (Quarterly)
L2 EC, NO_3N, NH_4N, TKN, TP, TK, TDS, pH (Annually)
L3 L1 + Ca, Mg, Na, HCO_3,CO_3, SO_4S, 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: _____

Plant Tissue

P1 TN, NO_3N, PO_4P, 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: _____

Soil

S1 SP%, pH, EC, Ca, Mg, Na, K, ESP, LP, B, NO_3N, PO_4P, K-AA, Zn, Mn, Fe, Cu, SO_4S
S2 S1 + CEC, CaCO3, OM, C:N, TN
S3 NO_3N, NH_4N
S4 Other: _____

	Sample ID	Description	Analysis	Date/Time	Sampled by	IAS USE ONLY: FIELD TESTS NH_3N*	pH	Temp
1	P2	Irr	W2	10/12	Zeeb			
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 sampes, please note below.

NOTES:

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st		IAS		10/12/23 4:00
2nd	AJB	FGL	10/12/23 1545	
3rd	AJB	FGL		10/12/23 1604
4th			10/12/23 1604	

LABORATORY USE ONLY

Logged In By: _____ Total Samples: _____ Laboratory #: _____

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

November 28, 2023

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

Lab No. : **VI 2347660**
Customer No. : **4018573**
Reference : **42035**

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
S8	11/13/2023	11/13/2023	VI 2347660-001	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

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

November 28, 2023

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

Description : S8
Project : 0217 Maple Dairy

Lab No. : VI 2347660-001
Customer No. : 4018573
Reference : 42035
Sampled On : November 13, 2023 at 09:45
Sampled By : Zeke
Received On : November 13, 2023 at 16:00
Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	UI	11/17/2023	13:22	sta	EPA 351.2	11/25/2023	10:42	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	11/14/2023	12:30	lfs	SM 4500-NO3 F	11/14/2023	14:14	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	UI	11/17/2023	13:22	sta	Calc.	11/25/2023	10:42	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	11/14/2023	12:30	lfs	SM 4500-NO3 F	11/14/2023	14:14	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	UI	11/17/2023	13:22	sta	EPA 351.2	11/25/2023	10:42	lcr
Conductivity	283	1	umhos/cm		1		11/17/2023	12:02	krh	SM 4500-H+B	11/17/2023	13:34	krh
Solids, Total Dissolved (TDS)	200	20	mg/L		1		11/15/2023	09:30	ctl	SM 2540 C	11/16/2023	09:30	ctl

DQF Flags Definition:
U Constituent results were non-detect.
I The MS/MSD did not meet QC criteria.

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

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

November 28, 2023
Innovative Ag Services, LLC

Lab No. : VI 2347660
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	11/15/2023:213014CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	991.5	98.3%	90-110	
		(SP 2318981-001)	Dup	mg/L		1.72%	5	
		(SP 2318981-001)	Dup	mg/L		1.07%	5	
Nitrogen, Total Kjeldahl	351.2	11/17/2023:213108STA	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	90.6%	73-124	
			MS	mg/L	12.00	88.3%	90-110	435
		(VI 2347660-001)	MSD	mg/L	12.00	87.8%	90-110	435
			MSRPD	mg/L		0.6%	≤20	
			MS	mg/L	12.00	86.9%	90-110	435
		(STK2355454-002)	MSD	mg/L	12.00	81.3%	90-110	435
			MSRPD	mg/L		6.6%	≤20	
Nitrate + Nitrite as N	4500NO3F	11/14/2023:212983LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	98.9%	80-120	
			MS	mg/L	5.609	94.8%	66-125	
		(SP 2318954-001)	MSD	mg/L	5.609	97.1%	66-125	
			MSRPD	mg/L		1.8%	≤30.4	
Nitrate Nitrogen	4500NO3F	11/14/2023:212983LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	98.9%	80-120	
			MS	mg/L	5.609	94.8%	66-125	
		(SP 2318954-001)	MSD	mg/L	5.609	97.1%	66-125	
			MSRPD	mg/L		1.8%	≤30.4	

Definition

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

Explanation

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

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Laboratory Analysis Work Order

Nº 42035

6.7°C ROI 2347660
ID # TH407

ID: # 0217

LABORATORY: FGL

SITE NAME: MAPLE DAIRY

Billing: IAS

Authorized Copy Release to:

Innnovative Ag Services LLC

(559) 587-2800

ANALYSIS TO BE COMPLETED:

Irrigation/Ground Water (ELAP Standards)

W1 EC, NO_3N (Dom)
W2 EC, NO_3N, TDS, TN (Irr)
W3 NH_4-N (Ammonium)
W4 EC, NO_3N, Ca, Mg, Na, K, HCO_3, CO_3, SO_4S, Cl, TDS (Dom, GM)
W5 EC, NO_3N, TDS, TN, Ca, Mg, Na, HCO_3, CO_3, SO_4S, Cl (Irr, GM)
W6 NO_3N, NO_2 (Dom ILRP, Annually)
W7 Ca, Mg, Na, K, HCO_3, CO_3, SO_4, Cl + Lab Filtering (GWM)
W8 Other: _____

Process Waste Water (lagoon)

L1 EC, NH_4N, TKN, TP, TK, TDS (Quarterly)
L2 EC, NO_3N, NH_4N, TKN, TP, TK, TDS, pH (Annually)
L3 L1 + Ca, Mg, Na, HCO_3,CO_3, SO_4S, 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: _____

Plant Tissue

P1 TN, NO_3N, PO_4P, 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: _____

Soil

S1 SP%, pH, EC, Ca, Mg, Na, K, ESP, LP, B, NO_3N, PO_4P, K-AA, Zn, Mn, Fe, Cu, SO_4S
S2 S1 + CEC, CaCO3, OM, C:N, TN
S3 NO_3N, NH_4N
S4 Other: _____

	Sample ID	Description	Analysis	Date/Time	Sampled by	IAS USE ONLY: FIELD TESTS NH_3N *	pH	Temp
1	58	IRR	W2	11-13 / 9:45	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 sampes, please note below.

NOTES:

GLS 11/14/23
CDA 1045

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st		IAS		11-13-23 / 2:45
2nd		FGL	11-13-23 15:40	
3rd		FGL		11-13-23 16:00
4th		FGL	11-13-2023 1600	

Rec'd 1008

LABORATORY USE ONLY

Logged In By: GLS Rec'd 11-13-2023 1730 Total Samples: _____ Laboratory #: _____

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

December 21, 2023

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

Lab No. : **VI 2348413**
Customer No. : **4018573**
Reference : **42148**

Laboratory Report

Introduction: This report package contains a total of 11 pages divided into 3 sections:

Case Narrative	(1 page)	: An overview of the work performed at FGL.
Sample Results	(5 pages)	: Results for each sample submitted.
Quality Control	(5 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
MD1	12/11/2023	12/11/2023	VI 2348413-001	DW
MD2	12/11/2023	12/11/2023	VI 2348413-002	DW
MD3	12/11/2023	12/11/2023	VI 2348413-003	DW
MD5	12/11/2023	12/11/2023	VI 2348413-004	DW
MD6	12/11/2023	12/11/2023	VI 2348413-005	DW

Sampling and Receipt Information:

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

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

Test Summary	
EPA 200.7	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
EPA 300.0	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 2540 C	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-H+B	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)

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

KD: JRD

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2023-12-22

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

December 21, 2023

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

Description : MD1
Project : 0217 Maple Dairy (Zonneveld)

Lab No. : VI 2348413-001
Customer No. : 4018573
Reference : 42148
Sampled On : December 11, 2023 at 08:50
Sampled By : Zeke
Received On : December 11, 2023 at 15:35
Matrix : Drinking Water

Sample Results - Inorganic

Constituent	Result	RL	Units	MCL/AL	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Alkalinity (as CaCO3)	90	10	mg/L		1		12/13/2023	17:00	amm	SM 4500-H+B	12/13/2023	22:20	amm
Bicarbonate	90	10	mg/L		1		12/13/2023	17:00	amm	SM 4500-H+B	12/13/2023	22:20	amm
Carbonate	10	10	mg/L		1		12/13/2023	17:00	amm	SM 4500-H+B	12/13/2023	22:20	amm
Hydroxide	10	10	mg/L		1		12/13/2023	17:00	amm	SM 4500-H+B	12/13/2023	22:20	amm
Chloride	13	1	mg/L	500[2]	1		12/12/2023	14:05	ldm	EPA 300.0	12/13/2023	04:35	ldm
Nitrate Nitrogen	8.9	0.1	mg/L	10	1		12/12/2023	14:05	ldm	EPA 300.0	12/13/2023	04:35	ldm
Conductivity	354	1	umhos/cm	1600[2]	1		12/13/2023	17:00	amm	SM 4500-H+B	12/13/2023	22:20	amm
Sulfate Sulfur	9.7	0.17	mg/L		1		12/12/2023	14:05	ldm	EPA 300.0	12/13/2023	04:35	ldm
Solids, Total Dissolved (TDS)	220	20	mg/L	1000[2]	1		12/13/2023	13:20	ctl	SM 2540 C	12/14/2023	11:30	ctl
Calcium	5	1	mg/L		1		12/13/2023	03:55	ejc	EPA 200.7	12/13/2023	12:54	ac
Magnesium	ND	1	mg/L		1	U	12/13/2023	03:55	ejc	EPA 200.7	12/13/2023	12:54	ac
Potassium	ND	1	mg/L		1	U	12/13/2023	03:55	ejc	EPA 200.7	12/13/2023	12:54	ac
Sodium	69	1	mg/L		1		12/13/2023	03:55	ejc	EPA 200.7	12/13/2023	12:54	ac

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.

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

December 21, 2023

Innovative Ag Services, LLC
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Suite 5
Hanford, CA 93230

Description : MD2
Project : 0217 Maple Dairy (Zonneveld)

Lab No. : VI 2348413-002
Customer No. : 4018573
Reference : 42148
Sampled On : December 11, 2023 at 08:55
Sampled By : Zeke
Received On : December 11, 2023 at 15:35
Matrix : Drinking Water

Sample Results - Inorganic

Constituent	Result	RL	Units	MCL/AL	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Alkalinity (as CaCO3)	90	10	mg/L		1		12/13/2023	17:00	amm	SM 4500-H+B	12/14/2023	00:19	amm
Bicarbonate	90	10	mg/L		1		12/13/2023	17:00	amm	SM 4500-H+B	12/14/2023	00:19	amm
Carbonate	10	10	mg/L		1		12/13/2023	17:00	amm	SM 4500-H+B	12/14/2023	00:19	amm
Hydroxide	10	10	mg/L		1		12/13/2023	17:00	amm	SM 4500-H+B	12/14/2023	00:19	amm
Chloride	13	1	mg/L	500[2]	1		12/12/2023	14:05	ldm	EPA 300.0	12/13/2023	03:12	ldm
Nitrate Nitrogen	9.4	0.1	mg/L	10	1		12/12/2023	14:05	ldm	EPA 300.0	12/13/2023	03:12	ldm
Conductivity	359	1	umhos/cm	1600[2]	1		12/13/2023	17:00	amm	SM 4500-H+B	12/14/2023	00:19	amm
Sulfate Sulfur	9.8	0.17	mg/L		1		12/12/2023	14:05	ldm	EPA 300.0	12/13/2023	03:12	ldm
Solids, Total Dissolved (TDS)	170	20	mg/L	1000[2]	1		12/13/2023	13:20	ctl	SM 2540 C	12/14/2023	11:30	ctl
Calcium	5	1	mg/L		1		12/15/2023	07:10	ejc	EPA 200.7	12/15/2023	16:28	ac
Magnesium	ND	1	mg/L		1	U	12/15/2023	07:10	ejc	EPA 200.7	12/15/2023	16:28	ac
Potassium	ND	1	mg/L		1	U	12/15/2023	07:10	ejc	EPA 200.7	12/15/2023	16:28	ac
Sodium	73	1	mg/L		1		12/15/2023	07:10	ejc	EPA 200.7	12/15/2023	16:28	ac

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.

Page 3 of 11

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

December 21, 2023

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

Description : MD3
Project : 0217 Maple Dairy (Zonneveld)

Lab No. : VI 2348413-003
Customer No. : 4018573
Reference : 42148
Sampled On : December 11, 2023 at 09:05
Sampled By : Zeke
Received On : December 11, 2023 at 15:35
Matrix : Drinking Water

Sample Results - Inorganic

Constituent	Result	RL	Units	MCL/AL	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Alkalinity (as CaCO3)	90	10	mg/L		1		12/13/2023	17:00	amm	SM 4500-H+B	12/14/2023	00:51	amm
Bicarbonate	90	10	mg/L		1		12/13/2023	17:00	amm	SM 4500-H+B	12/14/2023	00:51	amm
Carbonate	10	10	mg/L		1		12/13/2023	17:00	amm	SM 4500-H+B	12/14/2023	00:51	amm
Hydroxide	10	10	mg/L		1		12/13/2023	17:00	amm	SM 4500-H+B	12/14/2023	00:51	amm
Chloride	13	1	mg/L	500[2]	1		12/12/2023	11:49	ldm	EPA 300.0	12/12/2023	23:42	ldm
Nitrate Nitrogen	9.5	0.1	mg/L	10	1	l	12/12/2023	11:49	ldm	EPA 300.0	12/12/2023	23:42	ldm
Conductivity	358	1	umhos/cm	1600[2]	1		12/13/2023	17:00	amm	SM 4500-H+B	12/14/2023	00:51	amm
Sulfate Sulfur	9.9	0.17	mg/L		1		12/12/2023	11:49	ldm	EPA 300.0	12/12/2023	23:42	ldm
Solids, Total Dissolved (TDS)	230	20	mg/L	1000[2]	1		12/13/2023	13:20	ctl	SM 2540 C	12/14/2023	11:30	ctl
Calcium	5	1	mg/L		1		12/19/2023	07:45	ejc	EPA 200.7	12/19/2023	18:55	ac
Magnesium	ND	1	mg/L		1	U	12/19/2023	07:45	ejc	EPA 200.7	12/19/2023	18:55	ac
Potassium	ND	1	mg/L		1	U	12/19/2023	07:45	ejc	EPA 200.7	12/19/2023	18:55	ac
Sodium	64	1	mg/L		1		12/19/2023	07:45	ejc	EPA 200.7	12/19/2023	18:55	ac

DQF Flags Definition:
l The MS/MSD did not meet QC criteria.
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.

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

December 21, 2023

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

Description : MD5
Project : 0217 Maple Dairy (Zonneveld)

Lab No. : VI 2348413-004
Customer No. : 4018573
Reference : 42148
Sampled On : December 11, 2023 at 08:30
Sampled By : Zeke
Received On : December 11, 2023 at 15:35
Matrix : Drinking Water

Sample Results - Inorganic

Constituent	Result	RL	Units	MCL/AL	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Alkalinity (as CaCO3)	270	10	mg/L		1		12/13/2023	17:00	amm	SM 4500-H+B	12/13/2023	22:09	amm
Bicarbonate	330	10	mg/L		1		12/13/2023	17:00	amm	SM 4500-H+B	12/13/2023	22:09	amm
Carbonate	ND	10	mg/L		1	U	12/13/2023	17:00	amm	SM 4500-H+B	12/13/2023	22:09	amm
Hydroxide	ND	10	mg/L		1	U	12/13/2023	17:00	amm	SM 4500-H+B	12/13/2023	22:09	amm
Chloride	50	1	mg/L	500[2]	1		12/12/2023	11:49	ldm	EPA 300.0	12/12/2023	22:40	ldm
Nitrate Nitrogen	40	0.4*	mg/L	10	4	l	12/12/2023	11:49	ldm	EPA 300.0	12/13/2023	12:15	ldm
Conductivity	1110	1	umhos/cm	1600[2]	1		12/13/2023	17:00	amm	SM 4500-H+B	12/13/2023	22:09	amm
Sulfate Sulfur	30.7	0.17	mg/L		1		12/12/2023	11:49	ldm	EPA 300.0	12/12/2023	22:40	ldm
Solids, Total Dissolved (TDS)	770	20	mg/L	1000[2]	1		12/13/2023	13:20	ctl	SM 2540 C	12/14/2023	11:30	ctl
Calcium	110	1	mg/L		1		12/19/2023	07:45	ejc	EPA 200.7	12/19/2023	18:16	ac
Magnesium	3	1	mg/L		1		12/19/2023	07:45	ejc	EPA 200.7	12/19/2023	18:16	ac
Potassium	1	1	mg/L		1		12/19/2023	07:45	ejc	EPA 200.7	12/19/2023	18:16	ac
Sodium	101	1	mg/L		1		12/19/2023	07:45	ejc	EPA 200.7	12/19/2023	18:16	ac

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

ND=Non-Detected, RL=Reporting Level * RL adjusted for dilution, Dil.=Dilution
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

December 21, 2023

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

Description : MD6
Project : 0217 Maple Dairy (Zonneveld)

Lab No. : VI 2348413-005
Customer No. : 4018573
Reference : 42148
Sampled On : December 11, 2023 at 08:40
Sampled By : Zeke
Received On : December 11, 2023 at 15:35
Matrix : Drinking Water

Sample Results - Inorganic

Constituent	Result	RL	Units	MCL/AL	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Alkalinity (as CaCO3)	90	10	mg/L		1	I	12/13/2023	17:00	amm	SM 4500-H+B	12/13/2023	21:11	amm
Bicarbonate	100	10	mg/L		1	I	12/13/2023	17:00	amm	SM 4500-H+B	12/13/2023	21:11	amm
Carbonate	ND	10	mg/L		1	U	12/13/2023	17:00	amm	SM 4500-H+B	12/13/2023	21:11	amm
Hydroxide	ND	10	mg/L		1	U	12/13/2023	17:00	amm	SM 4500-H+B	12/13/2023	21:11	amm
Chloride	13	1	mg/L	500[2]	1		12/12/2023	14:05	ldm	EPA 300.0	12/13/2023	02:09	ldm
Nitrate Nitrogen	9.4	0.1	mg/L	10	1		12/12/2023	14:05	ldm	EPA 300.0	12/13/2023	02:09	ldm
Conductivity	354	1	umhos/cm	1600[2]	1		12/13/2023	17:00	amm	SM 4500-H+B	12/13/2023	21:11	amm
Sulfate Sulfur	9.9	0.17	mg/L		1		12/12/2023	14:05	ldm	EPA 300.0	12/13/2023	02:09	ldm
Solids, Total Dissolved (TDS)	230	20	mg/L	1000[2]	1		12/13/2023	13:20	ctl	SM 2540 C	12/14/2023	11:30	ctl
Calcium	5	1	mg/L		1		12/13/2023	03:55	ejc	EPA 200.7	12/13/2023	13:22	ac
Magnesium	ND	1	mg/L		1	U	12/13/2023	03:55	ejc	EPA 200.7	12/13/2023	13:22	ac
Potassium	ND	1	mg/L		1	U	12/13/2023	03:55	ejc	EPA 200.7	12/13/2023	13:22	ac
Sodium	73	1	mg/L		1		12/13/2023	03:55	ejc	EPA 200.7	12/13/2023	13:22	ac

DQF Flags Definition:
I The RPD for the laboratory duplicate exceeded laboratory criteria.
U Constituent results were non-detect.

ND=Non-Detected, RL=Reporting Level * RL adjusted for dilution, Dil.=Dilution
MCL = Maximum Contamination Level. 2 - Secondary Standard. 3 - CDPH Notification Level. AL = Regulatory Action Level.

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

December 21, 2023
Innovative Ag Services, LLC

Lab No. : VI 2348413
Customer No. : 4018573

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Calcium	200.7	12/13/2023:214008EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	93.6%	85-115	
			MS	mg/L	12.00	96.1%	75-125	
		(CH 2390218-003)	MSD	mg/L	12.00	96.9%	75-125	
			MSRPD	mg/L		0.5%	≤20.0	
			MS	mg/L	12.00	93.0%	75-125	
		(CH 2390218-002)	MSD	mg/L	12.00	107%	75-125	
			MSRPD	mg/L		3.9%	≤20.0	
	200.7	12/15/2023:214106EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	101%	85-115	
			MS	mg/L	12.00	111%	75-125	
		(CH 2390218-001)	MSD	mg/L	12.00	101%	75-125	
			MSRPD	mg/L		4.3%	≤20.0	
			MS	mg/L	12.00	55.7%	<¼	
		(SP 2320439-002)	MSD	mg/L	12.00	124%	75-125	
			MSRPD	mg/L		6.0%	≤20.0	
	200.7	12/19/2023:214261EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	94.2%	85-115	
			MS	mg/L	12.00	88.4%	75-125	
		(CH 2390448-001)	MSD	mg/L	12.00	103%	75-125	
			MSRPD	mg/L		8.5%	≤20.0	
			MS	mg/L	12.00	99.9%	75-125	
		(CC 2384368-001)	MSD	mg/L	12.00	98.8%	75-125	
			MSRPD	mg/L		0.2%	≤20.0	
Magnesium	200.7	12/13/2023:214008EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	94.0%	85-115	
			MS	mg/L	12.00	94.1%	75-125	
		(CH 2390218-003)	MSD	mg/L	12.00	93.6%	75-125	
			MSRPD	mg/L		0.4%	≤20	
			MS	mg/L	12.00	95.1%	75-125	
		(CH 2390218-002)	MSD	mg/L	12.00	99.7%	75-125	
			MSRPD	mg/L		2.8%	≤20	
	200.7	12/15/2023:214106EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	100%	85-115	
			MS	mg/L	12.00	105%	75-125	
		(CH 2390218-001)	MSD	mg/L	12.00	96.6%	75-125	
			MSRPD	mg/L		6.7%	≤20	
			MS	mg/L	12.00	102%	75-125	
		(SP 2320439-002)	MSD	mg/L	12.00	113%	75-125	
			MSRPD	mg/L		2.9%	≤20	
	200.7	12/19/2023:214261EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	93.1%	85-115	
			MS	mg/L	12.00	90.1%	75-125	
		(CH 2390448-001)	MSD	mg/L	12.00	100%	75-125	
			MSRPD	mg/L		7.9%	≤20	
			MS	mg/L	12.00	96.8%	75-125	

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December 21, 2023
Innovative Ag Services, LLC

Lab No. : VI 2348413
Customer No. : 4018573

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
		(CC 2384368-001)	MSD	mg/L	12.00	97.9%	75-125	
			MSRPD	mg/L		0.4%	≤20	
Potassium	200.7	12/13/2023:214008EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	93.2%	85-115	
			MS	mg/L	12.00	95.6%	75-125	
		(CH 2390218-003)	MSD	mg/L	12.00	95.1%	75-125	
			MSRPD	mg/L		0.5%	≤20.0	
			MS	mg/L	12.00	99.5%	75-125	
		(CH 2390218-002)	MSD	mg/L	12.00	103%	75-125	
			MSRPD	mg/L		2.9%	≤20.0	
	200.7	12/15/2023:214106EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	98.9%	85-115	
			MS	mg/L	12.00	105%	75-125	
		(CH 2390218-001)	MSD	mg/L	12.00	98.0%	75-125	
			MSRPD	mg/L		6.5%	≤20.0	
			MS	mg/L	12.00	102%	75-125	
		(SP 2320439-002)	MSD	mg/L	12.00	107%	75-125	
			MSRPD	mg/L		3.9%	≤20.0	
	200.7	12/19/2023:214261EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	94.6%	85-115	
			MS	mg/L	12.00	90.7%	75-125	
		(CH 2390448-001)	MSD	mg/L	12.00	102%	75-125	
			MSRPD	mg/L		8.3%	≤20.0	
			MS	mg/L	12.00	96.6%	75-125	
		(CC 2384368-001)	MSD	mg/L	12.00	96.6%	75-125	
			MSRPD	mg/L		0.0%	≤20.0	
Sodium	200.7	12/13/2023:214008EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	92.3%	85-115	
			MS	mg/L	12.00	96.8%	75-125	
		(CH 2390218-003)	MSD	mg/L	12.00	97.1%	75-125	
			MSRPD	mg/L		0.2%	≤20.0	
			MS	mg/L	12.00	99.6%	75-125	
		(CH 2390218-002)	MSD	mg/L	12.00	106%	75-125	
			MSRPD	mg/L		3.6%	≤20.0	
	200.7	12/15/2023:214106EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	102%	85-115	
			MS	mg/L	12.00	110%	75-125	
		(CH 2390218-001)	MSD	mg/L	12.00	102%	75-125	
			MSRPD	mg/L		4.5%	≤20.0	
			MS	mg/L	12.00	85.0%	75-125	
		(SP 2320439-002)	MSD	mg/L	12.00	111%	75-125	
			MSRPD	mg/L		6.8%	≤20.0	
	200.7	12/19/2023:214261EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	91.7%	85-115	
			MS	mg/L	12.00	86.7%	75-125	
		(CH 2390448-001)	MSD	mg/L	12.00	103%	75-125	
			MSRPD	mg/L		8.2%	≤20.0	
			MS	mg/L	12.00	96.4%	75-125	
		(CC 2384368-001)	MSD	mg/L	12.00	96.0%	75-125	
			MSRPD	mg/L		0.1%	≤20.0	

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Definition

<¼	: 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 analyted. The recoveries are an indication of how that sample matrix affects analyte recovery.
MSRPD	: MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
ND	: Non-detect - Result was below the DQO listed for the analyte.

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December 21, 2023
Innovative Ag Services, LLC

Lab No. : VI 2348413
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Alkalinity (as CaCO3)	2320B	12/13/2023:214042AMM	ND	mg/L		12.3%	10	
		(VI 2348413-004)	Dup	mg/L		0.2%	10	
Bicarbonate	2320B	(SP 2320358-001)	Dup	mg/L		12.4%	10	440
		(VI 2348413-004)	Dup	mg/L		0.2%	10	
E. C.	2320B	(SP 2320358-001)	Dup	umhos/cm		0%	5	
		(VI 2348413-004)	Dup	umhos/cm		0.2%	5	
Solids, Total Dissolved	2540CE	12/13/2023:214037CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	991.5	99.8%	90-110	
		(VI 2348409-002)	Dup	mg/L		0.5%	5	
		(VI 2348409-002)	Dup	mg/L		0.3%	5	
Chloride	300.0	12/12/2023:214041LDM	Blank	mg/L		ND	<1	
			LCS	mg/L	25.00	98.1%	90-110	
			MS	mg/L	50.00	85.9%	67-117	
		(CH 2390217-006)	MSD	mg/L	50.00	90.5%	67-117	
			MSRPD	mg/L		2.9%	≤7	
			MS	mg/L	50.00	101%	67-117	
		(CH 2390218-003)	MSD	mg/L	50.00	101%	67-117	
			MSRPD	mg/L		0.2%	≤7	
			Blank	mg/L		ND	<1	
			LCS	mg/L	25.00	98.8%	90-110	
			MS	mg/L	50.00	100%	67-117	
		(VI 2348413-005)	MSD	mg/L	50.00	100%	67-117	
			MSRPD	mg/L		0.0%	≤7	
			MS	mg/L	50.00	99.0%	67-117	
		(VI 2348413-002)	MSD	mg/L	50.00	99.3%	67-117	
			MSRPD	mg/L		0.3%	≤7	
Nitrate Nitrogen	300.0	12/12/2023:214041LDM	Blank	mg/L		ND	<0.4	
			LCS	mg/L	20.00	98.3%	90-110	
			MS	mg/L	40.00	61.8%	86-112	435
		(CH 2390217-006)	MSD	mg/L	40.00	70.6%	86-112	435
			MSRPD	mg/L		3.2%	≤7	
			MS	mg/L	40.00	103%	86-112	
		(CH 2390218-003)	MSD	mg/L	40.00	103%	86-112	
			MSRPD	mg/L		0.1%	≤7	
			Blank	mg/L		ND	<0.4	
			LCS	mg/L	20.00	97.6%	90-110	
			MS	mg/L	40.00	87.8%	86-112	
		(VI 2348413-005)	MSD	mg/L	40.00	87.7%	86-112	
			MSRPD	mg/L		0.1%	≤7	
			MS	mg/L	40.00	86.3%	86-112	
		(VI 2348413-002)	MSD	mg/L	40.00	86.4%	86-112	
			MSRPD	mg/L		0.0%	≤7	
Sulfate Sulfur	300.0	12/12/2023:214041LDM	Blank	mg/L		ND	<0.5	
			LCS	mg/L	50.00	99.5%	90-110	
			MS	mg/L	100.0	93.9%	18-165	
		(CH 2390217-006)	MSD	mg/L	100.0	97.5%	18-165	
			MSRPD	mg/L		3.0%	≤7	
			MS	mg/L	100.0	102%	18-165	
		(CH 2390218-003)	MSD	mg/L	100.0	102%	18-165	
			MSRPD	mg/L		0.1%	≤7	

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December 21, 2023
Innovative Ag Services, LLC

Lab No. : VI 2348413
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
			Blank	mg/L		ND	<0.5	
			LCS	mg/L	50.00	100%	90-110	
			MS	mg/L	100.0	101%	18-165	
		(VI 2348413-005)	MSD	mg/L	100.0	101%	18-165	
			MSRPD	mg/L		0.0%	≤7	
			MS	mg/L	100.0	99.6%	18-165	
		(VI 2348413-002)	MSD	mg/L	100.0	100%	18-165	
			MSRPD	mg/L		0.3%	≤7	

Definition

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

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

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

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

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

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

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

Explanation

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

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

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DocuSign Envelope ID: 1FCB215C-915D-4BC2-813F-3D6759E4D99F

Laboratory Analysis Work Order

Nº 42148

2348413

ID: # 0217

LABORATORY: FGL

SITE NAME: Mayle Dairy

Billing: IAS

Authorized Copy Release to:

Innnovative Ag Services LLC

(559) 587-2800

ANALYSIS TO BE COMPLETED:

Irrigation/Ground Water (ELAP Standards)

W1 EC, NO_3N (Dom)
W2 EC, NO_3N, TDS, TN (Irr)
W3 NH_4-N (Ammonium)
W4 EC, NO_3N, Ca, Mg, Na, K, HCO_3, CO_3, SO_4S, Cl, TDS (Dom, GM)
W5 EC, NO_3N, TDS, TN, Ca, Mg, Na, HCO_3, CO_3, SO_4S, Cl (Irr, GM)
W6 NO_3N, NO_2 (Dom ILRP, Annually)
W7 Ca, Mg, Na, K, HCO_3, CO_3, SO_4, Cl + Lab Filtering (GWM)
W8 Other: _____

Process Waste Water (lagoon)

L1 EC, NH_4N, TKN, TP, TK, TDS (Quarterly)
L2 EC, NO_3N, NH_4N, TKN, TP, TK, TDS, pH (Annually)
L3 L1 + Ca, Mg, Na, HCO_3,CO_3, SO_4S, 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: _____

Plant Tissue

P1 TN, NO_3N, PO_4P, 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: _____

Soil

S1 SP%, pH, EC, Ca, Mg, Na, K, ESP, LP, B, NO_3N, PO_4P, K-AA, Zn, Mn, Fe, Cu, SO_4S
S2 S1 + CEC, CaCO3, OM, C:N, TN
S3 NO_3N, NH_4N
S4 Other: _____

	Sample ID	Description	Analysis	Date/Time		Sampled by	IAS USE ONLY: FIELD TESTS NH_3N *	pH	Temp
1	MD 1	DOM	W4	12-11	8:50	Zeke			
2	MD 2				8:55				
3	MD 3				9:05				
4	MD 5				8:30				
5	MD 6				8:40				
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 sampes, please note below.

NOTES: R01 8.9 °C ID#171407

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st	[signature]	IAS		12-11-23 / 12:40
2nd	AJB	FGL	12/11/23 1535	
3rd	AJB	FGL		12/11/23 1554
4th	SRO	FGL	12-11-23 1554	
	SRO	~~FGL~~	~~12-11-23 1730~~	
		GLS	12-11-23 1730	

LABORATORY USE ONLY

Logged In By: _____ **Total Samples:** _____ **Laboratory #:** _____

GLS mc 12/12/23 1013