INNOVATIVE
AG SERVICES

Dykstra Dairy

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)

Annual Report

Dykstra Dairy 2023

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

Facility Information:

Name of Dairy	Dykstra Dairy
Facility Address	6801 Avenue 176, Tulare CA 93274

Owner/Operator as of 12/31/2023

Operator Name	John Dykstra
Operator Phone	(559) 685-8506
Owner Name	John Dykstra
Owner Phone	(559) 685-8506

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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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).

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.

Dykstra Dairy 2023

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."

Same as owner	DocuSigned by: John Dykstra 79D3438ABA9A45B...
Signature of Operator of Facility	Signature of Owner of Facility
John Dykstra	John Dykstra
Print Name	Print Name
6/26/2024	6/26/2024
Title and Date	Title and Date

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Dykstra 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	3,750	3,656	Milk Freestall -	1,400	92,785.21	1,321,095.60	226,854.80	306,921.20	2,409,998.64
Hol Dry Cows	419	408	Flushed	1,450	5,953.58	74,460.00	10,424.40	49,143.60	105,077.95
Hol Heifers(15-24)	640	624	Flushed	1,000	6,513.64	86,548.80	13,665.60	40,996.80	160,707.46
Hol Heifers (7-14)	225	219	Flushed	750	2,106.18	20,783.10	3,517.14	11,990.25	26,438.50
Hol Calves (4-6)	490	477	Flushed	300	1,654.00	24,374.70	6,964.20	13,928.40	11,421.29
Hol Calves (0-3)	450	438	Calves Dry Scrape	150	1,518.76	3,197.40	1,598.70	6,394.80	3,848.07
Jer Milk Cows	179	174	Flushed	1,000	4,046.11	45,092.10	7,621.20	10,161.60	81,927.90
Jer Dry Cows	50	48	Flushed	1,100	632.97	6,307.20	876.00	4,204.80	8,760.00
	6,203	**6,044**			**115,210.46**	**1,581,858.90**	**271,522.04**	**443,741.45**	**2,808,179.81**

* 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)**
117,388,854	345.25	35.82	702.25	3,855.00	337,602.42	35,031.45	686,694.57	3,769,608.4

* 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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Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 2-104

Alfalfa, 51 Acres Planted on 11/17/2019

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			%			714				
02/08/2023	Ground Water: Well Avg	4.25	Acre Inches		20.22			mg/L			991	0	0	30,397	
04/20/2023	Ground Water: Well Avg	4.40	Acre Inches		20.22			mg/L			1,027	0	0	31,470	
05/20/2023	Ground Water: Well Avg	4.80	Acre Inches		20.22			mg/L			1,120	0	0	34,331	
06/23/2023	Ground Water: Well Avg	4.85	Acre Inches		20.22			mg/L			1,132	0	0	34,689	
07/03/2023	Ground Water: Well Avg	5.20	Acre Inches		20.22			mg/L			1,213	0	0	37,192	
07/25/2023	Ground Water: Well Avg	5.30	Acre Inches		20.22			mg/L			1,236	0	0	37,907	
08/03/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			1,143	0	0	35,046	
08/26/2023	Ground Water: Well Avg	4.80	Acre Inches		20.22			mg/L			1,120	0	0	34,331	
11/27/2023	Harvest	9.10	Tons	7.24	1.62	0.33	2.09	%							13,948
	Acre Inches Applied:	**38.50**						**Totals:**			**9,696**	**0**	**0**	**275,363**	**13,948**
Season Nitrogen Ratio:	0.70							**Lbs Per Acre:**			**190**	**0**	**0**	**5,399**	**273**

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Dykstra Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 2-106

Corn, 120 Acres Planted on 04/23/2023

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)
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			1,680				
01/15/2023	Surface Water: Lower Tule	5.85	Acre Inches		0.00			mg/L			0	0	0	6,352	
05/21/2023	Surface Water: Lower Tule	5.30	Acre Inches		0.00			mg/L			0	0	0	5,754	
05/21/2023	Waste Water: Main Lagoon	0.70	Acre Inches		318.00	27.20	419.00	mg/L		2,280,961	6,042	517	7,961	25,271	
06/14/2023	Ground Water: Well Avg	4.72	Acre Inches		20.22			mg/L			2,591	0	0	79,433	
06/26/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			2,689	0	0	82,462	
07/10/2023	Ground Water: Well Avg	5.30	Acre Inches		20.22			mg/L			2,909	0	0	89,194	
07/10/2023	Waste Water: Main Lagoon	0.75	Acre Inches		285.00	28.60	823.00	mg/L		2,443,887	5,802	582	16,754	97,309	
07/21/2023	Ground Water: Well Avg	5.50	Acre Inches		20.22			mg/L			3,019	0	0	92,560	
08/12/2023	Harvest	30.12	Tons	70.60	0.87	0.24	1.65	%							18,404
	Acre Inches Applied:	**33.02**						**Totals:**		**4,724,848**	**24,732**	**1,099**	**24,715**	**478,333**	**18,404**
Season Nitrogen Ratio:	1.34							**Lbs Per Acre:**			**206**	**9**	**206**	**3,986**	**153**

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Dykstra Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 3-107

Almonds, 34 Acres Planted on 11/01/2018

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			%			476				
03/12/2023	Surface Water: Lower Tule	5.50	Acre Inches		0.00			mg/L			0	0	0	1,692	
04/12/2023	Fertilize - UN32	10.00	Gallons		32.00	0.00	0.00	%			906	0	0	0	
04/12/2023	Surface Water: Lower Tule	5.10	Acre Inches		0.00			mg/L			0	0	0	1,569	
05/02/2023	Surface Water: Lower Tule	5.00	Acre Inches		0.00			mg/L			0	0	0	1,538	
06/12/2023	Ground Water: Serpa 4	4.20	Acre Inches		2.60			mg/L			84	0	0	7,752	
07/13/2023	Fertilize - UN32	10.00	Gallons		32.00	0.00	0.00	%			906	0	0	0	
07/13/2023	Ground Water: Serpa 4	4.00	Acre Inches		2.60			mg/L			80	0	0	7,383	
08/25/2023	Ground Water: Serpa 4	3.80	Acre Inches		2.60			mg/L			76	0	0	7,014	
09/15/2023	Ground Water: Serpa 4	4.00	Acre Inches		2.60			mg/L			80	0	0	7,383	
10/31/2023	Harvest	2.80	Tons	11.50	2.35	0.23	2.04	%							3,960
	Acre Inches Applied:	**31.60**						**Totals:**			**2,608**	**0**	**0**	**34,331**	**3,960**
Season Nitrogen Ratio:	0.66							**Lbs Per Acre:**			**77**	**0**	**0**	**1,010**	**116**

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Dykstra Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 3-108

Wheat, 101 Acres Planted on 10/22/2022

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			%			1,414				
02/15/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			1,848	0	0	56,657	
02/15/2023	Waste Water: Main Lagoon	1.00	Acre Inches		346.00	35.70	678.00	mg/L		2,742,584	7,904	816	15,489	90,469	
04/12/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			1,848	0	0	56,657	
04/12/2023	Waste Water: Main Lagoon	0.80	Acre Inches		318.00	27.20	419.00	mg/L		2,194,067	5,812	497	7,658	24,308	
05/10/2023	Harvest	21.90	Tons	62.30	0.82	0.22	1.02	%							13,675
	Acre Inches Applied:	**9.80**						**Totals:**		**4,936,652**	**18,826**	**1,313**	**23,147**	**228,090**	**13,675**
Season Nitrogen Ratio:	1.38							**Lbs Per Acre:**			**186**	**13**	**229**	**2,258**	**135**

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Dykstra Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 3-108

Corn, 101 Acres Planted on 06/18/2023

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: Lower Tule	5.00	Acre Inches		0.00			mg/L			0	0	0	4,569	
06/01/2023	Waste Water: Main Lagoon	0.70	Acre Inches		318.00	27.20	419.00	mg/L		1,919,809	5,085	435	6,700	21,270	
07/09/2023	Ground Water: Well Avg	5.50	Acre Inches		20.22			mg/L			2,541	0	0	77,904	
07/22/2023	Ground Water: Well Avg	6.00	Acre Inches		20.22			mg/L			2,772	0	0	84,986	
08/05/2023	Ground Water: Well Avg	6.00	Acre Inches		20.22			mg/L			2,772	0	0	84,986	
08/05/2023	Waste Water: Main Lagoon	0.85	Acre Inches		285.00	28.60	823.00	mg/L		2,331,197	5,535	556	15,981	92,822	
08/17/2023	Ground Water: Well Avg	5.80	Acre Inches		20.22			mg/L			2,680	0	0	82,153	
08/29/2023	Ground Water: Well Avg	5.00	Acre Inches		20.22			mg/L			2,310	0	0	70,822	
10/04/2023	Harvest	29.10	Tons	67.80	0.90	0.23	0.77	%							16,997
	Acre Inches Applied:	**34.85**						**Totals:**		**4,251,006**	**23,696**	**991**	**22,682**	**519,514**	**16,997**
Season Nitrogen Ratio:	1.39							**Lbs Per Acre:**			**235**	**10**	**225**	**5,144**	**168**

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Dykstra Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 3-109

Wheat, 75 Acres Planted on 10/30/2022

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			%			1,050				
01/21/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			1,372	0	0	42,072	
03/08/2023	Ground Water: Well Avg	4.80	Acre Inches		20.22			mg/L			1,647	0	0	50,487	
03/08/2023	Waste Water: Main Lagoon	1.00	Acre Inches		346.00	35.70	678.00	mg/L		2,036,572	5,870	606	11,502	67,180	
04/13/2023	Ground Water: Well Avg	5.00	Acre Inches		20.22			mg/L			1,715	0	0	52,591	
04/13/2023	Waste Water: Main Lagoon	1.00	Acre Inches		318.00	27.20	419.00	mg/L		2,036,572	5,395	461	7,108	22,563	
05/11/2023	Harvest	21.30	Tons	65.30	1.30	0.25	1.00	%							14,413
	Acre Inches Applied:	**15.80**						**Totals:**		**4,073,145**	**17,049**	**1,067**	**18,610**	**234,892**	**14,413**
Season Nitrogen Ratio:	1.18							**Lbs Per Acre:**			**227**	**14**	**248**	**3,132**	**192**

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Dykstra Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 3-109

Corn, 75 Acres Planted on 06/08/2023

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)
05/17/2023	Surface Water: Lower Tule	5.50	Acre Inches		0.00			mg/L			0	0	0	3,732	
05/17/2023	Waste Water: Main Lagoon	0.70	Acre Inches		318.00	27.20	419.00	mg/L		1,425,601	3,776	323	4,976	15,794	
06/28/2023	Ground Water: Well Avg	4.85	Acre Inches		20.22			mg/L			1,664	0	0	51,013	
07/18/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			1,681	0	0	51,538	
07/18/2023	Waste Water: Main Lagoon	0.75	Acre Inches		285.00	28.60	823.00	mg/L		1,527,429	3,626	364	10,472	60,818	
07/27/2023	Ground Water: Well Avg	5.30	Acre Inches		20.22			mg/L			1,818	0	0	55,746	
08/09/2023	Ground Water: Well Avg	5.20	Acre Inches		20.22			mg/L			1,784	0	0	54,694	
08/23/2023	Ground Water: Well Avg	5.00	Acre Inches		20.22			mg/L			1,715	0	0	52,591	
08/23/2023	Waste Water: Main Lagoon	0.80	Acre Inches		285.00	28.60	823.00	mg/L		1,629,258	3,868	388	11,170	64,873	
09/02/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			1,681	0	0	51,538	
09/10/2023	Ground Water: Well Avg	4.30	Acre Inches		20.22			mg/L			1,475	0	0	45,228	
09/27/2023	Harvest	30.05	Tons	67.30	1.13	0.34	0.86	%							16,656
	Acre Inches Applied:	**42.20**						**Totals:**		**4,582,288**	**23,089**	**1,076**	**26,617**	**507,566**	**16,656**
Season Nitrogen Ratio:	1.39							**Lbs Per Acre:**			**308**	**14**	**355**	**6,768**	**222**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 3-110

Alfalfa, 74 Acres Planted on 11/15/2022

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)
10/30/2022	Ground Water: Well Avg	3.50	Acre Inches		21.37			mg/L			1,252	0	0	36,518	
10/30/2022	Waste Water: Main Lagoon	1.00	Acre Inches		313.00	29.10	702.00	mg/L		2,009,418	5,239	487	11,750	100,933	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			1,036				
01/11/2023	Surface Water: Lower Tule	4.90	Acre Inches		0.00			mg/L			0	0	0	3,280	
05/05/2023	Surface Water: Lower Tule	5.20	Acre Inches		0.00			mg/L			0	0	0	3,482	
06/08/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			1,658	0	0	50,851	
07/05/2023	Ground Water: Well Avg	5.30	Acre Inches		20.22			mg/L			1,794	0	0	55,003	
07/16/2023	Ground Water: Well Avg	5.30	Acre Inches		20.22			mg/L			1,794	0	0	55,003	
08/01/2023	Ground Water: Well Avg	5.10	Acre Inches		20.22			mg/L			1,726	0	0	52,927	
08/12/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			1,658	0	0	50,851	
09/07/2023	Ground Water: Well Avg	4.30	Acre Inches		20.22			mg/L			1,456	0	0	44,625	
11/27/2023	Harvest	8.10	Tons	7.09	3.63	0.33	2.06	%							40,431
	Acre Inches Applied:	**44.40**						**Totals:**		**2,009,418**	**17,613**	**487**	**11,750**	**453,473**	**40,431**
Season Nitrogen Ratio:	0.44							**Lbs Per Acre:**			**238**	**7**	**159**	**6,128**	**546**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 3-112

Pistachios, 12 Acres Planted on 02/10/2013

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			%			168				
02/04/2023	Surface Water: Lower Tule	4.00	Acre Inches		0.00			mg/L			0	0	0	434	
03/10/2023	Surface Water: Lower Tule	4.30	Acre Inches		0.00			mg/L			0	0	0	467	
04/03/2023	Surface Water: Lower Tule	5.30	Acre Inches		0.00			mg/L			0	0	0	575	
04/13/2023	Fertilize (8-28-2)	10.00	Gallons		8.00	28.00	2.00	%			80	280	20	0	
05/08/2023	Surface Water: Lower Tule	5.30	Acre Inches		0.00			mg/L			0	0	0	575	
06/18/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			220	0	0	6,732	
07/07/2023	Fertilize (8-28-2)	10.00	Gallons		8.00	28.00	2.00	%			80	280	20	0	
07/07/2023	Ground Water: Well Avg	3.10	Acre Inches		20.22			mg/L			170	0	0	5,217	
08/12/2023	Ground Water: Well Avg	3.12	Acre Inches		20.22			mg/L			171	0	0	5,251	
09/15/2023	Ground Water: Well Avg	3.00	Acre Inches		20.22			mg/L			165	0	0	5,049	
10/04/2023	Harvest	3.50	Tons	59.80	2.26	0.39	1.64	%							763
	Acre Inches Applied:	**32.12**						**Totals:**			**1,053**	**560**	**40**	**24,300**	**763**
Season Nitrogen Ratio:	1.38							**Lbs Per Acre:**			**88**	**47**	**3**	**2,025**	**64**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 4-110

Wheat, 40 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)
11/17/2022	Ground Water: Well Avg	4.00	Acre Inches		21.37			mg/L			773	0	0	22,559	
11/17/2022	Waste Water: Main Lagoon	1.00	Acre Inches		313.00	29.10	702.00	mg/L		1,086,172	2,832	263	6,352	54,558	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			560				
03/10/2023	Ground Water: Well Avg	5.50	Acre Inches		20.22			mg/L			1,006	0	0	30,853	
03/10/2023	Waste Water: Main Lagoon	1.00	Acre Inches		346.00	35.70	678.00	mg/L		1,086,172	3,130	323	6,134	35,829	
04/17/2023	Ground Water: Well Avg	5.30	Acre Inches		20.22			mg/L			970	0	0	29,731	
05/16/2023	Harvest	19.20	Tons	66.60	1.62	0.38	1.47	%							8,311
	Acre Inches Applied:	**16.80**						**Totals:**		**2,172,344**	**9,272**	**586**	**12,486**	**173,531**	**8,311**
Season Nitrogen Ratio: 1.12								**Lbs Per Acre:**			**232**	**15**	**312**	**4,338**	**208**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 4-110

Corn, 40 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)
05/25/2023	Surface Water: Lower Tule	5.50	Acre Inches		0.00			mg/L			0	0	0	1,990	
05/25/2023	Waste Water: Main Lagoon	0.70	Acre Inches		318.00	27.20	419.00	mg/L		760,320	2,014	172	2,654	8,424	
07/03/2023	Ground Water: Well Avg	4.85	Acre Inches		20.22			mg/L			888	0	0	27,207	
07/19/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			896	0	0	27,487	
07/19/2023	Waste Water: Main Lagoon	0.75	Acre Inches		285.00	28.60	823.00	mg/L		814,629	1,934	194	5,585	32,436	
07/29/2023	Ground Water: Well Avg	5.30	Acre Inches		20.22			mg/L			970	0	0	29,731	
08/12/2023	Ground Water: Well Avg	5.20	Acre Inches		20.22			mg/L			952	0	0	29,170	
08/25/2023	Ground Water: Well Avg	5.00	Acre Inches		20.22			mg/L			915	0	0	28,048	
08/25/2023	Waste Water: Main Lagoon	0.65	Acre Inches		285.00	28.60	823.00	mg/L		706,012	1,676	168	4,840	28,112	
09/05/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			896	0	0	27,487	
09/16/2023	Ground Water: Well Avg	4.30	Acre Inches		20.22			mg/L			787	0	0	24,122	
10/16/2023	Harvest	26.00	Tons	63.70	1.14	0.23	0.95	%							8,608
	Acre Inches Applied:	**42.05**						**Totals:**		**2,280,961**	**11,927**	**534**	**13,078**	**264,214**	**8,608**
Season Nitrogen Ratio:	1.39							**Lbs Per Acre:**			**298**	**13**	**327**	**6,605**	**215**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 4-111

Wheat, 108 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			%			1,512				
01/30/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			2,420	0	0	74,215	
03/15/2023	Ground Water: Well Avg	5.50	Acre Inches		20.22			mg/L			2,717	0	0	83,304	
03/15/2023	Waste Water: Main Lagoon	1.00	Acre Inches		346.00	35.70	678.00	mg/L		2,932,664	8,452	873	16,563	96,739	
04/08/2023	Ground Water: Well Avg	6.00	Acre Inches		20.22			mg/L			2,965	0	0	90,877	
04/08/2023	Waste Water: Main Lagoon	0.75	Acre Inches		318.00	27.20	419.00	mg/L		2,199,498	5,827	498	7,677	24,368	
05/11/2023	Harvest	18.12	Tons	62.40	1.56	0.34	1.22	%							22,958
	Acre Inches Applied:	**18.15**						**Totals:**		**5,132,163**	**23,893**	**1,371**	**24,240**	**369,503**	**22,958**
Season Nitrogen Ratio:	1.04							**Lbs Per Acre:**			**221**	**13**	**224**	**3,421**	**213**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 4-111

Corn, 108 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)
06/08/2023	Surface Water: Lower Tule	5.90	Acre Inches		0.00			mg/L			0	0	0	5,765	
06/08/2023	Waste Water: Main Lagoon	1.00	Acre Inches		285.00	28.60	823.00	mg/L		2,932,664	6,963	699	20,105	116,771	
07/28/2023	Ground Water: Well Avg	5.50	Acre Inches		20.22			mg/L			2,717	0	0	83,304	
08/10/2023	Ground Water: Well Avg	5.60	Acre Inches		20.22			mg/L			2,767	0	0	84,818	
08/10/2023	Waste Water: Main Lagoon	0.80	Acre Inches		285.00	28.60	823.00	mg/L		2,346,132	5,570	559	16,084	93,417	
08/26/2023	Ground Water: Well Avg	5.20	Acre Inches		20.22			mg/L			2,569	0	0	78,759	
09/11/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			2,420	0	0	74,215	
09/11/2023	Waste Water: Main Lagoon	0.75	Acre Inches		432.00	51.80	889.00	mg/L		2,199,498	7,915	949	16,289	98,022	
09/18/2023	Ground Water: Well Avg	4.30	Acre Inches		20.22			mg/L			2,124	0	0	65,128	
10/09/2023	Harvest	28.90	Tons	65.70	1.13	0.24	0.88	%							24,195
	Acre Inches Applied:	**33.95**						**Totals:**		**7,478,294**	**33,046**	**2,208**	**52,478**	**700,199**	**24,195**
Season Nitrogen Ratio:	1.37							**Lbs Per Acre:**			**306**	**20**	**486**	**6,483**	**224**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 4-112

Wheat, 78 Acres Planted on 10/25/2022

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)
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			1,092				
01/30/2023	Ground Water: Well Avg	4.50	Acre Inches		20.22			mg/L			1,606	0	0	49,224	
03/19/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			1,427	0	0	43,755	
03/19/2023	Waste Water: Main Lagoon	1.20	Acre Inches		346.00	35.70	678.00	mg/L		2,541,642	7,326	756	14,354	83,841	
04/13/2023	Ground Water: Well Avg	5.00	Acre Inches		20.22			mg/L			1,784	0	0	54,694	
04/13/2023	Waste Water: Main Lagoon	0.50	Acre Inches		318.00	27.20	419.00	mg/L		1,059,018	2,806	240	3,696	11,733	
05/15/2023	Harvest	19.10	Tons	65.70	1.49	0.30	1.18	%							15,228
	Acre Inches Applied:	**15.20**						**Totals:**		**3,600,660**	**16,041**	**996**	**18,051**	**243,247**	**15,228**
Season Nitrogen Ratio:	1.05							**Lbs Per Acre:**			**206**	**13**	**231**	**3,119**	**195**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 4-112

Corn, 78 Acres Planted on 06/05/2023

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)
06/27/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			1,748	0	0	53,600	
06/27/2023	Waste Water: Main Lagoon	1.50	Acre Inches		285.00	28.60	823.00	mg/L		3,177,053	7,543	757	21,781	126,502	
07/12/2023	Ground Water: Well Avg	5.50	Acre Inches		20.22			mg/L			1,962	0	0	60,164	
07/26/2023	Ground Water: Well Avg	5.35	Acre Inches		20.22			mg/L			1,909	0	0	58,523	
07/26/2023	Waste Water: Main Lagoon	1.00	Acre Inches		285.00	28.60	823.00	mg/L		2,118,035	5,029	505	14,520	84,334	
08/06/2023	Ground Water: Well Avg	5.60	Acre Inches		20.22			mg/L			1,998	0	0	61,257	
08/21/2023	Ground Water: Well Avg	5.10	Acre Inches		20.22			mg/L			1,820	0	0	55,788	
08/21/2023	Waste Water: Main Lagoon	0.70	Acre Inches		285.00	28.60	823.00	mg/L		1,482,625	3,520	353	10,164	59,034	
09/01/2023	Ground Water: Well Avg	4.60	Acre Inches		20.22			mg/L			1,641	0	0	50,319	
09/26/2023	Harvest	31.50	Tons	68.00	1.25	0.25	1.46	%							19,656
	Acre Inches Applied:	**34.25**						**Totals:**		**6,777,713**	**27,170**	**1,615**	**46,465**	**609,521**	**19,656**
Season Nitrogen Ratio:	1.38							**Lbs Per Acre:**			**348**	**21**	**596**	**7,814**	**252**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 4-113

Corn, 91 Acres Planted on 04/17/2023

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)
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			1,274				
01/11/2023	Surface Water: Lower Tule	4.40	Acre Inches		0.00			mg/L			0	0	0	3,623	
05/16/2023	Ground Water: Well Avg	4.20	Acre Inches		20.22			mg/L			1,748	0	0	53,600	
05/16/2023	Waste Water: Main Lagoon	0.95	Acre Inches		318.00	27.20	419.00	mg/L		2,347,489	6,218	531	8,194	26,008	
05/31/2023	Ground Water: Well Avg	4.55	Acre Inches		20.22			mg/L			1,894	0	0	58,067	
06/10/2023	Ground Water: Well Avg	4.80	Acre Inches		20.22			mg/L			1,998	0	0	61,258	
06/10/2023	Waste Water: Main Lagoon	0.50	Acre Inches		285.00	28.60	823.00	mg/L		1,235,521	2,933	294	8,470	49,196	
06/21/2023	Ground Water: Well Avg	4.95	Acre Inches		20.22			mg/L			2,060	0	0	63,171	
07/05/2023	Ground Water: Well Avg	5.30	Acre Inches		20.22			mg/L			2,206	0	0	67,638	
07/05/2023	Waste Water: Main Lagoon	0.58	Acre Inches		285.00	28.60	823.00	mg/L		1,433,204	3,402	341	9,825	57,066	
07/18/2023	Ground Water: Well Avg	5.10	Acre Inches		20.22			mg/L			2,123	0	0	65,086	
08/11/2023	Harvest	30.74	Tons	61.80	0.90	0.23	1.26	%							19,170
	Acre Inches Applied:	**35.33**						**Totals:**		**5,016,214**	**25,857**	**1,167**	**26,489**	**504,712**	**19,170**
Season Nitrogen Ratio:	1.35							**Lbs Per Acre:**			**284**	**13**	**291**	**5,546**	**211**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 4-114

Wheat, 95 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)
12/14/2022	Ground Water: Well Avg	4.50	Acre Inches		21.37			mg/L			2,066	0	0	60,276	
12/14/2022	Waste Water: Main Lagoon	0.80	Acre Inches		313.00	29.10	702.00	mg/L		2,063,727	5,381	501	12,068	103,661	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			1,330				
02/11/2023	Ground Water: Well Avg	5.50	Acre Inches		20.22			mg/L			2,390	0	0	73,276	
03/05/2023	Ground Water: Well Avg	6.00	Acre Inches		20.22			mg/L			2,608	0	0	79,938	
03/05/2023	Waste Water: Main Lagoon	1.00	Acre Inches		346.00	35.70	678.00	mg/L		2,579,658	7,435	768	14,569	85,094	
04/10/2023	Ground Water: Well Avg	5.80	Acre Inches		20.22			mg/L			2,520	0	0	77,273	
05/18/2023	Harvest	23.20	Tons	65.00	1.29	0.25	1.23	%							19,902
	Acre Inches Applied:	**23.60**						**Totals:**		**4,643,385**	**23,730**	**1,268**	**26,637**	**479,518**	**19,902**
Season Nitrogen Ratio:	1.19							**Lbs Per Acre:**			**250**	**13**	**280**	**5,048**	**210**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 4-114

Corn, 95 Acres Planted on 06/14/2023

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: Lower Tule	5.70	Acre Inches		0.00			mg/L			0	0	0	4,899	
05/28/2023	Waste Water: Main Lagoon	1.00	Acre Inches		318.00	27.20	419.00	mg/L		2,579,658	6,833	584	9,004	28,580	
07/05/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			2,129	0	0	65,282	
07/25/2023	Ground Water: Well Avg	5.40	Acre Inches		20.22			mg/L			2,346	0	0	71,944	
07/25/2023	Waste Water: Main Lagoon	1.00	Acre Inches		285.00	28.60	823.00	mg/L		2,579,658	6,125	615	17,685	102,715	
08/05/2023	Ground Water: Well Avg	5.50	Acre Inches		20.22			mg/L			2,390	0	0	73,276	
08/17/2023	Ground Water: Well Avg	5.10	Acre Inches		20.22			mg/L			2,216	0	0	67,947	
08/17/2023	Waste Water: Main Lagoon	1.00	Acre Inches		285.00	28.60	823.00	mg/L		2,579,658	6,125	615	17,685	102,715	
09/07/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			2,129	0	0	65,282	
10/05/2023	Harvest	30.03	Tons	69.30	1.25	0.22	1.18	%							21,896
	Acre Inches Applied:	**34.50**						**Totals:**		**7,738,976**	**30,294**	**1,814**	**44,374**	**582,640**	**21,896**
Season Nitrogen Ratio:	1.38							**Lbs Per Acre:**			**319**	**19**	**467**	**6,133**	**230**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 4-115

Alfalfa, 38 Acres Planted on 11/01/2018

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			%			532				
02/08/2023	Ground Water: Well Avg	3.80	Acre Inches		20.22			mg/L			660	0	0	20,251	
02/08/2023	Waste Water: Main Lagoon	1.00	Acre Inches		346.00	35.70	678.00	mg/L		1,031,863	2,974	307	5,828	34,038	
04/20/2023	Ground Water: Well Avg	4.20	Acre Inches		20.22			mg/L			730	0	0	22,382	
06/18/2023	Ground Water: Well Avg	4.95	Acre Inches		20.22			mg/L			860	0	0	26,379	
06/28/2023	Ground Water: Well Avg	5.00	Acre Inches		20.22			mg/L			869	0	0	26,646	
07/24/2023	Ground Water: Well Avg	5.60	Acre Inches		20.22			mg/L			974	0	0	29,843	
08/03/2023	Ground Water: Well Avg	5.40	Acre Inches		20.22			mg/L			939	0	0	28,777	
08/29/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			852	0	0	26,113	
09/16/2023	Ground Water: Well Avg	4.50	Acre Inches		20.22			mg/L			782	0	0	23,981	
10/14/2023	Ground Water: Well Avg	4.50	Acre Inches		20.22			mg/L			782	0	0	23,981	
11/27/2023	Harvest	9.20	Tons	9.02	2.67	0.22	1.45	%							16,985
	Acre Inches Applied:	**43.85**						**Totals:**		**1,031,863**	**10,954**	**307**	**5,828**	**262,392**	**16,985**
Season Nitrogen Ratio:	0.64							**Lbs Per Acre:**			**288**	**8**	**153**	**6,905**	**447**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 4-116

Pistachios, 13 Acres Planted on 02/10/2013

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			%			182				
03/10/2023	Surface Water: Lower Tule	4.30	Acre Inches		0.00			mg/L			0	0	0	506	
04/13/2023	Fertilize (8-28-2)	10.00	Gallons		8.00	28.00	2.00	%			87	303	22	0	
04/13/2023	Surface Water: Lower Tule	4.50	Acre Inches		0.00			mg/L			0	0	0	529	
05/17/2023	Surface Water: Lower Tule	5.30	Acre Inches		0.00			mg/L			0	0	0	623	
06/03/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			238	0	0	7,292	
07/17/2023	Fertilize (8-28-2)	10.00	Gallons		8.00	28.00	2.00	%			87	303	22	0	
08/15/2023	Ground Water: Well Avg	3.10	Acre Inches		20.22			mg/L			184	0	0	5,652	
09/11/2023	Ground Water: Well Avg	3.00	Acre Inches		20.22			mg/L			178	0	0	5,469	
10/04/2023	Harvest	3.50	Tons	58.00	2.80	0.36	2.23	%							1,070
	Acre Inches Applied:	**24.20**						**Totals:**			**956**	**606**	**43**	**20,072**	**1,070**
Season Nitrogen Ratio:	0.89							**Lbs Per Acre:**			**74**	**47**	**3**	**1,544**	**82**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 5-101

Wheat, 116 Acres Planted on 10/31/2022

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)
11/17/2022	Ground Water: Well Avg	3.40	Acre Inches		21.37			mg/L			1,906	0	0	55,608	
11/17/2022	Waste Water: Main Lagoon	0.70	Acre Inches		313.00	29.10	702.00	mg/L		2,204,929	5,749	535	12,893	110,753	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			1,624				
04/26/2023	Ground Water: Well Avg	4.80	Acre Inches		20.22			mg/L			2,547	0	0	78,087	
04/26/2023	Waste Water: Main Lagoon	0.65	Acre Inches		318.00	27.20	419.00	mg/L		2,047,434	5,423	464	7,146	22,684	
05/10/2023	Harvest	18.50	Tons	64.00	0.83	0.24	0.80	%							12,855
	Acre Inches Applied:	**9.55**						**Totals:**		**4,252,363**	**17,249**	**999**	**20,039**	**267,132**	**12,855**
Season Nitrogen Ratio:	1.34							**Lbs Per Acre:**			**149**	**9**	**173**	**2,303**	**111**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 5-101

Corn, 116 Acres Planted on 06/13/2023

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)
06/03/2023	Ground Water: Well Avg	4.80	Acre Inches		20.22			mg/L			2,547	0	0	78,087	
06/03/2023	Waste Water: Main Lagoon	0.60	Acre Inches		318.00	27.20	419.00	mg/L		1,889,939	5,007	428	6,597	20,938	
07/13/2023	Ground Water: Well Avg	5.40	Acre Inches		20.22			mg/L			2,865	0	0	87,847	
08/01/2023	Ground Water: Well Avg	5.50	Acre Inches		20.22			mg/L			2,919	0	0	89,474	
08/01/2023	Waste Water: Main Lagoon	0.70	Acre Inches		285.00	28.60	823.00	mg/L		2,204,929	5,235	525	15,116	87,795	
08/12/2023	Ground Water: Well Avg	5.00	Acre Inches		20.22			mg/L			2,653	0	0	81,340	
08/25/2023	Ground Water: Well Avg	5.30	Acre Inches		20.22			mg/L			2,812	0	0	86,220	
09/05/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			2,600	0	0	79,713	
09/05/2023	Waste Water: Main Lagoon	0.60	Acre Inches		285.00	28.60	823.00	mg/L		1,889,939	4,487	450	12,957	75,253	
09/18/2023	Ground Water: Well Avg	4.60	Acre Inches		20.22			mg/L			2,441	0	0	74,833	
10/04/2023	Harvest	30.80	Tons	65.90	1.00	0.25	0.72	%							24,245
	Acre Inches Applied:	**37.40**						**Totals:**		**5,984,808**	**33,565**	**1,404**	**34,670**	**761,499**	**24,245**
Season Nitrogen Ratio:	1.38							**Lbs Per Acre:**			**289**	**12**	**299**	**6,565**	**209**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 5-102

Wheat, 95 Acres Planted on 10/24/2022

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)
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			1,330				
02/12/2023	Ground Water: Well Avg	5.00	Acre Inches		20.22			mg/L			2,173	0	0	66,615	
03/11/2023	Ground Water: Well Avg	6.00	Acre Inches		20.22			mg/L			2,608	0	0	79,938	
03/11/2023	Waste Water: Main Lagoon	0.65	Acre Inches		346.00	35.70	678.00	mg/L		1,676,778	4,833	499	9,470	55,312	
04/20/2023	Ground Water: Well Avg	5.50	Acre Inches		20.22			mg/L			2,390	0	0	73,276	
04/20/2023	Waste Water: Main Lagoon	0.50	Acre Inches		318.00	27.20	419.00	mg/L		1,289,829	3,417	293	4,502	14,290	
05/10/2023	Harvest	19.50	Tons	64.30	0.93	0.27	1.00	%							12,327
	Acre Inches Applied:	**17.65**						**Totals:**		**2,966,607**	**16,750**	**791**	**13,972**	**289,431**	**12,327**
Season Nitrogen Ratio: 1.36								**Lbs Per Acre:**			**176**	**8**	**147**	**3,047**	**130**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 5-102

Corn, 95 Acres Planted on 06/03/2023

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)
05/25/2023	Surface Water: Lower Tule	5.30	Acre Inches		0.00			mg/L			0	0	0	4,555	
05/25/2023	Waste Water: Main Lagoon	1.00	Acre Inches		318.00	27.20	419.00	mg/L		2,579,658	6,833	584	9,004	28,580	
06/16/2023	Ground Water: Well Avg	4.60	Acre Inches		20.22			mg/L			1,999	0	0	61,285	
06/22/2023	Ground Water: Well Avg	4.80	Acre Inches		20.22			mg/L			2,086	0	0	63,950	
06/22/2023	Waste Water: Main Lagoon	0.70	Acre Inches		285.00	28.60	823.00	mg/L		1,805,761	4,287	430	12,379	71,901	
07/03/2023	Ground Water: Well Avg	5.45	Acre Inches		20.22			mg/L			2,368	0	0	72,609	
07/19/2023	Ground Water: Well Avg	5.70	Acre Inches		20.22			mg/L			2,477	0	0	75,940	
07/19/2023	Waste Water: Main Lagoon	0.50	Acre Inches		285.00	28.60	823.00	mg/L		1,289,829	3,062	307	8,843	51,358	
08/09/2023	Harvest	31.60	Tons	61.00	0.73	0.19	0.79	%							17,047
	Acre Inches Applied:	**28.05**						**Totals:**		**5,675,249**	**23,113**	**1,321**	**30,226**	**430,179**	**17,047**
Season Nitrogen Ratio:	1.36							**Lbs Per Acre:**			**243**	**14**	**318**	**4,528**	**179**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 7-101

Pistachios, 28 Acres Planted on 10/01/2017

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			%			392				
02/09/2023	Surface Water: Lower Tule	4.00	Acre Inches		0.00			mg/L			0	0	0	1,013	
03/20/2023	Surface Water: Lower Tule	4.30	Acre Inches		0.00			mg/L			0	0	0	1,089	
04/13/2023	Surface Water: Lower Tule	4.50	Acre Inches		0.00			mg/L			0	0	0	1,140	
04/23/2023	Fertilize (8-28-2)	10.00	Gallons		8.00	28.00	2.00	%			186	653	47	0	
05/17/2023	Ground Water: 17	4.30	Acre Inches		17.20			mg/L			468	0	0	18,791	
06/04/2023	Ground Water: 17	4.00	Acre Inches		17.20			mg/L			436	0	0	17,480	
07/07/2023	Ground Water: 17	3.10	Acre Inches		17.20			mg/L			338	0	0	13,547	
07/17/2023	Fertilize (8-28-2)	10.00	Gallons		8.00	28.00	2.00	%			186	653	47	0	
08/01/2023	Ground Water: 17	3.12	Acre Inches		17.20			mg/L			340	0	0	13,635	
08/29/2023	Ground Water: 17	3.00	Acre Inches		17.20			mg/L			327	0	0	13,110	
09/25/2023	Harvest	3.10	Tons	63.10	3.16	0.59	2.64	%							2,024
	Acre Inches Applied:	**30.32**						**Totals:**			**2,673**	**1,306**	**94**	**79,807**	**2,024**
Season Nitrogen Ratio:	1.32							**Lbs Per Acre:**			**95**	**47**	**3**	**2,850**	**72**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 7-102

Pistachios, 36 Acres Planted on 10/01/2014

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			%			504				
01/29/2023	Surface Water: Lower Tule	4.00	Acre Inches		0.00			mg/L			0	0	0	1,303	
03/02/2023	Surface Water: Lower Tule	4.30	Acre Inches		0.00			mg/L			0	0	0	1,401	
04/03/2023	Surface Water: Lower Tule	4.50	Acre Inches		0.00			mg/L			0	0	0	1,466	
04/13/2023	Fertilize (8-28-2)	10.00	Gallons		8.00	28.00	2.00	%			240	840	60	0	
05/20/2023	Ground Water: 17	4.30	Acre Inches		17.20			mg/L			602	0	0	24,160	
06/08/2023	Ground Water: 17	4.00	Acre Inches		17.20			mg/L			560	0	0	22,475	
07/13/2023	Ground Water: 17	3.10	Acre Inches		17.20			mg/L			434	0	0	17,418	
07/23/2023	Fertilize (8-28-2)	10.00	Gallons		8.00	28.00	2.00	%			240	840	60	0	
08/10/2023	Ground Water: 17	3.12	Acre Inches		17.20			mg/L			437	0	0	17,530	
09/01/2023	Ground Water: 17	3.00	Acre Inches		17.20			mg/L			420	0	0	16,856	
09/25/2023	Harvest	3.25	Tons	62.00	3.02	0.35	3.09	%							2,685
	Acre Inches Applied:	**30.32**						**Totals:**			**3,437**	**1,679**	**120**	**102,609**	**2,685**
Season Nitrogen Ratio:	1.28							**Lbs Per Acre:**			**95**	**47**	**3**	**2,850**	**75**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023
Nutrient Applications (Attachment B)

Field Name: 7-103

Pistachios, 27 Acres Planted on 10/01/2017

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			%			378				
02/01/2023	Surface Water: Lower Tule	4.20	Acre Inches		0.00			mg/L			0	0	0	1,026	
03/03/2023	Surface Water: Lower Tule	4.30	Acre Inches		0.00			mg/L			0	0	0	1,051	
04/01/2023	Surface Water: Lower Tule	4.60	Acre Inches		0.00			mg/L			0	0	0	1,124	
04/11/2023	Fertilize (8-28-2)	10.00	Gallons		8.00	28.00	2.00	%			180	630	45	0	
05/12/2023	Ground Water: 17	4.30	Acre Inches		17.20			mg/L			452	0	0	18,120	
06/18/2023	Ground Water: 17	4.00	Acre Inches		17.20			mg/L			420	0	0	16,856	
07/02/2023	Ground Water: 17	3.10	Acre Inches		17.20			mg/L			326	0	0	13,063	
07/12/2023	Fertilize (8-28-2)	10.00	Gallons		8.00	28.00	2.00	%			180	630	45	0	
08/05/2023	Ground Water: 17	3.12	Acre Inches		17.20			mg/L			328	0	0	13,148	
08/30/2023	Ground Water: 17	3.00	Acre Inches		17.20			mg/L			315	0	0	12,642	
09/25/2023	Harvest	3.25	Tons	61.90	2.96	0.52	2.81	%							1,979
	Acre Inches Applied:	**30.62**						**Totals:**			**2,578**	**1,259**	**90**	**77,030**	**1,979**
Season Nitrogen Ratio:	1.30							**Lbs Per Acre:**			**95**	**47**	**3**	**2,853**	**73**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 8-101

Almonds, 80 Acres Planted on 02/01/2015

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			%			1,120				
02/17/2023	Ground Water: Well Avg	3.90	Acre Inches		20.22			mg/L			1,427	0	0	43,755	
03/03/2023	Ground Water: Well Avg	3.90	Acre Inches		20.22			mg/L			1,427	0	0	43,755	
04/12/2023	Fertilize - UN32	10.00	Gallons		32.00	0.00	0.00	%			2,133	0	0	0	
04/12/2023	Ground Water: Well Avg	4.20	Acre Inches		20.22			mg/L			1,537	0	0	47,121	
05/09/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			1,464	0	0	44,877	
06/05/2023	Ground Water: Well Avg	3.80	Acre Inches		20.22			mg/L			1,390	0	0	42,634	
07/13/2023	Fertilize - UN32	10.00	Gallons		32.00	0.00	0.00	%			2,133	0	0	0	
07/13/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			1,464	0	0	44,877	
08/22/2023	Ground Water: Well Avg	3.98	Acre Inches		20.22			mg/L			1,457	0	0	44,653	
10/06/2023	Harvest	4.00	Tons	13.20	2.12	0.34	1.33	%							11,777
	Acre Inches Applied:	**27.78**						**Totals:**			**15,552**	**0**	**0**	**311,671**	**11,777**
Season Nitrogen Ratio:	1.32							**Lbs Per Acre:**			**194**	**0**	**0**	**3,896**	**147**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 8-102

Almonds, 120 Acres Planted on 02/01/2015

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			%			1,680				
02/10/2023	Ground Water: Well Avg	3.90	Acre Inches		20.22			mg/L			2,141	0	0	65,633	
03/08/2023	Ground Water: Well Avg	3.90	Acre Inches		20.22			mg/L			2,141	0	0	65,633	
04/12/2023	Fertilize - UN32	10.00	Gallons		32.00	0.00	0.00	%			3,199	0	0	0	
04/12/2023	Ground Water: Well Avg	4.25	Acre Inches		20.22			mg/L			2,333	0	0	71,522	
05/19/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			2,196	0	0	67,315	
06/21/2023	Ground Water: Well Avg	3.80	Acre Inches		20.22			mg/L			2,086	0	0	63,950	
07/13/2023	Fertilize - UN32	10.00	Gallons		32.00	0.00	0.00	%			3,199	0	0	0	
07/13/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			2,196	0	0	67,315	
08/15/2023	Ground Water: Well Avg	3.98	Acre Inches		20.22			mg/L			2,185	0	0	66,979	
10/06/2023	Harvest	4.10	Tons	13.40	2.08	0.29	1.82	%							17,724
	Acre Inches Applied:	**27.83**						**Totals:**			**23,356**	**0**	**0**	**468,348**	**17,724**
Season Nitrogen Ratio:	1.32							**Lbs Per Acre:**			**195**	**0**	**0**	**3,903**	**148**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 8-103

Corn, 20 Acres Planted on 04/13/2023

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)
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			280				
05/06/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			366	0	0	11,219	
05/21/2023	Ground Water: Well Avg	4.50	Acre Inches		20.22			mg/L			412	0	0	12,622	
05/30/2023	Ground Water: Well Avg	4.60	Acre Inches		20.22			mg/L			421	0	0	12,902	
05/30/2023	Waste Water: Main Lagoon	0.30	Acre Inches		318.00	27.20	419.00	mg/L		162,926	432	37	569	1,805	
06/12/2023	Ground Water: Well Avg	4.10	Acre Inches		20.22			mg/L			375	0	0	11,500	
06/22/2023	Ground Water: Well Avg	4.20	Acre Inches		20.22			mg/L			384	0	0	11,780	
06/30/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			366	0	0	11,219	
07/20/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			366	0	0	11,219	
08/10/2023	Harvest	33.80	Tons	62.50	0.49	0.36	1.02	%							2,484
	Acre Inches Applied:	**29.70**						**Totals:**		**162,926**	**3,402**	**37**	**569**	**84,266**	**2,484**
Season Nitrogen Ratio:	1.37							**Lbs Per Acre:**			**170**	**2**	**28**	**4,213**	**124**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 2-103A

Corn, 68 Acres Planted on 04/14/2023

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)
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			952				
01/23/2023	Surface Water: Lower Tule	4.00	Acre Inches		0.00			mg/L			0	0	0	2,461	
02/12/2023	Surface Water: Lower Tule	4.30	Acre Inches		0.00			mg/L			0	0	0	2,646	
05/09/2023	Surface Water: Lower Tule	5.50	Acre Inches		0.00			mg/L			0	0	0	3,384	
05/09/2023	Waste Water: Main Lagoon	0.50	Acre Inches		318.00	27.20	419.00	mg/L		923,246	2,446	209	3,223	10,229	
05/20/2023	Surface Water: Lower Tule	5.56	Acre Inches		0.00			mg/L			0	0	0	3,421	
06/04/2023	Ground Water: Well Avg	4.85	Acre Inches		20.22			mg/L			1,509	0	0	46,252	
06/04/2023	Waste Water: Main Lagoon	0.50	Acre Inches		285.00	28.60	823.00	mg/L		923,246	2,192	220	6,329	36,761	
06/18/2023	Ground Water: Well Avg	4.10	Acre Inches		20.22			mg/L			1,276	0	0	39,099	
06/30/2023	Ground Water: Well Avg	4.20	Acre Inches		20.22			mg/L			1,306	0	0	40,053	
06/30/2023	Waste Water: Main Lagoon	0.50	Acre Inches		285.00	28.60	823.00	mg/L		923,246	2,192	220	6,329	36,761	
07/13/2023	Ground Water: Well Avg	4.30	Acre Inches		20.22			mg/L			1,338	0	0	41,007	
08/04/2023	Harvest	29.90	Tons	66.60	0.71	0.26	1.03	%							9,602
	Acre Inches Applied:	**38.31**						**Totals:**		**2,769,739**	**13,210**	**649**	**15,881**	**262,073**	**9,602**
Season Nitrogen Ratio:	1.38							**Lbs Per Acre:**			**194**	**10**	**234**	**3,854**	**141**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 2-103B

Wheat, 76 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)
12/19/2022	Ground Water: Well Avg	4.50	Acre Inches		21.37			mg/L			1,653	0	0	48,220	
12/19/2022	Waste Water: Main Lagoon	0.90	Acre Inches		313.00	29.10	702.00	mg/L		1,857,354	4,843	450	10,861	93,295	
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			1,064				
02/05/2023	Ground Water: Well Avg	4.70	Acre Inches		20.22			mg/L			1,634	0	0	50,094	
02/05/2023	Waste Water: Main Lagoon	0.70	Acre Inches		346.00	35.70	678.00	mg/L		1,444,609	4,163	429	8,159	47,653	
03/15/2023	Ground Water: Well Avg	4.60	Acre Inches		20.22			mg/L			1,599	0	0	49,028	
04/07/2023	Ground Water: Well Avg	4.60	Acre Inches		20.22			mg/L			1,599	0	0	49,028	
04/07/2023	Waste Water: Main Lagoon	0.60	Acre Inches		318.00	27.20	419.00	mg/L		1,238,236	3,280	280	4,322	13,718	
04/28/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			1,703	0	0	52,226	
05/18/2023	Harvest	18.20	Tons	64.90	1.58	0.42	2.10	%							15,342
	Acre Inches Applied:	**25.50**						**Totals:**		**4,540,199**	**21,538**	**1,160**	**23,342**	**403,262**	**15,342**
Season Nitrogen Ratio: 1.40								**Lbs Per Acre:**			**283**	**15**	**307**	**5,306**	**202**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 2-103B

Corn, 76 Acres Planted on 06/09/2023

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)
05/27/2023	Surface Water: Lower Tule	5.50	Acre Inches		0.00			mg/L			0	0	0	3,782	
05/27/2023	Waste Water: Main Lagoon	0.60	Acre Inches		318.00	27.20	419.00	mg/L		1,238,236	3,280	280	4,322	13,718	
07/03/2023	Ground Water: Well Avg	5.10	Acre Inches		20.22			mg/L			1,773	0	0	54,357	
07/03/2023	Waste Water: Main Lagoon	0.50	Acre Inches		285.00	28.60	823.00	mg/L		1,031,863	2,449	245	7,074	41,086	
07/18/2023	Ground Water: Well Avg	5.20	Acre Inches		20.22			mg/L			1,808	0	0	55,423	
07/27/2023	Ground Water: Well Avg	5.50	Acre Inches		20.22			mg/L			1,912	0	0	58,621	
07/27/2023	Waste Water: Main Lagoon	0.50	Acre Inches		285.00	28.60	823.00	mg/L		1,031,863	2,449	245	7,074	41,086	
08/06/2023	Ground Water: Well Avg	5.00	Acre Inches		20.22			mg/L			1,738	0	0	53,292	
08/14/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			1,703	0	0	52,226	
08/14/2023	Waste Water: Main Lagoon	0.50	Acre Inches		285.00	28.60	823.00	mg/L		1,031,863	2,449	245	7,074	41,086	
08/30/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			1,703	0	0	52,226	
09/20/2023	Harvest	28.10	Tons	71.40	1.42	0.28	1.28	%							17,346
	Acre Inches Applied:	**38.20**						**Totals:**		**4,333,826**	**21,266**	**1,017**	**25,544**	**466,904**	**17,346**
Season Nitrogen Ratio:	1.23							**Lbs Per Acre:**			**280**	**13**	**336**	**6,143**	**228**

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 2-105a

Wheat, 71 Acres Planted on 11/03/2022

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			%			994				
01/22/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			1,299	0	0	39,828	
02/16/2023	Ground Water: Well Avg	3.80	Acre Inches		20.22			mg/L			1,234	0	0	37,837	
02/16/2023	Waste Water: Main Lagoon	1.10	Acre Inches		346.00	35.70	678.00	mg/L		2,120,751	6,112	630	11,978	69,957	
03/01/2023	Ground Water: Well Avg	4.70	Acre Inches		20.22			mg/L			1,526	0	0	46,798	
03/21/2023	Ground Water: Well Avg	3.75	Acre Inches		20.22			mg/L			1,218	0	0	37,339	
03/21/2023	Waste Water: Main Lagoon	1.10	Acre Inches		346.00	35.70	678.00	mg/L		2,120,751	6,112	630	11,978	69,957	
04/15/2023	Ground Water: Well Avg	3.00	Acre Inches		20.22			mg/L			974	0	0	29,871	
05/03/2023	Harvest	19.80	Tons	56.70	1.61	0.28	1.30	%							19,600
	Acre Inches Applied:	**21.45**						**Totals:**		**4,241,502**	**19,470**	**1,261**	**23,955**	**331,588**	**19,600**
Season Nitrogen Ratio:	0.99							**Lbs Per Acre:**			**274**	**18**	**337**	**4,670**	**276**

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Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 2-105a

Corn, 71 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)
06/05/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			1,591	0	0	48,790	
06/05/2023	Waste Water: Main Lagoon	0.75	Acre Inches		285.00	28.60	823.00	mg/L		1,445,966	3,433	344	9,913	57,575	
07/21/2023	Ground Water: Well Avg	5.50	Acre Inches		20.22			mg/L			1,786	0	0	54,764	
08/04/2023	Ground Water: Well Avg	6.00	Acre Inches		20.22			mg/L			1,949	0	0	59,743	
08/04/2023	Waste Water: Main Lagoon	0.75	Acre Inches		285.00	28.60	823.00	mg/L		1,445,966	3,433	344	9,913	57,575	
08/14/2023	Ground Water: Well Avg	5.80	Acre Inches		20.22			mg/L			1,884	0	0	57,751	
08/30/2023	Ground Water: Well Avg	5.30	Acre Inches		20.22			mg/L			1,721	0	0	52,773	
08/30/2023	Waste Water: Main Lagoon	0.75	Acre Inches		285.00	28.60	823.00	mg/L		1,445,966	3,433	344	9,913	57,575	
09/13/2023	Ground Water: Well Avg	5.20	Acre Inches		20.22			mg/L			1,689	0	0	51,777	
10/09/2023	Harvest	28.90	Tons	62.50	1.24	0.25	1.24	%							19,083
	Acre Inches Applied:	**34.95**						**Totals:**		**4,337,899**	**20,919**	**1,033**	**29,739**	**498,322**	**19,083**
Season Nitrogen Ratio:	1.10							**Lbs Per Acre:**			**295**	**15**	**419**	**7,019**	**269**

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Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 2-105b

Corn, 76 Acres Planted on 04/20/2023

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)
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			1,064				
01/05/2023	Surface Water: Lower Tule	5.50	Acre Inches		0.00			mg/L			0	0	0	3,782	
05/16/2023	Surface Water: Lower Tule	5.40	Acre Inches		0.00			mg/L			0	0	0	3,713	
05/16/2023	Waste Water: Main Lagoon	0.60	Acre Inches		318.00	27.20	419.00	mg/L		1,238,236	3,280	280	4,322	13,718	
05/31/2023	Surface Water: Lower Tule	5.60	Acre Inches		0.00			mg/L			0	0	0	3,851	
06/11/2023	Ground Water: Well Avg	4.85	Acre Inches		20.22			mg/L			1,686	0	0	51,693	
06/25/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			1,391	0	0	42,633	
06/25/2023	Waste Water: Main Lagoon	0.70	Acre Inches		285.00	28.60	823.00	mg/L		1,444,609	3,430	344	9,904	57,521	
07/09/2023	Ground Water: Well Avg	4.20	Acre Inches		20.22			mg/L			1,460	0	0	44,765	
07/21/2023	Ground Water: Well Avg	4.25	Acre Inches		20.22			mg/L			1,477	0	0	45,298	
07/21/2023	Waste Water: Main Lagoon	0.65	Acre Inches		285.00	28.60	823.00	mg/L		1,341,422	3,184	319	9,196	53,412	
08/11/2023	Harvest	28.59	Tons	61.80	0.84	0.22	1.54	%							13,961
	Acre Inches Applied:	**35.75**						**Totals:**		**4,024,267**	**16,973**	**944**	**23,422**	**320,385**	**13,961**
Season Nitrogen Ratio:	1.22							**Lbs Per Acre:**			**223**	**12**	**308**	**4,216**	**184**

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Dykstra Dairy 2023

Nutrient Applications (Attachment B)

Field Name: 4-111A

Corn, 42 Acres Planted on 05/23/2023

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)
01/01/2023	Atmospheric Deposit	14.00	Pounds		100.00			%			588				
05/05/2023	Ground Water: Well Avg	4.50	Acre Inches		20.22			mg/L			865	0	0	26,505	
05/05/2023	Waste Water: Main Lagoon	1.00	Acre Inches		318.00	27.20	419.00	mg/L		1,140,481	3,021	258	3,981	12,635	
06/22/2023	Ground Water: Well Avg	5.10	Acre Inches		20.22			mg/L			980	0	0	30,040	
07/06/2023	Ground Water: Well Avg	4.60	Acre Inches		20.22			mg/L			884	0	0	27,095	
07/06/2023	Waste Water: Main Lagoon	1.20	Acre Inches		285.00	28.60	823.00	mg/L		1,368,577	3,249	326	9,382	54,493	
07/19/2023	Ground Water: Well Avg	5.55	Acre Inches		20.22			mg/L			1,066	0	0	32,690	
08/02/2023	Ground Water: Well Avg	4.00	Acre Inches		20.22			mg/L			769	0	0	23,560	
08/02/2023	Waste Water: Main Lagoon	1.00	Acre Inches		285.00	28.60	823.00	mg/L		1,140,481	2,708	272	7,819	45,411	
08/10/2023	Ground Water: Well Avg	4.90	Acre Inches		20.22			mg/L			941	0	0	28,862	
08/22/2023	Ground Water: Well Avg	4.30	Acre Inches		20.22			mg/L			826	0	0	25,328	
09/11/2023	Harvest	31.20	Tons	65.70	1.28	0.26	1.44	%							11,506
	Acre Inches Applied:	**36.15**						**Totals:**		**3,649,538**	**15,897**	**856**	**21,182**	**306,619**	**11,506**
Season Nitrogen Ratio:	1.38							**Lbs Per Acre:**			**378**	**20**	**504**	**7,300**	**274**

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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	0.00	0.00	0.00	0.00		tons
Process Wastewater	303,818.79	29,369.05	660,189.54	3,692,690.33	117,388,853.53	gallons
Irrigation Water	279,618.61					
Fertilizer / Total Imports	14,022.00					
Atmospheric Deposition	24,990.00					
Total Nitrogen Applied	**622,449.40**					
Crop Nitrogen Removal	528,815.54					
Nitrogen Balance	**93,633.86**					
Nitrogen Ratio	**1.18**					

- **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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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

Dykstra 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)**
1,650	67,377.84	19,716.56	64,272.87	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.

Field Name	Assessor Parcel Number(s)	Acres	Type of Waste Applied
2-104	x228 x030 x001 xxxx	51	None
2-106	x228 x030 x001 xxxx	120	Process Wastewater
3-107	x228 x020 x007 xxxx	34	None
3-108	x228 x020 x007 xxxx	101	Process Wastewater
3-109	x228 x020 x007 xxxx	75	Process Wastewater
3-110	x228 x020 x007 xxxx	74	Process Wastewater
3-112	x228 x020 x007 xxxx, x228 x020 x011 xxxx	12	None
4-110	x228 x030 x002 xxxx	40	Process Wastewater
4-111	x228 x030 x004 xxxx	108	Process Wastewater
4-112	x228 x030 x002 xxxx	78	Process Wastewater
4-113	x228 x030 x002 xxxx	91	Process Wastewater
4-114	x228 x030 x002 xxxx	95	Process Wastewater
4-115	x228 x030 x002 xxxx	38	Process Wastewater
4-116	x228 x030 x002 xxxx, x228 x030 x004 xxxx	13	None
5-101	x228 x010 x015 xxxx, x228 x010 x016 xxxx, x228 x010 x017 xxxx, x228 x010 x031 xxxx	116	Process Wastewater
5-102	x228 x010 x032 xxxx	95	Process Wastewater
7-101	x228 x040 x006 xxxx	28	None
7-102	x228 x040 x006 xxxx	36	None
7-103	x228 x040 x006 xxxx	27	None
8-101	x160 x090 x003 xxxx	80	None
8-102	x160 x090 x004 xxxx	120	None
8-103	x160 x090 x004 xxxx	20	Process Wastewater
2-103A	x228 x030 x001 xxxx	68	Process Wastewater
2-103B	x228 x030 x001 xxxx	76	Process Wastewater
2-105a	x228 x030 x001 xxxx	71	Process Wastewater
2-105b	x228 x030 x001 xxxx	76	Process Wastewater

Field Name	Assessor Parcel Number(s)	Acres	Type of Waste Applied
4-111A	x228 x030 x004 xxxx	42	Process Wastewater
		1,785	

Production Area APN(s): x228 x030 x001 xxxx

Dykstra Dairy 2023
Lab Results Summary (Attachment E)

Process Wastewater
(mgl/ppm unless noted otherwise)

Sample Date:	TKN	TP	TK	EC (umhos/cm)	NH4N	NO3N	TDS	pH (units)	General Minerals CA	MG	NA	HCO3	CO3	SO4	CL
03/08/2023	346.00	35.70	678.00	5,970	249.00		3,960.00								
04/19/2023	318.00	27.20	419.00	2,000	234.00	0.35	1,330.00	7.67							
07/18/2023	285.00	28.60	823.00	7,200	215.00		4,780.00								
11/02/2023	432.00	51.80	889.00	8,060	409.00		5,350.00								
Averages:	345.25	35.82	702.25	5,808	276.75	0.35	3,855.00	7.67							

Manure - Corral Solids
(Dry Weight Basis)

Sample Date:	TN	TP	TK	Moisture	Ash	CA	MG	NA	S	CL
06/14/2023	2.17	0.64	2.07	5.91						%
11/02/2023	2.06	0.29	0.44	38.40						%
Averages:	2.12	0.46	1.26	22.16						

Plant Tissue
(Dry Weight Basis)

Field:	Crop #:	Crop	Sample Date:	TN (lbs/ton)	TP (lbs/ton)	TK (lbs/ton)	Moisture (%)	Ash (%)
2-104	1	Alfalfa	11/27/2023	32.40	6.68	41.80	7.24	7.68
2-106	1	Corn	08/12/2023	17.32	4.76	33.00	70.60	6.73

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Lab Results Summary (Attachment E)

Plant Tissue

(Dry Weight Basis)

Field:	Crop #:	Crop	Sample Date:	TN (lbs/ton)	TP (lbs/ton)	TK (lbs/ton)	Moisture (%)	Ash (%)
3-107	1	Almonds	10/31/2023	47.00	4.54	40.80	11.50	13.00
3-108	1	Wheat	05/10/2023	16.40	4.38	20.40	62.30	15.50
3-108	2	Corn	10/04/2023	17.96	4.58	15.36	67.80	5.90
3-109	1	Wheat	05/11/2023	26.00	4.96	20.00	65.30	11.10
3-109	2	Corn	09/27/2023	22.60	6.84	17.24	67.30	5.28
3-110	1	Alfalfa	11/27/2023	72.60	6.58	41.20	7.09	10.90
3-112	1	Pistachios	10/04/2023	45.20	7.76	32.80	59.80	5.25
4-110	1	Wheat	05/16/2023	32.40	7.58	29.40	66.60	9.08
4-110	2	Corn	10/16/2023	22.80	4.62	19.04	63.70	4.70
4-111	1	Wheat	05/11/2023	31.20	6.84	24.40	62.40	10.90
4-111	2	Corn	10/09/2023	22.60	4.82	17.70	65.70	5.13
4-112	1	Wheat	05/15/2023	29.80	5.90	23.60	65.70	6.25
4-112	2	Corn	09/26/2023	25.00	4.92	29.20	68.00	4.98
4-113	1	Corn	08/11/2023	17.94	4.60	25.20	61.80	4.99
4-114	1	Wheat	05/18/2023	25.80	4.98	24.60	65.00	6.40
4-114	2	Corn	10/05/2023	25.00	4.34	23.60	69.30	5.98
4-115	1	Alfalfa	11/27/2023	53.40	4.42	29.00	9.02	8.61
4-116	1	Pistachios	10/04/2023	56.00	7.10	44.60	58.00	5.08

INNOVATIVE AG SERVICES

Dykstra 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 (%)
5-101	1	Wheat	05/10/2023	16.64	4.82	16.08	64.00	7.73
5-101	2	Corn	10/04/2023	19.90	4.92	14.38	65.90	5.40
5-102	1	Wheat	05/10/2023	18.64	5.42	20.00	64.30	9.14
5-102	2	Corn	08/09/2023	14.56	3.84	15.72	61.00	4.45
7-101	1	Pistachios	09/25/2023	63.20	11.88	52.80	63.10	6.51
7-102	1	Pistachios	09/25/2023	60.40	7.06	61.80	62.00	7.76
7-103	1	Pistachios	09/25/2023	59.20	10.44	56.20	61.90	8.07
8-101	1	Almonds	10/06/2023	42.40	6.80	26.60	13.20	6.28
8-102	1	Almonds	10/06/2023	41.60	5.78	36.40	13.40	7.34
8-103	1	Corn	08/10/2023	9.80	7.22	20.40	62.50	6.11
2-103A	1	Corn	08/04/2023	14.14	5.18	20.60	66.60	5.78
2-103B	1	Wheat	05/18/2023	31.60	8.42	42.00	64.90	10.10
2-103B	2	Corn	09/20/2023	28.40	5.52	25.60	71.40	4.86
2-105a	1	Wheat	05/03/2023	32.20	5.70	26.00	56.70	9.30
2-105a	2	Corn	10/09/2023	24.80	5.04	24.80	62.50	5.96
2-105b	1	Corn	08/11/2023	16.82	4.40	30.80	61.80	5.73
4-111A	1	Corn	09/11/2023	25.60	5.22	28.80	65.70	6.56

INNOVATIVE AG SERVICES

Dykstra 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
Dairy														
Barn 1							Out of service							
Barn2	02/02/2023	7.30		556										
Barn3							Out of service							
	Averages:	7.30		556										
Domestic														
Dykstra Domestic	03/24/2023	23.80		1,280										
Serpa 1	12/20/2023	8.10		495										
Serpa D							Out of service							
	Averages:	15.95		888										

INNOVATIVE AG SERVICES

Dykstra 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**
Irrigation														
1	10/13/2023	47.40		1,660		1,150.00	47.40							
2	10/13/2023	24.20		1,290		850.00	24.20							
3	07/13/2023	26.10		1,130		870.00	26.10							
4	07/13/2023	31.20		1,180		780.00	31.20							
5	06/21/2023	15.30		771		460.00	15.30							
6	11/30/2023	41.50		1,190		990.00	41.50							
7	12/27/2023	24.40		1,000		680.00	24.40							
8							Did not run							
9							Did not run							
10	01/16/2023	0.00		291		180.00	0.00							
15							New to dairy. Will sample in 2024							
17	09/27/2023	17.20		535		690.00	17.20							
20	12/27/2023	0.00		234		210.00	0.00							
21	07/14/2023	0.00		317		230.00	0.00							
3-109							Did not run							
H1	10/06/2023	25.60		754		510.00	25.60							
H2							Out of service							
H3	10/06/2023	21.20		693		440.00	21.20	23.00	0.00	113.00	60.00	0.00	22.00	83.00
Ortiz NE	02/17/2023	21.00		1,080		710.00	21.00							

INNOVATIVE AG SERVICES

Dykstra 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**
Irrigation														
Ortiz NW	02/17/2023	19.90		1,180		770.00	19.90							
Ortiz SE	02/17/2023	26.20		1,170		780.00	26.20							
Serpa 2								Did not run						
Serpa 3								Did not run						
Serpa 4	06/21/2023	2.60		386		240.00	2.60							
	Averages:	20.22		874		620.00	20.22	23.00	0.00	113.00	60.00	0.00	22.00	83.00
Surface Water														
Lower Tule (General)	06/28/2023	0.00		52		40.00	0.00							
	Averages:	0.00		52		40.00	0.00							

* NH4N was non-detectable unless a value is shown

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Planting and Harvest Information (Attachment F)

	Crop #	Crop	Acres Planted	Plant Date	Harvest Date	Estimated Yield (tons)	Tons Harvested	Actual Yield
Field: 2-104								
	1	Alfalfa	51	11/17/2019	11/27/2023	8.5	464.1	9.1
Field: 2-106								
	1	Corn	120	04/23/2023	08/12/2023	32.3	3614.4	30.1
Field: 3-107								
	1	Almonds	34	11/01/2018	10/31/2023	3.0	95.2	2.8
Field: 3-108								
	1	Wheat	101	10/22/2022	05/10/2023	20.4	2211.9	21.9
	2	Corn	101	06/18/2023	10/04/2023	30.9	2939.1	29.1
Field: 3-109								
	1	Wheat	75	10/30/2022	05/11/2023	22.5	1597.5	21.3
	2	Corn	75	06/08/2023	09/27/2023	31.5	2253.8	30.0
Field: 3-110								
	1	Alfalfa	74	11/15/2022	11/27/2023	9.0	599.4	8.1
Field: 3-112								
	1	Pistachios	12	02/10/2013	10/04/2023	3.0	42.0	3.5
Field: 4-110								
	1	Wheat	40	11/05/2022	05/16/2023	18.5	768.0	19.2
	2	Corn	40	06/24/2023	10/16/2023	20.0	1040.0	26.0
Field: 4-111								
	1	Wheat	108	11/04/2022	05/11/2023	20.0	1957.0	18.1
	2	Corn	108	06/23/2023	10/09/2023	31.5	3121.2	28.9
Field: 4-112								
	1	Wheat	78	10/25/2022	05/15/2023	18.2	1489.8	19.1
	2	Corn	78	06/05/2023	09/26/2023	32.3	2457.0	31.5

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Planting and Harvest Information (Attachment F)

	Crop #	Crop	Acres Planted	Plant Date	Harvest Date	Estimated Yield (tons)	Tons Harvested	Actual Yield
Field: 4-113								
	1	Corn	91	04/17/2023	08/11/2023	30.3	2797.3	30.7
Field: 4-114								
	1	Wheat	95	10/18/2022	05/18/2023	22.8	2204.0	23.2
	2	Corn	95	06/14/2023	10/05/2023	31.2	2852.8	30.0
Field: 4-115								
	1	Alfalfa	38	11/01/2018	11/27/2023	9.0	349.6	9.2
Field: 4-116								
	1	Pistachios	13	02/10/2013	10/04/2023	3.0	45.5	3.5
Field: 5-101								
	1	Wheat	116	10/31/2022	05/10/2023	22.0	2146.0	18.5
	2	Corn	116	06/13/2023	10/04/2023	31.3	3572.8	30.8
Field: 5-102								
	1	Wheat	95	10/24/2022	05/10/2023	21.6	1852.5	19.5
	2	Corn	95	06/03/2023	08/09/2023	32.4	3002.0	31.6
Field: 7-101								
	1	Pistachios	28	10/01/2017	09/25/2023	3.0	86.8	3.1
Field: 7-102								
	1	Pistachios	36	10/01/2014	09/25/2023	3.0	117.0	3.2
Field: 7-103								
	1	Pistachios	27	10/01/2017	09/25/2023	3.0	87.8	3.2
Field: 8-101								
	1	Almonds	80	02/01/2015	10/06/2023	3.0	320.0	4.0
Field: 8-102								
	1	Almonds	120	02/01/2015	10/06/2023	3.0	492.0	4.1

INNOVATIVE AG SERVICES

Dykstra Dairy 2023

Planting and Harvest Information (Attachment F)

	Crop #	Crop	Acres Planted	Plant Date	Harvest Date	Estimated Yield (tons)	Tons Harvested	Actual Yield
Field: 8-103								
	1	Corn	20	04/13/2023	08/10/2023	32.2	676.0	33.8
Field: 2-103A								
	1	Corn	68	04/14/2023	08/04/2023	31.6	2033.2	29.9
Field: 2-103B								
	1	Wheat	76	11/14/2022	05/18/2023	17.1	1383.2	18.2
	2	Corn	76	06/09/2023	09/20/2023	29.1	2135.6	28.1
Field: 2-105a								
	1	Wheat	71	11/03/2022	05/03/2023	24.2	1405.8	19.8
	2	Corn	71	06/23/2023	10/09/2023	30.0	2051.9	28.9
Field: 2-105b								
	1	Corn	76	04/20/2023	08/11/2023	29.6	2172.8	28.6
Field: 4-111A								
	1	Corn	42	05/23/2023	09/11/2023	30.0	1310.4	31.2

INNOVATIVE AG SERVICES

Dykstra 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

ATTACHMENT F

Process Wastewater / Manure / Digestate Tracking Manifest
For
Dairies with Manure Anaerobic Digester or Co-Digester Facilities

Instructions:

1) Complete one manifest for each hauling event, for each destination. A hauling event may last for several days, as long as the process wastewater / manure / digestate 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 process wastewater / manure / digestate -hauling event.
4) The operator shall submit copies of process wastewater / manure / digestate tracking manifest(s) with the Annual Monitoring Report for Dairies with Manure Anaerobic Digester or Co-Digester Facilities.

Operator Information:

Name of Operator: John Dykstra

Name of Facility: Dykstra Dairy

Facility Address: 6802 Ave 176 (Number and Street) Tulare (City) 93274 (Zip Code)

Contact Person Name and Phone Number: John Dykstra (Name) _____ (Phone Number)

Process Wastewater / Manure / Digestate Hauler Information:

Name of Hauling Company/Person: M. G. AG Service

Address of Hauling Company /Person: 1973 Poppyview Ave (Number and Street) Tulare (City) 93274 (Zip Code)

Contact Person: Armando Gallegos (Name) (559) 802-6285 (Phone Number)

Destination Information:

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

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

Joe Cardoza (Name) 18839 Rd 80 (Number and Street) Tulare (City) 93274 (Zip Code) (559) 936-3671 (Phone Number)

Manure / Digestate Destination Address,

Ave 194 / Rd 80 (Number and Street) Tulare (City) 93274 (Zip Code)

or County and Assessor's Parcel Number:

Tulare County (County) _____ (Assessor's Parcel Number)

Dates Hauled: May 15/16 2023

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

Material hauled off-site (circle one) Manure / Digestate

Volume hauled off-site 750 (Tons) or Cubic Yards (indicate units used)

Solids Content (if amount reported in tons): 750 94.1% Corral Solids

Density (if amount reported in cubic yards): _____

Method used to determine amount of manure / digestate:

_____

_____

_____

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 waster:

_____

_____

_____

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: _____ Date: 8/7/23

Hauler's Signature: _____ Date: 8/7/23

Manure/Process Wastewater Tracking Manifest

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: John Dykstra

Name of Dairy Facility: Dykstra Dairy

Facility Address: 6801 Ave 176 (Number and Street) Tulare (City) 93274 (Zip Code)

Contact Person Name and Phone Number: John Dykstra (Name) (559) 685-8506 (Phone Number)

Manure/Process Wastewater Hauler Information:

Name of Hauling Company/Person: Double M Ag Services

Address of Hauling Company /Person: Number and Street City Zip Code

Contact Person:

Name Phone Number

Destination Information:

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

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

Dykstra Bros. Pivot Ranch

Name Number and Street City Zip Code Phone Number

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

96009 Thompson Road & Boyd Spring Road

Number and Street City Zip Code Assessor's Parcel Number

Dates Hauled: 5/25-31/2023, 10/25-31/2023

Innovative Ag Services, LLC
1201 Delta View Road, Suite 5 Hanford, CA 93230
Office (559) 587-2800 Fax (559) 587-2801

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: 900 Tons or Cubic Yards (indicate which units used)
Manure Solids Content (if amount reported in tons): 94.1% Corral Solids
Manure Density (if amount reported in cubic yards): _____

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 C.2 of 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: John Dykstra 79D3438ABA9A45B... Date: 6/29/2024

Hauler's Signature: _____ Date: _____

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

February 2, 2023

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

Lab No. : **VI 2340253**
Customer No. : **4018573**
Reference : **40104**

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
10	01/16/2023	01/16/2023	VI 2340253-001	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	
	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-NO3 F	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)

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

KD: JRD

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

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853 Corporation Street
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CA ELAP Certification No. 2810

February 2, 2023

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

Description : 10
Project : 0074 Dykstra Dairy

Lab No. : VI 2340253-001
Customer No. : 4018573
Reference : 40104
Sampled On : January 16, 2023 at 16:15
Sampled By : Sean
Received On : January 16, 2023 at 16:40
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	U	01/30/2023	09:57	sta	EPA 351.2	02/01/2023	20:10	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	01/17/2023	14:00	lfs	SM 4500-NO3 F	01/17/2023	14:56	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U	01/30/2023	09:57	sta	EPA 351.2	02/01/2023	20:10	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	01/17/2023	14:00	lfs	SM 4500-NO3 F	01/17/2023	14:56	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	01/30/2023	09:57	sta	EPA 351.2	02/01/2023	20:10	lcr
Conductivity	291	1	umhos/cm		1		01/27/2023	12:47	sta		01/27/2023	12:47	sta
Solids, Total Dissolved (TDS)	180	20	mg/L		1		01/18/2023	12:11	ctl	SM 2540 C	01/19/2023	12:39	ctl

DQF Flags Definition:
U Constituent results were non-detect.

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

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February 2, 2023
Innovative Ag Services, LLC

Lab No. : VI 2340253
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2510B	01/27/2023:200907STA	Blank	umhos/cm		ND	<1	
		(STK2331009-007)	Dup	umhos/cm		1.30%	5	
Solids, Total Dissolved	2540CE	01/18/2023:200562CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	990.8	99.2 %	90-110	
		(SP 2300719-001)	Dup	mg/L		0.4%	5	
		(SP 2300719-001)	Dup	mg/L		0.1%	5	
Nitrogen, Total Kjeldahl	351.2	01/30/2023:200953STA	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	90.0%	73-124	
			MS	mg/L	12.00	94.5%	54-136	
		(CC 2380220-001)	MSD	mg/L	12.00	91.2%	54-136	
			MSRPD	mg/L	12.00	3.3%	≤27	
			MS	mg/L	12.00	87.5%	54-136	
		(CC 2380220-002)	MSD	mg/L	12.00	74.6%	54-136	
			MSRPD	mg/L	12.00	15.9%	≤27	
Nitrate Nitrogen	4500NO3F	01/17/2023:200500LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	96.3%	80-120	
			MS	mg/L	5.609	96.0%	66-125	
		(STK2330665-001)	MSD	mg/L	5.609	96.6%	66-125	
			MSRPD	mg/L	5.609	0.6%	≤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.

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Laboratory Analysis Work Order

Nº 40104

ID: # 0074

SITE NAME: DYKSTRA 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: _____

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: _____

2340253
16.6 °
Rw

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	10	IRR	W2	1/10/23 4:15	SEAN	∅		
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	[signature]	IAS		1/10/23 ~~3:40~~ 1640
2nd	[signature]	FGL	1/10/23 1640	
3rd	[signature]	FGL		1/16/23 ~~1640~~ 1730
4th	[signature]	GLS	1/16/23 1730	

LABORATORY USE ONLY

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

GLS MC 1/17/23 12:00

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

February 13, 2023

Lab No. : **VI 2340651**
Customer No. : **4018573**
Reference : **40140**

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

Laboratory Report

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

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

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab No.	Matrix
Barn 2	02/02/2023	02/02/2023	VI 2340651-001	DW

Sampling and Receipt Information:

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

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

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

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

KD: EHB

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2023-02-14

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

February 13, 2023

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

Description : Barn 2
Project : 0074 Dykstra Dairy

Lab No. : VI 2340651-001
Customer No. : 4018573
Reference : 40140
Sampled On : February 2, 2023 at 13:30
Sampled By : Sean
Received On : February 2, 2023 at 15:00
Matrix : Drinking Water

Sample Results - Inorganic

Constituent	Result	RL	Units	MCL/AL	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrate Nitrogen	7.3	0.4	mg/L	10	1		02/03/2023	13:30	lfs	SM 4500-NO3 F	02/03/2023	14:14	lfs
Conductivity	556	1	umhos/cm	1600[2]	1		02/09/2023	14:28	sta		02/09/2023	14:28	sta

DQF Flags Definition:

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

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February 13, 2023
Innovative Ag Services, LLC

Lab No. : VI 2340651
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2510B	02/09/2023:201372STA	Blank	umhos/cm		ND	<1	
		(VI 2340831-003)	Dup	umhos/cm		1%	5	
Nitrate Nitrogen	4500NO3F	02/03/2023:201232LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	91.0%	80-120	
			MS	mg/L	5.609	91.4%	66-125	
		(SP 2301611-001)	MSD	mg/L	5.609	90.2%	66-125	
			MSRPD	mg/L	5.609	0.9%	≤30.4	

Definition

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

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

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

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

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

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

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

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

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Laboratory Analysis Work Order

Nº 40140

ID: # 0074 23408651 **LABORATORY:** FGL

SITE NAME: DYKSTRA 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) 19.2

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	BARN 2	Dairy	W1	2/2/23 1:30	SEAN	0		
2								
3								
4								
5								
6								
7								
8								

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

All samples are to follow the procedures noted in the Sampling & 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	[signature]	IAS		2/2/23 3:00
2nd	[signature]	FGL	2/2/23 1500	
3rd	[signature]			2/2/23 1730
4th	[signature]		2/2/23 1730	

LABORATORY USE ONLY

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

GCS MC 2/3/23 1200

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

March 15, 2023

Lab No. : **VI 2341047**
Customer No. : **4018573**
Reference : **40174**

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

Laboratory Report

Introduction: This report package contains a total of 5 pages divided into 3 sections:

Case Narrative	(1 page)	: An overview of the work performed at FGL.
Sample Results	(3 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
Ortiz NW	02/17/2023	02/17/2023	VI 2341047-001	AGW
Ortiz NE	02/17/2023	02/17/2023	VI 2341047-002	AGW
Ortiz SE	02/17/2023	02/17/2023	VI 2341047-003	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 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: 2023-03-16

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March 15, 2023

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

Lab No. : VI 2341047-001
Customer No. : 4018573
Reference : 40174
Sampled On : February 17, 2023 at 13:00
Sampled By : Sean
Received On : February 17, 2023 at 15:00
Matrix : Ag Water

Description : Ortiz NW
Project : 0074 Dystra Dairy

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	03/08/2023	09:10	lcr	EPA 351.2	03/09/2023	16:12	lcr
Nitrate Nitrogen	19.9	0.4	mg/L		1		02/24/2023	13:00	lfs	SM 4500-NO3 F	02/24/2023	13:43	lfs
Nitrogen, Total as Nitrogen	19.9	0.5	mg/L		1	l	03/08/2023	09:10	lcr	EPA 351.2	03/09/2023	16:12	lcr
Nitrate + Nitrite as N	19.9	0.4	mg/L		1		02/24/2023	13:00	lfs	SM 4500-NO3 F	02/24/2023	13:43	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	Ul	03/08/2023	09:10	lcr	EPA 351.2	03/09/2023	16:12	lcr
Conductivity	1180	1	umhos/cm		1		03/07/2023	16:37	amm	SM 4500-H+B	03/07/2023	20:31	amm
Solids, Total Dissolved (TDS)	770	20	mg/L		1	I	02/20/2023	12:31	ctl	SM 2540 C	02/21/2023	11:11	ctl

DQF Flags Definition:
U Constituent results were non-detect.
l The MS/MSD did not meet QC criteria.
I The RPD for the laboratory duplicate exceeded laboratory criteria.

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

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March 15, 2023

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

Description : Ortiz NE
Project : 0074 Dysstra Dairy

Lab No. : VI 2341047-002
Customer No. : 4018573
Reference : 40174
Sampled On : February 17, 2023 at 13:10
Sampled By : Sean
Received On : February 17, 2023 at 15:00
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	Ul	03/08/2023	09:10	lcr	EPA 351.2	03/09/2023	17:10	lcr
Nitrate Nitrogen	21.0	0.4	mg/L		1		02/24/2023	13:00	lfs	SM 4500-NO3 F	02/24/2023	14:00	lfs
Nitrogen, Total as Nitrogen	21.0	0.5	mg/L		1	l	03/08/2023	09:10	lcr	EPA 351.2	03/09/2023	17:10	lcr
Nitrate + Nitrite as N	21.0	0.4	mg/L		1		02/24/2023	13:00	lfs	SM 4500-NO3 F	02/24/2023	14:00	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	Ul	03/08/2023	09:10	lcr	EPA 351.2	03/09/2023	17:10	lcr
Conductivity	1080	1	umhos/cm		1		03/07/2023	16:37	amm	SM 4500-H+B	03/07/2023	18:11	amm
Solids, Total Dissolved (TDS)	710	20	mg/L		1	I	02/20/2023	12:31	ctl	SM 2540 C	02/21/2023	11:09	ctl

DQF Flags Definition:
U Constituent results were non-detect.
l The MS/MSD did not meet QC criteria.
I The RPD for the laboratory duplicate exceeded laboratory criteria.

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

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March 15, 2023

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

Description : Ortiz SE
Project : 0074 Dysstra Dairy

Lab No. : VI 2341047-003
Customer No. : 4018573
Reference : 40174
Sampled On : February 17, 2023 at 13:20
Sampled By : Sean
Received On : February 17, 2023 at 15:00
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	Ul	03/08/2023	09:10	lcr	EPA 351.2	03/09/2023	16:14	lcr
Nitrate Nitrogen	26.2	0.4	mg/L		1		02/24/2023	13:00	lfs	SM 4500-NO3 F	02/24/2023	13:38	lfs
Nitrogen, Total as Nitrogen	26.2	0.5	mg/L		1	l	03/08/2023	09:10	lcr	EPA 351.2	03/09/2023	16:14	lcr
Nitrate + Nitrite as N	26.2	0.4	mg/L		1		02/24/2023	13:00	lfs	SM 4500-NO3 F	02/24/2023	13:38	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	Ul	03/08/2023	09:10	lcr	EPA 351.2	03/09/2023	16:14	lcr
Conductivity	1170	1	umhos/cm		1		03/07/2023	16:37	amm	SM 4500-H+B	03/07/2023	18:55	amm
Solids, Total Dissolved (TDS)	780	20	mg/L		1		02/21/2023	09:40	ctl	SM 2540 C	02/22/2023	11:48	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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March 15, 2023
Innovative Ag Services, LLC

Lab No. : VI 2341047
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(STK2332562-001)	Dup	umhos/cm		0%	5	
		(SP 2302381-001)	Dup	umhos/cm		0.5%	5	
Solids, Total Dissolved	2540CE	02/20/2023:201833CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	991.7	103 %	90-110	
		(STK2332053-010)	Dup	mg/L		5.6%	5	440
		(STK2332053-010)	Dup	mg/L		1.7%	5	
	2540CE	02/21/2023:201898CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	991.7	103 %	90-110	
		(VI 2341047-003)	Dup	mg/L		1.5%	5	
		(VI 2341047-003)	Dup	mg/L		0.9%	5	
Nitrogen, Total Kjeldahl	351.2	03/08/2023:202492LCR	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	90.8%	73-124	
			MS	mg/L	12.00	46.1%	<Â¼	
		(VI 2341047-001)	MSD	mg/L	12.00	74.3%	54-136	
			MSRPD	mg/L	12.00	47.3%	≤27	435
			MS	mg/L	12.00	83.0%	54-136	
		(VI 2341047-003)	MSD	mg/L	12.00	41.6%	54-136	435
			MSRPD	mg/L	12.00	67.2%	≤27	435
Nitrate + Nitrite as N	4500NO3F	02/24/2023:202037LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	96.4%	80-120	
			MS	mg/L	5.609	95.5%	66-125	
		(SP 2302733-001)	MSD	mg/L	5.609	94.5%	66-125	
			MSRPD	mg/L	5.609	0.6%	≤30.4	
Nitrate Nitrogen	4500NO3F	02/24/2023:202037LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	96.4%	80-120	
			MS	mg/L	5.609	95.5%	66-125	
		(SP 2302733-001)	MSD	mg/L	5.609	94.5%	66-125	
			MSRPD	mg/L	5.609	0.6%	≤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.
440 : Sample nonhomogeneity may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.

Page 5 of 5

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Laboratory Analysis Work Order

Nº 40174

ID: # D074 2341047

LABORATORY: FGL

SITE NAME: DYKSTRA 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) 19.2

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	ORTIZ NW	IRR	WK	2/17/23 1:00	SEAN	Ø		
2	ORTIZ NE	|	|	| 1:10	|	Ø		
3	ORTIZ SE			1:20		Ø		
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		2/17/23 3:00
2nd		FGL	2/17/23 1500	
3rd		↓		2/17/23 1730
4th		↓	2/17/23 1730	

LABORATORY USE ONLY

Logged In By: _____ Total Samples: _____ Laboratory #: 2/18/23 1445

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

April 11, 2023

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

Lab No. : **VI 2341761**
Customer No. : **4018573**
Reference : **40346**

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
Dykstra Domestic	03/24/2023	03/24/2023	VI 2341761-001	DW

Sampling and Receipt Information:

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

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

Test Summary	
SM 4500-H+B	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-NO3 F	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)

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

KD: JRD

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2023-04-11

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April 11, 2023

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

Description : Dykstra Domestic
Project : 0074 Dykstra Dairy

Lab No. : VI 2341761-001
Customer No. : 4018573
Reference : 40346
Sampled On : March 24, 2023 at 12:00
Sampled By : Sean
Received On : March 24, 2023 at 15:12
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
Nitrate Nitrogen	23.8	0.4	mg/L	10	1		04/04/2023	13:00	lfs	SM 4500-NO3 F	04/04/2023	14:39	lfs
Conductivity	1280	1	umhos/cm	1600[2]	1		04/03/2023	15:15	amm	SM 4500-H+B	04/04/2023	00:20	amm

DQF Flags Definition:

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

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April 11, 2023
Innovative Ag Services, LLC

Lab No. : VI 2341761
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(SP 2304656-004)	Dup	umhos/cm		0.5%	5	
Nitrate Nitrogen	4500NO3F	04/04/2023:203571LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	96.8%	80-120	
			MS	mg/L	5.609	94.5%	66-125	
		(SP 2304751-001)	MSD	mg/L	5.609	97.6%	66-125	
			MSRPD	mg/L	5.609	3.1%	≤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.

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Laboratory Analysis Work Order

Nº 40346

ID: # 0074 2341761

SITE NAME: DEKSTRA 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: _____

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: _____

PH=7.5 MMM
~~TEMP 58~~

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	DEKSTRA DOMESTIC	DOM	IN1	3/24/23 1200	SEAN	✓		
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:
5.9°C

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st	[illegible]	IAS		3/24/23 2:15
2nd	EMA	FGL	3/24/23 15:00	
3rd	EMA	FGL		3/24/23 15:12
4th	MMM	FGL	3/24/23 15:12	

LABORATORY USE ONLY
Logged In By: MMM / GLS 3/24/23 1730 Total Samples: 5 GLS Laboratory #: 3/25/23 1515

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

July 11, 2023

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

Lab No. : **VI 2343958**
Customer No. : **4018573**
Reference : **40954**

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
5	06/21/2023	06/21/2023	VI 2343958-001	AGW
Serpa 4	06/21/2023	06/21/2023	VI 2343958-002	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: 2023-07-11

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July 11, 2023

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

Description : 5
Project : 0074 Dysktra Dairy

Lab No. : VI 2343958-001
Customer No. : 4018573
Reference : 40954
Sampled On : June 21, 2023 at 13:00
Sampled By : Sean
Received On : June 21, 2023 at 16:12
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	U	07/03/2023	12:54	sta	EPA 351.2	07/06/2023	18:15	lcr
Nitrate Nitrogen	15.3	0.4	mg/L		1		06/22/2023	12:30	lfs	SM 4500-NO3 F	06/22/2023	13:59	lfs
Nitrogen, Total as Nitrogen	15.3	0.5	mg/L		1		07/03/2023	12:54	sta	Calc.	07/06/2023	18:15	lcr
Nitrate + Nitrite as N	15.3	0.4	mg/L		1		06/22/2023	12:30	lfs	SM 4500-NO3 F	06/22/2023	13:59	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	07/03/2023	12:54	sta	EPA 351.2	07/06/2023	18:15	lcr
Conductivity	771	1	umhos/cm		1		07/05/2023	14:10	amm	SM 4500-H+B	07/05/2023	19:17	sta
Solids, Total Dissolved (TDS)	460	20	mg/L		1		06/22/2023	16:15	ctl	SM 2540 C	06/23/2023	11:25	ctl

DQF Flags Definition:
U Constituent results were non-detect.

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

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July 11, 2023

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

Lab No. : VI 2343958-002
Customer No. : 4018573
Reference : 40954
Sampled On : June 21, 2023 at 13:15
Sampled By : Sean
Received On : June 21, 2023 at 16:12
Matrix : Ag Water

Description : Serpa 4
Project : 0074 Dysktra Dairy

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	U	07/03/2023	12:54	sta	EPA 351.2	07/06/2023	18:18	lcr
Nitrate Nitrogen	2.6	0.4	mg/L		1		06/22/2023	12:30	lfs	SM 4500-NO3 F	06/22/2023	14:01	lfs
Nitrogen, Total as Nitrogen	2.6	0.5	mg/L		1		07/03/2023	12:54	sta	Calc.	07/06/2023	18:18	lcr
Nitrate + Nitrite as N	2.6	0.4	mg/L		1		06/22/2023	12:30	lfs	SM 4500-NO3 F	06/22/2023	14:01	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	07/03/2023	12:54	sta	EPA 351.2	07/06/2023	18:18	lcr
Conductivity	386	1	umhos/cm		1		06/27/2023	21:22	amm	SM 4500-H+B	06/28/2023	06:23	amm
Solids, Total Dissolved (TDS)	240	20	mg/L		1		06/23/2023	12:40	ctl	SM 2540 C	06/26/2023	11:45	ctl

DQF Flags Definition:
U Constituent results were non-detect.

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

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July 11, 2023
Innovative Ag Services, LLC

Lab No. : VI 2343958
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(VI 2343954-001)	Dup	umhos/cm		0.4%	5	
	2320B	(STK2338587-004)	Dup	umhos/cm		0.6%	5	
Solids, Total Dissolved	2540CE	06/22/2023:206884CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	993.7	100%	90-110	
		(VI 2343952-036)	Dup	mg/L		1.16%	5	
		(VI 2343952-036)	Dup	mg/L		1.13%	5	
	2540CE	06/23/2023:206926CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	993.7	98.8%	90-110	
		(SP 2310601-001)	Dup	mg/L		1.33%	5	
		(SP 2310601-001)	Dup	mg/L		1.20%	5	
Nitrogen, Total Kjeldahl	351.2	07/03/2023:207257STA	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	94.2%	73-124	
			MS	mg/L	12.00	95.3%	54-136	
		(VI 2343915-003)	MSD	mg/L	12.00	93.4%	54-136	
			MSRPD	mg/L		1.9%	≤27	
			MS	mg/L	12.00	93.4%	54-136	
		(VI 2343914-003)	MSD	mg/L	12.00	90.6%	54-136	
			MSRPD	mg/L		3.0%	≤27	
Nitrate + Nitrite as N	4500NO3F	06/22/2023:206873LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	99.9%	80-120	
			MS	mg/L	5.609	96.0%	66-125	
		(SP 2310526-001)	MSD	mg/L	5.609	96.4%	66-125	
			MSRPD	mg/L		0.2%	≤30.4	
Nitrate Nitrogen	4500NO3F	06/22/2023:206873LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	99.9%	80-120	
			MS	mg/L	5.609	96.0%	66-125	
		(SP 2310526-001)	MSD	mg/L	5.609	96.4%	66-125	
			MSRPD	mg/L		0.2%	≤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.

Page 4 of 4

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Laboratory Analysis Work Order

Nº 40954

ID: # 0074

2343958
R01
15.3°

SITE NAME: DYKSTRA 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: _____

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 NH4N *	pH	Temp
1	5	IRR	W2	6/21/23 1:00	SEAN	Ø		
2	SEAN 4	ILR	W2	6/21/23 1:15	SEAN	Ø		
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 CDA 6/22/23 0934

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st		IAS		6/21/23 3:30
2nd	AJB	FGL	6/21/23 1555	
3rd	AJB	FGL		6/21/23 1612
4th	SRO	FGL	6/21/23 1612	

LABORATORY USE ONLY

Logged In By: GLS Total Samples: 6/21/23 Laboratory #: 1750

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

August 4, 2023

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

Lab No. : **VI 2344579**
Customer No. : **4018573**
Reference : **41062**

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
4	07/13/2023	07/13/2023	VI 2344579-001	AGW
3	07/13/2023	07/13/2023	VI 2344579-002	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: 2023-08-04

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August 4, 2023

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

Description : 4
Project : 0074 Dykstra Dairy

Lab No. : VI 2344579-001
Customer No. : 4018573
Reference : 41062
Sampled On : July 13, 2023 at 12:20
Sampled By : Sean
Received On : July 13, 2023 at 15:50
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	U	08/01/2023	14:40	lcr	EPA 351.2	08/02/2023	16:23	lcr
Nitrate Nitrogen	31.2	0.4	mg/L		1		07/14/2023	13:00	lfs	SM 4500-NO3 F	07/14/2023	15:36	lfs
Nitrogen, Total as Nitrogen	31.2	0.5	mg/L		1		08/01/2023	14:40	lcr	Calc.	08/02/2023	16:23	lcr
Nitrate + Nitrite as N	31.2	0.4	mg/L		1		07/14/2023	13:00	lfs	SM 4500-NO3 F	07/14/2023	15:36	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	08/01/2023	14:40	lcr	EPA 351.2	08/02/2023	16:23	lcr
Conductivity	1180	1	umhos/cm		1		07/18/2023	14:57	amm	SM 4500-H+B	07/18/2023	18:24	amm
Solids, Total Dissolved (TDS)	780	20	mg/L		1		07/18/2023	09:25	ctl	SM 2540 C	07/19/2023	11:40	ctl

DQF Flags Definition:
U Constituent results were non-detect.

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

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CA ELAP Certification No. 2810

August 4, 2023

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

Description : 3
Project : 0074 Dykstra Dairy

Lab No. : VI 2344579-002
Customer No. : 4018573
Reference : 41062
Sampled On : July 13, 2023 at 12:27
Sampled By : Sean
Received On : July 13, 2023 at 15:50
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	U	08/01/2023	14:40	lcr	EPA 351.2	08/02/2023	16:25	lcr
Nitrate Nitrogen	26.1	0.4	mg/L		1		07/14/2023	13:00	lfs	SM 4500-NO3 F	07/14/2023	15:38	lfs
Nitrogen, Total as Nitrogen	26.1	0.5	mg/L		1		08/01/2023	14:40	lcr	Calc.	08/02/2023	16:25	lcr
Nitrate + Nitrite as N	26.1	0.4	mg/L		1		07/14/2023	13:00	lfs	SM 4500-NO3 F	07/14/2023	15:38	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	08/01/2023	14:40	lcr	EPA 351.2	08/02/2023	16:25	lcr
Conductivity	1330	1	umhos/cm		1		07/18/2023	14:57	amm	SM 4500-H+B	07/18/2023	18:19	amm
Solids, Total Dissolved (TDS)	870	20	mg/L		1		07/18/2023	09:25	ctl	SM 2540 C	07/19/2023	11:40	ctl

DQF Flags Definition:
U Constituent results were non-detect.

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

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August 4, 2023
Innovative Ag Services, LLC

Lab No. : VI 2344579
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(CC 2382229-003)	Dup	umhos/cm		0.2%	5	
Solids, Total Dissolved	2540CE	07/18/2023:207819CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	993.7	101%	90-110	
		(STK2339355-001)	Dup	mg/L		0.9%	5	
		(STK2339355-001)	Dup	mg/L		3.97%	5	
Nitrogen, Total Kjeldahl	351.2	08/01/2023:208507LCR	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	95.5%	73-124	
			MS	mg/L	12.00	98.0%	54-136	
		(STK2339261-003)	MSD	mg/L	12.00	95.9%	54-136	
			MSRPD	mg/L		2.1%	≤27	
			MS	mg/L	12.00	75.5%	54-136	
		(VI 2344566-002)	MSD	mg/L	12.00	76.0%	54-136	
			MSRPD	mg/L		0.6%	≤27	
Nitrate + Nitrite as N	4500NO3F	07/14/2023:207745LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	100%	80-120	
			MS	mg/L	5.609	94.0%	66-125	
		(STK2339323-001)	MSD	mg/L	5.609	94.1%	66-125	
			MSRPD	mg/L		0.0%	≤30.4	
Nitrate Nitrogen	4500NO3F	07/14/2023:207745LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	100%	80-120	
			MS	mg/L	5.609	94.0%	66-125	
		(STK2339323-001)	MSD	mg/L	5.609	94.1%	66-125	
			MSRPD	mg/L		0.0%	≤30.4	

Definition

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.
Dup : Duplicate Sample - A random sample with each batch is prepared and analyzed in duplicate. The relative percent difference is an indication of precision for the preparation and analysis.
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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Laboratory Analysis Work Order

Nº 41062

ID: # 0074 2314579

LABORATORY: FGL

SITE NAME: DYKSTRA DAIRY

Authorized Copy Release to:

Innnovative Ag Services LLC

(559) 587-2800

Billing: IAS

ANALYSIS TO BE COMPLETED:

Irrigation/Ground Water (ELAP Standards)

W1 EC, NO_3N (Dom)
W2 EC, NO_3N, TDS, TN (Irr) ver 6.1C
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	4	IRR	W2	7/13/23 12:20	SEAN	Ø		
2	3	IRR	W2	7/13/23 12:27	SEAN	Ø		
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	[signature]	IAS		7/13/23 3:30
2nd	EMA	FGL	7/13/23 15:35	
3rd	EMA	FGL		7/13/23 15:50
4th	AcH		7/13/23 1550	

LABORATORY USE ONLY AcH

Logged In By: GL **Total Samples** 7/13/23 17 **Laboratory #:** _____

GLS MC 7/14/23 1250

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

October 12, 2023

Lab No. : **VI 2346544**
Customer No. : **4018573**
Reference : **41419**

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

Laboratory Report

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

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

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab No.	Matrix
17	09/27/2023	09/27/2023	VI 2346544-001	AGW

Sampling and Receipt Information:

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

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

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

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

KD: JRD

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

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October 12, 2023

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

Description : 17
Project : 0074 Dykstra Dairy

Lab No. : VI 2346544-001
Customer No. : 4018573
Reference : 41419
Sampled On : September 27, 2023 at 14:00
Sampled By : Zeke
Received On : September 27, 2023 at 16:20
Matrix : Ag Water

Sample Results - Inorganic

Constituent	Result	RL	Units	Note	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	U	10/06/2023	09:12	sta	EPA 351.2	10/10/2023	17:29	lcr
Nitrate Nitrogen	17.2	0.4	mg/L		1		09/28/2023	13:50	lfs	SM 4500-NO3 F	09/28/2023	14:39	lfs
Nitrogen, Total as Nitrogen	17.2	0.5	mg/L		1		10/06/2023	09:12	sta	Calc.	10/10/2023	17:29	lcr
Nitrate + Nitrite as N	17.2	0.4	mg/L		1		09/28/2023	13:50	lfs	SM 4500-NO3 F	09/28/2023	14:39	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	10/06/2023	09:12	sta	EPA 351.2	10/10/2023	17:29	lcr
Conductivity	535	1	umhos/cm		1		10/05/2023	10:18	krh	SM 4500-H+B	10/05/2023	13:24	krh
Solids, Total Dissolved (TDS)	690	20	mg/L		1		09/29/2023	13:20	ctl	SM 2540 C	10/02/2023	11:20	ctl

DQF Flags Definition:
U Constituent results were non-detect.

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

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October 12, 2023
Innovative Ag Services, LLC

Lab No. : VI 2346544
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(VI 2346425-001)	Dup	umhos/cm		0.08%	5	
Solids, Total Dissolved	2540CE	09/29/2023:210994CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	991.5	102%	90-110	
		(CC 2383304-002)	Dup	mg/L		1.06%	5	
		(CC 2383304-002)	Dup	mg/L		1.17%	5	
Nitrogen, Total Kjeldahl	351.2	10/06/2023:211241STA	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	93.9%	73-124	
			MS	mg/L	12.00	90.9%	90-110	
		(CH 2378308-009)	MSD	mg/L	12.00	93.9%	90-110	
			MSRPD	mg/L		3.3%	≤20	
			MS	mg/L	12.00	90.1%	90-110	
		(CH 2378308-010)	MSD	mg/L	12.00	95.2%	90-110	
			MSRPD	mg/L		5.4%	≤20	
Nitrate + Nitrite as N	4500NO3F	09/28/2023:210952LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	102%	80-120	
			MS	mg/L	5.609	102%	66-125	
		(VI 2346538-001)	MSD	mg/L	5.609	103%	66-125	
			MSRPD	mg/L		0.4%	≤30.4	
Nitrate Nitrogen	4500NO3F	09/28/2023:210952LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	102%	80-120	
			MS	mg/L	5.609	102%	66-125	
		(VI 2346538-001)	MSD	mg/L	5.609	103%	66-125	
			MSRPD	mg/L		0.4%	≤30.4	

Definition

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

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

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

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

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

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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Laboratory Analysis Work Order

Nº 41419

ID: # 0074

2346544
LABORATORY: FGL

SITE NAME: DYKSTRA DAIRY

Billing: DAS

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	17	IRR	W2	9-27/2:00	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: ROS 10.4°C
ID# TH407

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st	[illegible]	IAI		9-27-23 / 3:05
2nd	ASB	FGL	9/27/23 1600	
3rd	ASB	FGL		9/27/23 1620
4th	SRO	FGL	9-27-23 1620	
	SRO	FGL	9-27-23 1730	
		GLS	9-27-23 1730	

LABORATORY USE ONLY

Logged In By: _____ Total Samples: _____ Laboratory #: _____ 9/27/23 1370

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

August 4, 2023

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

Lab No. : **VI 2344591**
Customer No. : **4018573**
Reference : **41105**

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
21	07/14/2023	07/14/2023	VI 2344591-001	AGW

Sampling and Receipt Information:

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

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

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

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

KD: EHB

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2023-08-04

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August 4, 2023

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

Description : 21
Project : 0074 Dykstra Dairy

Lab No. : VI 2344591-001
Customer No. : 4018573
Reference : 41105
Sampled On : July 14, 2023 at 13:00
Sampled By : Sean
Received On : July 14, 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	U	08/01/2023	14:40	lcr	EPA 351.2	08/02/2023	17:19	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	07/26/2023	11:00	lfs	SM 4500-NO3 F	07/26/2023	12:01	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U	08/01/2023	14:40	lcr	Calc.	08/02/2023	17:19	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	07/26/2023	11:00	lfs	SM 4500-NO3 F	07/26/2023	12:01	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	08/01/2023	14:40	lcr	EPA 351.2	08/02/2023	17:19	lcr
Conductivity	317	1	umhos/cm		1		07/18/2023	14:57	amm	SM 4500-H+B	07/18/2023	18:13	amm
Solids, Total Dissolved (TDS)	230	20	mg/L		1		07/18/2023	12:30	ctl	SM 2540 C	07/19/2023	11:40	ctl

DQF Flags Definition:
U Constituent results were non-detect.

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

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August 4, 2023
Innovative Ag Services, LLC

Lab No. : VI 2344591
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(CC 2382229-003)	Dup	umhos/cm		0.2%	5	
Solids, Total Dissolved	2540CE	07/18/2023:207819CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	993.7	98.1%	90-110	
		(CC 2382158-002)	Dup	mg/L		3.61%	5	
		(CC 2382158-002)	Dup	mg/L		2.86%	5	
Nitrogen, Total Kjeldahl	351.2	08/01/2023:208507LCR	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	98.6%	73-124	
			MS	mg/L	12.00	95.1%	54-136	
		(VI 2344580-003)	MSD	mg/L	12.00	94.9%	54-136	
			MSRPD	mg/L		0.1%	≤27	
			MS	mg/L	12.00	91.2%	54-136	
		(VI 2344580-005)	MSD	mg/L	12.00	84.1%	54-136	
			MSRPD	mg/L		8.4%	≤27	
Nitrate + Nitrite as N	4500NO3F	07/26/2023:208263LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	99.3%	80-120	
			MS	mg/L	5.609	119%	66-125	
		(SP 2312755-001)	MSD	mg/L	5.609	107%	66-125	
			MSRPD	mg/L		10.9%	≤30.4	
Nitrate Nitrogen	4500NO3F	07/26/2023:208263LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	99.3%	80-120	
			MS	mg/L	5.609	119%	66-125	
		(SP 2312755-001)	MSD	mg/L	5.609	107%	66-125	
			MSRPD	mg/L		10.9%	≤30.4	

Definition

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

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

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

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

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

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

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

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

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Laboratory Analysis Work Order

Nº 41105

ID: # 0074 2344591

LABORATORY: FGL

SITE NAME: DYKSTRA 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) 2d 2.8L
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	21	IRR	W2	7/14/23 1100	SEAN	Ø		
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: Ores 7/15/23 1348

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st		IAS		7/14/23 3:00
2nd	AJB	FGL	7/14/23 1530	
3rd	AJB	FGL		7/14/23 1544
4th	AJH		7/14/23 1544	

LABORATORY USE ONLY AJH

Logged In By: GL Total Samples: 7/14/23 Laboratory #: _____

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

October 30, 2023

Lab No. : **VI 2346788**
Customer No. : **4018573**
Reference : **41474**

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

Laboratory Report

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

Case Narrative	(1 page)	: An overview of the work performed at FGL.
Sample Results	(2 pages)	: Results for each sample submitted.
Quality Control	(3 pages)	: Supporting Quality Control (QC) results.

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab No.	Matrix
H1	10/06/2023	10/06/2023	VI 2346788-001	AGW
H3	10/06/2023	10/06/2023	VI 2346788-002	AGW

Sampling and Receipt Information:

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

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

Test Summary	
EPA 200.7	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
EPA 300.0	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
EPA 351.2	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 2540 C	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-H+B	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-NO3 F	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)

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

KD: EHB

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2023-10-30

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October 30, 2023

Innovative Ag Services, LLC
1201 Delta View Road
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Description : H1
Project : 0074 Dykstra Dairy

Lab No. : VI 2346788-001
Customer No. : 4018573
Reference : 41474
Sampled On : October 6, 2023 at 13:30
Sampled By : Zeke
Received On : October 6, 2023 at 16:10
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	10/18/2023	13:45	sta	EPA 351.2	10/24/2023	19:38	lcr
Nitrate Nitrogen	25.6	0.4	mg/L		1		10/10/2023	11:00	lfs	SM 4500-NO3 F	10/10/2023	12:23	lfs
Nitrogen, Total as Nitrogen	25.6	0.5	mg/L		1	l	10/18/2023	13:45	sta	Calc.	10/24/2023	19:38	lcr
Nitrate + Nitrite as N	25.6	0.4	mg/L		1		10/10/2023	11:00	lfs	SM 4500-NO3 F	10/10/2023	12:23	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	Ul	10/18/2023	13:45	sta	EPA 351.2	10/24/2023	19:38	lcr
Conductivity	754	1	umhos/cm		1		10/19/2023	09:41	krh	SM 4500-H+B	10/19/2023	14:36	krh
Solids, Total Dissolved (TDS)	510	20	mg/L		1		10/11/2023	09:45	ctl	SM 2540 C	10/12/2023	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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October 30, 2023

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

Description : H3
Project : 0074 Dykstra Dairy

Lab No. : VI 2346788-002
Customer No. : 4018573
Reference : 41474
Sampled On : October 6, 2023 at 13:15
Sampled By : Zeke
Received On : October 6, 2023 at 16:10
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)	50	10	mg/L		1		10/17/2023	17:45	amm	SM 4500-H+B	10/18/2023	03:20	amm
Bicarbonate	60	10	mg/L		1		10/17/2023	17:45	amm	SM 4500-H+B	10/18/2023	03:20	amm
Carbonate	ND	10	mg/L		1	U	10/17/2023	17:45	amm	SM 4500-H+B	10/18/2023	03:20	amm
Hydroxide	ND	10	mg/L		1	U	10/17/2023	17:45	amm	SM 4500-H+B	10/18/2023	03:20	amm
Chloride	83	1	mg/L		1		10/23/2023	08:24	ldm	EPA 300.0	10/23/2023	16:23	ldm
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	Ul	10/18/2023	13:45	sta	EPA 351.2	10/24/2023	19:40	lcr
Nitrate Nitrogen	21.2	0.4	mg/L		1		10/10/2023	11:00	lfs	SM 4500-NO3 F	10/10/2023	12:26	lfs
Nitrogen, Total as Nitrogen	21.2	0.5	mg/L		1	l	10/18/2023	13:45	sta	Calc.	10/24/2023	19:40	lcr
Nitrate + Nitrite as N	21.2	0.4	mg/L		1		10/10/2023	11:00	lfs	SM 4500-NO3 F	10/10/2023	12:26	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	Ul	10/18/2023	13:45	sta	EPA 351.2	10/24/2023	19:40	lcr
Conductivity	693	1	umhos/cm		1		10/17/2023	17:45	amm	SM 4500-H+B	10/18/2023	03:20	amm
Sulfate Sulfur	22.0	0.17	mg/L		1		10/23/2023	08:24	ldm	EPA 300.0	10/23/2023	16:23	ldm
Solids, Total Dissolved (TDS)	440	20	mg/L		1		10/11/2023	09:45	ctl	SM 2540 C	10/12/2023	11:00	ctl
Calcium	23	1	mg/L		1		10/10/2023	07:42	ejc	EPA 200.7	10/20/2023	11:26	ac
Magnesium	ND	1	mg/L		1	U	10/10/2023	07:42	ejc	EPA 200.7	10/20/2023	11:26	ac
Sodium	113	1	mg/L		1		10/10/2023	07:42	ejc	EPA 200.7	10/20/2023	11:26	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 , Dil.=Dilution

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October 30, 2023
Innovative Ag Services, LLC

Lab No. : VI 2346788
Customer No. : 4018573

Quality Control - Metals

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metals								
Calcium	200.7	10/10/2023:211407EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	101%	85-115	
			MS	mg/L	12.00	114%	75-125	
		(VI 2346740-002)	MSD	mg/L	12.00	106%	75-125	
			MSRPD	mg/L		1.6%	≤20.0	
			MS	mg/L	12.00	80.0%	75-125	
		(CC 2383493-001)	MSD	mg/L	12.00	84.5%	75-125	
			MSRPD	mg/L		0.7%	≤20.0	
Magnesium	200.7	10/10/2023:211407EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	110%	85-115	
			MS	mg/L	12.00	113%	75-125	
		(VI 2346740-002)	MSD	mg/L	12.00	112%	75-125	
			MSRPD	mg/L		0.8%	≤20	
			MS	mg/L	12.00	103%	75-125	
		(CC 2383493-001)	MSD	mg/L	12.00	106%	75-125	
			MSRPD	mg/L		1.1%	≤20	
Sodium	200.7	10/10/2023:211407EJC	Blank	mg/L		ND	<1	
			LCS	mg/L	12.00	103%	85-115	
			MS	mg/L	12.00	122%	75-125	
		(VI 2346740-002)	MSD	mg/L	12.00	104%	75-125	
			MSRPD	mg/L		1.8%	≤20.0	
			MS	mg/L	12.00	46.0%	<¼	406
		(CC 2383493-001)	MSD	mg/L	12.00	68.7%	<1/4	
			MSRPD	mg/L		1.8%	≤20.0	

Definition

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

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

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

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

MSD : Matrix Spike Duplicate of MS/MSD pair - A random sample duplicate is spiked with a known amount of 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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October 30, 2023
Innovative Ag Services, LLC

Lab No. : VI 2346788
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
Alkalinity (as CaCO3)	2320B	10/17/2023:211747AMM	ND	mg/L		0.3%	10	406
Bicarbonate	2320B	(SP 2316924-001)	Dup	mg/L		0.3%	10	
E. C.	2320B	(SP 2316924-001)	Dup	umhos/cm		0%	5	
	2320B	(VI 2346815-001)	Dup	umhos/cm		0.1%	5	
Solids, Total Dissolved	2540CE	10/11/2023:211446CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	991.5	104%	90-110	
		(SP 2316945-001)	Dup	mg/L		2.42%	5	
		(SP 2316945-001)	Dup	mg/L		1.82%	5	
Chloride	300.0	10/23/2023:211950LDM	Blank	mg/L		ND	<1	
			LCS	mg/L	25.00	101%	90-110	
			MS	mg/L	50.00	91.8%	67-117	
		(CH 2378949-001)	MSD	mg/L	50.00	91.6%	67-117	
			MSRPD	mg/L		0.1%	≤7	
			MS	mg/L	50.00	91.5%	67-117	
		(CH 2378950-001)	MSD	mg/L	50.00	91.3%	67-117	
			MSRPD	mg/L		0.1%	≤7	
Sulfate Sulfur	300.0	10/23/2023:211950LDM	Blank	mg/L		ND	<0.5	
			LCS	mg/L	50.00	102%	90-110	
			MS	mg/L	100.0	101%	18-165	
		(CH 2378949-001)	MSD	mg/L	100.0	101%	18-165	
			MSRPD	mg/L		0.0%	≤7	
			MS	mg/L	100.0	101%	18-165	
		(CH 2378950-001)	MSD	mg/L	100.0	101%	18-165	
			MSRPD	mg/L		0.0%	≤7	
Nitrogen, Total Kjeldahl	351.2	10/18/2023:211794STA	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	90.6%	73-124	
			MS	mg/L	12.00	89.4%	90-110	435
		(SP 2316875-004)	MSD	mg/L	12.00	86.9%	90-110	435
			MSRPD	mg/L		2.4%	≤20	
			MS	mg/L	12.00	79.1%	90-110	435
		(STK2353712-001)	MSD	mg/L	12.00	85.0%	90-110	435
			MSRPD	mg/L		4.3%	≤20	
Nitrate + Nitrite as N	4500NO3F	10/10/2023:211413LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	95.3%	80-120	
			MS	mg/L	5.609	83.6%	66-125	
		(STK2353989-001)	MSD	mg/L	5.609	84.3%	66-125	
			MSRPD	mg/L		0.3%	≤30.4	
Nitrate Nitrogen	4500NO3F	10/10/2023:211413LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	95.3%	80-120	
			MS	mg/L	5.609	83.6%	66-125	
		(STK2353989-001)	MSD	mg/L	5.609	84.3%	66-125	
			MSRPD	mg/L		0.3%	≤30.4	

Page 5 of 6

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 6 of 6

Laboratory Analysis Work Order

Nº 41474

8.3°C ROI 2346788

ID: # 0074 ID# TH407

LABORATORY: FGL

SITE NAME: DYKSTRA 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	H1	IRR	W2	10-6 / 1:30	Zeke			
2	H3	IRR	W5	10-6 / 1:15	Zeke			
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: 10/7/23

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st		IAS		10-6-23 / 2:35
2nd		FGL	10-6-23 16:00	
3rd		FGL		10-6-23 16:10
4th		FGL	10-6-2023 1610	

LABORATORY USE ONLY

Logged In By: GS 10-6-2023 1730 Total Samples: _____ Laboratory #: _____

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

November 6, 2023

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

Lab No. : **VI 2346950**
Customer No. : **4018573**
Reference : **41498**

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
1	10/13/2023	10/13/2023	VI 2346950-001	AGW
2	10/13/2023	10/13/2023	VI 2346950-002	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 2320 B	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: 2023-11-07

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November 6, 2023

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

Description : 1
Project : 0074 Dysktra Dairy

Lab No. : VI 2346950-001
Customer No. : 4018573
Reference : 41498
Sampled On : October 13, 2023 at 10:15
Sampled By : Zeke
Received On : October 13, 2023 at 15:50
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	10/27/2023	07:29	sta	EPA 351.2	11/03/2023	16:40	lcr
Nitrate Nitrogen	47.4	0.8*	mg/L		2		10/17/2023	13:00	lfs	SM 4500-NO3 F	10/17/2023	16:57	lfs
Nitrogen, Total as Nitrogen	47.4	0.8	mg/L		1	l	10/27/2023	07:29	sta	Calc.	11/03/2023	16:40	lcr
Nitrate + Nitrite as N	47.4	0.8*	mg/L		2		10/17/2023	13:00	lfs	SM 4500-NO3 F	10/17/2023	16:57	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	Ul	10/27/2023	07:29	sta	EPA 351.2	11/03/2023	16:40	lcr
Conductivity	1660	1	umhos/cm		1		10/19/2023	09:41	krh	SM 2320 B	10/19/2023	14:22	krh
Solids, Total Dissolved (TDS)	1150	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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November 6, 2023

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

Description : 2
Project : 0074 Dysktra Dairy

Lab No. : VI 2346950-002
Customer No. : 4018573
Reference : 41498
Sampled On : October 13, 2023 at 10:25
Sampled By : Zeke
Received On : October 13, 2023 at 15:50
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	10/27/2023	07:29	sta	EPA 351.2	11/03/2023	16:52	lcr
Nitrate Nitrogen	24.2	0.4	mg/L		1		10/17/2023	13:00	lfs	SM 4500-NO3 F	10/17/2023	15:50	lfs
Nitrogen, Total as Nitrogen	24.2	0.5	mg/L		1	l	10/27/2023	07:29	sta	Calc.	11/03/2023	16:52	lcr
Nitrate + Nitrite as N	24.2	0.4	mg/L		1		10/17/2023	13:00	lfs	SM 4500-NO3 F	10/17/2023	15:50	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	Ul	10/27/2023	07:29	sta	EPA 351.2	11/03/2023	16:52	lcr
Conductivity	1290	1	umhos/cm		1		11/02/2023	09:02	krh	SM 4500-H+B	11/02/2023	14:11	krh
Solids, Total Dissolved (TDS)	850	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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November 6, 2023
Innovative Ag Services, LLC

Lab No. : VI 2346950
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(VI 2346815-001)	Dup	umhos/cm		0.1%	5	
	2320B	(CC 2383609-002)	Dup	umhos/cm		0.1%	5	
Solids, Total Dissolved	2540CE	10/17/2023:211713CTL	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	
			Blank	mg/L		ND	<20	
			LCS	mg/L	991.5	103%	90-110	
		(VI 2346950-002)	Dup	mg/L		2.09%	5	
		(VI 2346950-002)	Dup	mg/L		0.6%	5	
Nitrogen, Total Kjeldahl	351.2	10/27/2023:212161STA	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	92.2%	73-124	
			MS	mg/L	12.00	78.8%	<¼	406
		(STK2354204-006)	MSD	mg/L	12.00	82.0%	<1/4	
			MSRPD	mg/L		4.1%	≤20	
			MS	mg/L	12.00	87.2%	90-110	435
		(STK2354204-008)	MSD	mg/L	12.00	88.1%	90-110	435
			MSRPD	mg/L		1.0%	≤20	
Nitrate + Nitrite as N	4500NO3F	10/17/2023:211742LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	101%	80-120	
			MS	mg/L	5.609	89.1%	66-125	
		(VI 2346971-001)	MSD	mg/L	5.609	91.9%	66-125	
			MSRPD	mg/L		1.0%	≤30.4	
Nitrate Nitrogen	4500NO3F	10/17/2023:211742LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	101%	80-120	
			MS	mg/L	5.609	89.1%	66-125	
		(VI 2346971-001)	MSD	mg/L	5.609	91.9%	66-125	
			MSRPD	mg/L		1.0%	≤30.4	

Definition

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

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

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

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.

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Laboratory Analysis Work Order

Nº 41498

5.9°C ID# 2346950

ID: # 0074 ROI TH407

LABORATORY: FGL

SITE NAME: DYKSTRA DAIRY

Authorized Copy Release to:

Billing: IAS

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	1	IRR	W2	10-13 / 10:15	Zeke			
2	2	IRR	W2	10-13 / 10:25	Zeke			
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: 10/14/23 1616

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st	[illegible]	IAS		10-13-23 / 2:00
2nd	[illegible]	FGL	10-13-23 15:35	
3rd	[illegible]	FGL		10-13-23 15:56
4th	[illegible]	FGL	10·13·2023 1550	

LABORATORY USE ONLY

Logged In By: GLS 10·13·2023 1780 Total Samples: _____ Laboratory #: _____

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

December 18, 2023

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

Lab No. : **VI 2348038**
Customer No. : **4018573**
Reference : **42105**

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
6	11/30/2023	11/30/2023	VI 2348038-001	AGW

Sampling and Receipt Information:

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

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

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

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

KD: JRD

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2023-12-18

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December 18, 2023

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

Description : 6
Project : 0074 Dykstra Dairy

Lab No. : VI 2348038-001
Customer No. : 4018573
Reference : 42105
Sampled On : November 30, 2023 at 11:30
Sampled By : Zeke
Received On : November 30, 2023 at 16:10
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	U	12/14/2023	07:10	lcr	EPA 351.2	12/17/2023	16:44	lcr
Nitrate Nitrogen	41.5	0.4	mg/L		1		12/01/2023	12:15	lfs	SM 4500-NO3 F	12/01/2023	14:25	lfs
Nitrogen, Total as Nitrogen	41.5	0.5	mg/L		1		12/14/2023	07:10	lcr	Calc.	12/17/2023	16:44	lcr
Nitrate + Nitrite as N	41.5	0.4	mg/L		1		12/01/2023	12:15	lfs	SM 4500-NO3 F	12/01/2023	14:25	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	12/14/2023	07:10	lcr	EPA 351.2	12/17/2023	16:44	lcr
Conductivity	1190	1	umhos/cm		1		12/07/2023	07:47	krh	SM 4500-H+B	12/07/2023	12:16	krh
Solids, Total Dissolved (TDS)	990	20	mg/L		1		12/04/2023	11:50	ctl	SM 2540 C	12/05/2023	11:00	ctl

DQF Flags Definition:
U Constituent results were non-detect.

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

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December 18, 2023
Innovative Ag Services, LLC

Lab No. : VI 2348038
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(VI 2348057-001)	Dup	umhos/cm		0.3%	5	
Solids, Total Dissolved	2540CE	12/04/2023:213647CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	991.5	104%	90-110	
		(CH 2379819-008)	Dup	mg/L		0.6%	5	
		(CH 2379819-008)	Dup	mg/L		2.02%	5	
Nitrogen, Total Kjeldahl	351.2	12/14/2023:214086LCR	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	92.4%	73-124	
			MS	mg/L	12.00	81.3%	<¼	406
		(CC 2384264-001)	MSD	mg/L	12.00	87.6%	<1/4	
			MSRPD	mg/L		7.4%	≤20	
			MS	mg/L	12.00	88.1%	<¼	406
		(CC 2384295-001)	MSD	mg/L	12.00	90.8%	90-110	
			MSRPD	mg/L		3.1%	≤20	
Nitrate + Nitrite as N	4500NO3F	12/01/2023:213604LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	95.1%	80-120	
			MS	mg/L	5.609	92.4%	66-125	
		(SP 2319794-001)	MSD	mg/L	5.609	92.9%	66-125	
			MSRPD	mg/L		0.3%	≤30.4	
Nitrate Nitrogen	4500NO3F	12/01/2023:213604LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	95.1%	80-120	
			MS	mg/L	5.609	92.4%	66-125	
		(SP 2319794-001)	MSD	mg/L	5.609	92.9%	66-125	
			MSRPD	mg/L		0.3%	≤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

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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Laboratory Analysis Work Order

Nº 42105

2346038

ID: # D074

LABORATORY: FGL

SITE NAME: DYKSTRA 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) pH 12.1 °C DO# 17407

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	6	IRR	W2	11-30 / 11:36	Zake			
2								
3								
4								
5								
6								
7								
8								

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

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

NOTES:

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st	[illegible]	IAS		11-30-23 / 3:20
2nd	AJB	FGL	11/30/23 1550	
3rd	AJB	FGL		11/30/23 1610
4th	AJH AJH		11/30/23 1730	

LABORATORY USE ONLY

Logged In By: [illegible]

Total Samples: 1 / 1 / 1 / 1

Laboratory #: GLS COC 12/1/23 1143

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ENVIRONMENTAL FGL AGRICULTURAL
Analytical Chemists

January 2, 2024

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

Lab No. : **VI 2348744**
Customer No. : **4018573**
Reference : **42226**

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
Serpa 1	12/20/2023	12/20/2023	VI 2348744-001	DW

Sampling and Receipt Information:

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

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

Test Summary	
SM 4500-H+B	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)
SM 4500-NO3 F	Preparation and analysis performed by FGL-Santa Paula (FGL-SP ELAP# 1573)

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

KD: JRD

Approved By **Kelly A. Dunnahoo, B.S.** Digitally signed by Kelly A. Dunnahoo, B.S.
Title: Laboratory Director
Date: 2024-01-03

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January 2, 2024

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

Description : Serpa 1
Project : 0074 Dykstra Dairy

Lab No. : VI 2348744-001
Customer No. : 4018573
Reference : 42226
Sampled On : December 20, 2023 at 13:52
Sampled By : Frank
Received On : December 20, 2023 at 16:04
Matrix : Drinking Water

Sample Results - Inorganic

Constituent	Result	RL	Units	MCL/AL	Dil.	DQF	Sample Preparation			Sample Analysis			
Dairy Analysis							Date	Time	Who	Method	Date	Time	Who
Nitrate Nitrogen	8.1	0.4	mg/L	10	1		12/21/2023	13:00	lfs	SM 4500-NO3 F	12/21/2023	15:24	lfs
Conductivity	495	1	umhos/cm	1600[2]	1		12/22/2023	09:20	krh	SM 4500-H+B	12/22/2023	12:31	krh

DQF Flags Definition:

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

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January 2, 2024
Innovative Ag Services, LLC

Lab No. : VI 2348744
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(VI 2348744-001)	Dup	umhos/cm		0.2%	5	
Nitrate Nitrogen	4500NO3F	12/21/2023:214418LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	101%	80-120	
			MS	mg/L	5.609	98.0%	66-125	
		(CH 2390646-001)	MSD	mg/L	5.609	98.0%	66-125	
			MSRPD	mg/L		0.0%	≤30.4	

Definition

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

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

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

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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Laboratory Analysis Work Order

Nº 42226

ID: # 0074 2348744

LABORATORY: FGL

SITE NAME: Dykstra 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: _____

17.5C 17#107

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	Serpa 1	Dom	W1	12/20 1:52	Frank			
2								
3								
4								
5								
6								
7								
8								

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

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

NOTES:

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st	SC	IAS		12/20/23 3:30
2nd	AJB	FGL	12/2023 1532	
3rd	AJB	FGL		12/20/23 1604
4th	DH		12/20/23 1604	

LABORATORY USE ONLY

Logged In By: (SK) Total Samples: 12/20/23 Laboratory #: 12/20/23

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ENVIRONMENTAL AGRICULTURAL
Analytical Chemists

January 16, 2024

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

Lab No. : **VI 2348940**
Customer No. : **4018573**
Reference : **42250**

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
7	12/27/2023	12/27/2023	VI 2348940-001	AGW
20	12/27/2023	12/27/2023	VI 2348940-002	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 at 2.8 ° C. 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: 2024-01-16

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January 16, 2024

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

Description : 7
Project : 0074 Dykstra Dairy

Lab No. : VI 2348940-001
Customer No. : 4018573
Reference : 42250
Sampled On : December 27, 2023 at 09:10
Sampled By : Zeke
Received On : December 27, 2023 at 15:45
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	01/07/2024	12:01	sta	EPA 351.2	01/12/2024	12:46	lcr
Nitrate Nitrogen	24.4	0.4	mg/L		1		12/28/2023	13:00	lfs	SM 4500-NO3 F	12/28/2023	14:48	lfs
Nitrogen, Total as Nitrogen	24.4	0.5	mg/L		1	l	01/07/2024	12:01	sta	Calc.	01/12/2024	12:46	lcr
Nitrate + Nitrite as N	24.4	0.4	mg/L		1		12/28/2023	13:00	lfs	SM 4500-NO3 F	12/28/2023	14:48	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	Ul	01/07/2024	12:01	sta	EPA 351.2	01/12/2024	12:46	lcr
Conductivity	1000	1	umhos/cm		1		01/02/2024	09:51	krh	SM 4500-H+B	01/02/2024	10:42	krh
Solids, Total Dissolved (TDS)	680	20	mg/L		1		12/29/2023	14:00	ctl	SM 2540 C	01/02/2024	11:50	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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January 16, 2024

Innovative Ag Services, LLC
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Suite 5
Hanford, CA 93230

Description : 20
Project : 0074 Dykstra Dairy

Lab No. : VI 2348940-002
Customer No. : 4018573
Reference : 42250
Sampled On : December 27, 2023 at 09:00
Sampled By : Zeke
Received On : December 27, 2023 at 15:45
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	01/07/2024	12:01	sta	EPA 351.2	01/12/2024	12:48	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	12/28/2023	13:00	lfs	SM 4500-NO3 F	12/28/2023	14:50	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	Ul	01/07/2024	12:01	sta	Calc.	01/12/2024	12:48	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	12/28/2023	13:00	lfs	SM 4500-NO3 F	12/28/2023	14:50	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	Ul	01/07/2024	12:01	sta	EPA 351.2	01/12/2024	12:48	lcr
Conductivity	234	1	umhos/cm		1		01/02/2024	09:51	krh	SM 4500-H+B	01/02/2024	10:48	krh
Solids, Total Dissolved (TDS)	210	20	mg/L		1		12/29/2023	14:00	ctl	SM 2540 C	01/02/2024	11:50	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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January 16, 2024
Innovative Ag Services, LLC

Lab No. : VI 2348940
Customer No. : 4018573

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(VI 2348831-001)	Dup	umhos/cm		0.6%	5	
Solids, Total Dissolved	2540CE	12/29/2023:214664CTL	Blank	mg/L		ND	<20	
			LCS	mg/L	991.5	101%	90-110	
		(VI 2348941-001)	Dup	mg/L		2.69%	5	
		(VI 2348941-001)	Dup	mg/L		3.94%	5	
Nitrogen, Total Kjeldahl	351.2	01/07/2024:200219STA	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	96.6%	73-124	
			MS	mg/L	12.00	88.0%	90-110	435
		(CC 2480001-001)	MSD	mg/L	12.00	89.3%	90-110	435
			MSRPD	mg/L		1.5%	≤20	
			MS	mg/L	12.00	60.1%	<¼	406
		(VI 2348876-001)	MSD	mg/L	12.00	59.8%	<1/4	
			MSRPD	mg/L		0.6%	≤20	
Nitrate + Nitrite as N	4500NO3F	12/28/2023:214627LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	98.4%	80-120	
			MS	mg/L	5.609	94.1%	66-125	
		(SP 2321122-001)	MSD	mg/L	5.609	98.0%	66-125	
			MSRPD	mg/L		1.5%	≤30.4	
Nitrate Nitrogen	4500NO3F	12/28/2023:214627LFS	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	98.4%	80-120	
			MS	mg/L	5.609	94.1%	66-125	
		(SP 2321122-001)	MSD	mg/L	5.609	98.0%	66-125	
			MSRPD	mg/L		1.5%	≤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

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.

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Laboratory Analysis Work Order

Nº 42250

2348940

ID: # 0074

LABORATORY: FGL

SITE NAME: Dykstra 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	JAS USE ONLY: FIELD TESTS NH_3N*	pH	Temp
1	7	IRR	W2	12-27 / 9:10	Zdc			
2	20	IRR	W2	12-27 / 9:00	Zdc			
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: ROI 2.8°C
ID#TH407

CHAIN OF CUSTODY RECORDING

	Signature	Company	Received Date & Time	Relinquished Date & Time
1st	[illegible]	IAS		12-27-23 / 12:15
2nd	[illegible]	FGC	12-27-23 15:30	
3rd	[illegible]	FGL		12-27-23 15:45
4th	SRO	FGL	12·27·23 1545	
	SRO	~~FGL~~	~~12·27·23~~ ~~15:30~~ 1730	
		GLS	12·27·23 1730	
		GLS	12/28/23 1305	
		JAW	↓ ↓	

LABORATORY USE ONLY

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

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