



Livingston Dairy Consulting, Inc.

1635 E. Prosperity Ave., Ste B, Tulare
559-687-1440

Joe V. Cardoza Dairy WDID 5D545131N01

19199 Road 80 Tulare, CA 93274

<input checked="" type="checkbox"/>	Annual Report
<input checked="" type="checkbox"/>	Water Analysis Samples
<input type="checkbox"/> N/A	Manure Manifest
<input type="checkbox"/> N/A	Facility / Land Map
<input checked="" type="checkbox"/>	CCA Nitrogen Retrofit Report
<input type="checkbox"/>	
<input type="checkbox"/>	

GEO Tracker Confirmation #

Date:

Facility Info

Reporting Period: 1/1/2023 to 12/31/2023

Name of the Facility

Dairy Name: Joe V. Cardoza Dairy WDID 5D545131N01
Facility Address: 19199 Road 80 Tulare, CA 93274
Original Operation Date: 2/2/1970
Facility APN's: xx22 x050 x003 xxxx

RWQCB Basin Plan Designation:

Check if any information has changed

Owner(s)

Owner(s) Name: Joe V. Cardoza
Mailing Address: 18893 Road 80 Tulare, CA 93274
Home Phone Number: 559-688-9466
Cell Phone Number:

Check if any information has changed

Operator(s)

Operator(s) Name: Same as owner
Mailing Address:
Home Phone Number:
Cell Phone Number:

Check if any information has changed

Herd Information

	Milk Cows	Dry Cows	Bred Heifers (12-24 mo)	Heifers (3-12 mo)	Calves (0-3 mo)
Open Confinement:	-	-	-	368	-
Number Under Roof	-	-	-	-	-
Maximum Number				368	
Average Number				368	
Average Live Weight (lbs)				630	

Average Milk Production: 0
Predominant Milk Cow Breed: Holstein

Manure Generated:

Total manure excreted by the herd:	944.47	@40% Moisture	ton/yr
Total nitrogen from manure:	47,793		lbs
	4,420		lbs
	16,422		lbs
Total salt from manure:	-		lbs

After Ammonia (30% loss applied)

33,455 lbs per reporting period

Process Wastewater Generated:

Process wastewater generated:	-	gal
Total nitrogen generated:	-	lbs
	-	lbs
	-	lbs
Total salt (TDS) generated:	-	lbs

List of Fresh Water Sources

[illegible]

Winter Crops & Harvest

[illegible]

Detachable L Valley Tech
Dellavalle

0.01%	0.01%
0.01%	0.003%

0.001%

General Minerals

Detectable limits

*Dellavalle
FGL Environmental
Valley Tech*

Soil Analysis (Winter)

[illegible]

Detectable Limits

Valley Tech

DellaValle

0.1

0.1

0.1

0.1

1.1

0.2

0.0015

0.0001%

Soil Analysis (Summer)

[illegible]

Detectable Limits

Valley Tech

Della Valle

0.1 0.1

0.1 0.1

0.2

0.0015

0.0001%

Nutrient Import & Export

Nutrient Export-Did you sell, give away or otherwise remove slurry, process water or dry manure from your property?

**No
X**

Yes, Manifest attached (Attachment D)

Total Dry Manure Exported

Nutrient Import

No Dry manure nutrient imports entered

No Process wastewater nutrient imports entered

No Commerical or other nutrient imports entered

Total Process Water Exported

[illegible]

Process Water & Manure Analysis

Process Water		NH4N	TKN	TP	TK	NO3N	NH3N	Ca	Mg	Na	CO3	HCO3	SO4	CL	EC	TDS
Quarters:		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(ds/m)	(mg/L)
1		74.3	360.0	34.9	437.0	1.0	-	-	-	-	-	-	-	-	3	2,090
2		50.0	118.0	29.9	265.0	1.0	-	-	-	-	-	-	-	-	2	1,220
3		63.9	128.0	18.0	161.0	1.0	-	1.0	21.1	38.2	0.0	11.1	23.0	2.2	2	1,100
4		104.0	114.0	29.3	73.4	1.0	-	-	-	-	-	-	-	-	-	1,510

Detectable Limits

Valley Tech	2.0	5.0	0.1	0.2												0.10	10
Dellavalle	0.2	0.7	0.02	0.2	0.01	0.05	0.4	0.10	0.9	3	0.01	0.03	0.001			0.001	10

Qtr	Sample #:	Sample Date:	Source	Inorg N	Org N	P2O5	K2O
			lbs / Ac In				
1	3-24144741	3/24/2023	Valley Tech	17.1	64.8	18.1	119.3
2	5-11149506	5/11/2023	Valley Tech	11.6	15.4	15.5	72.4
3	8-17162134	8/17/2023	Valley Tech	14.7	14.5	9.3	44.0
4	10-4167892	10/4/2023	Valley Tech	23.8	2.3	15.2	20.0

Description	Sample #:	Date:	As Is/ Dry Weight	Source	Material Type
Manure	5-11M49469	5/11/2023	Dry Weight	Valley Tech	Corral Solids
Manure	10-4M67874	10/4/2023	Dry Weight	Valley Tech	Corral Solids

Dry Manure: (As rec'd)	TN %	TP %	TK %	Ca	Mg	Na	S	CL	Salt	TFS	Moisture %
Corral	0.37	0.16	0.36	-	-	-	-	-	-	-	37.30
Corral	1.15	0.30	1.38	1.09	0.39	0.32	0.33	0.71	-	45.20	40.20

Detectable Limits

Valley Tech	0.01%	0.02%	0.02%													0.001%	0.001%
Dellavalle	0.01%	0.01%	0.003%	0.001%	0.001%	0.001%	0.001%	0.000%		0.001%						0.001%	0.001%

Acres: **73.00**

**Dry Weight
As Received**

**Dry Weight
As Received**

Field Name/Number: A Acres: 73

	Total N (lbs/ac)	Total P (lbs/ac)	Total K Lbs/ac)	Total Salts (lbs/ac)
Nutrients Applied	356.5	30.7	306.0	1893.0
Nutrients Removed at Harvest	-551.5	-103.0	-499.3	0.0
Nutrient Balance	-194.9	-72.3	-193.3	1893.0

Winter Nitrogen Crop App / Use Ratio: **0.95**Summer Nitrogen Crop App / Use Ratio: **1.14**Field Name/Number: A Acres: 73

Winter Crop		Wheat, Silage				
Nutrient Summary :		Applied	N			
W. Manure App.		-	T/Ac	-	-	-
W. Comm Fert App.		100.0	lbs/Ac	100.0		
Process Water	Q1	1.1	Ac In /Ac	65.0	20.6	134.9
	Q2	1.2	Ac In /Ac	21.9	18.0	83.4
Well Water		-	Ac In /Ac	100.0		
Canal		17.2	Ac In /Ac	0.0		
Atm. Depos.		Yes		7.0		
W. Planting	11/25/22					
W. Harvest	5/20/23	24.2	T/Ac	(308.2)	(158.0)	(380.2)

Summer Crop		Corn, Silage				
Nutrient Summary :		Applied	N			
S. Manure App.		-	T/Ac	-	-	-
S. Comm Fert App.		100.0	lbs/Ac	100.0	-	-
Process Water	Q2	-	Ac In /Ac	-	-	-
	Q3	3.4	Ac In /Ac	69.5	31.7	148.8
	Q4	-	Ac In /Ac	-	-	-
Well Water		-	Ac In /Ac	100		
Canal		28.9	Ac In /Ac	0.1		
Atm. Depos.		Yes		7.0		
S. Planting	6/15/23					
S. Harvest	9/29/23	27.6	T/Ac	(243.2)	(77.8)	(218.9)

Nutrient Applications

Field Name/Number:

B**Acres:**

51.00

[illegible]

Field Name/Number: BAcres: 51.00

	Total N (lbs/ac)	Total P (lbs/ac)	Total K Lbs/ac)	Total Salts (lbs/ac)
Nutrients Applied	382.6	13.4	279.3	2068.5
Nutrients Removed at Harvest	-504.0	-38.9	-346.6	0.0
Nutrient Balance	-121.4	-25.5	-67.3	2068.5

Winter Nitrogen Crop App / Use Ratio: 1.24

Summer Nitrogen Crop App / Use Ratio: 1.09

Field Name/Number: B Acres: 51**Winter Crop** **Wheat, Silage**

Nutrient Summary :		Applied	N		
W. Manure App.		- T/Ac	-	-	-
W. Comm Fert App.		80.0 lbs/Ac	80.0		
Process Water	Q1	2.2 Ac In /Ac	125.3	39.6	260.1
	Q2	- Ac In /Ac	-	-	-
Well Water		- Ac In /Ac	80.0		
Canal		23.3 Ac In /Ac	0.1		
Atm. Depos.		Yes	7.0		
W. Planting	11/25/22				
W. Harvest	5/21/23	27.7 T/Ac	(235.1)	(124.8)	(213.0)

Summer Crop **Corn, Silage**

Nutrient Summary :		Applied	N		
S. Manure App.		- T/Ac	-	-	-
S. Comm Fert App.		110.0 lbs/Ac	110.0	-	-
Process Water	Q2	- Ac In /Ac	-	-	-
	Q3	3.3 Ac In /Ac	67.2	30.7	143.7
	Q4	- Ac In /Ac	-	-	-
Well Water		- Ac In /Ac	110.0		
Canal		29.1 Ac In /Ac	0.1		
Atm. Depos.		Yes	7.0		
S. Planting	6/16/23				
S. Harvest	10/1/23	27.6 T/Ac	(268.9)	(79.2)	(288.1)

Nutrient Applications

Field Name/Number:

C

Acres:

73.90

[illegible]

Field Name/Number: C Acres: 73.90

	Total N (lbs/ac)	Total P (lbs/ac)	Total K Lbs/ac)	Total Salts (lbs/ac)
Nutrients Applied	408.9	17.0	365.8	2552.3
Nutrients Removed at Harvest	-570.1	-47.6	-423.1	0.0
Nutrient Balance	-161.2	-30.6	-57.3	2552.3

Winter Nitrogen Crop App / Use Ratio: 1.04

Summer Nitrogen Crop App / Use Ratio: 1.16

Field Name/Number: C Acres: 73.9 **Winter Crop Wheat, Silage**

Nutrient Summary :		Applied	N			
W. Manure App.		-	T/Ac	-	-	-
W. Comm Fert App.		100.0	lbs/Ac	100.0		
Process Water	Q1	3.3	Ac In /Ac	145.1	59.0	387.4
	Q2	-	Ac In /Ac	-	-	-
Well Water		-	Ac In /Ac	100.0		
Canal		21.7	Ac In /Ac	0.0		
Atm. Depos.		Yes		7.0		
W. Planting	11/27/22					
W. Harvest	5/19/23	27.8	T/Ac	(337.5)	(173.0)	(356.6)

Summer Crop Corn, Silage

Nutrient Summary :		Applied	N			
S. Manure App.		-	T/Ac	-	-	-
S. Comm Fert App.		100.0	lbs/Ac	100.0	-	-
Process Water	Q2	-	Ac In /Ac	-	-	-
	Q3	3.2	Ac In /Ac	63.7	30.2	141.4
	Q4	-	Ac In /Ac	-	-	-
Well Water		-	Ac In /Ac	100.0		
Canal		28.0	Ac In /Ac	0.1		
Atm. Depos.		Yes		7.0		
S. Planting	6/20/23					
S. Harvest	10/4/23	26.9	T/Ac	(232.6)	(76.6)	(255.0)

Nutrient Applications

Field Name/Number:

D

Acres:

73.90

		Dry Manure Applied (tons/ac)	Moist. %	Chem Fert total lbs	Fresh Water Applied (ac-in/ac)	Lagoon Water Applied (ac-in/ac)	Lab Sample Data						Yield	
Date	Event / Source						N (lbs/Ac)	Total P (lbs/Ac)	Total K (lbs/Ac)	Salt (Lbs/Ac)	TFS	%	Expected Yield (tons/ac)	Actual Yield (tons/ac)
4/18/23	W. Comm Fert App.	-	-	100	-	-	100.0	-	-	-	-	-		-
11/30/22	W. Planting	-	-	-	-	-	-	-	-	-	-	-		-
1/14/23	Canal	-	-	-	5.56	-	0.0	-	-	23	-	-		-
1/14/23	Process Water	-	-	-	-	1.16	66.4	9.2	114.8	549	-	-		-
2/17/23	Canal	-	-	-	5.42	-	0.0	-	-	22	-	-		-
2/17/23	Process Water	-	-	-	-	1.13	64.7	8.9	111.8	535	-	-		-
4/18/23	Canal	-	-	-	6.06	-	0.0	-	-	25	-	-		-
5/4/23	Canal	-	-	-	6.24	-	0.0	-	-	25	-	-		-
5/21/23	W. Harvest	-	-	-	-	-	(355.3)	(85.2)	(306.6)	-	9.15	-		26.80
	-	-	-	-	-	-	-	-	-	-	-	-		-
	-	-	-	-	-	-	-	-	-	-	-	-		-
	-	-	-	-	-	-	-	-	-	-	-	-		-
8/24/23	S. Comm Fert App.	-	-	100	-	-	100.0	-	-	-	-	-		-
6/19/23	S. Planting	-	-	-	-	-	-	-	-	-	-	-		-
7/14/23	Canal	-	-	-	6.35	-	0.0	-	-	26	-	-		-
7/30/23	Canal	-	-	-	5.52	-	0.0	-	-	23	-	-		-
7/30/23	Process Water	-	-	-	-	1.15	23.6	4.7	42.0	287	-	-		-
8/12/23	Canal	-	-	-	5.38	-	0.0	-	-	22	-	-		-
8/12/23	Process Water	-	-	-	-	1.12	23.0	4.6	40.9	280	-	-		-
8/24/23	Canal	-	-	-	6.28	-	0.0	-	-	26	-	-		-
9/7/23	Canal	-	-	-	5.45	-	0.0	-	-	22	-	-		-
9/7/23	Process Water	-	-	-	-	1.14	20.7	4.6	41.5	283	-	-		-
10/6/23	S. Harvest	-	-	-	-	-	(236.1)	(34.0)	(216.4)	-	5.11	-		27.60
	-	-	-	-	-	-	-	-	-	-	-	-		-
	-	-	-	-	-	-	-	-	-	-	-	-		-
	-	-	-	-	-	-	-	-	-	-	-	-		-
	-	-	-	-	-	-	-	-	-	-	-	-		-
	-	-	-	-	-	-	-	-	-	-	-	-		-
	-	-	-	-	-	-	-	-	-	-	-	-		-
	-	-	-	-	-	-	-	-	-	-	-	-		-
	-	-	-	-	-	-	-	-	-	-	-	-		-
	-	-	-	-	-	-	-	-	-	-	-	-		-
	-	-	-	-	-	-	-	-	-	-	-	-		-
Totals:		0.0		200	52.27	5.70	(193)	(87)	(172)	2,147	14.26		0	54.40

Field Name/Number: D Acres: 73.90

	Total N (lbs/ac)	Total P (lbs/ac)	Total K Lbs/ac)	Total Salts (lbs/ac)
Nutrients Applied	398.4	14.0	291.3	2146.9
Nutrients Removed at Harvest	-591.4	-52.0	-434.2	0.0
Nutrient Balance	-193.0	-38.0	-142.8	2146.9

Winter Nitrogen Crop App / Use Ratio: 0.95

Summer Nitrogen Crop App / Use Ratio: 1.16

Field Name/Number: D Acres: 73.9

Winter Crop		Wheat, Silage				
Nutrient Summary :		Applied		N		
W. Manure App.		-	T/Ac	-	-	-
W. Comm Fert App.		100.0	lbs/Ac	100.0		
Process Water	Q1	2.3	Ac In /Ac	131.0	41.4	271.9
	Q2	-	Ac In /Ac	-	-	-
Well Water		-	Ac In /Ac	100.0		
Canal		23.3	Ac In /Ac	0.1		
Atm. Depos.		Yes		7.0		
W. Planting	11/30/22					
W. Harvest	5/21/23	26.8	T/Ac	(355.3)	(195.0)	(367.9)

Summer Crop		Corn, Silage				
Nutrient Summary :		Applied		N		
S. Manure App.		-	T/Ac	-	-	-
S. Comm Fert App.		100.0	lbs/Ac	100.0		
Process Water	Q2	-	Ac In /Ac	-	-	-
	Q3	3.4	Ac In /Ac	67.2	31.8	149.3
	Q4	-	Ac In /Ac	-	-	-
Well Water		-	Ac In /Ac	100.0		
Canal		29.0	Ac In /Ac	0.1		
Atm. Depos.		Yes		7.0		
S. Planting	6/19/23					
S. Harvest	10/6/23	27.6	T/Ac	(236.1)	(77.8)	(259.7)

Nutrient Applications

Field Name/Number:

F**Acres:**

70.10

[illegible]

Field Name/Number: EAcres: 70.10

	Total N (lbs/ac)	Total P (lbs/ac)	Total K Lbs/ac)	Total Salts (lbs/ac)
Nutrients Applied	379.9	13.9	289.9	2136.3
Nutrients Removed at Harvest	-512.7	-38.3	-390.2	0.0
Nutrient Balance	-132.7	-24.4	-100.3	2136.3

Winter Nitrogen Crop App / Use Ratio: 1.08

Summer Nitrogen Crop App / Use Ratio: 1.16

Field Name/Number: E Acres: 70.1

Winter Crop		Wheat, Silage				
Nutrient Summary :		Applied	N			
W. Manure App.		-	T/Ac	-	-	-
W. Comm Fert App.		80.0	lbs/Ac	80.0		
Process Water	Q1	2.3	Ac In /Ac	130.4	41.3	270.7
	Q2	-	Ac In /Ac	-	-	-
Well Water		-	Ac In /Ac	80.0		
Canal		23.3	Ac In /Ac	0.1		
Atm. Depos.		Yes		7.0		
W. Planting	11/28/22					
W. Harvest	5/22/23	20.6	T/Ac	(274.4)	(130.9)	(312.8)

Summer Crop		Corn, Silage				
Nutrient Summary :		Applied	N			
S. Manure App.		-	T/Ac	-	-	-
S. Comm Fert App.		100.0	lbs/Ac	100.0	-	-
Process Water	Q2	-	Ac In /Ac	-	-	-
	Q3	3.4	Ac In /Ac	69.4	31.7	148.4
	Q4	-	Ac In /Ac	-	-	-
Well Water		-	Ac In /Ac	100.0		
Canal		28.8	Ac In /Ac	0.1		
Atm. Depos.		Yes		7.0		
S. Planting	6/20/23					
S. Harvest	10/10/23	27.6	T/Ac	(238.3)	(70.3)	(251.3)

Nutrient Applications

Field Name/Number:

F

Acres:

73.90

[illegible]

Field Name/Number: FAcres: 73.90

	Total N (lbs/ac)	Total P (lbs/ac)	Total K Lbs/ac)	Total Salts (lbs/ac)
Nutrients Applied	168.3	5.9	101.0	946.9
Nutrients Removed at Harvest	-257.9	-19.6	-193.0	0.0
Nutrient Balance	-89.6	-13.7	-92.0	946.9

Winter Nitrogen Crop App / Use Ratio: #N/A

Summer Nitrogen Crop App / Use Ratio: 1.07

Field Name/Number: F Acres: 73.9**Winter Crop W. Fallow**

Nutrient Summary :		Applied	N			
W. Manure App.		-	T/Ac	-	-	-
W. Comm Fert App.		-	lbs/Ac	-	-	-
Process Water	Q1	-	Ac In /Ac	-	-	-
	Q2	-	Ac In /Ac	-	-	-
Well Water		-	Ac In /Ac	-	-	-
Canal		-	Ac In /Ac	-	-	-
Atm. Depos.		Yes		7.0		
W. Planting	#N/A					
W. Harvest	1/1/2000	#N/A	T/Ac	#N/A	#N/A	#N/A

Summer Crop Corn, Silage

Nutrient Summary :		Applied	N			
S. Manure App.		-	T/Ac	-	-	-
S. Comm Fert App.		100.0	lbs/Ac	100.0	-	-
Process Water	Q2	-	Ac In /Ac	-	-	-
	Q3	3.3	Ac In /Ac	68.2	31.1	146.0
	Q4	-	Ac In /Ac	-	-	-
Well Water		-	Ac In /Ac	100.0		
Canal		28.3	Ac In /Ac	0.1		
Atm. Depos.		Yes		7.0		
S. Planting	6/3/23					
S. Harvest	9/28/23	27.6	T/Ac	(257.9)	(102.9)	(279.0)

Nutrient Applications

Field Name/Number:

G

Acres:

79.50

		Dry Manure Applied (tons/ac)	Moist. %	Chem Fert total lbs	Fresh Water Applied (ac-in/ac)	Lagoon Water Applied (ac-in/ac)	Lab Sample Data						Yield	
Date	Event / Source						N (lbs/Ac)	Total P (lbs/Ac)	Total K (lbs/Ac)	Salt (Lbs/Ac)	TFS	%	Expected Yield (tons/ac)	Actual Yield (tons/ac)
4/12/23	W. Comm Fert App.	-	-	80	-	-	80.0	-	-	-	-	-	-	-
12/1/22	W. Planting	-	-	-	-	-	-	-	-	-	-	-	-	-
1/13/23	Canal	-	-	-	5.34	-	0.0	-	-	22	-	-	-	-
1/13/23	Process Water	-	-	-	-	1.11	63.7	8.8	110.1	527	-	-	-	-
3/30/23	Canal	-	-	-	5.47	-	0.0	-	-	22	-	-	-	-
3/30/23	Process Water	-	-	-	-	1.14	65.3	9.0	112.9	540	-	-	-	-
4/12/23	Canal	-	-	-	6.17	-	0.0	-	-	25	-	-	-	-
5/22/23	W. Harvest	-	-	-	-	-	(258.2)	(55.8)	(210.7)	-	9.15	-	-	27.40
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/24/23	S. Comm Fert App.	-	-	110	-	-	110.0	-	-	-	-	-	-	-
6/18/23	S. Planting	-	-	-	-	-	-	-	-	-	-	-	-	-
7/10/23	Canal	-	-	-	6.27	-	0.0	-	-	26	-	-	-	-
7/27/23	Canal	-	-	-	5.54	-	0.0	-	-	23	-	-	-	-
7/27/23	Process Water	-	-	-	-	1.15	23.6	4.7	42.1	288	-	-	-	-
8/9/23	Canal	-	-	-	5.44	-	0.0	-	-	22	-	-	-	-
8/9/23	Process Water	-	-	-	-	1.13	23.2	4.6	41.3	282	-	-	-	-
8/24/23	Canal	-	-	-	6.14	-	0.0	-	-	25	-	-	-	-
9/4/23	Canal	-	-	-	5.50	-	0.0	-	-	22	-	-	-	-
9/4/23	Process Water	-	-	-	-	1.15	23.5	4.7	41.8	286	-	-	-	-
10/12/23	S. Harvest	-	-	-	-	-	(279.9)	(46.6)	(209.0)	-	5.11	-	-	27.60
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals:		0.0		190	45.85	5.68	(149)	(71)	(71)	2,110	14.26		0	55.00

Field Name/Number: G Acres: 79.50

	Total N (lbs/ac)	Total P (lbs/ac)	Total K Lbs/ac)	Total Salts (lbs/ac)
Nutrients Applied	389.3	13.9	289.1	2109.6
Nutrients Removed at Harvest	-538.1	-44.7	-348.4	0.0
Nutrient Balance	-148.8	-30.8	-59.3	2109.6

Winter Nitrogen Crop App / Use Ratio: 1.15

Summer Nitrogen Crop App / Use Ratio: 1.06

Field Name/Number: G Acres: 79.5 **Winter Crop** **Wheat, Silage**

Nutrient Summary :		Applied	N			
W. Manure App.		-	T/Ac	-	-	-
W. Comm Fert App.		80.0	lbs/Ac	80.0		
Process Water	Q1	2.3	Ac In /Ac	129.0	40.8	267.6
	Q2	-	Ac In /Ac	-	-	-
Well Water		-	Ac In /Ac	80.0		
Canal		17.0	Ac In /Ac	0.0		
Atm. Depos.		Yes		7.0		
W. Planting	12/1/22					
W. Harvest	5/22/23	27.4	T/Ac	(258.2)	(127.7)	(252.9)

Summer Crop **Corn, Silage**

Nutrient Summary :		Applied	N			
S. Manure App.		-	T/Ac	-	-	-
S. Comm Fert App.		110.0	lbs/Ac	110.0	-	-
Process Water	Q2	-	Ac In /Ac	-	-	-
	Q3	3.4	Ac In /Ac	70.3	32.1	150.3
	Q4	-	Ac In /Ac	-	-	-
Well Water		-	Ac In /Ac	110.0		
Canal		28.9	Ac In /Ac	0.1		
Atm. Depos.		Yes		7.0		
S. Planting	6/18/23					
S. Harvest	10/12/23	27.6	T/Ac	(279.9)	(106.8)	(250.8)

Nutrient Applications

Field Name/Number:

H

Acres:

76.90

[illegible]

Field Name/Number: H Acres: 76.90

	Total N (lbs/ac)	Total P (lbs/ac)	Total K Lbs/ac)	Total Salts (lbs/ac)
Nutrients Applied	412.0	13.4	278.4	2032.5
Nutrients Removed at Harvest	-505.5	-117.3	-388.5	0.0
Nutrient Balance	-93.6	-103.9	-110.1	2032.5

Winter Nitrogen Crop App / Use Ratio: 0.93

Summer Nitrogen Crop App / Use Ratio: 1.17

Field Name/Number: H Acres: 76.9 **Winter Crop** **Wheat, Silage**

Nutrient Summary :		Applied	N			
W. Manure App.		-	T/Ac	-	-	-
W. Comm Fert App.		120.0	lbs/Ac	120.0		
Process Water	Q1	2.2	Ac In /Ac	124.7	39.4	258.7
	Q2	-	Ac In /Ac	-	-	-
Well Water		-	Ac In /Ac	-		
Canal		16.5	Ac In /Ac	-		
Atm. Depos.		Yes		7.0		
W. Planting	11/30/23					
W. Harvest	5/18/23	24.8	T/Ac	(271.5)	(132.7)	(330.2)

Summer Crop **Corn, Silage**

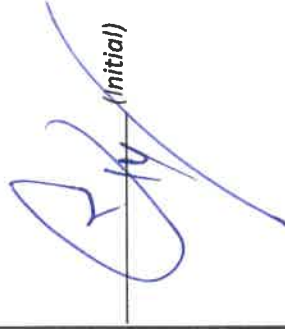
Nutrient Summary :		Applied	N			
S. Manure App.		-	T/Ac	-	-	-
S. Comm Fert App.		100.0	lbs/Ac	100.0	-	-
Process Water	Q2	-	Ac In /Ac	-	-	-
	Q3	3.3	Ac In /Ac	67.2	30.7	143.8
	Q4	-	Ac In /Ac	-	-	-
Well Water		-	Ac In /Ac	100.0		
Canal		28.3	Ac In /Ac	0.1		
Atm. Depos.		Yes		7.0		
S. Planting	6/23/23					
S. Harvest	10/15/23	26.9	T/Ac	(234.0)	(482.7)	(231.5)

Notes

Without allowance for the significant amount of rainfall during the winter months of 2022/2023, the irrigation logs on each field page of the annual report, reflect canal and/or well used only during that time frame. The facility did not irrigate during the "Significant Storm Events".

It is inaccurate to present "salt" application without acknowledging that there is substantial uptake and utilization of "salts" by crops. If it is possible to calculate "salt" application, it is also possible to calculate "salt" utilization. That calculation should be included in this report. To calculate "salt" utilization is a lengthy process and cannot be done with the constituents required in the Revised General Order sampling requirements.

The signature(s) affixed to this report does not affirmatively refer to those references to "salt" that we know to be incorrect.



(Initial)

Exception Reporting

Manure , Process Water and Other Dairy Waste Discharges:

The following is a summary of all manure and process water 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.

No, manure or process water discharges occurred during the reporting period

Storm Water Discharges:

The follow is a summary of all storm water discharges from the production area to surface water during the reporting period when not in accordance with the facility's Nutrient Management Plan.

No, storm water discharges occurred during the reporting period

Land Application Area To Surface Water Discharges:

The following is a summary of all discharges from the land application area surface water that have occurred during the reporting period when not in accordance with the facility's Nutrient

No, land application area to surface water discharges occurred during the reporting period

Nutrient Management Plan (NMP) & Written Agreement Statement

Nutrient Management Plan Statement:

Was the facility NMP updated in the reporting period?

Yes

Was the facility's NMP developed and approved by a certified nutrient management specialist?

Yes

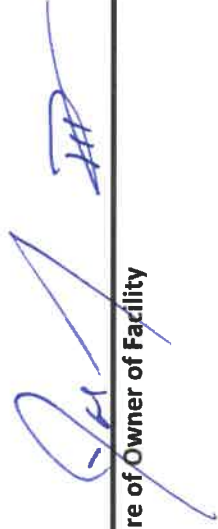
Written Agreements:

Are there any written agreements with third parties to receive manure or process water that are new or were revised within the reporting period?

No

Owner and/or Operator Certification

**I certify under penalty of law that all information submitted as part of this document is accurate and true. Certification signatures by a California Registered Professional have been supplied as needed in Part II. I have personally examined and am familiar with the information submitted in Parts I and II of 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.*



Signature of Owner of Facility

Signature of Operator of Facility

Joe V. Cardoza

Print Name

Same as owner

Print Name



Date

Date

February 16, 2023

Livingston Dairy Consulting, Inc
 1635 E. Prosperity Suite B
 Tulare, CA 93274

Lab No. : VI 2340549

Customer No. : 4018505

Laboratory Report

Introduction: This report package contains a total of 4 pages divided into 3 sections:

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

Case Narrative

This Case Narrative pertains to the following samples:

Sample Description	Date Sampled	Date Received	FGL Lab No.	Matrix
DOM 1	01/31/2023	01/31/2023	VI 2340549-001	DW
DOM 2	01/31/2023	01/31/2023	VI 2340549-002	DW

Sampling and Receipt Information:

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

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


Test Summary

	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: 2023-02-17

February 16, 2023

Livingston Dairy Consulting, Inc
1635 E. Prosperity Suite B
Tulare, CA 93274

Description : DOM 1
Project : W-6 Joe V. Cardoza

Lab No. : VI 2340549-001
Customer No. : 4018505

Sampled On : January 31, 2023 at 11:10
Sampled By : Marlene / Kaylin
Received On : January 31, 2023 at 14:03
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
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	UI	02/10/2023	09:50	sta	EPA 351.2	02/12/2023	19:29	lcr
Nitrate Nitrogen	7.7	0.4	mg/L	10	1		02/01/2023	13:00	lfs	SM 4500-NO3 F	02/01/2023	16:59	lfs
Nitrogen, Total as Nitrogen	7.7	0.5	mg/L		1	1	02/10/2023	09:50	sta	EPA 351.2	02/12/2023	19:29	lcr
Nitrate + Nitrite as N	7.7	0.4	mg/L	10	1		02/01/2023	13:00	lfs	SM 4500-NO3 F	02/01/2023	16:59	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	UI	02/10/2023	09:50	sta	EPA 351.2	02/12/2023	19:29	lcr
Conductivity	688	1	umhos/cm	1600 ²	1		02/15/2023	13:59	sta		02/15/2023	13:59	sta
Solids, Total Dissolved (TDS)	430	20	mg/L	1000 ²	1		02/02/2023	11:53	ctl	SM 2540 C	02/03/2023	12:50	ctl

DQF Flags Definition:

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

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

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

February 16, 2023

Livingston Dairy Consulting, Inc
 1635 E. Prosperity Suite B
 Tulare, CA 93274

Description : DOM 2
 Project : W-6 Joe V. Cardoza

Lab No. : VI 2340549-002
 Customer No. : 4018505

Sampled On : January 31, 2023 at 11:13
 Sampled By : Marlene / Kaylin
 Received On : January 31, 2023 at 14:03
 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
Nitrogen, Total Kjeldahl	ND	0.5	mg/L		1	UI	02/10/2023	09:50	sta	EPA 351.2	02/12/2023	19:47	lcr
Nitrate Nitrogen	16.1	0.4	mg/L	10	1		02/01/2023	13:00	lfs	SM 4500-NO3 F	02/01/2023	17:01	lfs
Nitrogen, Total as Nitrogen	16.1	0.5	mg/L		1	1	02/10/2023	09:50	sta	EPA 351.2	02/12/2023	19:47	lcr
Nitrate + Nitrite as N	16.1	0.4	mg/L	10	1		02/01/2023	13:00	lfs	SM 4500-NO3 F	02/01/2023	17:01	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	UI	02/10/2023	09:50	sta	EPA 351.2	02/12/2023	19:47	lcr
Conductivity	1250	1	umhos/cm	1600 ²	1		02/09/2023	14:28	sta		02/09/2023	14:28	sta
Solids, Total Dissolved (TDS)	790	20	mg/L	1000 ²	1		02/02/2023	11:53	ctl	SM 2540 C	02/03/2023	12:49	ctl

DQF Flags Definition:

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

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

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

February 16, 2023
Livingston Dairy Consulting, Inc.

Lab No. : VI 2340549
Customer No. : 4018505

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem E. C.	2510B	02/09/2023:201372STA (STK2331345-001)	Blank	umhos/cm		ND	<1	
			Dup	umhos/cm		0.6%	5	
	2510B	02/15/2023:201667STA (VI 2340657-002)	Blank	umhos/cm		ND	<1	
			Dup	umhos/cm		1.03%	5	
Solids, Total Dissolved	2540CE	02/02/2023:201179CTL (SP 2301488-001) (SP 2301488-001)	Blank	mg/L		ND	<20	
			LCS	mg/L	990.8	103 %	90-110	
			Dup	mg/L		2.2%	5	
			Dup	mg/L		0.4%	5	
Nitrogen, Total Kjeldahl	351.2	02/10/2023:201482STA (VI 2340549-001) (VI 2340550-001)	Blank	mg/L		ND	<0.5	
			LCS	mg/L	12.00	93.0%	73-124	
			MS	mg/L	12.00	75.3%	54-136	
			MSD	mg/L	12.00	79.7%	54-136	
			MSRPD	mg/L	12.00	5.7%	≤27	
			MS	mg/L	12.00	26.9%	<A%	
			MSD	mg/L	12.00	42.9%	54-136	435
			MSRPD	mg/L	12.00	46.4%	≤27	435
Nitrate + Nitrite as N	4500NO3F	02/01/2023:201107LFS (VI 2340560-001)	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	93.1%	80-120	
			MS	mg/L	5.609	91.9%	66-125	
			MSD	mg/L	5.609	95.0%	66-125	
			MSRPD	mg/L	5.609	2.6%	≤30.4	
Nitrate Nitrogen	4500NO3F	02/01/2023:201107LFS (VI 2340560-001)	Blank	mg/L		ND	<0.4	
			LCS	mg/L	11.22	93.1%	80-120	
			MS	mg/L	5.609	91.9%	66-125	
			MSD	mg/L	5.609	95.0%	66-125	
			MSRPD	mg/L	5.609	2.6%	≤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 analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
- MSRPD** : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
- ND** : Non-detect - Result was below the DQO listed for the analyte.

Explanation

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



Special

Client: Livingston Dairy Consulting, Inc. Address: Livingston Dairy Consulting, Inc 1635 E. Prosperity Suite B Tulare, CA 93274 Phone: (559)687-1440 Fax: Contact Person: Noreen Livingston Project Name: <u>Wade V. Cardoza</u> Purchase Order Number: Quote Number: <u>VI 20210208-01</u> Sampler(s) <u>Martene & Kaylin</u>		420806:03/01/2022										TEST DESCRIPTION - See Reverse side for Container, Preservative and Sampling information									
Method of Sampling: Composite(C) Grab(G)		Type of Sample		Potable(P) Non-Potable(NP) Ag Water(AgW)		Bacti Type: Other(O) System(SYS) Source(SR) Waste(W)		Bacti Reason: Routine(ROUT) Repeat(RPT) Replace(RPL)		Other(O) Special(SPL)		Daily Analysis-W-6-Conductivity, NO3-N, Total N, TDS		Sampling-W-6 - Total N - Split Bottle		8oz(P)-H2SO4		***VI Lab to Split for Total N***			
Samp Num	Location Description	Date Sampled	Time Sampled	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6		
1	DAM 1	11:10 AM	1/31											1	1						
2	DAM 2	11:13 AM	1/31											1	1						
3														1	1						
4														1	1						
5														1	1						
6														1	1						
7														1	1						
8														1	1						
9														1	1						
10														1	1						

Relinquished	Date	Time	Relinquished	Date	Time	Relinquished	Date	Time	Relinquished	Date	Time
<u>Relinquished</u>	<u>1/31/23</u>	<u>1:33</u>	<u>Relinquished</u>	<u>1/31/23</u>	<u>1403</u>	<u>Relinquished</u>	<u>1/31/23</u>	<u>1403</u>	<u>Relinquished</u>	<u>1/31/23</u>	<u>1403</u>
Received By:			Received By:			Received By:			Received By:		
<u>Relinquished</u>	<u>1/31/23</u>	<u>1:33</u>	<u>Relinquished</u>	<u>1/31/23</u>	<u>1403</u>	<u>Relinquished</u>	<u>1/31/23</u>	<u>1403</u>	<u>Relinquished</u>	<u>1/31/23</u>	<u>1403</u>

Remarks:

Inter-Laboratory Condition Upon Receipt (Attach to COC)

Sample Receipt at: STK CC

CH VI

1. Number of ice chests/packages received: 1 Shipping tracking # 6TC

2. Were samples received in a chilled condition? Temps: 10 / 4.3 / / /
Surface water SWTR bact samples: A sample that has a temperature upon receipt of $>10^{\circ}\text{C}$, whether iced or not, should be flagged unless the time since sample collection has been less than two hours.

- | | | | |
|---|--------------------------------------|--------------------------|-----|
| 3. Do the number of bottles received agree with the COC? | <input checked="" type="radio"/> Yes | <input type="radio"/> No | N/A |
| 4. Were samples received intact? (i.e. no broken bottles, leaks etc.) | <input checked="" type="radio"/> Yes | <input type="radio"/> No | |
| 5. VOAs checked for Headspace? | <input checked="" type="radio"/> Yes | <input type="radio"/> No | N/A |
| 6. Were sample custody seals intact? | <input checked="" type="radio"/> Yes | <input type="radio"/> No | N/A |
| 7. If required, was sample split for pH analysis? | <input checked="" type="radio"/> Yes | <input type="radio"/> No | N/A |
| 8. Were all analyses within holding times at time of receipt? | <input checked="" type="radio"/> Yes | <input type="radio"/> No | |
| 9. Verify sample date, time and sampler name | <input checked="" type="radio"/> Yes | <input type="radio"/> No | |

Sign and date the COC, place in a ziplock and put in the same ice chest as the samples.

Sample Receipt Review completed by (initials):

Sample Receipt at SP:

1. Were samples received in a chilled condition? Temps: 2c / / / /

Acceptable is above freezing to 6°C . If many packages are received at one time check for tests/H.T.'s/rushes/

2. Shipping tracking numbers: 558722593 590
584

- | | | | |
|---|--------------------------------------|--------------------------|-----|
| 3. Do the number of bottles received agree with the COC? | <input checked="" type="radio"/> Yes | <input type="radio"/> No | N/A |
| 4. Were samples received intact? (i.e. no broken bottles, leaks etc.) | <input checked="" type="radio"/> Yes | <input type="radio"/> No | |
| 5. Were sample custody seals intact? | <input checked="" type="radio"/> Yes | <input type="radio"/> No | N/A |

Sign and date the COC, obtain LIMS sample numbers, select methods/tests and print labels.

Sample Verification, Labeling and Distribution:

- | | | | |
|--|--------------------------------------|--------------------------|---------|
| 1. Were all requested analyses understood and acceptable? | <input checked="" type="radio"/> Yes | <input type="radio"/> No | |
| 2. Did bottle labels correspond with the client's ID's? | <input checked="" type="radio"/> Yes | <input type="radio"/> No | |
| 3. Were all bottles requiring sample preservation properly preserved?
[Exception: Oil & Grease, VOA and CrVI verified in lab] | <input checked="" type="radio"/> Yes | <input type="radio"/> No | N/A FGL |
| 4. VOAs checked for Headspace? | <input type="radio"/> Yes | <input type="radio"/> No | N/A |
| 5. Have rush or project due dates been checked and accepted? | <input type="radio"/> Yes | <input type="radio"/> No | N/A |
| 6. Were all analyses within holding times at time of receipt? | <input checked="" type="radio"/> Yes | <input type="radio"/> No | |

Attach labels to the containers and include a copy of the COC for lab delivery.

Sample Receipt, Login and Verification completed by (initials): MXL

Discrepancy Documentation:

Any items above which are "No" or do not meet specifications (i.e. temps) must be resolved.

- | | |
|----------------------------|---------------------|
| 1. Person Contacted: _____ | Phone Number: _____ |
| Initiated By: _____ | Date: _____ |
| Problem: _____ | |
| Resolution: _____ | |
| | |
| 2. Person Contacted: _____ | Phone Number: _____ |
| Initiated By: _____ | |
| Problem: _____ | |
| Resolution: _____ | |

(Please use the back of this sheet for additional cc contacts)

(4018505)
Livingston Dairy Consulting, Inc.

VI 2340549

da0 02/01/2023 12:12:06



August 3, 2023

Lab No. : VI 2344454

Livingston Dairy Consulting, Inc
 1635 E. Prosperity Suite B
 Tulare, CA 93274

Customer No. : 4018505

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
Canal-Packwood Creek <i>SP-5</i>	07/11/2023	07/11/2023	VI 2344454-001	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: 2023-08-03

August 3, 2023

Livingston Dairy Consulting, Inc
 1635 E. Prosperity Suite B
 Tulare, CA 93274

Lab No. : VI 2344454-001
 Customer No.: 4018505

Sampled On : July 11, 2023 at 08:30
 Sampled By : Bruce / Noreen
 Received On : July 11, 2023 at 11:38
 Matrix : Ag Water

Description : Canal-Packwood Creek
 Project : W-6 Canal-Packwood Creek Livingston

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	07/28/2023	08:46	sta	EPA 351.2	07/31/2023	19:24	lcr
Nitrate Nitrogen	ND	0.4	mg/L		1	U	07/12/2023	13:00	lfs	SM 4500-NO3 F	07/12/2023	16:12	lfs
Nitrogen, Total as Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	Calc.	07/31/2023	19:24	lcr
Nitrate + Nitrite as N	ND	0.4	mg/L		1	U	07/12/2023	13:00	lfs	SM 4500-NO3 F	07/12/2023	16:12	lfs
Kjeldahl Nitrogen	ND	0.5	mg/L		1	U	07/28/2023	08:46	sta	EPA 351.2	07/31/2023	19:24	lcr
Conductivity	36	1	umhos/cm		1		07/18/2023	14:57	amm	SM 4500-H+B	07/18/2023	16:11	amm
Solids, Total Dissolved (TDS)	30	20	mg/L		1		07/13/2023	11:00	ctl	SM 2540 C	07/14/2023	11:00	ctl

DQF Flags Definition:

U Constituent results were non-detect.

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

August 3, 2023

Livingston Dairy Consulting, Inc.

Lab No. : VI 2344454

Customer No. : 4018505

Quality Control - Wet Chem

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Wet Chem								
E. C.	2320B	(VI 2344461-007)	Dup	umhos/cm		0.6%	5	
Solids, Total Dissolved	2540CE	07/13/2023:207664CTL	Blank	mg/L	993.7	ND	<20	
			LCS	mg/L		101%	90-110	
			Dup	mg/L		0.03%	5	
			Dup	mg/L		1%	5	
Nitrogen, Total Kjeldahl	351.2	07/28/2023:208341STA	Blank	mg/L	12.00	ND	<0.5	
			LCS	mg/L		94.9%	73-124	
			MS	mg/L		94.6%	54-136	
			(SP 2311944-003) MSD	mg/L		94.6%	54-136	
			MSRPD	mg/L		0.0%	≤27	
			MS	mg/L		93.8%	54-136	
			(SP 2311944-004) MSD	mg/L		92.6%	54-136	
			MSRPD	mg/L		1.2%	≤27	
Nitrate + Nitrite as N	4500NO3F	07/12/2023:207621LFS	Blank	mg/L	11.22	ND	<0.4	
			LCS	mg/L		100%	80-120	
			MS	mg/L		89.0%	66-125	
			(STK2339067-001) MSD	mg/L		89.7%	66-125	
			MSRPD	mg/L		0.2%	≤30.4	
Nitrate Nitrogen	4500NO3F	07/12/2023:207621LFS	Blank	mg/L	11.22	ND	<0.4	
			LCS	mg/L		100%	80-120	
			MS	mg/L		89.0%	66-125	
			(STK2339067-001) MSD	mg/L		89.7%	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 analyte. The recoveries are an indication of how that sample matrix affects analyte recovery.
- MSRPD** : MS/MSD Relative Percent Difference (RPD) - The MS relative percent difference is an indication of precision for the preparation and analysis.
- ND** : Non-detect - Result was below the DQO listed for the analyte.

Inter-Laboratory Condition Upon Receipt (Attach to COC)

Sample Receipt at: STK CC

CH VI

1. Number of ice chests/packages received: 1 Shipping tracking # 671

2. Were samples received in a chilled condition? Temps: 62 17.4 1 1
Surface water SWTR bact samples: A sample that has a temperature upon receipt of $>10^{\circ}\text{C}$, whether iced or not, should be flagged unless the time since sample collection has been less than two hours.

- | | | | |
|---|--------------------------------------|----|--------------------------------------|
| 3. Do the number of bottles received agree with the COC? | <input checked="" type="radio"/> Yes | No | N/A |
| 4. Were samples received intact? (i.e. no broken bottles, leaks etc.) | <input checked="" type="radio"/> Yes | No | |
| 5. VOAs checked for Headspace? | Yes | No | <input checked="" type="radio"/> N/A |
| 6. Were sample custody seals intact? | Yes | No | <input checked="" type="radio"/> N/A |
| 7. If required, was sample split for pH analysis? | Yes | No | <input checked="" type="radio"/> N/A |
| 8. Were all analyses within holding times at time of receipt? | <input checked="" type="radio"/> Yes | No | |
| 9. Verify sample date, time and sampler name | <input checked="" type="radio"/> Yes | No | |

Sign and date the COC, place in a ziplock and put in the same ice chest as the samples.

Sample Receipt Review completed by (initials): ADA

Sample Receipt at SP:

1. Were samples received in a chilled condition? Temps: 5 4 4 4

Acceptable is above freezing to 6°C . If many packages are received at one time check for tests/H.T.'s/rushes/

2. Shipping tracking numbers:

757145133, 757145345, 757145131, 757145144

- | | | | |
|---|--------------------------------------|----|--------------------------------------|
| 3. Do the number of bottles received agree with the COC? | <input checked="" type="radio"/> Yes | No | N/A |
| 4. Were samples received intact? (i.e. no broken bottles, leaks etc.) | <input checked="" type="radio"/> Yes | No | |
| 5. Were sample custody seals intact? | Yes | No | <input checked="" type="radio"/> N/A |

Sign and date the COC, obtain LIMS sample numbers, select methods/tests and print labels.

Sample Verification, Labeling and Distribution:

- | | | | |
|---|--------------------------------------|----|--------------------------------------|
| 1. Were all requested analyses understood and acceptable? | <input checked="" type="radio"/> Yes | No | |
| 2. Did bottle labels correspond with the client's ID's? | <input checked="" type="radio"/> Yes | No | |
| 3. Were all bottles requiring sample preservation properly preserved?
<small>[Exception: Oil & Grease, VOA and CrVI verified in lab]</small> | <input checked="" type="radio"/> Yes | No | N/A FGL |
| 4. VOAs checked for Headspace? | Yes | No | <input checked="" type="radio"/> N/A |
| 5. Have rush or project due dates been checked and accepted? | Yes | No | <input checked="" type="radio"/> N/A |
| 6. Were all analyses within holding times at time of receipt? | <input checked="" type="radio"/> Yes | No | |

Attach labels to the containers and include a copy of the COC for lab delivery.

Sample Receipt, Login and Verification completed by (initials): le

Discrepancy Documentation:

Any items above which are "No" or do not meet specifications (i.e. temps) must be resolved.

1. Person Contacted: _____ Phone Number: _____
Initiated By: _____ Date: _____
Problem: _____
Resolution: _____

2. Person Contacted: _____
Initiated By: _____
Problem: _____
Resolution: _____

(Please use the back of this sheet for additional contacts)

(4-1/205)
Livingston Dairy Consulting, Inc.

VI 2344454

iv 07/12/2023 09:04:56



VI 2344454

2344454

here

Livingston Dairy Consulting, Inc.

1635 E. Prosperity Ave. Ste. B

Tulare, CA 93274

559-687-1440

Friday, May 10, 2024

Re: 2023 NMP

Joe V. Cardoza Dairy WDID 5D545131N01

19199 Road 80 Tulare, CA 93274

Enclosed is the 2023/2024 Nutrient Budget for your facility to comply with the California Regional Water Quality Control Board General Order No. R5-2007-0035.

*2023 Whole Farm Nitrogen Balance

The whole farm nitrogen balance for the crop year 2022 was **0.76**
Nitrogen Summary will show the balances for each field and for the whole farm.

*Ranges for the Whole Farm Nitrogen Balance

<u>Factor</u>	<u>Status</u>	<u>Evaluation</u>
> 1.65	Excessive	Too much nitrogen applied
1.4 - 1.65	Slightly High	Nitrogen is satisfactory to slightly high
0.9 - 1.4	Normal	Normal to slightly low
< 0.9	Low	Low nitrogen status, additional nitrogen needed

*Nutrient Management Plan/ Nutrient Budget Certification

This Nutrient Budget was prepared by a Certified Crop Advisor as required by the California Regional Water Quality Control Board.


Butch Brazil
Certified Crop Advisor #35629

This Nutrient Management Plan / Nutrient Budget is based on samples collected and analyzed by a third party laboratory. This Certified Crop Advisor was not involved in oversight of outside laboratory sample collection, transportation, or analyses. Interpretation of the data is based on submitted information. Where data was incomplete, book values and / or historical data was used. The third party laboratory or Certified Crop Advisor was not involved with the agronomic growth of the crops and the Nutrient Budget is based on information provided by the owner.

