

Annual Report - General Order No. R5-2007-0035

Reporting period 01/01/2023 to 12/31/2023.

DAIRY FACILITY INFORMATION**A. NAME OF DAIRY OR BUSINESS OPERATING THE DAIRY:** Morning Star Dairy, Inc

Physical address of dairy:

10262 W Elkhorn AVE

Number and Street

Burrel

Fresno

93607

City

County

Zip Code

Street and nearest cross street (if no address): Dickenson & ElkhornDate facility was originally placed in operation: 09/15/1955Regional Water Quality Control Board Basin Plan designation: Tulare Basin

County Assessor Parcel Number(s) for dairy facility:

0041-0140-0230-0000**B. OPERATORS**

Tacherra, Joann

Operator name: Tacherra, JoannTelephone no.: (559) 864-8802 (559) 647-3876

Landline Cellular

10262 W Elkhorn AVE

Riverdale

CA

93656

Mailing Address Number and Street

City

State

Zip Code

This operator is responsible for paying permit fees.

Tacherra, Johnny

Operator name: Tacherra, JohnnyTelephone no.: (559) 864-8802 (559) 647-3875

Landline Cellular

10262 W Elkhorn AVE

Riverdale

CA

93656

Mailing Address Number and Street

City

State

Zip Code

C. OWNERS

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Tacherra, Joann

Legal owner name: <u>Tacherra, Joann</u>	Telephone no.: <u>(559) 864-8802</u>	<u>(559) 647-3876</u>
	Landline	Cellular
10262 W Elkhorn AVE	Riverdale	CA
Mailing Address Number and Street	City	State
		Zip Code

This owner is responsible for paying permit fees.

Tacherra, Johnny

Legal owner name: <u>Tacherra, Johnny</u>	Telephone no.: <u>(559) 864-8802</u>	<u>(559) 647-3875</u>
	Landline	Cellular
10262 W Elkhorn AVE	Riverdale	CA
Mailing Address Number and Street	City	State
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AVAILABLE NUTRIENTS

A. HERD INFORMATION

	Milk Cows	Dry Cows	Bred Heifers (15-24 mo.)	Heifers (7-14 mo. to breeding)	Calves (4-6 mo.)	Calves (0-3 mo.)
Number open confinement	1,170	148	497	372	324	249
Number under roof	0	0	0	0	0	0
Maximum number	1,171	150	500	373	325	250
Average number	1,171	150	500	373	325	250
Avg live weight (lbs)	1,400	1,400	1,100	750		

Predominant milk cow breed: Jersey-Holstein Cross

Average milk production: 73 pounds per cow per day

B. MANURE GENERATED

Total manure excreted by the herd: 43,591.87 tons per reporting period

Total nitrogen from manure: 537,725.85 lbs per reporting period

After ammonia losses (30% loss applied): 376,408.10 lbs per reporting period

Total phosphorus from manure: 87,189.66 lbs per reporting period

Total potassium from manure: 226,565.35 lbs per reporting period

Total salt from manure: 585,857.85 lbs per reporting period

C. PROCESS WASTEWATER GENERATED

Process wastewater generated: 10,728,000 gallons

Total nitrogen generated: 25,583.69 lbs

$$\begin{aligned}
 & 10,728,000 \text{ gallons applied} \\
 & + 0 \text{ gallons exported} \\
 & - 0 \text{ gallons imported} \\
 & = 10,728,000 \text{ gallons generated}
 \end{aligned}$$

Total phosphorus generated: 0.00 lbs

Total potassium generated: 1,525.21 lbs

Total salt generated: 352,061.76 lbs

D. FRESH WATER SOURCES

Source Description	Type
Liberty Ditch	Surface water
Reed Ditch	Surface water
Well 1	Ground water
Well 2	Ground water
Well 3	Ground water

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Source Description	Type
Well 4	Ground water
Well 5	Ground water
Well 6	Ground water
Well 7	Ground water
well 8	Ground water

E. SUBSURFACE (TILE) DRAINAGE SOURCES*No subsurface (tile) drainage sources entered.***F. NUTRIENT IMPORTS***No dry manure nutrient imports entered.**No process wastewater nutrient imports entered.**No commercial or other nutrient imports entered.***G. NUTRIENT EXPORTS**

Date	Material type	Quantity	Reporting basis	Moisture (%)	Density (lbs/cu ft)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
10/27/2023	Corral solids	290.19 ton	Dry-weight	14.3		9,800.00	5,300.00	1,110.00		57.66
12/06/2023	Corral solids	458.34 ton	Dry-weight	14.3		9,800.00	5,300.00	1,110.00		57.66
12/18/2023	Corral solids	1,960.68 ton	Dry-weight	14.3		9,800.00	5,300.00	1,110.00		57.66

No liquid nutrient exports entered.

Material type	Total N (lbs)	Total P (lbs)	Total K (lbs)	Total salt (lbs)
Dry manure	45,507.14	24,611.01	5,154.38	2,677,491.65
Process wastewater	0.00	0.00	0.00	0.00
Total exports for all materials	45,507.14	24,611.01	5,154.38	2,677,491.65

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APPLICATION AREA**A. LIST OF LAND APPLICATION AREAS**

Field name	Controlled acres	Cropable acres	Total harvests	Type of waste applied	Parcel number
Field 1&2	76	76	8	none	0053-0170-025S-0000
Field 10	126	126	2	process wastewater	0041-0140-0006-0000
Field 11	123	123	2	manure	0041-0220-0006-0000
Field 12	124	124	3	manure	0041-0220-0007-0000
Field 13	153	153	2	manure	0041-0110-0023-0000
Field 3	74	74	2	none	0041-0140-023S-0000
Field 4	78	78	7	process wastewater	0041-0140-023S-0000
Field 5	68	68	6	process wastewater	0041-0140-023S-0000
Field 6	81	81	7	process wastewater	0041-0140-023S-0000
Field 7	78	78	7	process wastewater	0041-0140-023S-0000
Field 8	40	32	7	none	0041-0140-023S-0000
Field 9	37	37	2	process wastewater	0041-0140-023S-0000
Pomegranates	96	96	1	none	0041-0140-0006-0000
Totals for areas that were used for application	868	868	38		
Totals for areas that were not used for application	286	278	18		
Land application area totals	1,154	1,146	56		

B. CROPS AND HARVESTS

Field 1&2

Field name: Field 1&2

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Field 1&2

10/20/2020: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 76 Plant date: 10/20/2020

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
04/11/2023	47.11 ton	Dry-weight		6.9	3,700.00	3,900.00	23,400.00		11.95
05/17/2023	193.00 ton	Dry-weight		5.3	39,700.00	3,900.00	29,600.00		13.59
06/20/2023	145.55 ton	Dry-weight		5.6	32,900.00	2,700.00	15,900.00		8.58
07/24/2023	123.34 ton	Dry-weight		3.9	30,500.00	3,400.00	19,300.00		10.10
08/30/2023	75.91 ton	Dry-weight		3.9	30,500.00	3,400.00	19,300.00		10.10
09/19/2023	32.36 ton	Dry-weight		4.8	26,600.00	3,200.00	17,300.00		8.44
09/21/2023	15.34 ton	Dry-weight		4.8	26,600.00	3,200.00	17,300.00		8.44
10/27/2023	50.43 ton	Dry-weight		5.9	39,900.00	3,500.00	25,200.00		11.81

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	8.00	480.00	43.20	336.00	0.00
Total actual harvest content	8.99	549.48	58.35	376.26	1,859.08

Field 10

Field name: Field 10

11/28/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 126 Plant date: 11/28/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
04/11/2023	1,113.70 ton	Dry-weight		61.6	22,400.00	3,600.00	23,200.00		19.72

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	9.00	99.00	15.30	74.70	0.00
Total actual harvest content	8.84	152.06	24.44	157.49	1,338.65

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Field 10

05/26/2023: Corn, silage

Crop: Corn, silage Acres planted: 126 Plant date: 05/26/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/13/2023	1,884.93 ton	Dry-weight		63.1	20,900.00	2,400.00	12,400.00		5.87
Anticipated harvest content									
Total actual harvest content									

Field 11

Field name: Field 11

11/22/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 123 Plant date: 11/22/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
04/11/2023	934.02 ton	Dry-weight		60.4	15,700.00	4,300.00	25,200.00		15.39
Anticipated harvest content									
Total actual harvest content									

05/24/2023: Corn, silage

Crop: Corn, silage Acres planted: 123 Plant date: 05/24/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
09/14/2023	1,950.57 ton	Dry-weight		68.8	20,800.00	3,700.00	25,400.00		9.81
Anticipated harvest content									
Total actual harvest content									

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Field 12

Field name: Field 12

11/15/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 124 Plant date: 11/15/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
04/12/2023	617.73 ton	Dry-weight		65.1	24,300.00	4,100.00	24,500.00		14.97

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	5.00	55.00	8.50	41.50	0.00
Total actual harvest content	4.98	84.50	14.26	85.19	520.54

05/10/2023: Sudangrass, silage

Crop: Sudangrass, silage Acres planted: 124 Plant date: 05/10/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
07/14/2023	299.33 ton	Dry-weight		2.3	22,200.00	3,800.00	36,100.00		13.20
09/13/2023	1,119.05 ton	Dry-weight		2.3	22,200.00	3,800.00	36,100.00		13.20

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	8.00	88.00	13.60	96.00	0.00
Total actual harvest content	11.44	496.19	84.93	806.87	2,950.32

Field 13

Field name: Field 13

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Field 13

12/23/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 153 Plant date: 12/23/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/26/2023	1,702.16 ton	Dry-weight		58.3	10,000.00	2,600.00	19,400.00		16.45

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	15.00	165.00	25.50	124.50	0.00
Total actual harvest content	11.13	92.78	24.12	180.00	1,526.30

06/26/2023: Corn, silage

Crop: Corn, silage Acres planted: 153 Plant date: 06/26/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
10/31/2023	2,036.05 ton	Dry-weight		65.1	19,900.00	2,400.00	11,700.00		14.22

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	13.00	104.00	19.50	85.80	0.00
Total actual harvest content	13.31	184.84	22.29	108.68	1,320.85

Field 3

Field name: Field 3

11/25/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 74 Plant date: 11/25/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/26/2023	892.74 ton	Dry-weight		53.6	12,800.00	3,300.00	14,900.00		9.44

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	15.00	165.00	25.50	124.50	0.00
Total actual harvest content	12.06	143.30	36.94	166.81	1,056.85

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Field 3

06/14/2023: Corn, silage

Crop: Corn, silage Acres planted: 74 Plant date: 06/14/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
10/03/2023	1,380.49 <i>ton</i>	Dry-weight		65.1	13,800.00	2,600.00	9,200.00		5.15
Anticipated harvest content									
Total actual harvest content									

Field 4

Field name: Field 4

11/12/2019: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 78 Plant date: 11/12/2019

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
04/21/2023	91.76 <i>ton</i>	Dry-weight		5.1	35,100.00	4,300.00	26,600.00		11.50
05/17/2023	120.26 <i>ton</i>	Dry-weight		6.1	42,200.00	3,400.00	18,100.00		10.30
06/19/2023	114.77 <i>ton</i>	Dry-weight		6.3	36,300.00	3,100.00	18,900.00		9.04
07/20/2023	117.91 <i>ton</i>	Dry-weight		4.7	35,100.00	3,300.00	20,400.00		10.56
08/28/2023	104.39 <i>ton</i>	Dry-weight		4.7	35,100.00	3,300.00	20,400.00		10.56
09/27/2023	75.74 <i>ton</i>	Dry-weight		4.7	28,900.00	4,000.00	28,700.00		13.74
11/07/2023	33.92 <i>ton</i>	Dry-weight		5.9	33,600.00	3,200.00	15,400.00		10.71

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	8.00	480.00	43.20	336.00	0.00
Total actual harvest content	8.45	572.31	55.94	340.45	1,719.86

Field 5

Field name: Field 5

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Field 5

10/30/2020: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 68 Plant date: 10/30/2020

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
04/17/2023	86.44 ton	Dry-weight		7.1	38,100.00	3,900.00	26,500.00		13.32
06/29/2023	142.24 ton	Dry-weight		8.8	33,500.00	2,500.00	15,300.00		8.60
08/03/2023	115.15 ton	Dry-weight		4.4	29,600.00	2,800.00	19,100.00		9.42
09/06/2023	88.94 ton	Dry-weight		6.5	31,700.00	3,100.00	22,900.00		10.74
10/05/2023	46.37 ton	Dry-weight		7.3	34,100.00	3,700.00	26,000.00		10.64
11/03/2023	26.46 ton	Dry-weight		7.4	40,800.00	3,300.00	19,800.00		9.71

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	8.00	480.00	43.20	336.00	0.00
Total actual harvest content	7.44	463.69	42.45	285.95	1,414.89

Field 6

Field name: Field 6

03/02/2022: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 81 Plant date: 03/02/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
04/13/2023	158.14 ton	Dry-weight		6.6	39,300.00	4,600.00	28,900.00		11.98
06/29/2023	186.77 ton	Dry-weight		5.1	34,300.00	3,100.00	20,300.00		9.59
08/01/2023	113.51 ton	Dry-weight		4.3	35,600.00	3,100.00	22,400.00		9.91
08/07/2023	40.94 ton	Dry-weight		4.3	35,600.00	3,100.00	22,400.00		9.91
09/05/2023	79.41 ton	Dry-weight		6.2	35,300.00	3,100.00	17,500.00		9.37
10/04/2023	67.17 ton	Dry-weight		6.2	38,800.00	4,100.00	25,600.00		10.65
11/08/2023	53.89 ton	Dry-weight		12.8	34,000.00	3,600.00	22,800.00		11.20

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	8.00	480.00	43.20	336.00	0.00
Total actual harvest content	8.64	588.10	57.91	374.46	1,686.25

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Field 7

Field name: Field 7

02/18/2023: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 78 Plant date: 02/18/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
06/07/2023	174.16 ton	Dry-weight		5.3	25,400.00	2,900.00	18,600.00		9.39
07/19/2023	98.05 ton	Dry-weight		5.6	35,900.00	3,300.00	19,000.00		8.79
07/21/2023	38.45 ton	Dry-weight		5.6	35,900.00	3,300.00	19,000.00		8.79
08/18/2023	67.89 ton	Dry-weight		7.6	38,400.00	3,200.00	15,900.00		8.43
09/04/2023	36.24 ton	Dry-weight		2.9	32,700.00	2,600.00	18,500.00		7.95
09/25/2023	64.87 ton	Dry-weight		6.6	28,700.00	3,400.00	26,400.00		9.35
11/03/2023	54.75 ton	Dry-weight		8.5	42,200.00	3,400.00	19,000.00		10.70

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	8.00	480.00	43.20	336.00	0.00
Total actual harvest content	6.85	416.09	40.31	249.12	1,177.55

Field 8

Field name: Field 8

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Field 8

10/28/2020: Alfalfa, hay

Crop: Alfalfa, hay Acres planted: 32 Plant date: 10/28/2020

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
04/14/2023	35.98 ton	Dry-weight		8.8	30,900.00	4,200.00	30,300.00		12.66
05/17/2023	59.05 ton	Dry-weight		4.9	34,800.00	3,300.00	14,900.00		9.76
06/19/2023	67.48 ton	Dry-weight		5.7	36,000.00	3,000.00	15,600.00		8.49
07/22/2023	60.93 ton	Dry-weight		3.6	34,100.00	2,800.00	15,500.00		8.39
08/19/2023	65.96 ton	Dry-weight		3.6	34,100.00	2,800.00	15,500.00		8.39
09/20/2023	33.75 ton	Dry-weight		7.6	31,800.00	3,800.00	30,600.00		11.91
10/27/2023	25.36 ton	Dry-weight		7.9	33,800.00	3,000.00	10,400.00		10.39

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	8.00	480.00	43.20	336.00	0.00
Total actual harvest content	10.89	700.71	65.32	369.80	1,965.08

Field 9

Field name: Field 9

12/26/2022: Wheat, silage, soft dough

Crop: Wheat, silage, soft dough Acres planted: 37 Plant date: 12/26/2022

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
05/27/2023	419.75 ton	Dry-weight		57.9	15,100.00	3,300.00	18,700.00		8.59

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	15.00	165.00	25.50	124.50	0.00
Total actual harvest content	11.34	144.24	31.52	178.63	820.53

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Field 9

06/21/2023: Corn, silage

Crop: Corn, silage Acres planted: 37 Plant date: 06/21/2023

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
10/04/2023	874.94 ton	Dry-weight		77.7	17,000.00	4,500.00	19,300.00		7.26

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	22.00	176.00	33.00	145.20	0.00
Total actual harvest content	23.65	179.29	47.46	203.55	765.68

Pomegranates

Field name: Pomegranates

10/02/2007: Poms

Crop: Poms Acres planted: 96 Plant date: 10/02/2007

Harvest date	Yield	Reporting basis	Density (lbs/cu ft)	Moisture (%)	N (mg/kg)	P (mg/kg)	K (mg/kg)	Salt (mg/kg)	TFS (%)
11/25/2023	306.00 ton	As-is		48.0	24,000.00	19,000.00	19,000.00		0.00

	Yield (tons/acre)	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Salt (lbs/acre)
Anticipated harvest content	6.00	132.00	120.00	120.00	0.00
Total actual harvest content	3.19	153.00	121.13	121.13	0.00

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NUTRIENT BUDGET**A. LAND APPLICATIONS**

Field 1&2 - 10/20/2020: Alfalfa, hay

Field name: Field 1&2

Crop: Alfalfa, hay

Plant date: 10/20/2020

Application date	Application method	Precipitation 24 hours prior	Precipitation during application			Precipitation 24 hours following
04/13/2023	Surface (irrigation)	No precipitation	No precipitation			No precipitation
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	32.68	11,023,210.26 gal
Application event totals		0.00	0.00	0.00	32.68	
05/21/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	45.10	15,213,210.26 gal
Application event totals		0.00	0.00	0.00	45.10	
06/21/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	33.69	11,362,230.26 gal
Application event totals		0.00	0.00	0.00	33.69	
07/30/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	55.17	18,608,477.78 gal
Application event totals		0.00	0.00	0.00	55.17	
09/06/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	55.89	18,852,675.22 gal
Application event totals		0.00	0.00	0.00	55.89	

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Field 1&2 - 10/20/2020: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
10/05/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	58.35	19,682,140.18 gal
Application event totals		0.00	0.00	0.00	58.35	
10/26/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 4	Ground water	1.84	0.00	0.00	543.45	12,888,960.00 gal
Application event totals		1.84	0.00	0.00	543.45	

Field 10 - 11/28/2022: Wheat, silage, soft dough

Field name: Field 10

Crop: Wheat, silage, soft dough

Plant date: 11/28/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
02/05/2023	pivots	Steady rain	Steady rain		Heavy rain	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 1	Ground water	0.00	0.00	0.00	9.92	10,854,491.42 gal
Application event totals		0.00	0.00	0.00	9.92	
02/21/2023	Broadcast/incorporate	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Urea	Liquid commercial fertilizer	150.00	0.00	0.00	0.00	
Application event totals		150.00	0.00	0.00	0.00	

Field 10 - 05/26/2023: Corn, silage

Field name: Field 10

Crop: Corn, silage

Plant date: 05/26/2023

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Field 10 - 05/26/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
04/30/2023	Broadcast/incorporate	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Lagoon slurry	Process wastewater	62.70	0.00	1.74	448.15	1,480,000.00 gal
Application event totals		62.70	0.00	1.74	448.15	
05/11/2023	pivots	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	27.21	15,213,622.85 gal
Application event totals		0.00	0.00	0.00	27.21	
05/30/2023	pivots	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	32.57	18,213,622.85 gal
Application event totals		0.00	0.00	0.00	32.57	
06/19/2023	pivots	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	39.03	21,827,840.00 gal
Application event totals		0.00	0.00	0.00	39.03	
06/23/2023	Sidedress	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
UN 32	Liquid commercial fertilizer	46.00	0.00	0.00	0.00	
Application event totals		46.00	0.00	0.00	0.00	
07/22/2023	pivots	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
UN 32	Liquid commercial fertilizer	46.00	0.00	0.00	0.00	
Reed Ditch	Surface water	0.00	0.00	0.00	39.72	22,213,622.85 gal
Application event totals		46.00	0.00	0.00	39.72	

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Field 10 - 05/26/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
07/31/2023	pivots	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
UN 32	Liquid commercial fertilizer	46.00	0.00	0.00	0.00	
Reed Ditch	Surface water	0.00	0.00	0.00	40.26	22,513,622.85 gal
Application event totals		46.00	0.00	0.00	40.26	
08/16/2023	pivots	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 1	Ground water	0.00	0.00	0.00	36.11	20,191,177.14 gal
Application event totals		0.00	0.00	0.00	36.11	
08/24/2023	pivots	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 1	Ground water	0.00	0.00	0.00	46.84	26,191,177.14 gal
Application event totals		0.00	0.00	0.00	46.84	
08/30/2023	pivots	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	46.84	26,191,177.14 gal
Application event totals		0.00	0.00	0.00	46.84	

Field 11 - 11/22/2022: Wheat, silage, soft dough

Field name:	Field 11	Plant date:	11/22/2022			
Crop:	Wheat, silage, soft dough					
Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
02/01/2023	pivots	Steady rain	Steady rain		Heavy rain	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 4	Ground water	0.87	0.00	0.00	256.74	9,854,491.42 gal
Application event totals		0.87	0.00	0.00	256.74	

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Field 11 - 11/22/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following
02/21/2023	Broadcast/incorporate	No precipitation	No precipitation		No precipitation
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)
Urea	Liquid commercial fertilizer	110.00	0.00	0.00	0.00
Application event totals		110.00	0.00	0.00	0.00

Field 11 - 05/24/2023: Corn, silage

Field name: Field 11

Crop: Corn, silage

Plant date: 05/24/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following
04/13/2023	Broadcast/incorporate	No precipitation	No precipitation		No precipitation
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)
Manure	Corral solids	125.27	47.23	178.67	7,228.88
Application event totals		125.27	47.23	178.67	7,228.88
05/07/2023	pivots	No precipitation	No precipitation	No precipitation	No precipitation
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)
Reed Ditch	Surface water	0.00	0.00	0.00	36.32
Application event totals		0.00	0.00	0.00	36.32
05/30/2023	pivots	No precipitation	No precipitation	No precipitation	No precipitation
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)
Reed Ditch	Surface water	0.00	0.00	0.00	38.15
Application event totals		0.00	0.00	0.00	38.15
06/16/2023	pivots	No precipitation	No precipitation	No precipitation	No precipitation
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)
UN 32	Liquid commercial fertilizer	46.00	0.00	0.00	0.00
Reed Ditch	Surface water	0.00	0.00	0.00	39.98
Application event totals		46.00	0.00	0.00	39.98

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Field 11 - 05/24/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
06/24/2023	pivots	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	39.98	21,827,840.00 gal
Application event totals		0.00	0.00	0.00	39.98	
07/12/2023	pivots	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
UN 32	Liquid commercial fertilizer	46.00	0.00	0.00	0.00	
Well 4	Ground water	1.56	0.00	0.00	459.94	17,654,400.00 gal
Application event totals		47.56	0.00	0.00	459.94	
07/25/2023	pivots	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 7	Ground water	1.80	0.00	0.00	487.10	18,993,600.00 gal
Application event totals		1.80	0.00	0.00	487.10	
08/01/2023	pivots	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 4	Ground water	1.41	0.00	0.00	416.68	15,993,600.00 gal
Application event totals		1.41	0.00	0.00	416.68	
08/12/2023	pivots	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 4	Ground water	1.32	0.00	0.00	390.62	14,993,600.00 gal
Application event totals		1.32	0.00	0.00	390.62	
08/20/2023	pivots	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 4	Ground water	1.59	0.00	0.00	468.78	17,993,600.00 gal
Application event totals		1.59	0.00	0.00	468.78	

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Field 12 - 11/15/2022: Wheat, silage, soft dough

Field name: Field 12

Crop: Wheat, silage, soft dough

Plant date: 11/15/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
02/05/2023	pivots	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 4	Ground water	0.51	0.00	0.00	151.30	5,854,491.42 gal
Application event totals		0.51	0.00	0.00	151.30	
02/21/2023	Broadcast/incorporate	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Urea	Liquid commercial fertilizer	100.00	0.00	0.00	0.00	
Application event totals		100.00	0.00	0.00	0.00	

Field 12 - 05/10/2023: Sudangrass, silage

Field name: Field 12

Crop: Sudangrass, silage

Plant date: 05/10/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
04/28/2023	Broadcast/incorporate	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Manure	Separator solids	336.77	108.39	282.58	2,529.33	1,200.00 ton
Application event totals		336.77	108.39	282.58	2,529.33	
05/01/2023	pivots	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	34.51	18,993,600.00 gal
Application event totals		0.00	0.00	0.00	34.51	

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Field 12 - 05/10/2023: Sudangrass, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
06/02/2023	pivots	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	34.51	18,993,600.00 gal
Application event totals		0.00	0.00	0.00	34.51	
06/22/2023	pivots	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	34.51	18,993,600.00 gal
Application event totals		0.00	0.00	0.00	34.51	
07/10/2023	pivots	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	34.51	18,993,600.00 gal
Application event totals		0.00	0.00	0.00	34.51	
08/05/2023	pivots	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 7	Ground water	1.79	0.00	0.00	483.17	18,993,600.00 gal
Application event totals		1.79	0.00	0.00	483.17	
08/10/2023	pivots	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 7	Ground water	1.79	0.00	0.00	483.17	18,993,600.00 gal
Application event totals		1.79	0.00	0.00	483.17	
08/15/2023	pivots	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 7	Ground water	1.79	0.00	0.00	483.17	18,993,600.00 gal
Application event totals		1.79	0.00	0.00	483.17	

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Field 12 - 05/10/2023: Sudangrass, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
08/30/2023	pivots	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	34.51	18,993,600.00 gal
Application event totals		0.00	0.00	0.00	34.51	

Field 13 - 12/23/2022: Wheat, silage, soft dough

Field name: Field 13

Crop: Wheat, silage, soft dough Plant date: 12/23/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
02/21/2023	Broadcast/incorporate	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Urea	Liquid commercial fertilizer	110.00	0.00	0.00	0.00	
Application event totals		110.00	0.00	0.00	0.00	
04/03/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	30.71	20,854,491.42 gal
Application event totals		0.00	0.00	0.00	30.71	

Field 13 - 06/26/2023: Corn, silage

Field name: Field 13

Crop: Corn, silage Plant date: 06/26/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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Field 13 - 06/26/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
05/30/2023	Broadcast/incorporate	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Manure	Corral solids	114.14	43.04	162.79	6,586.31	850.00 ton
Application event totals		114.14	43.04	162.79	6,586.31	
06/09/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	42.49	28,854,491.42 gal
Application event totals		0.00	0.00	0.00	42.49	
07/12/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	49.86	33,854,491.42 gal
Application event totals		0.00	0.00	0.00	49.86	
08/08/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
UN 32	Liquid commercial fertilizer	46.00	0.00	0.00	0.00	
Liberty Ditch	Surface water	0.00	0.00	0.00	57.22	38,854,491.42 gal
Application event totals		46.00	0.00	0.00	57.22	
08/31/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
UN 32	Liquid commercial fertilizer	46.00	0.00	0.00	0.00	
Liberty Ditch	Surface water	0.00	0.00	0.00	54.27	36,854,491.42 gal
Application event totals		46.00	0.00	0.00	54.27	
09/12/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	52.80	35,854,491.42 gal
Application event totals		0.00	0.00	0.00	52.80	

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Field 13 - 06/26/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following
10/11/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)
Liberty Ditch	Surface water	0.00	0.00	0.00	52.80
Application event totals		0.00	0.00	0.00	52.80
					35,854,491.42 gal

Field 3 - 11/25/2022: Wheat, silage, soft dough

Field name: Field 3

Crop: Wheat, silage, soft dough

Plant date: 11/25/2022

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following
02/21/2023	Broadcast/incorporate	No precipitation	No precipitation		No precipitation
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)
Urea	Liquid commercial fertilizer	150.00	0.00	0.00	0.00
Application event totals		150.00	0.00	0.00	0.00
04/03/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)
Reed Ditch	Surface water	0.00	0.00	0.00	48.27
Application event totals		0.00	0.00	0.00	48.27
05/31/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)
Reed Ditch	Surface water	0.00	0.00	0.00	62.97
Application event totals		0.00	0.00	0.00	62.97
					20,682,140.18 gal

Field 3 - 06/14/2023: Corn, silage

Field name: Field 3

Crop: Corn, silage

Plant date: 06/14/2023

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Field 3 - 06/14/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
07/06/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Reed Ditch	Surface water	0.00	0.00	0.00	85.32	28,023,210.26 gal
Application event totals		0.00	0.00	0.00	85.32	
07/26/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Un 32	Liquid commercial fertilizer	46.00	0.00	0.00	0.00	
Reed Ditch	Surface water	0.00	0.00	0.00	64.01	21,023,210.26 gal
Application event totals		46.00	0.00	0.00	64.01	
08/15/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Un 32	Liquid commercial fertilizer	60.00	0.00	0.00	0.00	
Reed Ditch	Surface water	0.00	0.00	0.00	76.19	25,023,210.26 gal
Application event totals		60.00	0.00	0.00	76.19	
09/15/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
UN 32	Liquid commercial fertilizer	46.00	0.00	0.00	0.00	
Reed Ditch	Surface water	0.00	0.00	0.00	85.02	27,923,210.26 gal
Application event totals		46.00	0.00	0.00	85.02	

Field 4 - 11/12/2019: Alfalfa, hay

Field name: Field 4

Crop: Alfalfa, hay

Plant date: 11/12/2019

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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Field 4 - 11/12/2019: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
02/05/2023	ww	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
ww	Process wastewater	40.06	0.00	2.70	698.68	1,868,000.00 gal
Application event totals		40.06	0.00	2.70	698.68	
04/28/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	38.60	13,364,280.35 gal
Application event totals		0.00	0.00	0.00	38.60	
05/17/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	35.72	12,364,280.35 gal
Application event totals		0.00	0.00	0.00	35.72	
06/21/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	39.07	13,526,322.20 gal
Application event totals		0.00	0.00	0.00	39.07	
07/24/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	44.81	15,511,605.13 gal
Application event totals		0.00	0.00	0.00	44.81	
08/15/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	41.92	14,511,605.13 gal
Application event totals		0.00	0.00	0.00	41.92	

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Field 4 - 11/12/2019: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
09/17/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	44.81	15,511,605.13 gal
Application event totals		0.00	0.00	0.00	44.81	
10/14/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 1	Ground water	0.00	0.00	0.00	25.69	17,400,000.00 gal
Application event totals		0.00	0.00	0.00	25.69	

Field 5 - 10/30/2020: Alfalfa, hay

Field name:	Field 5					
Crop:	Alfalfa, hay					
Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
02/10/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
ww	Process wastewater	38.57	0.00	2.60	672.72	1,568,000.00 gal
Application event totals		38.57	0.00	2.60	672.72	
04/25/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	41.46	12,511,605.13 gal
Application event totals		0.00	0.00	0.00	41.46	
05/28/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	51.43	15,521,605.13 gal
Application event totals		0.00	0.00	0.00	51.43	

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Field 5 - 10/30/2020: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
07/04/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	57.73	17,421,605.13 gal
Application event totals		0.00	0.00	0.00	57.73	
08/07/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 3	Ground water	3.54	0.00	0.00	506.19	22,176,000.00 gal
Application event totals		3.54	0.00	0.00	506.19	
08/18/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	50.41	15,213,622.85 gal
Application event totals		0.00	0.00	0.00	50.41	
08/29/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Well 2	Ground water	0.00	0.00	0.00	344.80	8,514,000.00 gal
Application event totals		0.00	0.00	0.00	344.80	

Field 6 - 03/02/2022: Alfalfa, hay

Field name:	Field 6	Plant date:	03/02/2022			
Crop:	Alfalfa, hay					
Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
02/15/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
ww	Process wastewater	32.38	0.00	2.18	564.75	1,568,000.00 gal
Application event totals		32.38	0.00	2.18	564.75	

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Field 6 - 03/02/2022: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
04/22/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	50.76	18,247,679.99 gal
Application event totals		0.00	0.00	0.00	50.76	
05/29/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	52.71	18,947,679.99 gal
Application event totals		0.00	0.00	0.00	52.71	
07/18/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	63.55	22,847,679.99 gal
Application event totals		0.00	0.00	0.00	63.55	
08/19/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	59.10	21,247,679.99 gal
Application event totals		0.00	0.00	0.00	59.10	
09/10/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	57.16	20,547,679.99 gal
Application event totals		0.00	0.00	0.00	57.16	

Field 7 - 02/18/2023: Alfalfa, hay

Field name: Field 7

Crop: Alfalfa, hay

Plant date: 02/18/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application	Precipitation 24 hours following
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Field 7 - 02/18/2023: Alfalfa, hay

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
02/28/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
ww	Process wastewater	33.62	0.00	2.26	586.47	1,568,000.00 gal
Application event totals		33.62	0.00	2.26	586.47	
05/03/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	52.71	18,247,679.99 gal
Application event totals		0.00	0.00	0.00	52.71	
06/13/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	52.71	18,247,679.99 gal
Application event totals		0.00	0.00	0.00	52.71	
07/03/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	64.27	22,247,679.99 gal
Application event totals		0.00	0.00	0.00	64.27	
08/23/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	64.27	22,247,679.99 gal
Application event totals		0.00	0.00	0.00	64.27	
09/28/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	64.27	22,247,679.99 gal
Application event totals		0.00	0.00	0.00	64.27	

Field 8 - 10/28/2020: Alfalfa, hay

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Field 8 - 10/28/2020: Alfalfa, hay

Field name: Field 8

Crop: Alfalfa, hay

Plant date: 10/28/2020

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
04/16/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	65.11	9,247,679.99 gal
Application event totals		0.00	0.00	0.00	65.11	
05/25/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	65.11	9,247,679.99 gal
Application event totals		0.00	0.00	0.00	65.11	
06/29/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	65.11	9,247,679.99 gal
Application event totals		0.00	0.00	0.00	65.11	
08/01/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	58.07	8,247,679.99 gal
Application event totals		0.00	0.00	0.00	58.07	
08/28/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	51.03	7,247,679.99 gal
Application event totals		0.00	0.00	0.00	51.03	

Field 9 - 12/26/2022: Wheat, silage, soft dough

Field name: Field 9

Crop: Wheat, silage, soft dough

Plant date: 12/26/2022

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Field 9 - 12/26/2022: Wheat, silage, soft dough

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
02/21/2023	Broadcast/incorporate	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Urea	Liquid commercial fertilizer	150.00	0.00	0.00	0.00	
Application event totals		150.00	0.00	0.00	0.00	
04/07/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	57.62	9,461,302.84 gal
Application event totals		0.00	0.00	0.00	57.62	

Field 9 - 06/21/2023: Corn, silage

Field name: Field 9

Crop: Corn, silage

Plant date: 06/21/2023

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
06/09/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	73.28	12,034,057.14 gal
Application event totals		0.00	0.00	0.00	73.28	
07/27/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
Liberty Ditch	Surface water	0.00	0.00	0.00	67.19	11,034,057.14 gal
Application event totals		0.00	0.00	0.00	67.19	
08/18/2023	Surface (irrigation)	No precipitation	No precipitation	No precipitation	No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
ww	Process wastewater	93.79	0.00	7.92	1,456.00	1,388,000.00 gal
Liberty Ditch	Surface water	0.00	0.00	0.00	61.10	10,034,057.14 gal
Application event totals		93.79	0.00	7.92	1,517.10	

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Field 9 - 06/21/2023: Corn, silage

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
09/01/2023	Surface (irrigation)	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
waste water	Process wastewater	87.03	0.00	7.35	1,351.10	1,288,000.00 gal
Well 3	Ground water	5.23	0.00	0.00	748.40	17,840,000.00 gal
Application event totals		92.26	0.00	7.35	2,099.50	

Pomegranates - 10/02/2007: Poms

Field name: Pomegranates

Crop: Poms Plant date: 10/02/2007

Application date	Application method	Precipitation 24 hours prior	Precipitation during application		Precipitation 24 hours following	
04/05/2023	drips	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
UN 32	Liquid commercial fertilizer	50.00	0.00	0.00	0.00	
Well 7	Ground water	8.99	0.00	0.00	2,426.44	73,845,211.38 gal
Application event totals		58.99	0.00	0.00	2,426.44	
05/08/2023	drips	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
UN 32	Liquid commercial fertilizer	50.00	0.00	0.00	0.00	
Application event totals		50.00	0.00	0.00	0.00	
06/18/2023	drips	No precipitation	No precipitation		No precipitation	
Source description	Material type	N (lbs/acre)	P (lbs/acre)	K (lbs/acre)	Salt (lbs/acre)	Amount
UN 32	Liquid commercial fertilizer	50.00	0.00	0.00	0.00	
Application event totals		50.00	0.00	0.00	0.00	

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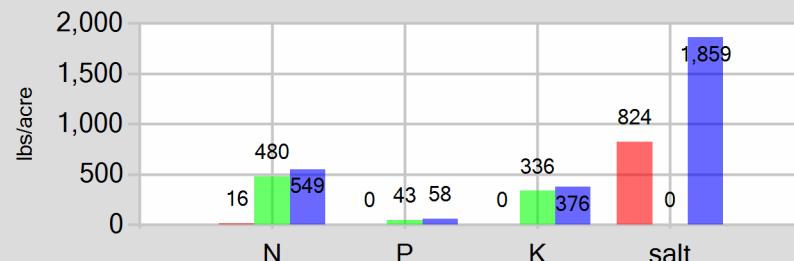
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B. NUTRIENT BUDGET

Field 1&2 - 10/20/2020: Alfalfa, hay

Field name: Field 1&2 Crop: Alfalfa, hay Plant date: 10/20/2020

Nutrient budget in lbs/acre



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	1.84	0.00	0.00	824.33
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	15.84	0.00	0.00	824.33
Anticipated crop nutrient removal	480.00	43.20	336.00	0.00
Actual crop nutrient removal	549.48	58.35	376.26	1,859.08
Nutrient balance	-533.64	-58.35	-376.26	-1,034.75
Applied to removed ratio	0.03	0.00	0.00	0.44

Fresh water applied

107,630,903.96 *gallons*
3,963.68 *acre-inches*
52.15 *inches/acre*

Process wastewater applied

0.00 *gallons*
0.00 *acre-inches*
0.00 *inches/acre*

Total harvests for the crop

8 *harvests*

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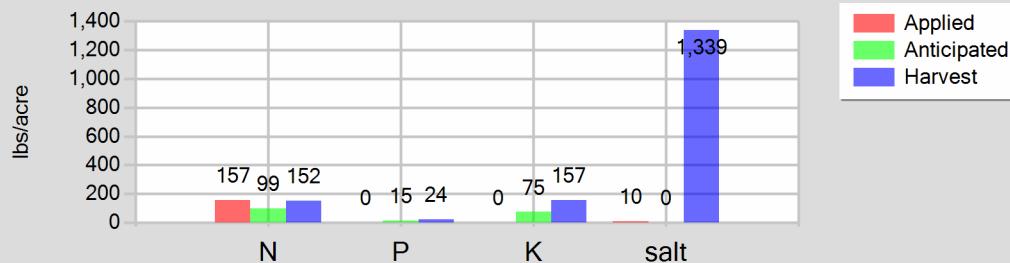
Field 10 - 11/28/2022: Wheat, silage, soft dough

Field name: Field 10

Crop: Wheat, silage, soft dough

Plant date: 11/28/2022

Nutrient budget in lbs/acre



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	150.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	0.00	0.00	0.00	9.92
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	157.00	0.00	0.00	9.92
Anticipated crop nutrient removal	99.00	15.30	74.70	0.00
Actual crop nutrient removal	152.06	24.44	157.49	1,338.65
Nutrient balance	4.94	-24.44	-157.49	-1,328.73
Applied to removed ratio	1.03	0.00	0.00	0.01

Fresh water applied

10,854,491.42 gallons
399.73 acre-inches
3.17 inches/acre

Process wastewater applied

0.00 gallons
0.00 acre-inches
0.00 inches/acre

Total harvests for the crop

1 harvests

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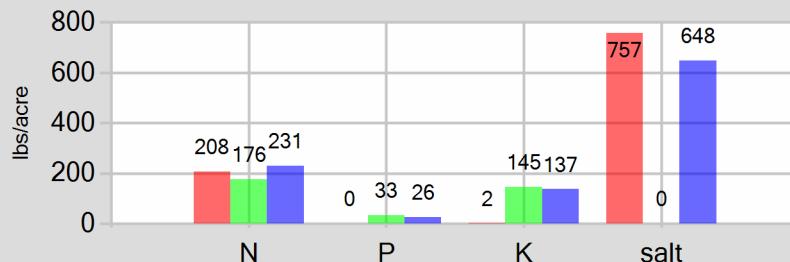
Field 10 - 05/26/2023: Corn, silage

Field name: Field 10

Crop: Corn, silage

Plant date: 05/26/2023

Nutrient budget in lbs/acre



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	138.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	62.70	0.00	1.74	448.15
Fresh water	0.00	0.00	0.00	308.57
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	207.70	0.00	1.74	756.72
Anticipated crop nutrient removal	176.00	33.00	145.20	0.00
Actual crop nutrient removal	230.74	26.50	136.90	648.07
Nutrient balance	-23.04	-26.50	-135.16	108.65
Applied to removed ratio	0.90	0.00	0.01	1.17

Fresh water applied

172,555,862.82 gallons
6,354.65 acre-inches
50.43 inches/acre

Process wastewater applied

1,480,000.00 gallons
54.50 acre-inches
0.43 inches/acre

Total harvests for the crop

1 harvests

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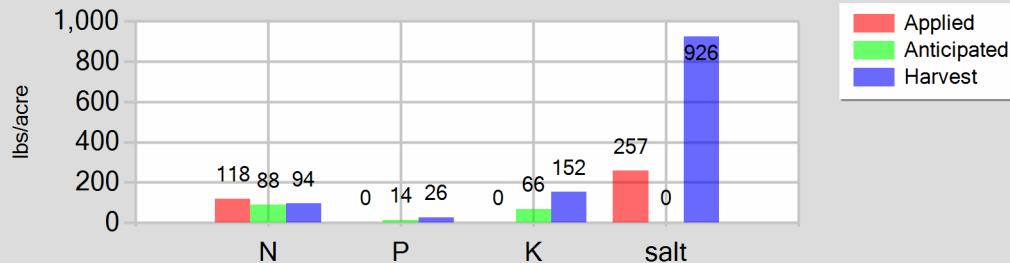
Field 11 - 11/22/2022: Wheat, silage, soft dough

Field name: Field 11

Crop: Wheat, silage, soft dough

Plant date: 11/22/2022

Nutrient budget in lbs/acre



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	110.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	0.87	0.00	0.00	256.74
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	117.87	0.00	0.00	256.74
Anticipated crop nutrient removal	88.00	13.60	66.40	0.00
Actual crop nutrient removal	94.42	25.86	151.56	925.58
Nutrient balance	23.45	-25.86	-151.56	-668.85
Applied to removed ratio	1.25	0.00	0.00	0.28

Fresh water applied

9,854,491.42 gallons
362.91 acre-inches
2.95 inches/acre

Process wastewater applied

0.00 gallons
0.00 acre-inches
0.00 inches/acre

Total harvests for the crop

1 harvests

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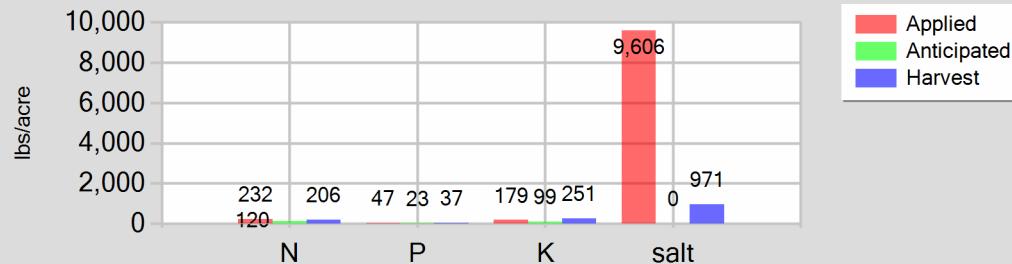
Field 11 - 05/24/2023: Corn, silage

Field name: Field 11

Crop: Corn, silage

Plant date: 05/24/2023

Nutrient budget in lbs/acre



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)	Fresh water applied
Existing soil nutrient content	0.00	0.00	0.00	0.00	169,940,160.00 gallons
Plowdown credit	0.00	0.00	0.00	0.00	6,258.32 acre-inches
Commercial fertilizer / Other	92.00	0.00	0.00	0.00	50.88 inches/acre
Dry manure	125.27	47.23	178.67	7,228.88	
Process wastewater	0.00	0.00	0.00	0.00	Process wastewater applied
Fresh water	7.68	0.00	0.00	2,377.57	0.00 gallons
Atmospheric deposition	7.00	0.00	0.00	0.00	0.00 acre-inches
Total nutrients applied	231.95	47.23	178.67	9,606.45	0.00 inches/acre
Anticipated crop nutrient removal	120.00	22.50	99.00	0.00	
Actual crop nutrient removal	205.83	36.61	251.35	970.76	Total harvests for the crop
Nutrient balance	26.13	10.62	-72.68	8,635.69	1 harvests
Applied to removed ratio	1.13	1.29	0.71	9.90	

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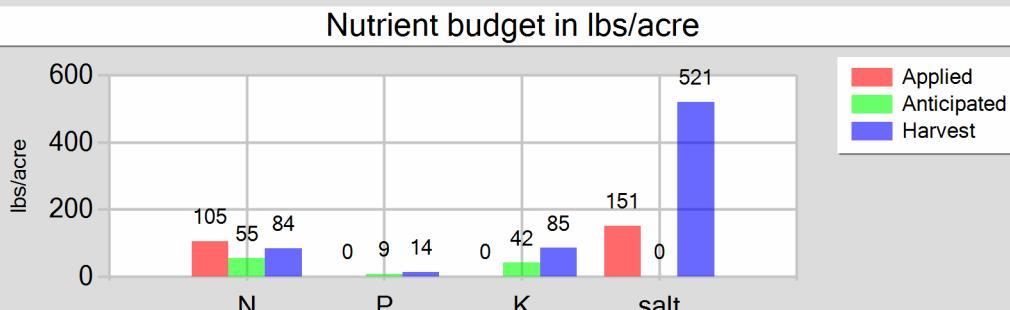
Reporting period 01/01/2023 to 12/31/2023.

Field 12 - 11/15/2022: Wheat, silage, soft dough

Field name: Field 12

Crop: Wheat, silage, soft dough

Plant date: 11/15/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	100.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	0.51	0.00	0.00	151.30
Atmospheric deposition	4.67	0.00	0.00	0.00
Total nutrients applied	105.18	0.00	0.00	151.30
Anticipated crop nutrient removal	55.00	8.50	41.50	0.00
Actual crop nutrient removal	84.50	14.26	85.19	520.54
Nutrient balance	20.68	-14.26	-85.19	-369.24
Applied to removed ratio	1.24	0.00	0.00	0.29

Fresh water applied

5,854,491.42 gallons
215.60 acre-inches
1.74 inches/acre

Process wastewater applied

0.00 gallons
0.00 acre-inches
0.00 inches/acre

Total harvests for the crop

1 harvests

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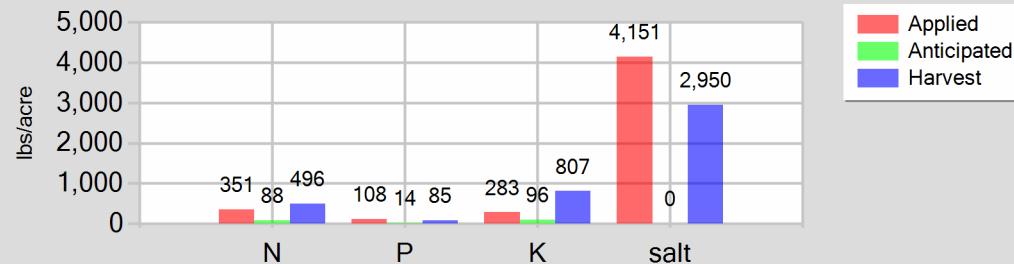
Field 12 - 05/10/2023: Sudangrass, silage

Field name: Field 12

Crop: Sudangrass, silage

Plant date: 05/10/2023

Nutrient budget in lbs/acre



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	336.77	108.39	282.58	2,529.33
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	5.37	0.00	0.00	1,622.08
Atmospheric deposition	9.33	0.00	0.00	0.00
Total nutrients applied	351.48	108.39	282.58	4,151.41
Anticipated crop nutrient removal	88.00	13.60	96.00	0.00
Actual crop nutrient removal	496.19	84.93	806.87	2,950.32
Nutrient balance	-144.71	23.45	-524.29	1,201.09
Applied to removed ratio	0.71	1.28	0.35	1.41

Fresh water applied

151,948,800.00 gallons
5,595.76 acre-inches
45.13 inches/acre

Process wastewater applied

0.00 gallons
0.00 acre-inches
0.00 inches/acre

Total harvests for the crop

2 harvests

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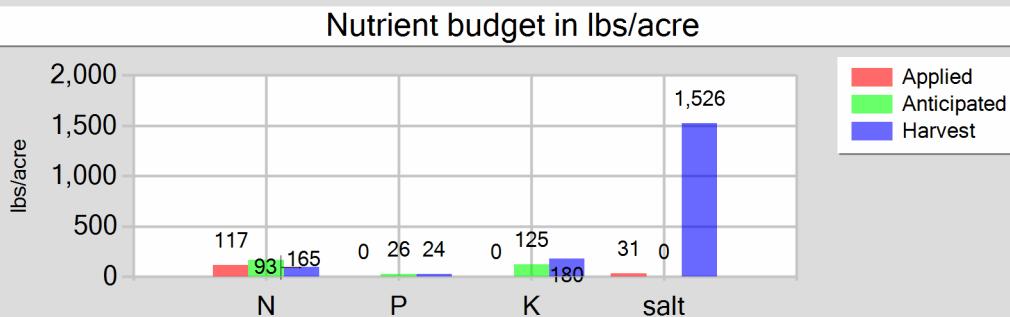
Reporting period 01/01/2023 to 12/31/2023.

Field 13 - 12/23/2022: Wheat, silage, soft dough

Field name: Field 13

Crop: Wheat, silage, soft dough

Plant date: 12/23/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	110.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	0.00	0.00	0.00	30.71
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	117.00	0.00	0.00	30.71
Anticipated crop nutrient removal	165.00	25.50	124.50	0.00
Actual crop nutrient removal	92.78	24.12	180.00	1,526.30
Nutrient balance	24.22	-24.12	-180.00	-1,495.59
Applied to removed ratio	1.26	0.00	0.00	0.02

Fresh water applied

20,854,491.42 gallons
768.00 acre-inches
5.02 inches/acre

Process wastewater applied

0.00 gallons
0.00 acre-inches
0.00 inches/acre

Total harvests for the crop

1 harvests

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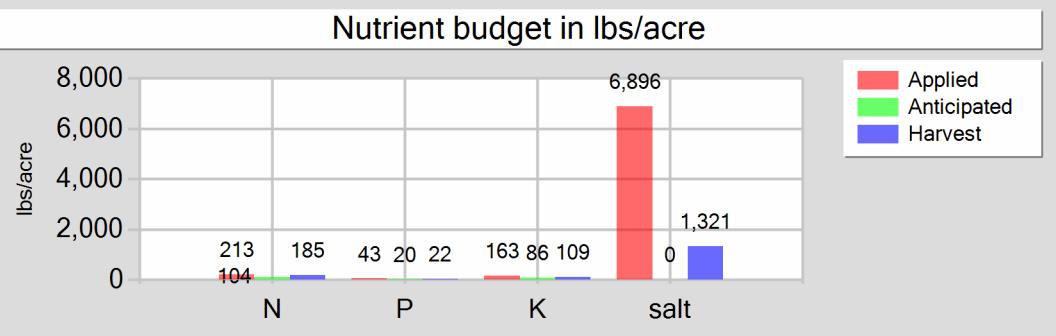
Reporting period 01/01/2023 to 12/31/2023.

Field 13 - 06/26/2023: Corn, silage

Field name: Field 13

Crop: Corn, silage

Plant date: 06/26/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	92.00	0.00	0.00	0.00
Dry manure	114.14	43.04	162.79	6,586.31
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	0.00	0.00	0.00	309.44
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	213.14	43.04	162.79	6,895.75
Anticipated crop nutrient removal	104.00	19.50	85.80	0.00
Actual crop nutrient removal	184.84	22.29	108.68	1,320.85
Nutrient balance	28.29	20.74	54.11	5,574.91
Applied to removed ratio	1.15	1.93	1.50	5.22

Fresh water applied
210,126,948.52 gallons
7,738.26 acre-inches
50.58 inches/acre

Process wastewater applied
0.00 gallons
0.00 acre-inches
0.00 inches/acre

Total harvests for the crop
1 harvests

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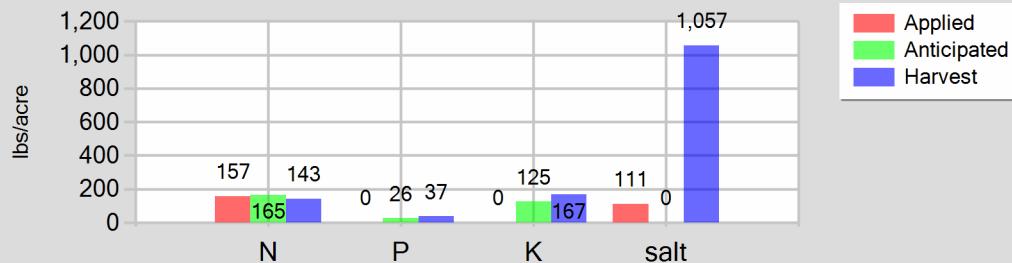
Field 3 - 11/25/2022: Wheat, silage, soft dough

Field name: Field 3

Crop: Wheat, silage, soft dough

Plant date: 11/25/2022

Nutrient budget in lbs/acre



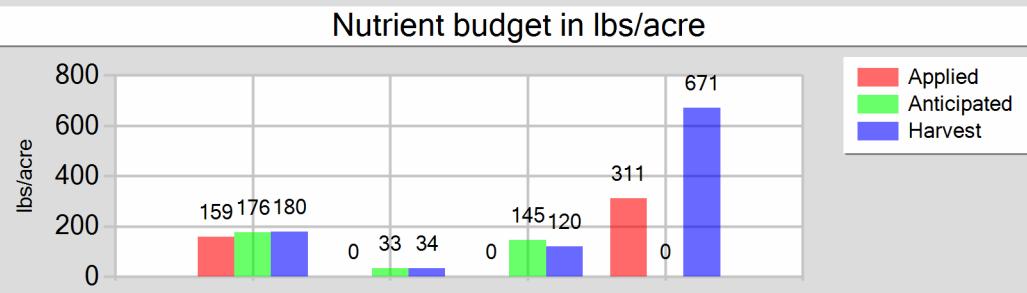
	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)	Fresh water applied
Existing soil nutrient content	0.00	0.00	0.00	0.00	36,534,815.40 gallons
Plowdown credit	0.00	0.00	0.00	0.00	1,345.45 acre-inches
Commercial fertilizer / Other	150.00	0.00	0.00	0.00	18.18 inches/acre
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	0.00	0.00	0.00	0.00	
Fresh water	0.00	0.00	0.00	111.24	
Atmospheric deposition	7.00	0.00	0.00	0.00	
Total nutrients applied	157.00	0.00	0.00	111.24	Process wastewater applied
Anticipated crop nutrient removal	165.00	25.50	124.50	0.00	0.00 gallons
Actual crop nutrient removal	143.30	36.94	166.81	1,056.85	0.00 acre-inches
Nutrient balance	13.70	-36.94	-166.81	-945.61	0.00 inches/acre
Applied to removed ratio	1.10	0.00	0.00	0.11	Total harvests for the crop
					1 harvests

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Field 3 - 06/14/2023: Corn, silage

Field name: Field 3 Crop: Corn, silage Plant date: 06/14/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	152.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	0.00	0.00	0.00	310.55
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	159.00	0.00	0.00	310.55
Anticipated crop nutrient removal	176.00	33.00	145.20	0.00
Actual crop nutrient removal	179.70	33.86	119.80	670.60
Nutrient balance	-20.70	-33.86	-119.80	-360.05
Applied to removed ratio	0.88	0.00	0.00	0.46

Fresh water applied
101,992,841.04 gallons
3,756.05 acre-inches
50.76 inches/acre

Process wastewater applied
0.00 gallons
0.00 acre-inches
0.00 inches/acre

Total harvests for the crop
1 harvests

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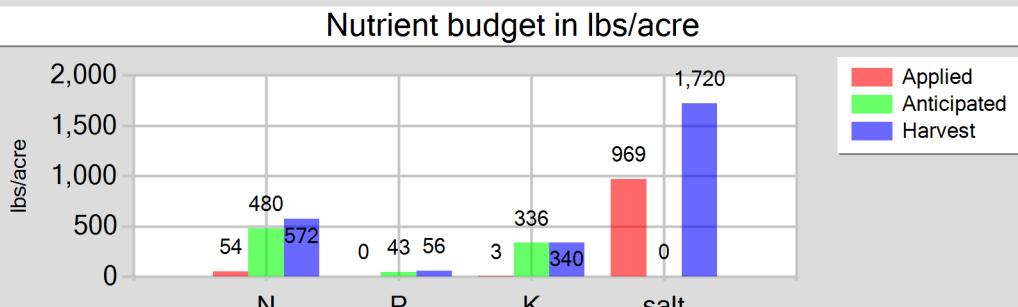
Reporting period 01/01/2023 to 12/31/2023.

Field 4 - 11/12/2019: Alfalfa, hay

Field name: Field 4

Crop: Alfalfa, hay

Plant date: 11/12/2019



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	40.06	0.00	2.70	698.68
Fresh water	0.00	0.00	0.00	270.62
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	54.06	0.00	2.70	969.30
Anticipated crop nutrient removal	480.00	43.20	336.00	0.00
Actual crop nutrient removal	572.31	55.94	340.45	1,719.86
Nutrient balance	-518.25	-55.94	-337.75	-750.56
Applied to removed ratio	0.09	0.00	0.01	0.56

Fresh water applied

102,189,698.29 gallons
3,763.30 acre-inches
48.25 inches/acre

Process wastewater applied

1,868,000.00 gallons
68.79 acre-inches
0.88 inches/acre

Total harvests for the crop

7 harvests

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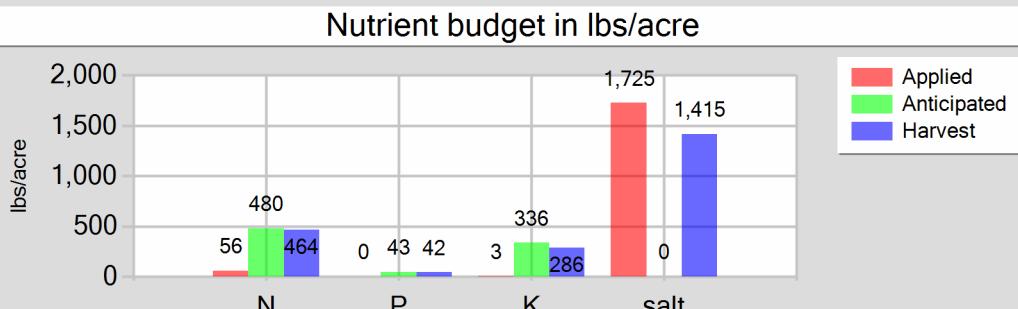
Reporting period 01/01/2023 to 12/31/2023.

Field 5 - 10/30/2020: Alfalfa, hay

Field name: Field 5

Crop: Alfalfa, hay

Plant date: 10/30/2020



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	38.57	0.00	2.60	672.72
Fresh water	3.54	0.00	0.00	1,052.01
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	56.11	0.00	2.60	1,724.73
Anticipated crop nutrient removal	480.00	43.20	336.00	0.00
Actual crop nutrient removal	463.69	42.45	285.95	1,414.89
Nutrient balance	-407.58	-42.45	-283.36	309.84
Applied to removed ratio	0.12	0.00	0.01	1.22

Fresh water applied

91,358,438.24 gallons
3,364.42 acre-inches
49.48 inches/acre

Process wastewater applied

1,568,000.00 gallons
57.74 acre-inches
0.85 inches/acre

Total harvests for the crop

6 harvests

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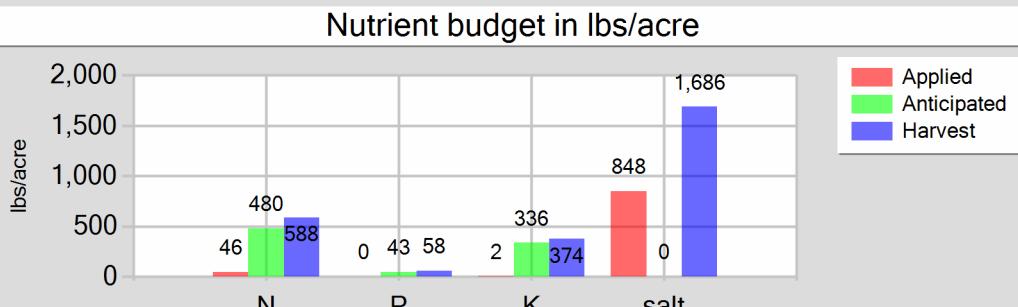
Reporting period 01/01/2023 to 12/31/2023.

Field 6 - 03/02/2022: Alfalfa, hay

Field name: Field 6

Crop: Alfalfa, hay

Plant date: 03/02/2022



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	32.38	0.00	2.18	564.75
Fresh water	0.00	0.00	0.00	283.28
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	46.38	0.00	2.18	848.03
Anticipated crop nutrient removal	480.00	43.20	336.00	0.00
Actual crop nutrient removal	588.10	57.91	374.46	1,686.25
Nutrient balance	-541.72	-57.91	-372.28	-838.21
Applied to removed ratio	0.08	0.00	0.01	0.50

Fresh water applied

101,838,399.95 gallons
3,750.36 acre-inches
46.30 inches/acre

Process wastewater applied

1,568,000.00 gallons
57.74 acre-inches
0.71 inches/acre

Total harvests for the crop

7 harvests

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Reporting period 01/01/2023 to 12/31/2023.

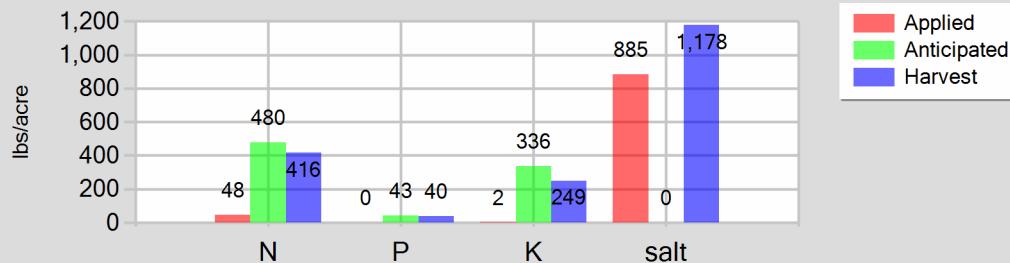
Field 7 - 02/18/2023: Alfalfa, hay

Field name: Field 7

Crop: Alfalfa, hay

Plant date: 02/18/2023

Nutrient budget in lbs/acre



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	33.62	0.00	2.26	586.47
Fresh water	0.00	0.00	0.00	298.22
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	47.62	0.00	2.26	884.69
Anticipated crop nutrient removal	480.00	43.20	336.00	0.00
Actual crop nutrient removal	416.09	40.31	249.12	1,177.55
Nutrient balance	-368.47	-40.31	-246.86	-292.85
Applied to removed ratio	0.11	0.00	0.01	0.75

Fresh water applied

103,238,399.95 gallons
3,801.92 acre-inches
48.74 inches/acre

Process wastewater applied

1,568,000.00 gallons
57.74 acre-inches
0.74 inches/acre

Total harvests for the crop

7 harvests

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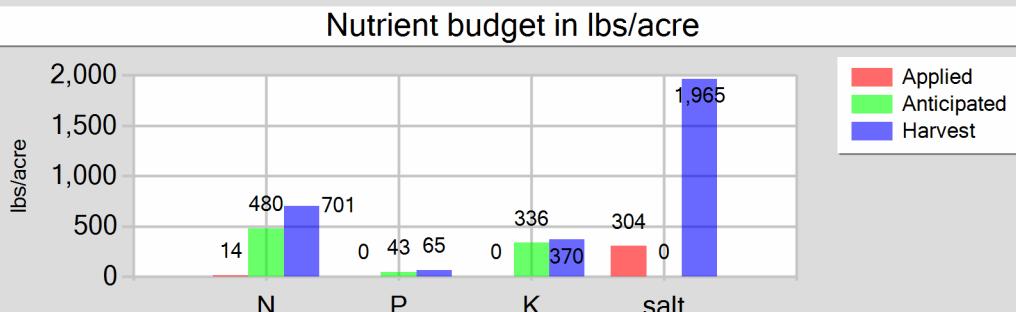
Reporting period 01/01/2023 to 12/31/2023.

Field 8 - 10/28/2020: Alfalfa, hay

Field name: Field 8

Crop: Alfalfa, hay

Plant date: 10/28/2020



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	0.00	0.00	0.00	304.45
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	14.00	0.00	0.00	304.45
Anticipated crop nutrient removal	480.00	43.20	336.00	0.00
Actual crop nutrient removal	700.71	65.32	369.80	1,965.08
Nutrient balance	-686.71	-65.32	-369.80	-1,660.63
Applied to removed ratio	0.02	0.00	0.00	0.15

Fresh water applied

43,238,399.95 gallons
1,592.32 acre-inches
49.76 inches/acre

Process wastewater applied

0.00 gallons
0.00 acre-inches
0.00 inches/acre

Total harvests for the crop

7 harvests

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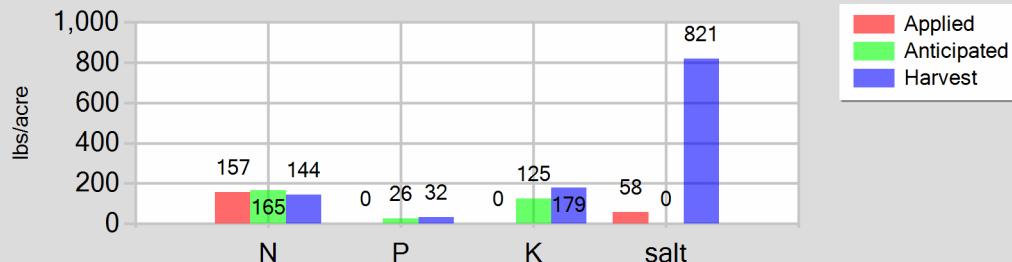
Field 9 - 12/26/2022: Wheat, silage, soft dough

Field name: Field 9

Crop: Wheat, silage, soft dough

Plant date: 12/26/2022

Nutrient budget in lbs/acre



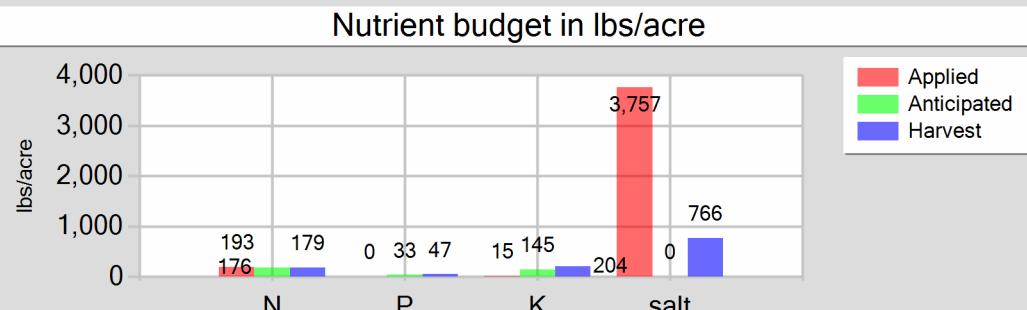
	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)	Fresh water applied
Existing soil nutrient content	0.00	0.00	0.00	0.00	9,461,302.84 gallons
Plowdown credit	0.00	0.00	0.00	0.00	348.43 acre-inches
Commercial fertilizer / Other	150.00	0.00	0.00	0.00	9.42 inches/acre
Dry manure	0.00	0.00	0.00	0.00	
Process wastewater	0.00	0.00	0.00	0.00	
Fresh water	0.00	0.00	0.00	57.62	
Atmospheric deposition	7.00	0.00	0.00	0.00	
Total nutrients applied	157.00	0.00	0.00	57.62	
Anticipated crop nutrient removal	165.00	25.50	124.50	0.00	
Actual crop nutrient removal	144.24	31.52	178.63	820.53	
Nutrient balance	12.76	-31.52	-178.63	-762.91	
Applied to removed ratio	1.09	0.00	0.00	0.07	
Total harvests for the crop					1 harvests

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Field 9 - 06/21/2023: Corn, silage

Field name: Field 9 Crop: Corn, silage Plant date: 06/21/2023



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	0.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	180.82	0.00	15.27	2,807.09
Fresh water	5.23	0.00	0.00	949.98
Atmospheric deposition	7.00	0.00	0.00	0.00
Total nutrients applied	193.05	0.00	15.27	3,757.07
Anticipated crop nutrient removal	176.00	33.00	145.20	0.00
Actual crop nutrient removal	179.29	47.46	203.55	765.68
Nutrient balance	13.76	-47.46	-188.28	2,991.39
Applied to removed ratio	1.08	0.00	0.08	4.91

Fresh water applied
50,942,171.42 gallons
1,876.03 acre-inches
50.70 inches/acre

Process wastewater applied
2,676,000.00 gallons
98.55 acre-inches
2.66 inches/acre

Total harvests for the crop
1 harvests

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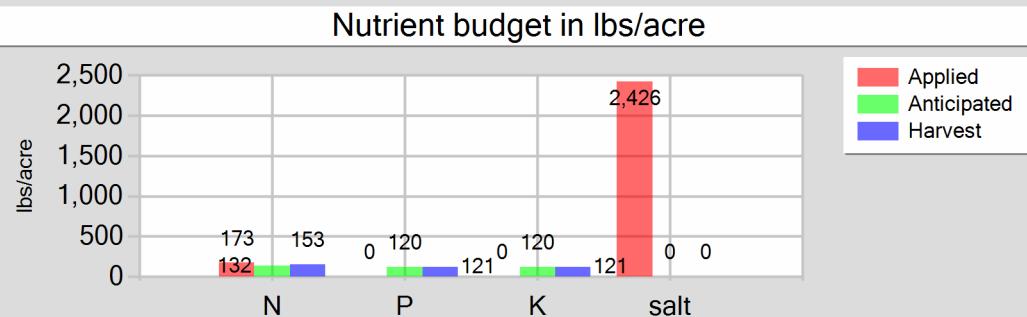
Reporting period 01/01/2023 to 12/31/2023.

Pomegranates - 10/02/2007: Poms

Field name: Pomegranates

Crop: Poms

Plant date: 10/02/2007



	Total N (lbs/acre)	Total P (lbs/acre)	Total K (lbs/acre)	Total salt (lbs/acre)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	150.00	0.00	0.00	0.00
Dry manure	0.00	0.00	0.00	0.00
Process wastewater	0.00	0.00	0.00	0.00
Fresh water	8.99	0.00	0.00	2,426.44
Atmospheric deposition	14.00	0.00	0.00	0.00
Total nutrients applied	172.99	0.00	0.00	2,426.44
Anticipated crop nutrient removal	132.00	120.00	120.00	0.00
Actual crop nutrient removal	153.00	121.13	121.13	0.00
Nutrient balance	19.99	-121.13	-121.13	2,426.44
Applied to removed ratio	1.13	0.00	0.00	0.00

Fresh water applied

73,845,211.38 gallons
2,719.47 acre-inches
28.33 inches/acre

Process wastewater applied

0.00 gallons
0.00 acre-inches
0.00 inches/acre

Total harvests for the crop

1 harvests

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NUTRIENT ANALYSES**A. MANURE ANALYSES****Corral - manure**

Sample and source description: Corral - manure

Sample date: 06/09/2023 Material type: Corral solids Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 15.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Calcium (mg/kg)	Magnesium (mg/kg)	Sodium (mg/kg)	Sulfur (mg/kg)	Chloride (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	12,200.00	4,600.00	17,400.00							70.40
DL	500.00	100.00	100.00							0.01

Separator manure

Sample and source description: Separator manure

Sample date: 06/09/2023 Material type: Separator solids Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 63.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Calcium (mg/kg)	Magnesium (mg/kg)	Sodium (mg/kg)	Sulfur (mg/kg)	Chloride (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	17,400.00	5,600.00	14,600.00							36.20
DL	500.00	100.00	100.00							0.01

Corral Manure

Sample and source description: Corral Manure

Sample date: 10/11/2023 Material type: Corral solids Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 14.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Calcium (mg/kg)	Magnesium (mg/kg)	Sodium (mg/kg)	Sulfur (mg/kg)	Chloride (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	9,800.00	5,300.00	1,110.00							57.66
DL	500.00	100.00	100.00							0.01

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Separator manure

Sample and source description: Separator manure

Sample date: 10/11/2023 Material type: Separator solids Source of analysis: Lab analysis Method of reporting: Dry-weight
Moisture: 64.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Calcium (mg/kg)	Magnesium (mg/kg)	Sodium (mg/kg)	Sulfur (mg/kg)	Chloride (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	27,800.00	5,900.00	8,600.00							45.94
DL	500.00	100.00	100.00							0.01

B. PROCESS WASTEWATER ANALYSES**Pond 1**

Sample and source description: Pond 1

Sample date: 03/09/2023 Material type: Process wastewater Source of analysis: Lab analysis pH: 7.68

	Kjeldahl-N (mg/L)	NH4-N (mg/L)	NH3-N (mg/L)	Nitrate-N (mg/L)	Total P (mg/L)	Total K (mg/L)	Calcium (mg/L)	Magnes. (mg/L)	Sodium (mg/L)	Bicarb. (mg/L)	Carb. (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	200.00	165.60	3.40	0.44	0.00	13.50								5.50	3,496
DL	20.00	0.57	0.57	0.04	0.01	0.01								0.01	19

Pond 1

Sample and source description: Pond 1

Sample date: 06/09/2023 Material type: Process wastewater Source of analysis: Lab analysis pH: 7.87

	Kjeldahl-N (mg/L)	NH4-N (mg/L)	NH3-N (mg/L)	Nitrate-N (mg/L)	Total P (mg/L)	Total K (mg/L)	Calcium (mg/L)	Magnes. (mg/L)	Sodium (mg/L)	Bicarb. (mg/L)	Carb. (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	638.00	150.20	5.00	1.70	0.00	17.80								7.10	4,572
DL	20.00	0.57	0.57	0.04	0.01	0.01								0.01	19

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Pond 1

Sample and source description: Pond 1

Sample date: 08/17/2023 Material type: Process wastewater Source of analysis: Lab analysis pH: 7.81

	Kjeldahl-N (mg/L)	NH4-N (mg/L)	NH3-N (mg/L)	Nitrate-N (mg/L)	Total P (mg/L)	Total K (mg/L)	Calcium (mg/L)	Magnes. (mg/L)	Sodium (mg/L)	Bicarb. (mg/L)	Carb. (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	299.00	192.50	5.80	0.59	0.00	25.30								7.30	4,651
DL	20.00	0.57	0.57	0.04	0.01	0.01								0.01	19

Pond 1

Sample and source description: Pond 1

Sample date: 10/11/2023 Material type: Process wastewater Source of analysis: Lab analysis pH: 7.85

	Kjeldahl-N (mg/L)	NH4-N (mg/L)	NH3-N (mg/L)	Nitrate-N (mg/L)	Total P (mg/L)	Total K (mg/L)	Calcium (mg/L)	Magnes. (mg/L)	Sodium (mg/L)	Bicarb. (mg/L)	Carb. (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	220.00	152.00	5.40	0.45	0.00	18.30								5.60	3,571
DL	20.00	0.57	0.57	0.04	0.01	0.01								0.01	19

C. FRESH WATER ANALYSES

Liberty Ditch

2077-01

Sample description: 2077-01

Sample date: 07/17/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value											20.00	27
DL											1.00	5

Reed Ditch

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Reed Ditch

2077-02

Sample description: 2077-02

Sample date: 07/17/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value											22.00	27
DL											1.00	5

Well 1

1896-01

Sample description: 1896-01

Sample date: 09/14/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value											23.00	
DL											1.00	

Well 2

10949-04

Sample description: 10949-04

Sample date: 09/08/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value											550.00	
DL											1.00	

Well 3

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Well 3

10949-05

Sample description: 10949-05

Sample date: 09/08/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	1.30										310.00	
DL	0.23										1.00	

Well 4

10949-02

Sample description: 10949-02

Sample date: 09/08/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	1.30										640.00	
DL	0.23										1.00	

Well 7

10949-01

Sample description: 10949-01

Sample date: 09/08/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value	1.40										630.00	
DL	0.23										1.00	

well 8

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well 8

10949-03

Sample description: 10949-03

Sample date: 09/08/2023 Source of analysis: Lab analysis

	Total N (mg/L)	NH4-N (mg/L)	Nitrate-N (mg/L)	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Bicarbonate (mg/L)	Carbonate (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	EC (µmhos/cm)	TDS (mg/L)
Value											570.00	
DL												1.00

D. SOIL ANALYSES

No soil analyses entered.

E. PLANT TISSUE ANALYSES

Field 1&2 - 10/20/2020: Alfalfa, hay

09227-1

Sample and source description: 09227-1

Sample date: 05/02/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 6.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	3,700.00	3,900.00	23,400.00		11.95
DL	500.00	100.00	100.00		0.67

11645-1

Sample and source description: 11645-1

Sample date: 06/01/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 5.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	39,700.00	3,900.00	29,600.00		13.59
DL	500.00	100.00	100.00		0.67

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Field 1&2 - 10/20/2020: Alfalfa, hay

14540-1

Sample and source description: 14540-1

Sample date: 06/30/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 5.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	32,900.00	2,700.00	15,900.00		8.58
DL	500.00	100.00	100.00		0.67

19216-1

Sample and source description: 19216-1

Sample date: 09/11/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 3.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	30,500.00	3,400.00	19,300.00		10.10
DL	500.00	100.00	100.00		0.67

19216-2

Sample and source description: 19216-2

Sample date: 10/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 4.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	26,600.00	3,200.00	17,300.00		8.44
DL	500.00	100.00	100.00		0.67

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Field 1&2 - 10/20/2020: Alfalfa, hay

21649-1

Sample and source description: 21649-1

Sample date: 11/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 5.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	39,900.00	3,500.00	25,200.00		11.81
DL	500.00	100.00	100.00		0.67

Field 10 - 11/28/2022: Wheat, silage, soft dough

09227-6

Sample and source description: 09227-6

Sample date: 05/02/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 61.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	22,400.00	3,600.00	23,200.00		19.72
DL	500.00	100.00	100.00		0.67

Field 10 - 05/26/2023: Corn, silage

19454-1

Sample and source description: 19454-1

Sample date: 09/15/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 63.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	20,900.00	2,400.00	12,400.00		5.87
DL	500.00	100.00	100.00		0.67

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Field 11 - 11/22/2022: Wheat, silage, soft dough

09227-7

Sample and source description: 09227-7

Sample date: 05/02/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 60.4 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	15,700.00	4,300.00	25,200.00		15.39
DL	500.00	100.00	100.00		0.67

Field 11 - 05/24/2023: Corn, silage

20758-9

Sample and source description: 20758-9

Sample date: 10/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 68.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	20,800.00	3,700.00	25,400.00		9.81
DL	500.00	100.00	100.00		0.67

Field 12 - 11/15/2022: Wheat, silage, soft dough

09227-8

Sample and source description: 09227-8

Sample date: 05/02/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 65.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	24,300.00	4,100.00	24,500.00		14.97
DL	500.00	100.00	100.00		0.67

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Field 12 - 05/10/2023: Sudangrass, silage

milo19216-15

Sample and source description: milo19216-15

Sample date: 09/11/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 2.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	22,200.00	3,800.00	36,100.00		13.20
DL	500.00	100.00	100.00		0.67

Field 13 - 12/23/2022: Wheat, silage, soft dough

11645-8

Sample and source description: 11645-8

Sample date: 06/01/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 58.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	10,000.00	2,600.00	19,400.00		16.45
DL	500.00	100.00	100.00		0.67

Field 13 - 06/26/2023: Corn, silage

21649-7

Sample and source description: 21649-7

Sample date: 11/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 65.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	19,900.00	2,400.00	11,700.00		14.22
DL	500.00	100.00	100.00		0.67

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Field 3 - 11/25/2022: Wheat, silage, soft dough

11645-2

Sample and source description: 11645-2

Sample date: 06/01/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 53.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	12,800.00	3,300.00	14,900.00		9.44
DL	500.00	100.00	100.00		0.67

Field 3 - 06/14/2023: Corn, silage

20758-2

Sample and source description: 20758-2

Sample date: 10/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 65.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	13,800.00	2,600.00	9,200.00		5.15
DL	500.00	100.00	100.00		0.67

Field 4 - 11/12/2019: Alfalfa, hay

09227-2

Sample and source description: 09227-2

Sample date: 05/02/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 5.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	35,100.00	4,300.00	26,600.00		11.50
DL	500.00	100.00	100.00		0.67

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Reporting period 01/01/2023 to 12/31/2023.

Field 4 - 11/12/2019: Alfalfa, hay

11645-3

Sample and source description: 11645-3

Sample date: 06/01/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 6.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	42,200.00	3,400.00	18,100.00		10.30
DL	500.00	100.00	100.00		0.67

14540-2

Sample and source description: 14540-2

Sample date: 06/30/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 6.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	36,300.00	3,100.00	18,900.00		9.04
DL	500.00	100.00	100.00		0.67

19216-3

Sample and source description: 19216-3

Sample date: 09/11/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 4.7 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	35,100.00	3,300.00	20,400.00		10.56
DL	500.00	100.00	100.00		0.67

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Reporting period 01/01/2023 to 12/31/2023.

Field 4 - 11/12/2019: Alfalfa, hay

19216-4

Sample and source description: 19216-4

Sample date: 09/11/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 4.7 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	28,900.00	4,000.00	28,700.00		13.74
DL	500.00	100.00	100.00		0.67

21649-2

Sample and source description: 21649-2

Sample date: 11/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 5.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	33,600.00	3,200.00	15,400.00		10.71
DL	500.00	100.00	100.00		0.67

Field 5 - 10/30/2020: Alfalfa, hay

09227-3

Sample and source description: 09227-3

Sample date: 05/02/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 7.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	38,100.00	3,900.00	26,500.00		13.32
DL	500.00	100.00	100.00		0.67

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Reporting period 01/01/2023 to 12/31/2023.

Field 5 - 10/30/2020: Alfalfa, hay

11645-4

Sample and source description: 11645-4

Sample date: 06/01/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 5.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	38,100.00	3,000.00	17,700.00		10.47
DL	500.00	100.00	100.00		0.67

14540-3

Sample and source description: 14540-3

Sample date: 06/30/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 8.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	33,500.00	2,500.00	15,300.00		8.60
DL	500.00	100.00	100.00		0.67

19216-5

Sample and source description: 19216-5

Sample date: 09/11/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 4.4 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	29,600.00	2,800.00	19,100.00		9.42
DL	500.00	100.00	100.00		0.67

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Reporting period 01/01/2023 to 12/31/2023.

Field 5 - 10/30/2020: Alfalfa, hay

19216-6

Sample and source description: 19216-6

Sample date: 09/11/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 6.5 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	31,700.00	3,100.00	22,900.00		10.74
DL	500.00	100.00	100.00		0.67

20758-3

Sample and source description: 20758-3

Sample date: 10/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 7.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	34,100.00	3,700.00	26,000.00		10.64
DL	500.00	100.00	100.00		0.67

21649-3

Sample and source description: 21649-3

Sample date: 11/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 7.4 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	40,800.00	3,300.00	19,800.00		9.71
DL	500.00	100.00	100.00		0.67

Field 6 - 03/02/2022: Alfalfa, hay

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Reporting period 01/01/2023 to 12/31/2023.

Field 6 - 03/02/2022: Alfalfa, hay

09227-4

Sample and source description: 09227-4

Sample date: 05/02/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 6.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	39,300.00	4,600.00	28,900.00		11.98
DL	500.00	100.00	100.00		0.67

11645-5

Sample and source description: 11645-5

Sample date: 06/01/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 6.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	36,300.00	3,600.00	26,300.00		11.00
DL	500.00	100.00	100.00		0.67

14540-4

Sample and source description: 14540-4

Sample date: 06/30/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 5.1 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	34,300.00	3,100.00	20,300.00		9.59
DL	500.00	100.00	100.00		0.67

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Field 6 - 03/02/2022: Alfalfa, hay

19216-7

Sample and source description: 19216-7

Sample date: 09/11/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 4.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	35,600.00	3,100.00	22,400.00		9.91
DL	500.00	100.00	100.00		0.67

19216-8

Sample and source description: 19216-8

Sample date: 09/11/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 6.2 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	35,300.00	3,100.00	17,500.00		9.37
DL	500.00	100.00	100.00		0.67

20758-4

Sample and source description: 20758-4

Sample date: 10/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 6.2 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	38,800.00	4,100.00	25,600.00		10.65
DL	500.00	100.00	100.00		0.67

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Field 6 - 03/02/2022: Alfalfa, hay

21649-4

Sample and source description: 21649-4

Sample date: 11/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 12.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	34,000.00	3,600.00	22,800.00		11.20
DL	500.00	100.00	100.00		0.67

Field 7 - 02/18/2023: Alfalfa, hay

14540-5

Sample and source description: 14540-5

Sample date: 06/30/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 5.3 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	25,400.00	2,900.00	18,600.00		9.39
DL	500.00	100.00	100.00		0.67

19216-10

Sample and source description: 19216-10

Sample date: 09/11/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 5.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	35,900.00	3,300.00	19,000.00		8.79
DL	500.00	100.00	100.00		0.67

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Field 7 - 02/18/2023: Alfalfa, hay

19216-11

Sample and source description: 19216-11

Sample date: 09/11/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 7.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	38,400.00	3,200.00	15,900.00		8.43
DL	500.00	100.00	100.00		0.67

19216-9

Sample and source description: 19216-9

Sample date: 09/11/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 2.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	32,700.00	2,600.00	18,500.00		7.95
DL	500.00	100.00	100.00		0.67

20758-5

Sample and source description: 20758-5

Sample date: 10/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 6.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	28,700.00	3,400.00	26,400.00		9.35
DL	500.00	100.00	100.00		0.67

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Field 7 - 02/18/2023: Alfalfa, hay

20758-6

Sample and source description: 20758-6

Sample date: 10/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 6.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	33,900.00	3,600.00	25,000.00		9.70
DL	500.00	100.00	100.00		0.67

21649-5

Sample and source description: 21649-5

Sample date: 11/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 8.5 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	42,200.00	3,400.00	19,000.00		10.70
DL	500.00	100.00	100.00		0.67

Field 8 - 10/28/2020: Alfalfa, hay

09227-5

Sample and source description: 09227-5

Sample date: 05/02/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 8.8 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	30,900.00	4,200.00	30,300.00		12.66
DL	500.00	100.00	100.00		0.67

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Field 8 - 10/28/2020: Alfalfa, hay

11645-6

Sample and source description: 11645-6

Sample date: 06/01/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 4.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	34,800.00	3,300.00	14,900.00		9.76
DL	500.00	100.00	100.00		0.67

14540-6

Sample and source description: 14540-6

Sample date: 06/30/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 5.7 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	36,000.00	3,000.00	15,600.00		8.49
DL	500.00	100.00	100.00		0.67

19216-12

Sample and source description: 19216-12

Sample date: 09/11/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 3.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	34,100.00	2,800.00	15,500.00		8.39
DL	500.00	100.00	100.00		0.67

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Field 8 - 10/28/2020: Alfalfa, hay

20758-7

Sample and source description: 20758-7

Sample date: 10/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 7.6 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	31,800.00	3,800.00	30,600.00		11.91
DL	500.00	100.00	100.00		0.67

21649-6

Sample and source description: 21649-6

Sample date: 11/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 7.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	33,800.00	3,000.00	10,400.00		10.39
DL	500.00	100.00	100.00		0.67

Field 9 - 12/26/2022: Wheat, silage, soft dough

11645-7

Sample and source description: 11645-7

Sample date: 06/01/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 57.9 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	15,100.00	3,300.00	18,700.00		8.59
DL	500.00	100.00	100.00		0.67

Field 9 - 06/21/2023: Corn, silage

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Reporting period 01/01/2023 to 12/31/2023.

Field 9 - 06/21/2023: Corn, silage

20758-8

Sample and source description: 20758-8

Sample date: 10/09/2023 Source of analysis: Lab analysis Method of reporting: Dry-weight

Moisture: 77.7 %

	Total N (mg/kg)	Total P (mg/kg)	Total K (mg/kg)	Total salt (mg/kg)	TFS (%)
Value	17,000.00	4,500.00	19,300.00		7.26
DL	500.00	100.00	100.00		0.67

F. SUBSURFACE (TILE) DRAINAGE ANALYSES

No subsurface (tile) drainage analyses entered.

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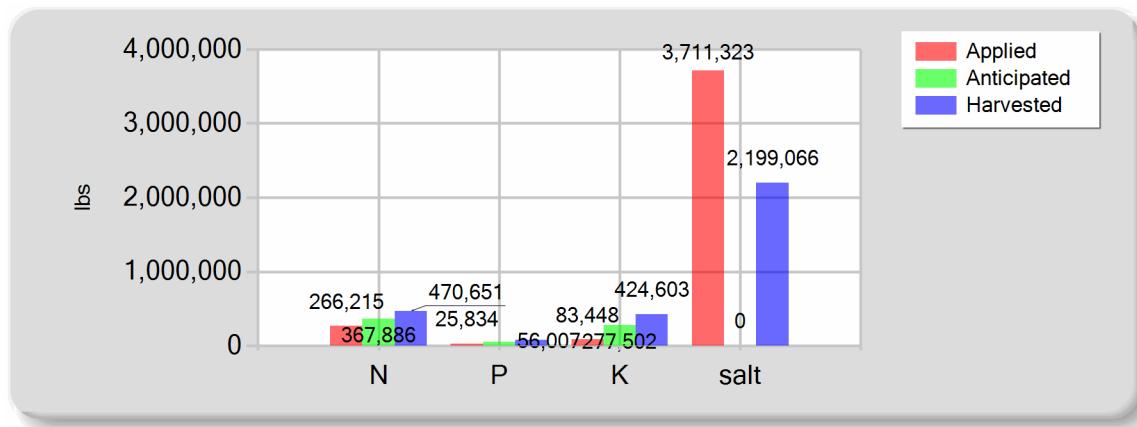
Reporting period 01/01/2023 to 12/31/2023.

NUTRIENT APPLICATIONS, POTENTIAL REMOVAL, AND BALANCE

A. SUMMARY OF NUTRIENT APPLICATIONS, POTENTIAL REMOVAL, AND BALANCE

	Total N (lbs)	Total P (lbs)	Total K (lbs)	Total salt (lbs)
Existing soil nutrient content	0.00	0.00	0.00	0.00
Plowdown credit	0.00	0.00	0.00	0.00
Commercial fertilizer / Other	146,738.00	0.00	0.00	0.00
Dry manure	74,631.68	25,834.24	81,922.56	2,210,494.40
Process wastewater	25,583.69	0.00	1,525.21	352,061.76
Fresh water	3,217.59	0.00	0.00	1,148,766.62
Atmospheric deposition	16,044.00	0.00	0.00	0.00
Total nutrients applied	266,214.96	25,834.24	83,447.77	3,711,322.78
Anticipated crop nutrient removal	367,886.00	56,006.60	277,502.20	0.00
Actual crop nutrient removal	470,651.15	74,903.22	424,603.24	2,199,066.43
Nutrient balance	-204,436.19	-49,068.98	-341,155.48	1,512,256.35
Applied to removed ratio	0.57	0.34	0.20	1.69

B. POUNDS OF NUTRIENT APPLIED VS. CROP REMOVAL

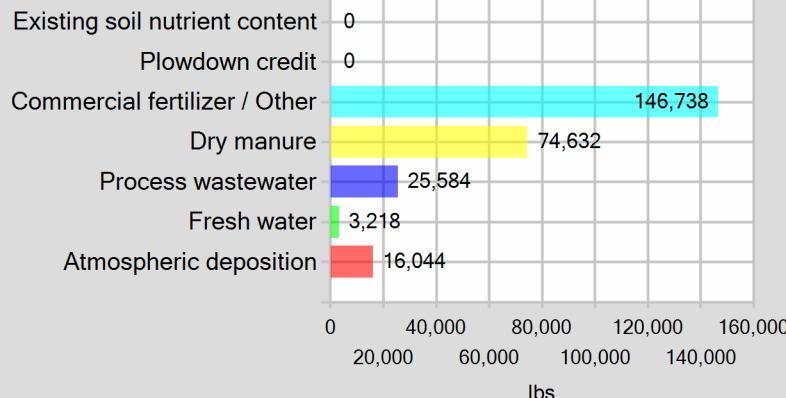


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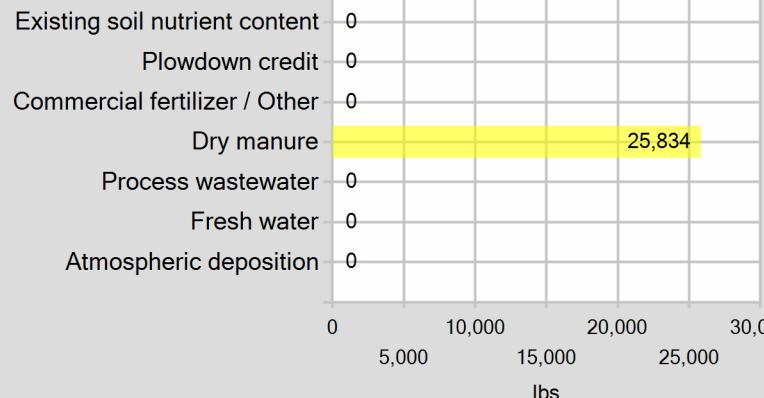
Reporting period 01/01/2023 to 12/31/2023.

C. POUNDS OF NUTRIENT APPLIED BY MATERIAL TYPE

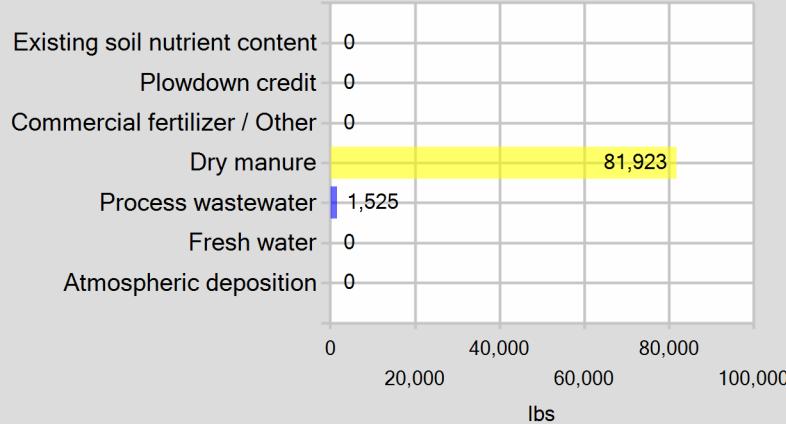
Pounds of nitrogen applied



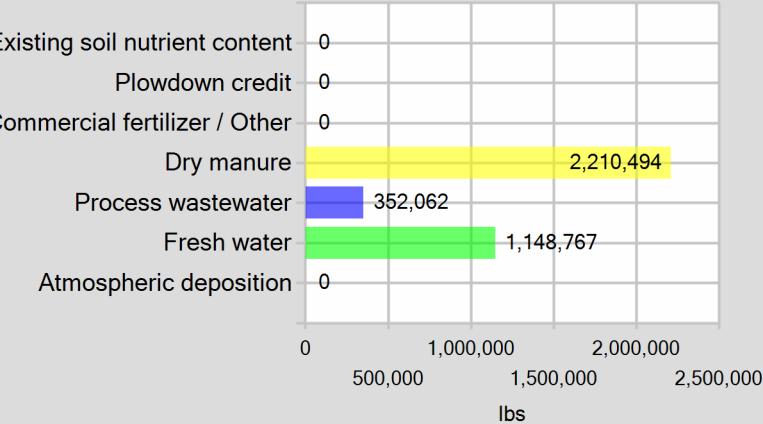
Pounds of phosphorus applied



Pounds of potassium applied



Pounds of salt applied



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Reporting period 01/01/2023 to 12/31/2023.

EXCEPTION REPORTING

A. MANURE, PROCESS WASTEWATER, AND OTHER DAIRY WASTE DISCHARGES

The following is a summary of all manure and process 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.

No manure or process wastewater discharges occurred during the reporting period.

B. STORM WATER DISCHARGES

The following 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 stormwater discharges occurred during the reporting period.

C. LAND APPLICATION AREA TO SURFACE WATER DISCHARGES

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

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

NUTRIENT MANAGEMENT PLAN AND EXPORT AGREEMENT STATEMENTS

A. NUTRIENT MANAGEMENT PLAN STATEMENTS

Was the facility's NMP updated in the reporting period? No

Was the facility's NMP developed by a certified nutrient management planner (specialist) as specified in Attachment C of the General Order? Yes

Was the facility's NMP approved by a certified nutrient management planner (specialist) as specified in Attachment C of the General Order? Yes

B. EXPORT AGREEMENT STATEMENT

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

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Reporting period 01/01/2023 to 12/31/2023.

ADDITIONAL NOTES

A. NOTES

1. Total nitrogen as Nitrate is reported as total N for well samples.
2. Exported slightly more manure than generated due to left over from previous year.
3. The flood irrigation inefficiencies for ET have to be taken into account when irrigating .
4. Field 8 alfalfa, no lagoon water added.
5. No lagoon or dry manure on Pomegranates.
6. Dry manure processes lower the moisture content for export and utilized dry manure.
7. Wells 5 & 6 nonoperational. Need major repairs.
8. Due to farming complications some yields were lower than expected.
9. Retained some wastewater to utilize for crop rotation for following year.

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Reporting period 01/01/2023 to 12/31/2023.

CERTIFICATION

A. OWNER AND/OR OPERATOR CERTIFICATION

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.

SIGNATURE OF OWNER OF FACILITY

Joann Tacherra

PRINT OR TYPE NAME

SIGNATURE OF OPERATOR OF FACILITY

Johnny Tacherra

PRINT OR TYPE NAME

DATE

DATE

Annual Report - General Order No. R5-2007-0035

Reporting period 01/01/2023 to 12/31/2023.

ATTACHMENTS

A. REQUIRED ATTACHMENTS

The following lists the required documents that should be attached to the Annual Report when submitted .

Annual Dairy Facility Assessment

Provide an Annual Dairy Facility Assessment (an update to the Preliminary Dairy Facility Assessment in Attachment A) for each reporting period. On the PDFA Final page, click on the ADFA Report button to generate an ADFA report after updating information as needed.

Manure/Process Wastewater Tracking Manifests

Provide copies of all manure/process wastewater tracking manifests for the reporting period, signed by both the owner/operator and the hauler.

Written Agreements

Provide copies of all new or revised written agreements with each third party that receives solid manure or process wastewater from the Discharger for its own use.

Corrective Actions Documents

Provide records documenting any corrective actions taken to correct deficiencies noted as a result of the inspections required in the Monitoring Requirements of the General Order. Deficiencies not corrected in 30 days must be accompanied by an explanation of the factors preventing immediate correction.

Groundwater Monitoring

Dischargers that monitor supply wells or subsurface (tile) drainage systems, or that have monitoring well systems must submit monitoring results as directed in the General Order, Groundwater Reporting Section starting on page MRP-13.

Storm Water Monitoring

Dischargers that are required to monitor storm water more frequently than required in the General Order must submit monitoring results as directed in the General Order, Storm Water Reporting Section on page MRP-14.

Waste Management Plan Report
General Order No. R5-2007-0035, Attachment B
July 1, 2010 deadline

C. OWNER AND/OR OPERATOR CERTIFICATION

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.



Joann Tachera

SIGNATURE OF OWNER



Johnny Tachera

SIGNATURE OF OPERATOR

Joann Tachera

PRINT OR TYPE NAME

6-12-2024

DATE

Johnny Tachera

PRINT OR TYPE NAME

6-12-2024

DATE

Preliminary Dairy Facility Assessment Report
General Order No. R5-2007-0035

CERTIFICATION

"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. IN ADDITION, I CERTIFY THAT THE PROVISIONS OF WASTE DISCHARGE REQUIREMENTS GENERAL ORDER NO. R5-2007-0035, INCLUDING THE DEVELOPMENT AND IMPLEMENTATION OF A NUTRIENT MANAGEMENT PLAN AND WASTE MANAGEMENT PLAN, WILL BE COMPLIED WITH."


Joann Tacherra

SIGNATURE OF OWNER OF FACILITY


Joann Tacherra

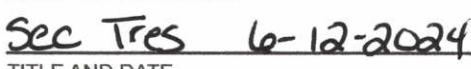
PRINT OR TYPE NAME


Johnny Tacherra

SIGNATURE OF OPERATOR OF FACILITY


Johnny Tacherra

PRINT OR TYPE NAME


Sec Tres 6-12-2024

TITLE AND DATE


President 6-12-2024

TITLE AND DATE

Copies of this assessment shall be maintained for 10 years.

These calculations are preliminary and approximate only. Completion of your Waste Management Plan and Nutrient Management Plan will provide you with more detailed and precise calculations upon which to make important decisions.

Annual Report - General Order No. R5-2007-0035

Reporting period 01/01/2023 to 12/31/2023.

CERTIFICATION

A. OWNER AND/OR OPERATOR CERTIFICATION

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.





SIGNATURE OF OWNER OF FACILITY

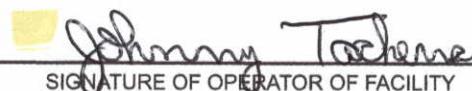
Joann Tacherra

PRINT OR TYPE NAME

6-12-2024

DATE





SIGNATURE OF OPERATOR OF FACILITY

Johnny Tacherra

PRINT OR TYPE NAME

6-12-2024

DATE



JMLORD, INC.

4184 N. KNOLL DRIVE, FRESNO, CA 93722
PHONE: (559) 268-9755 FAX: (559) 486-6504
WWW.JMLORDINC.COM

2023 Groundwater Well Report

Dairy: Morning Star Dairy
Contact: John Tacherra

Address: 10032 W. Elkhorn Ave
Burrell, CA 93656

Summary

Thirteen wells and two canals were sampled at the Morning Star Dairy by JMLord, Inc. personnel. Samples were collected on July 17th, September 8th, September 14th, and October 17th, 2023. The samples collected are listed below. Electrical conductivity (EC) was measured in the laboratory. Ammonium presence was measured in the field using test strips. Results were recorded on the sampling record for each sample collected. Samples were collected in bottles provided by the testing laboratory. The samples were placed in a cooler with ice packs and delivered to BSK Analytical Laboratories, an ELAP laboratory. Well samples were analyzed as defined in the MRP, updated in February 2011. The five year analysis was performed on approximately 20% of the wells sampled.

<u>Wells Sampled</u>	<u>Date Sampled</u>	<u>Wells Sampled</u>	<u>Date Sampled</u>
Well 1	9/14/2023	10040 W. Elkhorn (Dom Well)	10/17/2023
Well #2	9/8/2023	Old Barn (Dom Well)	10/17/2023
Well #3	9/8/2023	New Barn (Dom Well)	10/17/2023
Well #4	9/8/2023	16270 S. Jameson (Dom Well)	10/17/2023
Well #7	9/8/2023	11764 Swanson (Dom Well)	10/17/2023
Well #8 (13)	9/8/2023	Canal Liberty Ditch	7/17/2023
17164 S. Westlawn (Dom Well)	10/17/2023	Canal Reid Ditch	7/17/2023
9596 W Elkhorn (Dom Well)	10/17/2023		

The following wells were non-operational for the 2023 year: Well 5, Well 6, and Well #9 (14).

Attached are copies of the field records developed when samples were collected, the Chain of Custody forms, a map showing well locations, and the analytical results from BSK Analytical Laboratories.

FYI: The regulatory limit for Nitrate as NO₃N is 10 mg/L.



JMLORD, INC.

4184 N. KNOLL DRIVE FRESNO, CA 93722
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FRESH WATER SAMPLING RECORD

For any fresh water source, such as domestic wells, irrigation wells or canal water used for irrigation.
Refer to the Sampling and Analysis Plan for details of how the sample should be collected.

Facility: Morning star Dairy

Date: 9/8/23

Source ID: Well # 7

Time: 8:35

Source Location: Middle of field 12

Sample Properties at Time of Sampling

Sample Type: Groundwater Well Surface Water

EC: Measured in laboratory.

Field measurement.

EC _____ (μ S or mS)

Circle the correct units for EC.

Ammonium: Field measurement. Present Absent
 Not Applicable.

Notes: Took from discharge pipe..

Sample clear & no smell

Sample should be delivered to an ELAP Certified Laboratory for testing within 48 hours of collection.
Field testing for ammonium is only required for groundwater wells. If ammonium is present, sample must
also be analyzed for ammonium in the ELAP laboratory.

Sampler Signature:

Darin Chitt



JMLORD, INC.

4184 N. KNOLL DRIVE FRESNO, CA 93722
PHONE: (559) 268-9755 FAX: (559) 486-6504
WWW.JMLORDINC.COM

FRESH WATER SAMPLING RECORD

For any fresh water source, such as domestic wells, irrigation wells or canal water used for irrigation.
Refer to the Sampling and Analysis Plan for details of how the sample should be collected.

Facility: Morning Star Dairy

Date: 9/8/23

Source ID: Well #4

Time: 8:40

Source Location: NW Corner of field 3

Sample Properties at Time of Sampling

Sample Type: Groundwater Well Surface Water

EC: Measured in laboratory.

Field measurement.

EC _____ (μ S or mS)

Circle the correct units for EC.

Ammonium: Field measurement.

Present

Absent

Not Applicable.

Notes:

Took from discharge pipe.

Sample clear + no smell

Sample should be delivered to an ELAP Certified Laboratory for testing within 48 hours of collection.
Field testing for ammonium is only required for groundwater wells. If ammonium is present, sample must
also be analyzed for ammonium in the ELAP laboratory.

Sampler Signature:

Dan Clt



JMLORD, INC.

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FRESH WATER SAMPLING RECORD

For any fresh water source, such as domestic wells, irrigation wells or canal water used for irrigation.
Refer to the Sampling and Analysis Plan for details of how the sample should be collected.

Facility: Momine Star Dairy

Date: 9/8/23

Source ID: Well #8

Time: 8:46

Source Location: E side of field 13, southern well

Sample Properties at Time of Sampling

Sample Type: Groundwater Well Surface Water

EC: Measured in laboratory.
 Field measurement. EC _____ (μ S or mS)
Circle the correct units for EC.

Ammonium: Field measurement. Present Absent
 Not Applicable.

Notes: Took from discharge pipe
Sample clear & no smell.

Sample should be delivered to an ELAP Certified Laboratory for testing within 48 hours of collection.
Field testing for ammonium is only required for groundwater wells. If ammonium is present, sample must
also be analyzed for ammonium in the ELAP laboratory.

Sampler Signature: Datti Chitr



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FRESH WATER SAMPLING RECORD

For any fresh water source, such as domestic wells, irrigation wells or canal water used for irrigation.
Refer to the Sampling and Analysis Plan for details of how the sample should be collected.

Facility: Morning Star Dairy

Date: 9/8/23

Source ID: Well #3

Time: 8:50

Source Location:

North side of field 5

Sample Properties at Time of Sampling

Sample Type: Groundwater Well Surface Water

EC: Measured in laboratory.
 Field measurement.

EC _____ (μ S or mS)

Circle the correct units for EC.

Ammonium: Field measurement. Present Absent
 Not Applicable.

Notes: Took sample from discharge pipe

Sample clear + no smell.

Sample should be delivered to an ELAP Certified Laboratory for testing within 48 hours of collection.
Field testing for ammonium is only required for groundwater wells. If ammonium is present, sample must
also be analyzed for ammonium in the ELAP laboratory.

Sampler Signature:

Dale Clt



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PHONE: (559) 268-9755 FAX: (559) 486-6504
WWW.JMLORDINC.COM

FRESH WATER SAMPLING RECORD

For any fresh water source, such as domestic wells, irrigation wells or canal water used for irrigation.
Refer to the Sampling and Analysis Plan for details of how the sample should be collected.

Facility: Morning Star Dairy

Date: 9/8/23

Source ID: Well #3

Time: 9:00

Source Location:

West of new milk Barn

Sample Properties at Time of Sampling

Sample Type: Groundwater Well Surface Water

EC: Measured in laboratory.

Field measurement.

EC _____ (μ S or mS)

Circle the correct units for EC.

Ammonium: Field measurement.

Present Absent

Not Applicable.

Notes:

Took sample from discharge pipe.

Sample clear + no smell.

Sample should be delivered to an ELAP Certified Laboratory for testing within 48 hours of collection.
Field testing for ammonium is only required for groundwater wells. If ammonium is present, sample must
also be analyzed for ammonium in the ELAP laboratory.

Sampler Signature:

Dster Cht



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FRESH WATER SAMPLING RECORD

For any fresh water source, such as domestic wells, irrigation wells or canal water used for irrigation.
Refer to the Sampling and Analysis Plan for details of how the sample should be collected.

Facility: Morning Star Dairy

Date: 9/14/23

Source ID: Well #1

Time: 9:12

Source Location: SE corner of field 10.

Sample Properties at Time of Sampling

Sample Type: Groundwater Well Surface Water

EC: Measured in laboratory.

Field measurement.

EC _____ (μ S or mS)

Circle the correct units for EC.

Ammonium: Field measurement. Present Absent
 Not Applicable.

Notes: Took from discharge pipe.

Sample clear & no smell.

Sample should be delivered to an ELAP Certified Laboratory for testing within 48 hours of collection.
Field testing for ammonium is only required for groundwater wells. If ammonium is present, sample must
also be analyzed for ammonium in the ELAP laboratory.

Sampler Signature:

Dale Chit



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FRESH WATER SAMPLING RECORD

For any fresh water source, such as domestic wells, irrigation wells or canal water used for irrigation.
Refer to the Sampling and Analysis Plan for details of how the sample should be collected.

Facility: Morning Star Dairy

Date: 10/17/13

Source ID: 17164 S Westlawn (Dom well

Time: 11:00

Source Location:

House in middle of field 1

Sample Properties at Time of Sampling

Sample Type: Groundwater Well Surface Water

EC: Measured in laboratory.

Field measurement.

EC _____ (μ S or mS)

Circle the correct units for EC.

Ammonium: Field measurement. Present Absent
 Not Applicable.

Notes: Took from Spigot off tank.

Sample clear & no smell.

Sample should be delivered to an ELAP Certified Laboratory for testing within 48 hours of collection.
Field testing for ammonium is only required for groundwater wells. If ammonium is present, sample must
also be analyzed for ammonium in the ELAP laboratory.

Sampler Signature:

Dth Chtr



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PHONE: (559) 268-9755 FAX: (559) 486-6504
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FRESH WATER SAMPLING RECORD

For any fresh water source, such as domestic wells, irrigation wells or canal water used for irrigation.
Refer to the Sampling and Analysis Plan for details of how the sample should be collected.

Facility: Morning Star Dairy

Date: 10/17/23

Source ID: 9596 W Elkhorn (Dom well)

Time: 11:20

Source Location:

SE Corner of field 10, by shop

Sample Properties at Time of Sampling

Sample Type: Groundwater Well Surface Water

EC: Measured in laboratory.
 Field measurement.

EC _____ (μ S or mS)
Circle the correct units for EC.

Ammonium: Field measurement. Present Absent
 Not Applicable.

Notes: Take from spigot off tank

Sample clear + no smell.

Sample should be delivered to an ELAP Certified Laboratory for testing within 48 hours of collection.
Field testing for ammonium is only required for groundwater wells. If ammonium is present, sample must
also be analyzed for ammonium in the ELAP laboratory.

Sampler Signature:

Dan Cht



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FRESH WATER SAMPLING RECORD

For any fresh water source, such as domestic wells, irrigation wells or canal water used for irrigation.
Refer to the Sampling and Analysis Plan for details of how the sample should be collected.

Facility: Morning Star Dairy

Date: 10/17/03

Source ID: 10040 W Elkhorn (Dom well)

Time: 11:40

Source Location:

Behind first house on driveway
to dairy off Elkhorn Ave.

Sample Properties at Time of Sampling

Sample Type: Groundwater Well Surface Water

EC: Measured in laboratory.
 Field measurement.

EC _____ (μ S or mS)

Circle the correct units for EC.

Ammonium: Field measurement. Present Absent
 Not Applicable.

Notes:

Take from spigot off tank.

Sample clear + no smell.

Sample should be delivered to an ELAP Certified Laboratory for testing within 48 hours of collection.
Field testing for ammonium is only required for groundwater wells. If ammonium is present, sample must
also be analyzed for ammonium in the ELAP laboratory.

Sampler Signature:

Dale Clark



JMLORD, INC.

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FRESH WATER SAMPLING RECORD

For any fresh water source, such as domestic wells, irrigation wells or canal water used for irrigation.
Refer to the Sampling and Analysis Plan for details of how the sample should be collected.

Facility: Morning Star Dairy

Date: 10/17/23

Source ID: Old Barn well (Dom well)

Time: 12:00

Source Location:

North of old Milk barn

Sample Properties at Time of Sampling

Sample Type: Groundwater Well Surface Water

EC: Measured in laboratory.

Field measurement.

EC _____ (μ S or mS)

Circle the correct units for EC.

Ammonium: Field measurement. Present Absent

Not Applicable.

Notes: Took from spigot off tank.

Sample clear & no smell

Sample should be delivered to an ELAP Certified Laboratory for testing within 48 hours of collection.
Field testing for ammonium is only required for groundwater wells. If ammonium is present, sample must
also be analyzed for ammonium in the ELAP laboratory.

Sampler Signature:

Dale Clark



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FRESH WATER SAMPLING RECORD

For any fresh water source, such as domestic wells, irrigation wells or canal water used for irrigation.
Refer to the Sampling and Analysis Plan for details of how the sample should be collected.

Facility: Morning Star Dairy Date: 10/17/13
Source ID: New Barn Well (Dom well) Time: 12:20
Source Location: West side of new milk Barn

Sample Properties at Time of Sampling

Sample Type: Groundwater Well Surface Water

EC: Measured in laboratory.
 Field measurement.

EC _____ (μ S or mS)

Circle the correct units for EC.

Ammonium: Field measurement. Present Absent
 Not Applicable.

Notes: Took from spigot off tank.

Sample clear & no smell.

Sample should be delivered to an ELAP Certified Laboratory for testing within 48 hours of collection.
Field testing for ammonium is only required for groundwater wells. If ammonium is present, sample must
also be analyzed for ammonium in the ELAP laboratory.

Sampler Signature:



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FRESH WATER SAMPLING RECORD

For any fresh water source, such as domestic wells, irrigation wells or canal water used for irrigation.
Refer to the Sampling and Analysis Plan for details of how the sample should be collected.

Facility: Morning Star Dairy

Date: 10/17/23

Source ID: 16270 Domestic Well (Jameson)

Time: 12:30

Source Location:

SW corner of field 4

Sample Properties at Time of Sampling

Sample Type: Groundwater Well Surface Water

EC: Measured in laboratory.

Field measurement.

EC _____ (μ S or mS)

Circle the correct units for EC.

Ammonium: Field measurement.

Present Absent

Not Applicable.

Notes:

Take from spigot off tank

Sample clear & no smell.

Sample should be delivered to an ELAP Certified Laboratory for testing within 48 hours of collection.
Field testing for ammonium is only required for groundwater wells. If ammonium is present, sample must
also be analyzed for ammonium in the ELAP laboratory.

Sampler Signature:

D. H. Clark



JMLORD, INC.

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FRESH WATER SAMPLING RECORD

For any fresh water source, such as domestic wells, irrigation wells or canal water used for irrigation.
Refer to the Sampling and Analysis Plan for details of how the sample should be collected.

Facility: Morning Star Dairy

Date: 10/17/03

Source ID: 11764 Swanson (Dom. well)

Time: 10:50

Source Location: West of dairy, west of Jameson Ave on the other side of grapes. (house in the middle of field).

Sample Properties at Time of Sampling

Sample Type: Groundwater Well Surface Water

EC: Measured in laboratory.

Field measurement.

EC _____ (μ S or mS)

Circle the correct units for EC.

Ammonium: Field measurement.

Present Absent

Not Applicable.

Notes: Took from spigot.

Sample clear & no smell.

Sample should be delivered to an ELAP Certified Laboratory for testing within 48 hours of collection.
Field testing for ammonium is only required for groundwater wells. If ammonium is present, sample must also be analyzed for ammonium in the ELAP laboratory.

Sampler Signature:

Dth Clt



BSK Associates Laboratory Fresno
687 N. Laverne Avenue
Fresno, CA 93727
559-497-2888 (Main)

AGI0949
9/21/2023
Invoice: AG21811

John Tacherra
Morning Star Dairy
10032 W. Elkhorn Ave.
Burrell, CA 93656

RE: Report for AGI0949 RB5 Well

Dear John Tacherra,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 9/8/2023. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2016 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

This certificate of analysis shall not be reproduced except in full, without written approval of the laboratory.

If additional clarification of any information is required, please contact your Project Manager, PM Staff , at 559-497-2888.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP
ORELAP #4021

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGI0949 FINAL 09212023 1033



AGI0949

RB5 Well

Case Narrative

Project and Report Details

Client: Morning Star Dairy
Report To: John Tacherra
Project #: -
Received: 9/08/2023 - 13:20
Report Due: 9/22/2023

Invoice Details

Invoice To: Morning Star Dairy
Invoice Attn: John Tacherra
Project PO#: -

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt °C: 27.1
Containers Intact
COC/Labels Agree
Received with no thermal preservation.
Sample(s) arrived at lab on same day sampled.
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

None applied

Report Distribution

Recipient(s)	Report Format	CC:
John Tacherra	FINAL.RPT	
Madison Looper	FINAL.RPT	



AGI0949

RB5 Well

Certificate of Analysis

Sample ID: AGI0949-01

Sampled By: Madison Looper

Sample Description: Well 7

Sample Date - Time: 09/08/2023 - 08:35

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Nitrate as N	EPA 300.0	1.4	0.23	mg/L	1	AGI0464	09/09/23 00:59	09/09/23	

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AGI0949 FINAL 09212023 1033



AGI0949

RB5 Well

Certificate of Analysis

Sample ID: AGI0949-01RE1

Sampled By: Madison Looper

Sample Description: Well 7

Sample Date - Time: 09/08/2023 - 08:35

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Conductivity @ 25C	SM 2510B	630	1.0	umhos/cm	1	AGI1017	09/18/23	09/18/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGI0949 FINAL 09212023 1033



AGI0949

RB5 Well

Certificate of Analysis

Sample ID: AGI0949-02

Sampled By: Madison Looper

Sample Description: Well 4

Sample Date - Time: 09/08/2023 - 08:40

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Nitrate as N	EPA 300.0	1.3	0.23	mg/L	1	AGI0464	09/09/23 01:29	09/09/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGI0949 FINAL 09212023 1033



AGI0949

RB5 Well

Certificate of Analysis

Sample ID: AGI0949-02RE1

Sampled By: Madison Looper

Sample Description: Well 4

Sample Date - Time: 09/08/2023 - 08:40

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Conductivity @ 25C	SM 2510B	640	1.0	umhos/cm	1	AGI1017	09/18/23	09/18/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGI0949 FINAL 09212023 1033



AGI0949

RB5 Well

Certificate of Analysis

Sample ID: AGI0949-03

Sampled By: Madison Looper

Sample Description: Well 8

Sample Date - Time: 09/08/2023 - 08:46

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Conductivity @ 25C	SM 2510B	570	1.0	umhos/cm	1	AGI0737	09/13/23	09/13/23	
Nitrate as N	EPA 300.0	ND	0.23	mg/L	1	AGI0464	09/09/23 02:12	09/09/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGI0949 FINAL 09212023 1033



AGI0949

RB5 Well

Certificate of Analysis

Sample ID: AGI0949-04

Sampled By: Madison Looper

Sample Description: Well 2

Sample Date - Time: 09/08/2023 - 08:50

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Nitrate as N	EPA 300.0	ND	0.23	mg/L	1	AGI0464	09/09/23 01:14	09/09/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGI0949 FINAL 09212023 1033



AGI0949

RB5 Well

Certificate of Analysis

Sample ID: AGI0949-04RE1

Sampled By: Madison Looper

Sample Description: Well 2

Sample Date - Time: 09/08/2023 - 08:50

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Conductivity @ 25C	SM 2510B	550	1.0	umhos/cm	1	AGI1017	09/18/23	09/18/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGI0949 FINAL 09212023 1033



AGI0949

RB5 Well

Certificate of Analysis

Sample ID: AGI0949-05

Sampled By: Madison Looper

Sample Description: Well 3

Sample Date - Time: 09/08/2023 - 09:00

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Nitrate as N	EPA 300.0	1.3	0.23	mg/L	1	AGI0464	09/09/23 00:16	09/09/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGI0949 FINAL 09212023 1033



AGI0949

RB5 Well

Certificate of Analysis

Sample ID: AGI0949-05RE1

Sampled By: Madison Looper

Sample Description: Well 3

Sample Date - Time: 09/08/2023 - 09:00

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Conductivity @ 25C	SM 2510B	310	1.0	umhos/cm	1	AGI1017	09/18/23	09/18/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGI0949 FINAL 09212023 1033



AGI0949

RB5 Well

BSK Associates Laboratory Fresno
General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	Date Limit Analyzed	Qual	
EPA 300.0 - Quality Control											
Batch: AGI0464 Prepared: 9/9/2023											
Prep Method: Method Specific Preparation Analyst: AAS											
Blank (AGI0464-BLK1)											
Nitrate as N	ND		0.23	mg/L						09/09/23	
Blank Spike (AGI0464-BS1)											
Nitrate as N	20		0.23	mg/L	23	ND	90	90-110		09/09/23	
Matrix Spike (AGI0464-MS1), Source: AGI0949-05											
Nitrate as N	11		0.23	mg/L	11	1.3	87	80-120		09/09/23	
Matrix Spike Dup (AGI0464-MSD1), Source: AGI0949-05											
Nitrate as N	11		0.23	mg/L	11	1.3	88	80-120	1	20	09/09/23
SM 2510B - Quality Control											
Batch: AGI0737 Prepared: 9/13/2023											
Prep Method: Method Specific Preparation Analyst: CEG											
Blank Spike (AGI0737-BS1)											
Conductivity @ 25C	1400		1.0	umhos/cm	1400	ND	101	90-110		09/13/23	
Blank Spike Dup (AGI0737-BSD1)											
Conductivity @ 25C	1400		1.0	umhos/cm	1400	ND	98	90-110	3	5	09/13/23
Duplicate (AGI0737-DUP1), Source: SGI0011-01											
Conductivity @ 25C	420		1.0	umhos/cm		420			0	5	09/13/23
SM 2510B - Quality Control											
Batch: AGI1017 Prepared: 9/18/2023											
Prep Method: Method Specific Preparation Analyst: BAG											
Blank Spike (AGI1017-BS1)											
Conductivity @ 25C	1400		1.0	umhos/cm	1400	ND	97	90-110		09/18/23	
Blank Spike Dup (AGI1017-BSD1)											
Conductivity @ 25C	1400		1.0	umhos/cm	1400	ND	97	90-110	0	5	09/18/23
Duplicate (AGI1017-DUP1), Source: AGI1210-01											
Conductivity @ 25C	270		1.0	umhos/cm		270			1	5	09/18/23

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGI0949 FINAL 09212023 1033

Certificate of Analysis**Notes:**

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
 - Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
 - All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
 - Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
 - J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
 - (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
 - Field tests are outside the scope of laboratory accreditation and there is no certification available for field testing.
 - Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
 - RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
 - Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
 - The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.
 - (2) - Formerly known as Bis(2-Chloroisopropyl) ether.
- Unless otherwise noted, TOC results by SM 5310C method do not include purgeable organic carbon, which is removed along with the inorganic carbon interference. The POC contribution to TOC is considered to be negligible.



AGI0949

RB5 Well

Certificate of Analysis

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected below MRL/MDL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit	U:	The analyte was not detected at or above the reported sample quantitation limit.

Please see the individual Subcontract Lab's report for applicable certifications.

The following parameters are not available for certification through CA ELAP:

Odor Diisopropyl ether (DIPE) by EPA 524.2

The following parameters are calculated values and are outside the scope of our NELAP accreditation:

Total Nitrogen Aggressive Index Trivalent Chromium

BSK is not accredited under the NELAP program for the following additional parameters: **NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno

State of California - ELAP	1180	State of Hawaii	4021
Los Angeles CSD	9254479	NELAP certified	4021-022
State of Nevada	CA000792022-1	State of Oregon - NELAP	4021-022
EPA UCMR5	CA00079	State of Washington	C997-23

Sacramento

State of California - ELAP	1180-S1
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San Bernardino

State of California - ELAP	1180-S2	Los Angeles CSD	9254478
NELAP certified	4119-008	State of Oregon - NELAP	4119-008

Vancouver

NELAP certified	WA100008-016	State of Oregon - NELAP	WA100008-016
State of Washington	C824-23		



10

Sample Integrity

BSK Bottles: Yes No

Page 1 of 1

COC Info	Was temperature within range? Chemistry < 6°C Micro < 8°C	Yes	No	NA	Were correct containers and preservatives received for the tests requested?	Yes	No	NA
	If samples were taken today, is there evidence that chilling has begun?	Yes	No	NA	Bubbles Present VOAs (524.2/TTHM/TCP)? TB Received? (Check Method Below)	Yes	No	NA
Did all bottles arrive unbroken and intact?	Yes	No		Was a sufficient amount of sample received?	Yes	No	NA	
Did all bottle labels agree with COC?	Yes	No		Do samples have a hold time <72 hours?	Yes	No	NA	
Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes	NA		Was PM notified of discrepancies? PM: _____ By/Time: _____	Yes	No	NA	
Bottles Received <small>* means preservation/chlorine checks are either N/A or are performed in the lab</small>	250ml(A) 500ml(B) 1Liter(C) 40ml/VOA(V) 125ml(D)	Checks*	Passed?	I-S				
	Bacti Na ₂ S ₂ O ₃	—	—	1A				
	None (P) White Cap	—	—					
	Cr6 (P) LL Green Label/Blue Cap NH4OH(NH4)2SO4 DW	Cl, pH > 8	P F					
	Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 WW	pH 9.3-9.7	P F					
	Cr6 (P) Black Label/Blue Cap NH4OH(NH4)2SO4 7199 ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F					
	HNO ₃ (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
	H ₂ SO ₄ (P) or (AG) Yellow Cap/Label	pH < 2	P F					
	NaOH (P) Green Cap	Cl, pH > 10	P F					
	NaOH + ZnAc (P)	pH > 9	P F					
	Dissolved Oxygen 300ml (g)	—	—					
	None (AG) 608/6081/6082, 625, 632/6321, 8151, 8270	—	—					
	HCl (AG) Lt. Blue Label O&G, Diesel, TCP	—	—					
	Ascorbic, EDTA, KH ₂ Cr ₄ (AG) Pink Label 525	—	—					
	Na ₂ SO ₃ 250mL (AG) Neon Green Label 515	—	—					
	Na ₂ S ₂ O ₃ 1 Liter (Brown P) 549	—	—					
	Na ₂ S ₂ O ₃ (AG) Blue Label 548, THM, 524	—	—					
	Na ₂ S ₂ O ₃ (CG) Blue Label 504, 505, 547	—	—					
	Na ₂ S ₂ O ₃ + MCAA (CG) Orange Label 531	pH < 3	P F					
	NH ₄ Cl (AG) Purple Label 562	—	—					
	EDA (P) or (AG) Brown Label DBPs	—	—					
	HCL (CG) 524.2,BTEX,Gas, MTBE, 6260/624	—	—					
	Buffer pH 4 (CG)	—	—					
	H ₃ PO ₄ (CG) Salmon Label FB	I-S	—					
	Trizma - EPA 537.1 Light Blue Label FB	—	—					
Ammonia Acetate - EPA 533 Purple Label FB	—	—						
Bottled Water	—	—						
Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—						
Clear Glass	—	—						
OTHER:	—	—						
Split	Container	Preservative	Lot #	Initials	Date/Time	Preservation pH Lot # Cl Lot #	Check	
	S P							
	S P							
Comments	*Preservation check completed by lab performing analysis.					✓ Indicates Blanks Received		
	504 524.2 TTHM 537/533 TCP							
						✓ MS/MSD Received Method: _____		
Labeled by:	Labels Checked by: _____							

Scanned *Cen*

Rush/Short HT Page: _____ Time: _____



1414 Stanislaus St., Fresno, CA 93706
(559) 497-2888 · Fax (559) 497-2893

www.bskassociates.com

Turnaround Time Request

- Standard - 10 business days
 - Rush (Surcharge may apply)
- Date needed:

AGI0949 morni8802 09/08/2023



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Page 17 of 17

*Required Fields		Temp: <i>271 #79</i>	Invoice To:	
Company/Cient Name*: <i>Morning Star Dairy</i>		Report Attention*: <i>MorniStar@etscape.com</i>		Phone*:
Address*: <i>10032 W. Morn Ave</i>		City*: <i>Fresno</i>		Fax:
Project:		State*: <i>CA</i> Zip*: <i>93656</i>		E-mail*:
Reporting Options: <input type="checkbox"/> Trace (J-Flag) <input type="checkbox"/> Swamp <input type="checkbox"/> EDD Type: _____		Project #: _____		How would you like to receive your completed results? <input type="checkbox"/> E-Mail <input type="checkbox"/> Fax <input type="checkbox"/> Mail
Sampler Name (Printed/Signature)*: <i>Madison Lager</i>		Regulatory Carbon Copies <input type="checkbox"/> SWRCB (Drinking Water) <input type="checkbox"/> Merced Co <input type="checkbox"/> Fresno Co <input type="checkbox"/> Madera Co <input type="checkbox"/> Tulare Co <input type="checkbox"/> Other		Regulatory Compliance <input type="checkbox"/> EDT to California SWRCB (Drinking Water) System Number: _____ <input type="checkbox"/> Geotracker #: _____
Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid				
#	Sample Description*	Sampled*	Matrix*	Comments / Station Code / WTRAX
1	Well 7	9/8 8:35	GW	X
2	Well 4	8:40		
3	Well 8	8:46		
4	Well 2	8:50		
5	Well 3	9:00		
Received by: (Signature and Printed Name) <i>Madison Lager</i>		Company: JM Lord Inc		Date: 9/8
Delinquent by: (Signature and Printed Name)		Time: 1:00		Received by: (Signature and Printed Name)
Received for Lab by: (Signature and Printed Name) <i>Genia Peltz</i>		Company:		Date:
Shipping Method: ONTRAC UPS GSO WALK-IN		FED EX Courier:		Time: <i>9/8 13:00</i>
Cooling Method: Wet Blue None		Payment Received at Delivery:		Check / Cash
Amount: _____		Custody Seal: Y / N		Init. _____
Chilling Process Begun: Y / N				

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwise. BSK's current terms and conditions can be found at www.bskassociates.com/BSKLabTermsConditions.pdf

SR-FL-0012-07



BSK Associates Laboratory Fresno
687 N. Laverne Avenue
Fresno, CA 93727
559-497-2888 (Main)

AGI1896
9/26/2023
Invoice: AG22647

John Tacherra
Morning Star Dairy
10032 W. Elkhorn Ave.
Burrell, CA 93656

RE: Report for AGI1896 RB5 Well

Dear John Tacherra,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 9/14/2023. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2016 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

This certificate of analysis shall not be reproduced except in full, without written approval of the laboratory.

If additional clarification of any information is required, please contact your Project Manager, PM Staff , at 559-497-2888.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP
ORELAP #4021

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGI1896 FINAL 09262023 1621



AGI1896

RB5 Well

Case Narrative

Project and Report Details

Client: Morning Star Dairy
Report To: John Tacherra
Project #: -
Received: 9/14/2023 - 16:14
Report Due: 9/28/2023

Invoice Details

Invoice To: Morning Star Dairy
Invoice Attn: John Tacherra
Project PO#: -

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt °C: 34.7
Containers Intact
COC/Labels Agree
Received On Blue Ice
Sample(s) arrived at lab on same day sampled.
Sample(s) were received in temperature range.
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

None applied

Report Distribution

Recipient(s)	Report Format	CC:
John Tacherra	FINAL.RPT	
Madison Looper	FINAL.RPT	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGI1896 FINAL 09262023 1621



AGI1896

RB5 Well

Certificate of Analysis

Sample ID: AGI1896-01

Sampled By: Madison Looper

Sample Description: Well 1

Sample Date - Time: 09/14/2023 - 09:12

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Conductivity @ 25C	SM 2510B	23	1.0	umhos/cm	1	AGI1017	09/18/23	09/18/23	
Nitrate as N	EPA 300.0	ND	0.23	mg/L	1	AGI0867	09/15/23 00:57	09/15/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGI1896 FINAL 09262023 1621



AGI1896

RB5 Well

BSK Associates Laboratory Fresno

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD Limit	Date Analyzed	Qual
EPA 300.0 - Quality Control										
Batch: AGI0867										Prepared: 9/14/2023
Prep Method: Method Specific Preparation										Analyst: GJA
Blank (AGI0867-BLK1)										
Nitrate as N	ND		0.23	mg/L						09/14/23
Blank Spike (AGI0867-BS1)										
Nitrate as N	22		0.23	mg/L	23	ND	99	90-110		09/14/23
Matrix Spike (AGI0867-MS1), Source: AGI1797-01										
Nitrate as N	12		0.23	mg/L	11	0.24	100	80-120		09/14/23
Matrix Spike (AGI0867-MS2), Source: AGI1900-03										
Nitrate as N	16		0.23	mg/L	11	4.3	103	80-120		09/14/23
Matrix Spike Dup (AGI0867-MSD1), Source: AGI1797-01										
Nitrate as N	12		0.23	mg/L	11	0.24	102	80-120	2	20
Matrix Spike Dup (AGI0867-MSD2), Source: AGI1900-03										
Nitrate as N	16		0.23	mg/L	11	4.3	103	80-120	0	20
SM 2510B - Quality Control										
Batch: AGI1017										Prepared: 9/18/2023
Prep Method: Method Specific Preparation										Analyst: BAC
Blank Spike (AGI1017-BS1)										
Conductivity @ 25C	1400		1.0	umhos/cm	1400	ND	97	90-110		09/18/23
Blank Spike Dup (AGI1017-BSD1)										
Conductivity @ 25C	1400		1.0	umhos/cm	1400	ND	97	90-110	0	5
Duplicate (AGI1017-DUP1), Source: AGI1210-01										
Conductivity @ 25C	270		1.0	umhos/cm		270			1	5
Duplicate (AGI1017-DUP2), Source: AGI1210-01										
Conductivity @ 25C	270		1.0	umhos/cm		270			1	5

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGI1896 FINAL 09262023 1621

Certificate of Analysis**Notes:**

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
- Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
- All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
- Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
- J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
- (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
- Field tests are outside the scope of laboratory accreditation and there is no certification available for field testing.
- Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
- RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
- Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
- The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.
- (2) - Formerly known as Bis(2-Chloroisopropyl) ether.
Unless otherwise noted, TOC results by SM 5310C method do not include purgeable organic carbon, which is removed along with the inorganic carbon interference. The POC contribution to TOC is considered to be negligible.



AGI1896

RB5 Well

Certificate of Analysis

Definitions

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%: Percent
NR: Non-Reportable

MDL: Method Detection Limit
RL: Reporting Limit: DL x Dilution
ND: None Detected below MRL/MDL
pCi/L: PicoCuries per Liter
RL Mult: RL Multiplier
MCL: Maximum Contaminant Limit

MDA95: Min. Detected Activity
MPN: Most Probable Number
CFU: Colony Forming Unit
Absent: Less than 1 CFU/100mLs
Present: 1 or more CFU/100mLs
U: The analyte was not detected at or above the reported sample quantitation limit.

Please see the individual Subcontract Lab's report for applicable certifications.

The following parameters are not available for certification through CA ELAP:

Odor Diisopropyl ether (DIPE) by EPA 524.2

The following parameters are calculated values and are outside the scope of our NELAP accreditation:

Total Nitrogen Aggressive Index Trivalent Chromium

BSK is not accredited under the NELAP program for the following additional parameters:

NA

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno

State of California - ELAP	1180	State of Hawaii	4021
Los Angeles CSD	9254479	NELAP certified	4021-022
State of Nevada	CA000792022-1	State of Oregon - NELAP	4021-022
EPA UCMR5	CA00079	State of Washington	C997-23

Sacramento

State of California - ELAP	1180-S1
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San Bernardino

State of California - ELAP	1180-S2	Los Angeles CSD	9254478
NELAP certified	4119-008	State of Oregon - NELAP	4119-008

Vancouver

NELAP certified	WA100008-016	State of Oregon - NELAP	WA100008-016
State of Washington	C824-23		



10

Sample Integrity

BSK Bottles: Yes No

Page 1 of 1

COC Info	Was temperature within range?	Yes	No	NA	Were correct containers and preservatives received for the tests requested?	Yes	No	NA
	Chemistry $\leq 6^{\circ}\text{C}$ Micro $< 8^{\circ}\text{C}$				Bubbles Present VOAs (524.2/TTHM/TCP)?	Yes	No	NA
	If samples were taken today, is there evidence that chilling has begun?	Yes	No	NA	TB Received? (Check Method Below)	Yes	No	NA
	Did all bottles arrive unbroken and intact?	Yes	No		Was a sufficient amount of sample received?	Yes	No	
	Did all bottle labels agree with COC?	Yes	No		Do samples have a hold time < 72 hours?	Yes	No	
	Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	Yes	NA		Was PM notified of discrepancies?	Yes	No	NA

Bottles Received <small>* means preservation/chlorine checks are either NA or are performed in the lab</small>	250ml(A) 500ml(B) 1Liter(C) 40ml/VOA(V) 125ml(D)	Checks*	Passed?	✓				
	BaCl ₂ Na ₂ S ₂ O ₃	—	—	1A				
	None (P) White Cap	—	—					
	Cr6 (P) Lt. Green Label/Blue Cap NH4OH(NH4)2SO4 DW	pH > 8	P F					
	Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 WW	pH 9.3-9.7	P F					
	Cr6 (P) Black Label/Blue Cap NH4OH(NH4)2SO4 7199 **24 HOUR HOLD TIME**	pH 9.0-9.5	P F					
	HNO ₃ (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—	—					
	H ₂ SO ₄ (P) or (AG) Yellow Cap/Label	pH < 2	P F					
	NaOH (P) Green Cap	pH > 10	P F					
	NaOH + ZnAc (P)	pH > 9	P F					
	Dissolved Oxygen 300ml (g)	—	—					
	None (AG) 608/6081/8082/626/632/831/8151/8270							
	HCl (AG) Lt. Blue Label O&G, Diesel, TCP	—	—					
	Ascorbic/EDTA KH ₂ Cr(AG) Pink Label 525							
	Na ₂ SO ₃ 250mL (AG) Neon Green Label 515	—	—					
	Na ₂ S ₂ O ₃ 1 Liter (Brown P) 549							
	Na ₂ S ₂ O ₃ (AG) Blue Label 548, THM, 524	—	—					
	Na ₂ S ₂ O ₃ (CG) Blue Label 504-505-547							
	Na ₂ S ₂ O ₃ + MCAA (CG) Orange Label 531	pH < 3	P F					
	NH ₄ Cl (AG) Purple Label 552							
	EDA (P) or (AG) Brown Label DBPs	—	—					
	HCl (CG) 524.2/BTEX/Gas MTBE 8260/624							

Buffer pH 4 (CG)
H₃PO₄ (CG) Salmon Label
Trizma - EPA 537.1 Light Blue Label FB
Ammonia/Acetate - EPA 533 Purple Label FB
Bottled Water
Asbestos 1L (P) w/ Foil / 1L Metals Bottle
Clear Glass

Split	Container	Preservative	Lot #	Initials	Date/Time	Preservation Check	
						pH Lot #	CI Lot #
S P							
S P							
*Preservation check completed by lab performing analysis.				✓ Indicates Blanks Received			
Comments				504	524.2	TTHM	537/533 TCP
Labeled by:				✓ MS/MSD Received Method: _____			

Scanned: Cer Rush/Short HT Page: _____ Time: _____



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www.bskassociates.com

Turnaround Time Request

<input type="checkbox"/>	Standard - 10 business days
<input type="checkbox"/>	Rush (Surcharge may apply)
Date needed:	

AGI1896 morni8802 09/14/2023



10

Page 9 of 9

*Required Fields		Report Attention:		Temp: 34.7 °		Invoice To: #77		Phone:		Fax:	
Company/Client Name: <i>Morning Star Dairy</i>		Additional cc's: <i>Michelle malicane@jmlabinc.com</i>		City: <i>Fresno</i>		PO#:		E-mail:			
Address: <i>10032 W. Elkhorn Ave.</i>				State: <i>Ca</i>		Zip: <i>936056</i>					
Project:		Project #:		How would you like to receive your completed results?							
				<input type="checkbox"/> SWRCB (Drinking Water)		<input type="checkbox"/> E-Mail		<input type="checkbox"/> Fax		<input type="checkbox"/> Mail	
Reporting Options:				<input type="checkbox"/> Merced Co		<input type="checkbox"/> Fresno Co		<input type="checkbox"/> EDT to California SWRCB (Drinking Water)		Regulatory Compliance	
<input type="checkbox"/> Trace (J-Flag)		<input type="checkbox"/> Swamp		<input type="checkbox"/> Madera Co		<input type="checkbox"/> Tulare Co				System Number: _____	
				<input type="checkbox"/> Other						<input type="checkbox"/> Geotracker #: _____	
Matrix Types: SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid											
#	Sample Description*	Sampled*		Matrix*	Comments / Station Code / WTRAX						
		Date	Time		X RB5-Well RB5-Surface						
1	Well 1	9/14	9:12	GW							
N H 9-14-23											
Relinquished by: (Signature and Printed Name) <i>Madison Loyer</i>		Company JM Lord Inc.		Date 9/14	Time 4:03	Received by: (Signature and Printed Name)				Company	
Relinquished by: (Signature and Printed Name)		Company		Date	Time	Received by: (Signature and Printed Name)				Company	
Received for Lab by: (Signature and Printed Name) <i>NTHAMMAD 9/14/2023</i>		Company		Date	Time	Payment Received at Delivery:				Check / Cash	
Shipping Method: ONTRAC		UPS GSO		WALK-IN FED EX Courier		Date: 9/14/2023		Amount: \$0.00		PIA#: Init.	
Cooling Method: Wet Blue		None								Custody Seal: /N	
Chilling Process Begun: Y/N											

Payment for services rendered as noted herein are due in full within 30 days from the date invoiced. If not so paid, account balances are deemed delinquent. Delinquent balances are subject to monthly service charges and interest specified in BSK's current Standard Terms and Conditions for Laboratory Services. The person signing for the Client/Company acknowledges that they are either the Client or an authorized agent to the Client, that the Client agrees to be responsible for payment for the services on this Chain of Custody, and agrees to BSK's terms and conditions for laboratory services unless contractually bound otherwise. BSK's current terms and conditions can be found at www.bskassociates.com/BSKLabTermsConditions.pdf.

SR-FL-0012-07



BSK Associates Laboratory Fresno
687 N. Laverne Avenue
Fresno, CA 93727
559-497-2888 (Main)

AGJ2529
10/30/2023
Invoice: AG25642

John Tacherra
Morning Star Dairy
10032 W. Elkhorn Ave.
Burrell, CA 93656

RE: Report for AGJ2529 RB5 Well

Dear John Tacherra,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 10/17/2023. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2016 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

This certificate of analysis shall not be reproduced except in full, without written approval of the laboratory.

If additional clarification of any information is required, please contact your Project Manager, PM Staff , at 559-497-2888.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Adam Trevarrow, Project Manager



Accredited in Accordance with NELAP
ORELAP #4021

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGJ2529 FINAL 10302023 1053



AGJ2529

RB5 Well

Case Narrative

Project and Report Details

Client: Morning Star Dairy
Report To: John Tacherra
Project #: -
Received: 10/17/2023 - 15:04
Report Due: 10/31/2023

Invoice Details

Invoice To: Morning Star Dairy
Invoice Attn: John Tacherra
Project PO#: -

Sample Receipt Conditions

Cooler: Default Cooler
Temperature on Receipt °C: 20.0
Containers Intact
COC/Labels Agree
Received On Blue Ice
Sample(s) arrived at lab on same day sampled.
Packing Material - Other
Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

None applied

Report Distribution

Recipient(s)	Report Format	CC:
John Tacherra	FINAL.RPT	dustie@jmlord.com



AGJ2529

RB5 Well

Certificate of Analysis

Sample ID: AGJ2529-01

Sampled By: Dustie Christensen

Sample Description: 17164 S. Westlawn (Dom Well)

Sample Date - Time: 10/17/2023 - 11:00

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Conductivity @ 25C	SM 2510B	560	1.0	umhos/cm	1	AGJ1444	10/20/23	10/20/23	
Nitrate as N	EPA 300.0	ND	0.23	mg/L	1	AGJ1226	10/18/23 14:44	10/18/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGJ2529 FINAL 10302023 1053



AGJ2529

RB5 Well

Certificate of Analysis

Sample ID: AGJ2529-02

Sampled By: Dustie Christensen

Sample Description: 9596 W. Elkhorn (Dom Well)

Sample Date - Time: 10/17/2023 - 11:20

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Conductivity @ 25C	SM 2510B	670	1.0	umhos/cm	1	AGJ1444	10/20/23	10/20/23	
Nitrate as N	EPA 300.0	1.2	0.23	mg/L	1	AGJ1227	10/18/23 14:46	10/18/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGJ2529 FINAL 10302023 1053



AGJ2529

RB5 Well

Certificate of Analysis

Sample ID: AGJ2529-03

Sampled By: Dustie Christensen

Sample Description: 10040 W. Elkhorn (Dom Well)

Sample Date - Time: 10/17/2023 - 11:40

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Conductivity @ 25C	SM 2510B	580	1.0	umhos/cm	1	AGJ1444	10/20/23	10/20/23	
Nitrate as N	EPA 300.0	ND	0.23	mg/L	1	AGJ1226	10/18/23 14:59	10/18/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGJ2529 FINAL 10302023 1053



AGJ2529

RB5 Well

Certificate of Analysis

Sample ID: AGJ2529-04

Sampled By: Dustie Christensen

Sample Description: Old Barn (Dom Well)

Sample Date - Time: 10/17/2023 - 12:00

Matrix: Ground Water

Sample Type: Grab

**BSK Associates Laboratory Fresno
General Chemistry**

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Conductivity @ 25C	SM 2510B	2000	1.0	umhos/cm	1	AGJ1444	10/20/23	10/20/23	
Nitrate as N	EPA 300.0	ND	0.23	mg/L	1	AGJ1227	10/18/23 15:33	10/18/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGJ2529 FINAL 10302023 1053



AGJ2529

RB5 Well

Certificate of Analysis

Sample ID: AGJ2529-05

Sampled By: Dustie Christensen

Sample Description: New Barn (Dom Well)

Sample Date - Time: 10/17/2023 - 12:20

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Conductivity @ 25C	SM 2510B	580	1.0	umhos/cm	1	AGJ1444	10/20/23	10/20/23	
Nitrate as N	EPA 300.0	ND	0.23	mg/L	1	AGJ1226	10/18/23 14:28	10/18/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGJ2529 FINAL 10302023 1053



AGJ2529

RB5 Well

Certificate of Analysis

Sample ID: AGJ2529-06

Sampled By: Dustie Christensen

Sample Description: 16270 Domestic Well

Sample Date - Time: 10/17/2023 - 12:30

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Conductivity @ 25C	SM 2510B	820	1.0	umhos/cm	1	AGJ1444	10/20/23	10/20/23	
Nitrate as N	EPA 300.0	1.1	0.23	mg/L	1	AGJ1226	10/18/23 15:15	10/18/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGJ2529 FINAL 10302023 1053



AGJ2529

RB5 Well

Certificate of Analysis

Sample ID: AGJ2529-07

Sampled By: Dustie Christensen

Sample Description: 11764 Swanson (Dom Well)

Sample Date - Time: 10/17/2023 - 12:50

Matrix: Ground Water

Sample Type: Grab

BSK Associates Laboratory Fresno General Chemistry

Analyte	Method	Result	RL	Units	Mult	Batch	Prepared	Analyzed	Qual
Conductivity @ 25C	SM 2510B	1300	1.0	umhos/cm	1	AGJ1444	10/20/23	10/20/23	
Nitrate as N	EPA 300.0	15	0.23	mg/L	1	AGJ1226	10/18/23 16:02	10/18/23	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGJ2529 FINAL 10302023 1053



AGJ2529

RB5 Well

BSK Associates Laboratory Fresno

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	Limits	RPD	Date Analyzed	Qual
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EPA 300.0 - Quality Control

Batch: AGJ1226 Prepared: 10/18/2023
Prep Method: Method Specific Preparation Analyst: IDM

Blank (AGJ1226-BLK1)

Nitrate as N ND 0.23 mg/L 10/18/23

Blank Spike (AGJ1226-BS1)

Nitrate as N 23 0.23 mg/L 23 ND 103 90-110 10/18/23

Matrix Spike (AGJ1226-MS1), Source: RGJ0035-02

Nitrate as N 27 0.46 mg/L 23 3.8 104 80-120 10/18/23

Matrix Spike (AGJ1226-MS2), Source: AGJ2620-03

Nitrate as N 12 0.23 mg/L 11 ND 104 80-120 10/18/23

Matrix Spike Dup (AGJ1226-MSD1), Source: RGJ0035-02

Nitrate as N 29 0.46 mg/L 23 3.8 112 80-120 6 20 10/18/23

Matrix Spike Dup (AGJ1226-MSD2), Source: AGJ2620-03

Nitrate as N 12 0.23 mg/L 11 ND 106 80-120 2 20 10/18/23

EPA 300.0 - Quality Control

Batch: AGJ1227 Prepared: 10/18/2023
Prep Method: Method Specific Preparation Analyst: IDM

Blank (AGJ1227-BLK1)

Nitrate as N ND 0.23 mg/L 10/18/23

Blank Spike (AGJ1227-BS1)

Nitrate as N 22 0.23 mg/L 23 ND 98 90-110 10/18/23

Matrix Spike (AGJ1227-MS1), Source: RGJ0035-06

Nitrate as N 15 0.23 mg/L 11 4.0 97 80-120 10/18/23

Matrix Spike (AGJ1227-MS2), Source: AGJ2597-04

Nitrate as N 12 0.23 mg/L 11 0.77 99 80-120 10/18/23

Matrix Spike Dup (AGJ1227-MSD1), Source: RGJ0035-06

Nitrate as N 15 0.23 mg/L 11 4.0 101 80-120 3 20 10/18/23

Matrix Spike Dup (AGJ1227-MSD2), Source: AGJ2597-04

Nitrate as N 12 0.23 mg/L 11 0.77 101 80-120 1 20 10/18/23

SM 2510B - Quality Control

Batch: AGJ1444 Prepared: 10/20/2023
Prep Method: Method Specific Preparation Analyst: BAG

Blank Spike (AGJ1444-BS1)

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGJ2529 FINAL 10302023 1053



AGJ2529

RB5 Well

BSK Associates Laboratory Fresno

General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	Date Limit Analyzed	Qual
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SM 2510B - Quality Control

Batch: AGJ1444

Prepared: 10/20/2023

Prep Method: Method Specific Preparation

Analyst: BAG

Blank Spike (AGJ1444-BS1)

Conductivity @ 25C 1400 1.0 umhos/cm 1400 ND 98 90-110 10/20/23

Blank Spike Dup (AGJ1444-BSD1)

Conductivity @ 25C 1400 1.0 umhos/cm 1400 ND 98 90-110 1 5 10/20/23

Duplicate (AGJ1444-DUP1), Source: AGJ2940-02

Conductivity @ 25C 1000 1.0 umhos/cm 1100 1 5 10/20/23

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGJ2529 FINAL 10302023 1053



AGJ2529

RB5 Well

Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
 - Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
 - All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
 - Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
 - J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
 - (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
 - Field tests are outside the scope of laboratory accreditation and there is no certification available for field testing.
 - Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
 - RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
 - Due to the subjective nature of the Threshold Odor Method, all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
 - The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.
 - (2) - Formerly known as Bis(2-Chloroisopropyl) ether.
- Unless otherwise noted, TOC results by SM 5310C method do not include purgeable organic carbon, which is removed along with the inorganic carbon interference. The POC contribution to TOC is considered to be negligible.



AGJ2529

RB5 Well

Certificate of Analysis

Definitions

mg/L:	Milligrams/Liter (ppm)	MDL:	Method Detection Limit	MDA95:	Min. Detected Activity
mg/Kg:	Milligrams/Kilogram (ppm)	RL:	Reporting Limit: DL x Dilution	MPN:	Most Probable Number
µg/L:	Micrograms/Liter (ppb)	ND:	None Detected below MRL/MDL	CFU:	Colony Forming Unit
µg/Kg:	Micrograms/Kilogram (ppb)	pCi/L:	PicoCuries per Liter	Absent:	Less than 1 CFU/100mLs
%:	Percent	RL Mult:	RL Multiplier	Present:	1 or more CFU/100mLs
NR:	Non-Reportable	MCL:	Maximum Contaminant Limit	U:	The analyte was not detected at or above the reported sample quantitation limit.

Please see the individual Subcontract Lab's report for applicable certifications.

The following parameters are not available for certification through CA ELAP:

Odor Diisopropyl ether (DIPE) by EPA 524.2

The following parameters are calculated values and are outside the scope of our NELAP accreditation:

Total Nitrogen Aggressive Index Trivalent Chromium

BSK is not accredited under the NELAP program for the following additional parameters:

NA

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno

State of California - ELAP	1180	State of Hawaii	4021
Los Angeles CSD	9254479	NELAP certified	4021-022
State of Nevada	CA000792024-03	State of Oregon - NELAP	4021-022
EPA UCMR5	CA00079	State of Washington	C997-23

Sacramento

State of California - ELAP	1180-S1
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San Bernardino

State of California - ELAP	1180-S2	Los Angeles CSD	9254478
NELAP certified	4119-008	State of Oregon - NELAP	4119-008

Vancouver

NELAP certified	WA100008-016	State of Oregon - NELAP	WA100008-016
State of Washington	C824-23		



Sample Integrity

BSK Bottles: Yes No

Page 1 of 1

COC Info	Was temperature within range? Chemistry ≤ 6°C Micro < 8°C			Were correct containers and preservatives received for the tests requested?						
	Yes	No	NA	Yes	No	NA				
	If samples were taken today, is there evidence that chilling has begun?			Yes	No	NA	Yes	No	NA	
	Did all bottles arrive unbroken and intact?			Yes	No		Bubbles Present VOAs (524.2/TTHM/TCP)?	Yes	No	NA
	Did all bottle labels agree with COC?			Yes	No		TB Received? (Check Method Below)	Yes	No	(NA)
	Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?			Yes	NA		Was a sufficient amount of sample received?	Yes	No	NA
				PM:	By/Time:		Do samples have a hold time <72 hours?	Yes	No	NA
							Was PM notified of discrepancies?	Yes	No	NA
	250ml(A) 500ml(B) 1Liter(C) 40ml/VOA(V) 125ml(D)			Checks*	Passed?		E7			
	Bacti Na ₂ S ₂ O ₃			—	—					
	None (P) White Cap			—	—		IA			
	Cr6 (P) LL Green Label/Blue Cap NH4OH(NH4)2SO4 DW			Cl, pH > 8	P F					
	Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 WW			pH 9.3-9.7	P F					
	Cr6 (P) Black Label/Blue Cap NH4OH(NH4)2SO4 7199 ***24 HOUR HOLD TIME***			pH 9.0-9.5	P F					
	HNO ₃ (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label			—	—					
	H ₂ SO ₄ (P) or (AG) Yellow Cap/Label			pH < 2	P F					
	NaOH (P) Green Cap			Cl, pH > 10	P F					
	NaOH + ZnAc (P)			pH > 9	P F					
	Dissolved Oxygen 300ml (g)			—	—					
	None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270			—	—					
	HCl (AG) Lt. Blue Label O&G, Diesel, TCP			—	—					
	Ascorbic, EDTA, KH ₂ C ₆ H ₅ O ₆ (AG) Pink Label 525			—	—					
	Na ₂ SO ₃ 250mL (AG) Neon Green Label 515			—	—					
	Na ₂ S ₂ O ₃ 1 Liter (Brown P) 549			—	—					
	Na ₂ S ₂ O ₃ (AG) Blue Label 548, THM, 524			—	—					
	Na ₂ S ₂ O ₃ (CG) Blue Label 504, 505, 547			—	—					
	Na ₂ S ₂ O ₃ + MCAA (CG) Orange Label 531			pH < 3	P F					
	NH ₄ Cl (AG) Purple Label 552			—	—					
	EDA (P) or (AG) Brown Label DBPs			—	—					
	HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624			—	—					
	Buffer pH 4 (CG)			—	—					
	H ₃ PO ₄ (CG) Salmon Label			—	—					
	Trizma - EPA 537.1 Light Blue Label FB			—	—					
	Ammonia Acetate - EPA 533 Purple Label FB			—	—					
	Bottled Water			—	—					
	Asbestos 1L (P) w/ Foil / LL Metals Bottle			—	—					
	Clear Glass			—	—					
	OTHER:			—	—					
Split	Container	Preservative	Lot #	Initials	Date/Time	Preservation		Check		
	S P					pH Lot #				
	S P					Cl Lot #				
Comments	*Preservation check completed by lab performing analysis.				✓	Indicates Blanks Received				
					504	524.2	TTHM	537/533	TCP	
				✓	MS/MSD Received Method:					
Labeled by:		Labels Checked by:								

Scanned: *[Signature]* Rush/Short HT Page: _____ Time: _____



1414 Stanislaus St., Fresno, CA 93706
(559) 497-2888 · Fax (559) 497-2893
www.bskassociates.com

Turnaround Time Request

Standard - 10 business day
Rush (Surcharge may apply)
Date needed:

ACIJ2529 morni8802 10/17/2023



11

Page 16 of 16

Company/Client Name*: Morning Star Dairy		Report Attention*: mornestar@netscape.net Additional cc's: dustie@jmlordinc.com	Temp: 500-#79	Invoice To:	Phone#: _____	Fax: _____		
Address*: 10032 E. Elkhorn Ave.		City: Fresno	State*: CA	Zip: 93656	E-mail: _____	PO#: _____		
Project: _____		Project #: _____	How would you like to receive your completed results? _____					
Reporting Options <input type="checkbox"/> Trace (J-Flag) <input type="checkbox"/> Swamp <input type="checkbox"/> EDD Type: _____		Regulatory Carbon Copies <input type="checkbox"/> SWRCB (Drinking Water) <input type="checkbox"/> Merced Co <input type="checkbox"/> Madera Co <input type="checkbox"/> Other		Regulatory Compliance <input type="checkbox"/> EDT to California SWRCB (Drinking Water) System Number: _____ <input type="checkbox"/> Geotracker # _____				
Sampler Name (Printed/Signature)*: Dustie Christensen <i>Dustie Ch</i>								
Matrix Types SW=Surface Water BW=Bottled Water GW=Ground Water WW=Waste Water STW=Storm Water DW=Drinking Water SO=Solid								
#	Sample Description*	Sampled*		Matrix*	Comments / Station Code / WTRAX			
		Date	Time		Comments / Station Code / WTRAX	RB5-Well	RB5-Surface	
1	17164 S. Westlawn (Dom Well)	10/17/23	11:00	GW	X			
2	95910 W Elkhorn (Dom Well)		11:20					
3	10040 W Elkhorn (Dom Well)		11:40					
4	Old Barn (Dom Well)		12:00					
5	New Barn (Dom Well)		12:20					
6	10270 Domestic well		12:30					
7	11764 Swanson (Dom well)	±	12:50	±	±			
<i>J</i>								
Relinquished by (Signature and Printed Name): <i>Dustie Ch</i> Dustie Christensen		Company: JM Lord Inc	Date: 10/17/23	Time: 3:00pm	Received by (Signature and Printed Name): _____			Company: _____
Relinquished by (Signature and Printed Name): _____		Company: _____	Date: _____	Time: _____	Received by (Signature and Printed Name): _____			Company: _____
Received for Lab by (Signature and Printed Name): <i>J</i> J		Date: 10/17/23	Time: 3:00pm	Payment Received at Delivery Date: _____			Check _____ / Cash _____	
Shipping Method: ONTRAC UPS GSO WALKIN FED EX Courier: _____					Amount: _____	PIA#: _____	Init. _____	
Cooling Method: Wet Blue None					Custody Seal Y/N			
Payment for services rendered as noted below, due in full within 30 days from date of invoice.					Chilling Process Begun Y/N			

Billing Process Begins 11/14

28-F-FL-0012-07



JMLORD, INC.

4184 N. KNOLL DRIVE FRESNO, CA 93722
PHONE: (559) 268-9755 FAX: (559) 486-6504
WWW.JMLORDINC.COM

FRESH WATER SAMPLING RECORD

For any fresh water source, such as domestic wells, irrigation wells or canal water used for irrigation.
Refer to the Sampling and Analysis Plan for details of how the sample should be collected.

Facility: Morning Star Dairy

Date: 7/7/23

Source ID: Liberty Ditch

Time: 1:25

Source Location: NE corner of field 6, off
OF Dickenson Ave

Sample Properties at Time of Sampling

Sample Type: Groundwater Well Surface Water

EC: Measured in laboratory.
 Field measurement.

EC _____ (μ S or mS)

Circle the correct units for EC.

Ammonium: Field measurement. Present Absent
 Not Applicable.

Notes: Took sample from ditch. sample clear
no smell.

Sample should be delivered to an ELAP Certified Laboratory for testing within 48 hours of collection.
Field testing for ammonium is only required for groundwater wells. If ammonium is present, sample must
also be analyzed for ammonium in the ELAP laboratory.

Sampler Signature:



JMLORD, INC.

4184 N. KNOLL DRIVE FRESNO, CA 93722
PHONE: (559) 268-9755 FAX: (559) 486-6504
WWW.JMLORDINC.COM

FRESH WATER SAMPLING RECORD

For any fresh water source, such as domestic wells, irrigation wells or canal water used for irrigation.
Refer to the Sampling and Analysis Plan for details of how the sample should be collected.

Facility: Morning star Dairy

Date: 7/7/23

Source ID: Rid Ditch

Time: 1:30

Source Location: SE corner of field 3, off
of Ncslawn Ave

Sample Properties at Time of Sampling

Sample Type: Groundwater Well Surface Water

EC: Measured in laboratory.
 Field measurement.

EC _____ (μ S or mS)

Circle the correct units for EC.

Ammonium: Field measurement. Present Absent
 Not Applicable.

Notes: Took sample from ditch. Sample
clear + no smell.

Sample should be delivered to an ELAP Certified Laboratory for testing within 48 hours of collection.
Field testing for ammonium is only required for groundwater wells. If ammonium is present, sample must
also be analyzed for ammonium in the ELAP laboratory.

Sampler Signature:

M. Blappel



BSK Associates Laboratory Fresno
687 N. Laverne Avenue
Fresno, CA 93727
559-497-2888 (Main)

AGG2077

7/31/2023

Invoice: AG17574

Joanne Tacherra
Morning Star Dairy
10032 W. Elkhorn Ave.
Burrell, CA 93656

RE: Report for AGG2077 RB5 Surface

Dear Joanne Tacherra,

Thank you for using BSK Associates for your analytical testing needs. In the following pages, you will find the test results for the samples submitted to our laboratory on 7/17/2023. The results have been approved for release by our Laboratory Director as indicated by the authorizing signature below.

The samples were analyzed for the test(s) indicated on the Chain of Custody (see attached) and the results relate only to the samples analyzed. BSK certifies that the testing was performed in accordance with the quality system requirements specified in the 2016 TNI Standard. Any deviations from this standard or from the method requirements for each test procedure performed will be annotated alongside the analytical result or noted in the Case Narrative. Unless otherwise noted, the sample results are reported on an "as received" basis.

This certificate of analysis shall not be reproduced except in full, without written approval of the laboratory.

If additional clarification of any information is required, please contact your Project Manager, Mary Thao , at 559-497-2888.

Thank you again for using BSK Associates. We value your business and appreciate your loyalty.

Sincerely,

Mary Thao, Project Manager



Accredited in Accordance with NELAP
ORELAP #4021

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGG2077 FINAL 07312023 1820



AGG2077

RB5 Surface

Case Narrative

Project and Report Details		Invoice Details
Client:	Morning Star Dairy	Invoice To: Morning Star Dairy
Report To:	Joanne Tacherra	Invoice Attn: John Tacherra
Project #:	RB5-Surface	Project PO#: -
Received:	7/17/2023 - 16:00	
Report Due:	7/31/2023	

Sample Receipt Conditions

Cooler: Default Cooler

Temperature on Receipt °C: 27.8

Custody Seals

Containers Intact

COC/Labels Agree

Received On Blue Ice

Sample(s) were received in temperature range.

Initial receipt at BSK-FAL

Data Qualifiers

The following qualifiers have been applied to one or more analytical results:

None applied

Report Distribution

Recipient(s)	Report Format	CC:
John Tacherra	FINAL.RPT	
Madison Looper	FINAL.RPT	



AGG2077

RB5 Surface

RB5-Surface

Certificate of Analysis

Sample ID: AGG2077-01

Sampled By: Madison Looper

Sample Description: Liberty Ditch

Sample Date - Time: 07/17/2023 - 13:25

Matrix: Surface Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Conductivity @ 25C	SM 2510B	20	1.0	umhos/cm	1	AGG1088	07/18/23	07/18/23	
Nitrate as N	EPA 300.0	ND	0.23	mg/L	1	AGG1038	07/18/23 00:18	07/18/23	
Nitrite as N	EPA 300.0	ND	0.050	mg/L	1	AGG1038	07/18/23 00:18	07/18/23	
Total Dissolved Solids	SM 2540C	27	5.0	mg/L	1	AGG1131	07/18/23	07/18/23	
Total Kjeldahl Nitrogen	EPA 351.2	ND	1.0	mg/L	1	AGG1212	07/19/23	07/20/23	
Total Nitrogen, IC	CALC	ND	1.0	mg/L					



AGG2077

RB5 Surface

RB5-Surface

Certificate of Analysis

Sample ID: AGG2077-02

Sampled By: Madison Looper

Sample Description: Reid Ditch

Sample Date - Time: 07/17/2023 - 13:30

Matrix: Surface Water

Sample Type: Grab

BSK Associates Laboratory Fresno
General Chemistry

Analyte	Method	Result	RL	Units	RL Mult	Batch	Prepared	Analyzed	Qual
Conductivity @ 25C	SM 2510B	22	1.0	umhos/cm	1	AGG1088	07/18/23	07/18/23	
Nitrate as N	EPA 300.0	ND	0.23	mg/L	1	AGG1038	07/18/23 00:33	07/18/23	
Nitrite as N	EPA 300.0	ND	0.050	mg/L	1	AGG1038	07/18/23 00:33	07/18/23	
Total Dissolved Solids	SM 2540C	27	5.0	mg/L	1	AGG1131	07/18/23	07/18/23	
Total Kjeldahl Nitrogen	EPA 351.2	ND	1.0	mg/L	1	AGG1212	07/19/23	07/20/23	
Total Nitrogen, IC	CALC	ND	1.0	mg/L					

BSK Associates Laboratory Fresno
General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	Date Limit Analyzed	Qual
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EPA 300.0 - Quality Control

Batch: AGG1038 Prepared: 7/17/2023
Prep Method: Method Specific Preparation Analyst: DXR

Blank (AGG1038-BLK1)

Nitrate as N	ND	0.23	mg/L						07/17/23
Nitrite as N	ND	0.050	mg/L						07/17/23

Blank Spike (AGG1038-BS1)

Nitrate as N	22	0.23	mg/L	23	ND	97	90-110		07/17/23
Nitrite as N	1.0	0.050	mg/L	1.0	ND	101	90-110		07/17/23

Matrix Spike (AGG1038-MS1), Source: AGG1995-02

Nitrate as N	10	0.23	mg/L	11	ND	91	80-120		07/17/23
Nitrite as N	0.49	0.050	mg/L	0.50	ND	98	80-120		07/17/23

Matrix Spike (AGG1038-MS2), Source: AGG2016-02

Nitrate as N	12	0.23	mg/L	11	1.2	94	80-120		07/18/23
Nitrite as N	0.49	0.050	mg/L	0.50	ND	97	80-120		07/18/23

Matrix Spike Dup (AGG1038-MSD1), Source: AGG1995-02

Nitrate as N	10	0.23	mg/L	11	ND	92	80-120	2	20	07/17/23
Nitrite as N	0.50	0.050	mg/L	0.50	ND	100	80-120	2	20	07/17/23

Matrix Spike Dup (AGG1038-MSD2), Source: AGG2016-02

Nitrate as N	12	0.23	mg/L	11	1.2	97	80-120	2	20	07/18/23
Nitrite as N	0.50	0.050	mg/L	0.50	ND	100	80-120	3	20	07/18/23

EPA 351.2 - Quality Control

Batch: AGG1212 Prepared: 7/19/2023
Prep Method: Method Specific Preparation Analyst: ERA

Blank (AGG1212-BLK1)

Total Kjeldahl Nitrogen	ND	1.0	mg/L						07/20/23
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Blank Spike (AGG1212-BS1)

Total Kjeldahl Nitrogen	9.7	1.0	mg/L	10	ND	97	90-110		07/20/23
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Blank Spike Dup (AGG1212-BSD1)

Total Kjeldahl Nitrogen	10	1.0	mg/L	10	ND	100	90-110	3	10	07/20/23
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Matrix Spike (AGG1212-MS1), Source: AGG1713-01

Total Kjeldahl Nitrogen	13	1.0	mg/L	10	3.5	95	90-110		07/20/23
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Matrix Spike (AGG1212-MS2), Source: AGG2079-02

Total Kjeldahl Nitrogen	9.1	1.0	mg/L	10	ND	91	90-110		07/20/23
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Matrix Spike Dup (AGG1212-MSD1), Source: AGG1713-01

Total Kjeldahl Nitrogen	13	1.0	mg/L	10	3.5	95	90-110	0	10	07/20/23
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The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

AGG2077 FINAL 07312023 1820

BSK Associates Laboratory Fresno
General Chemistry Quality Control Report

Analyte	Result	RL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	Date Limit Analyzed	Qual
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EPA 351.2 - Quality Control

Batch: AGG1212	Prepared: 7/19/2023
Prep Method: Method Specific Preparation	Analyst: ERA

Matrix Spike Dup (AGG1212-MSD2), Source: AGG2079-02

Total Kjeldahl Nitrogen	9.2	1.0	mg/L	10	ND	92	90-110	1	10	07/20/23
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SM 2510B - Quality Control

Batch: AGG1088	Prepared: 7/18/2023
Prep Method: Method Specific Preparation	Analyst: EFG

Blank Spike (AGG1088-BS1)

Conductivity @ 25C	1400	1.0	umhos/cm	1400	ND	99	90-110			07/18/23
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Blank Spike Dup (AGG1088-BSD1)

Conductivity @ 25C	1400	1.0	umhos/cm	1400	ND	99	90-110	1	5	07/18/23
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Duplicate (AGG1088-DUP1), Source: AGG1977-01

Conductivity @ 25C	210	1.0	umhos/cm		210			1	5	07/18/23
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SM 2540C - Quality Control

Batch: AGG1131	Prepared: 7/18/2023
Prep Method: Method Specific Preparation	Analyst: SYY

Blank (AGG1131-BLK1)

Total Dissolved Solids	ND	5.0	mg/L							07/18/23
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Blank Spike (AGG1131-BS1)

Total Dissolved Solids	1000		mg/L	1000		103	70-130			07/18/23
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Duplicate (AGG1131-DUP1), Source: AGG2116-01

Total Dissolved Solids	350	5.0	mg/L		340			1	10	07/18/23
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Duplicate (AGG1131-DUP2), Source: AGG2116-02

Total Dissolved Solids	330	5.0	mg/L		330			2	10	07/18/23
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Certificate of Analysis

Notes:

- The Chain of Custody document and Sample Integrity Sheet are part of the analytical report.
 - Any remaining sample(s) for testing will be disposed of according to BSK's sample retention policy unless other arrangements are made in advance.
 - All positive results for EPA Methods 504.1 and 524.2 require the analysis of a Field Reagent Blank (FRB) to confirm that the results are not a contamination error from field sampling steps. If Field Reagent Blanks were not submitted with the samples, this method requirement has not been performed.
 - Samples collected by BSK Analytical Laboratories were collected in accordance with the BSK Sampling and Collection Standard Operating Procedures.
 - J-value is equivalent to DNQ (Detected, not quantified) which is a trace value. A trace value is an analyte detected between the MDL and the laboratory reporting limit. This result is of an unknown data quality and is only qualitative (estimated). Baseline noise, calibration curve extrapolation below the lowest calibrator, method blank detections, and integration artifacts can all produce apparent DNQ values, which contribute to the un-reliability of these values.
 - (1) - Residual chlorine and pH analysis have a 15 minute holding time for both drinking and waste water samples as defined by the EPA and 40 CFR 136. Waste water and ground water (monitoring well) samples must be field filtered to meet the 15 minute holding time for dissolved metals.
 - Field tests are outside the scope of laboratory accreditation and there is no certification available for field testing.
 - Summations of analytes (i.e. Total Trihalomethanes) may appear to add individual amounts incorrectly, due to rounding of analyte values occurring before or after the total value is calculated, as well as rounding of the total value.
 - RL Multiplier is the factor used to adjust the reporting limit (RL) due to variations in sample preparation procedures and dilutions required for matrix interferences.
 - Due to the subjective nature of the Threshold Odor Method , all characterizations of the detected odor are the opinion of the panel of analysts. The characterizations can be found in Standard Methods 2170B Figure 2170:1.
 - The MCLs provided in this report (if applicable) represent the primary MCLs for that analyte.
 - (2) - Formerly known as Bis(2-Chloroisopropyl) ether.
- Unless otherwise noted, TOC results by SM 5310C method do not include purgeable organic carbon, which is removed along with the inorganic carbon interference. The POC contribution to TOC is considered to be negligible.

Certificate of Analysis

Definitions

mg/L: Milligrams/Liter (ppm)
mg/Kg: Milligrams/Kilogram (ppm)
µg/L: Micrograms/Liter (ppb)
µg/Kg: Micrograms/Kilogram (ppb)
%: Percent
NR: Non-Reportable

MDL: Method Detection Limit
RL: Reporting Limit: DL x Dilution
ND: None Detected below MRL/MDL
pCi/L: PicoCuries per Liter
RL Mult: RL Multiplier
MCL: Maximum Contaminant Limit

MDA95: Min. Detected Activity
MPN: Most Probable Number
CFU: Colony Forming Unit
Absent: Less than 1 CFU/100mLs
Present: 1 or more CFU/100mLs
U: The analyte was not detected at or above the reported sample quantitation limit.

Please see the individual Subcontract Lab's report for applicable certifications.

The following parameters are not available for certification through CA ELAP:

Odor Diisopropyl ether (DIPE) by EPA 524.2

The following parameters are calculated values and are outside the scope of our NELAP accreditation:

Total Nitrogen Aggressive Index Trivalent Chromium

BSK is not accredited under the NELAP program for the following additional parameters: **NA**

Certifications: Please refer to our website for a copy of our Accredited Fields of Testing under each certification.

Fresno

State of California - ELAP	1180	State of Hawaii	4021
Los Angeles CSD	9254479	NELAP certified	4021-021
State of Nevada	CA000792022-1	State of Oregon - NELAP	4021-021
EPA UCMR5	CA00079	State of Washington	C997-23

Sacramento

State of California - ELAP	1180-S1
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San Bernardino

State of California - ELAP	1180-S2	Los Angeles CSD	9254478
NELAP certified	4119-007	State of Oregon - NELAP	4119-007

Vancouver

NELAP certified	WA100008-016	State of Oregon - NELAP	WA100008-016
State of Washington	C824-22		

**Sample Integrity**

BSK Bottles: Yes No

Page 1 of 1

COC Info	Was temperature within range? Chemistry $\leq 6^{\circ}\text{C}$ Micro $< 8^{\circ}\text{C}$	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	Were correct containers and preservatives received for the tests requested?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
	If samples were taken today, is there evidence that chilling has begun?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA	Bubbles Present VOAs (524.2/TTHM/TCP)? TB Received? (Check Method Below)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
	Did all bottles arrive unbroken and intact?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Was a sufficient amount of sample received?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Did all bottle labels agree with COC?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Do samples have a hold time < 72 hours?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
	Was sodium thiosulfate added to CN sample(s) until chlorine was no longer present?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> NA	Was PM notified of discrepancies? PM: <u>1-2</u> By/Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA

Bottles Received <small>"—" means preservation/chlorine checks are either N/A or are performed in the lab</small>	250ml(A) 500ml(B) 1Liter(C) 40mlVOA(V) 125ml(D)	Checks*	Passed?	<u>1-2</u>			
	Bacti Na ₂ S ₂ O ₃	—	—				
	None (P) White Cap	—	—	<u>IC</u>			
	Cr6 (P) Lt. Green Label/Blue Cap NH4OH(NH4)2SO4 DW	Cl, pH > 8	P F				
	Cr6 (P) Pink Label/Blue Cap NH4OH(NH4)2SO4 WW	pH 9.3-9.7	P F				
	Cr6 (P) Black Label/Blue Cap NH4OH(NH4)2SO4 7199 ***24 HOUR HOLD TIME***	pH 9.0-9.5	P F				
	HNO ₃ (P) Red Cap or HCl (P) Purple Cap/Lt. Blue Label	—					
	H ₂ SO ₄ (P) or (AG) Yellow Cap/Label	pH < 2	<input checked="" type="checkbox"/> P F	<u>1A</u>			
	NaOH (P) Green Cap	Cl, pH > 10	P F				
	NaOH + ZnAc (P)	pH > 9	P F				
	Dissolved Oxygen 300ml (g)	—	—				
	None (AG) 608/8081/8082, 625, 632/8321, 8151, 8270	—	—				
	HCl (AG) Lt. Blue Label O&G, Diesel, TCP	—	—				
	Ascorbic, EDTA, KH ₂ C ₈ O ₄ (AG) Pink Label 525	—	—				
	Na ₂ SO ₃ 250mL (AG) Neon Green Label 515	—	—				
	Na ₂ S ₂ O ₃ 1 Liter (Brown P) 549	—	—				
	Na ₂ S ₂ O ₃ (AG) Blue Label 548, THM, 524	—	—				
	Na ₂ S ₂ O ₃ (CG) Blue Label 504, 505, 547	—	—				
	Na ₂ S ₂ O ₃ + MCAA (CG) Orange Label 531	pH < 3	P F				
	NH ₄ Cl (AG) Purple Label 552	—	—				
	EDA (P) or (AG) Brown Label DBPs	—	—				
	HCL (CG) 524.2,BTEX,Gas, MTBE, 8260/624	—	—				
	Buffer pH 4 (CG)	—	—				
	H ₃ PO ₄ (CG) Salmon Label	—	—				
	Trizma - EPA 537, Light Blue Label FB	---	---				
	Ammonia Acetate - EPA 533 Purple Label FB	---	---				
	Bottled Water	—	—				
	Asbestos 1L (P) w/ Foil / LL Metals Bottle	—	—				
	Clear Glass	—	—				
	OTHER:	—	—				

Split	Container-	Preservative	Lot #	Initials	Date/Time	Preservation Check			
	S P					pH Lot # <u>AG104945</u>			
	S P					Cl Lot #			
	*Preservation check completed by lab performing analysis.			<input checked="" type="checkbox"/>	Indicates Blanks Received				
					504	524.2	TTHM	537/533	TCP
					✓ MS/MSD Received Method: _____				
Comments	Labeled by: _____			Labels Checked by: _____					

Scanned: _____ Rush/Short HT Page: _____ Time: _____



1414 Stanislaus St., Fresno, CA 93706
(559) 497-2888 · Fax (559) 497-2893

www.bskassociates.com

Turnaround Time Request

<input type="checkbox"/>	Standard - 10 business days
<input type="checkbox"/>	Rush (Surcharge may apply)

Date needed:

ACG(2077) momu8802 07/7/2023
10

Manure / Process Wastewater Tracking Manifest

For

Existing Milk Cow Dairies

General Order No. R5-2007-0035, Attachment D

MANURE AMOUNT HAULED

Enter the amount of manure hauled in tons, manure solids content, and the method used to calculate the amount:

Manure: 1,960.68 tons

Manure Solids Content: 85.7 %

Method used to determine amount of manure:

scale wts

CERTIFICATION

I declare under 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.

Johnny Tachera

Operator Signature

6-25-24

Date

Sammy Chavez

Hauler Signature

Date

Manure / Process Wastewater Tracking Manifest

For

Existing Milk Cow Dairies

General Order No. R5-2007-0035, Attachment D

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/process wastewater 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: Johnny Tacherra

Name of Dairy Facility: Morning Star Dairy, Inc

Facility Address:

10262 W Elkhorn AVE Number and Street	Burrel City	Fresno County	93607 Zip Code
--	----------------	------------------	-------------------

Contact Person Name and Phone Number:	<u>Johnny Tacherra</u> Name	(559) 647-3875 Phone Number
---------------------------------------	--------------------------------	--------------------------------

MANURE HAULER INFORMATION

Name of Hauling Company/Person: Chavira & Sons

Address of Hauling Company/Person:

113 W Walnut AVE Number and Street	Madera City	CA State	93637 Zip Code
---------------------------------------	----------------	-------------	-------------------

Contact Person: <u>Sammy Chavira</u> Name	(559) 907-2837 Phone Number
--	--------------------------------

DESTINATION INFORMATION

Composting Facility / Broker / Farmer / Other (identify): Broker

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

Chavira & Sons Name	(559) 907-2837 Phone Number
------------------------	--------------------------------

113 W Walnut AVE Address	Madera City	CA State	93637 Zip Code
-----------------------------	----------------	-------------	-------------------

Destination Address or Assessor's Parcel Number:

17554 S Chateau Fresno AVE Address	Riverdale City	93656 Zip Code
---------------------------------------	-------------------	-------------------

Street and nearest cross street (if no address)	Fresno County
---	------------------

0053-0170-041s-0000 Assessor's Parcel Number	Fresno Assessor's Parcel Number County
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Last date hauled: 10/27/2023

Manure / Process Wastewater Tracking Manifest

For

Existing Milk Cow Dairies

General Order No. R5-2007-0035, Attachment D

MANURE AMOUNT HAULED

Enter the amount of manure hauled in tons, manure solids content, and the method used to calculate the amount:

Manure: 290.19 tons

Manure Solids Content: 85.7 %

Method used to determine amount of manure:

scale wts

CERTIFICATION

I declare under 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.

Johnny Tackema
Operator Signature

6-25-24
Date

Sandy Oare
Hauler Signature

Date

Manure / Process Wastewater Tracking Manifest**For****Existing Milk Cow Dairies**

General Order No. R5-2007-0035, Attachment D

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.
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OPERATOR INFORMATIONName of Operator: Johnny TacherraName of Dairy Facility: Morning Star Dairy, Inc

Facility Address:

10262 W Elkhorn AVE Number and Street	Burrel City	Fresno County	93607 Zip Code
--	----------------	------------------	-------------------

Contact Person Name and Phone Number:	<u>Johnny Tacherra</u> Name	(559) 647-3875 Phone Number
---------------------------------------	--------------------------------	--------------------------------

MANURE HAULER INFORMATIONName of Hauling Company/Person: Chavira & Sons

Address of Hauling Company/Person:

113 W Walnut AVE Number and Street	Madera City	CA State	93637 Zip Code
---------------------------------------	----------------	-------------	-------------------

Contact Person:	<u>Sammy Chavira</u> Name	(559) 907-2837 Phone Number
-----------------	------------------------------	--------------------------------

DESTINATION INFORMATIONComposting Facility / Broker / Farmer / Other (identify): Broker

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

Chavira & Sons Name	(559) 907-2837 Phone Number
------------------------	--------------------------------

113 W Walnut AVE Address	Madera City	CA State	93637 Zip Code
-----------------------------	----------------	-------------	-------------------

Destination Address or Assessor's Parcel Number:

113 W Wanut AVE Address	Madera City	93637 Zip Code
----------------------------	----------------	-------------------

Street and nearest cross street (if no address)	Madera County
---	------------------

0001-0001-0001-0000 Assessor's Parcel Number	Madera Assessor's Parcel Number County
---	---

Last date hauled: 12/18/2023

Manure / Process Wastewater Tracking Manifest

For

Existing Milk Cow Dairies

General Order No. R5-2007-0035, Attachment D

MANURE AMOUNT HAULED

Enter the amount of manure hauled in tons, manure solids content, and the method used to calculate the amount:

Manure: 458.34 tons

Manure Solids Content: 85.7 %

Method used to determine amount of manure:

scale wts

CERTIFICATION

I declare under 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.

Johnny Tashem

Operator Signature

6-25-24

Date

Paul Hill

Hauler Signature

6-25-24

Date

Manure / Process Wastewater Tracking Manifest**For****Existing Milk Cow Dairies**

General Order No. R5-2007-0035, Attachment D

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/process wastewater 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 INFORMATIONName of Operator: Johnny TacherraName of Dairy Facility: Morning Star Dairy, Inc

Facility Address:

10262 W Elkhorn AVE Number and Street	Burrel City	Fresno County	93607 Zip Code
Contact Person Name and Phone Number:	<u>Johnny Tacherra</u> Name	(559) 647-3875 Phone Number	

MANURE HAULER INFORMATIONName of Hauling Company/Person: Gill Ranches

Address of Hauling Company/Person:

9433 Polk AVE Number and Street	Raisin City City	CA State	93652 Zip Code
Contact Person: <u>Paul Gill</u> Name	(559) 970-9922 Phone Number		

DESTINATION INFORMATIONComposting Facility / Broker / Farmer / Other (identify): Farmer

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

Gill Ranches Name	(559) 970-9922 Phone Number		
9433 Polk AVE Address	Raisin City City	CA State	93652 Zip Code

Destination Address or Assessor's Parcel Number:

9433 POLk AVE Address	Raisin City City	93652 Zip Code
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Street and nearest cross street (if no address)	Fresno County
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0001-0001-0001-0000 Assessor's Parcel Number	Fresno Assessor's Parcel Number County
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Last date hauled: 12/06/2023

Preliminary Dairy Facility Assessment Report
General Order No. R5-2007-0035

DAIRY FACILITY INFORMATION

A. NAME OF DAIRY OR BUSINESS OPERATING THE DAIRY: Morning Star Dairy, Inc

Physical address of dairy:

10262 W Elkhorn AVE Number and Street	Burrel City	Fresno County	93607 Zip Code
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Street and nearest cross street (if no address): Dickenson & Elkhorn

LAND AREA ESTIMATES

A. LAND AREA

Size of the dairy production area (corrals, barns, ponds, feed storage): 21.0 acres

Estimated area (including roofed, impervious, and earthen surfaces) that receives rainfall which drains into the wastewater retention pond(s): 14.9 acres

Size of the crop land area currently used for manure (lagoon and solids) application: 1,183.0 acres

HERD AND MILKING ESTIMATES

A. HERD INFORMATION

	Milk Cows	Dry Cows	Bred Heifers (15-24 mo.)	Heifers (7-14 mo. to breeding)	Calves (4-6 mo.)	Calves (0-3 mo.)
Number / head	1,059	144	492	342	322	243
Avg live weight (lbs)	1,400	1,400	1,100	750		
Avg milk production (lbs/cow/day)	78					
Daily hours on flush	8	0	0	0	0	0

Predominant animal breed: Jersey-Holstein Cross

Storage period: 120 days

Average number of milk cows per string sent to milkbarn: 210 milk cows per string

Number of milkings per day: 2.0 milkings per day

Number of times milk tank is emptied each day: 2.0 milk loads per day

Number of hours spent milking each day: 18.0 hours per day

Bulk tank wash and sanitizing: 2 run cycles

Pipeline wash and sanitizing: 2 run cycles

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B. MILKBARN EQUIPMENT AND PARLOR FLOOR WASH

All numerical values in gallons per day	Milkbarn/parlor floor wash	Fresh water used in manure flush lanes	Plate coolers	Vacuum pumps / air compressors / chillers
Selected Type:	Traditional Manual Parlor Floor Wash		Well Water Cooled (Water Reused/Recycled)	Well Water Cooled (Water Reused/Recycled)
Estimated:	10,080		38,420	27,000
User-Entered:		0	17,000	20,000
Volume used in calculations:	10,080	0	17,000	20,000
Source is recycled water:	[X] Yes [] No			

C. MISCELLANEOUS EQUIPMENT

Equipment Description	Source	Throughput (gallons per day)	Discharge Destination
Drop hoses, foot bath and misc.	Fresh Water	200	Sent to pond

D. DRINKING WATER SOURCE

Reused water is the source of herd drinking water:

[] Yes [X] No

If yes, total amount of reused water consumed:

_____ gallons per head per day

E. SPRINKLER PEN

Number of sprinklers in the holding pen:

_____ 130 sprinklers

Length of each sprinkler cycle:

_____ 3.0 minutes

Number of sprinkler pen cycles per string:

_____ 3 cycles/string

Water flow rate of each sprinkler head:

_____ 2.0 gallons per minute

Sprinkler pen wastewater volume:

_____ 23,600 gallons per day

Sprinklers reuse water from equipment:

[X] Yes [] No

F. MILKBARN WATER CALCULATIONS

Water available for reuse/recycle:

_____ 37,000 gallons per day

Recycled water used again:

_____ 33,680 gallons per day

Balance:

_____ 3,320 gallons per day

Milkbarn water sent to pond:

_____ 38,300 gallons per day

Milkbarn water leaving system:

_____ 0 gallons per day

RETENTION PONDS STORAGE CAPACITY ESTIMATES

A. PONDS

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Basin Name	numerical values in feet						
	Earthen Length (EL)	Earthen Width (EW)	Earthen Depth (ED)	Side Slope H:V (S)	Free Board (FB)	Dead Storage Loss (DS)	Storage Volume Corrected for Dead Storage Loss (ft³)
Basin	100	40	12	1.0	1	1	24,973
Pond 1	420	80	20	1.0	1	1	433,944
POnd 2	200	75	20	1.0	1	1	180,144
Pond 3	800	100	20	1.0	1	1	1,125,144

RAINFALL ESTIMATES

A. RAINFALL AND DRAINAGE INFORMATION

Rainfall station nearest the facility:	Fresno
Storage period:	120 days
25 year / 24 hour storm event (NOAA Atlas 2, 1973):	2.30 inches
Storage period rainfall (DWR climate data):	6.85 inches
Combined storage period rainfall and 25 year / 24 hour storm event:	9.15 inches
Estimated rainfall onto and drained into the wastewater retention pond:	4,458,416 gallons

NUTRIENT REMOVAL BY CROP ESTIMATES

A. CROPS

Acres Planted	Crop Type	Yield (tons/acre)	Moisture (%)	Protein (%)	Phosphorus (lbs/ton yield)	Nitrogen Removed (lbs)	Phosphorus Removed (lbs)
435	Alfalfa hay	8.0	10.0	20.0	5.4	200,448	18,792
635	Corn silage	22.0	70.0	10.0	1.5	134,112	20,955
373	Sudan silage	8.0	70.0	11.0	1.7	31,511	5,073
489	Wheat silage soft dough	16.0	70.0	11.0	1.7	82,621	13,301

ANNUAL NUTRIENT IMPORT & EXPORT ESTIMATES

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A. ANNUAL NUTRIENT IMPORTS

Combined estimate of nutrients from commercial fertilizers and atmospheric Nitrogen applied to crops:

Nutrient Description	Amount Applied (lbs)
Nitrogen (N)	40,000
Phosphorus as Orthophosphate (P2O5)	35,000
Potassium as Potash (K2O)	35,000
Atmospheric Nitrogen Deposition	16,562

Atmospheric Nitrogen Deposition Rate (ANDR) = 14 lbs N / acre / year.

B. ANNUAL NUTRIENT EXPORTS

Manure Type	Volume Exported	Moisture Content	Total Nitrogen	Total Phosphorus
Separator Solids	1,134 tons	78.00 %	2.49 %	0.37 %
Corral Solids	3,453 tons	5.50 %	2.28 %	0.69 %
Liquid Manure	297,930 gallons	N/A	696.20 mg/L	0.00 mg/L

PRELIMINARY DAIRY FACILITY ASSESSMENT SUMMARY

A. LAND USE

Dairy production area (corrals, barns, ponds, feed storage): _____ 21 acres

Estimate the area (including roofed, impervious, and earthen surfaces) that receives rainfall which drains into a wastewater retention pond: _____ 15 acres

Crop land area used for manure application: _____ 1,183 acres

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B. HERD, MILKING, AND MILKBARN/PARLOR

Milk cows:	1,059 head
Dry cows:	144 head
Bred heifers (15 - 24 months):	492 head
Heifers (7 - 14 months to breeding):	342 head
Calves (4 - 6 months):	322 head
Calves (0 - 3 months):	243 head
Total number of animals:	2,602 head
Average number of milk cows per string sent to milk barn:	210 cows per string
Number of milking strings entering milk barn per milking:	5.04 strings per milking
Storage period:	120 days
Total manure production by herd for storage period:	429,410 cu. ft.
Estimated manure production for storage period (to dry lot):	330,774 cu. ft.
Estimated manure production for storage period (to pond):	737,849 gallons
Total milkbarn water volume for storage period (to pond):	4,596,000 gallons

C. ROOFED, IMPERVIOUS, AND EARTHEN RAINFALL RUNOFF AREAS

Total area receiving rainfall and draining to ponds (production area):	649,044 sq. ft.
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D. RETENTION POND AND SETTLING BASIN ESTIMATES

Liquid storage surface area (retention ponds only):	132,600 sq. ft.
Rainfall onto and drained into retention ponds for storage period:	4,458,416 gallons
Waste production as manure:	737,849 gallons
Milkbarn water:	4,596,000 gallons
Milkbarn water comparative estimate:	36 gallons per cow per day
Fresh flush water for storage period:	0 gallons
25 year / 24 hour storm event (NOAA Atlas 2, 1973):	2.30 inches
Critical storage period rainfall (DWR Climate Data):	6.85 inches
Combined critical storage period and 25 year / 24 hour storm event:	9.15 inches
Total storage capacity required:	9,792,265 gallons
Existing storage capacity (adjusted for dead storage loss):	13,197,172 gallons
<i>Existing capacity meets estimated storage needs:</i>	<u>Yes</u>

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E. NITROGEN (N) AND PHOSPHORUS (P) EXCRETION ESTIMATES

Daily gross nitrogen excretion estimates:	1,376 lbs nitrogen per day
Annual gross nitrogen excretion estimates:	502,401 lbs nitrogen per year
Nitrogen to pond storage after ammonia losses (30% loss applied):	85,891 lbs nitrogen per year
Nitrogen to drylot storage after ammonia losses (30% loss applied):	265,790 lbs nitrogen per year
Total nitrogen in storage (ponds and drylot combined):	351,681 lbs nitrogen per year
Daily gross phosphorus excretion estimates:	223 lbs phosphorus per day
Annual gross phosphorus excretion estimates:	81,340 lbs phosphorus per year
Phosphorus to pond storage:	20,812 lbs phosphorus per year
Phosphorus to drylot storage:	60,529 lbs phosphorus per year
Total phosphorus in storage (ponds and drylot combined):	81,340 lbs phosphorus per year

F. NITROGEN AND PHOSPHORUS IMPORT ESTIMATES

Total nitrogen imports onto facility as commercial fertilizers:	40,000 lbs nitrogen per year
Atmospheric Nitrogen Deposition (ANDR):	16,562 lbs nitrogen per year
Total phosphorus imports onto facility as commercial fertilizers:	15,295 lbs phosphorus per year

G. NITROGEN AND PHOSPHORUS EXPORT ESTIMATES

Total nitrogen exports off facility as manure:	162,951 lbs nitrogen per year
Total phosphorus exports off facility as manure:	46,877 lbs phosphorus per year

H. ANNUAL NITROGEN AND PHOSPHORUS BALANCE ESTIMATE

Total nitrogen in storage (after 30% ammonia loss):	351,681 lbs
Nitrogen imported (as commercial fertilizer and ANDR):	56,562 lbs
Nitrogen exported as manure:	162,951 lbs
Nitrogen removed by crops:	448,692 lbs
Excess nitrogen (N generated - N removed):	-203,400 lbs
Whole farm nitrogen balance ratio:	0.55

Total phosphorus in storage:	81,340 lbs
Phosphorus imported as commercial fertilizer:	15,295 lbs
Phosphorus exported as manure:	46,877 lbs
Phosphorus removed by crops:	58,121 lbs
Excess phosphorus (P generated - P removed):	-8,362 lbs

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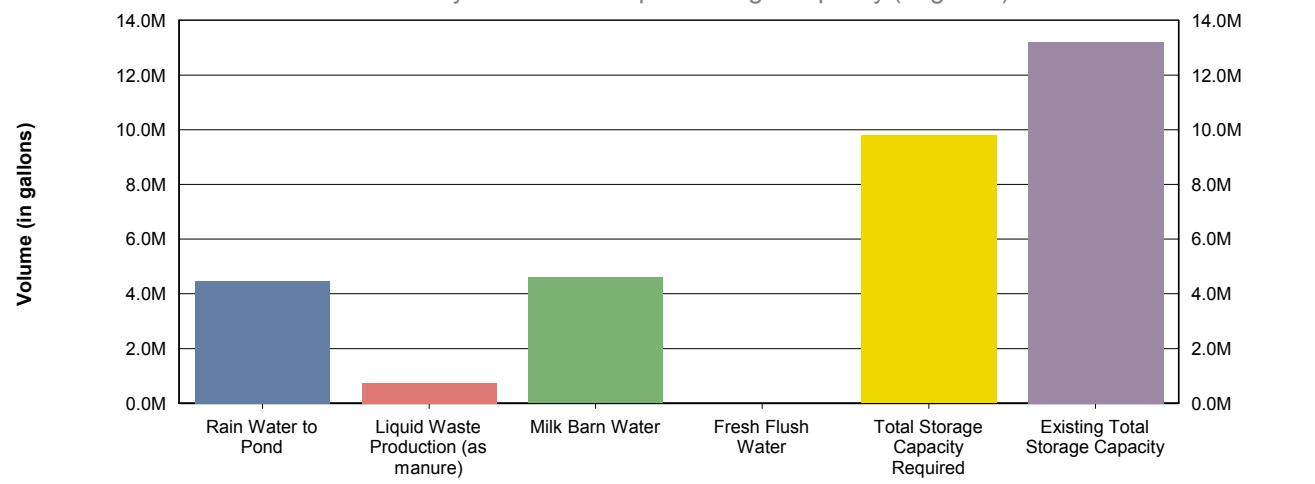
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CHARTS

A. FIGURE 1

Figure 1
Preliminary Estimate of Liquid Storage Capacity (Lagoons)



This graph estimates how many gallons of water and waste are sent to the wastewater storage ponds (lagoons) on your dairy during the selected 120 day storage period.

Your wastewater storage ponds (lagoons) must be very close to empty as a result of applying nutrients to crops over the last year starting in the beginning of October and should not fill before February.

Existing Storage Capacity: 13,197,172 gallons

Required Storage Capacity: 9,792,265 gallons

Storage Capacity Difference: 3,404,907 gallons

The estimated pond capacity appears to be adequate.

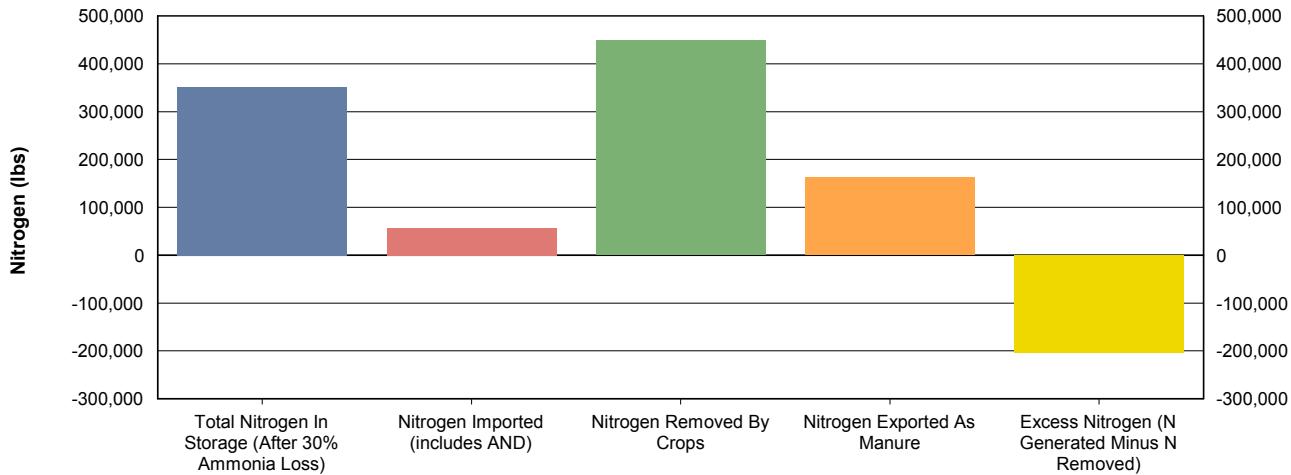
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B. FIGURE 2

Figure 2
Preliminary Estimate of Nitrogen Balance on an Annual Basis



This graph estimates the total pounds of nitrogen excreted from the herd ending up in storage, imported, removed by all crops associated with the dairy, exported (typically as dry manure), and balance, excess, or deficiency on an annual basis.

Nutrients must be applied at rates and times appropriate for the crop to prevent surfacewater and groundwater degradation.

Total nitrogen in storage (after 30% ammonia loss):	351,681 pounds
Nitrogen imported (includes AND*):	56,562 pounds
Nitrogen exported (as manure):	162,951 pounds
Nitrogen removed by crops:	448,692 pounds
Nitrogen excess or deficiency:	-203,400 pounds
Whole farm nitrogen balance ratio:	0.55 (regulatory limit 1.65**)

It appears that the crop rotation may be capable of removing the nitrogen applied on an annual basis.

* AND = Atmospheric Nitrogen Deposition

** Whole Farm Nitrogen Balance alone does not assure compliance, you cannot list cropland acreage or claim nutrient uptake for cropland that lacks infrastructure for controlled nutrient applications at agronomic rates and times.

Nitrogen balance ratio = (Total nitrogen in storage - Nitrogen exported + Nitrogen in irrigation water + Nitrogen imports) / Crop removal

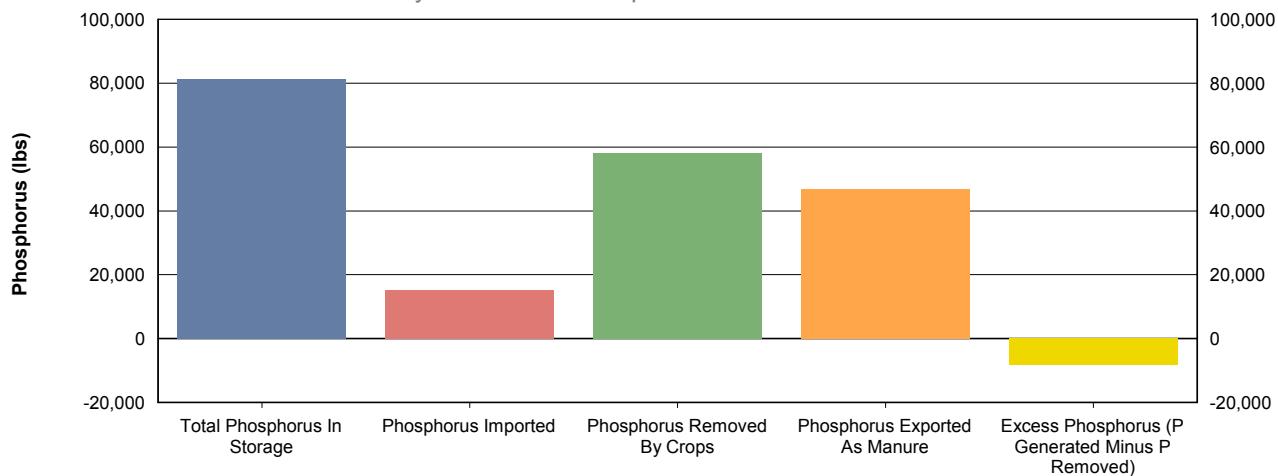
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C. FIGURE 3

Figure 3
Preliminary Estimate of Phosphorus Balance on an Annual Basis



This graph estimates the total pounds of phosphorus excreted from the herd ending up in storage, imported, removed by all crops associated with the dairy, exported (typically as dry manure), and balance, excess, or deficiency on an annual basis.

Nutrients must be applied at rates and times appropriate for the crop to prevent surfacewater and groundwater degradation.

Total phosphorus in storage:	81,340 pounds
Phosphorus imported:	15,295 pounds
Phosphorus exported (as manure):	46,877 pounds
Phosphorus removed by crops:	58,121 pounds
Phosphorus excess or deficiency:	-8,362 pounds

It appears that the crop rotation may be capable of removing the phosphorus applied on an annual basis.

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CERTIFICATION

"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. IN ADDITION, I CERTIFY THAT THE PROVISIONS OF WASTE DISCHARGE REQUIREMENTS GENERAL ORDER NO. R5-2007-0035, INCLUDING THE DEVELOPMENT AND IMPLEMENTATION OF A NUTRIENT MANAGEMENT PLAN AND WASTE MANAGEMENT PLAN, WILL BE COMPLIED WITH."

SIGNATURE OF OWNER OF FACILITY

SIGNATURE OF OPERATOR OF FACILITY

PRINT OR TYPE NAME

PRINT OR TYPE NAME

TITLE AND DATE

TITLE AND DATE

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